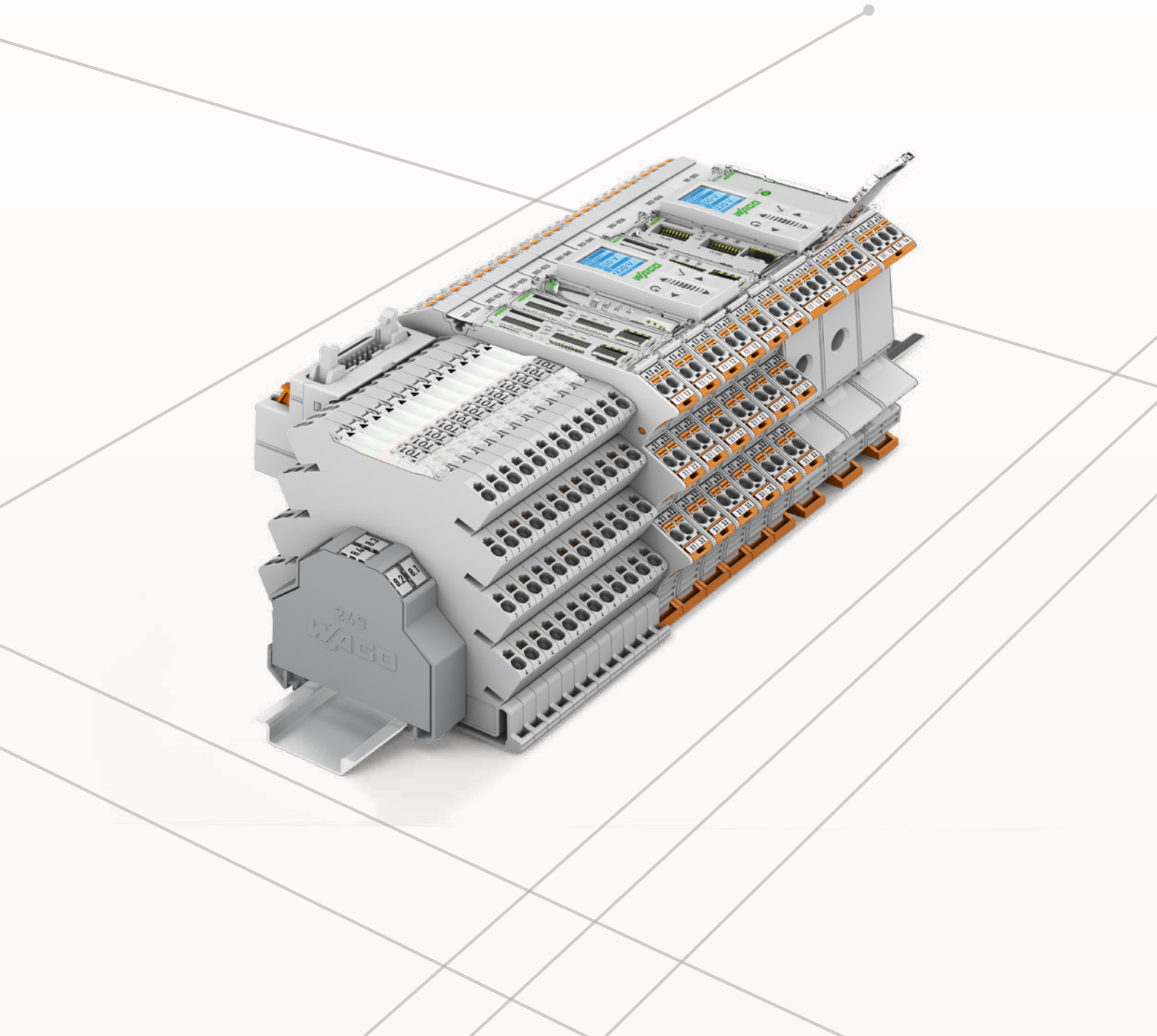
WAGO Electronic Interface

Full Line Catalog, Volume 4 – Edition 2019/2020

4



WAGO Full Line Catalogs



Volume 1, WAGO Rail-Mount Terminal Block Systems

- Rail-Mount Terminal Blocks
- Rail-Mount Terminal Blocks with Pluggable Connector (X-COM®-SYSTEM)
- Patchboard Systems
- Terminal Strips
- PUSH WIRE® Connectors for Junction Boxes
- Lighting Connectors
- Shield Connecting System



Volume 2, WAGO PCB Terminal Blocks and WAGO Connectors

- PCB Terminal Blocks
- THR/SMD PCB Terminal Blocks
- *MULTI CONNECTION SYSTEM (MCS)*
- Pluggable PCB Terminal Blocks
- Feedthrough Terminal Blocks
- Specialty Connectors
- Empty Housings



Volume 3, Automation Technology

- Solutions & Software
- Operating & Monitoring
- Controllers
- Modular I/O-SYSTEM, IP20
- Industrial Switches
- Radio Technology
- IP67 Sensor/Actuator Boxes, IP67 Cables and Connectors



Volume 4, WAGO Interface Electronic

- Relay and Optocoupler Modules
- Signal Conditioners and Isolation Amplifiers
- Current and Energy Measurement Technology
- Power Supplies
- Interface Modules and System Wiring
- Overvoltage Protection
- Empty Housings



Volume 5, WAGO Pluggable Connection System *WINSTA*®

- Pluggable Connectors
- Snap-In Device Connectors
- Pluggable PCB Connectors
- Distribution Connectors
- Cable Assemblies
- Flat Cable Systems
- Distribution Boxes



Volume 6, WAGO Marking

- Printer
- Software
- Terminal Block Marking
- Cable and Conductor Marking
- Device Marking
- Marker Carriers

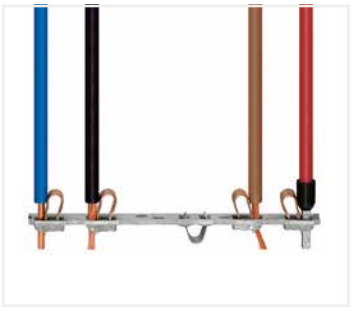
Volume 4, WAGO Electronic Interface

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	WAGO Relay Modules	6	1
	WAGO Solid-State Relay Modules and WAGO Optocoupler Modules	148	2
	WAGO Isolation Amplifiers and WAGO Signal Conditioners	236	3
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	Indexes and Addresses	870	13

Operating WAGO Connection Technologies

Please follow the applicable product-specific termination instructions.

PUSH-IN CAGE CLAMP®







Push-in CAGE CLAMP® terminates the following copper conductors: solid



stranded



fine-stranded, also with tinned single strands



fine-stranded, tip-bonded



fine-stranded, with ferrule (gastight crimped)

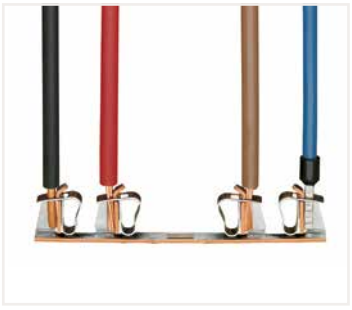


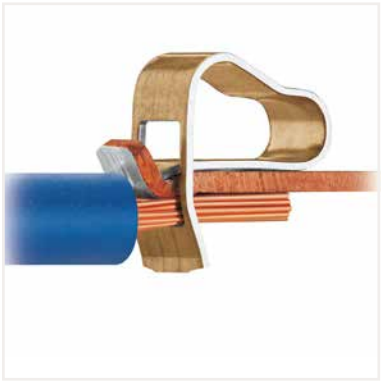
fine-stranded, with pin terminal (gastight crimped)

The universal connection with an additional advantage: Push-in connection
Terminate solid and stranded (Class B 7 strands or less), as well as ferruled conductors, by simply pushing them in – no tools required.

Termination for all conductor types:
- Open clamping unit.
- Insert the conductor.
- Release clamp – done!

CAGE CLAMP®







CAGE CLAMP® terminates the following copper conductors: solid



stranded



fine-stranded, also with tinned single strands



fine-stranded, tip-bonded



fine-stranded, with ferrule (gastight crimped)



fine-stranded, with pin terminal (gastight crimped)

The universal connection for solid, stranded and fine-stranded conductors

Termination:
- Open clamping unit.
- Insert the conductor.
- Release clamp – done!

Operating WAGO Connection Technologies

Please follow the applicable product-specific termination instructions.

POWER CAGE CLAMP®







POWER CAGE CLAMP terminates the following copper conductors:
solid



stranded



fine-stranded, also with tinned single strands



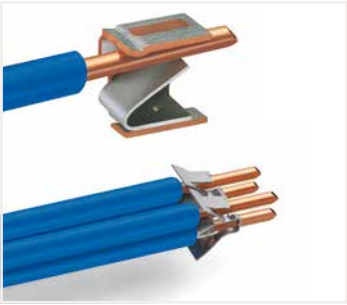
fine-stranded, with ferrule (gastight crimped)

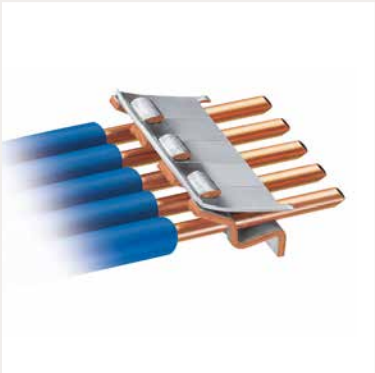
The universal connection for conductors larger than 35 mm² (2 AWG)

Termination:

- Open clamp by turning a T-wrench counter-clockwise.
- Press the integrated latch to open clamping unit for hands-free wiring.
- Insert the conductor.
- A small counter-clockwise rotation closes the clamp, securing conductor.

PUSH WIRE®







PUSH WIRE® terminates the following copper conductors:
solid

PUSH WIRE® connection for solid and stranded conductors (depending on the model used)

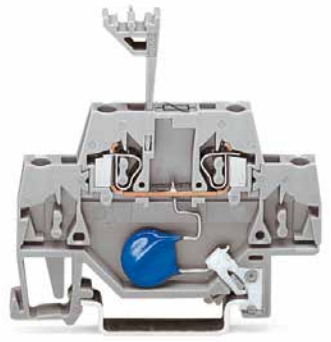
Termination:
Tool-free, twist-free terminations for solid and rigid stranded conductors – simply push into the unit.

The Right Interface

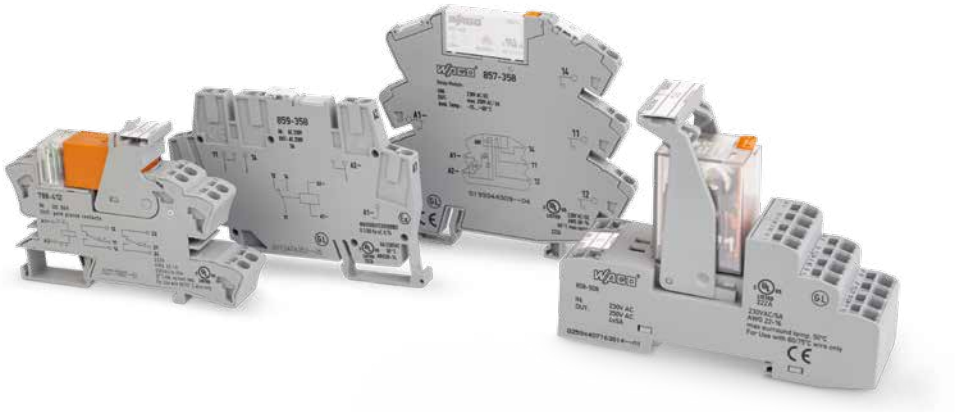
WAGO Power Supplies



WAGO Overvoltage Protection



WAGO Relay Modules and WAGO Optocoupler Modules

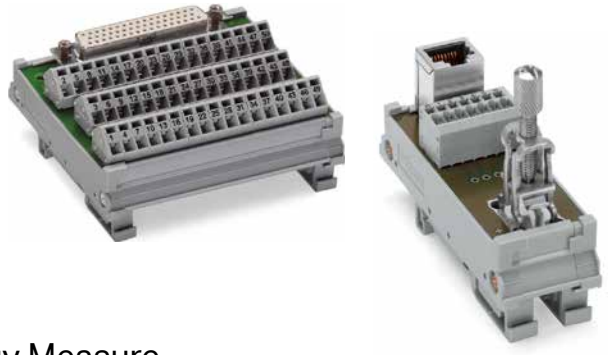


for Every Application

WAGO Signal Conditioners and WAGO Isolation Amplifiers

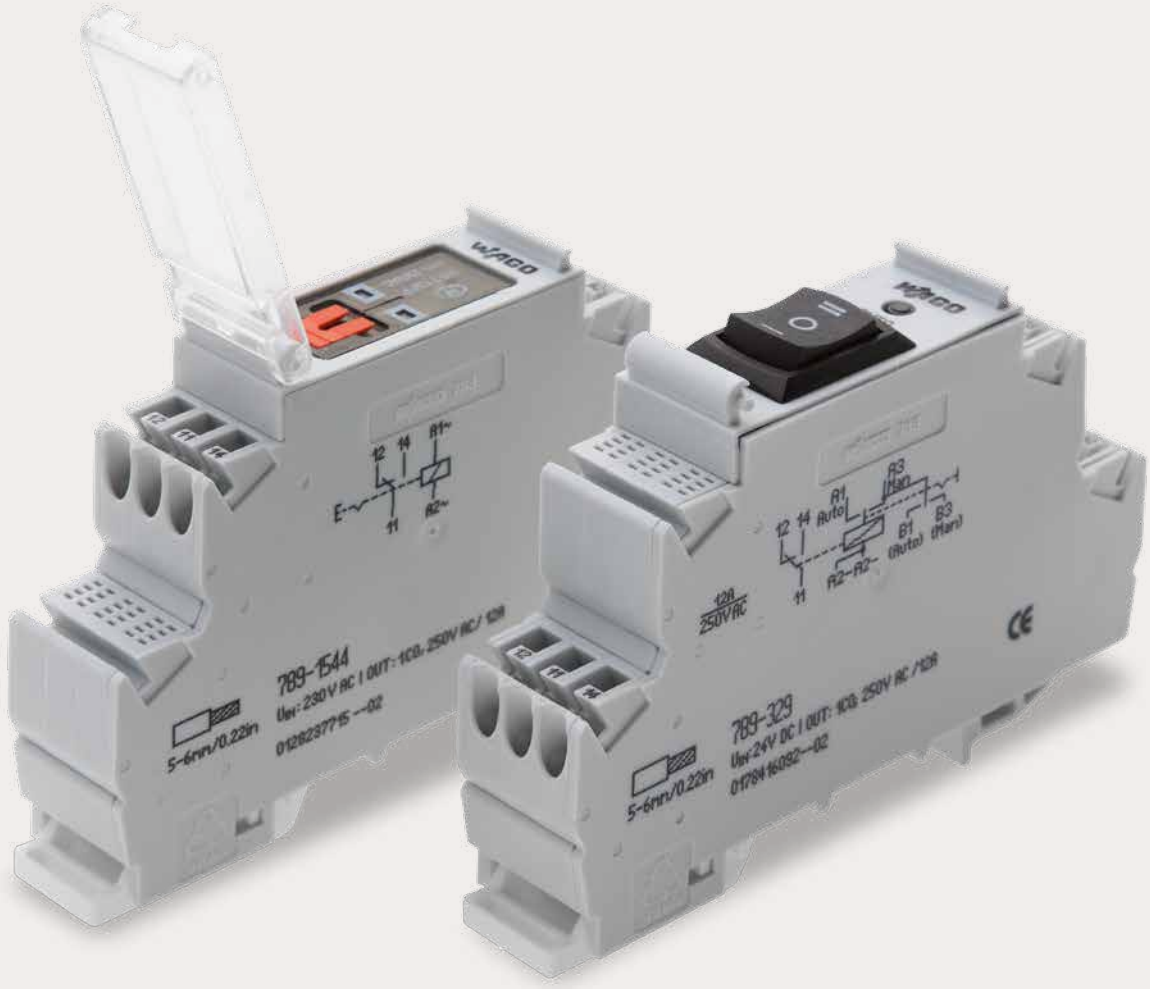


WAGO Interface Modules



WAGO Current and Energy Measurement Technology





WAGO Relay Modules

WAGO Relay Modules

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	**Relay Modules in a DIN-Rail Mount Enclosure, 789 Series**	
	Relay Modules	110
	Latching Relay Module	125
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	**Relay Modules, 288 Series**	128
	**Relay Modules, 286 Series**	
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WAGO Relay Modules
Selection Guide

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Nominal Input Voltage U_{inom}	Limiting Continuous Current	Make Contact	Break Contact	Changeover Contact	Approvals									Contact Material	For Railway Applications	Specialty function	Item Number	Page
					EN 50121-3-2	EN 50155	EN 61373	EN 50205	EN 61810-3	EN 61812-1	GL	UL 508	ATEX	IEC Ex					
5 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-302**	78
5 VDC	5 A			1			■				■	■			AgNi + Au			**859-312**	79
12 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-303**	78
12 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-353**	80
12 VDC	5 A			4			■					■			AgCe		With manual operation	**858-303**	64
12 VDC	6 A			1			■					■	■	■	$AgSnO_2$			**857-303**	12
12 VDC	8 A			2			■					■			AgNi 90/10			**788-311**	32
12 VDC	16 A			1			■					■			AgNi 90/10			**788-303**	30
12 VDC	16 A			1			■					■			$AgSnO_2$		For lamp loads	**788-353**	38
24 VDC	0.3 A			2					■			■			AgNi + Au		Force-guided contacts	**788-906**	42
24 VDC	5 A	1													$AgSnO_2$			**286-364**	136
24 VDC	5 A	1													AgNi 0.15			**288-364**	128
24 VDC	5 A	4			■		■								AgNi	■		**2042-3024**	102
24 VDC	5 A	2	2			■	■								AgNi	■		**2042-3084**	104
24 VDC	5 A	3	1			■	■								AgNi	■		**2042-3074**	103
24 VDC	5 A		1												AgNi 0.15			**288-368**	129
24 VDC	5 A		1												AgNi			**286-368**	137
24 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-304**	78
24 VDC	5 A			1			■				■	■			$AgSnO_2$	■		**859-390**	82
24 VDC	5 A			1			■				■				$AgSnO_2$	■		**859-398**	85
24 VDC	5 A			1			■				■	■			AgNi + Au			**859-314**	79
24 VDC	5 A			1			■				■	■			AgNi + Au	■		**859-392**	83
24 VDC	5 A			2											AgNi 10 +Au		Force-guided contacts	**288-437**	133
24 VDC	5 A			4			■				■	■			AgCe		With manual operation	**858-304**	64
24 VDC	5 A			4			■					■			AgCe + Au		With manual operation	**858-314**	65
24 VDC	5 A			4			■					■			AgCe	■	With manual operation	**858-354**	68
24 VDC	5 A			4			■					■			AgCe + Au	■	With manual operation	**858-355**	69
24 VDC	6 A	1			■		■								$AgSnO_2$	■		**2042-3004**	90
24 VDC	6 A	1	1												$AgSnO_2$			**286-320**	142
24 VDC	6 A	2													$AgSnO_2$			**286-328**	143
24 VDC	6 A		1		■		■								$AgSnO_2$	■		**2042-3054**	91
24 VDC	6 A			1			■				■	■	■	■	$AgSnO_2$			**857-304**	12
24 VDC	6 A			1			■				■	■	■	■	AgNi + Au			**857-314**	13
24 VDC	6 A			1	■		■			■		■			$AgSnO_2$	■	Multifunctional/multi-time	**857-640**	22
24 VDC	6 A			1	■		■			■		■			$AgSnO_2$	■	Multifunctional/multi-time	**857-642**	23
24 VDC	6 A			1	■		■			■		■			$AgSnO_2$	■	Multifunctional/multi-time	**857-604**	24
24 VDC	6 A			1											AgNi 0.15		Bistable	**286-380**	144
24 VDC	6 A			1											AgNi 0.15		Bistable	**286-381**	145
24 VDC	6 A			1											AgNi 90/10			**288-304**	130
24 VDC	6 A			1											AgNi 0.15		Bistable	**288-380**	132
24 VDC	6 A			2											AgNi 0.15			**288-312**	131
24 VDC	6 A			2				■	■			■			AgNi		Force-guided contacts	**788-384**	41
24 VDC	6 A			4								■			AgNi 90/10		With manual operation	**858-390**	70
24 VDC	7 A			1											AgNi 0.15			**286-304**	138
24 VDC	7 A			2											AgNi 0.15			**286-312**	140
24 VDC	8 A	2			■		■								AgNi	■		**2042-3014**	96
24 VDC	8 A	1	1		■		■								AgNi	■		**2042-3064**	98
24 VDC	8 A			2			■					■			AgNi 90/10			**788-312**	32
24 VDC	8 A			2			■					■			AgNi + Au			**788-412**	33
24 VDC	8 A			2			■					■			AgNi		With manual operation	**788-346**	45
24 VDC	8 A			2			■								AgNi	■	With manual operation	**788-390**	48
24 VDC	8 A			2											AgNi 90/10			**789-312**	112
24 VDC	8 A			2											AgNi		With manual operation	**789-1346**	118

WAGO Relay Modules
Selection Guide

Nominal Input Voltage U_{nom}	Limiting Continuous Current	Make Contact	Break Contact	Changeover Contact	Approvals										Contact Material	For Railway Applications	Specialty function	Item Number	Page
					EN 50121-3-2	EN 50155	EN 61373	EN 50205	EN 61810-3	EN 61812-1	GL	UL 508	ATEX	IEC Ex					
24 VDC	8 A			2		■	■								AgNi	■		**2042-3044**	97
24 VDC	10 A			1	■		■								AgNi	■		**2042-3034**	94
24 VDC	12 A			1											AgNi 90/10			**789-304**	110
24 VDC	12 A			1											AgNi		With manual operation	**789-1341**	116
24 VDC	12 A			1					■						$AgSnO_2$		For lamp loads; Manual/OFF/Auto switch	**789-326**	123
24 VDC	12 A			1											$AgSnO_2$		For lamp loads; Manual/OFF/Auto switch	**789-329**	124
24 VDC	12 A			2								■			AgNi		With manual operation	**858-324**	72
24 VDC	16 A	1					■					■			$AgSnO_2$		For lamp loads	**788-356**	39
24 VDC	16 A	1					■								$AgSnO_2$		For lamp loads	**788-357**	40
24 VDC	16 A	1													$AgSnO_2$		For lamp loads; Manual/OFF/Auto switch	**789-323**	120
24 VDC	16 A	1							■						$AgSnO_2$		For lamp loads; Manual/OFF/Auto switch	**789-324**	121
24 VDC	16 A	1													$AgSnO_2$		For lamp loads; Manual/OFF/Auto switch	**789-325**	122
24 VDC	16 A	1													$AgSnO_2$			**789-571**	125
24 VDC	16 A			1			■					■			AgNi 90/10			**788-304**	30
24 VDC	16 A			1			■					■			AgNi + Au			**788-404**	31
24 VDC	16 A			1			■					■			$AgSnO_2$		For lamp loads	**788-354**	38
24 VDC	16 A			1			■					■			AgNi		With manual operation	**788-341**	44
36 VDC	5 A			1			■								AgNi + Au	■		**859-386**	83
48 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-305**	78
48 VDC	5 A			1			■				■				$AgSnO_2$	■		**859-397**	85
48 VDC	5 A			1			■								AgNi + Au	■		**859-384**	83
48 VDC	5 A			4			■					■			AgCe		With manual operation	**858-305**	64
48 VDC	6 A			1			■					■			$AgSnO_2$			**857-305**	12
48 VDC	8 A			2			■					■			AgNi 90/10			**788-313**	32
48 VDC	12 A			2								■			AgNi		With manual operation	**858-325**	72
48 VDC	16 A			1			■					■			AgNi 90/10			**788-305**	30
60 VDC	8 A			2			■					■			AgNi 90/10			**788-314**	32
60 VDC	16 A			1			■					■			AgNi 90/10			**788-306**	30
110 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-307**	78
110 VDC	5 A			1			■				■	■			$AgSnO_2$	■		**859-391**	84
110 VDC	5 A			1			■				■				$AgSnO_2$	■		**859-399**	85
110 VDC	5 A			1			■				■	■			AgNi + Au	■		**859-317**	83
110 VDC	5 A			4			■					■			AgCe		With manual operation	**858-307**	64
110 VDC	6 A			4								■			AgNi 90/10		With manual operation	**858-392**	70
110 VDC	8 A			2			■					■			AgNi 90/10			**788-315**	32
110 VDC	12 A			2								■			AgNi		With manual operation	**858-327**	72
110 VDC	16 A			1			■					■			AgNi 90/10			**788-307**	30
220 VDC	5 A			1			■				■	■			$AgSnO_2$			**859-308**	78
220 VDC	5 A			1			■				■	■			AgNi + Au			**859-318**	79
220 VDC	5 A			4			■					■			AgCe		With manual operation	**858-308**	64
220 VDC	6 A			4								■			AgNi 90/10		With manual operation	**858-391**	70
220 VDC	12 A			2								■			AgNi		With manual operation	**858-328**	72

WAGO Relay Modules
Selection Guide

1

Nominal Input Voltage U_{inom}	Limiting Continuous Current	Make Contact	Break Contact	Changeover Contact	Approvals									Contact Material	For Railway Applications	Specialty function	Item Number	Page
					EN 50121-3-2	EN 50155	EN 61373	EN 50205	EN 61810-3	EN 61812-1	GL	UL 508	ATEX	IEC Ex					
12 VAC	6 A	4	4					■				■			$AgSnO_2$		Force-guided contacts	**288-413**	134
24 VAC	5 A			4			■					■			AgCe		With manual operation	**858-504**	66
24 VAC	5 A			4			■					■			AgCe + Au		With manual operation	**858-514**	67
24 VAC	8 A			2			■					■			AgNi 90/10			**788-512**	36
24 VAC	8 A			2			■					■			AgNi		With manual operation	**788-546**	47
24 VAC	16 A			1			■					■			AgNi 90/10			**788-506**	34
24 VAC	16 A			1			■					■			AgNi		With manual operation	**788-541**	46
115 VAC	5 A			1			■				■	■			$AgSnO_2$		Defined switch-on threshold	**859-367**	86
115 VAC	5 A			4			■					■			AgCe		With manual operation	**858-507**	66
115 VAC	5 A			4			■					■			AgCe + Au		With manual operation	**858-517**	67
115 VAC	7 A			1											AgNi 0.15			**286-507**	139
115 VAC	8 A			2			■					■			AgNi 90/10			**788-515**	36
115 VAC	8 A			2			■					■			AgNi + Au			**788-615**	37
115 VAC	8 A			2			■					■			AgNi		With manual operation	**788-548**	47
115 VAC	16 A			1			■					■			AgNi 90/10			**788-507**	34
115 VAC	16 A			1			■					■			AgNi + Au			**788-607**	35
115 VAC	16 A			1			■					■			AgNi		With manual operation	**788-543**	46
230 VAC	5 A			4			■				■	■			AgCe		With manual operation	**858-508**	66
230 VAC	5 A			4			■				■	■			AgCe + Au		With manual operation	**858-518**	67
230 VAC	5 A			1			■				■	■			$AgSnO_2$		Defined switch-on threshold	**859-368**	87
230 VAC	6 A			1			■								$AgSnO_2$		Integrated base load module	**857-358/006-000**	16
230 VAC	6 A			1			■								AgNi + Au		Integrated base load module	**857-368/006-000**	17
230 VAC	7 A			1											AgNi 0.15			**286-508**	139
230 VAC	7 A			2											AgNi 0.15			**286-516**	141
230 VAC	8 A			2			■					■			AgNi 90/10			**788-516**	36
230 VAC	8 A			2			■					■			AgNi + Au			**788-616**	37
230 VAC	8 A			2			■					■			AgNi		With manual operation	**788-549**	47
230 VAC	8 A			2											AgNi		With manual operation	**789-1549**	119
230 VAC	12 A			1											AgNi 90/10			**789-508**	111
230 VAC	12 A			1											AgNi		With manual operation	**789-1544**	117
230 VAC	12 A			2								■			AgNi		With manual operation	**858-528**	73
230 VAC	16 A	1													$AgSnO_2$			**789-570**	125
230 VAC	16 A			1			■					■			AgNi		With manual operation	**788-544**	46
230 VAC	16 A			1			■					■			AgNi 90/10			**788-508**	34
230 VAC	16 A			1			■					■			AgNi + Au			**788-608**	35

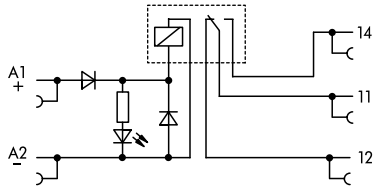
WAGO Relay Modules
Selection Guide

Nominal Input Voltage U_{nom}	Limiting Continuous Current	Make Contact	Break Contact	Changeover Contact	Approvals									Contact Material	For Railway Applications	Specialty function	Item Number	Page
					EN 50121-3-2	EN 50155	EN 61373	EN 50205	EN 61810-3	EN 61812-1	GL	UL 508	ATEX	IEC Ex					
12 VAC/DC	5 A			1			■				■	■			$AgSnO_2$			**859-353**	80
24 VAC/DC	4 A	1					■					■	■	■	$AgSnO_2$			**857-1330**	20
24 VAC/DC	4 A	4													AgNi + Au			**789-552**	114
24 VAC/DC	4 A	2	2												AgNi + Au			**789-536**	115
24 VAC/DC	5 A	1													AgNi 0.15			**288-564**	128
24 VAC/DC	5 A			1			■				■	■			$AgSnO_2$			**859-354**	80
24 VAC/DC	6 A	4	4					■				■			$AgSnO_2$		Force-guided contacts	**288-414**	134
24 VAC/DC	6 A			1			■					■	■	■	$AgSnO_2$			**857-354**	14
24 VAC/DC	6 A			1											AgNi 90/10			**288-504**	130
24 VAC/DC	6 A			1			■					■	■	■	AgNi + Au			**857-364**	15
24 VAC/DC	6 A			2											AgNi 0.15			**288-512**	131
24 VAC/DC	16 A	1													$AgSnO_2$		For lamp loads	**789-520**	113
48 VAC/DC	5 A			1			■				■	■			$AgSnO_2$			**859-355**	80
115 VAC/DC	5 A			1			■				■	■			AgNi + Au			**859-360**	81
115 VAC/DC	5 A			1			■				■	■			$AgSnO_2$			**859-357**	80
115 VAC/DC	6 A			1			■					■	■	■	$AgSnO_2$			**857-357**	12
115 VAC/DC	6 A			1			■					■	■	■	AgNi + Au			**857-367**	15
230 VAC/DC	5 A			1			■				■	■			$AgSnO_2$			**859-358**	80
230 VAC/DC	5 A			1			■				■	■			AgNi + Au			**859-359**	81
230 VAC/DC	6 A	4	4					■				■			$AgSnO_2$		Force-guided contacts	**288-418**	134
230 VAC/DC	6 A			1			■				■	■	■	■	$AgSnO_2$			**857-358**	12
230 VAC/DC	6 A			1			■				■	■	■	■	AgNi + Au			**857-368**	15
24 … 230 VAC/DC	3 A	1			■		■								$AgSnO_2$			**2042-3809**	92
24 … 230 VAC/DC	3 A	4				■	■								AgNi			**2042-3829**	105
24 … 230 VAC/DC	3 A	2	2			■	■								AgNi			**2042-3889**	107
24 … 230 VAC/DC	3 A	3	1			■	■								AgNi			**2042-3879**	106
24 … 230 VAC/DC	4 A			1		■	■								AgNi			**2042-3839**	95
24 … 230 VAC/DC	5 A	2			■		■								AgNi			**2042-3819**	99
24 … 230 VAC/DC	5 A	1	1		■		■								AgNi			**2042-3869**	101
24 … 230 VAC/DC	5 A			2	■		■								AgNi			**2042-3849**	100
24 … 230 VAC/DC	6 A		1			■	■								$AgSnO_2$			**2042-3859**	93
24 … 230 VAC/DC	6 A			1	■		■					■			$AgSnO_2$			**857-359**	18
24 … 230 VAC/DC	6 A			1	■		■					■			AgNi + Au			**857-369**	19

Relay Module
857 Series

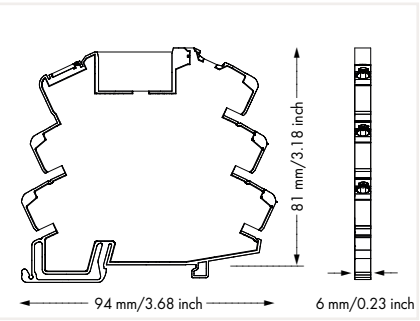
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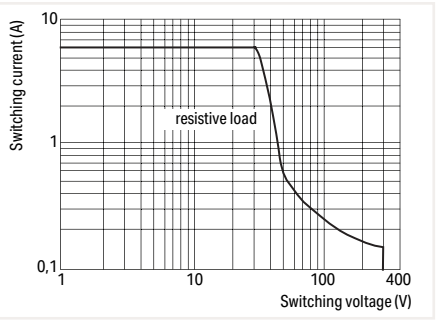


Relay Module; 1 changeover contact; Limiting continuous current: 6 A; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
12 VDC	17 mA	**857-303**	25
24 VDC	10 mA	**857-304**	25
48 VDC	6.5 mA	**857-305**	25
115 VAC/DC	4 mA	**857-357**	25
230 VAC/DC	3.5 mA	**857-358**	25



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



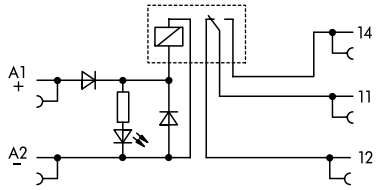
DC Load Limit Curve

Control Circuit	
Input voltage range	−15 … +20 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Yellow LED
Safety and Protection	
Rated voltage	250 VDC
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	30.6 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +85 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; ATEX, IEC Ex

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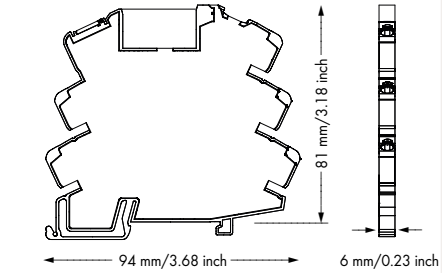
Relay Module
857 Series



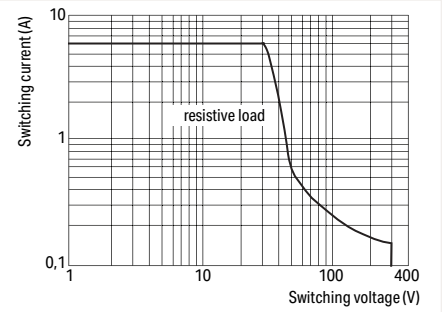


Relay Module; 1 changeover contact; Limiting continuous current: 6 A; with gold contacts; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	10 mA	857-314	25



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

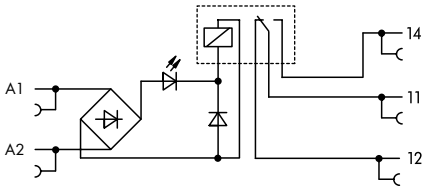
Control Circuit	
Input voltage range	−15 … +20 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi + Au
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Yellow LED
Safety and Protection	
Rated voltage	250 VDC
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	31.2 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +85 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; GL; ATEX; IEC Ex

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Relay Module
857 Series

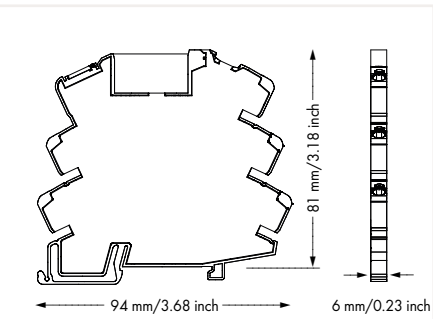
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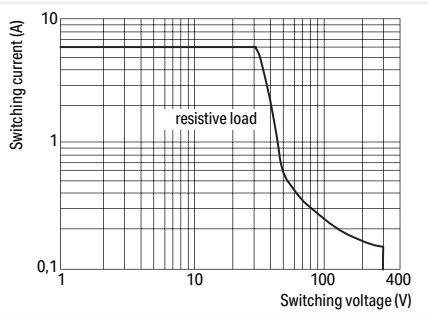


Relay Module; 1 changeover contact; Limiting continuous current: 6 A; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VAC/DC	8.5 mA	**857-354**	25
115 VAC/DC	4 mA	**857-357**	25
230 VAC/DC	3.5 mA	**857-358**	25



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



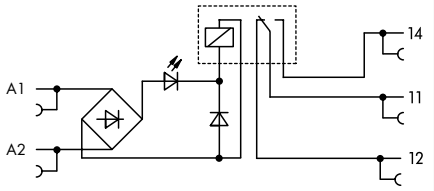
DC Load Limit Curve

Control Circuit	
Input voltage range	−15 … +20 % (857-354; 857-357); −20 … +10 % (857-358)
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Yellow LED
Safety and Protection	
Rated voltage	250 VDC
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	30.6 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +85 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; ATEX, IEC Ex

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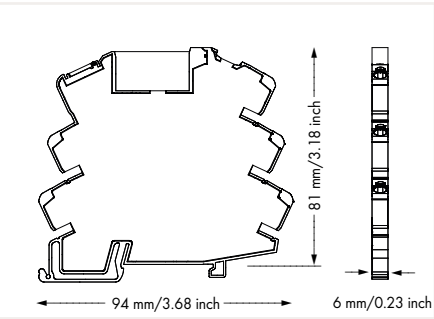
Relay Module
857 Series



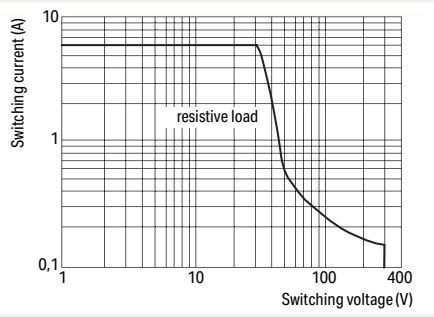


Relay Module; 1 changeover contact; Limiting continuous current: 6 A; with gold contacts; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VAC/DC	8.5 mA	**857-364**	25
115 VAC/DC	4 mA	**857-367**	25
230 VAC/DC	3.5 mA	**857-368**	25



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

Control Circuit

Input voltage range	−15 … +20 % (857-364; 857-367); −20 … +10 % (857-368)

Load Circuit

Number of changeover/switchover contacts	1
Contact material	AgNi + Au
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50x 10^3 switching operations
Mechanical life	5x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}

Signaling

Status indicator	Yellow LED

Safety and Protection

Rated voltage	250 VDC
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	30.3 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +85 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; ATEX, IEC Ex

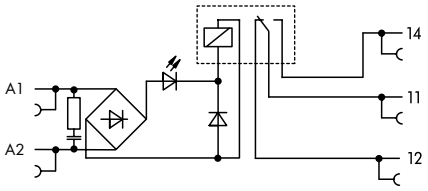
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Relay Module
857 Series

1

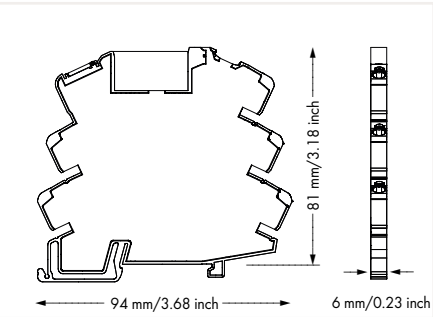


Similar to pictured device

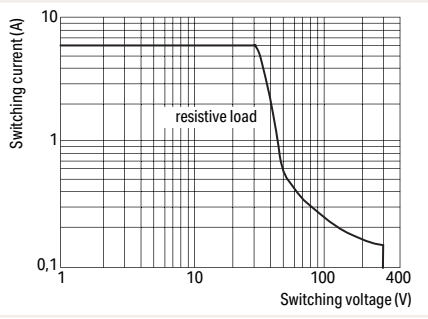


Relay Module; 1 changeover contact; Limiting continuous current: 6 A; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC	16 mA	857-358/006-000	25



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

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Control Circuit	
Input voltage range	−15 … +10 %
Line capacitance (max.)	170 nF
Cable length (control circuit)	≤ 350 m (for a line capacitance of 330 nF/km)

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Rated voltage	250 VDC
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

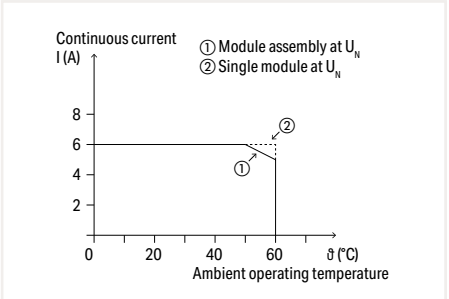
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	33.2 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +85 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373

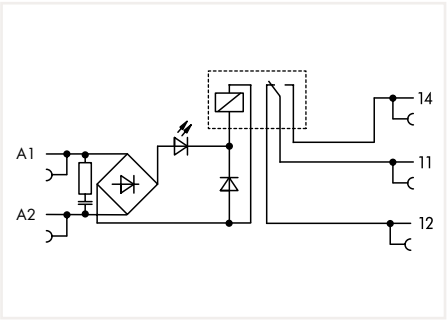


Current-Carrying Capacity Curve

Relay Module
857 Series

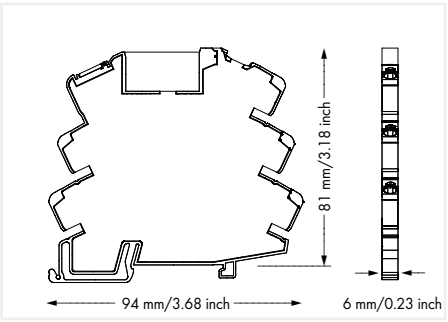


Similar to pictured device

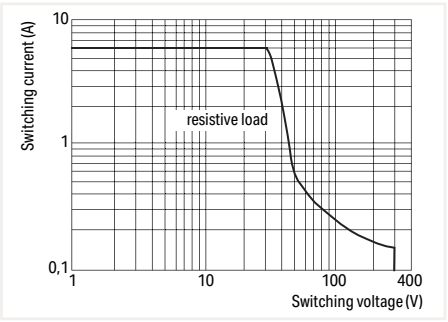


Relay Module; 1 changeover contact; Limiting continuous current: 6 A; with gold contacts; with integrated base load module; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC	16 mA	857-368/006-000	25



Note:
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.
- To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

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Control Circuit	
Input voltage range	−15 … +10 %
Line capacitance (max.)	170 nF
Cable length (control circuit)	≤ 350 m (for a line capacitance of 330 nF/km)

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi + Au
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Rated voltage	250 VDC
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

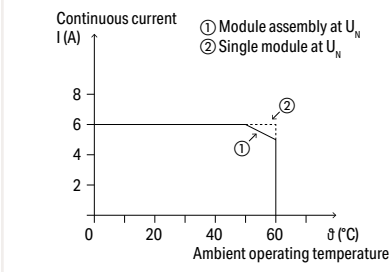
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	31.5 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +85 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373

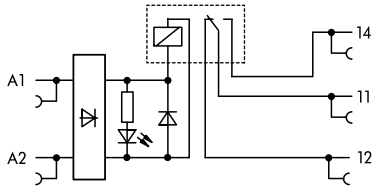


Current-Carrying Capacity Curve

Relay Module
857 Series

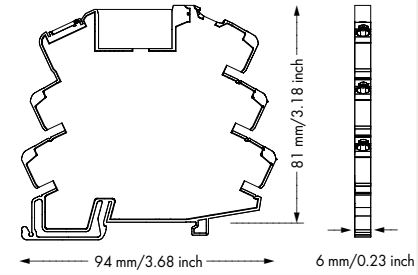
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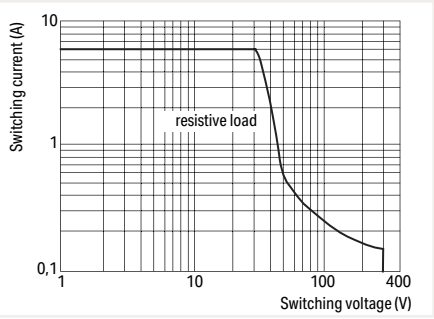


Relay Module; 1 changeover contact; Limiting continuous current: 6 A; Status indicator: yellow; 6 mm wide

U_N	Item No.	Pack. Unit
24 … 230 VAC/DC	857-359	25



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 26

Control Circuit	
Input voltage range	−30 … +10 %
Input current	3.5 mA (230 VAC); 20 mA (24 VDC)

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 60 min^{-1}

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Rated voltage	250 VDC
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

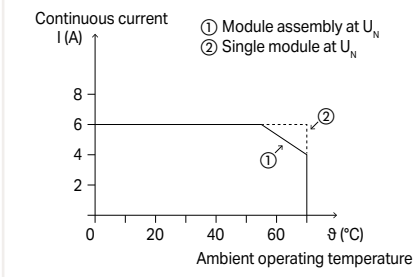
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	30.9 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

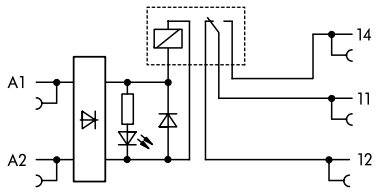
Standards and Specifications	
Standards/specifications	EN 50121-3-2; EN 50121-4; EN 61000-6-2; EN 61000-6-3; EN 61010-2-201; EN 61810-1; EN 61373; UL 508



Current-Carrying Capacity Curve

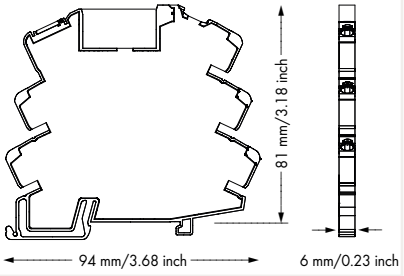
Relay Module
857 Series



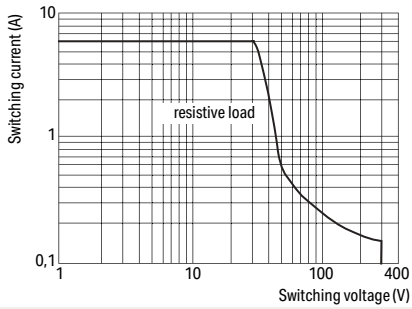


Relay Module; 1 changeover contact; Limiting continuous current: 6 A; with gold contacts; Status indicator: yellow; 6 mm wide

U_N	Item No.	Pack. Unit
24 … 230 VAC/DC	857-369	25



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

» Accessories Page 26

Control Circuit

Input voltage range	−30 … +10 %
Input current	3.5 mA (230 VAC); 20 mA (24 VDC)

Load Circuit

Number of changeover/switchover contacts	1
Contact material	AgNi + Au
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 60 min^{-1}

Signaling

Status indicator	Yellow LED

Safety and Protection

Rated voltage	250 VDC
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

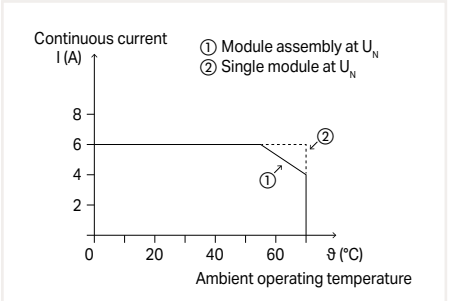
Weight	31.9 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

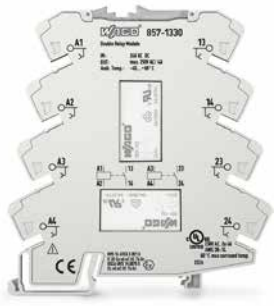
Standards/specifications	EN 50121-3-2; EN 50121-4; EN 61000-6-2; EN 61000-6-3; EN 61010-2-201; EN 61810-1; EN 61373; UL 508

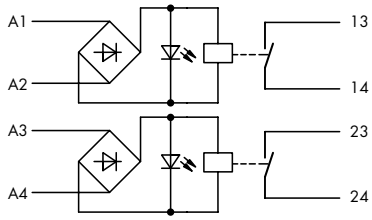


Current-Carrying Capacity Curve

Relay Module
857 Series

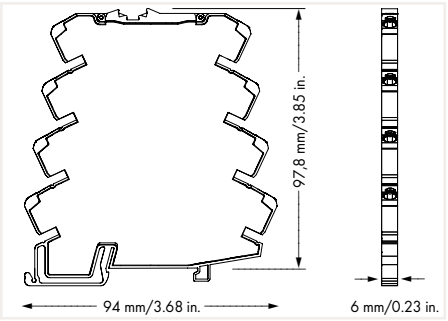
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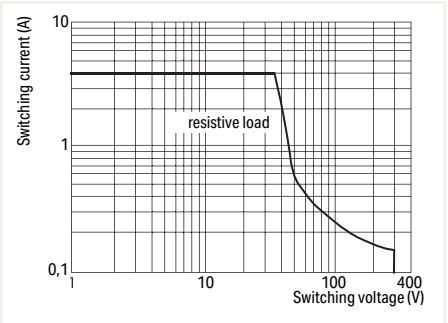


Relay Module; 2-channel; 1 make contact; Limiting continuous current: 4 A; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
AC/DC 24	10 mA	857-1330	25



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control Circuit

Input voltage range	−15 … +20 %

Load Circuit

Number of make contacts/switch-on contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	4 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}

Signaling

Status indicator	Yellow LED

Safety and Protection

Rated voltage	250 VDC
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	4 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	39.2 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +85 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

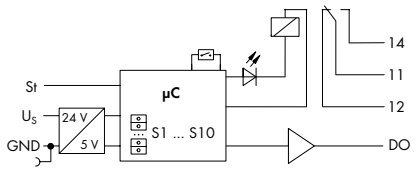
Standards and Specifications

Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508; ATEX, IEC Ex

» Accessories Page 26

Timer Relay Module
857 Series

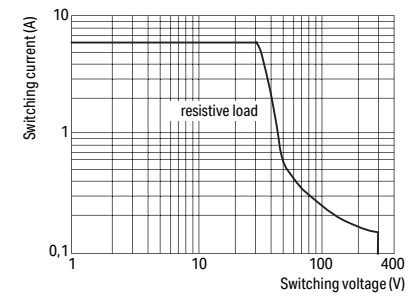




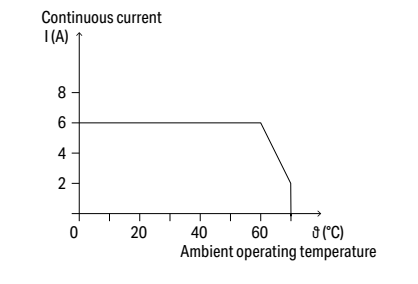
Timer Relay Module; 1 changeover contact; Limiting continuous current: 6 A; for railway applications; Multifunctional/multi-time; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	18 mA	857-640	1

Features:
- 14 functions
- Function and time range adjustable via DIP switch



DC Load Limit Curve



Current-Carrying Capacity Curve

» Accessories Page 26

Control Circuit

Input voltage range	±30 %
Time range	Adjustable: 0.01 … 0.1 s; 0.1 … 1 s; 1 … 10 s; 10 … 100 s; 1 … 10 min; 10 … 100 min; 1 … 10 h; 10 … 100 h
Reset time	50 ms
Minimum pulse length (control input)	10 ms
Functions	On delay; On-delay, with control input; Off-delay, with control input; On- and off-delay, with control input; Single-shot leading edge; Single-shot leading edge, with control input; Off-delay, with control input; Single-shot leading and trailing edge, with control input; On-delay and single-shot leading edge; On-delay and single-shot leading edge, with control input; Step switching; Blinking, pulse start; Blinking, interval start; Relay switching

Load Circuit

Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Digital output (DO)	U_N – 1 V; 100 mA

Signaling

Status indicator	Yellow LED

Safety and Protection

Rated voltage	250 VDC
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	33.2 g

Environmental Requirements

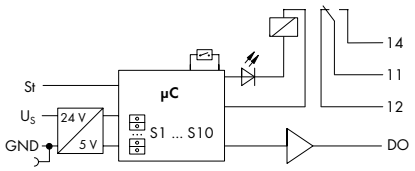
Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications

Standards/specifications	EN 61812-1; EN 61373; EN 50121-3-2; UL 508

Timer Relay Module
857 Series

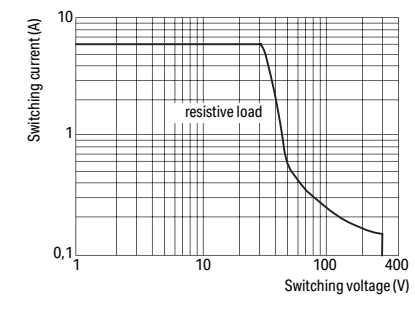




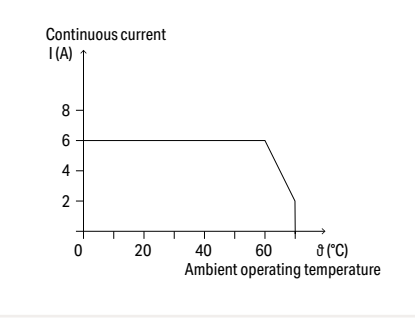
Timer Relay Module; 1 changeover contact; Limiting continuous current: 6 A; for railway applications; Multifunctional/multi-time; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	18 mA	857-642	1

Features:
- 7 functions
- 2 separately adjustable time ranges
- Function and time range adjustable via DIP switch



DC Load Limit Curve



Current-Carrying Capacity Curve

Control Circuit	
Input voltage range	±30 %
Time range	Adjustable: 0.01 … 0.1 s; 0.1 … 1 s; 1 … 10 s; 10 … 100 s; 1 … 10 min; 10 … 100 min; 1 … 10 h; 10 … 100 h
Reset time	50 ms
Minimum pulse length (control input)	10 ms
Functions	On- and off-delay, with control input; On-delay and single-shot leading edge; On-delay and single-shot leading edge, with control input; Single-shot leading and trailing edge, with control input; Pulse sequence evaluation, with control input; Repeat cycle timer, pulse start; Repeat cycle timer, interval start, control input

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Digital output (DO)	U_N – 1 V; 100 mA

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Rated voltage	250 VDC
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	51.31 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

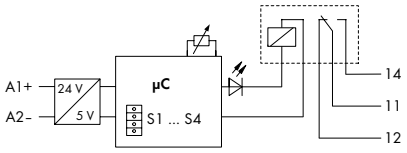
Standards and Specifications	
Standards/specifications	EN 61812-1; EN 61373; EN 50121-3-2; UL 508

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Timer Relay Module
857 Series

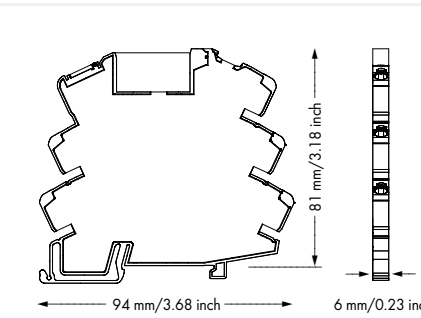
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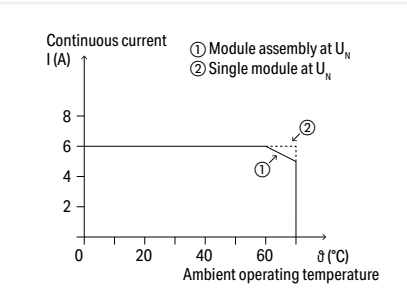


Timer Relay Module; 1 changeover contact; Limiting continuous current: 6 A; for railway applications; Multifunctional/multi-time; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	17.5 mA	857-604	1



Features:
- 4 functions
- Function and time range adjustable via DIP switch



Current-Carrying Capacity Curve

Control Circuit	
Input voltage range	±30 %
Time range	Adjustable: 0.1 … 10 s; 3 … 300 s; 0.3 … 30 min; 3 … 300 min
Reset time	50 ms
Minimum pulse length (control input)	10 ms
Repeat accuracy	±1 %
Functions	On-delay; Single-shot leading edge; On-delay and single-shot leading edge (1s fixed); blinking

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Rated voltage	250 VDC
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	24.88 g

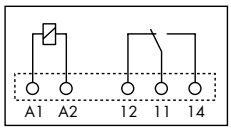
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61812-1; EN 61373; EN 50121-3-2; UL 508

» Accessories Page 26

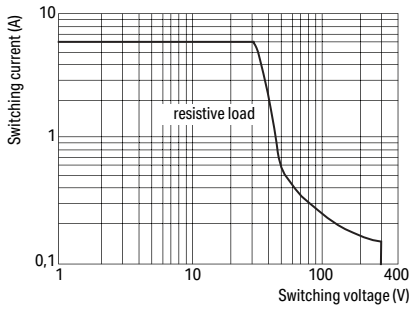
Basic Relay
857 Series





Basic Relay; 1 changeover contact; Limiting continuous current: 6 A; 5 mm wide; 15 mm high		
U_N	Item No.	Pack. Unit
12 VDC	857-150	20
24 VDC	857-152	20
48 VDC	857-154	20
60 VDC	857-155	20

Note:
- The 60 VDC spare relay must be used for 60 VDC, 110 VDC, 220 VDC and 115 VAC/DC, 230 VAC/DC relay modules.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Physical Data	
Width	5 mm / 0.197 inch
Height from the surface	15 mm / 0.591 inch
Depth	28 mm / 1.09 inch

Mechanical Data	
Mounting type	Pluggable module

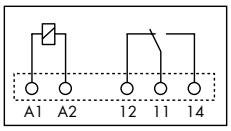
Material Data	
Weight	4.7 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +85 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Standards/specifications	EN 61810-1, EN 61373; VDE, UR

Basic Relay
857 Series

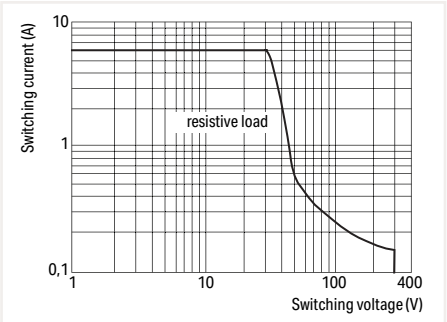




Basic Relay; 1 changeover contact; Limiting continuous current: 6 A; with gold contacts; 5 mm wide; 15 mm high

U_N	Item No.	Pack. Unit
12 VDC	**857-151**	20
24 VDC	**857-153**	20
60 VDC	**857-157**	20

Note:
- The 60 VDC spare relay must be used for 60 VDC, 110 VDC, 220 VDC and 115 VAC/DC, 230 VAC/DC relay modules.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.
- 30 VDC switching voltages and 50 mA currents must not be exceeded for gold-plated basic relays. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

Load Circuit

Number of changeover/switchover contacts	1
Contact material	AgNi + Au
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching frequency with/without load (max.)	6 min^{-1} / 180 min^{-1}

Safety and Protection

Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Physical Data

Width	5 mm / 0.197 inch
Height from the surface	15 mm / 0.591 inch
Depth	28 mm / 1.09 inch

Mechanical Data

Mounting type	Pluggable module

Material Data

Weight	4.7 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +85 °C
Surrounding air temperature (storage)	−40 … +85 °C

Standards and Specifications

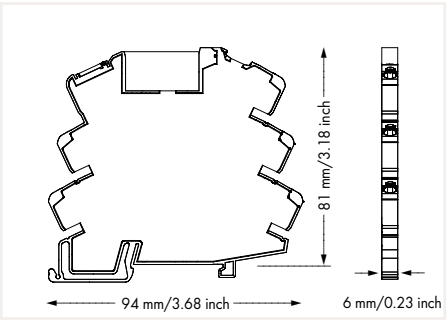
Standards/specifications	EN 61810-1, EN 61373; VDE, UR

Relay Socket
857 Series



Relay Socket; for 5 mm basic relay; Status indicator: yellow

U_N	Item No.	Pack. Unit
24 VAC/DC	857-104	25



Load Circuit	
Limiting continuous current	6 A
Switching voltage (max.)	250 VAC
Signaling	
Status indicator	Yellow LED
Safety and Protection	
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	26.3 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … 70 °C
Surrounding air temperature (storage)	−40 … 70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; UR 508

Accessories



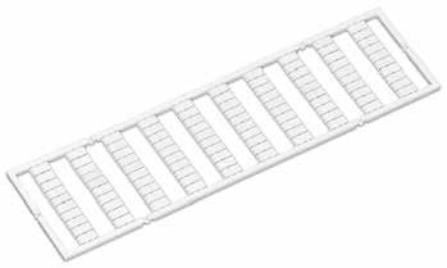
Push-in type jumper bar; light gray; insulated; 18 A		
Description	Item No.	Pack. Unit
2-way	859-402	200 (8x25)
3-way	859-403	200 (8x25)
4-way	859-404	200 (8x25)
5-way	859-405	200 (8x25)
6-way	859-406	100 (4x25)
7-way	859-407	100 (4x25)
8-way	859-408	100 (4x25)
9-way	859-409	100 (4x25)
10-way	859-410	100 (4x25)
Item no. suffixes for colored push-in type jumper bars		
yellow	.../000-029	
red	.../000-005	
blue	.../000-006	



Comb-style jumper bar; insulated; for conductor entry		
Description	Item No.	Pack. Unit
2-way	281-482	100



Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade		
	Item No.	Pack. Unit
	210-720	50



WMB marker card; 10 strips with 10 markers; white; with black printing		
Marking	Item No.	Pack. Unit
plain	793-501	5 cards
1 ...10 (10 x)	793-502	5 cards
11 ... 20 (10 x)	793-503	5 cards
21 ... 30 (10 x)	793-504	5 cards
31 ... 40 (10 x)	793-505	5 cards
41 ... 50 (10 x)	793-506	5 cards
1 ... 50 (2 x)	793-566	5 cards



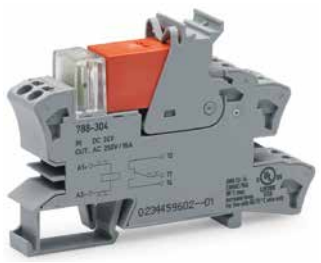
WMB Inline; for terminal block width: 5 ... 5.2 mm; plain; 1500 markers/reel; white		
Marking	Item No.	Pack. Unit
plain	2009-115	1

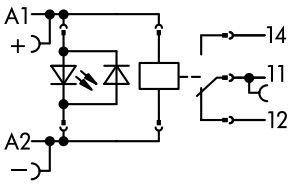


Marking strip; plain; 11 mm wide; 50 m reel; white		
Marking	Item No.	Pack. Unit
plain	2009-110	1

Relay Module
788 Series

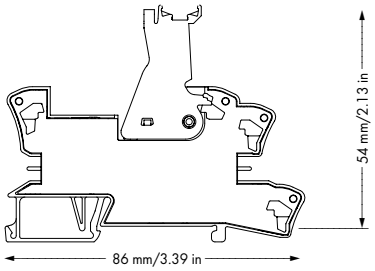
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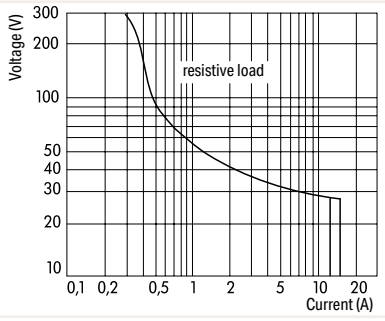


Relay Module; 1 changeover contact; Limiting continuous current: 16 A; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
12 VDC	36 mA	**788-303**	20
24 VDC	19 mA	**788-304**	20
48 VDC	11 mA	**788-305**	20
60 VDC	115 mA	**788-306**	20
110 VDC	6 mA	**788-307**	20



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 50

Control Circuit

Input voltage range	±10 %

Load Circuit

Number of changeover/switchover contacts	1
Contact material	AgNi 90/10
Limiting continuous current	16 A
Inrush current (resistive) max.	30 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 6 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	30 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 1200 min^{-1}

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

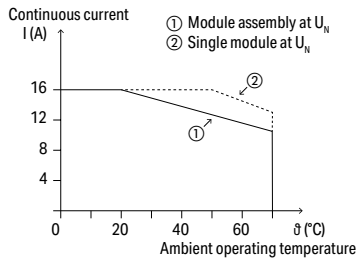
Weight	45.9 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications

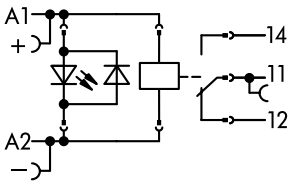
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 10 A)



Current-Carrying Capacity Curve

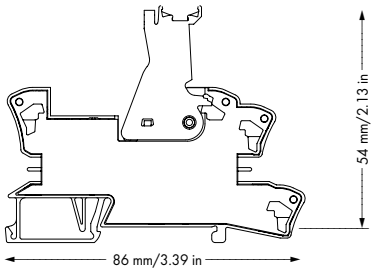
Relay Module
788 Series



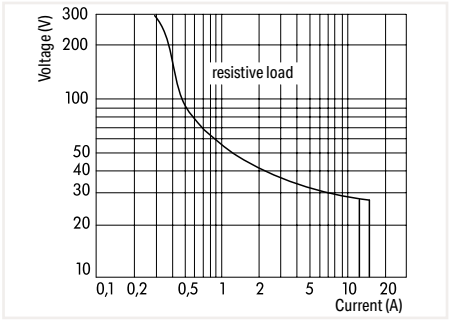


Relay Module; 1 changeover contact; Limiting continuous current: 16 A; with gold contacts; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	19 mA	788-404	20



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

» Accessories Page 50

Control Circuit

Input voltage range	±10 %

Load Circuit

Number of changeover/switchover contacts	1
Contact material	AgNi + Au
Limiting continuous current	16 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 6 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	5 V / 2 mA / 50 mW
Pull-in time (typ.)	7 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	30 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching load with/without load (max.)	10 min^{-1} / 1200 min^{-1}

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

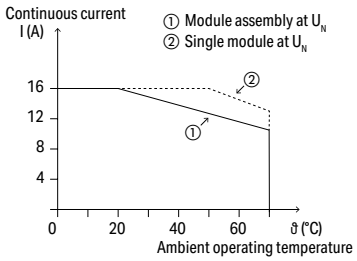
Weight	46.1 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications

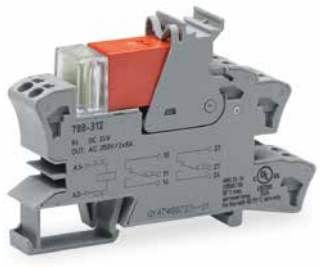
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508

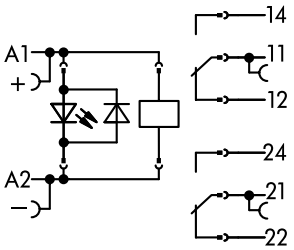


Current-Carrying Capacity Curve

Relay Module
788 Series

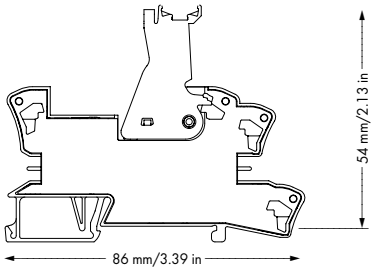
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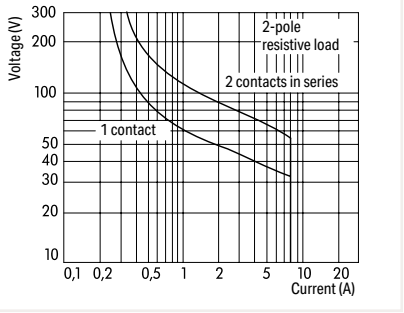


Relay Module; 2 changeover contacts; Limiting continuous current: 8 A; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
12 VDC	36 mA	788-311	20
24 VDC	19 mA	788-312	20
48 VDC	11 mA	788-313	20
60 VDC	11 mA	788-314	20
110 VDC	6 mA	788-315	20



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 50

Control Circuit

Input voltage range	±10 %

Load Circuit

Number of changeover/switchover contacts	2
Contact material	AgNi 90/10
Limiting continuous current	8 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	10 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 1200 min^{-1}

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

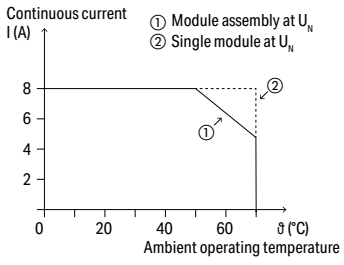
Weight	45.4 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

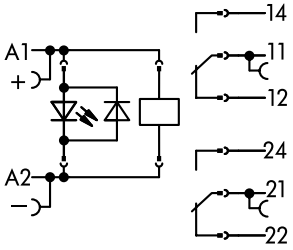
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508



Current-Carrying Capacity Curve

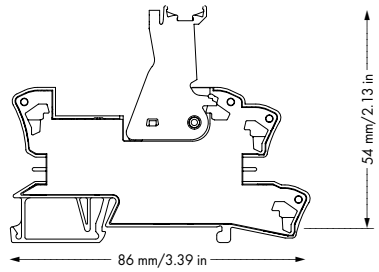
Relay Module
788 Series



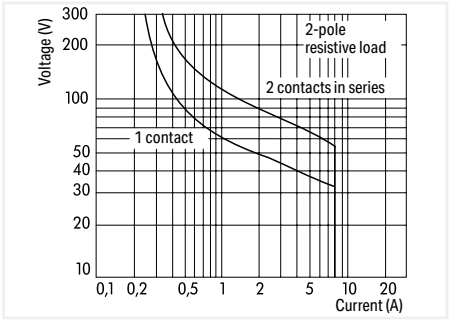


Relay Module; 2 changeover contacts; Limiting continuous current: 8 A; with gold contacts; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	17 mA	788-412	20



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

» Accessories Page 50

Control Circuit

Input voltage range	±10 %

Load Circuit

Number of changeover/switchover contacts	2
Contact material	AgNi + Au
Limiting continuous current	8 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	5 V / 2 mA / 50 mW
Pull-in time (typ.)	7 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching load with/without load (max.)	10 min^{-1} / 1200 min^{-1}

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

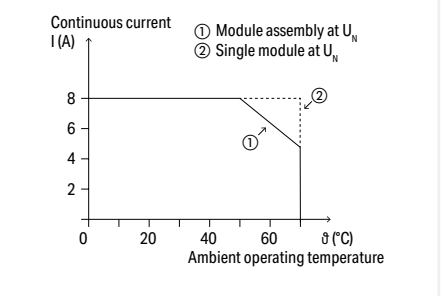
Weight	47.6 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508

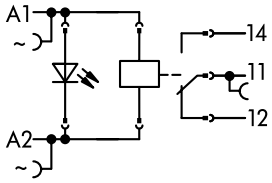


Current-Carrying Capacity Curve

Relay Module
788 Series

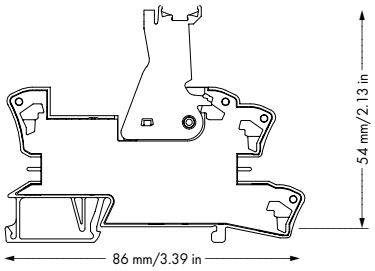
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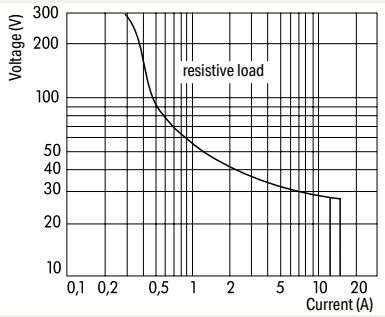


Relay Module; 1 changeover contact; Limiting continuous current: 16 A; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VAC	34 mA	**788-506**	20
115 VAC	8 mA	**788-507**	20
230 VAC	3.5 mA	**788-508**	20



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 50

Control Circuit

Input voltage range	±10 %

Load Circuit

Number of changeover/switchover contacts	1
Contact material	AgNi 90/10
Limiting continuous current	16 A
Inrush current (resistive) max.	30 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 6 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	35 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	30 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 600 min^{-1}

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

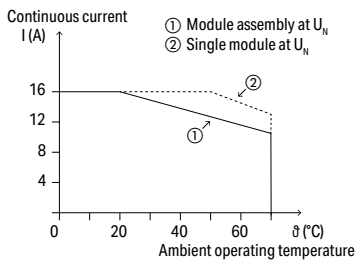
Weight	46.4 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

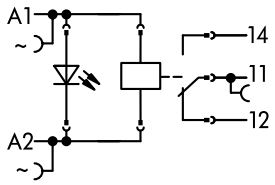
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508



Current-Carrying Capacity Curve

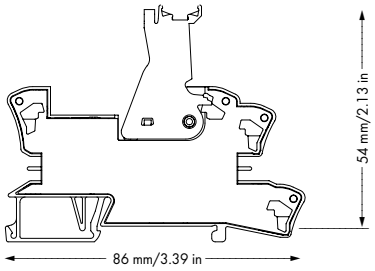
Relay Module
788 Series



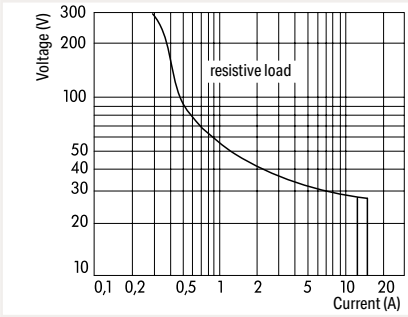


Relay Module; 1 changeover contact; Limiting continuous current: 16 A; with gold contacts; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
115 VAC	8.2 mA	788-607	20
230 VAC	5 mA	788-608	20



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

» Accessories Page 50

Control Circuit	
Input voltage range	±10 %

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi + Au
Limiting continuous current	16 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 6 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	5 V / 2 mA / 50 mW
Pull-in time (typ.)	7 ms
Drop-out time (typ.)	3 ms
Electrical life (NO; resistive load; 23 °C)	70 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

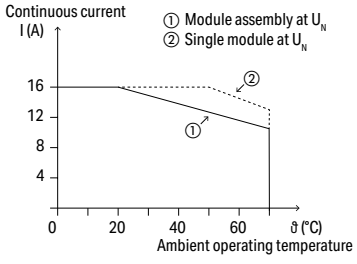
Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	44.4 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

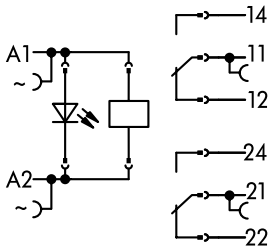
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508



Current-Carrying Capacity Curve

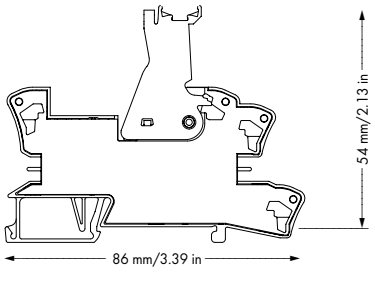
Relay Module
788 Series



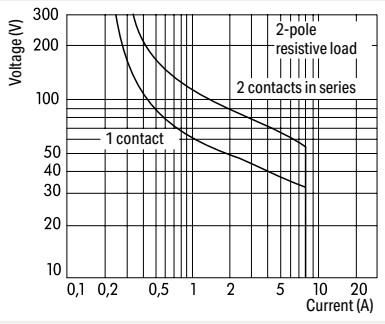


Relay Module; 2 changeover contacts; Limiting continuous current: 8 A; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VAC	34 mA	**788-512**	20
115 VAC	8 mA	**788-515**	20
230 VAC	3.5 mA	**788-516**	20



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 50

Control Circuit

Input voltage range	±10 %

Load Circuit

Number of changeover/switchover contacts	2
Contact material	AgNi 90/10
Limiting continuous current	8 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	35 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 1200 min^{-1}

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

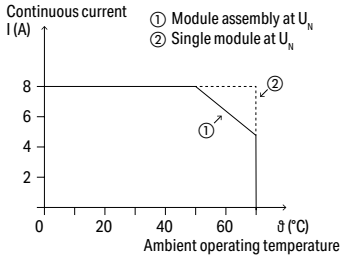
Weight	47.7 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

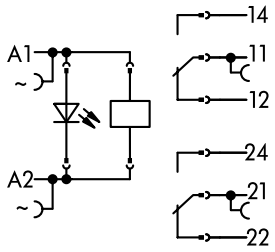
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; GL; UL 508



Current-Carrying Capacity Curve

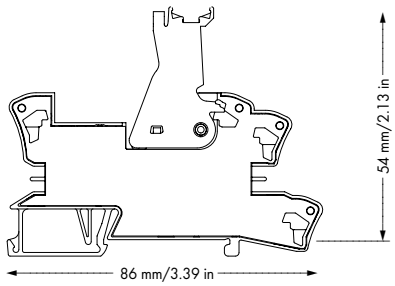
Relay Module
788 Series



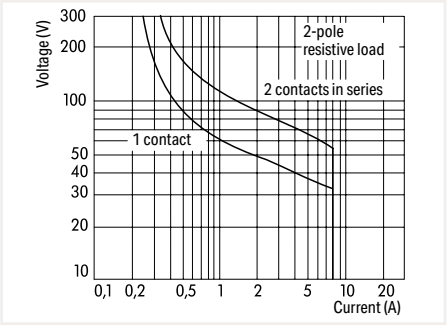


Relay Module; 2 changeover contacts; Limiting continuous current: 8 A; with gold contacts; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
115 VAC	8.2 mA	788-615	20
230 VAC	5 mA	788-616	20



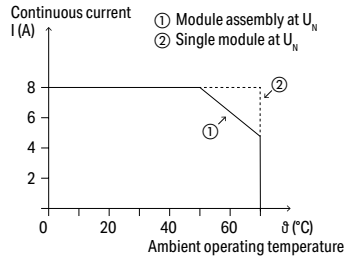
Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

» Accessories Page 50

Control Circuit	
Input voltage range	±10 %
Load Circuit	
Number of changeover/switchover contacts	2
Contact material	AgNi + Au
Limiting continuous current	8A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	5 V / 2 mA / 50 mW
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	35 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching load with/without load (max.)	10 min^{-1} / 1200 min^{-1}
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	47 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508

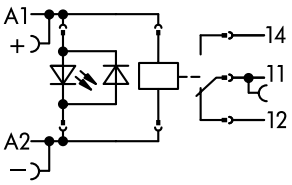


Current-Carrying Capacity Curve

Relay Module
788 Series

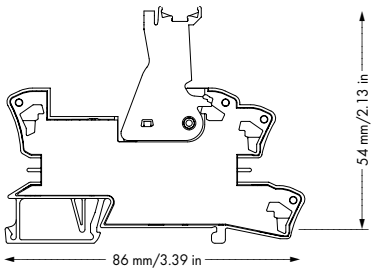
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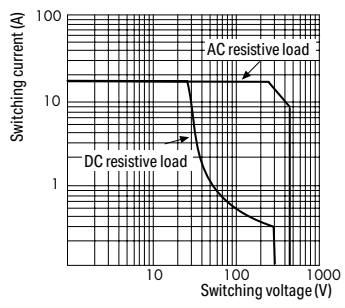


Relay Module; 1 changeover contact; Limiting continuous current: 16 A; for lamp loads; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
12 VDC	35 mA	**788-353**	20
24 VDC	19 mA	**788-354**	20



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Load Limit Curve

Control Circuit	
Input voltage range	−15 … +20 %

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	16 A
Inrush current (resistive) max.	120 A (AC) / 50 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Recommended minimum load	5 V / 100 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	5 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

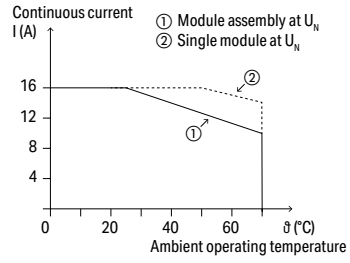
Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	44.4 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 10 A)

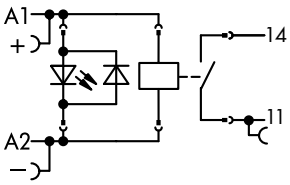


Current-Carrying Capacity Curve

» Accessories Page 50

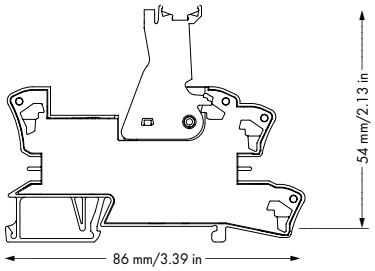
Relay Module
788 Series



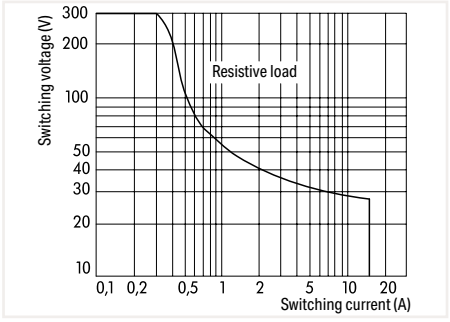


Relay Module; 1 make contact; Limiting continuous current: 16 A; for lamp loads; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	19 mA	788-356	20



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 50

Control Circuit

Input voltage range	−15 … +20 %

Load Circuit

Number of make contacts/switch-on contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	16 A
Inrush current (resistive) max.	80 A (AC) / 20 ms; 30 A / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 100 mA
Pull-in time (typ.)	9 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	3 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

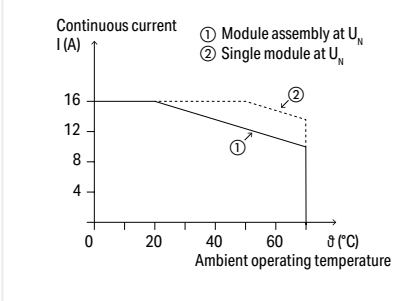
Weight	46.8 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 10 A)

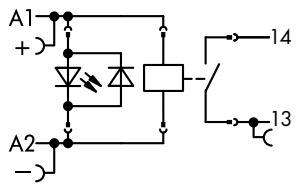


Current-Carrying Capacity Curve

Relay Module
788 Series

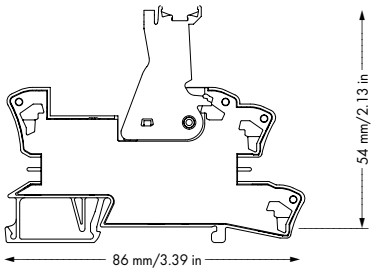
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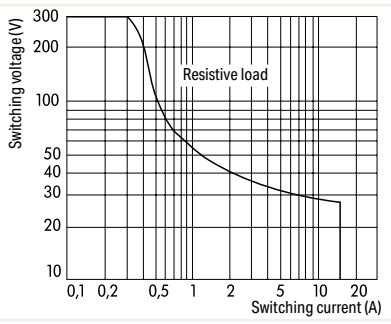


Relay Module; 1 make contact; Limiting continuous current: 16 A; for lamp loads; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	17 mA	788-357	20



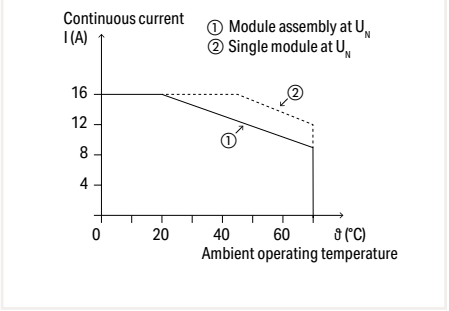
Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

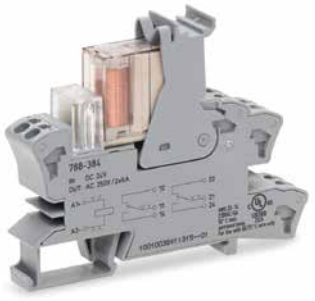
» Accessories Page 50

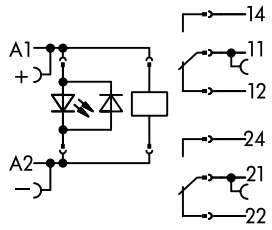
Control Circuit	
Input voltage range	–10 … +20 %
Load Circuit	
Number of make contacts/switch-on contacts	1
Contact material	$AgSnO_2$, W pre-make contact
Limiting continuous current	16 A
Inrush current (resistive) max.	165 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 100 mA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	5 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	5 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 60 min^{-1}
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1.25 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	46.6 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373



Current-Carrying Capacity Curve

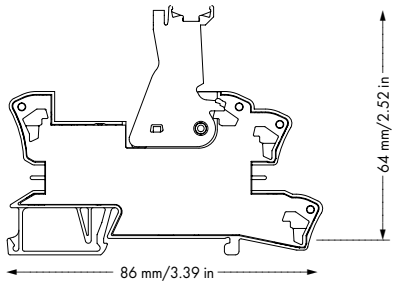
Relay Module
788 Series



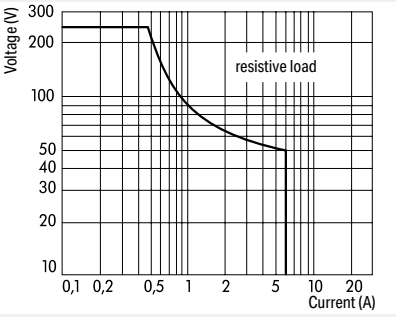


Relay Module; with force-guided contacts; 2 change-over contacts; Limiting continuous current: 6 A; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	31 mA	788-384	10



Note:
- Per EN 50205, it is only permitted to use 1 make contact/1 break contact for safety circuits (11-14 and 22-21 or 12-11 and 21-24).
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 50

Control Circuit

Input voltage range	−15 … +10 %

Load Circuit

Number of changeover/switchover contacts	2
Contact material	AgNi
Limiting continuous current	6 A
Inrush current (resistive) max.	14 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 3 A / 24 VDC
Recommended minimum load	5 V / 10 mA
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 300 min^{-1}
Mechanical force-guided operation	Type A
Type of basic relay	TE SR2M

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	3 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	64 mm / 2.52 inch
Depth	86 mm / 3.386 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

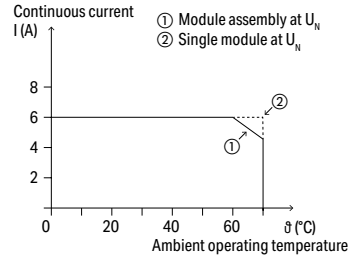
Weight	50.3 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

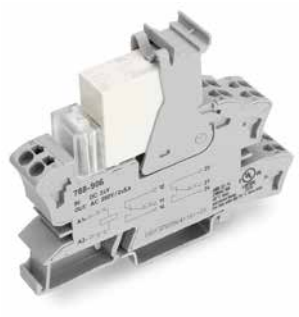
Standards and Specifications

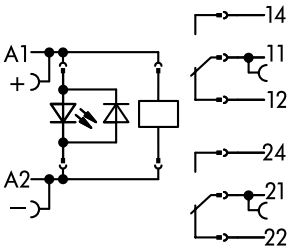
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508



Current-Carrying Capacity Curve

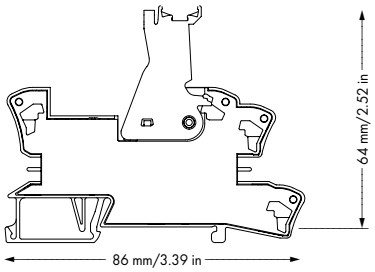
Relay Module
788 Series



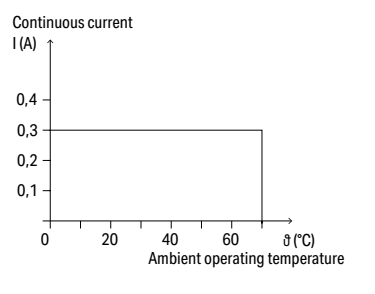


Relay Module; with force-guided contacts; 2 changeover contacts; Limiting continuous current: 0.3 A; with gold contacts; Status indicator: green; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	30 mA	788-906	10



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Current-Carrying Capacity Curve

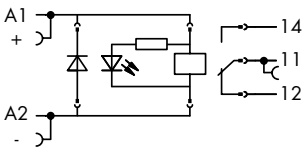
Control Circuit	
Input voltage range	−15 … +10 %
Load Circuit	
Number of changeover/switchover contacts	2
Contact material	AgNi + Au
Limiting continuous current	0.3 A
Switching voltage (max.)	60 VAC
Switching power (resistive) max.	18 VA (AC)
Recommended minimum load	0.1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	12 ms
Electrical life (NO; resistive load; 23 °C)	200 x 10^3 switching operations
Mechanical life	50 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 600 min^{-1}
Mechanical force-guided operation	Type A
Type of basic relay	Dold OA 5669
Signaling	
Status indicator	Green LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	64 mm / 2.52 inch
Depth	86 mm / 3.386 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	50 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201, EN 61810-3; UL 508 (max. 40 °C)

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Relay Module
788 Series

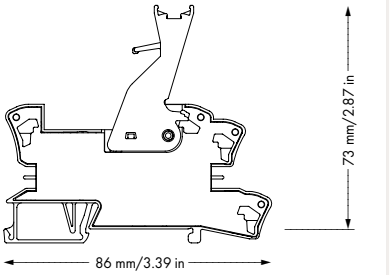
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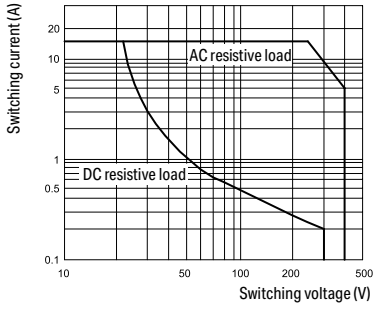


Relay Module; 1 changeover contact; Limiting continuous current: 16 A; Manually operated; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	16.7 mA	**788-341**	15



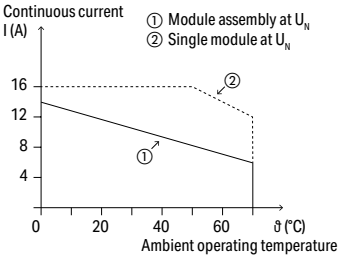
Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

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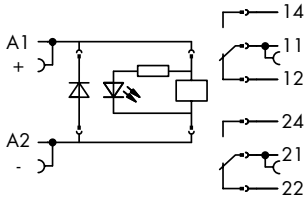
Control Circuit	
Input voltage range	±10 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi
Limiting continuous current	16 A
Inrush current (resistive) max.	24 A (AC) / 4 s; 32 A / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 240 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 300 min^{-1}
Signaling	
Status indicator	Red LED; mechanical
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	86 mm / 3.386 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	50 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 10 A)



Current-Carrying Capacity Curve

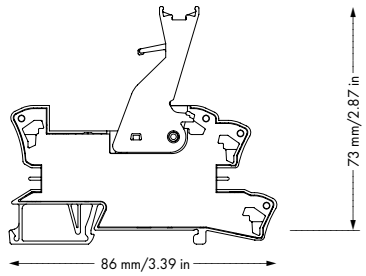
Relay Module
788 Series



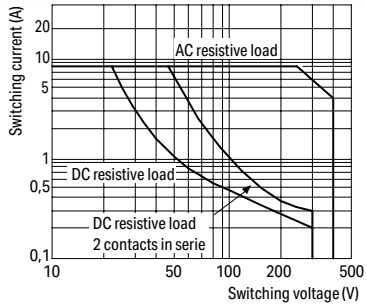


Relay Module; 2 changeover contacts; Limiting continuous current: 8 A; Manually operated; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	16.7 mA	788-346	15



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 50

Control Circuit

Input voltage range	±10 %

Load Circuit

Number of changeover/switchover contacts	2
Contact material	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	12 A (AC) / 4 s; 16 A / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 1.5 A / 240 VAC; DC 13: 1 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	7 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 300 min^{-1}

Signaling

Status indicator	Red LED; mechanical

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	86 mm / 3.386 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

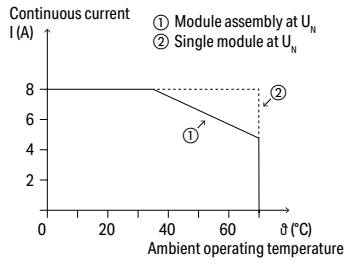
Weight	34.6 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

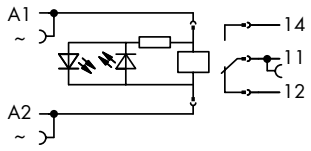
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508



Current-Carrying Capacity Curve

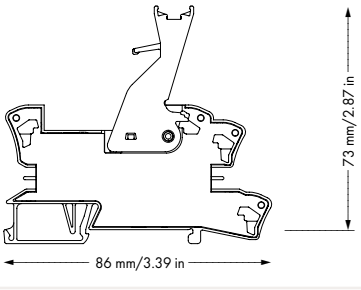
Relay Module
788 Series



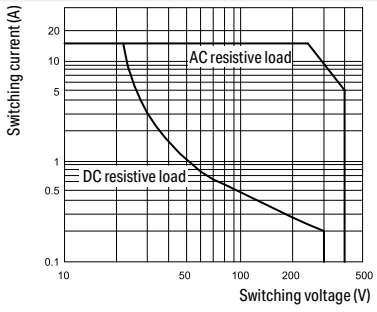


Relay Module; 1 changeover contact; Limiting continuous current: 16 A; Manually operated; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VAC	31.6 mA	**788-541**	15
115 VAC	6.6 mA	**788-543**	15
230 VAC	3.2 mA	**788-544**	15



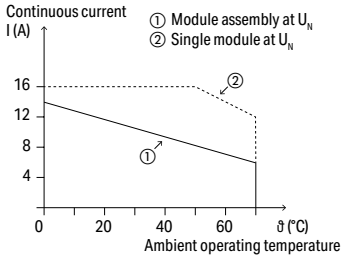
Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 50

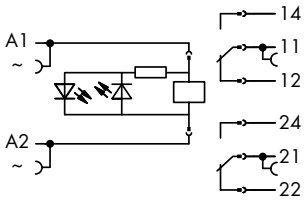
Control Circuit	
Input voltage range	±10 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi
Limiting continuous current	16 A
Inrush current (resistive) max.	24 A (AC) / 4 s; 32 A / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 240 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 300 min^{-1}
Signaling	
Status indicator	Red LED; mechanical
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	86 mm / 3.386 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	47 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 10 A)



Current-Carrying Capacity Curve

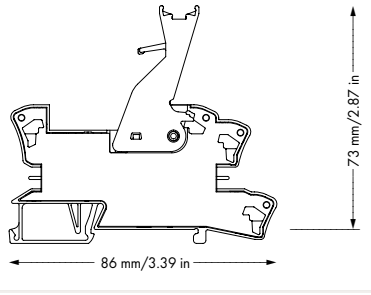
Relay Module
788 Series



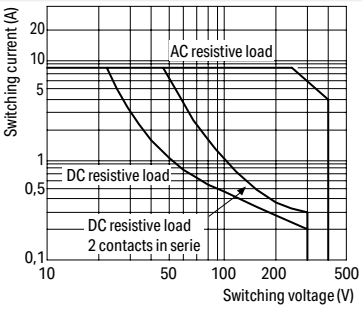


Relay Module; 2 changeover contacts; Limiting continuous current: 8 A; Manually operated; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VAC	31.6 mA	788-546	15
115 VAC	6.6 mA	788-548	15
230 VAC	3.2 mA	788-549	15



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 50

Control Circuit

Input voltage range	±10 %

Load Circuit

Number of changeover/switchover contacts	2
Contact material	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	12 A (AC) / 4 s; 16 A / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 1.5 A / 240 VAC; DC 13: 1 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	7 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 300 min^{-1}

Signaling

Status indicator	Red LED; mechanical

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	86 mm / 3.386 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

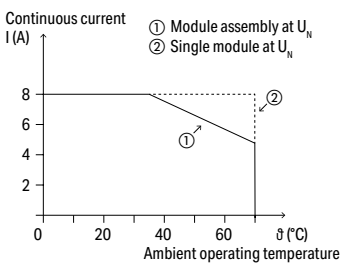
Weight	46.4 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508

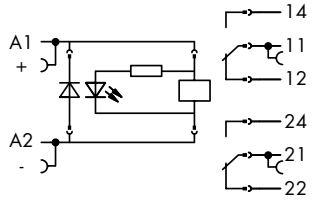


Current-Carrying Capacity Curve

Relay Module
788 Series

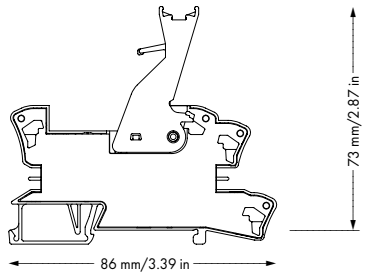
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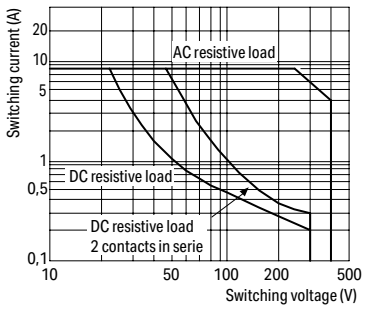


Relay Module; 2 changeover contacts; Limiting continuous current: 8 A; Manually operated; for railway applications; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	19.1 mA	788-390	15



Note:
- Reinforced insulation between coil and contacts
- A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.
- To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 50

Control Circuit

Input voltage range	−30 … +25 %

Load Circuit

Number of changeover/switchover contacts	2
Contact material	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	12 A (AC) / 4 s; 16 A / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 1.5 A / 240 VAC; DC 13: 1 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	7 ms
Electrical life (NO; resistive load; 23 °C)	10x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 300 min^{-1}

Signaling

Status indicator	Red LED; mechanical

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	86 mm / 3.386 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

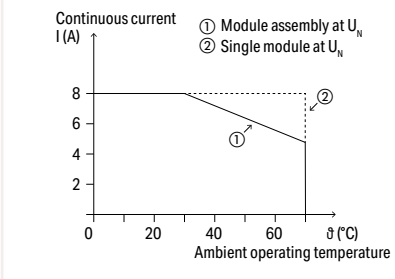
Weight	48 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

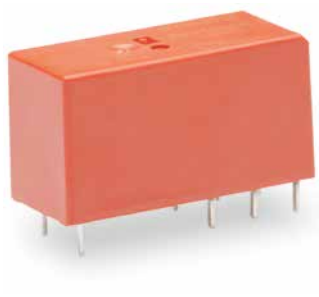
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373

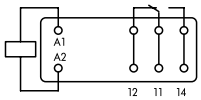


Current-Carrying Capacity Curve

Basic Relay
788 Series

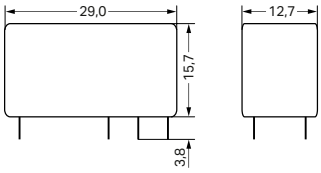
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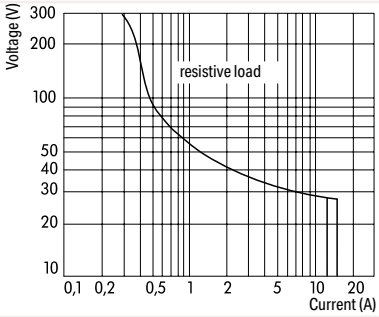




Basic Relay; 1 changeover contact; Limiting continuous current: 16 A; 13 mm wide; 15 mm high

U_N	Item No.	Pack. Unit
12 VDC	788-150	20
24 VDC	788-154	20
48 VDC	788-158	20
60 VDC	788-162	20
110 VDC	788-166	20
24 VAC	788-170	20
115 VAC	788-174	20
230 VAC	788-178	20





DC Load Limit Curve

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi 90/10
Limiting continuous current	16 A
Inrush current (resistive) max.	30 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 6 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	6 ms
Electrical life (NO; resistive load; 23 °C)	30 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 1200 min^{-1}

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}

Physical Data	
Width	12.7 mm / 0.5 inch
Height from the surface	15.7 mm / 0.618 inch
Depth	29 mm / 1.142 inch

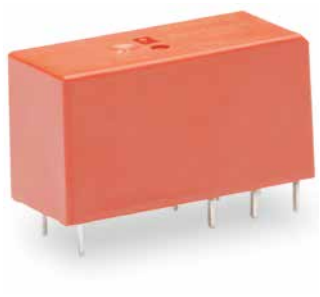
Mechanical Data	
Mounting type	Pluggable module

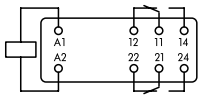
Material Data	
Weight	13.1 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +85 °C
Surrounding air temperature (storage)	−40 … +85 °C

Standards and Specifications	
Standards/specifications	EN 61810-1

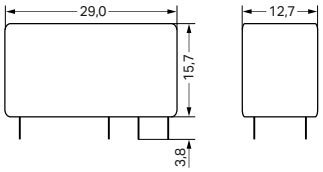
Basic Relay
788 Series

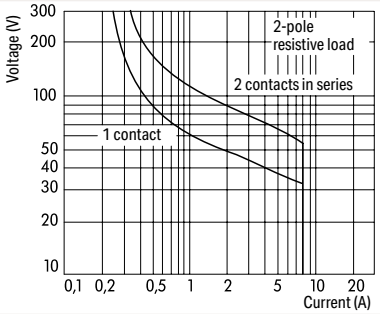




Basic Relay; 2 changeover contacts; Limiting continuous current: 8 A; 13 mm wide; 15 mm high

U_N	Item No.	Pack. Unit
12 VDC	788-152	20
24 VDC	788-156	20
48 VDC	788-160	20
60 VDC	788-164	20
110 VDC	788-168	20
24 VAC	788-172	20
115 VAC	788-176	20
230 VAC	788-180	20





DC Load Limit Curve

Load Circuit	
Number of changeover/switchover contacts	2
Contact material	AgNi 90/10
Limiting continuous current	8 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	10 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 1200 min^{-1}

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}

Physical Data	
Width	12.7 mm / 0.5 inch
Height from the surface	15.7 mm / 0.618 inch
Depth	29 mm / 1.142 inch

Mechanical Data	
Mounting type	Pluggable module

Material Data	
Weight	13 g

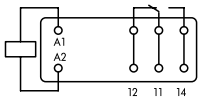
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +85 °C
Surrounding air temperature (storage)	−40 … +85 °C

Standards and Specifications	
Standards/specifications	EN 61810-1

Basic Relay
788 Series

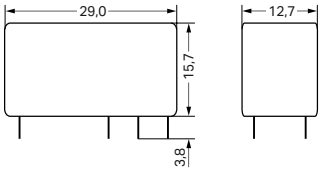
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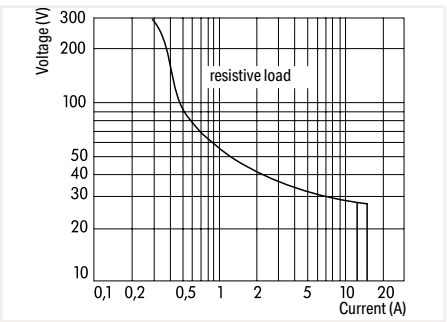


Basic Relay; 1 changeover contact; Limiting continuous current: 16 A; with gold contacts; 13 mm wide; 15 mm high

U_N	Item No.	Pack. Unit
24 VDC	788-155	20
115 VAC	788-175	20
230 VAC	788-179	20



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi + Au
Limiting continuous current	16 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 6 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	5 V / 2 mA / 50 mW
Pull-in time (typ.)	7 ms
Drop-out time (typ.)	3 ms
Electrical life (NO; resistive load; 23 °C)	30 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}

Physical Data	
Width	12.7 mm / 0.5 inch
Height from the surface	15.7 mm / 0.618 inch
Depth	29 mm / 1.142 inch

Mechanical Data	
Mounting type	Pluggable module

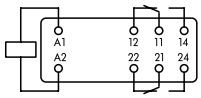
Material Data	
Weight	11 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +85 °C
Surrounding air temperature (storage)	−40 … +85 °C

Standards and Specifications	
Standards/specifications	EN 61810-1

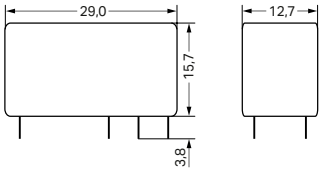
Basic Relay
788 Series



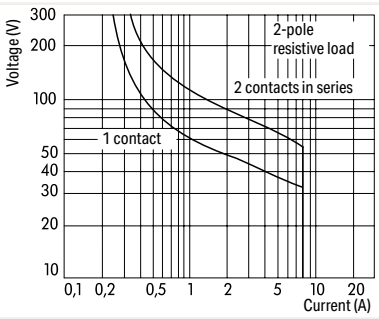


Basic Relay; 2 changeover contacts; Limiting continuous current: 8 A; with gold contacts; 13 mm wide; 15 mm high

U_N	Item No.	Pack. Unit
24 VDC	788-157	20
115 VAC	788-177	20
230 VAC	788-181	20



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

Load Circuit

Number of changeover/switchover contacts	2
Contact material	AgNi + Au
Limiting continuous current	8 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 3 A / 250 VAC; DC 13: 2 A / 24 VDC
Recommended minimum load	5 V / 2 mA / 50 mW
Pull-in time (typ.)	7 ms
Drop-out time (typ.)	3 ms
Electrical life (NO; resistive load; 23 °C)	1 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Safety and Protection

Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}

Physical Data

Width	12.7 mm / 0.5 inch
Height from the surface	15.7 mm / 0.618 inch
Depth	29 mm / 1.142 inch

Mechanical Data

Mounting type	Pluggable module

Material Data

Weight	13.4 g

Environmental Requirements

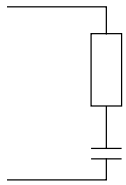
Surrounding air temperature (operation at U_N)	–40 … +85 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications

Standards/specifications	EN 61810-1

Suppressor Module
788 Series





Operating Data	
Nominal operating voltage	110 … 230 VAC
Operating voltage	0 … 230 VAC
Power consumption at U_N	7.2 mA (230 VAC; 50 Hz); 3.6 mA (115 VAC; 50 Hz)

Module Characteristics	
Resistance	470 Ω
Capacitance	100 nF

Physical Data	
Width	15 mm / 0.591 inch
Height from the surface	15.7 mm / 0.618 inch
Depth	10 mm / 0.394 inch

Mechanical Data	
Mounting type	Pluggable module

Material Data	
Weight	1.5 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Suppressor Module; for miniature switching relays; Pluggable, for relay sockets (788 and 858 Series)

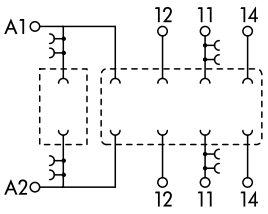
U_N	Item No.	Pack. Unit
110 … 230 VAC	**788-148**	50

Note:
- To guarantee safe operation, residual voltages (due to the cable capacitance of long connection lines or leakage currents of semi-conductor switches and their protective circuits) must be lower than the release voltage of the relays.
- For DC relays, the release voltage is specified with ≤ 5% of the nominal voltage; for AC relays, it is 15% of the nominal voltage (per VDE 0435).
- The relay may not reset if a high residual voltage exists. Depending on the reason for the residual voltage, changing the cable routing or a parallel connection of an RC element could remedy this situation.

Relay Socket
788 Series

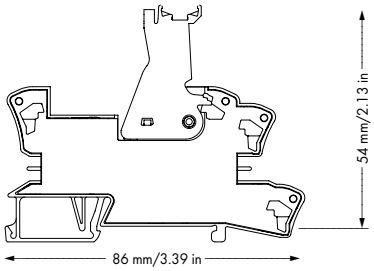
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Relay Socket; 1 changeover contact; for 15 mm basic relays

	Item No.	Pack. Unit
	788-100	20



Control Circuit	
Nominal input voltage U_N	250 VAC/DC (depends on relay)
Input voltage range	0 … 250 V (depends on relay)

Load Circuit	
Number of changeover/switchover contacts	1
Limiting continuous current	16 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC)

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	6 kV_{rms} (depends on relay)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms} (depends on relay)
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

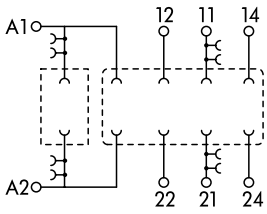
Material Data	
Weight	31.3 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C (depends on relay)
Surrounding air temperature (storage)	–40 … +80 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

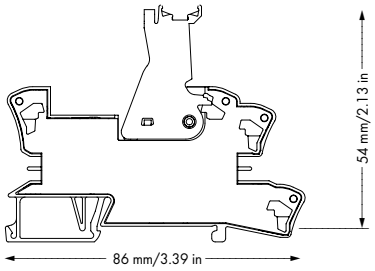
Relay Socket
788 Series





Relay Socket; 2 changeover contacts; for 15 mm basic relays

	Item No.	Pack. Unit
	788-102	20



Control Circuit	
Nominal input voltage U_N	250 VAC/DC (depends on relay)
Input voltage range	0 … 250 V (depends on relay)

Load Circuit	
Number of changeover/switchover contacts	2
Limiting continuous current	8 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC)

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	6 kV_{rms} (depends on relay)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms} (depends on relay)
Dielectric strength, load/load circuit (AC, 1 min)	3.5 kV
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	30.7 g

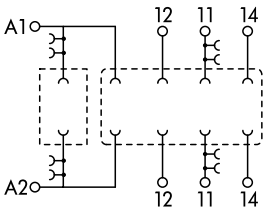
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C (depends on relay)
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Relay Socket
788 Series

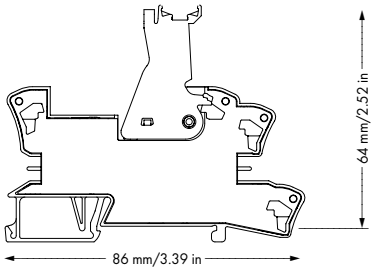
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Relay Socket; 1 changeover contact; for 25 mm basic relays

	Item No.	Pack. Unit
	788-101	15



Control Circuit	
Nominal input voltage U_N	250 VAC/DC (depends on relay)
Input voltage range	0 … 250 V (depends on relay)

Load Circuit	
Number of changeover/switchover contacts	1
Limiting continuous current	16 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC)

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	6 kV_{rms} (depends on relay)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms} (depends on relay)
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	64 mm / 2.52 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

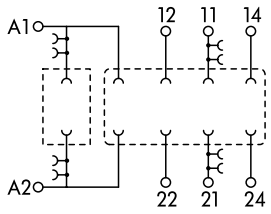
Material Data	
Weight	31 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C (depends on relay)
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

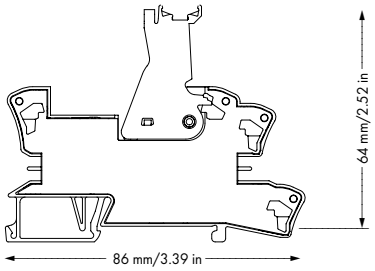
Relay Socket
788 Series





Relay Socket; 2 changeover contacts; for 25 mm basic relays

	Item No.	Pack. Unit
	788-103	15



Control Circuit	
Nominal input voltage U_N	250 VAC/DC (depends on relay)
Input voltage range	0 … 250 V (depends on relay)

Load Circuit	
Number of changeover/switchover contacts	2
Limiting continuous current	8 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC)

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	6 kV_{rms} (depends on relay)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms} (depends on relay)
Dielectric strength, load/load circuit (AC, 1 min)	3.5 kV_{rms} (depends on relay)
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	64 mm / 2.52 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	31 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C (depends on relay)
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C

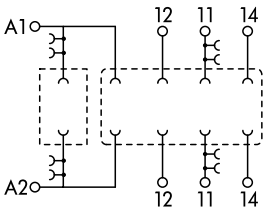
Standards and Specifications	
Standards/specifications	EN 60664-1

Relay Socket
788 Series

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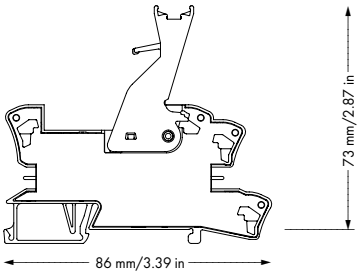


Similar to pictured device



Relay Socket; 1 changeover contact; Manually operated; for 25 mm basic relays

	Item No.	Pack. Unit
	788-108	15



Control Circuit	
Nominal input voltage U_N	250 VAC/DC (depends on relay)
Input voltage range	0 … 250 V (depends on relay)

Load Circuit	
Number of changeover/switchover contacts	1
Limiting continuous current	16 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC)

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	6 kV_{rms} (depends on relay)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms} (depends on relay)
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	32 g

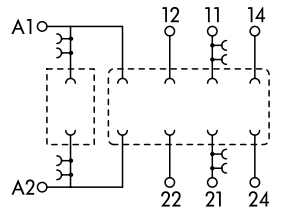
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C (depends on relay)
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Relay Socket
788 Series

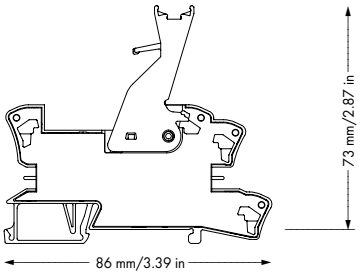


Similar to pictured device



Relay Socket; 2 changeover contacts; Manually operated; for 25 mm basic relays

	Item No.	Pack. Unit
	788-109	15



Control Circuit	
Nominal input voltage U_N	250 VAC/DC (depends on relay)
Input voltage range	0 … 250 V (depends on relay)

Load Circuit	
Number of changeover/switchover contacts	2
Limiting continuous current	8 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC)

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	6 kV_{rms} (depends on relay)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms} (depends on relay)
Dielectric strength, load/load circuit (AC, 1 min)	3.5 kV_{rms} (depends on relay)
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	32.1 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C (depends on relay)
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Accessories for relay modules; Operation status indicator: red

U_N	I_N	Item No.	Pack. Unit
24 VDC	2.4 mA	**788-120**	50(2x25)
48 VDC	1.9 mA	**788-121**	50(2x25)
24 VAC	2.1 mA	**788-123**	50(2x25)
110 VDC	1.9 mA	**788-122**	50(2x25)
115 VAC	1.7 mA	**788-124**	50(2x25)
230 VAC	1.6 mA	**788-125**	50(2x25)



Twin ferrule; Sleeve for 2 x 1 mm² / 2 x 18 AWG; red, insulated; 12 mm long

Color	Item No.	Pack. Unit
red	**216-542**	500



Comb-style jumper bar; insulated; 18 A

Description	Item No.	Pack. Unit
2-way	**788-113**	200 (8x25)
3-way	**788-114**	100 (4x25)
4-way	**788-115**	100 (4x25)
6-way	**788-116**	100 (4x25)
8-way	**788-117**	100 (4x25)
1 to 3	**788-118**	100 (4x25)



Push-in type jumper bar; light gray; insulated; 18 A

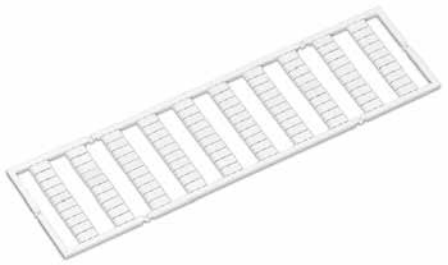
Description	Item No.	Pack. Unit
2-way	**859-402**	200 (8x25)



Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

	Item No.	Pack. Unit
	210-720	50

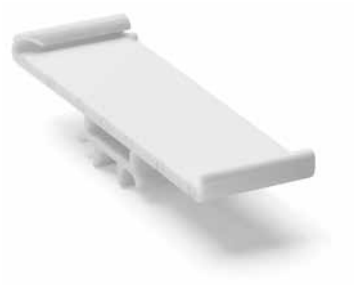
Accessories



WMB marker card; 10 strips with 10 markers; white; with black printing		
Marking	**Item No.**	Pack. Unit
plain	**793-501**	5 cards
1 ...10 (10 x)	**793-502**	5 cards
11 ... 20 (10 x)	**793-503**	5 cards
21 ... 30 (10 x)	**793-504**	5 cards
31 ... 40 (10 x)	**793-505**	5 cards
41 ... 50 (10 x)	**793-506**	5 cards
1 ... 50 (2 x)	**793-566**	5 cards



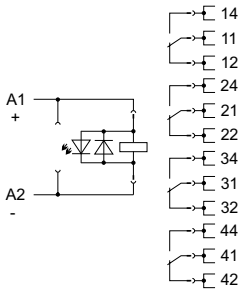
WMB Inline; for terminal block width: 5 ... 5.2 mm; plain; 1500 markers/reel; white		
Marking	**Item No.**	Pack. Unit
plain	**2009-115**	1



Group marker carrier; for WMB and Mini-WSB marker slots; 10 mm wide		
	Item No.	Pack. Unit
	209-145	100

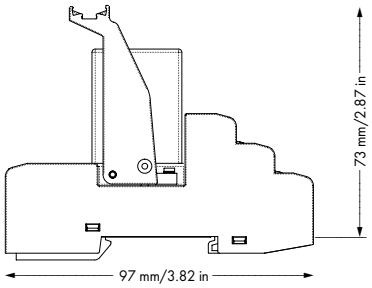
Relay Module
858 Series

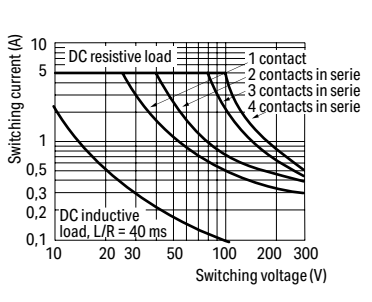




Relay Module; 4 changeover contacts; Limiting continuous current: 5 A; manually operated; Status indicator: red; 31 mm wide

U_N	I_N	Item No.	Pack. Unit
12 VDC	75 mA	858-303	5
24 VDC	36.9 mA	858-304	5
48 VDC	18.5 mA	858-305	5
110 VDC	10 mA	858-307	5
220 VDC	4.1 mA	858-308	5





DC Load Limit Curve

Control Circuit

Input voltage range	−20 … +10 %

Load Circuit

Number of changeover/switchover contacts	4
Contact material	AgCe
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 100 mA
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations

Signaling

Status indicator	Red LED; mechanical

Safety and Protection

Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Note (conductor cross section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG

Physical Data

Width	31 mm / 1.22 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	97 mm / 3.819 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	99.5 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C

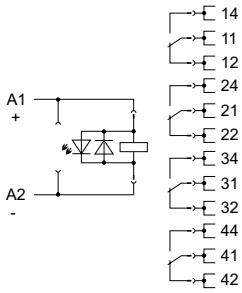
Standards and Specifications

Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 50 °C); GL (858-304)

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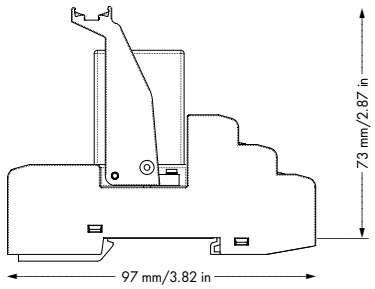
Relay Module
858 Series



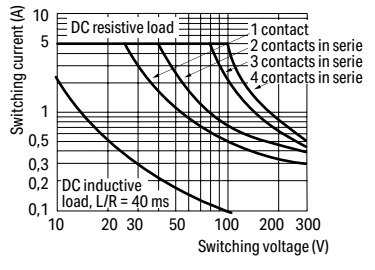


Relay Module; 4 changeover contacts; Limiting continuous current: 5 A; with gold contacts; manually operated; Status indicator: red; 31 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	36.9 mA	858-314	5



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

Control Circuit	
Input voltage range	−20 … +10 %

Load Circuit	
Number of changeover/switchover contacts	4
Contact material	AgCe + Au
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	5 V / 1 mA / 50 mW
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations

Signaling	
Status indicator	Red LED; mechanical

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Note (conductor cross section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG

Physical Data	
Width	31 mm / 1.22 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	97 mm / 3.819 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	97.5 g

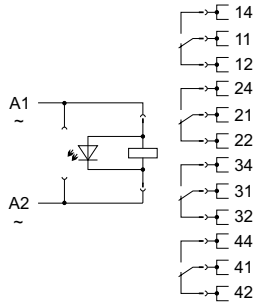
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; GL; UL 508 (max. 50 °C)

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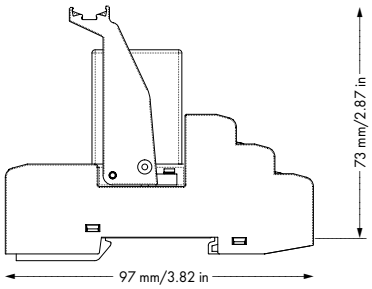
Relay Module
858 Series

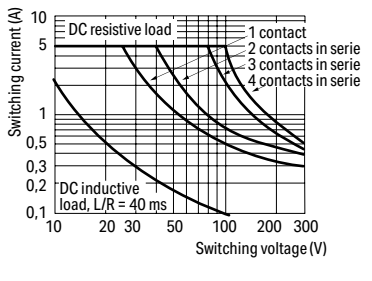




Relay Module; 4 changeover contacts; Limiting continuous current: 5 A; manually operated; Status indicator: red; 31 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VAC	50 mA	**858-504**	5
115 VAC	10 mA	**858-507**	5
230 VAC	8.3 mA	**858-508**	5





DC Load Limit Curve

Control Circuit

Input voltage range	−20 … +10 %

Load Circuit

Number of changeover/switchover contacts	4
Contact material	AgCe
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 100 mA
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	35 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations

Signaling

Status indicator	Red LED; mechanical

Safety and Protection

Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Note (conductor cross section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG

Physical Data

Width	31 mm / 1.22 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	97 mm / 3.819 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	96.1 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C

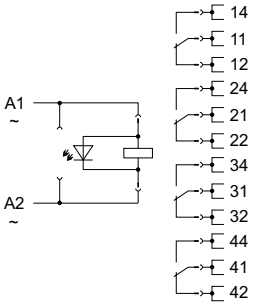
Standards and Specifications

Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 50 °C)

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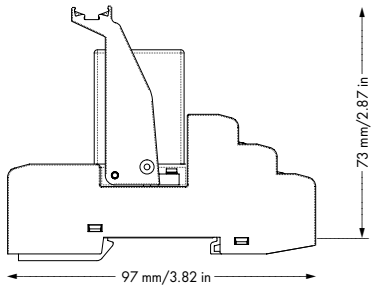
Relay Module
858 Series



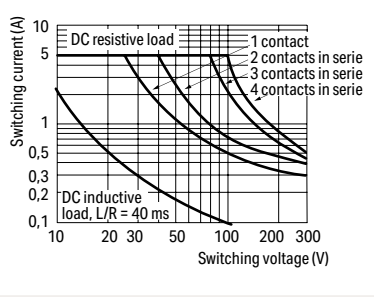


Relay Module; 4 changeover contacts; Limiting continuous current: 5 A; with gold contacts; manually operated; Status indicator: red; 31 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VAC	50 mA	858-514	5
115 VAC	10 mA	858-517	5
230 VAC	8.3 mA	858-518	5



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

Control Circuit	
Input voltage range	−20 … +10 %

Load Circuit	
Number of changeover/switchover contacts	4
Contact material	AgCe + Au
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	5 V / 1 mA / 50 mW
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	35 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations

Signaling	
Status indicator	Red LED; mechanical

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Note (conductor cross section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG

Physical Data	
Width	31 mm / 1.22 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	97 mm / 3.819 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	95.5 g

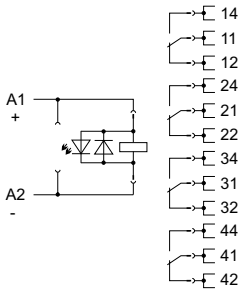
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 50 °C)

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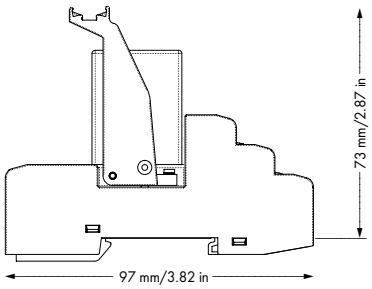
Relay Module
858 Series



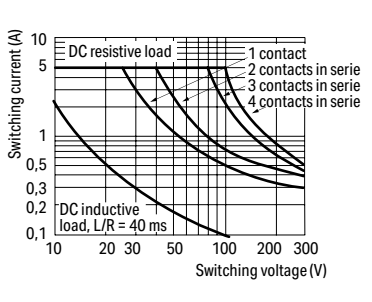


Relay Module; 4 changeover contacts; Limiting continuous current: 5 A; manually operated; for railway applications; Status indicator: red; 31 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	42 mA	858-354	5



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



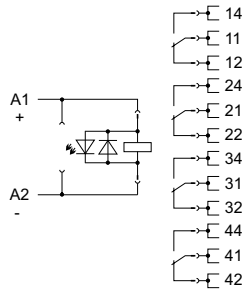
DC Load Limit Curve

Control Circuit	
Input voltage range	−30 … +25 %
Load Circuit	
Number of changeover/switchover contacts	4
Contact material	AgCe
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 100 mA
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Signaling	
Status indicator	Red LED; mechanical
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Note (conductor cross section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical Data	
Width	31 mm / 1.22 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	97 mm / 3.819 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	98.3 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508

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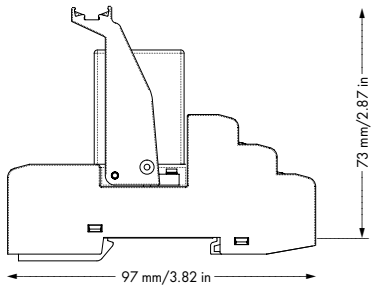
Relay Module
858 Series



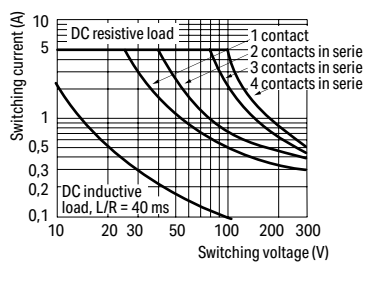


Relay Module; 4 changeover contacts; Limiting continuous current: 5 A; with gold contacts; manually operated; for railway applications; Status indicator: red; 31 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	42 mA	858-355	5



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



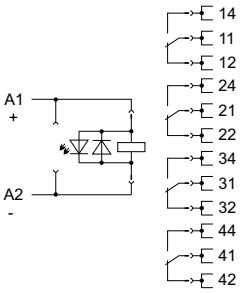
DC Load Limit Curve

Control Circuit	
Input voltage range	−30 … +25 %
Load Circuit	
Number of changeover/switchover contacts	4
Contact material	AgCe + Au
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1000 VA (AC); DC see load limit curve
Recommended minimum load	5 V / 1 mA / 50 mW
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Signaling	
Status indicator	Red LED; mechanical
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Note (conductor cross section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical Data	
Width	31 mm / 1.22 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	97 mm / 3.819 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	101 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508

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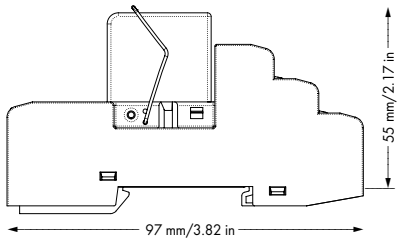
Relay Module
858 Series



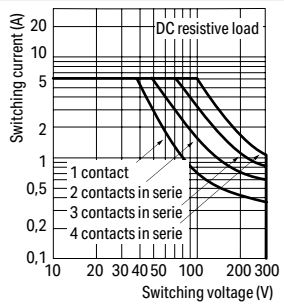


Relay Module; 4 changeover contacts; Limiting continuous current: 6 A; manually operated; Status indicator: red; 31 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	31.5 mA	858-390	5
110 VDC	7.7 mA	858-392	5
220 VDC	4.3 mA	858-391	5



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

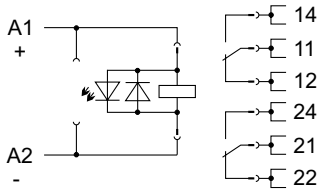
Control Circuit	
Input voltage range	−10 … +30 %
Load Circuit	
Number of changeover/switchover contacts	4
Contact material	AgNi 90/10
Limiting continuous current	6 A
Inrush current (resistive) max.	12 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	18 ms
Bounce time (typ.)	8 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 60 min^{-1}
Signaling	
Status indicator	Red LED; mechanical
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1.2 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Note (conductor cross section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical Data	
Width	31 mm / 1.22 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	97 mm / 3.819 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	87.2 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; UL 508 (max. 50 °C)

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Relay Module
858 Series

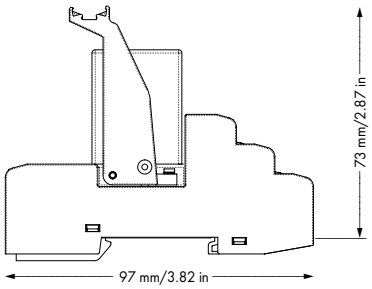
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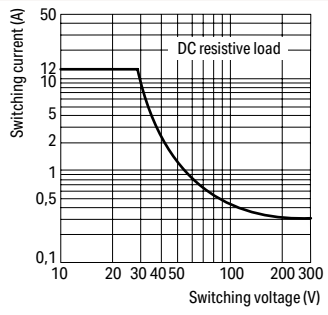




Relay Module; 2 changeover contacts; Limiting continuous current: 12 A; manually operated; Status indicator: red; 31 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	37.5 mA	858-324	5
48 VDC	18.5 mA	858-325	5
110 VDC	8.1 mA	858-327	5
220 VDC	4.1 mA	858-328	5





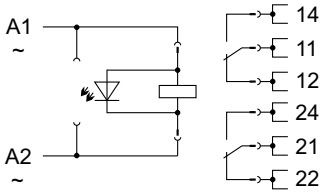
DC Load Limit Curve

Control Circuit	
Input voltage range	−20 … +10 %
Load Circuit	
Number of changeover/switchover contacts	2
Contact material	AgNi
Limiting continuous current	12 A
Inrush current (resistive) max.	24 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	3000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 1.5 A / 240 VAC; DC 13: 0.1 A / 250 VDC
Recommended minimum load	10 V / 5 mA / 300 mW
Pull-in time (typ.)	13 ms
Drop-out time (typ.)	3 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Switching load with/without load (max.)	20 min^{-1} / 200 min^{-1}
Signaling	
Status indicator	Red LED; mechanical
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Note (conductor cross section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG
Physical Data	
Width	31 mm / 1.22 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	97 mm / 3.819 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	87.5 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +55 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; UL 508

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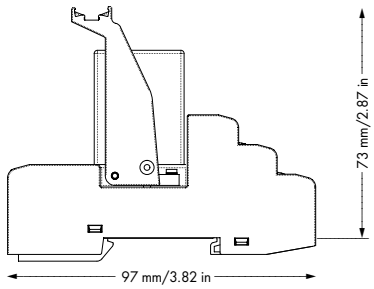
Relay Module
858 Series

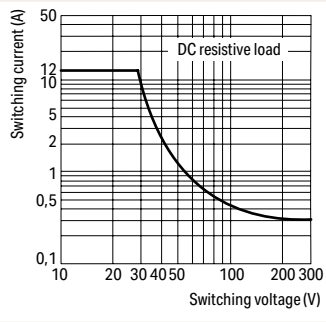




Relay Module; 2 changeover contacts; Limiting continuous current: 12 A; manually operated; Status indicator: red; 31 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC	11 mA	858-528	5





DC Load Limit Curve

Control Circuit	
Input voltage range	−20 … +10 %

Load Circuit	
Number of changeover/switchover contacts	2
Contact material	AgNi
Limiting continuous current	12 A
Inrush current (resistive) max.	24 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	3000 VA (AC); DC see load limit curve
Switching capacity	AC 15: 1.5 A / 240 VAC; DC 13: 0.1 A / 250 VDC
Recommended minimum load	10 V / 5 mA / 300 mW
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	8 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations
Switching load with/without load (max.)	20 min^{-1} / 200 min^{-1}

Signaling	
Status indicator	Red LED; mechanical

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Note (conductor cross section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG

Physical Data	
Width	31 mm / 1.22 inch
Height from upper-edge of DIN-rail	73 mm / 2.874 inch
Depth	97 mm / 3.819 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	85.3 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +55 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; UL 508

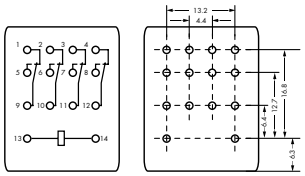
» Accessories Page 74

Basic Relay
858 Series

1

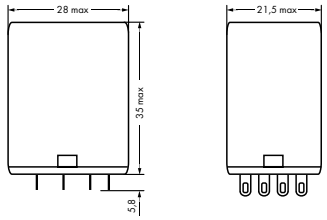


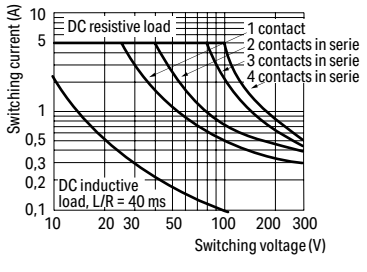
Similar to pictured device



Basic Relay; 4 changeover contacts; Limiting continuous current: 5 A; manually operated; Status indicator: red; 22 mm wide; 25 mm high

U_N	I_N	Item No.	Pack. Unit
12 VDC	75 mA	858-164	3
24 VDC	36.9 mA	858-150	3
24 VAC	50 mA	858-154	3
230 VAC	8.3 mA	858-151	3





DC Load Limit Curve

Load Circuit	
Number of changeover/switchover contacts	4
Contact material	AgCe
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 100 mA
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations

Signaling	
Status indicator	Red LED; mechanical

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Dielectric strength, control/load circuit (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20

Physical Data	
Width	21.5 mm / 0.846 inch
Height from the surface	35 mm / 1.378 inch
Depth	28 mm / 1.102 inch

Mechanical Data	
Mounting type	Pluggable module

Material Data	
Weight	37 g

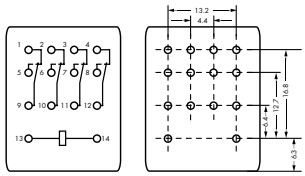
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +80 °C

Standards and Specifications	
Standards/specifications	EN 61810-1

Basic Relay
858 Series

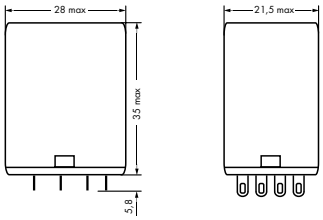


Similar to pictured device

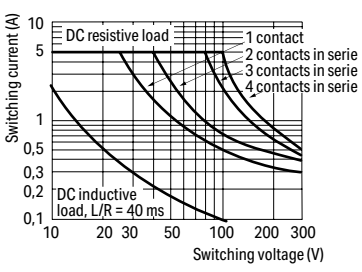


Basic Relay; 4 changeover contacts; Limiting continuous current: 5 A; with gold contacts; manually operated; Status indicator: red; 22 mm wide; 25 mm high

U_N	I_N	Item No.	Pack. Unit
24 VDC	36.9 mA	858-152	3
230 VAC	8.3 mA	858-153	3



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

Load Circuit

Number of changeover/switchover contacts	4
Contact material	AgCe + Au
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	5 V / 1 mA / 50 mW
Pull-in time (typ.)	25 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations

Signaling

Status indicator	Red LED; mechanical

Safety and Protection

Dielectric strength, control/load circuit (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20

Physical Data

Width	21.5 mm / 0.846 inch
Height from the surface	35 mm / 1.378 inch
Depth	28 mm / 1.102 inch

Mechanical Data

Mounting type	Pluggable module

Material Data

Weight	35 g

Environmental Requirements

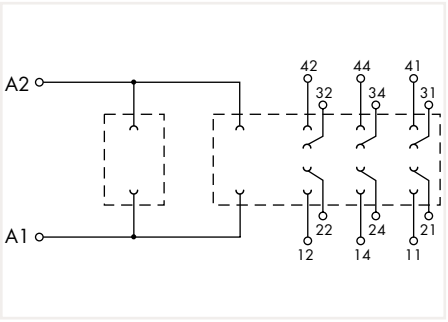
Surrounding air temperature (operation at U_N)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +80 °C

Standards and Specifications

Standards/specifications	EN 61810-1

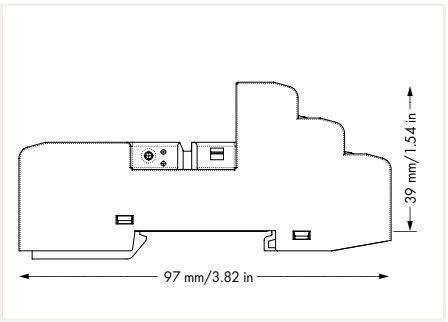
Relay Socket
858 Series





Relay Socket; 4 changeover contacts; Limiting continuous current: 6 A; manually operated; 31 mm wide

	Item No.	Pack. Unit
	858-100	10



Control Circuit	
Nominal input voltage U_N	250 VAC/DC (depends on relay)
Input voltage range	0 … 250 V (depends on relay)

Load Circuit	
Limiting continuous current	12 A
Switching voltage (max.)	250 VAC

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms} (depends on relay)
Dielectric strength, open contact (AC, 1 min)	1.5 kV_{rms} (depends on relay)
Dielectric strength, load/load circuit (AC, 1 min)	2 kV_{rms} (depends on relay)
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Fine-stranded conductor	0.34 … 1.5 mm² / 22 … 16 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Note (conductor cross section)	2 x 0.34 … 2 x 1.5 mm² / 1 x 2.5 mm² / 2 x 22 … 2 x 16 AWG

Physical Data	
Width	31 mm / 1.22 inch
Height from upper-edge of DIN-rail	39 mm / 1.535 inch
Depth	97 mm / 3.819 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	56.2 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C (depends on relay)
Surrounding air temperature (storage)	–40 … +80 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; UL 508

Accessories



Accessories for relay modules; Operation status indicator: red

U_N	Power consumption at U_N	Item No.	Pack. Unit
24 VDC	2.4 mA	**788-120**	50(2x25)
48 VDC	1.9 mA	**788-121**	50(2x25)
110 VDC	1.9 mA	**788-122**	50(2x25)
24 VAC	2.1 mA	**788-123**	50(2x25)
115 VAC	1.7 mA	**788-124**	50(2x25)
230 VAC	1.6 mA	**788-125**	50(2x25)



Holding bracket

	Item No.	Pack. Unit
	858-110	10 (1)



Push-in type jumper bar; for the coil side

Description	Item No.	Pack. Unit
I_N 12 A	**858-402**	200 (8x25)



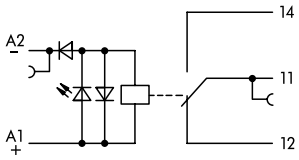
Operating tool with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade

	Item No.	Pack. Unit
	210-719	50

Relay Module
859 Series

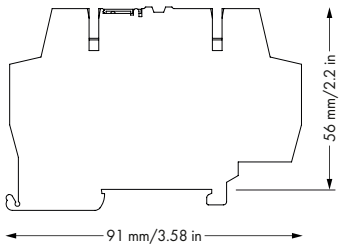
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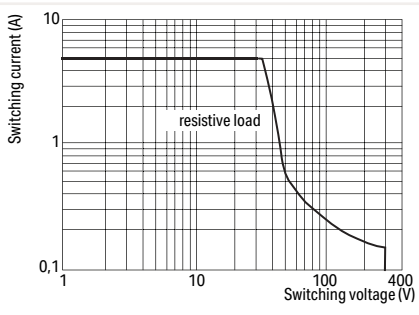


Relay Module; 1 changeover contact; Limiting continuous current: 5 A; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
5 VDC	31 mA	859-302	10
12 VDC	17 mA	859-303	10
24 VDC	10 mA	859-304	10
48 VDC	6.5 mA	859-305	10
110 VDC	3.5 mA	859-307	10
220 VDC	3.2 mA	859-308	10



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

» Accessories Page 88

Control Circuit

Input voltage range	−15 … +20 %

Load Circuit

Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	5 A
Inrush current (resistive) max.	20 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 180 min^{-1}

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}

Connection Data

Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	22.2 g

Environmental Requirements

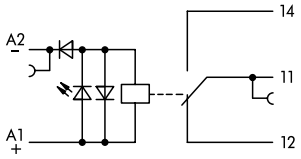
Surrounding air temperature (operation at U_N)	−40 … +50 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; GL; UL 508

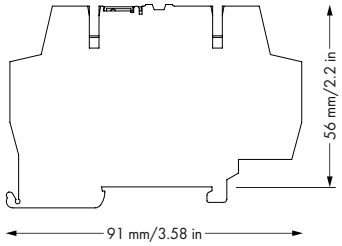
Relay Module
859 Series



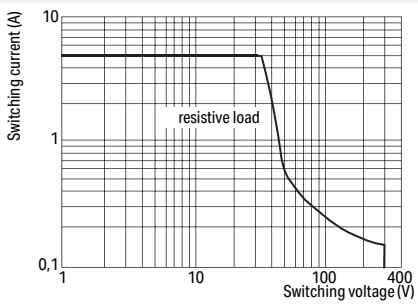


Relay Module; 1 changeover contact; Limiting continuous current: 5 A; with gold contacts; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
5 VDC	31 mA	859-312	10
24 VDC	10 mA	859-314	10
220 VDC	3.2 mA	859-318	10



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

Control Circuit	
Input voltage range	−15 … +20 %

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi + Au
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 180 min^{-1}

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	22.5 g

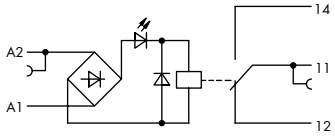
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +50 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; GL; UL 508

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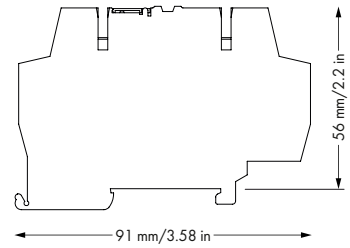
Relay Module
859 Series



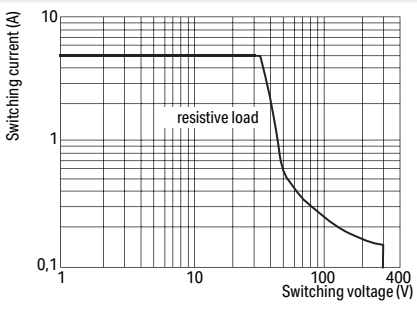


Relay Module; 1 changeover contact; Limiting continuous current: 5 A; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
12 VAC/DC	15 mA	859-353	10
24 VAC/DC	8 mA	859-354	10
48 VAC/DC	5.3 mA	859-355	10
115 VAC/DC	3.5 mA	859-357	10
230 VAC/DC	3.5 mA	859-358	10



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control Circuit	
Input voltage range	−15 … +10 %

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	5 A
Inrush current (resistive) max.	10 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 180 min^{-1}

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	22.7 g

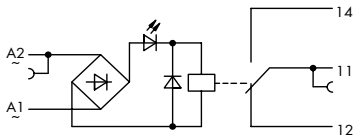
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +50 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; GL; UL 508

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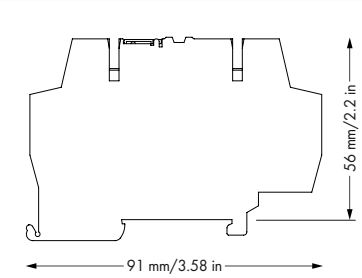
Relay Module
859 Series



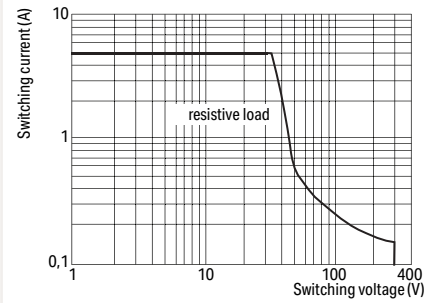


Relay Module; 1 changeover contact; Limiting continuous current: 5 A; with gold contacts; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
115 VAC/DC	3.5 mA	859-360	10
230 VAC/DC	3.5 mA	859-359	10



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

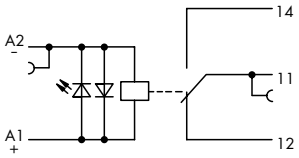
Control Circuit	
Input voltage range	−15 … +10 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi + Au
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	30 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	25.3 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +50 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; GL; UL 508

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Relay Module
859 Series

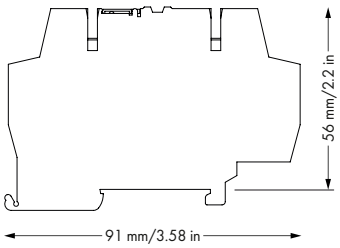
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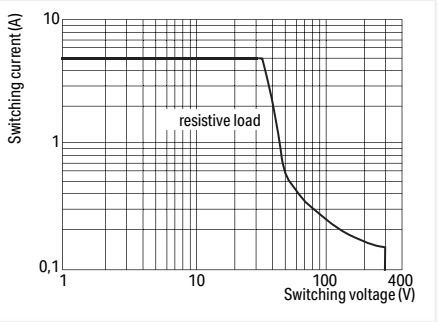


Relay Module; 1 changeover contact; Limiting continuous current: 5 A; for railway applications; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	12 mA	859-390	10



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control Circuit	
Input voltage range	−30 … +25 %

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 180 min^{-1}

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

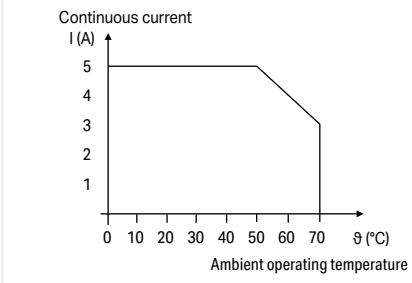
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	22.9 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; GL; UL 508

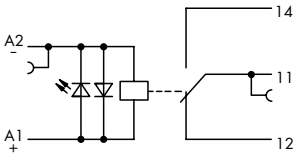


Current-Carrying Capacity Curve

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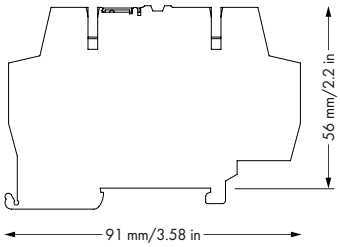
Relay Module
859 Series



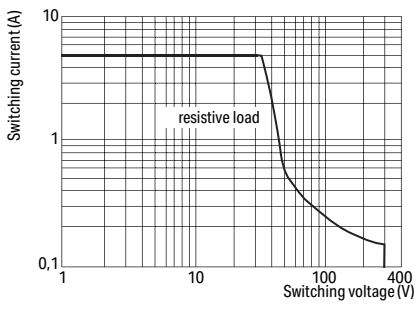


Relay Module; 1 changeover contact; Limiting continuous current: 5 A; with gold contacts; for railway applications; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	10 mA	859-392	10
36 VDC	10.1 mA	859-386	10
48 VDC	7.9 mA	859-384	10
110 VDC	3.1 mA	859-317	10



Note:
To prevent damaging the gold layer, 30 VDC switching voltages and 50 mA currents must not be exceeded. Higher switching power eventually evaporates the gold layer. The resulting deposits in the housing may reduce service life.



DC Load Limit Curve

Control Circuit	
Input voltage range	−30 … +25 %

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi + Au
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 180 min^{-1}

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

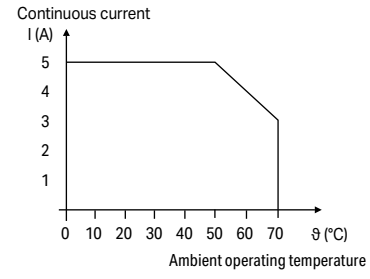
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	22.3 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; GL; UL 508



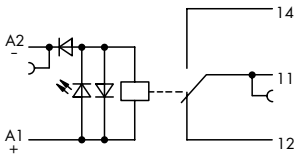
Current-Carrying Capacity Curve

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Relay Module
859 Series

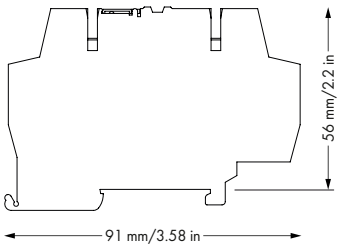
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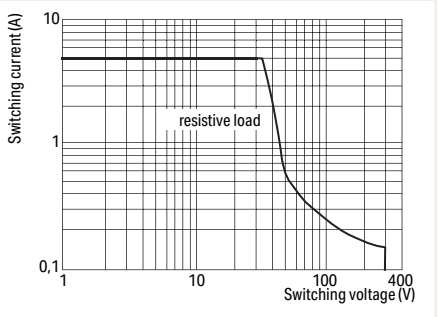


Relay Module; 1 changeover contact; Limiting continuous current: 5 A; for railway applications; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
110 VDC	2.7 mA	859-391	10



Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control Circuit	
Input voltage range	±30 %

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 180 min^{-1}

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

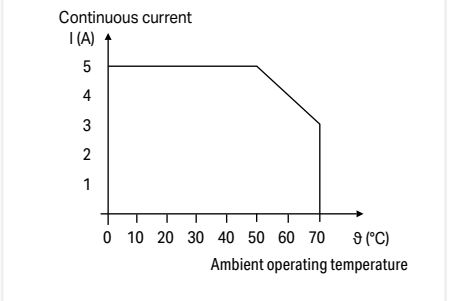
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	22.4 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; GL; UL 508

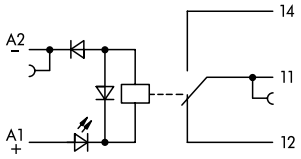


Current-Carrying Capacity Curve

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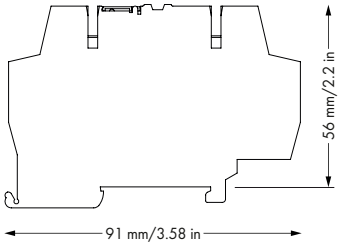
Relay Module
859 Series



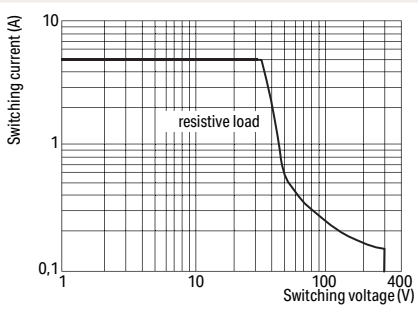


Relay Module; 1 changeover contact; Limiting continuous current: 5 A; for railway applications; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	14.4 mA	859-398	10
48 VDC	7.9 mA	859-397	10
110 VDC	3.1 mA	859-399	10

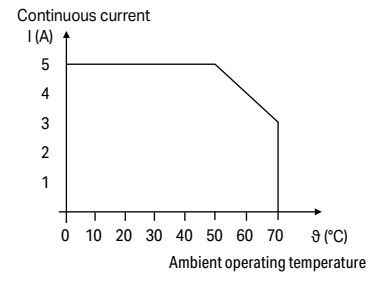


Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control Circuit	
Input voltage range	±40 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	22.6 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; GL



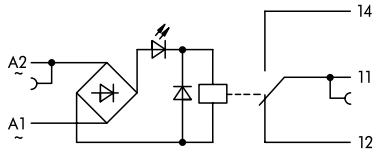
Current-Carrying Capacity Curve

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Relay Module
859 Series

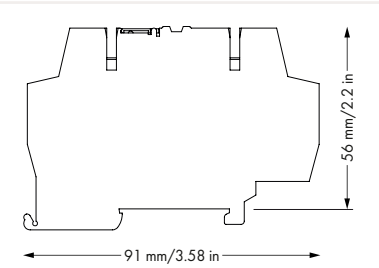
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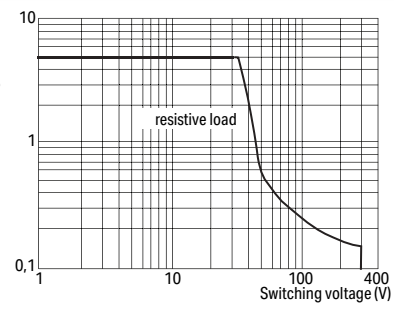


Relay Module; 1 changeover contact; Limiting continuous current: 5 A; with defined switch-on threshold; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
115 VAC	4.2 mA	859-367	10



Note
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control Circuit	
Input voltage range	±10 %
Switch-off threshold (relay/LED)	60 VAC / 60 VAC
Switch-on threshold (relay/LED)	95 VAC / 80 VAC

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 180 min^{-1}

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	22.7 g

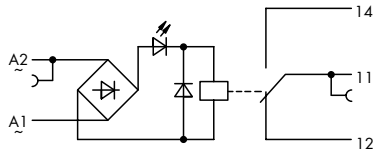
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +50 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; GL; UL 508

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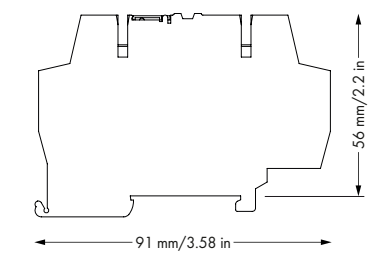
Relay Module
859 Series



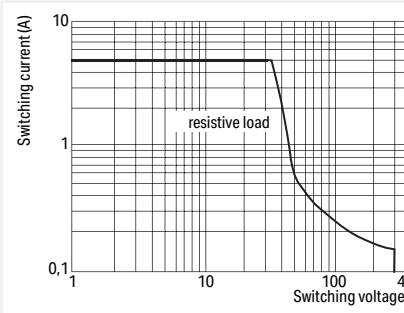


Relay Module; 1 changeover contact; Limiting continuous current: 5 A; with defined switch-on threshold; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC	4.2 mA	859-368	10



Note
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

Control Circuit	
Input voltage range	±10 %
Switch-off threshold (relay/LED)	140 VAC / 150 VAC
Switch-on threshold (relay/LED)	190 VAC / 165 VAC
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	25 ms
Bounce time (typ.)	3.5 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 180 min^{-1}
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	22.7 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +50 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61810-1; EN 61373; GL; UL 508

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Accessories



Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

	Item No.	Pack. Unit
	210-720	50



End and intermediate plate; 1 mm thick

	Item No.	Pack. Unit
	859-525	100



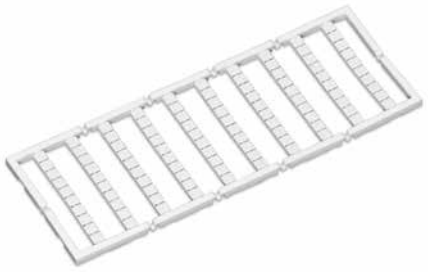
Test pin; 1 mm Ø; with solder connection for test cable

	Item No.	Pack. Unit
	859-500	100

Accessories



Push-in type jumper bar; light gray; insulated; 18 A		
Description	Item No.	Pack. Unit
2-way	859-402	200 (8x25)
3-way	859-403	200 (8x25)
4-way	859-404	200 (8x25)
5-way	859-405	200 (8x25)
6-way	859-406	100 (4x25)
7-way	859-407	100 (4x25)
8-way	859-408	100 (4x25)
9-way	859-409	100 (4x25)
10-way	859-410	100 (4x25)
Item no. suffixes for colored push-in type jumper bars		
yellow	.../000-029	
red	.../000-005	
blue	.../000-006	



Mini-WSB marker card; Marker width: 5 mm; 10 strips with 10 markers/card		
Marking	Item No.	Pack. Unit
plain	248-501	50
1 ... 10 (10 x)	248-502	50
11 ... 20 (10 x)	248-503	50
21 ... 30 (10 x)	248-504	50
31 ... 40 (10 x)	248-505	50
41 ... 50 (10 x)	248-506	50
1 ... 50 (2 x)	248-566	50
K1 ... K10	248-450	50
K11 ... K20	248-451	50
K100	248-452	50
U1 ... U10	248-453	50
U11 ... U20	248-454	50
U100	248-455	50



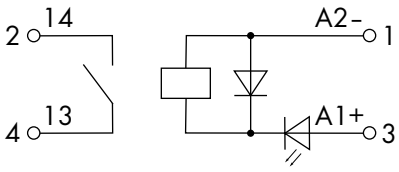
Mini-WSB Inline; for terminal block width: 5 ... 5.2 mm; plain; 1700 markers/reel; white		
Marking	Item No.	Pack. Unit
plain	2009-145	1

Relay Module
2042 Series

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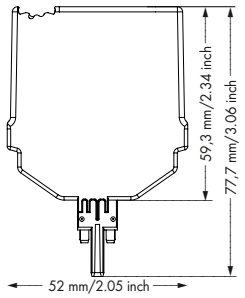


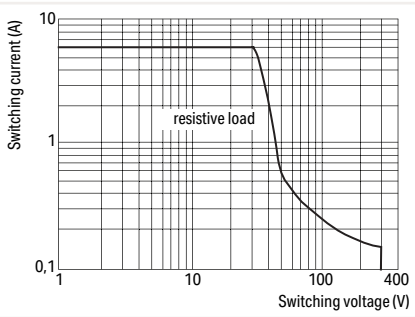
Similar to picture



Relay Module; Relay with 1 make contact; 24 VDC; for railway applications; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 VDC	6.6 mA	2042-3004	6





DC Load Limit Curve

Control Circuit	
Input voltage range	−30 … +25 %

Load Circuit	
Number of make contacts/switch-on contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations

Signaling	
Status indicator	Green LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Physical Data	
Width	10.3 mm / 0.406 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch

Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block

Material Data	
Weight	67.9 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C

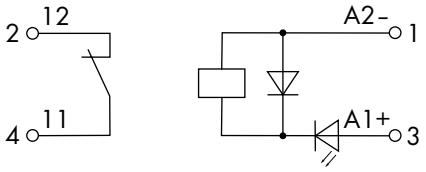
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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Relay Module
2042 Series

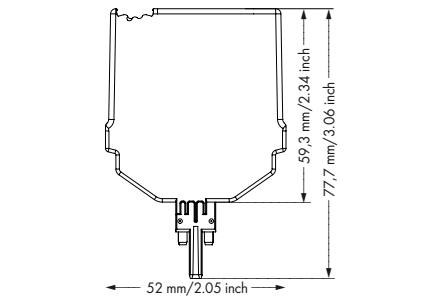


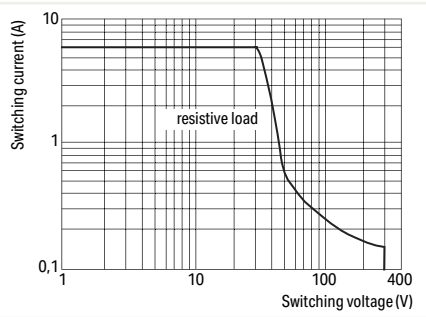
Similar to picture



Relay Module; Relay with 1 break contact; 24 VDC; for railway applications; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 VDC	6.4 mA	2042-3054	6





DC Load Limit Curve

Control Circuit	
Input voltage range	−30 … +25 %
Load Circuit	
Number of break contacts/switch-off contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Electrical life (NC; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Physical Data	
Width	10.3 mm / 0.406 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch
Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Material Data	
Weight	67.9 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

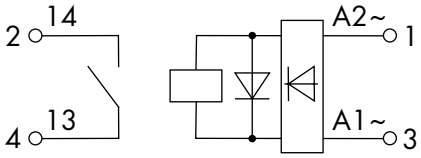
» Accessories Page 108

Relay Module
2042 Series

1

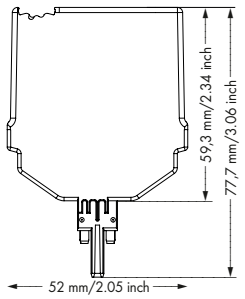


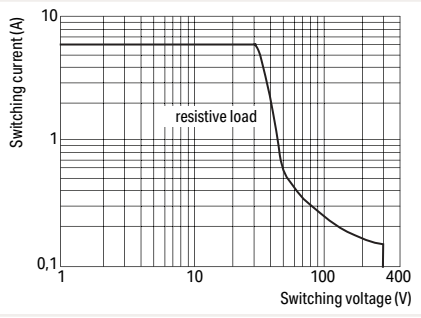
Similar to picture



Relay Module; Relay with 1 make contact; 24 … 230 VAC/DC; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 … 230 V AC/DC	26.3 … 1.7 mA	2042-3809	6





DC Load Limit Curve

Control Circuit

Input voltage range	±10 %

Load Circuit

Number of make contacts/switch-on contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	3 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	750 VA (AC); DC see load limit curve
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations

Signaling

Status indicator	Green LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Physical Data

Width	10.3 mm / 0.406 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch

Mechanical Data

Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block

Material Data

Weight	69.1 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Processing temperature	–25 … +50 °C

Standards and Specifications

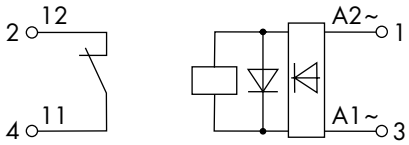
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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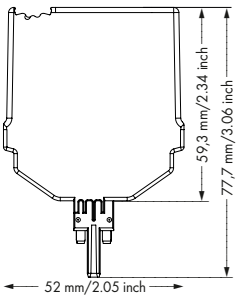
Relay Module
2042 Series

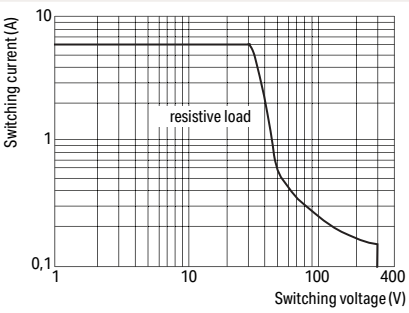


Similar to picture



Relay Module; Relay with 1 break contact; 24 … 230 VAC/DC; Status indicator: green			
U_N	I_N	Item No.	Pack. Unit
24 … 230 V AC/DC	26.3 … 1.7 mA	2042-3859	6





DC Load Limit Curve

Control Circuit	
Input voltage range	±10 %

Load Circuit	
Number of break contacts/switch-off contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC); DC see load limit curve
Recommended minimum load	10 V / 10 mA; 24 V / 1 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Electrical life (NC; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations

Signaling	
Status indicator	Green LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Physical Data	
Width	10.3 mm / 0.406 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch

Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block

Material Data	
Weight	69.1 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C

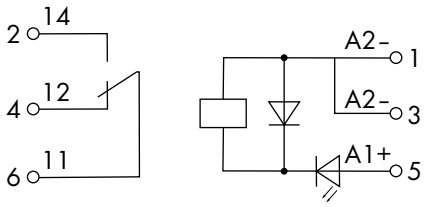
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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Relay Module
2042 Series

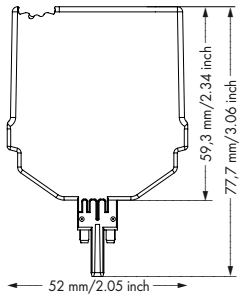
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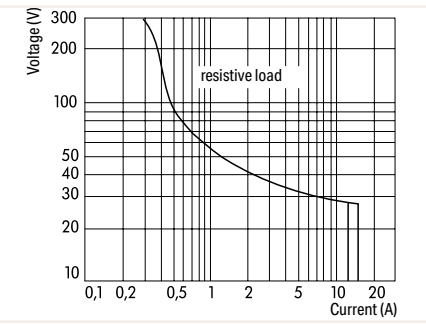




Relay Module; Relay with 1 changeover contact; 24 VDC; for railway applications; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 VDC	13.7 mA	**2042-3034**	4





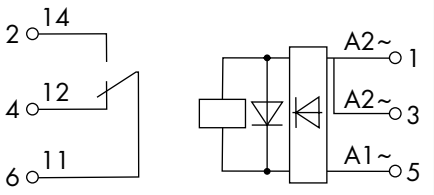
DC Load Limit Curve

Control Circuit	
Input voltage range	−30 … +25 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi
Limiting continuous current	10 A
Inrush current (resistive) max.	30 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2500 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical Data	
Width	15.5 mm / 0.61 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch
Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Material Data	
Weight	33.1 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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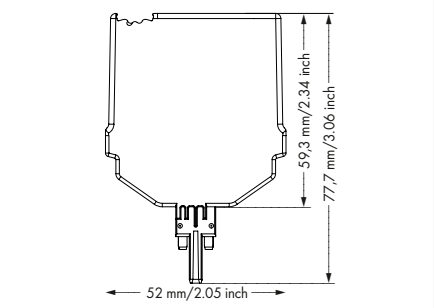
Relay Module
2042 Series

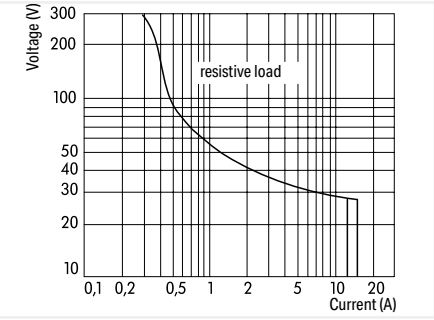




Relay Module; Relay with 1 changeover contact; 24 … 230 VAC/DC; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 … 230 V AC/DC	50.2 … 2.8 mA	**2042-3839**	4





DC Load Limit Curve

Control Circuit	
Input voltage range	±10 %

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi
Limiting continuous current	4 A
Inrush current (resistive) max.	30 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1000 VA (AC); DC see load limit curve
Recommended minimum load	5 V / 100 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations

Signaling	
Status indicator	Green LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data	
Width	15.5 mm / 0.61 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch

Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block

Material Data	
Weight	36.3 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C

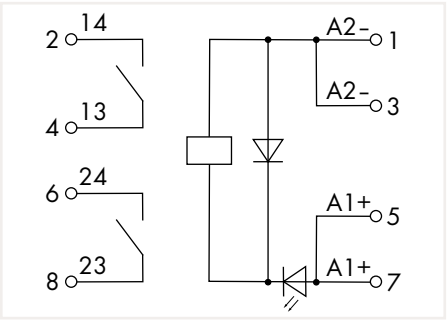
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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Relay Module
2042 Series

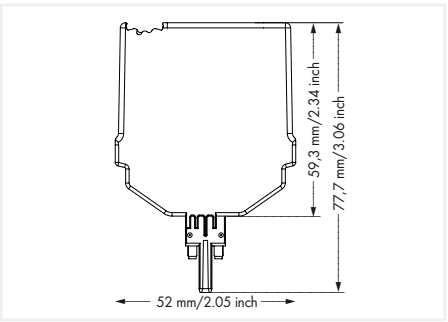
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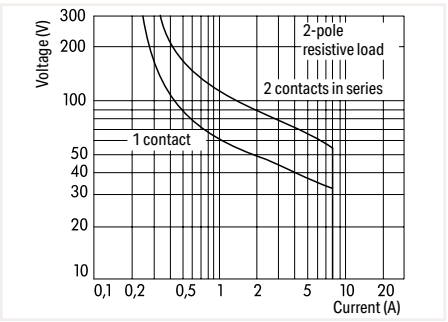




Relay Module; Relay with 2 make contacts; 24 VDC; for railway applications; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 VDC	13.8 mA	2042-3014	4





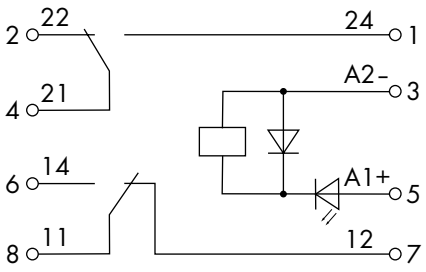
DC Load Limit Curve

Control Circuit	
Input voltage range	−30 … +25 %
Load Circuit	
Number of make contacts/switch-on contacts	2
Contact material	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical Data	
Width	20.7 mm / 0.815 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch
Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Material Data	
Weight	36.9 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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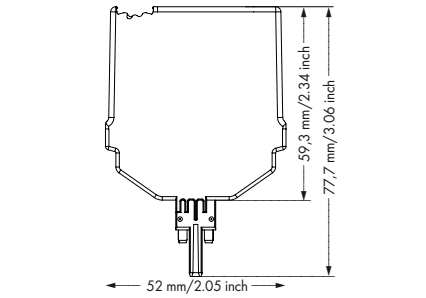
Relay Module
2042 Series

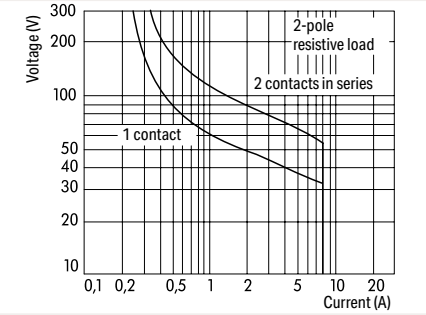




Relay Module; Relay with 2 changeover contacts; 24 VDC; for railway applications; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 VDC	13.8 mA	2042-3044	4





DC Load Limit Curve

Control Circuit

Input voltage range	−30 … +25 %

Load Circuit

Number of changeover/switchover contacts	2
Contact material	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations

Signaling

Status indicator	Green LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data

Width	20.7 mm / 0.815 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch

Mechanical Data

Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block

Material Data

Weight	37 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

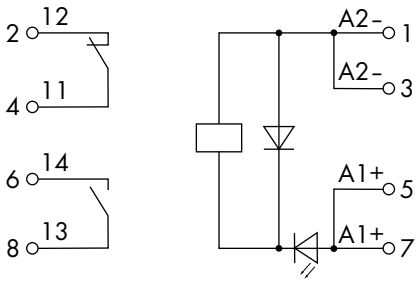
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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Relay Module
2042 Series

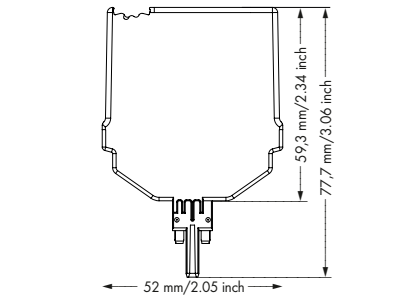
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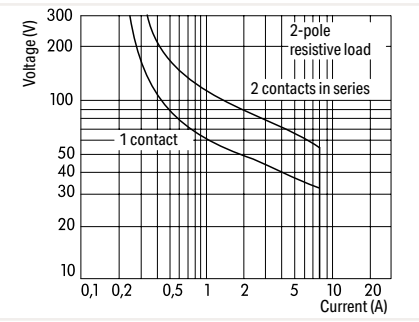




Relay Module; Relay with 1 break contact and 1 make contact; 24 VDC; for railway applications; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 VDC	13.8 mA	**2042-3064**	4





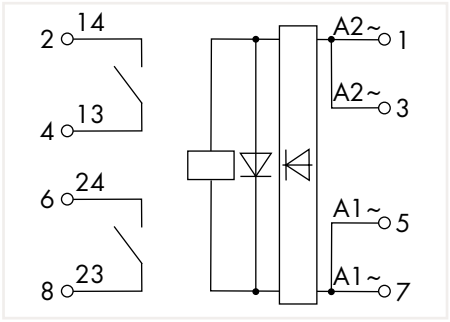
DC Load Limit Curve

Control Circuit	
Input voltage range	−30 … +25 %
Load Circuit	
Number of break contacts/switch-off contacts	1
Number of make contacts/switch-on contacts	1
Contact material	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical Data	
Width	20.7 mm / 0.815 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch
Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Material Data	
Weight	37.1 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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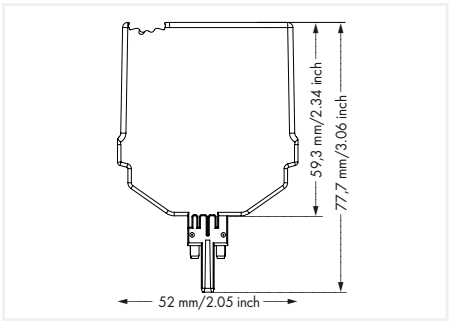
Relay Module
2042 Series

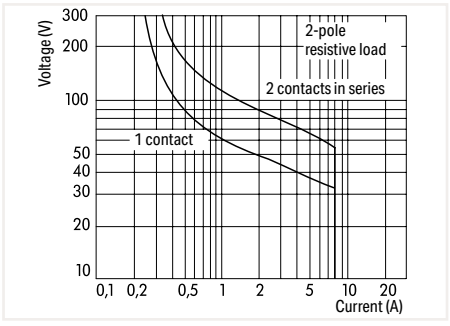




Relay Module; Relay with 2 make contacts; 24 … 230 VAC/DC; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 … 230 V AC/DC	49.1 … 2.9 mA	**2042-3819**	4





DC Load Limit Curve

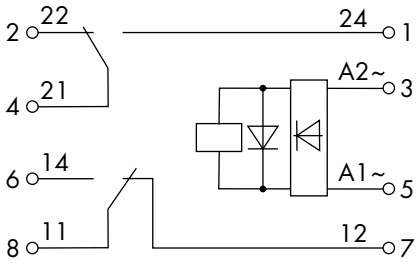
Control Circuit	
Input voltage range	±10 %
Load Circuit	
Number of make contacts/switch-on contacts	2
Contact material	AgNi
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical Data	
Width	20.7 mm / 0.815 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch
Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Material Data	
Weight	40.1 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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Relay Module
2042 Series

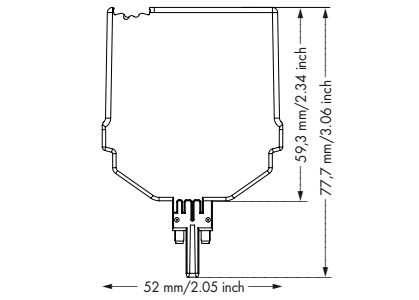
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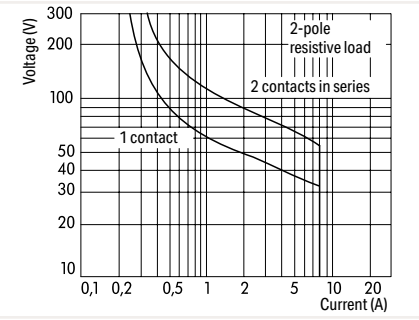




Relay Module; Relay with 2 changeover contacts; 24 ... 230 VAC/DC; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 ... 230 V AC/DC	49.1 ... 2.9 mA	2042-3849	4





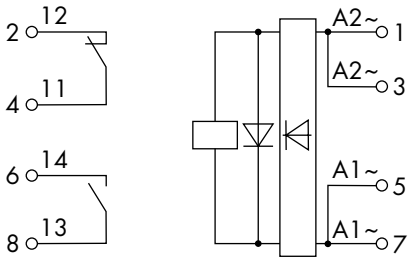
DC Load Limit Curve

Control Circuit	
Input voltage range	±10 %
Load Circuit	
Number of changeover/switchover contacts	2
Contact material	AgNi
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical Data	
Width	20.7 mm / 0.815 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch
Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Material Data	
Weight	76.4 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 ... +70 °C
Surrounding air temperature (storage)	–40 ... +85 °C
Processing temperature	–25 ... +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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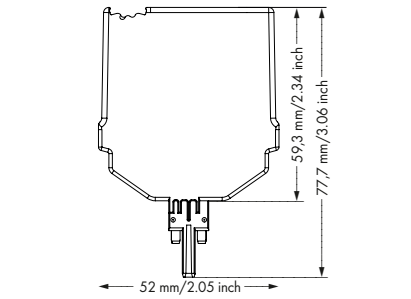
Relay Module
2042 Series

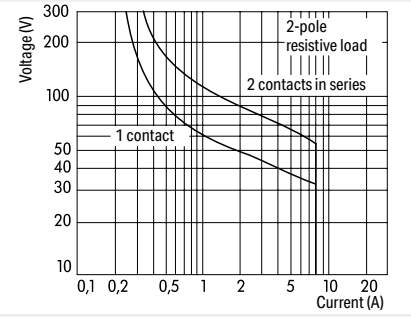




Relay Module; Relay with 1 break contact and 1 make contact; 24 … 230 VAC/DC; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 … 230 V AC/DC	49.1 … 2.9 mA	**2042-3869**	4





DC Load Limit Curve

Control Circuit

Input voltage range	±10 %

Load Circuit

Number of break contacts/switch-off contacts	1
Number of make contacts/switch-on contacts	1
Contact material	AgNi
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations

Signaling

Status indicator	Green LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data

Width	20.7 mm / 0.815 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch

Mechanical Data

Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block

Material Data

Weight	76.4 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

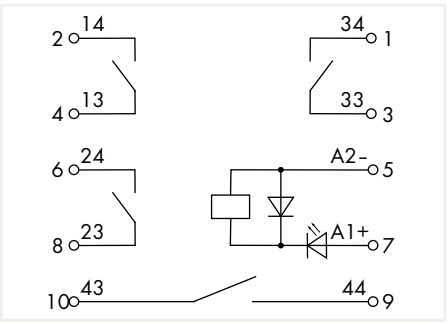
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Relay Module
2042 Series

1

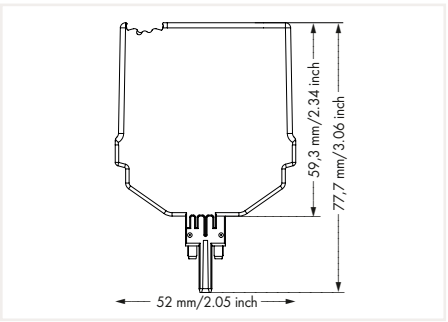


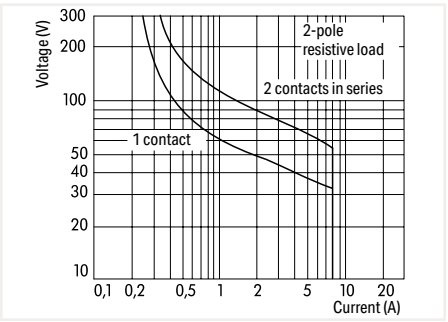
Similar to picture



Relay Module; Relay with 4 make contacts; 24 VDC; for railway applications; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 VDC	28.1 mA	2042-3024	5





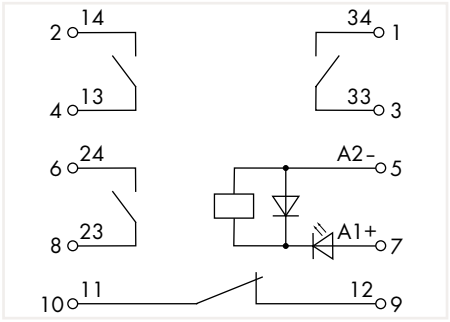
DC Load Limit Curve

Control Circuit	
Input voltage range	−30 … +25 %
Load Circuit	
Number of make contacts/switch-on contacts	4
Contact material	AgNi
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical Data	
Width	25.9 mm / 1.02 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch
Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Material Data	
Weight	80 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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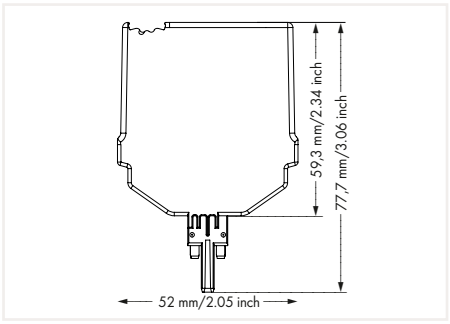
Relay Module
2042 Series

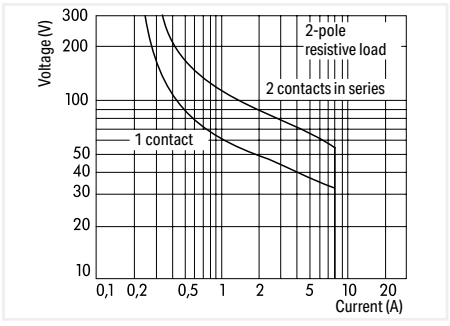




Relay Module; Relay with 3 make contacts and 1 break contact; 24 VDC; for railway applications; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 VDC	27.4 mA	**2042-3074**	5





DC Load Limit Curve

Control Circuit	
Input voltage range	−30 … +25 %
Load Circuit	
Number of break contacts/switch-off contacts	1
Number of make contacts/switch-on contacts	3
Contact material	AgNi
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical Data	
Width	25.9 mm / 1.02 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch
Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Material Data	
Weight	58.7 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

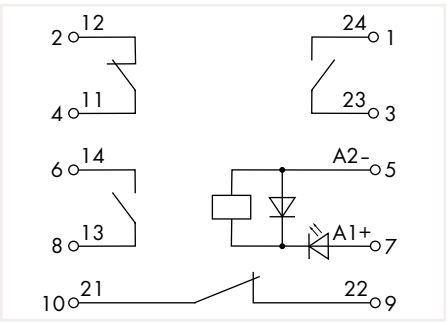
» Accessories Page 108

Relay Module
2042 Series

1

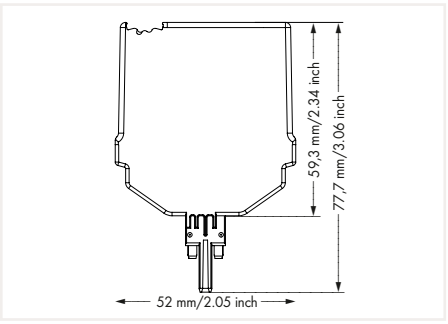


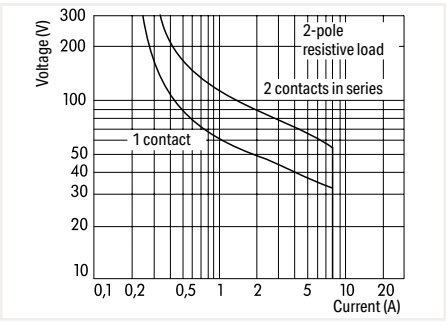
Similar to picture



Relay Module; Relay with 2 break contacts and 2 make contacts; 24 VDC; for railway applications; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 VDC	28.1 mA	**2042-3084**	5





DC Load Limit Curve

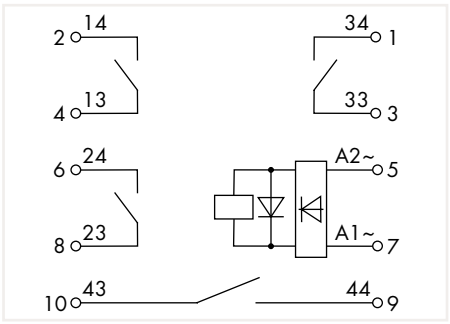
Control Circuit	
Input voltage range	−30 … +25 %
Load Circuit	
Number of break contacts/switch-off contacts	2
Number of make contacts/switch-on contacts	2
Contact material	AgNi
Limiting continuous current	5 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Green LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Physical Data	
Width	25.9 mm / 1.02 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch
Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block
Material Data	
Weight	58.7 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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Relay Module
2042 Series

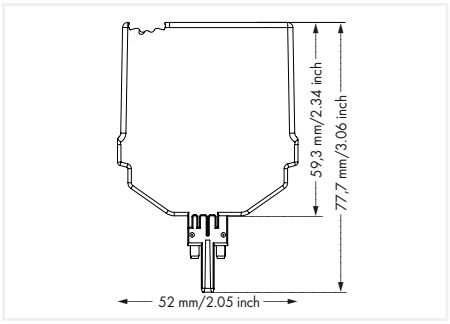


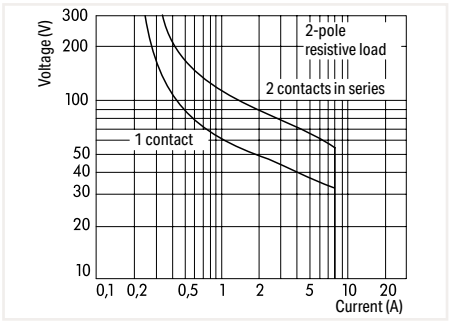
Similar to picture



Relay Module; Relay with 4 make contacts; 24 … 230 VAC/DC; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 … 230 V AC/DC	58.4 … 6 mA	2042-3829	5





DC Load Limit Curve

Control Circuit

Input voltage range	±10 %

Load Circuit

Number of make contacts/switch-on contacts	4
Contact material	AgNi
Limiting continuous current	3 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	750 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations

Signaling

Status indicator	Green LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data

Width	25.9 mm / 1.02 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch

Mechanical Data

Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block

Material Data

Weight	58.7 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +50 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

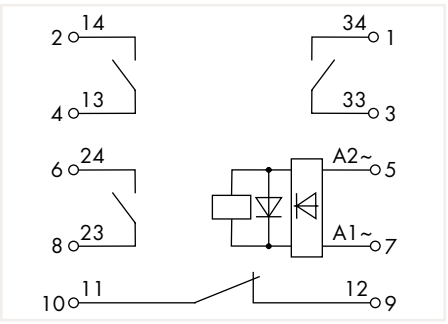
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Relay Module
2042 Series

1

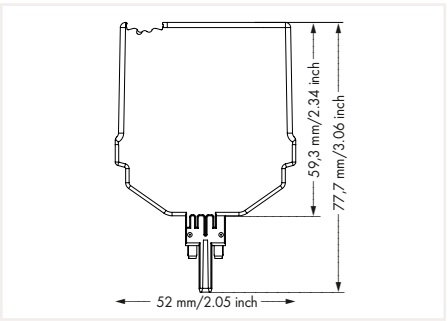


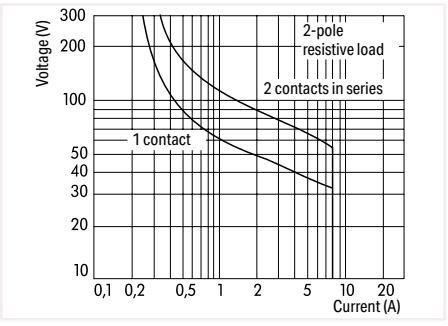
Similar to picture



Relay Module; Relay with 3 make contacts and 1 break contact; 24 … 230 VAC/DC; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 … 230 V AC/DC	58.4 … 6 mA	2042-3879	5





DC Load Limit Curve

Control Circuit

Input voltage range	±10 %

Load Circuit

Number of break contacts/switch-off contacts	1
Number of make contacts/switch-on contacts	3
Contact material	AgNi
Limiting continuous current	3 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	750 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations

Signaling

Status indicator	Green LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data

Width	25.9 mm / 1.02 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch

Mechanical Data

Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block

Material Data

Weight	83.9 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +50 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

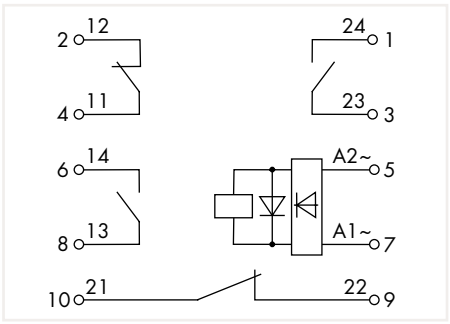
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

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Relay Module
2042 Series

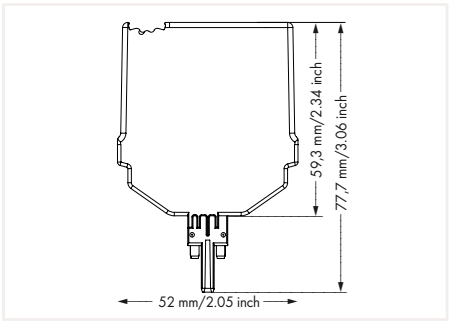


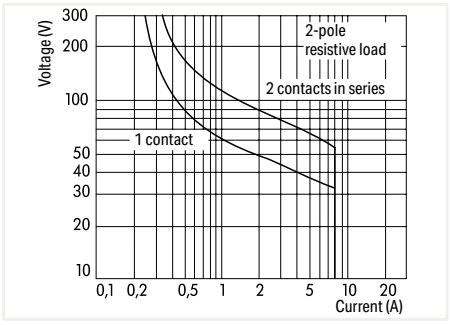
Similar to picture



Relay Module; Relay with 2 break contacts and 2 make contacts; 24 ... 230 VAC/DC; Status indicator: green

U_N	I_N	Item No.	Pack. Unit
24 ... 230 V AC/DC	58.4 ... 6 mA	2042-3889	5





DC Load Limit Curve

Control Circuit	
Input voltage range	±10 %

Load Circuit	
Number of break contacts/switch-off contacts	2
Number of make contacts/switch-on contacts	2
Contact material	AgNi
Limiting continuous current	3 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	750 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations

Signaling	
Status indicator	Green LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data	
Width	25.9 mm / 1.02 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch

Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block

Material Data	
Weight	83.9 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 ... +50 °C
Surrounding air temperature (storage)	−40 ... +85 °C
Processing temperature	−25 ... +50 °C

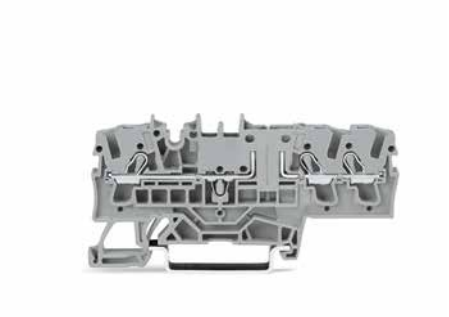
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2

» Accessories Page 108

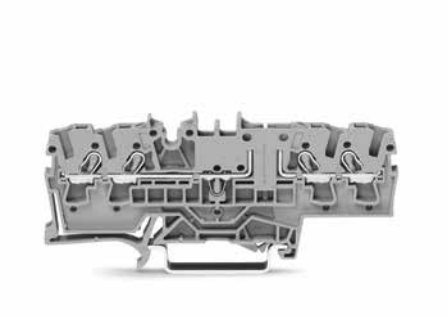
Accessories



2-conductor carrier terminal block; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²; Push-in CAGE CLAMP®		
Color	Item No.	Pack. Unit
gray	2002-1661	50



3-conductor carrier terminal block; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²; Push-in CAGE CLAMP®		
Color	Item No.	Pack. Unit
gray	2002-1761	50



4-conductor carrier terminal block; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²; Push-in CAGE CLAMP®		
Color	Item No.	Pack. Unit
gray	2002-1861	50



End and intermediate plate; 1 mm thick		
Color	Item No.	Pack. Unit
orange	2002-1692	
gray	2002-1691	



End and intermediate plate; 1 mm thick		
Color	Item No.	Pack. Unit
orange	2002-1792	
gray	2002-1791	



End and intermediate plate; 1 mm thick		
Color	Item No.	Pack. Unit
orange	2002-1892	
gray	2002-1891	

Accessories



2-conductor carrier terminal block; with additional slot for adjacent jumper, for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²; Push-in CAGE CLAMP®		
Color	**Item No.**	Pack. Unit
gray	**2002-1961**	50

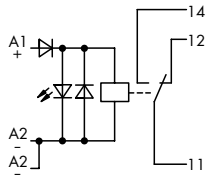


End and intermediate plate; 1 mm thick		
Color	**Item No.**	Pack. Unit
orange	**2002-1992**	100 (4x25)
gray	**2002-1991**	100 (4x25)

Relay Module
789 Series

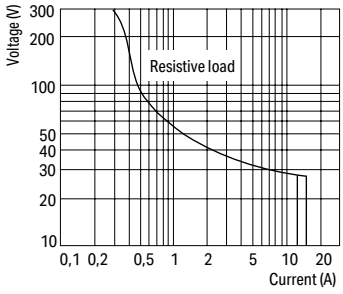
1





Relay Module; 1 changeover contact; Limiting continuous current: 12 A; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	19 mA	789-304	10



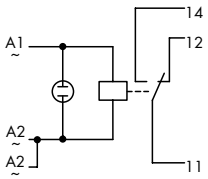
DC Load Limit Curve

Control Circuit	
Input voltage range	−15 … +10 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi 90/10
Limiting continuous current	12 A
Inrush current (resistive) max.	30 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	3000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	6 ms
Mechanical life	3 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	50.5 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1

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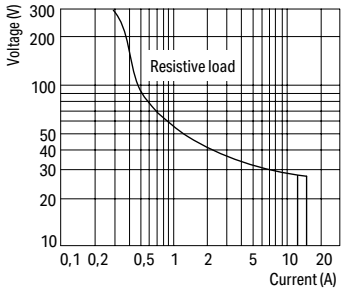
Relay Module
789 Series





Relay Module; 1 changeover contact; Limiting continuous current: 12 A; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC	4.2 mA	789-508	10



DC Load Limit Curve

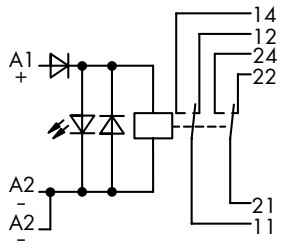
Control Circuit	
Input voltage range	−15 … +10 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi 90/10
Limiting continuous current	12 A
Inrush current (resistive) max.	30 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	3000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	15 ms
Bounce time (typ.)	3 ms
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	red
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	49.2 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1

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Relay Module
789 Series

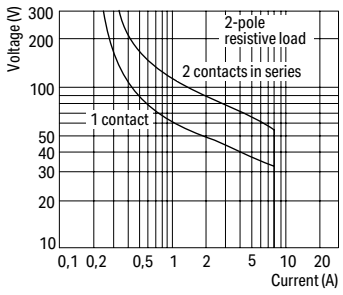
1





Relay Module; 2 changeover contacts; Limiting continuous current: 8 A; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	21 mA	789-312	10



DC Load Limit Curve

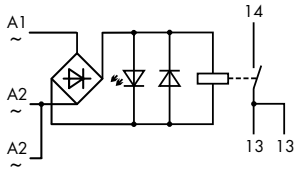
Control Circuit	
Input voltage range	–15 … +10 %
Load Circuit	
Number of changeover/switchover contacts	2
Contact material	AgNi 90/10
Limiting continuous current	8 A
Inrush current (resistive) max.	15 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	6 ms
Mechanical life	30 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	55 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–40 … +85 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201

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Relay Module
789 Series



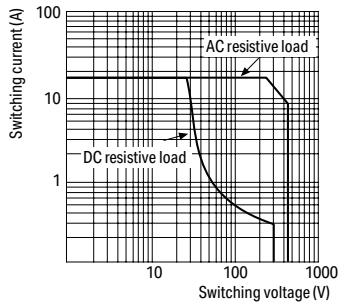
Similar to pictured device



Relay Module; 1 make contact; Limiting continuous current: 16 A; for lamp loads; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VAC/DC	32 mA	789-520	10

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Load Limit Curve

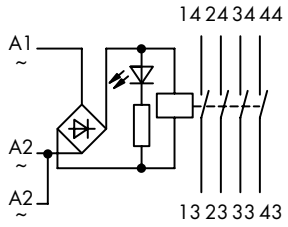
Control Circuit	
Input voltage range	−15 … +20 %
Load Circuit	
Number of make contacts/switch-on contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	16 A
Inrush current (resistive) max.	120 A (AC) / 50 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	5 ms
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	53.8 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1, EN 61810-1

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Relay Module
789 Series

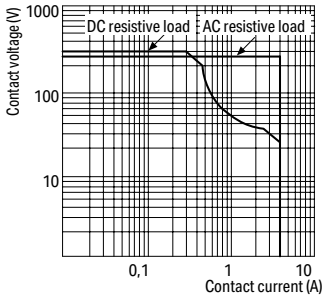
1





Relay Module; 4 make contacts; Limiting continuous current: 4 A; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VAC/DC	12 mA	789-552	10



Load Limit Curve

Control Circuit	
Input voltage range	−15 … +10 %

Load Circuit	
Number of make contacts/switch-on contacts	4
Contact material	AgNi + Au
Limiting continuous current	4 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1000 VA (AC); DC see load limit curve
Recommended minimum load	0.1 V / 0.1 mA
Pull-in time (typ.)	20 ms
Drop-out time (typ.)	20 ms
Bounce time (typ.)	1 ms
Mechanical life	10 x 10^6 switching operations

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	0.75 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	51.9 g

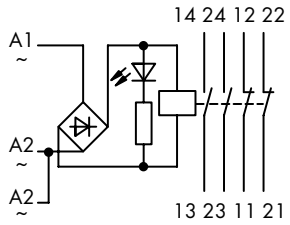
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1, EN 61810-1

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Relay Module
789 Series

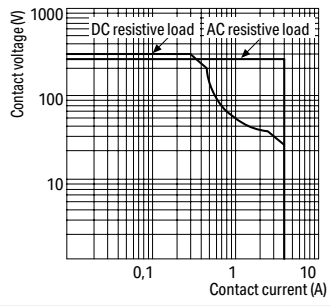




Relay Module; 2 make contacts and 2 break contacts; Limiting continuous current: 4 A; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VAC/DC	12 mA	789-536	10

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Load Limit Curve

Control Circuit	
Input voltage range	−15 … +10 %

Load Circuit	
Number of break contacts/switch-off contacts	2
Number of make contacts/switch-on contacts	2
Contact material	AgNi + Au
Limiting continuous current	4 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1000 VA (AC); DC see load limit curve
Recommended minimum load	0.1 V / 0.1 mA
Pull-in time (typ.)	20 ms
Drop-out time (typ.)	20 ms
Bounce time (typ.)	1 ms
Mechanical life	10 x 10^6 switching operations

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	0.75 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	50.7 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1, EN 61810-1

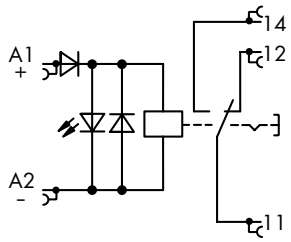
» Accessories Page 126

Relay Module
789 Series

1



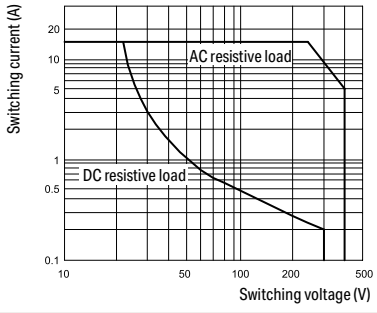
Similar to pictured device



Relay Module; 1 changeover contact; Limiting continuous current: 12 A; manually operated; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	17 mA	789-1341	10

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Load Limit Curve

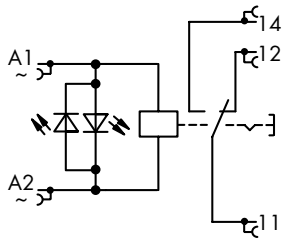
Control Circuit	
Input voltage range	±10 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi
Limiting continuous current	12 A
Inrush current (resistive) max.	24 A (AC) / 4 s; 32 A / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	3000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	6 ms
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	50.8 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1

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Relay Module
789 Series



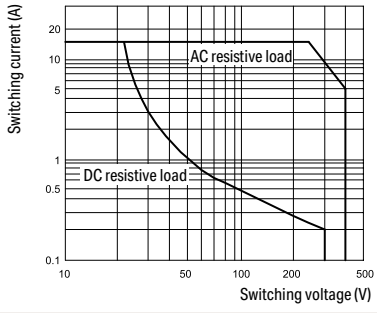
Similar to pictured device



Relay Module; 1 changeover contact; Limiting continuous current: 12 A; manually operated; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC	3.5 mA	789-1544	10

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Load Limit Curve

Control Circuit	
Input voltage range	±10 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi
Limiting continuous current	12 A
Inrush current (resistive) max.	24 A (AC) / 4 s; 32 A / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	3000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	6 ms
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	50.2 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +50 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1

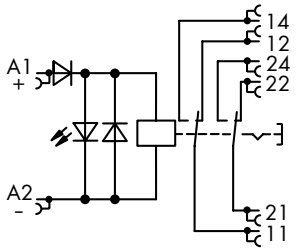
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Relay Module
789 Series

1



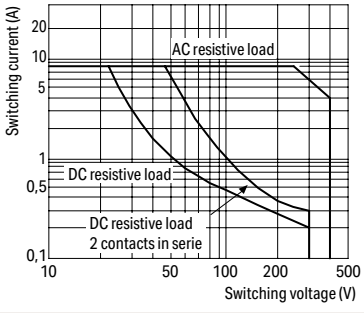
Similar to pictured device



Relay Module; 2 changeover contacts; Limiting continuous current: 8 A; manually operated; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	17 mA	789-1346	10

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Load Limit Curve

Control Circuit	
Input voltage range	±10 %

Load Circuit	
Number of changeover/switchover contacts	2
Contact material	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	12 A (AC) / 4 s; 16 A / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	7 ms
Mechanical life	5 x 10^6 switching operations

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	57.6 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

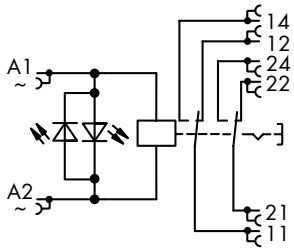
Standards and Specifications	
Standards/specifications	EN 60664-1

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Relay Module
789 Series



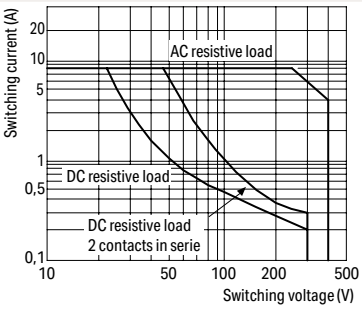
Similar to pictured device



Relay Module; 2 changeover contacts; Limiting continuous current: 8 A; manually operated; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC	3.5 mA	789-1549	10

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Load Limit Curve

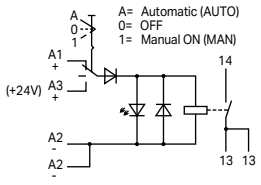
Control Circuit	
Input voltage range	±10 %
Load Circuit	
Number of changeover/switchover contacts	2
Contact material	AgNi
Limiting continuous current	8 A
Inrush current (resistive) max.	12 A (AC) / 4 s; 16 A / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	2000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	8 ms
Bounce time (typ.)	7 ms
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	59.5 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1

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Relay Module
789 Series

1

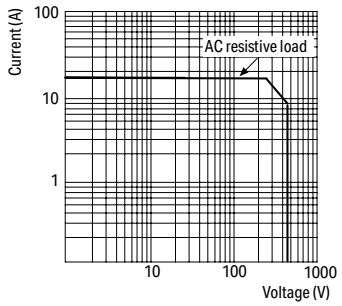




Relay Module; 1 make contact; Limiting continuous current: 16 A; for lamp loads; Manual/OFF/Auto switch; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	19 mA	789-323	10

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



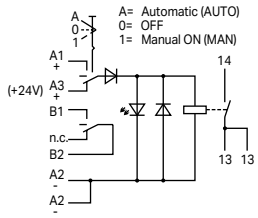
Load Limit Curve

Control Circuit	
Input voltage range	−15 … +20 %
Load Circuit	
Number of make contacts/switch-on contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	16 A
Inrush current (resistive) max.	120 A (AC) / 50 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	5 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	54.2 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1

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Relay Module
789 Series

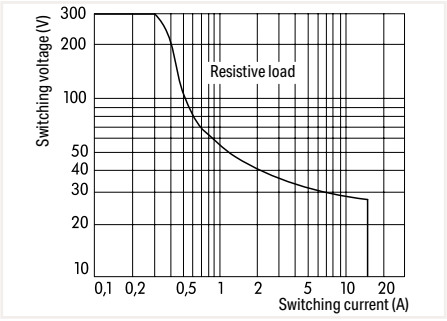




Relay Module; 1 make contact; Limiting continuous current: 16 A; for lamp loads; Manual/0FF/Auto switch; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	17 mA	789-324	10

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



DC Load Limit Curve

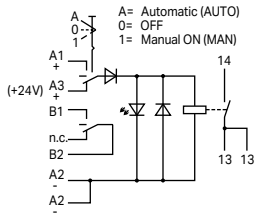
Control Circuit	
Input voltage range	−10 … +20 %
Nominal voltage (feedback contact)	24 VDC; SELV/PELV
Load Circuit	
Number of make contacts/switch-on contacts	1
Contact material	$AgSnO_2$, W pre-make contact
Limiting continuous current	16 A
Inrush current (resistive) max.	165 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	5 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	5 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	60.4 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1, EN 61810-1

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Relay Module
789 Series

1

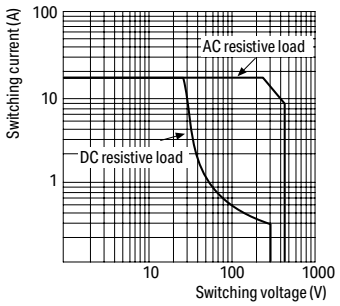




Relay Module; 1 make contact; Limiting continuous current: 16 A; for lamp loads; Manual/OFF/Auto switch; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	19 mA	789-325	10

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Load Limit Curve

Control Circuit	
Input voltage range	−15 … +20 %
Nominal voltage (feedback contact)	24 VDC; SELV/PELV

Load Circuit	
Number of make contacts/switch-on contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	16 A
Inrush current (resistive) max.	120 A (AC) / 50 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	5 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	57.2 g

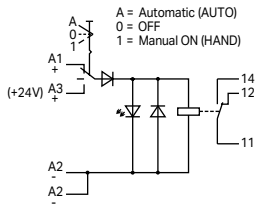
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

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Relay Module
789 Series

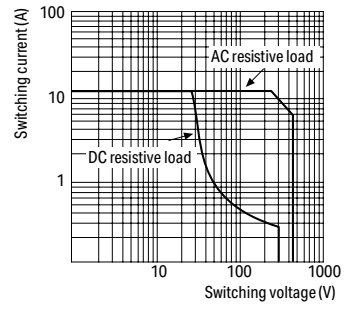




Relay Module; 1 changeover contact; Limiting continuous current: 12 A; for lamp loads; Manual/0FF/Auto switch; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	19 mA	789-326	10

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Load Limit Curve

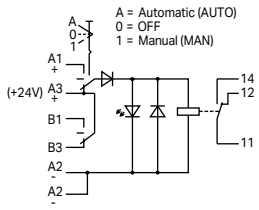
Control Circuit	
Input voltage range	−15 … +20 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	12 A
Inrush current (resistive) max.	120 A (AC) / 50 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	3000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	5 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Signaling	
Status indicator	Red LED
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	55 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−20 … +40 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1, EN 61810-1

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Relay Module
789 Series

1

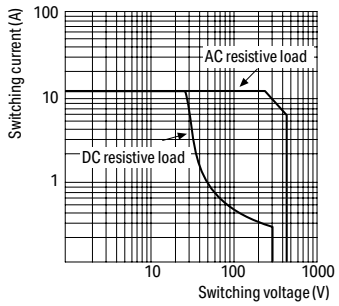




Relay Module; 1 changeover contact; Limiting continuous current: 12 A; for lamp loads; Manual/OFF/Auto switch; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	19 mA	789-329	10

Note:
To protect the relay coils and contacts, inductive loads must be dampened with an effective protection circuit.



Load Limit Curve

Control Circuit	
Input voltage range	−15 … +20 %

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	12 A
Inrush current (resistive) max.	120 A (AC) / 50 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	3000 VA (AC); DC see load limit curve
Recommended minimum load	12 V / 10 mA
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	5 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

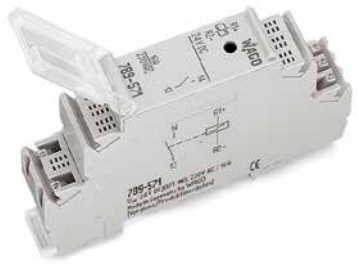
Material Data	
Weight	51 g

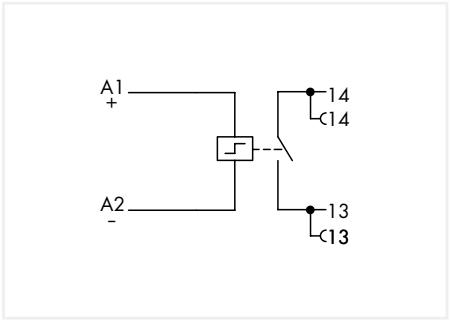
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

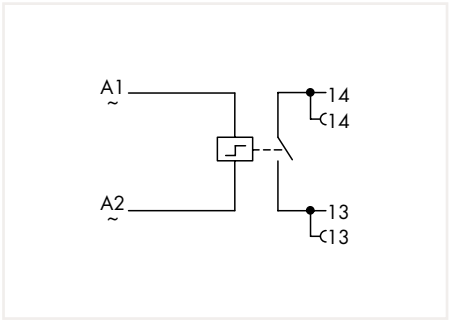
» Accessories Page 126

Latching Relay Module
789 Series





789-571



789-570

Latching Relay Module; 1 make contact; Limiting continuous current: 16 A; Status indicator: red; 18 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	42 mA	**789-571**	10
230 VAC	10 mA	**789-570**	10

Control Circuit	
Input voltage range	−15 … +10 %
Minimum pulse length (control input)	40 ms
Coil control	Pulse mode
Minimum break time	180 ms

Load Circuit	
Number of make contacts/switch-on contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	16 A
Inrush current (resistive) max.	50 A (AC) / 20 ms
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC)
Recommended minimum load	10 V / 10 mA
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	1 x 10^6 switching operations
Switching load with/without load (max.)	6 min^{-1} / 240 min^{-1}
Cuircuit Protection	Circuit breaker max. 16 A, B characteristic

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	58.8 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

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Accessories



Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

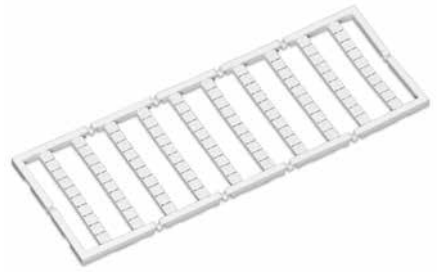
	Item No.	Pack. Unit
	210-720	50



Push-in type jumper bar; 12-way; Nominal current: 16 A; uninsulated

	Item No.	Pack. Unit
	789-112	100 (4x25)

Accessories





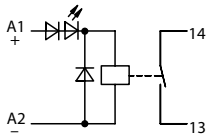
Mini-WSB marker card; Marker width: 5 mm; 10 strips with 10 markers/card		
Marking	Item No.	Pack. Unit
plain	248-501	50
1 … 10 (10 x)	248-502	50
11 … 20 (10 x)	248-503	50
21 … 30 (10 x)	248-504	50
31 … 40 (10 x)	248-505	50
41 … 50 (10 x)	248-506	50
1 … 50 (2 x)	248-566	50
K1 … K10	248-450	50
K11 … K20	248-451	50
K100	248-452	50
U1 … U10	248-453	50
U11 … U20	248-454	50
U100	248-455	50

Felt-tip pen; for permanent marking		
	Item No.	Pack. Unit
	210-110	200

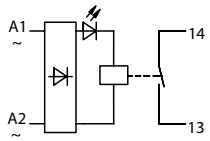
Relay Module
288 Series

1





288-364



288-546; 288-567

Relay Module; 1 make contact; Limiting continuous current: 5 A; 13 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	20 mA	**288-364**	1
24 VAC/DC	20 mA	**288-564**	1

Control Circuit	
Input nominal voltage range	±10 %

Load Circuit	
Number of make contacts/switch-on contacts	1
Contact material	AgNi 0.15
Limiting continuous current	5 A
Inrush current (resistive) max.	16 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC)
Pull-in time (typ.)	4 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	200 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	13 mm / 0.512 inch
Height from upper-edge of DIN-rail	47 mm / 1.85 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

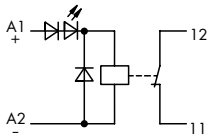
Material Data	
Weight	30.6 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–25 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201

Relay Module
288 Series





Relay Module; 1 break contact; Limiting continuous current: 5 A; 13 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	20 mA	288-368	1

Control Circuit	
Input nominal voltage range	±10 %

Load Circuit	
Number of break contacts/switch-off contacts	1
Contact material	AgNi 0.15
Limiting continuous current	5 A
Inrush current (resistive) max.	16 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC)
Pull-in time (typ.)	4 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	200 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	13 mm / 0.512 inch
Height from upper-edge of DIN-rail	47 mm / 1.85 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

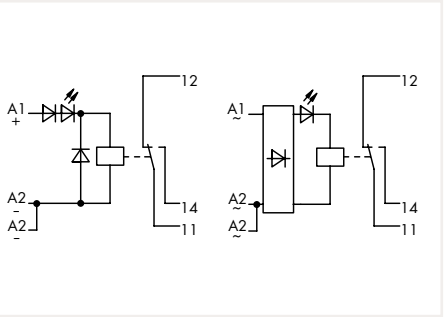
Material Data	
Weight	30.9 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–25 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201

Relay Module
288 Series





Relay Module; 1 changeover contact; Limiting continuous current: 6 A; 21 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	21.8 mA	**288-304**	1
24 VAC/DC	21.8 mA	**288-504**	1

Control Circuit

Input nominal voltage range	±10 %

Load Circuit

Number of changeover/switchover contacts	1
Contact material	AgNi 90/10
Limiting continuous current	6 A
Inrush current (resistive) max.	30 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC)
Pull-in time (typ.)	9 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Safety and Protection

Rated voltage	300 V
Rated surge voltage	2.5 kV
Pollution degree	2
Overvoltage category	II
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Type of insulation (control/load circuit)	Reinforced insulation

Connection Data

Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	20.5 mm / 0.807 inch
Height from upper-edge of DIN-rail	48 mm / 1.89 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	43.4 g

Environmental Requirements

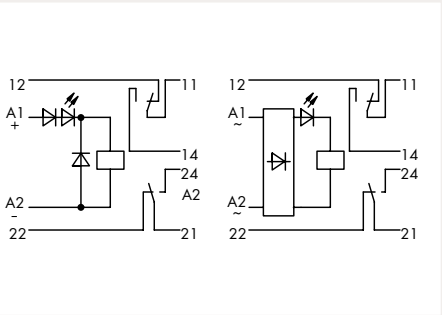
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–40 … +80 °C
Processing temperature	–25 … +50 °C

Standards and Specifications

Standards/specifications	EN 61010-2-201

Relay Module
288 Series





Relay Module; 2 changeover contacts; Limiting continuous current: 6 A; 23 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	21.8 mA	288-312	1
24 VAC/DC	21.8 mA	288-512	1

Control Circuit

Input nominal voltage range	±10 %

Load Circuit

Number of changeover/switchover contacts	2
Contact material	AgNi 0.15
Limiting continuous current	6 A
Inrush current (resistive) max.	14 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC)
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	20 x 10^6 switching operations

Safety and Protection

Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}

Connection Data

Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	22.5 mm / 0.886 inch
Height from upper-edge of DIN-rail	48 mm / 1.89 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	46.55 g

Environmental Requirements

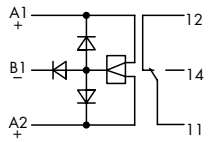
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–40 … +80 °C
Processing temperature	–25 … +50 °C

Standards and Specifications

Standards/specifications	EN 60664-1

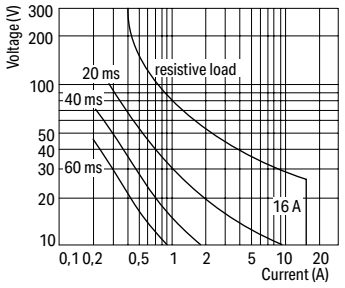
Relay Module
288 Series





Relay Module; Bistable; 1 changeover contact; Limiting continuous current: 6 A; 21 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	41.5 mA	288-380	1

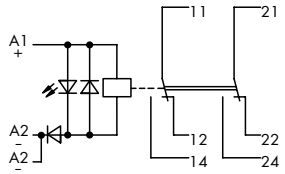


DC Load Limit Curve

Control Circuit	
Input voltage range	−15 … +20 %
Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi 0.15
Limiting continuous current	6 A
Inrush current (resistive) max.	16 A (AC) / 4 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC)
Pull-in time (typ.)	9 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations
Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	20.5 mm / 0.807 inch
Height from upper-edge of DIN-rail	48 mm / 1.89 inch
Depth	85 mm / 3.346 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	43.3 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−25 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1

Relay Module
288 Series





Relay Module; with force-guided contacts; 2 change-over contacts; Limiting continuous current: 5 A; 19 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	36 mA	288-437	1

Note:
60 VDC switching voltages and 300 mA currents must not be exceeded for gold-plated basic relays. Higher switching power eventually evaporates the gold layer.

Control Circuit	
Input voltage range	−15 … +10 %

Load Circuit	
Number of changeover/switchover contacts	2
Contact material	AgNi 10 + Au
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC)
Recommended minimum load	0.1 V / 1 mA / 1 mW
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	12 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	50 x 10^6 switching operations
Type of basic relay	Dold OA 5669.12

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	1.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	19 mm / 0.748 inch
Height from upper-edge of DIN-rail	38 mm / 1.496 inch
Depth	75 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	44.2 g

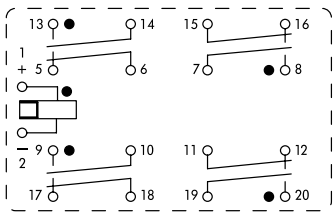
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +70 °C
Surrounding air temperature (storage)	−25 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 50205

Relay Module
288 Series

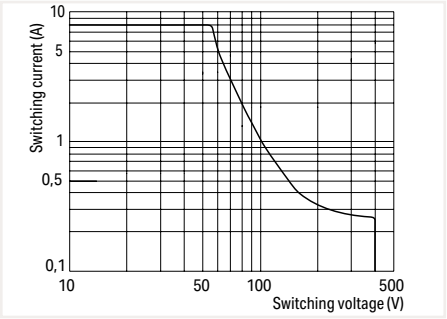
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Relay Module; with force-guided contacts; 4 make contacts and 4 break contacts; Limiting continuous current: 6 A; 64 mm wide

U_N	I_N	Item No.	Pack. Unit
12 VAC		288-413	
24 VAC/DC	26 mA	288-414	1
230 VAC/DC	10 mA	288-418	1



DC Load Limit Curve

Note:
If required a ventilation hole can be made in the cover, reducing the degree of protection from IP67 to IP30.

If an outer contact (20) should weld then the forced operated inner contact (12) driven by the actuator remains open. The rotating armature remains free to move. The unaffected contact pairs can operate normally, (i.e., their function to make or break remains unaffected).

If an inner contact should weld (12) then the movement of the rotating armature is blocked via the operator. Open contacts of all four contact pairs remain open. This arrangement corresponds to conventional, force-guided operation.

Control Circuit

Input voltage range	−15 … +20 %

Load Circuit

Number of break contacts/switch-off contacts	4
Number of make contacts/switch-on contacts	4
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC)
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC)
Recommended minimum load	10 V / 10 mA
Pull-in time (typ.)	18 ms
Drop-out time (typ.)	21 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	10 x 10^6 switching operations
Mechanical force-guided operation	Type B

Safety and Protection

Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1.3 kV

Connection Data

Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	63.5 mm / 2.5 inch
Height from upper-edge of DIN-rail	40 mm / 1.575 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	109.3 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C

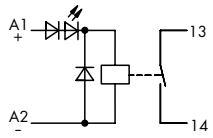
Standards and Specifications

Standards/specifications	EN 60664-1; EN 50205; EN 61810-1; ESTI (SEV): 09.1133; UL 508: E120782; TÜV: 968/EZ 116.02/09

Relay Module
286 Series

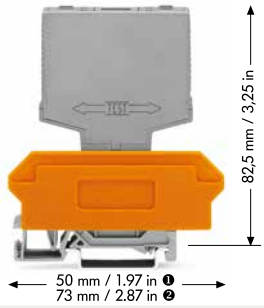
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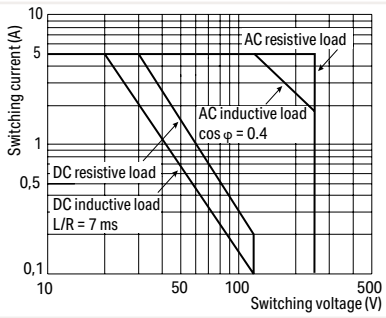




Relay Module; 1 make contact; Limiting continuous current: 5 A; Status indicator: red; 10 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	7.4 mA	286-364	1





DC Load Limit Curve

Control Circuit

Input nominal voltage range	±10 %

Load Circuit

Number of make contacts/switch-on contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC)
Pull-in time (typ.)	6 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	50 x 10^3 switching operations

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Protection type	IP20

Physical Data

Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inch
Depth	52 mm / 1.654 inch

Mechanical Data

Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data

Weight	16.8 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–25 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications

Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-618	40



Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-608	40



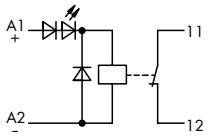
Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-762	30

» Accessories Page 146

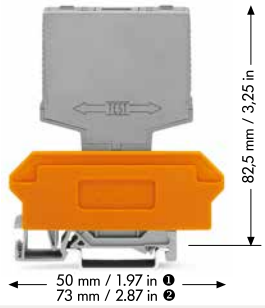
Relay Module
286 Series

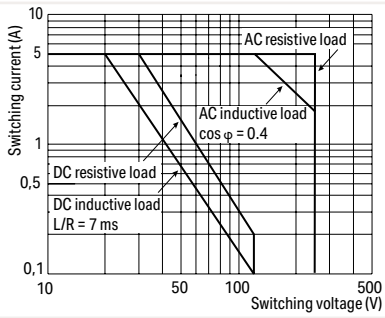




Relay Module; 1 break contact; Limiting continuous current: 5 A; Status indicator: red; 10 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	20.4 mA	286-368	1





DC Load Limit Curve

Control Circuit

Input nominal voltage range	±10 %

Load Circuit

Number of break contacts/switch-off contacts	1
Contact material	AgNi
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC)
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	3 ms
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Mechanical life	5 x 10^6 switching operations

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Protection type	IP20

Physical Data

Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inch
Depth	52 mm / 1.654 inch

Mechanical Data

Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data

Weight	19.1 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–25 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications

Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-618	40



Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-608	40



Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

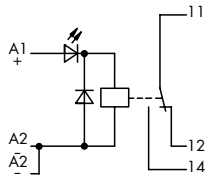
Item No.	Pack. Unit
280-762	30

» Accessories Page 146

Relay Module
286 Series

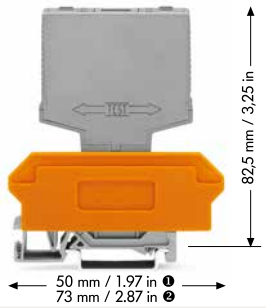
1





Relay Module; 1 changeover contact; Limiting continuous current: 7 A; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	19.4 mA	286-304	1



Control Circuit

Input nominal voltage range	±10 %

Load Circuit

Number of changeover/switchover contacts	1
Contact material	AgNi 0.15
Limiting continuous current	7 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1750 VA (AC)
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inch
Depth	52 mm / 1.654 inch

Mechanical Data

Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data

Weight	34.9 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–25 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications

Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-609	30



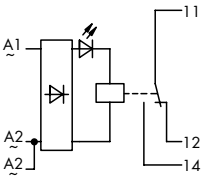
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-763	25

» Accessories Page 146

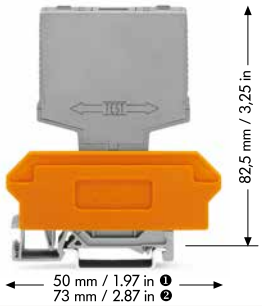
Relay Module
286 Series





Relay Module; 1 changeover contact; Limiting continuous current: 7 A; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
115 VAC	6.1 mA	286-507	1
230 VAC	4.8 mA	286-508	1



Control Circuit

Input nominal voltage range	±10 %

Load Circuit

Number of changeover/switchover contacts	1
Contact material	AgNi 0.15
Limiting continuous current	7 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1750 VA (AC)
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	6 ms
Bounce time (typ.)	4 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Protection type	IP20

Physical Data

Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inch
Depth	52 mm / 1.654 inch

Mechanical Data

Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data

Weight	31.1 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−25 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-609	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

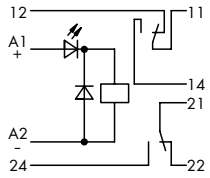
Item No.	Pack. Unit
280-763	25

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Relay Module
286 Series

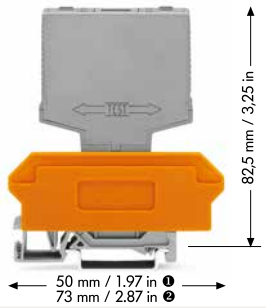
1





Relay Module; 2 changeover contacts; Limiting continuous current: 7 A; Status indicator: red; 20 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	21.8 mA	286-312	1



Control Circuit	
Input nominal voltage range	±10 %

Load Circuit	
Number of changeover/switchover contacts	2
Contact material	AgNi 0.15
Limiting continuous current	7 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1750 VA (AC)
Pull-in time (typ.)	18 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20

Physical Data	
Width	20 mm / 0.787 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inch
Depth	52 mm / 1.654 inch

Mechanical Data	
Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data	
Weight	39.6 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–25 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-638	20



Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-628	20



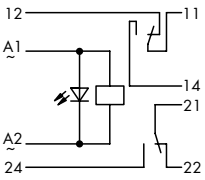
Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-764	20

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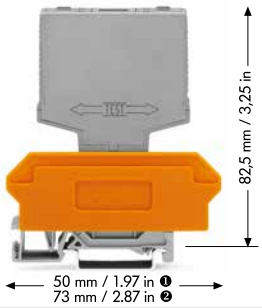
Relay Module
286 Series





Relay Module; 2 changeover contacts; Limiting continuous current: 7 A; Status indicator: red; 20 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC	5.5 mA	286-516	1



Control Circuit	
Input nominal voltage range	±10 %

Load Circuit	
Number of changeover/switchover contacts	2
Contact material	AgNi 0.15
Limiting continuous current	7 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1750 VA (AC)
Pull-in time (typ.)	15 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20

Physical Data	
Width	20 mm / 0.787 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inch
Depth	52 mm / 1.654 inch

Mechanical Data	
Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data	
Weight	35.2 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−25 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-638	20



Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-628	20



Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

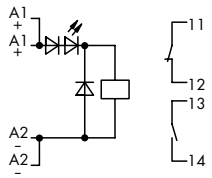
Item No.	Pack. Unit
280-764	20

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Relay Module
286 Series

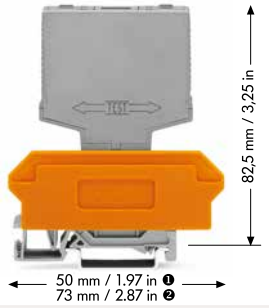
1





Relay Module; 1 make contact and 1 break contact; Limiting continuous current: 6 A; Status indicator: red; 20 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	7.4 mA	286-320	1



Control Circuit	
Input nominal voltage range	±10 %

Load Circuit	
Number of break contacts/switch-off contacts	1
Number of make contacts/switch-on contacts	1
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	15 A (AC) / 1 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC)
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	1 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	50 x 10^6 switching operations

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20

Physical Data	
Width	20 mm / 0.787 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inch
Depth	52 mm / 1.654 inch

Mechanical Data	
Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data	
Weight	85.5 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−25 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-638	20



Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-628	20



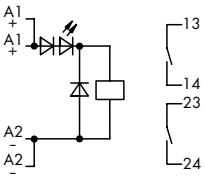
Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-764	20

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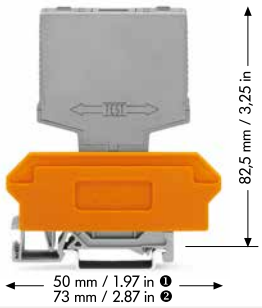
Relay Module
286 Series





Relay Module; 2 make contacts; Limiting continuous current: 6 A; Status indicator: red; 20 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	7.4 mA	286-328	1



Control Circuit

Input nominal voltage range	±10 %

Load Circuit

Number of make contacts/switch-on contacts	2
Contact material	$AgSnO_2$
Limiting continuous current	6 A
Inrush current (resistive) max.	15 A (AC) / 1 s
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC)
Pull-in time (typ.)	10 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	1 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	50 x 10^6 switching operations

Signaling

Status indicator	Red LED

Safety and Protection

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kV_{rms}
Protection type	IP20

Physical Data

Width	20 mm / 0.787 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inch
Depth	52 mm / 1.654 inch

Mechanical Data

Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data

Weight	28.5 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−25 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-638	20



Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-628	20



Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

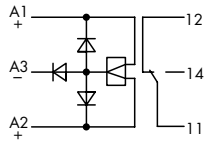
Item No.	Pack. Unit
280-764	20

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Relay Module
286 Series

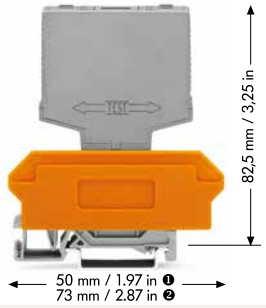
1





Relay Module; Bistable; 1 changeover contact; Limiting continuous current: 6 A; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	41.5 mA	286-380	1



Control Circuit	
Input nominal voltage range	±10 %

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi 0.15
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC)
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC)
Pull-in time (typ.)	9 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Protection type	IP20

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inch
Depth	52 mm / 1.654 inch

Mechanical Data	
Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data	
Weight	35 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−25 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-609	30



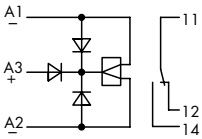
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-763	25

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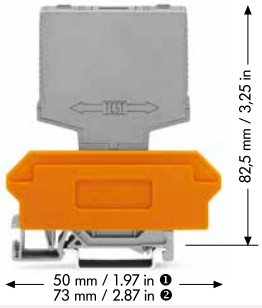
Relay Module
286 Series





Relay Module; Bistable; 1 changeover contact; Limiting continuous current: 6 A; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	41.5 mA	286-381	1



Control Circuit	
Input nominal voltage range	±10 %

Load Circuit	
Number of changeover/switchover contacts	1
Contact material	AgNi 0.15
Limiting continuous current	6 A
Inrush current (resistive) max.	20 A (AC)
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1500 VA (AC)
Pull-in time (typ.)	9 ms
Drop-out time (typ.)	3 ms
Bounce time (typ.)	2 ms
Electrical life (NO; resistive load; 23 °C)	100 x 10^3 switching operations
Mechanical life	30 x 10^6 switching operations

Signaling	
Status indicator	Red LED

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Protection type	IP20

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.248 inch
Depth	52 mm / 1.654 inch

Mechanical Data	
Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data	
Weight	36 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−25 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-609	30



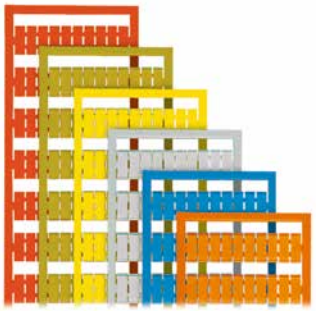
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-763	25

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Accessories



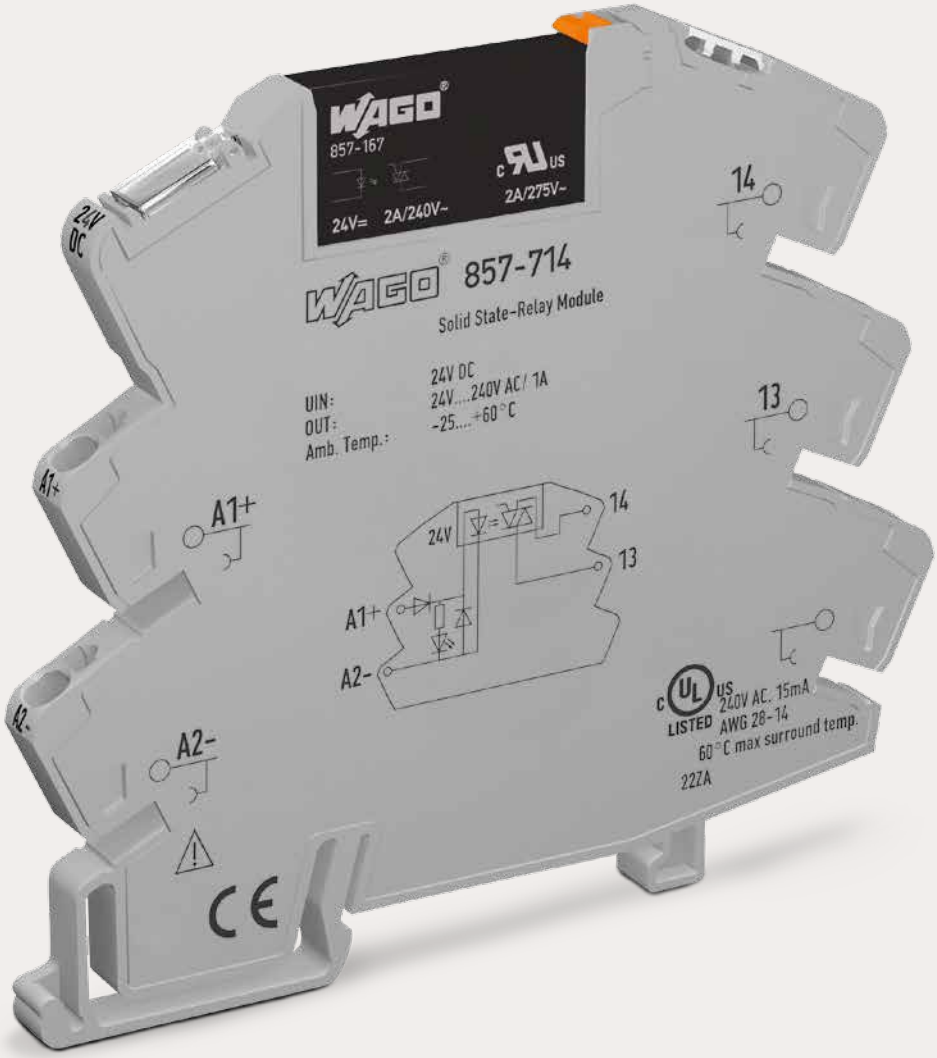


WSB marker card; WSB marker width: 4 mm; 10 strips with 10 markers/card

Marking	Item No.	Pack. Unit
K	209-782	50
1 ... 10 (10 x)	209-702	50
A1; A2; 13; 14	209-952	50
A1; A2; 11; 12	209-953	50
11; 12; 14; A1; A2; A2; 11; 12; 14	209-994	50
12; A1; A2; 24; 11; 14; 21; 22	209-995	50
A1; A1; A2; A2; 11; 12; 13; 14; 23; 24	209-693	50
12; A1; A2; 23; 24; 11; 13; 14; 21; 22	209-691	50
12; A1; A2; 23; 24; 11; 13; 14; 33; 34	209-690	50
14; A1; A2; 33; 34; 13; 23; 24; 43; 44	209-692	50
A1; A2; 32; 31; 34; 42; 41; 12; 11; 14; 22; 21; 24; 44	249-656	50
L+; 1; L-; L-; 11; 12; 13; 14	209-954	50
A1; A2; A3; 11; 12; 14	249-607	50
A1; A1; A2; A2; 12; 11; 11; 14	209-996	50
A1; A1; St; A2; A2; 12; 11; 11; 14	209-601	50
U1; U2; U3; U4; 0V; 12; 11; 11; 14; 14	209-951	50
U	209-789	50
A1; A2; A2; 1; 3; 2	209-685	50
A1; A2; A2; 1; 2; 2	209-686	50
A1+; A1+; A2-; A2-; 1; RL1; RL2; 2	209-955	50
A1+; A1+; A2-; A2-; 1+; 1+; A; 2-	249-651	50
+/-	209-552	50
1; 2; 3; 0V; +UB; OUT; ERR.; 0V	249-622	50
1; 2; 0V; +UB; OUT; ERR.; 0V	249-623	50
Lin; Lin; Lout; Lout; 24V; UA; UA; 0V	209-957	50
Lin; Lin; Lout; 11; 14; 14; Lin; Lin; Lout	249-654	50
Iin; Iin; Iout; Iout; 24V; 11; 12; 14; 0V	209-997	50
S	209-682	50
V	209-784	50
F1 ... F10	209-787	50
D	209-783	50
+; -; 1; 2; 3; 13; 14; 4; 5; 6	249-608	50
L; N; Ackn.; Failure; Test; N; 14; 24	249-606	50
A1; A2; Ackn.; Failure; 12; 11; 11; 14	249-653	50

WSB marker card; plain; WSB marker width: 4 mm; 10 strips with 10 markers/card

Color	Item No.	Pack. Unit
white	209-701	100
yellow	209-701/000-002	100
red	209-701/000-005	100
blue	209-701/000-006	100
gray	209-701/000-007	100
orange	209-701/000-012	100
light green	209-701/000-017	100
green	209-701/000-023	100
violet	209-701/000-024	100



WAGO Solid-State Relay and Optocoupler Modules

WAGO Solid-State Relay and Optocoupler Modules

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WAGO Solid-State Relay and Optocoupler Modules
Selection Guide

2

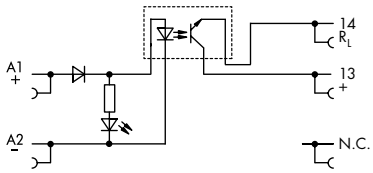
Nominal Input Voltage U_N	Limiting Continuous Current	Nominal Input Current at U_N	2-Wire Connection	3-Wire Connection	High-Side Switching	Low-Side Switching	Zero-Voltage Switching	2-Way	Standards/Approvals							For Railway Applications	Specialty Function	Item Number	Page
									EN 50121-3-2	EN 61000-6-2	EN 61000-6-3	EN 61373	EN 61812-1	GL	UL 508				
5 ADC	0.1 A	7.5 mA	■						■	■	■	■			■	■		859-793	193
5 VDC	0.1 A	16.5 mA		■	■					■	■	■			■			859-753	214
5 VDC	0.1 A	17 mA	■						■	■	■	■			■	■		859-795	190
5 VDC	0.5 A	7.7 mA	■				■			■	■				■			859-902	219
5 VDC	0.5 A	8 mA		■	■					■	■	■			■			859-750	207
5 VDC	0.5 A	9.6 mA		■	■					■	■	■			■			859-702	205
5 VDC	0.5 A	10 mA		■	■					■	■	■			■			859-752	208
5 VDC	0.5 A	14 mA		■	■													286-752/002-000	226
5 VDC	5 A	7.2 mA	■							■	■	■						859-738	200
12 VDC	0.1 A	4 mA	■						■	■	■	■				■		859-798	192
12 VDC	0.5 A	9.2 mA	■							■	■				■			859-797	213
12 VDC	5 A	3.2 mA	■							■	■	■						859-739	201
24 VDC	0.1 A	4 mA	■															286-794	232
24 VDC	0.1 A	4 mA	■						■	■	■	■			■	■		859-791	188
24 VDC	0.1 A	4.2 mA	■						■	■	■	■			■	■		859-794	189
24 VDC	0.1 A	5.6 mA	■					■		■	■	■			■			857-1494	165
24 VDC	0.1 A	7 mA	■						■	■	■	■				■		2042-7204	222
24 VDC	0.1 A	9 mA	■							■	■	■			■			857-704	152
24 VDC	0.1 A	9 mA		■	■					■	■	■			■			859-755	215
24 VDC	0.1 A	9 mA		■	■					■	■	■						859-759	216
24 VDC	0.1 A	9.2 mA	■						■	■	■	■			■	■		859-796	191
24 VDC	0.1 A	14 mA	■															286-791	231
24 VDC	0.25 A	15 mA	■					■										286-792	233
24 VDC	0.5 A	5.3 mA		■		■				■	■				■			859-732	217
24 VDC	0.5 A	5.9 mA		■	■			■		■	■	■			■			857-1432	166
24 VDC	0.5 A	6 mA	■				■			■	■				■			859-734	218
24 VDC	0.5 A	7 mA		■	■				■	■	■	■				■		2042-7304	224
24 VDC	0.5 A	7.7 mA		■		■				■	■	■			■			859-708	206
24 VDC	0.5 A	8 mA		■	■					■	■	■			■			859-758	210
24 VDC	0.5 A	9 mA	■														2 inverted outputs	286-790	230
24 VDC	0.5 A	11 mA		■	■					■	■	■			■			859-756	209
24 VDC	0.5 A	11 mA		■		■				■	■	■			■			859-706	212
24 VDC	0.5 A	15 mA		■	■													286-752	229
24 VDC	1 A	7 mA	■				■			■	■	■			■			788-720	182
24 VDC	1 A	9.15 mA	■				■		■			■	■				Multifunctional/ multi-time	857-634	169
24 VDC	2 A	9.15 mA	■						■			■	■				Multifunctional/ multi-time	857-624	168
24 VDC	2 A	9.2 mA	■				■			■	■	■			■			857-714	156
24 VDC	3 A	4 mA		■		■				■	■	■			■			859-720	198
24 VDC	3 A	7 mA	■							■	■	■			■			859-740	195
24 VDC	3 A	7 mA	■							■	■	■						859-762	197
24 VDC	3 A	7.75 mA	■					■		■	■	■		■	■			857-1430	164
24 VDC	3 A	9.2 mA	■							■	■	■		■	■			857-724	160
24 VDC	3 A	14 mA	■							■	■	■			■			859-730	194
24 VDC	3 A	14 mA	■							■	■	■						859-761	196
24 VDC	3.5 A	7 mA	■							■	■	■			■			788-700	179
24 VDC	3.5 A	13 mA	■				■			■	■	■						788-730	181
24 VDC	4 A	13.5 mA		■	■													286-723	228
24 VDC	5 A	3.5 mA	■							■	■	■						859-737	199
24 VDC	5 A	7 mA		■	■				■	■	■	■				■		2042-7604	225
24 VDC	5 A	9.3 mA	■							■	■	■			■			788-701	180
24 VDC	5 A	11 mA			■					■	■	■						788-710	178
24 VDC	5 A	13.5 mA		■		■												286-721	227
24 VDC	8 A	8.7 mA							■	■	■	■				■		857-734	163

WAGO Solid-State Relay and Optocoupler Modules
Selection Guide

Nominal Input Voltage U_N	Limiting Continuous Current	Nominal Input Current at U_N	2-Wire Connection	3-Wire Connection	High-Side Switching	Low-Side Switching	Zero-Voltage Switching	2-Way	Standards/Approvals							For Railway Applications	Specialty Function	Item Number	Page
									EN 50121-3-2	EN 61000-6-2	EN 61000-6-3	EN 61373	EN 61812-1	GL	UL 508				
48 VDC	0.1 A	7 mA	■						■	■	■	■				■		**2042-7504**	223
12 … 48 VDC	4 A	5 mA	■							■	■	■						**859-744**	202
24 VAC/DC	4 A	10 mA	■				■			■	■	■			■			**788-721**	183
115 VAC/DC	0.1 A	4.2 mA	■							■	■	■			■			**857-707**	153
115 VAC/DC	2 A	3.9 mA	■				■			■	■	■			■			**857-717**	157
115 VAC/DC	3 A	3.9 mA	■							■	■	■			■			**857-727**	161
230 VAC/DC	0.1 A	3.25 mA	■							■	■	■			■			**857-708**	154
230 VAC/DC	2 A	3.2 mA	■				■			■	■	■			■			**857-718**	158
230 VAC/DC	3 A	3.2 mA	■							■	■	■			■			**857-728**	162
230 VAC	0.5 A	0.6 mA		■		■				■	■	■			■			**859-712**	203
230 VAC	0.5 A	0.6 mA		■	■					■	■	■			■			**859-772**	204

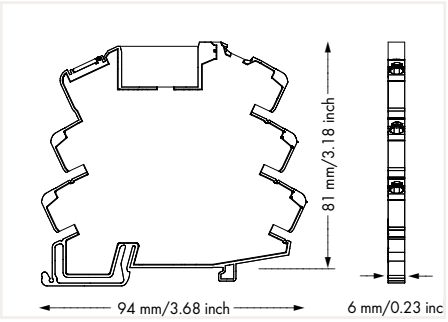
Solid-State Relay Module
857 Series





Solid-State Relay Module; Output voltage range: 0 … 48 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	9 mA	**857-704**	25



Note:
Optocouplers and solid-state relays are designed for use in signal processing networks that are not supplied by the low-voltage power grid.

Control Circuit	
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	16.8 … 30 VDC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	0 … 48 VDC
Voltage drop (output) max.	≤ 1 VDC
Switching current (min.)	50 µA
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 1 kHz

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	29.8 g

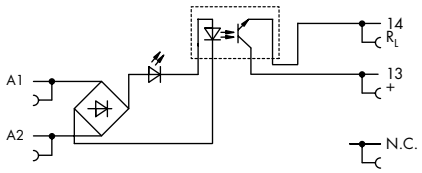
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−20 … +60 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

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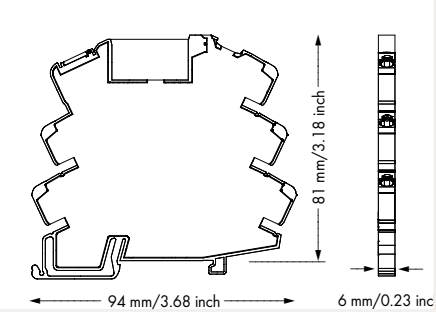
Solid-State Relay Module
857 Series





Solid-State Relay Module; Output voltage range: 0 … 48 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
115 VAC/DC	4.2 mA	**857-707**	25



Note:
Optocouplers and solid-state relays are designed for use in signal processing networks that are not supplied by the low-voltage power grid.

Control Circuit	
Input voltage range (low level)	0 … 25 VAC/DC
Input voltage range (high level)	100 … 138 VAC/DC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	0 … 48 VDC
Voltage drop (output) max.	≤ 1 VDC
Switching current (min.)	50 µA
Turn-on time	4.5 ms
Turn-off time	10 ms
Switching frequency	≤ 20 Hz

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	30 g

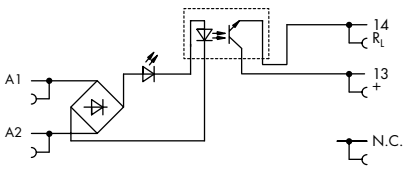
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–20 … +60 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

» Accessories Page 170

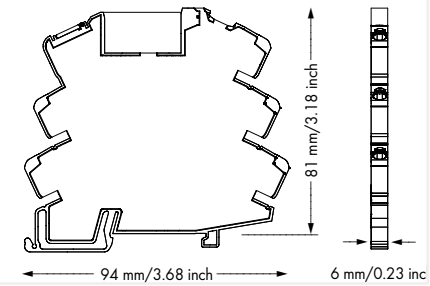
Solid-State Relay Module
857 Series





Solid-State Relay Module; Output voltage range: 0 … 48 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC/DC	3.25 mA	**857-708**	25



Note:
Optocouplers and solid-state relays are designed for use in signal processing networks that are not supplied by the low-voltage power grid.

Control Circuit	
Input voltage range (low level)	0 … 30 VAC/DC
Input voltage range (high level)	200 … 253 VAC/DC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	0 … 48 VDC
Voltage drop (output) max.	≤ 1 VDC
Switching current (min.)	50 µA
Turn-on time	4.5 ms
Turn-off time	10 ms
Switching frequency	≤ 20 Hz

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	30.7 g

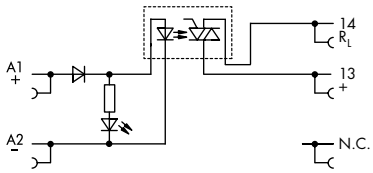
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–20 … +60 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

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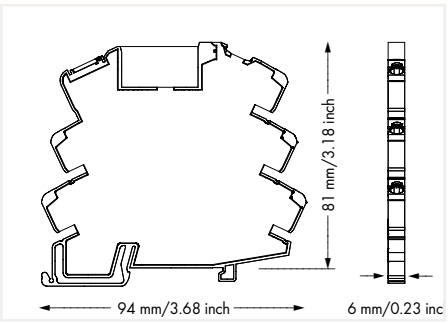
Solid-State Relay Module
857 Series



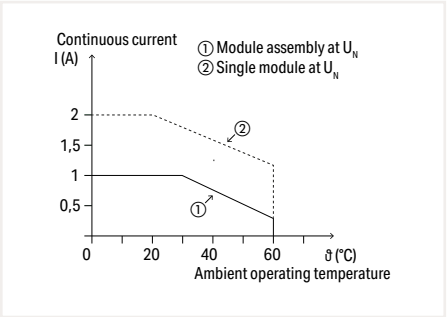


Solid-State Relay Module; Output voltage range: 24 … 240 VAC; Limiting continuous current: 2 A; 2-wire connection; Zero-voltage switching; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	9.2 mA	**857-714**	25



Note:
Optocouplers and solid-state relays are designed for use in signal processing networks that are not supplied by the low-voltage power grid.



Current-Carrying Capacity Curve

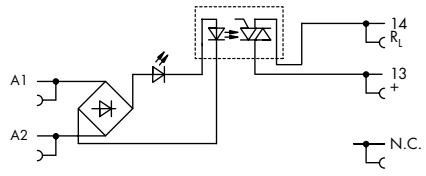
Control Circuit	
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	20 … 28.8 VDC
Load Circuit	
Circuit type	2-wire connection; zero-voltage switching
Limiting continuous current	2 A
Output voltage range	24 … 240 VAC
Voltage drop (output) max.	≤ 1.6 VAC
Leakage current at rated voltage	≤ 1.5 mA
Switching current (min.)	22 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Mains frequency	50 Hz / 60 Hz
Signaling	
Status indicator	Yellow LED
Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	28.4 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−20 … +60 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

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Solid-State Relay Module
857 Series

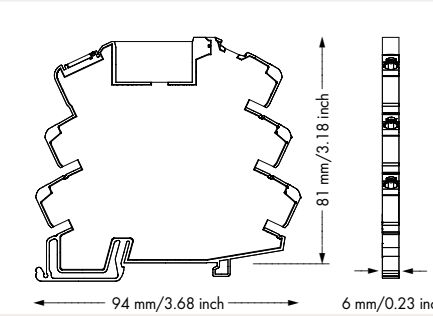


Similar to pictured device

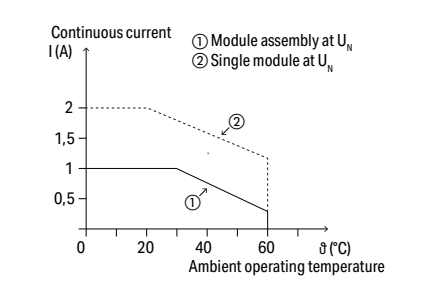


Solid-State Relay Module; Output voltage range: 24 … 240 VAC; Limiting continuous current: 2 A; 2-wire connection; Zero-voltage switching; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
115 VAC/DC	3.9 mA	**857-717**	25



Note:
Optocouplers and solid-state relays are designed for use in signal processing networks that are not supplied by the low-voltage power grid.



Current-Carrying Capacity Curve

Control Circuit	
Input voltage range (low level)	0 … 25 VAC/DC
Input voltage range (high level)	100 … 138 VAC/DC

Load Circuit	
Circuit type	2-wire connection; zero-voltage switching
Limiting continuous current	2 A
Output voltage range	24 … 240 VAC
Voltage drop (output) max.	≤ 1.6 VAC
Leakage current at rated voltage	≤ 1.5 mA
Switching current (min.)	22 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Mains frequency	50 Hz / 60 Hz

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	28.5 g

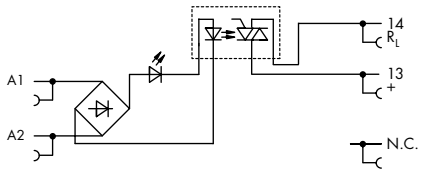
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–20 … +60 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

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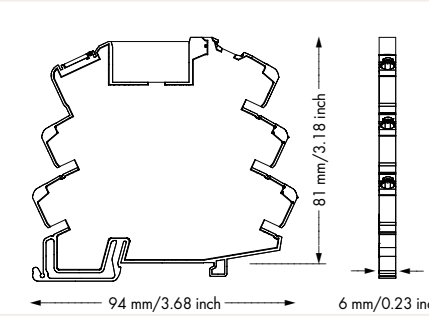
Solid-State Relay Module
857 Series



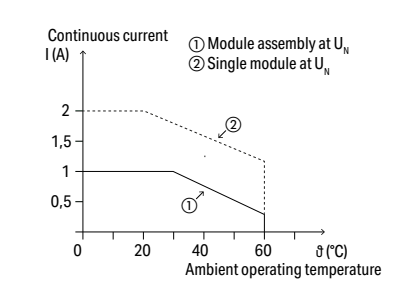


Solid-State Relay Module; Output voltage range: 24 … 240 VAC; Limiting continuous current: 2 A; 2-wire connection; Zero-voltage switching; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC/DC	3.2 mA	**857-718**	25



Note:
Optocouplers and solid-state relays are designed for use in signal processing networks that are not supplied by the low-voltage power grid.



Current-Carrying Capacity Curve

Control Circuit	
Input voltage range (low level)	0 … 60 VAC/DC
Input voltage range (high level)	200 … 253 VAC/DC

Load Circuit	
Circuit type	2-wire connection; zero-voltage switching
Limiting continuous current	2 A
Output voltage range	24 … 240 VAC
Voltage drop (output) max.	≤ 1.6 VAC
Leakage current at rated voltage	≤ 1.5 mA
Switching current (min.)	22 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Mains frequency	50 Hz / 60 Hz

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	29.2 g

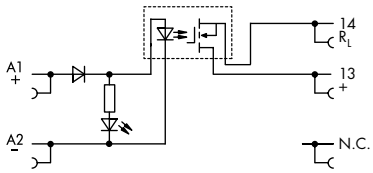
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–20 … +60 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

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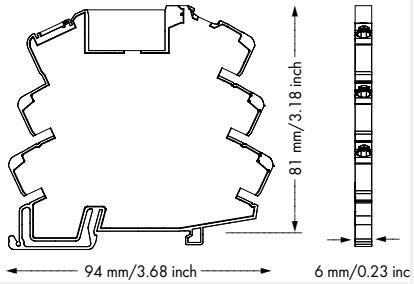
Solid-State Relay Module
857 Series



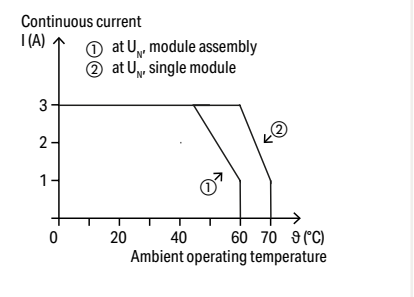


Solid-State Relay Module; Output voltage range: 0 … 24 VDC; Limiting continuous current: 3 A; 2-wire connection; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	9.2 mA	**857-724**	25



Note:
Optocouplers and solid-state relays are designed for use in signal processing networks that are not supplied by the low-voltage power grid.



Current-Carrying Capacity Curve

Control Circuit	
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	18.8 … 31.2 VDC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Output voltage range	0 … 24 VDC
Voltage drop (output) max.	≤ 0.12 VDC
Switching current (min.)	50 µA
Inrush current (max.)	15 A / 10 ms
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 350 Hz

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	28.4 g

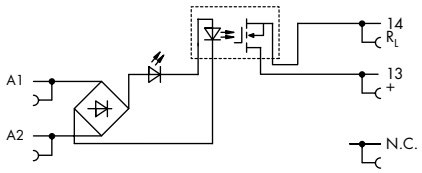
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−20 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508; GL

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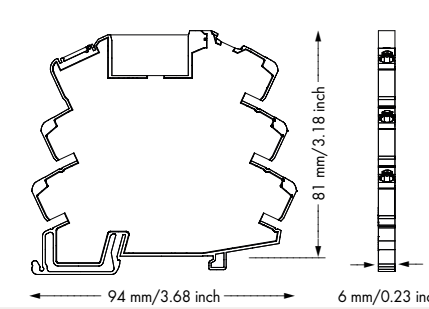
Solid-State Relay Module
857 Series



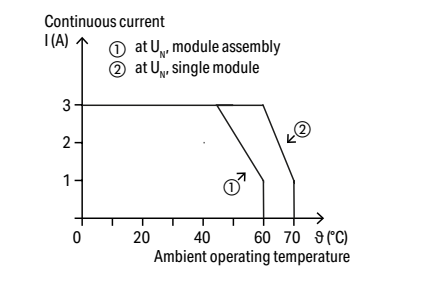


Solid-State Relay Module; Output voltage range: 0 … 24 VDC; Limiting continuous current: 3 A; 2-wire connection; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
115 VAC/DC	3.9 mA	857-727	25



Note:
Optocouplers and solid-state relays are designed for use in signal processing networks that are not supplied by the low-voltage power grid.



Current-Carrying Capacity Curve

Control Circuit	
Input voltage range (low level)	0 … 25 VAC/DC
Input voltage range (high level)	90 … 138 VAC/DC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Output voltage range	0 … 24 VDC
Voltage drop (output) max.	≤ 0.12 VDC
Switching current (min.)	50 µA
Inrush current (max.)	15 A / 10 ms
Turn-on time	4.5 ms
Turn-off time	10 ms
Switching frequency	≤ 20 Hz

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	30.1 g

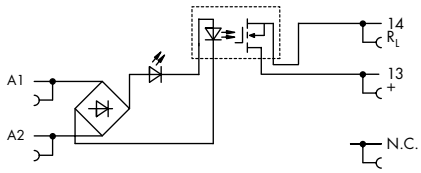
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–20 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

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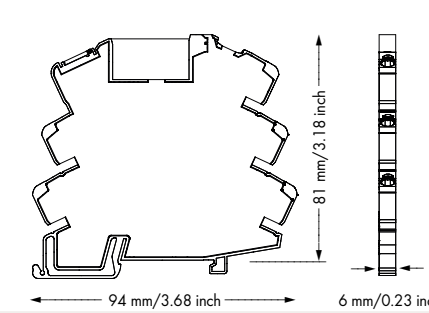
Solid-State Relay Module
857 Series



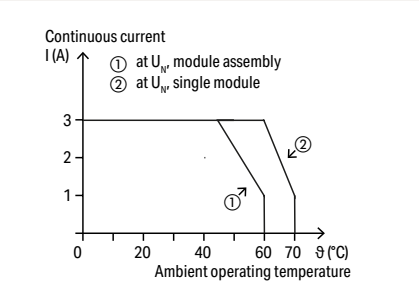


Solid-State Relay Module; Output voltage range: 0 … 24 VDC; Limiting continuous current: 3 A; 2-wire connection; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC/DC	3.2 mA	**857-728**	25



Note:
Optocouplers and solid-state relays are designed for use in signal processing networks that are not supplied by the low-voltage power grid.



Current-Carrying Capacity Curve

Control Circuit	
Input voltage range (low level)	0 … 60 VAC/DC
Input voltage range (high level)	200 … 253 VAC/DC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Output voltage range	0 … 24 VDC
Voltage drop (output) max.	≤ 0.12 VDC
Switching current (min.)	50 µA
Inrush current (max.)	15 A / 10 ms
Turn-on time	4.5 ms
Turn-off time	10 ms
Switching frequency	≤ 20 Hz

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	31 g

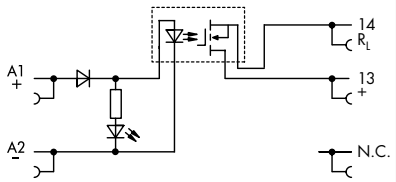
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–20 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

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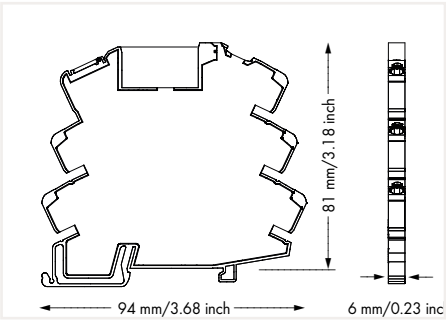
Solid-State Relay Module
857 Series



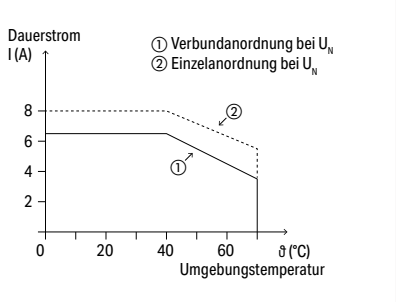


Solid-State Relay Module; Output voltage range: 1 … 30 VDC; Limiting continuous current: 8 A; 2-wire connection; for railway applications; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC (SELV)	8.7 mA	**857-734**	25



Note:
Optocouplers and solid-state relays are designed for use in signal processing networks that are not supplied by the low-voltage power grid.



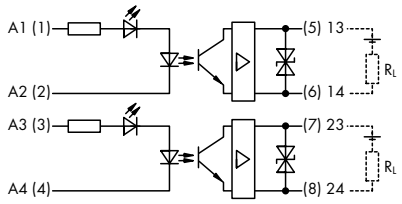
Current-Carrying Capacity Curve

Control Circuit	
Input voltage range (low level)	0 … 4 VDC
Input voltage range (high level)	16.8 … 30 VDC
Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	8 A
Nominal output voltage	24 VDC (SELV)
Output voltage range	1 … 30 VDC
Voltage drop (output) max.	≤ 80 mV (DC)
Switching current (min.).	10 mA
Turn-on time	≤ 60 µs
Turn-off time	≤ 250 µs
Switching frequency	≤ 500 Hz
Signaling	
Status indicator	Yellow LED
Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Pollution degree	2
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	29.5 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 61000-6-2; EN 61000-6-3; EN 50121-3-2; EN 50121-4

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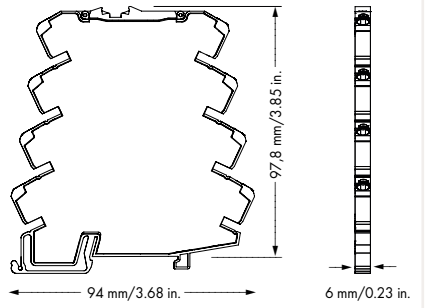
Optocoupler Module
857 Series

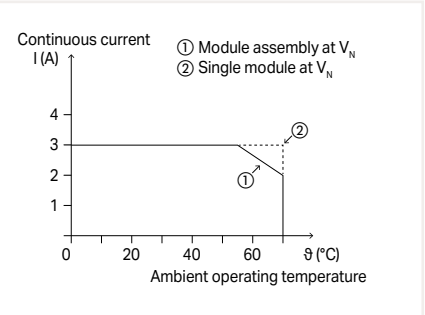




Optocoupler Module; 2-channel; Output voltage range: 3 … 31.2 VDC; Limiting continuous current: 3 A; 2-wire connection; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	7.75 mA	**857-1430**	25





Current-Carrying Capacity Curve

Control Circuit	
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	16.8 … 31.2 VDC

Load Circuit	
Circuit type	2-channel; 2-wire connection
Limiting continuous current	3 A
Output voltage range	3 … 31.2 VDC
Voltage drop (output) max.	≤ 0.2 VDC
Leakage current at rated voltage	≤ 250 µA
Turn-on time	≤ 25 µs
Turn-off time	≤ 250 µs
Switching frequency	≤ 300 Hz

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	4 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	31.4 g

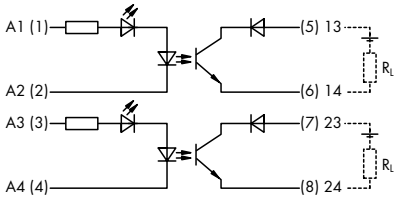
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; GL; UL 508 (max. 70 °C/2 A)

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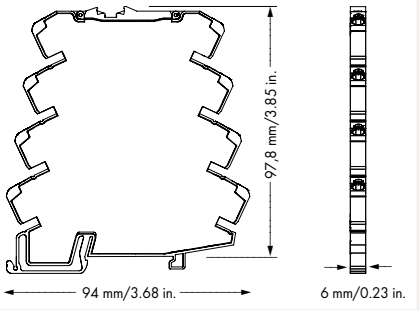
Optocoupler Module
857 Series





Optocoupler Module; 2-channel; Output voltage range: 9 … 60 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	5.6 mA	**857-1494**	25



Control Circuit	
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	16.8 … 31.2 VDC

Load Circuit	
Circuit type	2-channel; 2-wire connection
Limiting continuous current	0.1 A
Output voltage range	9 … 60 VDC
Voltage drop (output) max.	≤ 2 VDC
Leakage current at rated voltage	≤ 25 µA
Turn-on time	≤ 20 µs
Turn-off time	≤ 120 µs
Switching frequency	≤ 1.5 kHz

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Dielectric strength channel/channel (AC, 1 min)	4 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	30.2 g

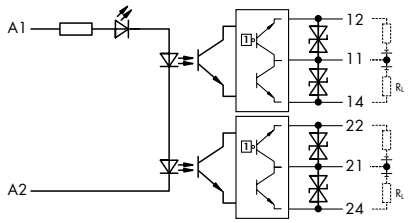
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508 (max. 50 °C/100 mA)

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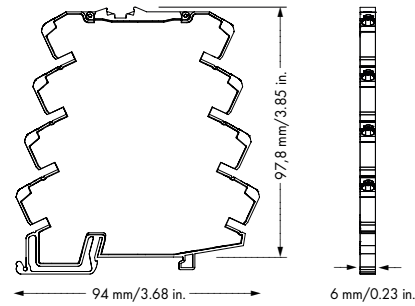
Optocoupler Module
857 Series





Optocoupler Module; 2-channel; Output voltage range: 9 … 60 VDC; Limiting continuous current: 0.5 A; 2 changeover contacts; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	5.9 mA	**857-1432**	25

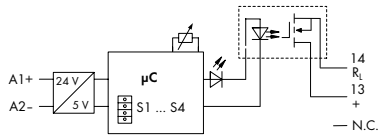


Control Circuit	
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	16.8 … 30 VDC
Load Circuit	
Circuit type	2-channel; 2-wire connection; high-side switching
Limiting continuous current	0.5 A
Output voltage range	9 … 60 VDC
Voltage drop (output) max.	≤ 1.5 VDC
Leakage current at rated voltage	≤ 20 µA
Turn-on time	≤ 25 µs
Turn-off time	≤ 250 µs
Switching frequency	≤ 1.5 kHz
Signaling	
Status indicator	Yellow LED
Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	33 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-2001; UL 508 (max. 70 °C / 0.3 A)

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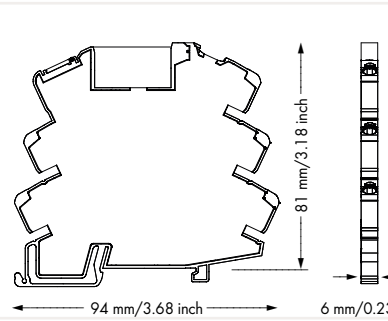
Solid-State Timer Relay Module
857 Series





Solid-State Relay Module; Output voltage range: 0 … 24 VDC; Limiting continuous current: 2 A; 2-wire connection; Multifunctional/multi-time; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	9.15 mA	857-624	25



Features:
- 4 functions
- Function and time range adjustable via DIP switch

Control Circuit	
Input voltage range	–15 … +30 %
Time range	Adjustable: 0.1 … 10 s; 3 … 300 s; 0.3 … 30 min; 3 … 300 min
Reset time	50 ms
Repeat accuracy	±1 %
Functions	On-delay; Single-shot leading edge; On-delay and single-shot leading edge (1s fixed); blinking

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	2 A
Output voltage range	0 … 24 VDC
Voltage drop (output) max.	≤ 0.12 VDC
Turn-on time	≤ 100 µs
Turn-off time	≤ 2 ms

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	29.5 g

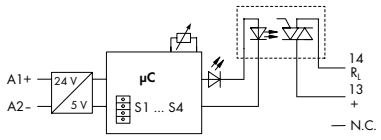
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–20 … +60 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61812-1; EN 61373; EN 50121-3-2

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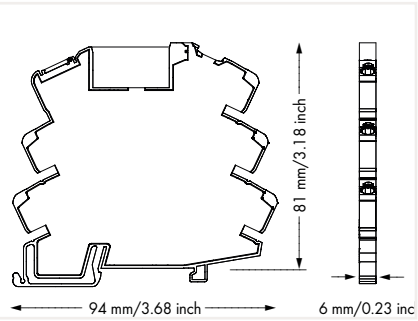
Solid-State Timer Relay Module
857 Series



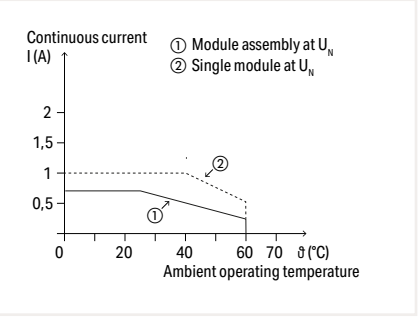


Solid-State Relay Module; Output voltage range: 24 … 230 VDC; Limiting continuous current: 1 A; 2-wire connection; Multifunctional/multi-time; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	9.15 mA	857-634	25



Features:
- 4 functions
- Function and time range adjustable via DIP switch



Current-Carrying Capacity Curve

Control Circuit	
Input voltage range	−15 … +30 %
Time range	Adjustable: 0.1 … 10 s; 3 … 300 s; 0.3 … 30 min; 3 … 300 min
Reset time	50 ms
Repeat accuracy	±1 %
Functions	On-delay; Single-shot leading edge; On-delay and single-shot leading edge (1s fixed); blinking

Load Circuit	
Circuit type	2-wire connection; zero-voltage switching
Limiting continuous current	1 A
Output voltage range	24 … 230 VAC
Voltage drop (output) max.	≤ 1 VAC
Turn-on time	≤ 1 ms
Turn-off time	≤ 10 ms

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	29.5 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−20 … +60 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61812-1; EN 61373; EN 50121-3-2

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Basic Solid-State Relay
857 Series



Basic Solid-State Relay; Output voltage range: 0 … 24 VDC; Limiting continuous current: 3 A; 5 mm wide; 15 mm high

U_N	I_N	Item No.	Pack. Unit
24 VDC	7 mA	**857-161**	20

Control Circuit	
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	18.8 … 31.2 VDC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Output voltage range	0 … 24 VDC
Voltage drop (output) max.	≤ 0.12 VDC
Switching current (min.)	50 µA
Inrush current (max.)	15 A / 10 ms
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 350 Hz

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}

Physical Data	
Width	5 mm / 0.197 inch
Height from the surface	15 mm / 0.591 inch
Depth	28 mm / 1.102 inch

Mechanical Data	
Mounting type	Pluggable relay module

Material Data	
Weight	3.6 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–30 … +80 °C
Surrounding air temperature (storage)	–40 … +100 °C

Basic Solid-State Relay
857 Series



Basic Solid-State Relay; Output voltage range: 24 … 240 VAC; Limiting continuous current: 2 A; 5 mm wide; 15 mm high

U_N	I_N	Item No.	Pack. Unit
24 VDC	7 mA	**857-167**	20

Control Circuit	
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	20 … 28.8 VDC

Load Circuit	
Circuit type	2-wire connection; zero-voltage switching
Limiting continuous current	2 A
Output voltage range	24 … 240 VAC
Voltage drop (output) max.	≤ 1.6 VAC
Leakage current at rated voltage	≤ 1.5 mA
Switching current (min.)	22 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Mains frequency	50 Hz / 60 Hz

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}

Physical Data	
Width	5 mm / 0.197 inch
Height from the surface	15 mm / 0.591 inch
Depth	28 mm / 1.102 inch

Mechanical Data	
Mounting type	Pluggable relay module

Material Data	
Weight	3.5 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–30 … +80 °C
Surrounding air temperature (storage)	–40 … +100 °C

Basic Solid-State Relay
857 Series



Basic Solid-State Relay; Output voltage range: 0 … 48 VDC; Limiting continuous current: 0.1 A; 5 mm wide; 15 mm high

U_N	I_N	Item No.	Pack. Unit
24 VDC	7 mA	**857-164**	20

Control Circuit	
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	16.8 … 30 VDC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	0 … 48 VDC
Voltage drop (output) max.	≤ 1 VDC
Switching current (min.)	50 µA
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 1 kHz

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}

Physical Data	
Width	5 mm / 0.197 inch
Height from the surface	15 mm / 0.591 inch
Depth	28 mm / 1.102 inch

Mechanical Data	
Mounting type	Pluggable relay module

Material Data	
Weight	3.2 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−30 … +80 °C
Surrounding air temperature (storage)	−40 … +100 °C

Basic Solid-State Relay
857 Series



Basic Solid-State Relay; Output voltage range: 0 … 24 VDC; Limiting continuous current: 3 A; 5 mm wide; 15 mm high

U_N	I_N	Item No.	Pack. Unit
60 VDC	3 mA	**857-162**	20

Control Circuit	
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	35 … 72 VDC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Output voltage range	0 … 24 VDC
Voltage drop (output) max.	≤ 0.12 VDC
Switching current (min.)	50 µA
Inrush current (max.)	15 A / 10 ms
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 350 Hz

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}

Physical Data	
Width	5 mm / 0.197 inch
Height from the surface	15 mm / 0.591 inch
Depth	28 mm / 1.102 inch

Mechanical Data	
Mounting type	Pluggable relay module

Material Data	
Weight	5 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–30 … +80 °C
Surrounding air temperature (storage)	–40 … +100 °C

Basic Solid-State Relay
857 Series



Basic Solid-State Relay; Output voltage range: 0 … 48 VDC; Limiting continuous current: 0.1 A; 5 mm wide; 15 mm high

U_N	I_N	Item No.	Pack. Unit
60 VDC	2.8 mA	**857-165**	20

Control Circuit	
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	35 … 72 VDC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	0 … 48 VDC
Voltage drop (output) max.	≤ 1 VDC
Switching current (min.)	50 µA
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 1 kHz
Mains frequency	50 Hz / 60 Hz

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}

Physical Data	
Width	5 mm / 0.197 inch
Height from the surface	15 mm / 0.591 inch
Depth	28 mm / 1.102 inch

Mechanical Data	
Mounting type	Pluggable relay module

Material Data	
Weight	3.4 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–20 … +60 °C
Surrounding air temperature (storage)	–40 … +70 °C

Basic Solid-State Relay
857 Series



Basic Solid-State Relay; Output voltage range: 24 … 240 VAC; Limiting continuous current: 2 A; 5 mm wide; 15 mm high

U_N	I_N	Item No.	Pack. Unit
60 VDC	3.1 mA	**857-168**	20

Control Circuit	
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	35 … 72 VDC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Output voltage range	0 … 24 VDC
Voltage drop (output) max.	≤ 0.12 VDC
Switching current (min.)	50 µA
Inrush current (max.)	15 A / 10 ms
Turn-on time	≤ 100 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 350 Hz

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}

Physical Data	
Width	5 mm / 0.197 inch
Height from the surface	15 mm / 0.591 inch
Depth	28 mm / 1.102 inch

Mechanical Data	
Mounting type	Pluggable relay module

Material Data	
Weight	3.6 g

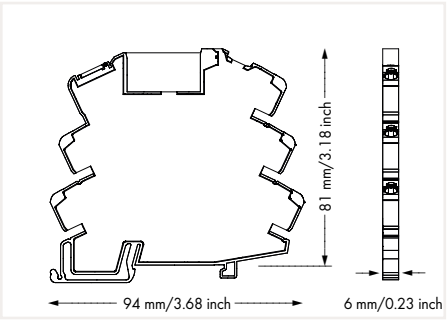
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–30 … +80 °C
Surrounding air temperature (storage)	–40 … +70 °C

Relay Socket
857 Series



Relay Socket; for 5 mm basic relay; Status indicator: yellow

U_N	Item No.	Pack. Unit
24 VAC/DC	**857-104**	25
115 VAC/DC	**857-107**	25
230 VAC/DC	**857-108**	25

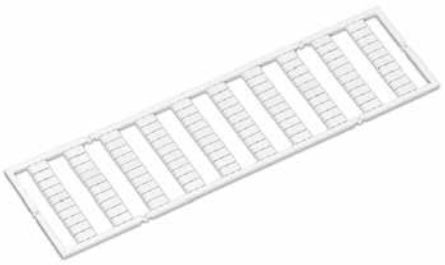


Load Circuit	
Limiting continuous current	6 A
Switching voltage (max.)	250 VAC
Signaling	
Status indicator	Yellow LED
Safety and Protection	
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	81 mm / 3.189 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	26.3 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C
Surrounding air temperature (storage)	−40 … +70 °C
Processing temperature	−25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; UR 508

Accessories
857 Series







Push-in type jumper bar; light gray; insulated; 18 A		
Description	**Item No.**	Pack. Unit
2-way	**859-402**	200 (8x25)
3-way	**859-403**	200 (8x25)
4-way	**859-404**	200 (8x25)
5-way	**859-405**	200 (8x25)
6-way	**859-406**	100 (4x25)
7-way	**859-407**	100 (4x25)
8-way	**859-408**	100 (4x25)
9-way	**859-409**	100 (4x25)
10-way	**859-410**	100 (4x25)
Item no. suffixes for colored push-in type jumper bars		
yellow	**... /000-029**	
red	**... /000-005**	
blue	**... /000-006**	

Comb-style jumper bar; insulated; for conductor entry		
Description	**Item No.**	Pack. Unit
2-way	**281-482**	100

WMB marker card; 10 strips with 10 markers; white; with black printing		
Marking	**Item No.**	Pack. Unit
plain	**793-501**	5 cards
1 ... 10 (10 x)	**793-502**	5 cards
11 ... 20 (10 x)	**793-503**	5 cards
21 ... 30 (10 x)	**793-504**	5 cards
31 ... 40 (10 x)	**793-505**	5 cards
41 ... 50 (10 x)	**793-506**	5 cards
1 ... 50 (2 x)	**793-566**	5 cards

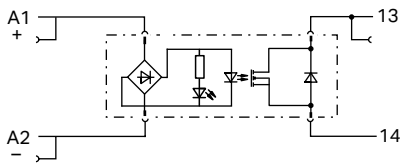


Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade		
	Item No.	Pack. Unit
	210-720	50

Solid-State Relay Module
788 Series

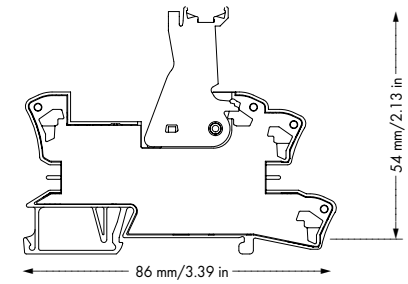


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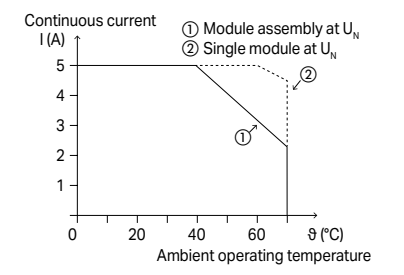


Solid-State Relay Module; Output voltage range: 0 … 35 VDC; Limiting continuous current: 5 A; 2-wire connection; Status indicator: green; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	11 mA	**788-710**	20



Note:
Optocouplers and solid-state relays are designed for use in signal processing networks that are not supplied by the low-voltage power grid.



Current-Carrying Capacity Curve

Control Circuit	
Input voltage range (low level)	0 … 3 VDC
Input voltage range (high level)	10 … 30 VDC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	5 A
Output voltage range	0 … 35 VDC
Voltage drop (output) max.	≤ 0.3 VDC
Switching current (min.)	1 mA
Turn-on time	≤ 50 µs
Turn-off time	≤ 250 µs
Switching frequency	≤ 3 kHz

Signaling	
Status indicator	Green LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Pollution degree	2
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.13 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	42 g

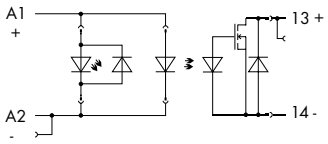
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373

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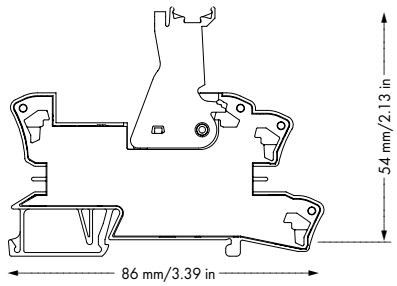
Solid-State Relay Module
788 Series





Solid-State Relay Module; Output voltage range: 0 … 24 VDC; Limiting continuous current: 3.5 A; 2-wire connection; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	7 mA	788-700	20



Note:
A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

Control Circuit	
Input voltage range (low level)	0 … 8 VDC
Input voltage range (high level)	18 … 30 VDC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	3.5 A
Output voltage range	0 … 24 VDC
Voltage drop (output) max.	≤ 0.1 VDC
Turn-on time	≤ 50 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 100 Hz

Signaling	
Status indicator	Red LED

Safety and Protection	
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	41.7 g

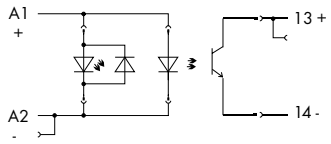
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–20 … +60 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508

» Accessories Page 184

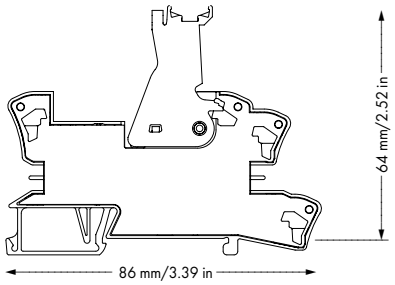
Solid-State Relay Module
788 Series



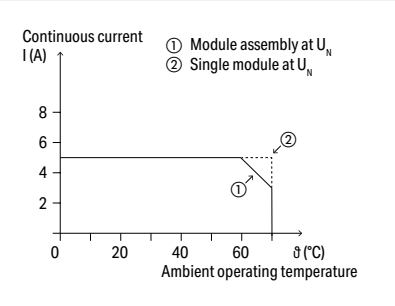


Solid-State Relay Module; Output voltage range: 0 … 30 VDC; Limiting continuous current: 5 A; 2-wire connection; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	9.3 mA	**788-701**	10



Note:
A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.



Current-Carrying Capacity Curve

Control Circuit	
Input voltage range (low level)	0 … 2.5 VDC
Input voltage range (high level)	15 … 30 VDC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	5 A
Output voltage range	0 … 30 VDC
Voltage drop (output) max.	≤ 0.3 VDC
Turn-on time	≤ 50 µs
Turn-off time	≤ 600 µs
Switching frequency	≤ 100 Hz

Signaling	
Status indicator	Red LED

Safety and Protection	
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	64 mm / 2.52 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	47 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

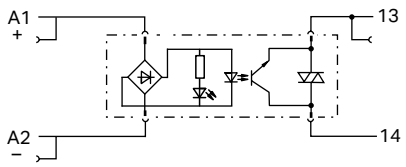
Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508 (max. 40 °C/4.7 A)

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Solid-State Relay Module
788 Series

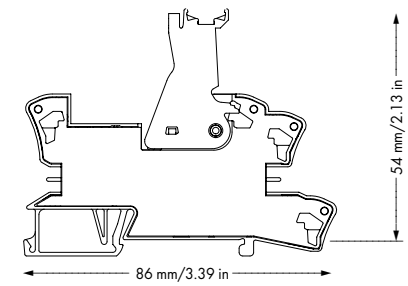


Similar to picture

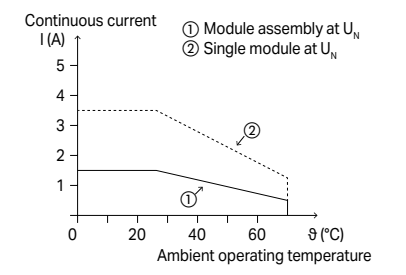


Solid-State Relay Module; Output voltage range: 12 … 275 VAC; Limiting continuous current: 3.5 A; 2-wire connection; Status indicator: green; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	13 mA	788-730	20



Note:
Optocouplers and solid-state relays are designed for use in signal processing networks that are not supplied by the low-voltage power grid.



Current-Carrying Capacity Curve

Control Circuit	
Input voltage range (low level)	0 … 3 VDC
Input voltage range (high level)	10 … 30 VDC

Load Circuit	
Circuit type	2-wire connection; zero-voltage switching
Limiting continuous current	3.5 A
Output voltage range	12 … 275 VAC
Voltage drop (output) max.	≤ 1.1 V
Switching current (min.)	1 mA
Turn-on time	≤ 10 µs
Turn-off time	≤ 10 µs
Switching frequency	50 / 60 kHz

Signaling	
Status indicator	Green LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Pollution degree	2
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.13 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	42 g

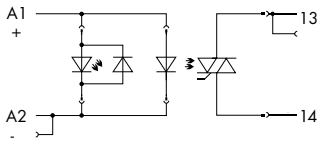
Environmental Requirements	
Surrounding air temperature (operation at U_N)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61000-6-2; EN 61000-6-3; EN 61373

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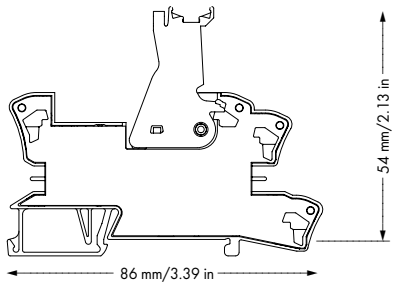
Solid-State Relay Module
788 Series





Solid-State Relay Module; Output voltage range: 24 … 240 VAC; Limiting continuous current: 1 A; 2-wire connection; Zero-voltage switching; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	7 mA	788-720	20



Note:
A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.

Control Circuit	
Input voltage range (low level)	0 … 4 VDC
Input voltage range (high level)	18 … 30 VDC

Load Circuit	
Circuit type	2-wire connection; zero-voltage switching
Limiting continuous current	1 A
Output voltage range	24 … 240 VAC
Voltage drop (output) max.	≤ 1.1 VAC
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms

Signaling	
Status indicator	Red LED

Safety and Protection	
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

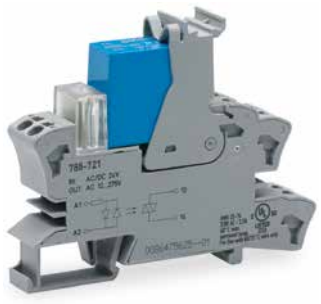
Material Data	
Weight	41.3 g

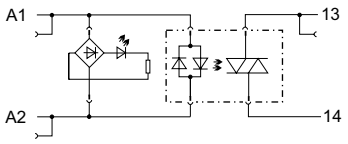
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–20 … +60 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508 (max. 40 °C/2.5 A)

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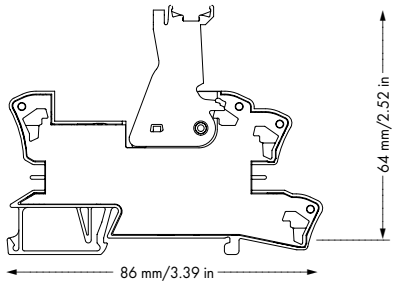
Solid-State Relay Module
788 Series



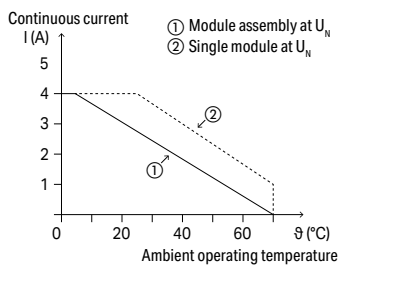


Solid-State Relay Module; Output voltage range: 12 … 275 VAC; Limiting continuous current: 4 A; 2-wire connection; Zero-voltage switching; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VAC/DC	10 mA	788-721	10



Note:
A separator plate (e.g., 209-191) must be used for voltages greater than 250 V between adjacent relay modules and for compliance with the reinforced insulation requirements.



Current-Carrying Capacity Curve

Control Circuit	
Input voltage range (low level)	0 … 2.5 VAC/DC
Input voltage range (high level)	15 … 30 VAC/DC

Load Circuit	
Circuit type	2-wire connection; zero-voltage switching
Limiting continuous current	4 A
Output voltage range	12 … 275 VAC (50/60 Hz)
Voltage drop (output) max.	≤ 1.1 VAC
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms

Signaling	
Status indicator	Red LED

Safety and Protection	
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	64 mm / 2.52 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	49.4 g

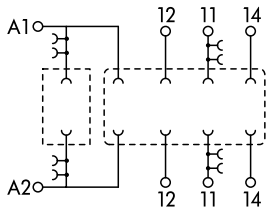
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–20 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 61373; EN 61010-2-201; UL 508 (max. 40 °C/2.5 A)

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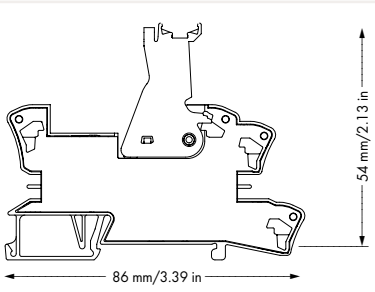
Relay Socket
788 Series





Relay Socket; 1 changeover contact; for 15 mm basic relays

	Item No.	Pack. Unit
	788-100	20



Control Circuit	
Nominal input voltage U_N	250 VAC/DC (depends on relay)
Input voltage range	(depends on relay)

Load Circuit	
Number of changeover/switchover contacts	1
Limiting continuous current	16 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC)

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	6 kV_{rms} (depends on relay)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms} (depends on relay)
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	54 mm / 2.126 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

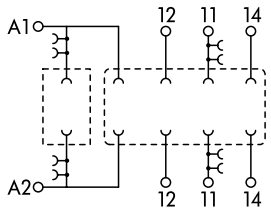
Material Data	
Weight	31.25 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C (depends on relay)
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

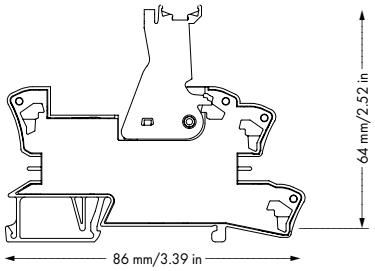
Relay Socket
788 Series





Relay Socket; 1 changeover contact;
for 25 mm basic relays

	Item No.	Pack. Unit
	788-101	15



Control Circuit	
Nominal input voltage U_N	250 VAC/DC (depends on relay)
Input voltage range	(depends on relay)

Load Circuit	
Number of changeover/switchover contacts	1
Limiting continuous current	16 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	4000 VA (AC)

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	6 kV_{rms} (depends on relay)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms} (depends on relay)
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	64 mm / 2.52 inch
Depth	86 mm / 3.386 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	31 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	−40 … +70 °C (depends on relay)
Surrounding air temperature (storage)	−40 … +80 °C
Processing temperature	−25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Accessories for relay modules; Operation status indicator: red

U_N	Power consumption at U_N	Item No.	Pack. Unit
24 VDC	2.4 mA	**788-120**	50(2x25)
48 VDC	1.9 mA	**788-121**	50(2x25)
110 VDC	1.9 mA	**788-122**	50(2x25)
24 VAC	2.1 mA	**788-123**	50(2x25)
115 VAC	1.7 mA	**788-124**	50(2x25)
230 VAC	1.6 mA	**788-125**	50(2x25)



Twin ferrule; Sleeve for 2 x 1 mm² / 2 x 18 AWG; red, insulated; 12 mm long

Color	Item No.	Pack. Unit
red	216-542	500



Comb-style jumper bar; insulated; 18 A

Description	Item No.	Pack. Unit
2-way	**788-113**	200 (8x25)
3-way	**788-114**	100 (4x25)
4-way	**788-115**	100 (4x25)
6-way	**788-116**	100 (4x25)
7-way	**788-117**	100 (4x25)
2-way (1 to 3)	**788-118**	100 (4x25)



Push-in type jumper bar; light gray; insulated; 18 A

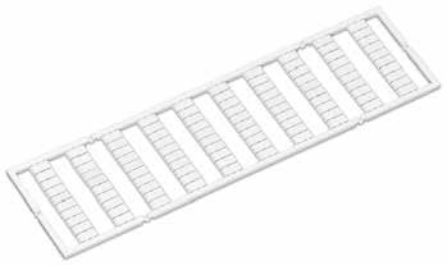
Description	Item No.	Pack. Unit
2-way	**859-402**	200 (8x25)



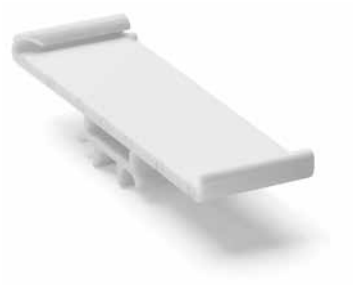
Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

	Item No.	Pack. Unit
	210-720	50

Accessories



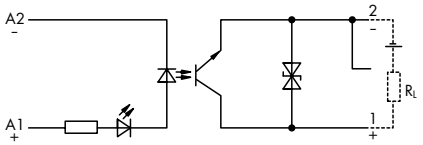
WMB marker card; 10 strips with 10 markers; white; with black printing		
Marking	Item No.	Pack. Unit
plain	793-501	5 cards
1 … 10 (10 x)	793-502	5 cards
11 … 20 (10 x)	793-503	5 cards
21 … 30 (10 x)	793-504	5 cards
31 … 40 (10 x)	793-505	5 cards
41 … 50 (10 x)	793-506	5 cards
1 … 50 (2 x)	793-566	5 cards



Group marker carrier; for WMB and Mini-WSB marker slots; 10 mm wide		
	Item No.	Pack. Unit
	209-145	100

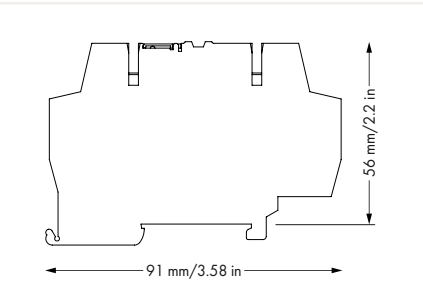
Optocoupler Module
859 Series

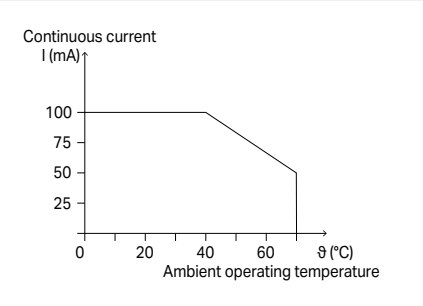




Optocoupler Module; Output voltage range: 7 … 60 VDC; Limiting continuous current: 0.1 A; 2-wire connection; for railway applications; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	4 mA	859-791	10





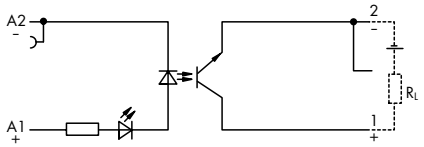
Current-Carrying Capacity Curve

Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	16 … 30 VDC
Nominal input current at U_N	4 mA
Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	7 … 60 VDC
Voltage drop (output) max.	≤ 1.5 VDC
Leakage current at rated voltage	≤ 30 µA
Turn-on time	≤ 20 µs
Turn-off time	≤ 120 µs
Switching frequency	≤ 3 kHz
Signaling	
Status indicator	Red LED
Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	18.7 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 50121-3-2; EN 61373; UL 508

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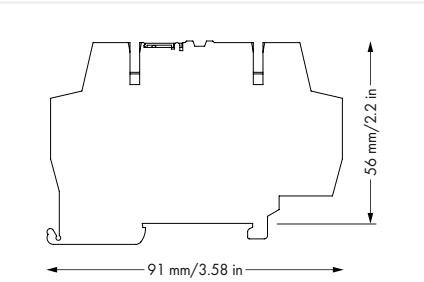
Optocoupler Module
859 Series

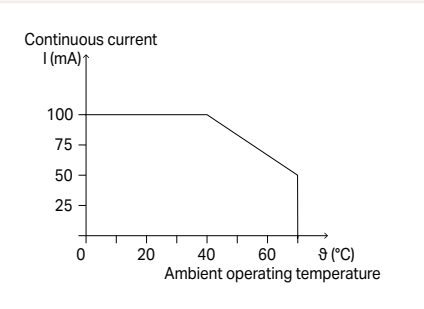




Optocoupler Module; Output voltage range: 9 … 60 VDC; Limiting continuous current: 0.1 A; 2-wire connection; for railway applications; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	4.2 mA	859-794	10





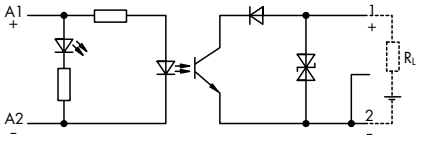
Current-Carrying Capacity Curve

Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	16 … 30 VDC
Nominal input current at U_N	4.2 mA
Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	9 … 60 VDC
Voltage drop (output) max.	≤ 2 VDC
Leakage current at rated voltage	≤ 25 µA
Turn-on time	≤ 20 µs
Turn-off time	≤ 120 µs
Switching frequency	≤ 1.5 kHz
Signaling	
Status indicator	Red LED
Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	18.4 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 50121-3-2; EN 61373; UL 508

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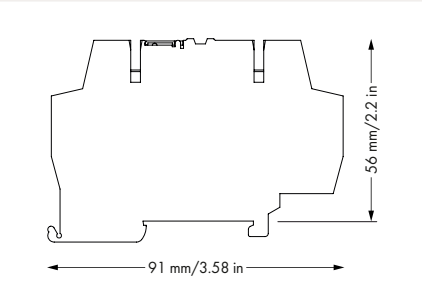
Optocoupler Module
859 Series

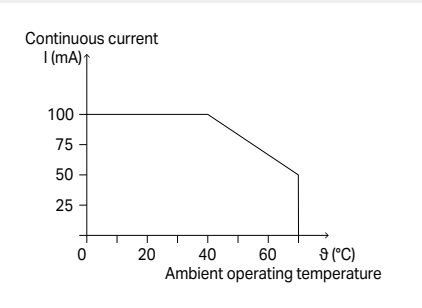




Optocoupler Module; Output voltage range: 3 … 30 VDC; Limiting continuous current: 0.1 A; 2-wire connection; for railway applications; Frequency: 10 kHz; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
5 VDC	17 mA	859-795	10





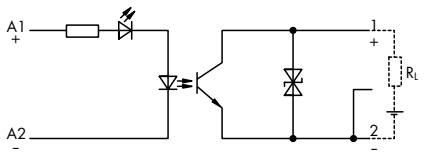
Current-Carrying Capacity Curve

Control Circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 0.8 VDC
Input voltage range (high level)	2 … 6.25 VDC
Nominal input current at U_N	17 mA
Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	3 … 30 VDC
Voltage drop (output) max.	≤ 1 VDC
Leakage current at rated voltage	≤ 25 µA
Turn-on time	≤ 10 µs
Turn-off time	≤ 50 µs
Switching frequency	≤ 10 kHz
Signaling	
Status indicator	Red LED
Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	18.33 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664; EN 61000-6-3; EN 61000-6-4; EN 50121-3-2; EN 61373; UL 508

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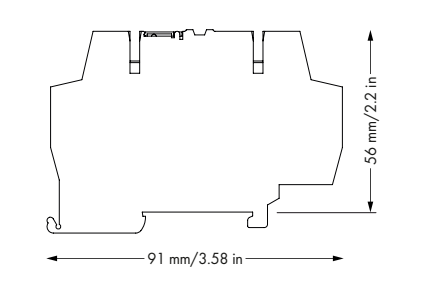
Optocoupler Module
859 Series

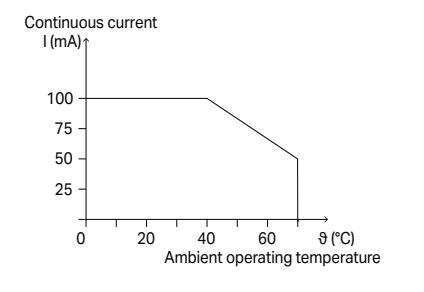




Optocoupler Module; Output voltage range: 3 … 30 VDC; Limiting continuous current: 0.1 A; 2-wire connection; for railway applications; Frequency: 10 kHz; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	9.2 mA	859-796	10





Current-Carrying Capacity Curve

Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	16.8 … 30 VDC
Nominal input current at U_N	9.2 mA

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	3 … 30 VDC
Voltage drop (output) max.	≤ 1 VDC
Leakage current at rated voltage	≤ 25 µA
Turn-on time	≤ 10 µs
Turn-off time	≤ 50 µs
Switching frequency	≤ 10 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.13 g

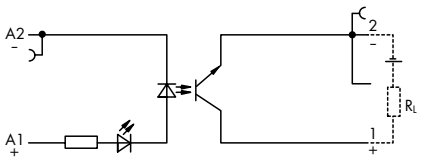
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 50121-3-2; EN 61373; UL 508

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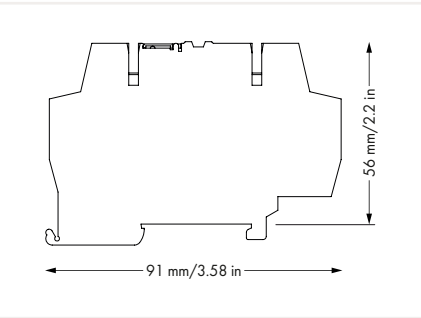
Optocoupler Module
859 Series

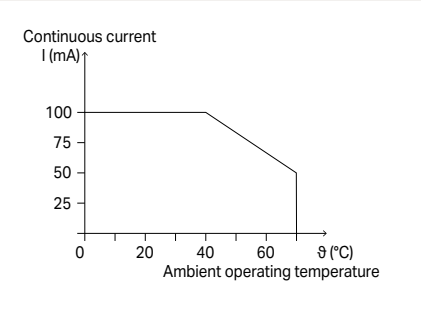




Optocoupler Module; Output voltage range: 9 … 60 VDC; Limiting continuous current: 0.1 A; 2-wire connection; for railway applications; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
12 VDC	4 mA	859-798	10





Current-Carrying Capacity Curve

Control Circuit

Nominal input voltage U_N	12 VDC
Input voltage range (low level)	0 … 4.8 VDC
Input voltage range (high level)	8.4 … 15 VDC
Nominal input current at U_N	4 mA

Load Circuit

Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	9 … 60 VDC
Voltage drop (output) max.	≤ 2 VDC
Turn-on time	≤ 20 µs
Turn-off time	≤ 120 µs
Switching frequency	≤ 1.5 kHz

Signaling

Status indicator	Red LED

Safety and Protection

Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data

Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	17.73 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

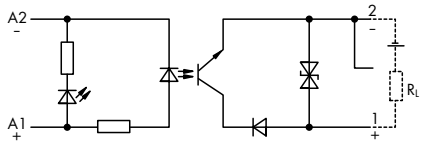
Standards and Specifications

Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 50121-3-2; EN 61373

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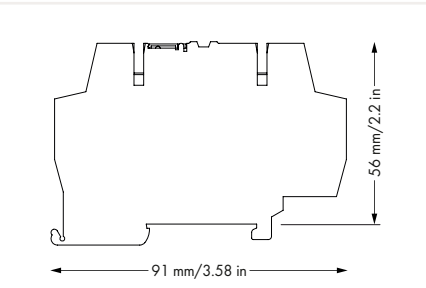
Optocoupler Module
859 Series

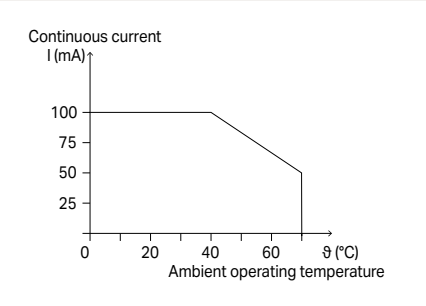




Optocoupler Module; Output voltage range: 3 … 60 VDC; Limiting continuous current: 0.1 A; 2-wire connection; for railway applications; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
5 VDC	7.5 mA	859-793	10





Current-Carrying Capacity Curve

Control Circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 0.8 VDC
Input voltage range (high level)	2 … 6.25 VDC
Nominal input current at U_N	7.5 mA

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output voltage range	3 … 60 VDC
Voltage drop (output) max.	≤ 2.5 VDC
Leakage current at rated voltage	≤ 25 µA
Turn-on time	≤ 20 µs
Turn-off time	≤ 120 µs
Switching frequency	≤ 1.5 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	17.93 g

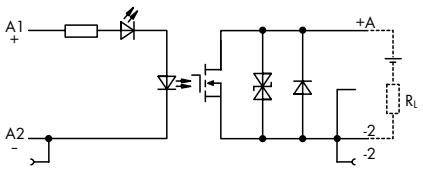
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 50121-3-2; EN 61373; UL 508

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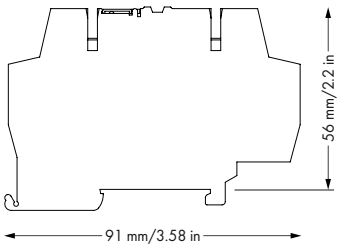
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 3 … 30 VDC; Limiting continuous current: 3 A; 2-wire connection; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	14 mA	859-730	10



Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	15 … 27 VDC
Nominal input current at U_N	14 mA

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Peak output current	25 A
Output voltage range	3 … 30 VDC
Voltage drop (output) max.	≤ 0.2 VDC
Turn-on time	≤ 25 µs
Turn-off time	≤ 450 µs
Switching frequency	≤ 350 Hz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.6 g

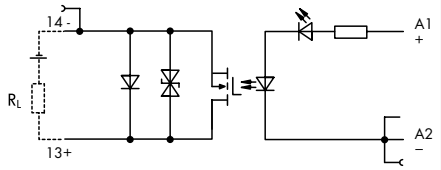
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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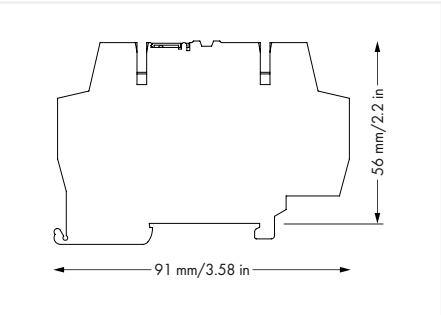
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 3 … 30 VDC; Limiting continuous current: 3 A; 2-wire connection; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	7 mA	859-740	10



Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 9 VDC
Input voltage range (high level)	19 … 27 VDC
Nominal input current at U_N	7 mA

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Peak output current	25 A
Output voltage range	3 … 30 VDC
Voltage drop (output) max.	≤ 0.2 VDC
Turn-on time	≤ 25 µs
Turn-off time	≤ 450 µs
Switching frequency	≤ 350 Hz

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.63 g

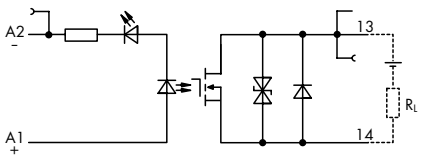
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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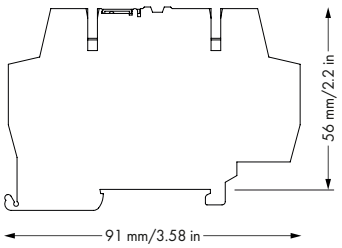
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 3 … 30 VDC; Limiting continuous current: 3 A; 2-wire connection; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	14 mA	859-761	10



Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	15 … 27 VDC
Nominal input current at U_N	14 mA

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Peak output current	25 A
Output voltage range	3 … 30 VDC
Voltage drop (output) max.	≤ 0.2 VDC
Turn-on time	≤ 25 µs
Turn-off time	≤ 450 µs
Switching frequency	≤ 350 Hz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.9 g

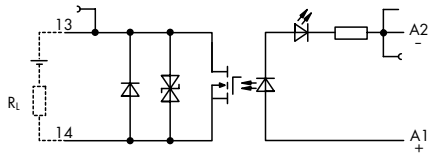
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373

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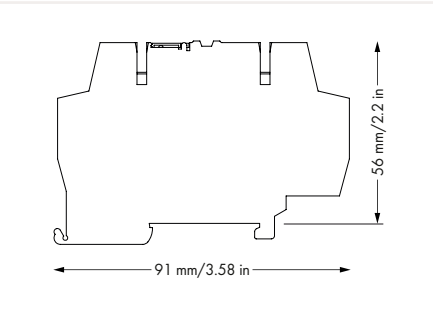
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 3 … 30 VDC; Limiting continuous current: 3 A; 2-wire connection; Status indicator: yellow; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	7 mA	859-762	10



Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 9 VDC
Input voltage range (high level)	19 … 27 VDC
Nominal input current at U_N	7 mA

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	3 A
Peak output current	25 A
Output voltage range	3 … 30 VDC
Voltage drop (output) max.	≤ 0.2 VDC
Turn-on time	≤ 25 µs
Turn-off time	≤ 450 µs
Switching frequency	≤ 350 Hz

Signaling	
Status indicator	Yellow LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.9 g

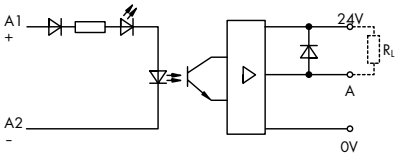
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373

» Accessories Page 220

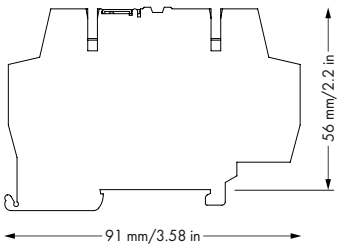
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 10 … 30 VDC; Limiting continuous current: 3 A; 3-wire connection; Low-side switching; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	4 mA	859-720	10



Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 3 VDC
Input voltage range (high level)	16 … 30 VDC
Nominal input current at U_N	4 mA

Load Circuit	
Circuit type	3-wire connection; low-side switching
Limiting continuous current	3 A
Peak output current	20 A
Output voltage range	10 … 30 VDC
Voltage drop (output) max.	≤ 0.5 VDC
Leakage current at rated voltage	≤ 25 µA
Turn-on time	≤ 30 µs
Turn-off time	≤ 75 µs
Rise time (t_{10-90})	16 µs
Drop-out time (t_{10-90})	20 µs
Switching frequency	≤ 1 kHz (< 0.5 A; ≤ 2 kHz / < 1 A; ≤ 1 kHz / < 2 A)

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.53 g

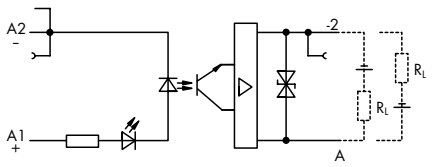
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

» Accessories Page 220

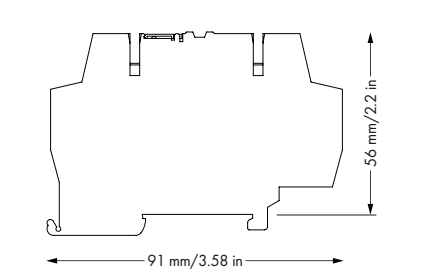
Optocoupler Module
859 Series

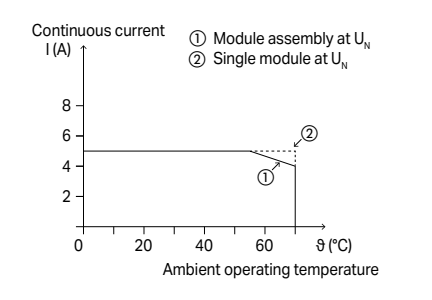




Optocoupler Module; Output voltage range: 3 … 30 VDC; Limiting continuous current: 5 A; 2-wire connection; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	3.5 mA	859-737	10



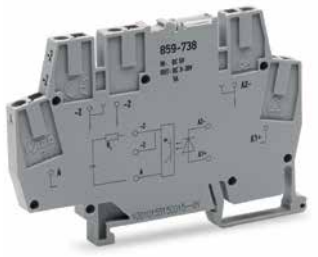


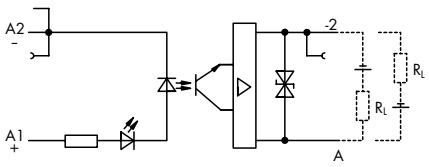
Current-Carrying Capacity Curve

Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	15 … 30 VDC
Nominal input current at U_N	3.5 mA
Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	5 A
Peak output current	25 A
Output voltage range	3 … 30 VDC
Voltage drop (output) max.	≤ 0.2 VDC
Turn-on time	≤ 200 µs
Turn-off time	≤ 450 µs
Switching frequency	≤ 100 Hz
Signaling	
Status indicator	Red LED
Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	19.7 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373

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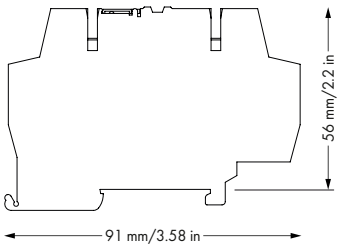
Optocoupler Module
859 Series

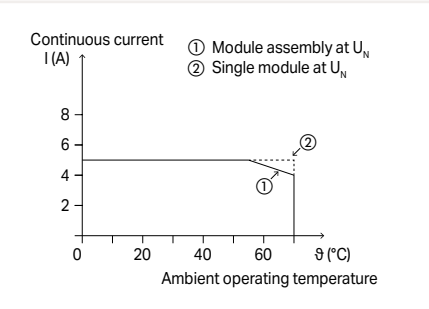




Optocoupler Module; Output voltage range: 3 … 30 VDC; Limiting continuous current: 5 A; 2-wire connection; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
5 VDC	7.2 mA	**859-738**	10





Current-Carrying Capacity Curve

Control Circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 2 VDC
Input voltage range (high level)	4 … 6 VDC
Nominal input current at U_N	7.2 mA

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	5 A
Peak output current	25 A
Output voltage range	3 … 30 VDC
Voltage drop (output) max.	≤ 0.2 VDC
Turn-on time	≤ 200 µs
Turn-off time	≤ 450 µs
Switching frequency	≤ 100 Hz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.93 g

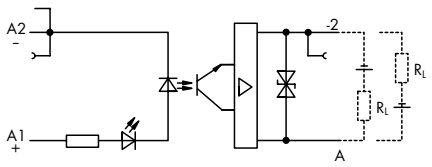
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373

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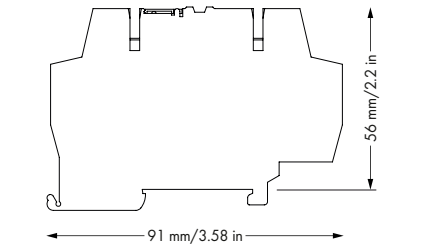
Optocoupler Module
859 Series

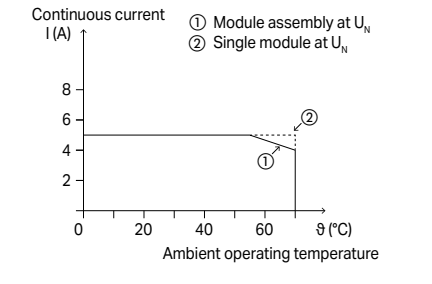




Optocoupler Module; Output voltage range: 3 … 30 VDC; Limiting continuous current: 5 A; 2-wire connection; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
12 VDC	3.2 mA	859-739	10





Current-Carrying Capacity Curve

Control Circuit

Nominal input voltage U_N	12 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	9.6 … 14.4 VDC
Nominal input current at U_N	3.2 mA

Load Circuit

Circuit type	2-wire connection
Limiting continuous current	5 A
Peak output current	25 A
Output voltage range	3 … 30 VDC
Voltage drop (output) max.	≤ 0.2 VDC
Turn-on time	≤ 200 µs
Turn-off time	≤ 450 µs
Switching frequency	≤ 100 Hz

Signaling

Status indicator	Red LED

Safety and Protection

Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data

Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	19.33 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

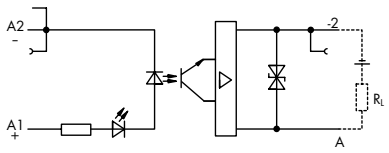
Standards and Specifications

Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373

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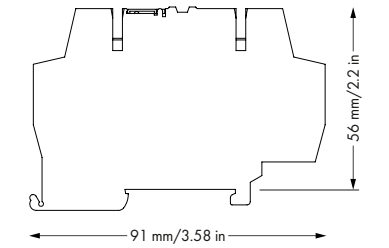
Optocoupler Module
859 Series

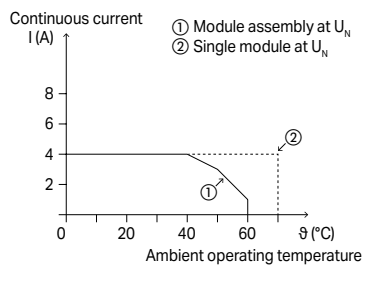




Optocoupler Module; Output voltage range: 10 … 53 VDC; Limiting continuous current: 4 A; 2-wire connection; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
12 … 48 VDC	5 mA	**859-744**	10





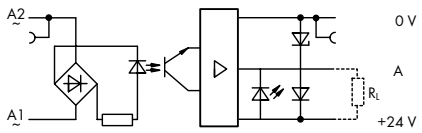
Current-Carrying Capacity Curve

Control Circuit	
Nominal input voltage U_N	12 … 48 VDC
Input voltage range (low level)	0 … 4 VDC
Input voltage range (high level)	10 … 53 VDC
Nominal input current at U_N	5 mA
Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	4 A
Peak output current	30 A
Output voltage range	3 … 53 VDC
Voltage drop (output) max.	≤ 0.2 VDC
Turn-on time	≤ 200 µs
Turn-off time	≤ 420 µs
Switching frequency	≤ 100 Hz
Signaling	
Status indicator	Red LED
Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	19.3 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373

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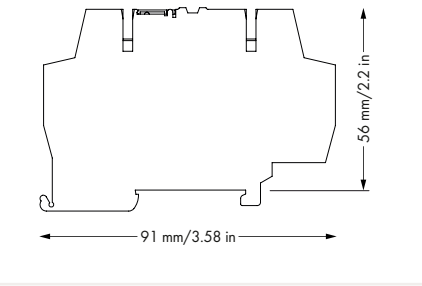
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; 3-wire connection; Low-side switching; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC	0.6 mA	859-712	10



Control Circuit	
Nominal input voltage U_N	230 VAC
Input voltage range (low level)	0 … 90 VAC
Input voltage range (high level)	175 … 270 VAC
Nominal input current at U_N	0.6 mA

Load Circuit	
Circuit type	3-wire connection; low-side switching
Limiting continuous current	0.5 A
Output voltage range	20 … 30 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	11 mA
Turn-on time	≤ 30 ms
Turn-off time	≤ 30 ms

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	20.4 g

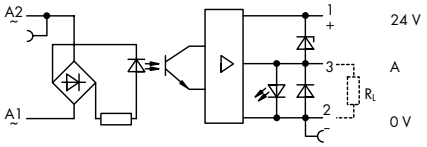
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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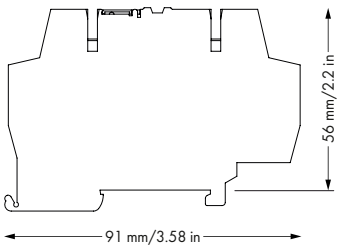
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; 3-wire connection; High-side switching; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
230 VAC	0.6 mA	859-772	10



Control Circuit	
Nominal input voltage U_N	230 VAC
Input voltage range (low level)	0 … 90 VAC
Input voltage range (high level)	175 … 270 VAC
Nominal input current at U_N	0.6 mA

Load Circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.5 A
Output voltage range	20 … 30 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	12 mA
Turn-on time	≤ 30 ms
Turn-off time	≤ 30 ms

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	20.7 g

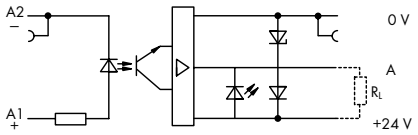
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

» Accessories Page 220

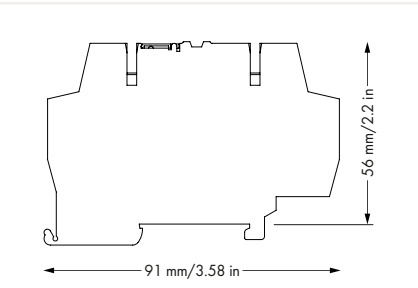
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; 3-wire connection; Low-side switching; Frequency: 10 kHz; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
5 VDC	9.6 mA	859-702	1



Control Circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 1 VDC
Input voltage range (high level)	4 … 6.25 VDC
Nominal input current at U_N	9.6 mA

Load Circuit	
Circuit type	3-wire connection; low-side switching
Limiting continuous current	0.5 A
Output voltage range	20 … 30 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	11 mA
Turn-on time	≤ 7 µs
Turn-off time	≤ 15 µs
Switching frequency	≤ 10 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.3 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

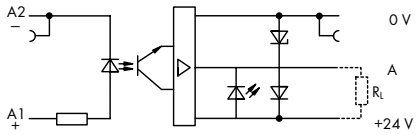
Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

» Accessories Page 220

Optocoupler Module
859 Series

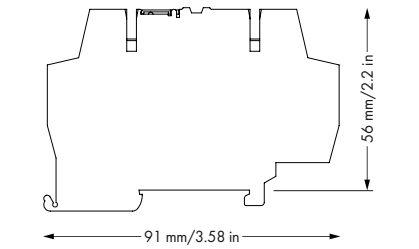


Similar to pictured device



Optocoupler Module; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; 3-wire connection; Low-side switching; Frequency: 10 kHz; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	7.7 mA	859-708	1



Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	19 … 30 VDC
Nominal input current at U_N	7.7 mA

Load Circuit	
Circuit type	3-wire connection; low-side switching
Limiting continuous current	0.5 A
Output voltage range	20 … 30 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	11 mA
Turn-on time	≤ 10 µs
Turn-off time	≤ 10 µs
Switching frequency	≤ 10 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.4 g

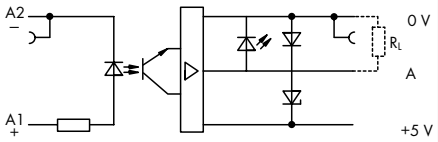
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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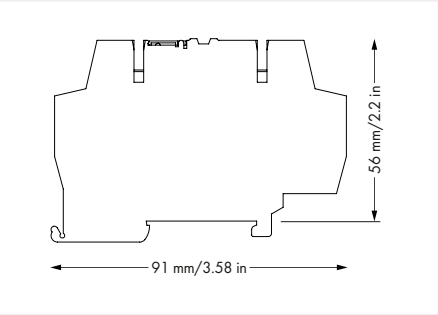
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 4 … 6.25 VDC; Limiting continuous current: 0.5 A; 3-wire connection; High-side switching; Frequency: 10 kHz; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
5 VDC	8 mA	859-750	25



Control Circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 1 VDC
Input voltage range (high level)	4 … 6.25 VDC
Nominal input current at U_N	8 mA

Load Circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.5 A
Peak output current	4 A
Output voltage range	4 … 6.25 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	4.5 mA
Turn-on time	≤ 15 µs
Turn-off time	≤ 30 µs
Switching frequency	≤ 10 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.3 g

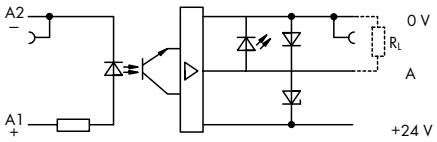
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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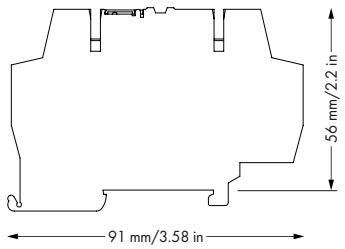
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; 3-wire connection; High-side switching; Frequency: 10 kHz; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
5 VDC	10 mA	859-752	1

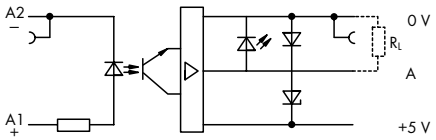


Control Circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 1 VDC
Input voltage range (high level)	4 … 6 VDC
Nominal input current at U_N	10 mA
Load Circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.5 A
Output voltage range	20 … 30 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	12.5 mA
Turn-on time	≤ 15 µs
Turn-off time	≤ 30 µs
Switching frequency	≤ 10 kHz
Signaling	
Status indicator	Red LED
Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	18 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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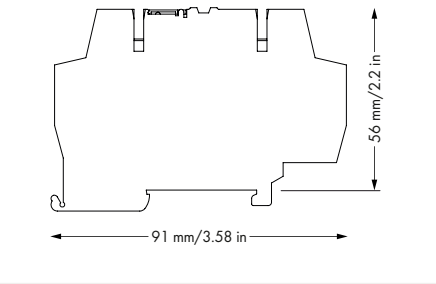
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 4 … 6.25 VDC; Limiting continuous current: 0.5 A; 3-wire connection; High-side switching; Frequency: 10 kHz; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	11 mA	859-756	1



Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	18 … 30 VDC
Nominal input current at U_N	11 mA

Load Circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.5 A
Output voltage range	4 … 6.25 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	4.5 mA
Turn-on time	≤ 15 µs
Turn-off time	≤ 30 µs
Switching frequency	≤ 10 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.9 g

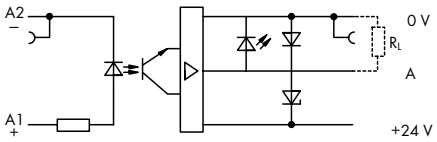
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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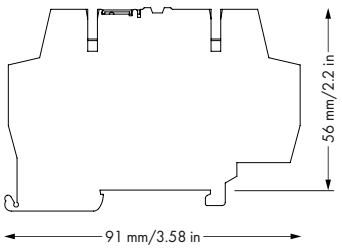
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; 3-wire connection; High-side switching; Frequency: 10 kHz; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	8 mA	859-758	10



Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	18 … 30 VDC
Nominal input current at U_N	8 mA

Load Circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.5 A
Output voltage range	20 … 30 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	11 mA
Turn-on time	≤ 15 µs
Turn-off time	≤ 30 µs
Switching frequency	≤ 10 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.5 g

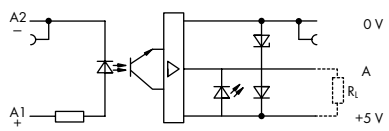
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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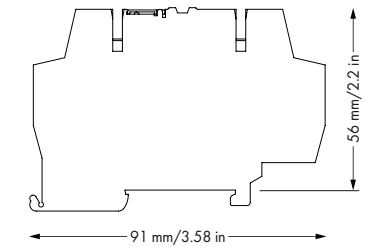
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 4 … 6.25 VDC; Limiting continuous current: 0.5 A; 3-wire connection; Low-side switching; Frequency: 10 kHz; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	11 mA	859-706	1



Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	18 … 30 VDC
Nominal input current at U_N	11 mA

Load Circuit	
Circuit type	3-wire connection; low-side switching
Limiting continuous current	0.5 A
Output voltage range	4 … 6.25 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	7 mA
Turn-on time	≤ 7 µs
Turn-off time	≤ 15 µs
Switching frequency	≤ 10 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.5 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

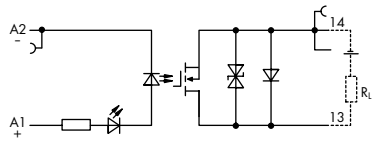
Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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Optocoupler Module
859 Series

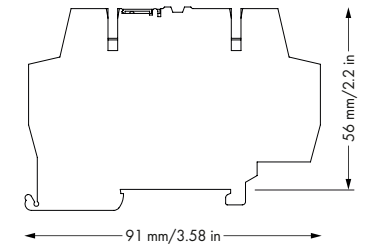


Similar to pictured device



Optocoupler Module; Output voltage range: 3 … 30 VDC; Limiting continuous current: 0.5 A; 2-wire connection; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
12 VDC	9.2 mA	859-797	10



Control Circuit	
Nominal input voltage U_N	12 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	9 … 16 VDC
Nominal input current at U_N	9.2 mA

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	0.5 A
Peak output current	2.7 A
Output voltage range	3 … 30 VDC
Voltage drop (output) max.	≤ 0.2 VDC
Turn-on time	≤ 15 µs
Turn-off time	≤ 100 µs
Switching frequency	≤ 2.5 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.6 g

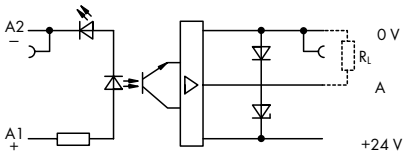
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; UL 508

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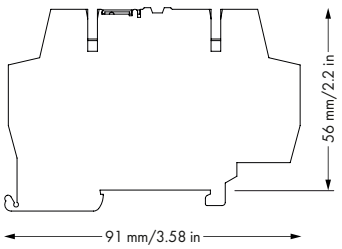
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 20 … 28.8 VDC; Limiting continuous current: 0.1 A; 3-wire connection; High-side switching; Frequency: 100 kHz; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
5 VDC	16.5 mA	**859-753**	1



Control Circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 1 VDC
Input voltage range (high level)	4 … 6.25 VDC
Nominal input current at U_N	16.5 mA

Load Circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.1 A
Peak output current	0.8 A
Output voltage range	20 … 28.8 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	7 mA
Turn-on time	≤ 0.5 µs
Turn-off time	≤ 5 µs
Switching frequency	≤ 100 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	15.6 g

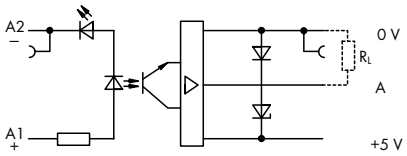
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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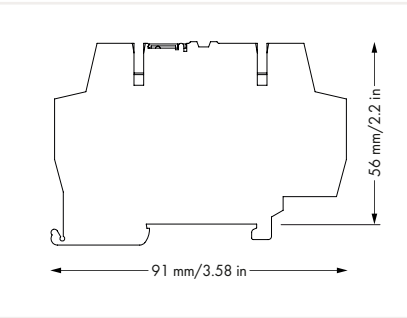
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 4 … 6 VDC; Limiting continuous current: 0.1 A; 3-wire connection; High-side switching; Frequency: 100 kHz; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	9 mA	859-755	25



Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	20 … 30 VDC
Nominal input current at U_N	9 mA

Load Circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.1 A
Peak output current	0.8 A
Output voltage range	4 … 6 VDC
Voltage drop (output) max.	≤ 0.5 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	7 mA
Turn-on time	≤ 0.5 µs
Turn-off time	≤ 5 µs
Switching frequency	≤ 100 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	18.3 g

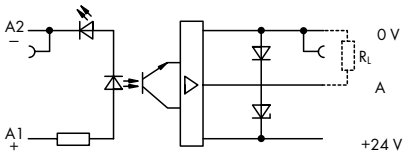
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373; UL 508

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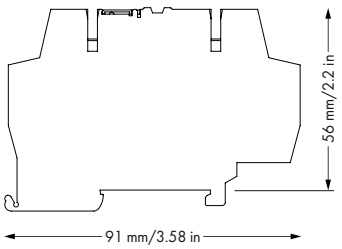
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 20 … 28.8 VDC; Limiting continuous current: 0.1 A; 3-wire connection; High-side switching; Frequency: 100 kHz; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	9 mA	859-759	1



Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	20 … 30 VDC
Nominal input current at U_N	9 mA

Load Circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.1 A
Peak output current	0.8 A
Output voltage range	20 … 28.8 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 10 µA
Output closed-circuit current (without load) max.	7 mA
Turn-on time	≤ 0.5 µs
Turn-off time	≤ 2 µs
Switching frequency	≤ 100 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

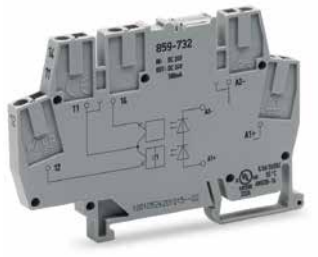
Material Data	
Weight	15.6 g

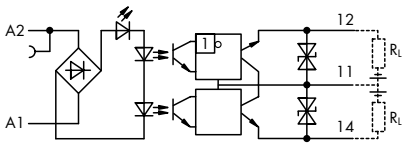
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; EN 61373

» Accessories Page 220

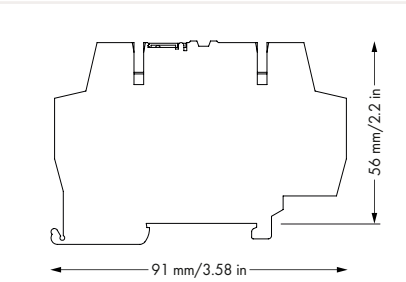
Optocoupler Module
859 Series

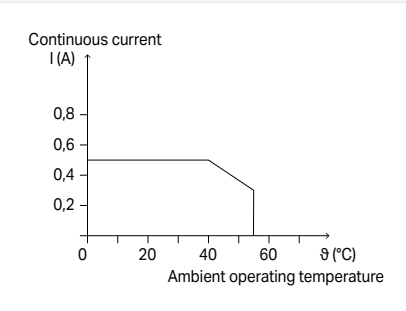




Optocoupler Module; Output voltage range: 3 … 30 VDC; Limiting continuous current: 0.5 A; 1 changeover contact; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	5.3 mA	859-732	1





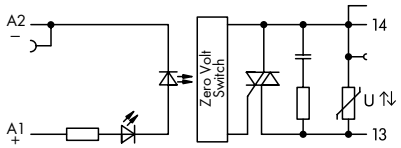
Current-Carrying Capacity Curve

Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	15 … 42 VDC
Nominal input current at U_N	5.3 mA
Load Circuit	
Circuit type	3-wire connection; changeover contact output
Limiting continuous current	0.5 A
Peak output current	4 A
Output voltage range	3 … 30 VDC
Voltage drop (output) max.	≤ 1.5 VDC
Turn-on time	≤ 25 µs
Turn-off time	≤ 150 µs
Switching frequency	≤ 1.5 kHz
Signaling	
Status indicator	Red LED
Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	3.75 kV_{rms}
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch
Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	19.6 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–25 … +70 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 60664-1; EN 61000-6-2; EN 61000-6-3; UL 508

» Accessories Page 220

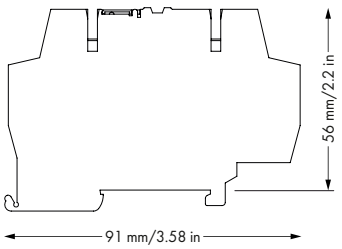
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 24 … 260 VAC; Limiting continuous current: 0.5 A; 2-wire connection; Zero-cross switching; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	6 mA	**859-734**	1



Control Circuit	
Nominal input voltage U_N	24 VDC
Input voltage range (low level)	0 … 5 VDC
Input voltage range (high level)	19 … 28.8 VDC
Nominal input current at U_N	6 mA

Load Circuit	
Circuit type	2-wire connection; zero-voltage switching
Limiting continuous current	0.5 A
Peak output current	30 A
Output voltage range	24 … 260 VAC (50 … 60 Hz)
Voltage drop (output) max.	≤ 1.2 VAC
Leakage current at rated voltage	≤ 1 mA
Switching current (min.)	10 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Mains frequency	50 Hz / 60 Hz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	20.5 g

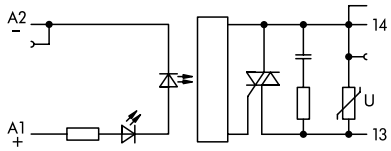
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508

» Accessories Page 220

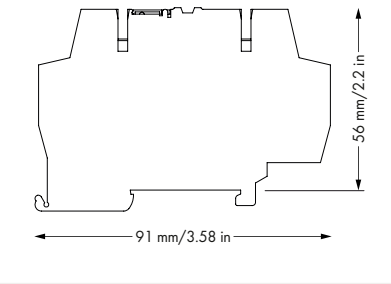
Optocoupler Module
859 Series





Optocoupler Module; Output voltage range: 24 … 260 VAC; Limiting continuous current: 0.5 A; 2-wire connection; Zero-cross switching; Status indicator: red; 6 mm wide

U_N	I_N	Item No.	Pack. Unit
5 VDC	7.7 mA	859-902	1



Control Circuit	
Nominal input voltage U_N	5 VDC
Input voltage range (low level)	0 … 1 VDC
Input voltage range (high level)	4 … 6.25 VDC
Nominal input current at U_N	7.7 mA

Load Circuit	
Circuit type	2-wire connection; zero-voltage switching
Limiting continuous current	0.5 A
Peak output current	30 A
Output voltage range	24 … 260 VAC (50 … 60 Hz)
Voltage drop (output) max.	≤ 1.2 VAC
Leakage current at rated voltage	≤ 1 mA
Switching current (min.)	50 mA
Turn-on time	≤ 10 ms
Turn-off time	≤ 10 ms
Mains frequency	50 Hz / 60 Hz

Signaling	
Status indicator	Red LED

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	20.4 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61000-6-2; EN 61000-6-3; UL 508

» Accessories Page 220

Accessories



Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

	Item No.	Pack. Unit
	210-720	50



Felt-tip pen; for permanent marking

	Item No.	Pack. Unit
	210-110	200



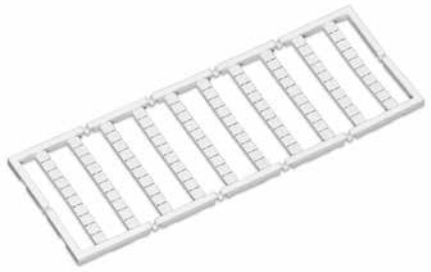
Test pin; 1 mm Ø; with solder connection for test cable

	Item No.	Pack. Unit
	859-500	100

Accessories







End and intermediate plate; 1 mm thick

	Item No.	Pack. Unit
	859-525	100

Push-in type jumper bar; light gray; insulated; 18 A

Description	Item No.	Pack. Unit
2-way	859-402	200 (8x25)
3-way	859-403	200 (8x25)
4-way	859-404	200 (8x25)
5-way	859-405	200 (8x25)
6-way	859-406	100 (4x25)
7-way	859-407	100 (4x25)
8-way	859-408	100 (4x25)
9-way	859-409	100 (4x25)
10-way	859-410	100 (4x25)
Item no. suffixes for colored push-in type jumper bars		
yellow	... /000-029	
red	... /000-005	
blue	... /000-006	

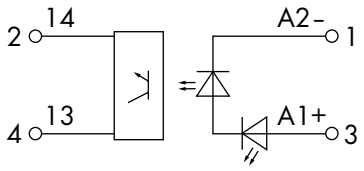
Mini-WSB marker card; Marker width: 5 mm; 10 strips with 10 markers/card

Marking	Item No.	Pack. Unit
plain	248-501	50
1 ... 10 (10 x)	248-502	50
11 ... 20 (10 x)	248-503	50
21 ... 30 (10 x)	248-504	50
31 ... 40 (10 x)	248-505	50
41 ... 50 (10 x)	248-506	50
1 ... 50 (2 x)	248-566	50
K1 ... K10	248-450	50
K11 ... K20	248-451	50
K100	248-452	50
U1 ... U10	248-453	50
U11 ... U20	248-454	50
U100	248-455	50

Solid-State Relay
2042 Series

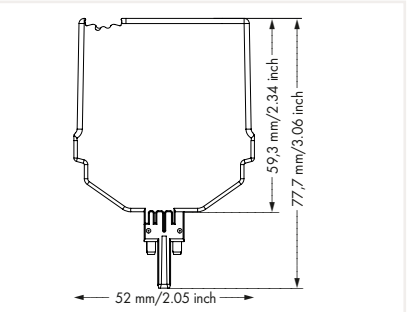


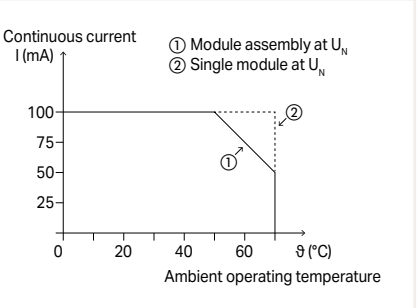
Similar to pictured device



Solid-State Relay; Input: 24 VDC; Output: 24 VDC / 0.1 A; 10 mm wide; for railway operations

U_N	I_N	Item No.	Pack. Unit
24 VDC (SELV)	7 mA	2042-7204	1





Current-Carrying Capacity Curve

Control Circuit

Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	16.8 … 30 VDC
Input current range	6 … 8 mA

Load Circuit

Circuit type	2-wire connection
Limiting continuous current	0.1 A
Nominal output voltage	24 VDC (SELV)
Output Voltage Range	3 … 60 VDC
Voltage drop (output) max.	≤ 1 VDC
Switching current (min.)	20 µA
Turn-on time	≤ 8 µs
Turn-off time	≤ 14 µs
Switching frequency	≤ 10 kHz

Signaling

Status indicator	Green LED

Safety and Protection

Pollution Degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Overvoltage category	II

Physical Data

Width	10.3 mm / 0.406 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch

Mechanical Data

Mounting type	Pluggable relay module for TOPJOB® S Carrier Terminal Block

Material Data

Weight	65.8 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Processing temperature	–25 … +50 °C

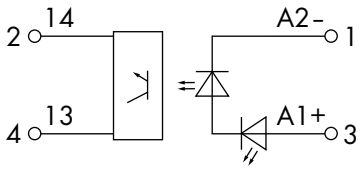
Standards and Specifications

Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2; EN 50121-4; EN 61000-6-2; EN 61000-6-3

Solid-State Relay
2042 Series

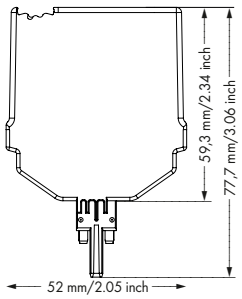


Similar to pictured device



Solid-State Relay; Input: 24 VDC; Output: 3 … 53 VDC / 0.1 A; 10 mm wide; for railway operations

U_N	I_N	Item No.	Pack. Unit
48 VDC (SELV)	3 mA	2042-7504	1



Control Circuit	
Input voltage range (low level)	0 … 6 VDC
Input voltage range (high level)	10 … 53 VDC
Input current range	3 … 5 mA

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	4 A
Nominal output voltage	48 VDC (SELV)
Output Voltage Range	0 … 53 VDC
Voltage drop (output) max.	≤ 1 VDC
Switching current (min.)	20 µA
Turn-on time	≤ 12 µs
Turn-off time	≤ 32 µs
Switching frequency	≤ 300 Hz

Signaling	
Status indicator	Green LED

Safety and Protection	
Pollution Degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Protection type	IP20
Overvoltage category	II

Physical Data	
Width	10.3 mm / 0.406 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch

Mechanical Data	
Mounting type	Pluggable relay module for TOPJOB® S Carrier Terminal Block

Material Data	
Weight	65.8 g

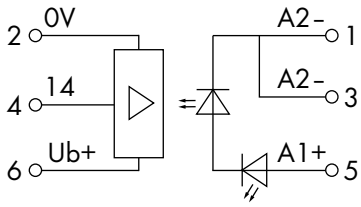
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373; EN 50121-3-2; EN 50121-4; EN 61000-6-2; EN 61000-6-3

Solid-State Relay
2042 Series

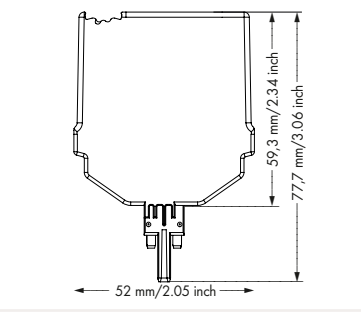


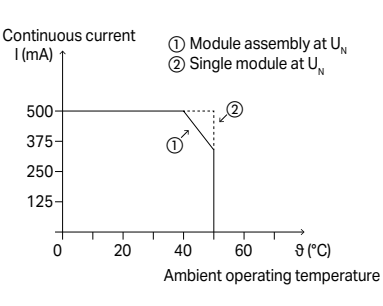
Similar to pictured device



Solid-State Relay; Input: 24 VDC; Output: 24 VDC / 1 mA ... 0.5 A; 3-wire connection; 15 mm wide; for railway operations

U_N	I_N	Item No.	Pack. Unit
24 VDC (SELV)	7 mA	2042-7304	1





Current-Carrying Capacity Curve

Control Circuit

Input voltage range (low level)	0 ... 6 VDC
Input voltage range (high level)	16.8 ... 30 VDC
Input current range	6 ... 8 mA

Load Circuit

Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.5 A
Nominal output voltage	24 VDC (SELV)
Output Voltage Range	20 ... 30 VDC
Voltage drop (output) max.	≤ 1 VDC
Switching current (min.)	20 µA
Turn-on time	≤ 2 µs
Turn-off time	≤ 4 µs
Switching frequency	≤ 100 kHz

Signaling

Status indicator	Green LED

Safety and Protection

Pollution Degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Protection type	IP20
Overvoltage category	II

Physical Data

Width	15.5 mm / 0.61 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch

Mechanical Data

Mounting type	Pluggable relay module for TOPJOB® S Carrier Terminal Block

Material Data

Weight	69.5 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	–40 ... +50 °C
Surrounding air temperature (storage)	–40 ... +85 °C
Processing temperature	–25 ... +50 °C

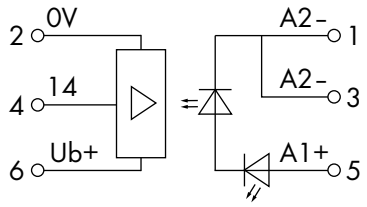
Standards and Specifications

Standards/specifications	EN 61010-2-201; EN 61373, EN 50121-3-2; EN 50121-4; EN 61000-6-2; EN 61000-6-3

Solid-State Relay
2042 Series

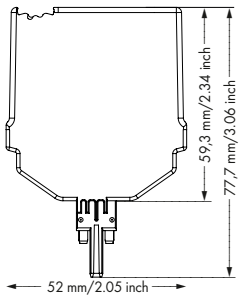


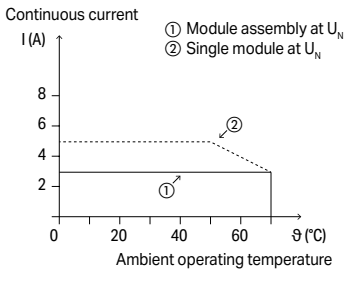
Similar to pictured device



Solid-State Relay; Input: 24 VDC; Output: 24 VDC / 5 A; 3-wire connection; 15 mm wide; for railway operations

U_N	I_N	Item No.	Pack. Unit
24 VDC (SELV)	7 mA	2042-7604	1



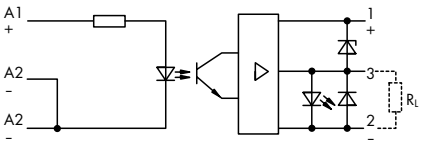


Current-Carrying Capacity Curve

Control Circuit	
Input voltage range (low level)	0 … 10 VDC
Input voltage range (high level)	16.8 … 30 VDC
Input current range	6 … 8 mA
Load Circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	5 A
Nominal output voltage	24 VDC (SELV)
Output Voltage Range	20 VDC
Voltage drop (output) max.	≤ 1 VDC
Switching current (min.)	3 mA
Turn-on time	≤ 10 µs
Turn-off time	≤ 20 µs
Switching frequency	≤ 5 kHz
Signaling	
Status indicator	Green LED
Safety and Protection	
Pollution Degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20
Overvoltage category	II
Physical Data	
Width	15.5 mm / 0.61 inch
Height	77.7 mm / 3.059 inch
Height from the surface	59.3 mm / 2.335 inch
Depth	52 mm / 2.047 inch
Mechanical Data	
Mounting type	Pluggable relay module for TOPJOB® S Carrier Terminal Block
Material Data	
Weight	69.5 g
Environmental Requirements	
Surrounding air temperature (operation at U_N)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Processing temperature	–25 … +50 °C
Standards and Specifications	
Standards/specifications	EN 61010-2-201; EN 61373, EN 50121-3-2; EN 50121-4; EN 61000-6-2; EN 61000-6-3

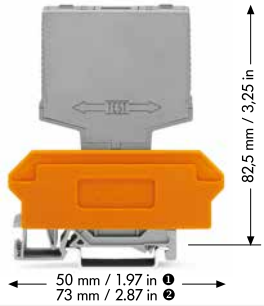
Optocoupler Module
286 Series





Optocoupler Module; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; 3-wire connection; High-side switching; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
5 VDC	14 mA	286-752/002-000	1



Control Circuit	
Input voltage range (high level)	2 … 6.25 VDC
Input current range	3.3 … 18.5 mA

Load Circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.5 A
Output Voltage Range	20 … 30 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 2.5 µA
Output closed-circuit current (without load) max.	12 mA
Turn-on time	≤ 5 µs
Turn-off time	≤ 10 µs
Switching frequency	≤ 25 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inch
Depth	52 mm / 1.654 inch

Mechanical Data	
Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data	
Weight	18.5 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +70 °C
Surrounding air temperature (storage)	–25 … +70 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-609	30



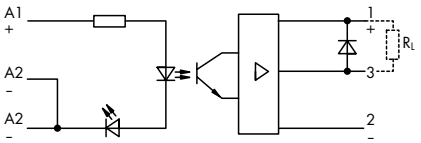
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-763	25

» Accessories Page 234

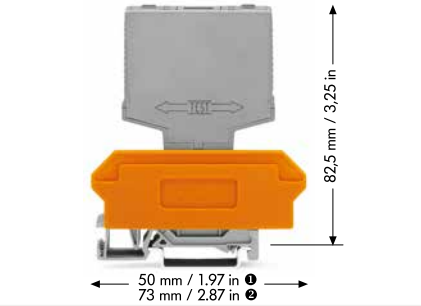
Optocoupler Module
286 Series





Optocoupler Module; Output voltage range: 15 … 40 VDC; Limiting continuous current: 5 A; 3-wire connection; Low-side switching; Frequency: 1 kHz; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	13.5 mA	286-721	1



Control Circuit	
Input voltage range (high level)	15 … 30 VDC
Input current range	7.5 … 18 mA

Load Circuit	
Circuit type	3-wire connection; low-side switching
Limiting continuous current	5 A
Output Voltage Range	15 … 40 VDC
Voltage drop (output) max.	≤ 0.5 VDC
Leakage current at rated voltage	≤ 2.5 µA
Turn-on time	≤ 20 µs
Turn-off time	≤ 80 µs
Switching frequency	≤ 1 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inch
Depth	52 mm / 1.654 inch

Mechanical Data	
Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data	
Weight	29.2 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–25 … +40 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-609	30



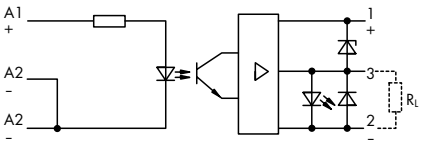
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-763	25

» Accessories Page 234

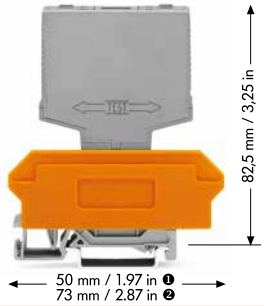
Optocoupler Module
286 Series





Optocoupler Module; Output voltage range: 20 … 30 VDC; Limiting continuous current: 4 A; 3-wire connection; High-side switching; Frequency: 2.5 kHz; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	13.5 mA	286-723	1



Control Circuit	
Input voltage range (high level)	15 … 30 VDC
Input current range	7.6 … 15 mA

Load Circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	4 A
Output Voltage Range	20 … 30 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 2.5 µA
Output closed-circuit current (without load) max.	12 mA
Turn-on time	≤ 15 µs
Turn-off time	≤ 25 µs
Switching frequency	≤ 2.5 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inch
Depth	52 mm / 1.654 inch

Mechanical Data	
Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data	
Weight	26.8 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–25 … +40 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-609	30



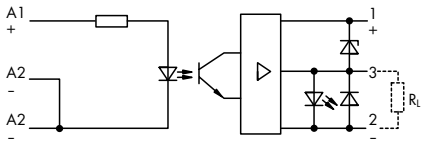
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-763	25

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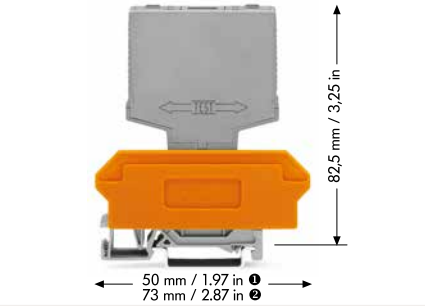
Optocoupler Module
286 Series





Optocoupler Module; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; 3-wire connection; High-side switching; Frequency: 25 kHz; Status indicator: red; 15 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	15 mA	286-752	1



Control Circuit	
Input voltage range (high level)	12 … 30 VDC
Input current range	5 … 20 mA

Load Circuit	
Circuit type	3-wire connection; high-side switching
Limiting continuous current	0.5 A
Output Voltage Range	20 … 30 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 2.5 µA
Output closed-circuit current (without load) max.	12 mA
Turn-on time	≤ 7 µs
Turn-off time	≤ 15 µs
Switching frequency	≤ 25 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data	
Width	15 mm / 0.591 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inch
Depth	52 mm / 1.654 inch

Mechanical Data	
Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data	
Weight	17.9 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–25 … +40 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-609	30



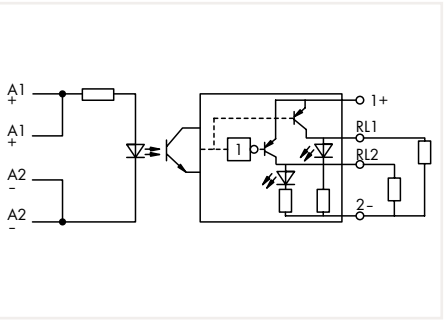
Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-763	25

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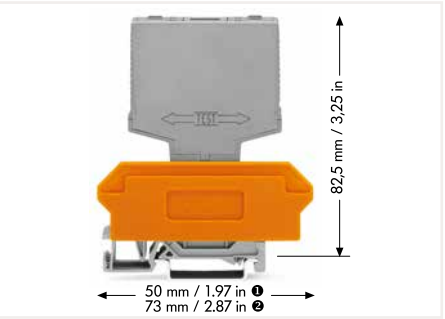
Optocoupler Module
286 Series





Optocoupler Module; with 2 inverted outputs; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.5 A; Frequency: 2.5 kHz; 20 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	9 mA	286-790	1



Control Circuit	
Input voltage range (high level)	20 … 30 VDC

Load Circuit	
Circuit type	2-wire connection; 2 inverted outputs
Limiting continuous current	0.5 A
Output Voltage Range	20 … 30 VDC
Voltage drop (output) max.	≤ 1.2 VDC
Leakage current at rated voltage	≤ 2.5 µA
Turn-on time	≤ 4 µs
Turn-off time	≤ 15 µs
Switching frequency	≤ 2.5 kHz

Signaling	
Status indicator	Red LED

Safety and Protection	
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data	
Width	20 mm / 0.787 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inch
Depth	52 mm / 1.654 inch

Mechanical Data	
Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data	
Weight	32 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–25 … +40 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-638	20



Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-628	20



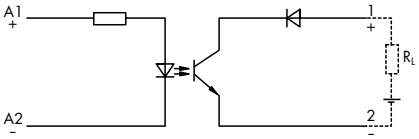
Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-764	20

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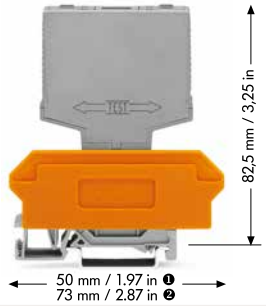
Optocoupler Module
286 Series





Optocoupler Module; Output voltage range: 20 … 60 VDC; Limiting continuous current: 0.1 A; 2-wire connection; Frequency: 3 kHz; Status indicator: red; 10 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	14 mA	286-791	1



Control Circuit

Input voltage range (high level)	15 … 30 VDC

Load Circuit

Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output Voltage Range	20 … 60 VDC
Voltage drop (output) max.	≤ 2 VDC
Leakage current at rated voltage	≤ 2.5 µA
Turn-on time	≤ 10 µs
Turn-off time	≤ 50 µs
Switching frequency	≤ 3 kHz

Safety and Protection

Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data

Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inch
Depth	52 mm / 1.654 inch

Mechanical Data

Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data

Weight	15.3 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	−25 … +40 °C
Surrounding air temperature (storage)	−25 … +40 °C
Processing temperature	−25 … +50 °C

Standards and Specifications

Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-618	40



Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-608	40



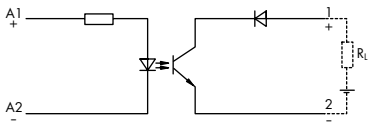
Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-762	30

» Accessories Page 234

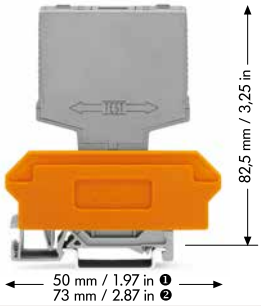
Optocoupler Module
286 Series





Optocoupler Module; Output voltage range: 20 … 60 VDC; Limiting continuous current: 0.1 A; Frequency: 1.5 kHz; 10 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	4 mA	**286-794**	1



Control Circuit	
Input voltage range (high level)	18 … 30 VDC

Load Circuit	
Circuit type	2-wire connection
Limiting continuous current	0.1 A
Output Voltage Range	20 … 60 VDC
Voltage drop (output) max.	≤ 2 VDC
Leakage current at rated voltage	≤ 2.5 µA
Turn-on time	≤ 80 µs
Turn-off time	≤ 100 µs
Switching frequency	≤ 1.5 kHz

Safety and Protection	
Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inch
Depth	52 mm / 1.654 inch

Mechanical Data	
Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data	
Weight	16.3 g

Environmental Requirements	
Surrounding air temperature (operation at U_N)	–25 … +60 °C
Surrounding air temperature (storage)	–25 … +40 °C
Processing temperature	–25 … +50 °C

Standards and Specifications	
Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-618	40



Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-608	40



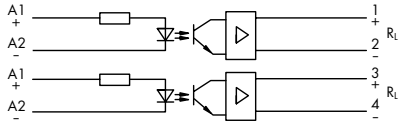
Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-762	30

» Accessories Page 234

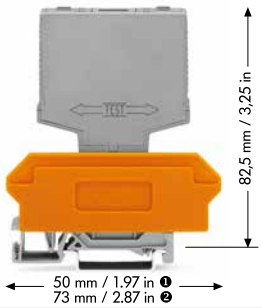
Dual-Channel Optocoupler Module
286 Series





Dual-Channel Optocoupler Module; Output voltage range: 20 … 30 VDC; Limiting continuous current: 0.25 A; Frequency: 1.5 kHz; 20 mm wide

U_N	I_N	Item No.	Pack. Unit
24 VDC	15 mA	286-792	1



Control Circuit

Input voltage range (high level)	7.5 … 30 VDC

Load Circuit

Circuit type	2-channel; 2-wire connection
Limiting continuous current	0.25 A
Output Voltage Range	20 … 30 VDC
Voltage drop (output) max.	≤ 2.5 VDC
Leakage current at rated voltage	≤ 2.6 µA
Turn-on time	≤ 60 µs
Turn-off time	≤ 120 µs
Switching frequency	≤ 1.5 kHz

Safety and Protection

Pollution degree	3
Dielectric strength, control/load circuit (AC, 1 min)	2.5 kV_{rms}
Protection type	IP20

Physical Data

Width	20 mm / 0.787 inch
Height from upper-edge of DIN-rail	82.5 mm / 3.25 inch
Depth	52 mm / 1.654 inch

Mechanical Data

Mounting type	Pluggable relay module for terminal block for pluggable modules

Material Data

Weight	23.4 g

Environmental Requirements

Surrounding air temperature (operation at U_N)	–25 … +40 °C
Surrounding air temperature (storage)	–25 … +40 °C
Processing temperature	–25 … +50 °C

Standards and Specifications

Standards/specifications	EN 60664-1

Accessories



Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-638	20



Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-628	20



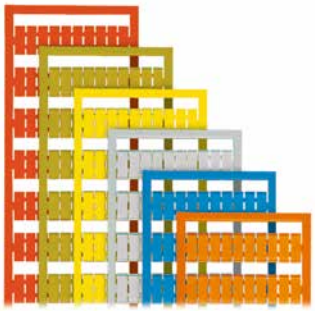
Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-764	20

» Accessories Page 234

Accessories





WSB marker card; WSB marker width: 4 mm; 10 strips with 10 markers/card

Marking	Item No.	Pack. Unit
K	209-782	50
1 ... 10 (10 x)	209-702	50
A1; A2; 13; 14	209-952	50
A1; A2; 11; 12	209-953	50
11; 12; 14; A1; A2; A2; 11; 12; 14	209-994	50
12; A1; A2; 24; 11; 14; 21; 22	209-995	50
A1; A1; A2; A2; 11; 12; 13; 14; 23; 24	209-693	50
12; A1; A2; 23; 24; 11; 13; 14; 21; 22	209-691	50
12; A1; A2; 23; 24; 11; 13; 14; 33; 34	209-690	50
14; A1; A2; 33; 34; 13; 23; 24; 43; 44	209-692	50
A1; A2; 32; 31; 34; 42; 41; 12; 11; 14; 22; 21; 24; 44	249-656	50
L+; 1; L-; L-; 11; 12; 13; 14	209-954	50
A1; A2; A3; 11; 12; 14	249-607	50
A1; A1; A2; A2; 12; 11; 11; 14	209-996	50
A1; A1; St; A2; A2; 12; 11; 11; 14	209-601	50
U1; U2; U3; U4; 0V; 12; 11; 11; 14; 14	209-951	50
U	209-789	50
A1; A2; A2; 1; 3; 2	209-685	50
A1; A2; A2; 1; 2; 2	209-686	50
A1+; A1+; A2-; A2-; 1; RL1; RL2; 2	209-955	50
A1+; A1+; A2-; A2-; 1+; 1+; A; 2-	249-651	50
+/-	209-552	50
1; 2; 3; 0V; +UB; OUT; ERR.; 0V	249-622	50
1; 2; 0V; +UB; OUT; ERR.; 0V	249-623	50
Lin; Lin; Lout; Lout; 24V; UA; UA; 0V	209-957	50
Lin; Lin; Lout; 11; 14; 14; Lin; Lin; Lout	249-654	50
Iin; Iin; Iout; Iout; 24V; 11; 12; 14; 0V	209-997	50
S	209-682	50
V	209-784	50
F1 ... F10	209-787	50
D	209-783	50
+; -; 1; 2; 3; 13; 14; 4; 5; 6	249-608	50
L; N; Ackn.; Failure; Test; N; 14; 24	249-606	50
A1; A2; Ackn.; Failure; 12; 11; 11; 14	249-653	50

WSB marker card; plain; WSB marker width: 4 mm; 10 strips with 10 markers/card

Color	Item No.	Pack. Unit
white	209-701	100
yellow	209-701/000-002	100
red	209-701/000-005	100
blue	209-701/000-006	100
gray	209-701/000-007	100
orange	209-701/000-012	100
light green	209-701/000-017	100
green	209-701/000-023	100
violet	209-701/000-024	100

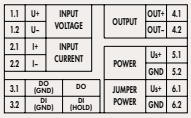
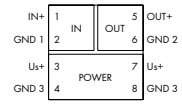
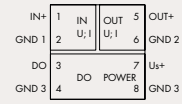
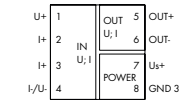
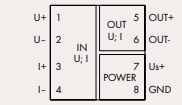
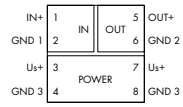
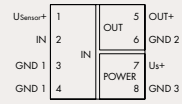
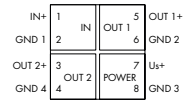
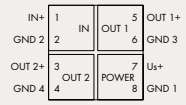
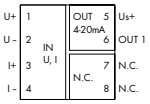
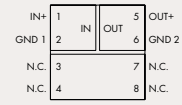
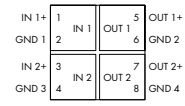


WAGO Isolation Amplifiers and Signal Conditioners

WAGO Isolation Amplifiers and Signal Conditioners

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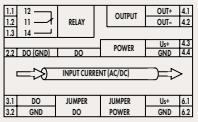
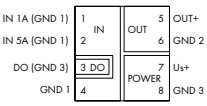
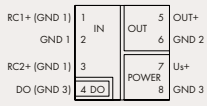
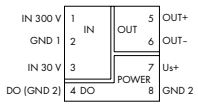
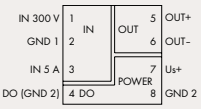
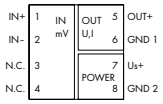
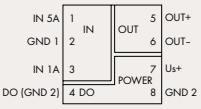
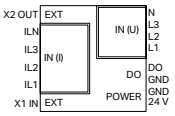
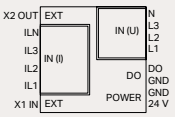
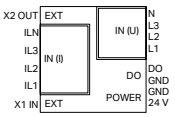
WAGO Isolation Amplifiers
Selection Guide

	Image	Description	Circuit Diagram	Input Signal			Power Supply U_S
				Current	Voltage	Bipolar Signals (I/U)	
	Isolation Amplifiers						
Isolation Amplifiers		Isolation Amplifier; Configurable; with Digital Output		0 … 1 mA 0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA 0 … 100 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V 0 … 220 V	±1 mA; ±10 mA; ±20 mA; ±100 mA ±1 V; ±10 V; ±30 V; ±100 V; ±200 V	24 VDC
		Isolation Amplifier; Configurable; with Zero/Span Adjustment		0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		24 VDC
		Isolation Amplifier; Configurable; with Digital Output		0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	± 20 mA ±10 V	24 VDC
		Isolation Amplifier; Configurable; with Zero/Span Adjustment		±0.3 … ±100 mA	±60 mV … ±200 V	±0.3 … ±100 mA ±60 mV … ±200 V	24 VDC
		Bipolar Isolation Amplifier		0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	±10 mA ± 20 mA ±5 V ±10 V	24 VDC
		Isolation Amplifier; Pre-Configured		0 (4) … 20 mA 0 … 20 mA 4 … 20 mA	 0 (2) … 10 V 0 … 10 V 0 … 10 V 		24 VDC
Repeater Power Supply		Repeater Power Supply		0 … 20 mA 4 … 20 mA			24 VDC
Signal Splitters		Signal Splitter; with Current Output		0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		24 VDC
		Signal Splitter; with Voltage/Current Output		0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		24 VDC
Passive Isolators		Loop-Powered Isolation Amplifier		0 … 5 mA 0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 1 V 0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	± 5 mA ±10 mA ± 20 mA ±1 V; ±5 V ±10 V ±20 V	via output circuit
		Passive Isolator; 1-Channel		0 (4) … 20 mA			via input circuit
		Passive Isolator; 2-Channel		2 x 0 (4) … 20 mA			via input circuit

Output Signal			Configuration	Specialty Functions	Item No.	Page
Current	Voltage	Bipolar Signals (I/U)				
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	±10 mA ± 20 mA ±5 V ±10 V	DIP switch; Interface configuration software/app/display	Digital output (DO); Clipping; Simulation	**2857-401**	248
0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch	Zero/span adjustment	**857-400**	250
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Interface configuration software/app	Digital output (DO); Clipping	**857-401**	252
0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	±10 mA ± 20 mA ±5 V ±10 V	DIP switch; Push/slide switch	Clipping; Zero/span adjustment	**857-402**	254
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	±10 mA ± 20 mA ±5 V ±10 V	DIP switch	Zero/span adjustment	**857-409**	256
0 (4) … 20 mA					**857-411**	258
	0 (2) … 10 V				**857-412**	259
0 … 20 mA					**857-413**	260
4 … 20 mA					**857-414**	260
	0 … 10 V				**857-415**	261
	0 … 10 V				**857-416**	261
0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch		**857-420**	262
2 x 0 (4) … 20 mA			DIP switch		**857-423**	264
2 x 0 … 20 mA 4 … 20 mA	2 x 0 … 10 V 2 … 10 V		DIP switch		**857-424**	266
4 … 20 mA			DIP switch	Zero/span adjustment	**857-450**	268
0 (4) … 20 mA					**857-451**	270
2 x 0 (4) … 20 mA					**857-452**	271

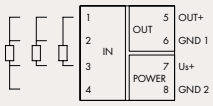
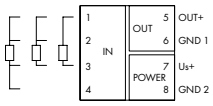
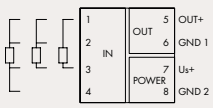
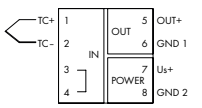
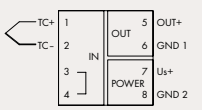
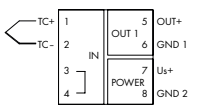
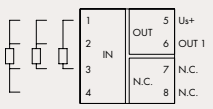
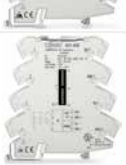
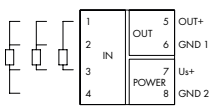
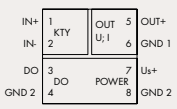
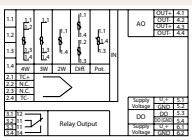
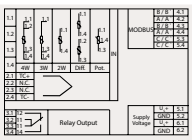
WAGO Current and Voltage Signal Conditioners
Selection Guide

Current and Voltage Signal Conditioners

Image	Description	Circuit Diagram	Input Signal			Power Supply U_S
			Current	Voltage	Bipolar Signals (I/U)	
Current and Voltage Signal Conditioners						
	Through-Hole Current Signal Conditioner		100 A AC/DC			24 VDC
	Current Signal Conditioner		1 A AC/DC 5 A AC/DC			24 VDC
	Current Signal Conditioner; for Rogowski Coils		Rogowski coils 500 AAC 2000 AAC			24 VDC
	Voltage Signal Conditioner		300 V AC/DC			24 VDC
	Power Signal Conditioner		300 V AC/DC (5 A)			24 VDC
	Milivolt Signal Conditioner			0 ... 200 mV 0 ... 1000 mV	±100 mV	24 VDC
	Current Signal Conditioner		0 ... 5 A AC/DC (IN 1; block arrangement); 0 ... 6 A AC/DC (IN 1; individual arrangement); 0 ... 1 A AC/DC (IN 2)			24 VDC
	3-Phase Power Measurement Module		4 x 1 AAC	3 x 300 VAC		24 VDC
	3-Phase Power Measurement Module		4 x 5 AAC	3 x 300 VAC		24 VDC
	3-Phase Power Measurement Module		Rogowski coils 4x 4000 AAC	3 x 300 VAC		24 VDC

Output Signal			Configuration	Specialty Functions	Item No.	Page
Current	Voltage	Bipolar Signals (I/U)				
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	±10 mA ± 20 mA ±5 V ±10 V	DIP switch; Interface configuration software/app/display	Digital output (DO); Clipping; Zero/span adjustment; Simulation	**2857-550**	272
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Interface configuration software/app	Digital output (DO); Clipping	**857-550**	274
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Interface configuration software/app	Digital output (DO); Clipping	**857-552**	278
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Interface configuration software/app	Digital output (DO); Clipping	**857-560**	280
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Interface configuration software/app	Digital output (DO); Clipping	**857-569**	284
0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Interface configuration software/app	Clipping	**857-819**	282
0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA (can be inverted, also bipolar)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (can be inverted, also bipolar)		DIP switch; Interface configuration software		**857-551**	276
			Interface configuration software		**2857-570/ 024-001**	286
			Interface configuration software		**2857-570/ 024-005**	288
			Interface configuration software		**2857-570/ 024-000**	290

WAGO Temperature Signal Conditioners
Selection Guide

	Image	Description	Circuit Diagram	Input Signal	Sensor Connection	Power Supply U_S
	Temperature Signal Conditioners					
Temperature Signal Conditioners		Temperature Signal Conditioner; for Pt and Resistance Sensors		Pt sensors: Pt100, Pt200, Pt500, Pt1000; Resistance sensors: 0 … 1 kΩ; 0 … 4.5 kΩ	2-, 3-, 4-wire connection	24 VDC
		Temperature Signal Conditioner; for Pt and Resistance Sensors		Pt sensors: Pt100, Pt200, Pt500, Pt1000; Resistance sensors: 0 … 1 kΩ; 0 … 4.5 kΩ	2-, 3-, 4-wire connection	24 VDC
		Temperature Signal Conditioner; for Pt46 and Cu53 Sensors		Pt46; Cu53	2-, 3-, 4-wire connection	24 VDC
		Temperature Signal Conditioner; for Thermocouples		Thermocouples: Type J, K		24 VDC
		Temperature Signal Conditioner; for Thermocouples		Thermocouples: Type J, K, E, R, N, S, T, B, S		24 VDC
		Temperature Signal Conditioner; for Thermocouples		Thermocouples: Type K, S, B, R		24 VDC
		Loop-Powered RTD Temperature Signal Conditioner		Pt sensors: Pt100, Pt200, Pt500, Pt1000; Resistance sensors: 0 … 1 kΩ; 0 … 4.5 kΩ	2-, 3-, 4-wire connection	via output circuit
		Temperature Signal Conditioner; for Ni Sensors		Ni sensors: Ni100, Ni120, Ni200, Ni500, Ni1000	2-, 3-, 4-wire connection	24 VDC
		Temperature Signal Conditioner; for KTY Sensors		KTY sensors	2-wire connection	24 VDC
		RTD/TC Temperature Signal Conditioner; Analog		RTD sensors; Potentiometers; Resistors; Thermocouples	2-, 3-, 4-wire connection; Differential measurement; Potentiometer	9.6 … 31.2 VDC
		RTD/TC Temperature Signal Conditioner; Serial		RTD sensors; Potentiometers; Resistors; Thermocouples	2-, 3-, 4-wire connection; Differential measurement; Potentiometer	9.6 … 31.2 VDC

Sensor Temperature Range	Output Signal			Configuration	Specialty Functions	Item No.	Page
	Current	Voltage	RS-485				
−200 … +850 °C	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch	Clipping	**857-800**	298
−200 … +850 °C	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Configuration software/app	Clipping	**857-801**	300
−200 … +300 °C (Pt46) 0 … +180 °C (Cu53)	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch		**857-808**	302
Type J: −150 … +1200 °C; Type K: −150 … +1350 °C	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch	Clipping	**857-810**	304
Type J: −150 … +1200 °C; Type K: −150 … +1350 °C	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch; Configuration software/app	Clipping	**857-811**	306
Type K: −150 … +1200 °C; Type S: 0 … +1600 °C; Type B: 600 … +1800 °C; Type R: 0 … +1600 °C	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch		**857-812**	308
−200 … +850 °C	4 … 20 mA 20 … 4 mA			DIP switch		**857-815**	310
	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch	Clipping	**857-818**	316
	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V		DIP switch	Digital output (DO); Clipping	**857-820**	318
−200 … +850 °C; 0 … 10 kΩ; Type J: −210 … +1200 °C; Type K: −200 … +1372 °C	−24 … +24 mA (load impedance ≤ 600 Ω)	−12 … +12 V (load impedance ≥ 2 kΩ)		Configuration software/ display	Digital output DO; Relay with 1 changeover contact (250 VAC / 6 A); Simulation	**2857-535**	312
−200 … +850 °C; 0 … 10 kΩ; Type J: −210 … +1200 °C; Type K: −200 … +1372 °C			Modbus RTU	Configuration software/ display; Rotary encoder switch	Relay with 1 changeover contact (250 VAC / 6 A); Simulation	**2857-535/ 000-001**	314

WAGO Signal Conditioners with Specialty Functions
WAGO Threshold Value Switches
Selection Guide

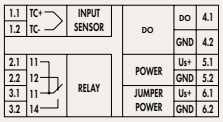
Image	Description	Circuit Diagrams	Input Signal Frequencies
Frequency Signal Conditioner			
	Frequency Signal Conditioner		Frequency signals; NAMUR/NPN or PNP sensors 0.1 … 120 kHz

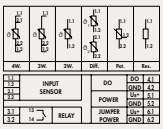
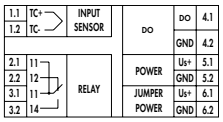
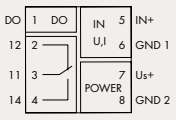
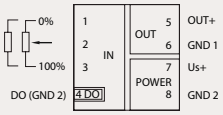
Image	Description	Circuit Diagrams	Input Signal Current	 Voltage	 Bipolar Signals (I/U)	 Sensors
Threshold Value Switches						
	RTD Threshold Value Switch					0 … 100 kΩ; Pt100; Pt200; Pt500; Pt1000; Pt5000; Pt10,000; Pt10 … 20,000
	Thermocouple Threshold Value Switch					Type J, K, E, N, R, S, T, B, C
	Analog Threshold Value Switch		0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V; 0 … 15 V; 0 … 30 V	±10 mA ± 20 mA ±5 V ±10 V	

Image	Description	Circuit Diagrams	Input Signal Potentiometers	 Resistors
Signal Conditioners with Specialty Functions				
	Potentiometer Signal Conditioner		0 … 100 kΩ	10 …100 kΩ

Power Supply U_S	Output Signal		Configuration	Specialty Functions	Item No.	Page
	Current	Voltage				
24 VDC	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	DIP switch; Interface configuration software/app	Clipping	**857-500**	322

Power Supply U_S	Output Signal		Configuration	Specialty Functions	Item No.	Page
	Relay (1 changeover contact)	Relay (1 make contact)				
24 VDC		250 VAC 6 A	DIP switch; Interface configuration software/app/display	Digital output DO; Relay with 1 make contact (250 VAC / 6 A); Simulation	**2857-533**	292
24 VDC	250 VAC 6 A		DIP switch; Interface configuration software/app/display	Digital output DO; Relay with 1 changeover contact (250 VAC / 6 A); Simulation	**2857-534**	294
24 VDC	250 VAC 6 A		DIP switch; Push/slide switch; Interface configuration software/app	Digital output DO; Relay with 1 changeover contact (250 VAC/6 A)	**857-531**	296

Power Supply U_S	Output Signal		Configuration	Specialty Functions	Item No.	Page
	Current	Voltage				
24 VDC	0 … 10 mA 2 … 10 mA 0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V 0 … 10 V 2 … 10 V	DIP switch; Push/slide switch; Interface configuration software/app	Clipping	**857-809**	320

Approvals
Overview

Approvals									Item Description	Item Number	Page
		Marine Approvals									
IECEx	ATEX	PRS (Polski Rejestr Statkow)	NKK (Nippon Kaiji Kyokai)	GL (German Lloyd)	DNV (Det Norske Veritas)	BV (Bureau Veritas)	ANSI/ISA 12.12.01	UL 508			
Isolation Amplifiers											
							■	■	Isolation Amplifier; Configurable; with Digital Output	**2857-401**	248
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		■		■		■	■	■	Isolation Amplifier; Configurable; with Digital Output	**857-401**	252
■	■						■	■	Isolation Amplifier; Configurable; with Zero/Span Adjustment	**857-402**	254
■	■	■		■		■	■	■	Bipolar Isolation Amplifier	**857-409**	256
■	■	■	■	■	■	■	■	■	Isolation Amplifier; Pre-Configured	**857-411**	258
■	■	■	■	■	■	■	■	■	Isolation Amplifier; Pre-Configured	**857-412**	259
■	■	■	■	■	■	■	■	■	Isolation Amplifier; Pre-Configured	**857-413**	260
■	■	■	■	■	■	■	■	■	Isolation Amplifier; Pre-Configured	**857-414**	260
■	■	■	■	■	■	■	■	■	Isolation Amplifier; Pre-Configured	**857-415**	261
■	■	■	■	■	■	■	■	■	Isolation Amplifier; Pre-Configured	**857-416**	261
							■	■	Repeater Power Supply	**857-420**	262
■	■	■	■	■	■	■	■	■	Signal Splitter	**857-423**	264
									Signal Splitter (I/U)	**857-424**	266
■	■						■	■	Loop-Powered Isolation Amplifier	**857-450**	268
■	■	■	■	■	■	■	■	■	Passive Isolator; 1-Channel	**857-451**	270
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									Voltage Signal Conditioner	**857-560**	280
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■	■	■	■	■	■	■	■	■	Milivolt Signal Conditioner	**857-819**	282
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									3-Phase Power Signal Conditioner; 1 A	**2857-570/024-001**	286
									3-Phase Power Signal Conditioner; 5 A	**2857-570/024-005**	288
									3-Phase Power Signal Conditioner; RC	**2857-570/024-000**	290
Temperature Signal Conditioners											
■	■	■	■	■	■	■	■	■	Temperature Signal Conditioner; for Pt and Resistance Sensors	**857-800**	298
■	■	■	■	■	■	■	■	■	Temperature Signal Conditioner; for Pt and Resistance Sensors	**857-801**	300
■	■	■	■	■	■	■	■	■	Temperature Signal Conditioner; for Thermocouples	**857-810**	304
■	■	■	■	■	■	■	■	■	Temperature Signal Conditioner; for Thermocouples	**857-811**	306
							■	■	Temperature Signal Conditioner; for Thermocouples	**857-812**	308
■	■	■		■		■	■	■	Temperature Signal Conditioner; for Pt46 and Cu53 Sensors	**857-808**	302
									Loop-Powered RTD Temperature Signal Conditioner	**857-815**	310
■	■	■		■		■	■	■	Temperature Signal Conditioner; for Ni Sensors	**857-818**	316
■	■	■		■		■	■	■	Temperature Signal Conditioner; for KTY Sensors	**857-820**	318
									RTD/TC Temperature Signal Conditioner; Analog	**2857-535**	312
									RTD/TC Temperature Signal Conditioner; Serial	**2857-535/000-001**	314
Threshold Value Switches											
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		■		■		■	■	■	Potentiometer Signal Conditioner	**857-809**	320
Accessories											
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		■	■	■	■	■		■	Interface Adapter for System Wiring	**857-980**	331

Signs and Symbols

Specialty Functions:



Zero/span adjustment


Clipping capability



Digital output (DO)


Relay, 1 changeover contact


Relay, 1 make contact



Simulation

Configuration:


DIP switch


Rotary coding switch


Interface configuration software

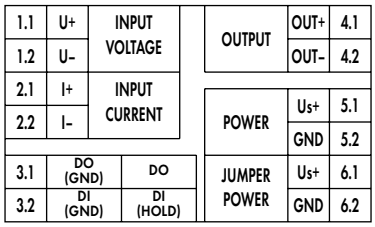

Interface configuration app


Interface configuration display


Push/slide switch

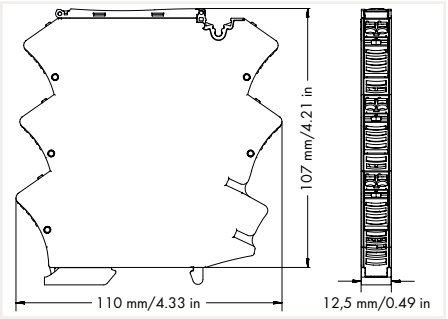
Isolation Amplifier; Configurable; with Digital Output
2857 Series





Isolation Amplifier; Bipolar current and voltage input signal; Bipolar current and voltage output signal; Digital output; Supply voltage: 24 VDC; Module width: 12.5 mm

	Item No.	Pack. Unit
	2857-401	1



Short description:
WAGO's isolation amplifier converts, amplifies, filters, and electrically isolates analog signals.

Features:
- Analog unipolar/bipolar signals at both input and output
- Digital signal output reacts to configured measurement range limits (configurable on/off switching delay and threshold value switch function with up to two threshold values)
- Digital HOLD input freezes the output signal
- Clipping capability provides analog signal limitation to output end values
- Adjustable software/hardware filter
- Input/output response simulation via configuration display
- Safe 3-way isolation with 4 kV test voltage per EN 61140

Note:
Additional setting options via interface configuration software/app

» Configuration software	Page 326
» Configuration app	Page 327
» Configuration display	Page 328
» Accessories	Page 338

Configuration

Configuration options	DIP switch; Interface configuration software; Interface configuration app; Configuration display

Input

Input signal type	Voltage; Current
Input signal (voltage)	±1 V; 0 … 1 V; ±5 V; 0 … 5 V; 1 … 5 V; ±10 V; 0 … 10 V; 2 … 10 V; ±30 V; 0 … 30 V; ±100 V; 0 … 100 V; ±200 V; 0 … 220 V
Input signal (current)	±1 mA; 0 … 1 mA; ±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA; ±100 mA; 0 … 100 mA
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	≥ 1MΩ
Input current (max.)	± 120 mA
Input voltage (max.)	±250 V

Input – Digital

Hold signal	11.8 V … U_S

Output

Output signal type	Current; Voltage
Output signal (voltage)	±5 V; 0 … 5 V; 1 … 5 V; ±10 V; 0 … 10 V; 2 … 10 V
Output signal (current)	±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 1 kΩ
Load impedance (current output)	≤ 600 Ω

Output – Digital

Max. switching voltage (DO)	Supply voltage applied: −0.3 V
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)

Signal Processing

Limit frequency	10 kHz / 5 kHz / 100 Hz / 30 Hz (configurable via DIP switch or software)
Software filter; adjustable	Moving average value (filter level: 30)
Step response (typ.)	1 ms

Measurement Error

Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01%/K

Power Supply

Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 70 mA (+ IDO)

Safety and Protection

Test voltage (input/output/supply)	4 kV AC; 50 Hz; 1 min
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
WAGO Connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data

Width	12.5 mm / 0.492 inch
Height from upper-edge of DIN-rail	107 mm / 4.213 inch
Depth	110 mm / 4.331 inch

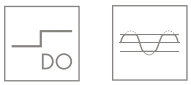
Mechanical Data

Mounting type	DIN-35 rail

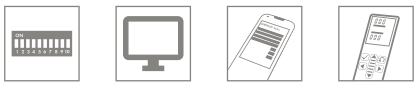
Material Data

Weight	85.9 g

Specialty Functions:



Configuration via:



Environmental Requirements	
Surrounding air temperature (operation)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 60664-1; EN 61373

2857-401

DIP Switch Adjustability

● = ON **Default**

DIP Switch S1

Input												
1	Signal	2	Polarity	3	4	5	Range / mA	Range / V	6	Inverted Characteristic	7	8	Limit Frequency
	Current		Unipolar				0 … 20	0 … 10		Not inverted			10 kHz
●	Voltage	●	Bipolar *	●			0 … 1	0 … 1	●	Inverted	●		5 kHz
					●		0 … 5	0 … 5				●	100 Hz
				●	●		0 … 10	1 … 5			●	●	30 Hz
						●	2 … 10	2 … 10					
				●		●	4 … 20	0 … 30					
					●	●	0 … 50	0 … 100					
				●	●	●	0 … 100	0 … 220					

DIP Switch S1

Output			
9	Signal	10	Polarity
	Current		Unipolar
●	Voltage	●	Bipolar *

DIP Switch S2

Output			
1	2	Range / mA	Range / V
		0 … 20	0 … 10
●		4 … 20	2 … 10
	●	0 … 10	0 … 5
●	●	2 … 10	1 … 5

DIP Switch S2

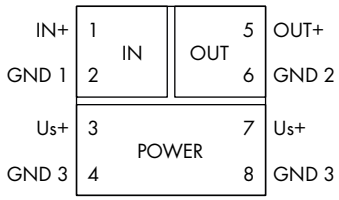
Output				Digital Output (DO)		
3	4	Measuring Range Underflow	Measuring Range Overflow	5	6	
		Lower limit of output range -5% **	Upper limit of output range +2.5% **			Off
●		Lower limit of output range	Upper limit of output range +2.5%	●		DO U_s switching
	●	Lower limit of output range	Upper limit of output range		●	DO GND switching
●	●	Lower limit of output range -5%	Upper limit of output range +5%	●	●	Off

* Bipolar only applies to ranges starting with 0.

** acc. to NAMUR NE 43

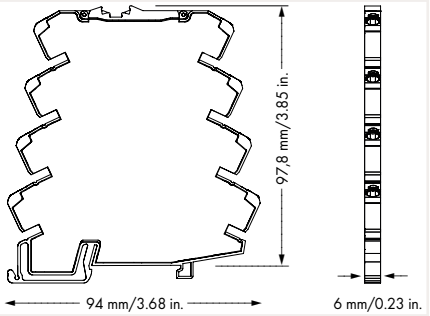
Isolation Amplifier; Configurable; with Zero/Span Adjustment
857 Series





Isolation Amplifier; Current and voltage input signal; Current and voltage output signal; Zero/span adjustment; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-400	1



Short description:
WAGO's configurable isolation amplifier converts, amplifies, filters, and electrically isolates standard analog signals.

Features:
- Zero/span adjustment across the entire measurement range
- Calibrated measurement range switching
- Switchable limit frequency
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Specialty Functions:



Configuration via:



Configuration	
Configuration options	DIP switch

Input	
Input signal type	Voltage; Current
Input signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (calibrated switching)
Input signal (current)	0 … 20 mA; 4 … 20 mA (calibrated switching)
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	≥ 1MΩ
Zero/span adjustment	±3 % of upper range value

Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (calibrated switching)
Output signal (current)	0 … 20 mA; 4 … 20 mA; 0 … 10 mA; 2 … 10 mA (calibrated switching)
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Signal Processing	
Limit frequency	100 Hz / 5 kHz (configurable via DIP switch)
Step response (typ.)	3.5 ms (100 Hz); 100 µs (5 kHz)

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01%/K

Power Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 25 mA

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	36.8 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

» Accessories Page 338

857-400

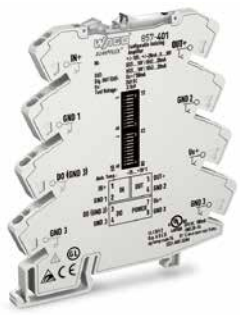
DIP Switch Adjustability

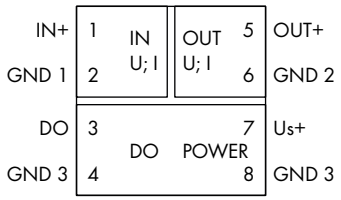
● = ON | **Default**

DIP Switch S1 (2-fold) DIP Switch S2 (6-fold)

Input Signal			Output Signal						Max. Operating Frequency	
1	2		1	2	3	4	5		6	
●		0 … 20 mA						0 … 20 mA		5 kHz
						●		4 … 20 mA	●	100 Hz
			●	●				0 … 10 V		
			●	●		●		2 … 10 V		
			●	●	●			0 … 5 V		
			●	●	●	●		1 … 5 V		
●		4 … 20 mA					●	0 … 20 mA		
								4 … 20 mA		
			●	●			●	0 … 10 V		
			●	●				2 … 10 V		
			●	●	●		●	0 … 5 V		
			●	●	●			1 … 5 V		
	●	0 … 10 V						0 … 20 mA		
						●		4 … 20 mA		
			●	●				0 … 10 V		
			●	●		●		2 … 10 V		
			●	●	●			0 … 5 V		
			●	●	●	●		1 … 5 V		
	●	2 … 10 V					●	0 … 20 mA		
								4 … 20 mA		
			●	●			●	0 … 10 V		
			●	●				2 … 10 V		
			●	●	●		●	0 … 5 V		
			●	●	●			1 … 5 V		
		0 … 5 V						0 … 20 mA		
						●		4 … 20 mA		
			●	●				0 … 10 V		
			●	●		●		2 … 10 V		
			●	●	●			0 … 5 V		
			●	●	●	●		1 … 5 V		
		1 … 5 V					●	0 … 20 mA		
								4 … 20 mA		
			●	●			●	0 … 10 V		
			●	●				2 … 10 V		
			●	●	●		●	0 … 5 V		
			●	●	●			1 … 5 V		

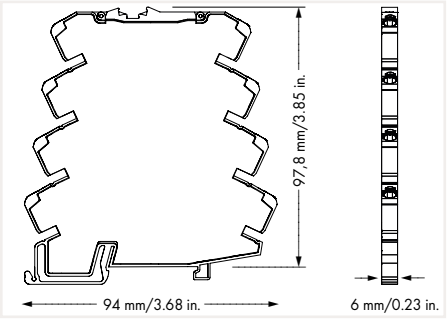
Isolation Amplifier; Configurable; with Digital Output
857 Series





Isolation Amplifier; Current and voltage input signal; Current and voltage output signal; Digital output; Supply voltage: 24 VDC; Module width: 6 mm

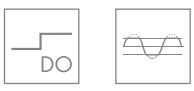
	Item No.	Pack. Unit
	857-401	1



Short description:
WAGO's configurable isolation amplifier converts, amplifies, filters, and electrically isolates standard analog signals.

Features:
- PC configuration interface
- Digital switching output
- Calibrated measurement range switching
- Unipolar/bipolar standard analog signals at input
- Switchable clipping
- Limitation of standard analog signals to upper range values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Specialty Functions:



Configuration via:



» Configuration software	Page 326
» Configuration app	Page 327
» Accessories	Page 338

Configuration	
Configuration options	DIP switch; Interface configuration software; Interface configuration app

Input	
Input signal type	Voltage; Current
Input signal (voltage)	±10 V; 0 … 30 V
Input signal (current)	±20 mA
Input resistance (current input)	≤ 200 Ω
Input resistance (voltage input)	≥ 100 kΩ
Input current (max.)	22 mA
Input voltage (max.)	31 V
Measurement span (voltage)	1 V
Measurement span (current)	2 mA

Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 2 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Output – Digital	
Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 (adjustable)

Signal Processing	
Step response (typ.)	8 ms

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01%/K

Power Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA (+ IDO)

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	37.04 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-1; EN 50121-3-2
EMC emission of interference	EN 61000-6-3; EN 61326-1
Standards/specifications	EN 61373

857-401

DIP Switch Adjustability

● = ON **Default**

Input Signal Start Value																
DIP S1																
1		2	3	4	5	6	7	V	mA	2	3	4	5	6	7	V	mA
	Voltage							0	0						●	5.5	11
●	Current	●						-10	-20	●					●	6	12
			●					-9.5	-19		●				●	6.5	13
		●	●					-9	-18	●	●				●	7	14
				●				-8.5	-17			●			●	7.5	15
		●		●				-8	-16	●		●			●	8	16
			●	●				-7.5	-15		●	●			●	8.5	17
		●	●	●				-7	-14	●	●	●			●	9	18
					●			-6.5	-13				●		●	9.5	19
		●			●			-6	-12	●			●		●	10	20
			●		●			-5.5	-11		●		●		●	10.5	
		●	●		●			-5	-10	●	●		●		●	11	
				●	●			-4.5	-9			●	●		●	11.5	
		●		●	●			-4	-8	●		●	●		●	12	
			●	●	●			-3.5	-7		●	●	●		●	13	
		●	●	●	●			-3	-6	●	●	●	●		●	14	
						●		-2.5	-5					●	●	15	
		●				●		-2	-4	●				●	●	16	
			●			●		-1.5	-3		●			●	●	17	
		●	●			●		-1	-2	●	●			●	●	18	
				●		●		-0.5	-1			●		●	●	19	
		●		●		●		0	0	●		●		●	●	20	
			●	●		●		0.5	1		●	●		●	●	21	
		●	●	●		●		1	2	●	●	●		●	●	22	
					●	●		1.5	3				●	●	●	23	
		●			●	●		2	4	●			●	●	●	24	
			●		●	●		2.5	5		●		●	●	●	25	
		●	●		●	●		3	6	●	●		●	●	●	26	
				●	●	●		3.5	7			●	●	●	●	27	
		●		●	●	●		4	8	●		●	●	●	●	28	
			●	●	●	●		4.5	9		●	●	●	●	●	29	
		●	●	●	●	●		5	10	●	●	●	●	●	●	30	

Input Signal End Value																
DIP S1	DIP S2						DIP S1			DIP S2						
8	9	10	1	2	3	V	mA	8	9	10	1	2	3	V	mA
						10	20						●	5.5	11
●						-10	-20	●					●	6	12
	●					-9.5	-19		●				●	6.5	13
●	●					-9	-18	●	●				●	7	14
		●				-8.5	-17			●			●	7.5	15
●		●				-8	-16	●		●			●	8	16
	●	●				-7.5	-15		●	●			●	8.5	17
●	●	●				-7	-14	●	●	●			●	9	18
			●			-6.5	-13					●	●	9.5	19
●			●			-6	-12	●				●	●	10	20
	●		●			-5.5	-11		●			●	●	10.5	
●	●		●			-5	-10	●	●			●	●	11	
		●	●			-4.5	-9			●		●	●	11.5	
●		●	●			-4	-8	●		●		●	●	12	
	●	●	●			-3.5	-7		●	●		●	●	13	
●	●	●	●			-3	-6	●	●	●		●	●	14	
				●		-2.5	-5					●	●	15	
●				●		-2	-4	●				●	●	16	
	●			●		-1.5	-3		●			●	●	17	
●	●			●		-1	-2	●	●			●	●	18	
		●		●		-0.5	-1			●		●	●	19	
●		●		●		0	0	●		●		●	●	20	
	●	●		●		0.5	1		●	●		●	●	21	
●	●	●		●		1	2	●	●	●		●	●	22	
			●	●		1.5	3				●	●	●	23	
●			●	●		2	4	●			●	●	●	24	
	●		●	●		2.5	5		●		●	●	●	25	
●	●		●	●		3	6	●	●		●	●	●	26	
		●	●	●		3.5	7			●	●	●	●	27	
●		●	●	●		4	8	●		●	●	●	●	28	
	●	●	●	●		4.5	9		●	●	●	●	●	29	
●	●	●	●	●		5	10	●	●	●	●	●	●	30	

DIP Switch S2

Output Signal						Measuring Range Underflow	Measuring Range Overflow			Digital Output DO Signaling
4	5	6		7	8			9	10	
			0 ... 20 mA			Lower limit of output range -5 % *	Upper limit of output range +2.5 % *			DO not active
	●		4 ... 20 mA							
		●	0 ... 10 mA	●		Lower limit of output range	Upper limit of output range +2.5 %		●	GND → U_N (switching)
	●	●	2 ... 10 mA							
●			0 ... 10 V		●	Lower limit of output range	Upper limit of output range	●	●	U_N → GND (switching)
●	●		2 ... 10 V							
●		●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range			
●	●	●	1 ... 5 V							

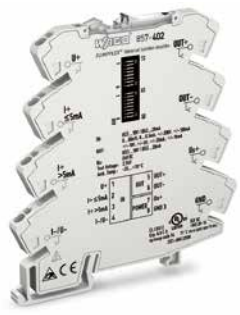
*acc. to NAMUR NE 43

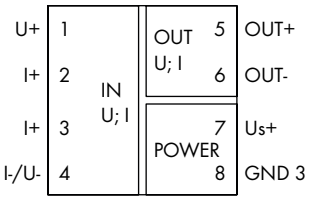
Digital Output DO/Signaling

The digital output (DO) signals error messages and can be configured as follows: 24 V→ 0 V/0 V → 24 V.

In order to increase the switching current of the DO, the latter may be expanded by a relay. Thanks to the common housing shape for the 857 Series, for example, a 857-304 Relay can be snapped in next to it. This output can be quickly and easily expanded to a switching current of 6A by simply using an adjacent jumper (859-402).

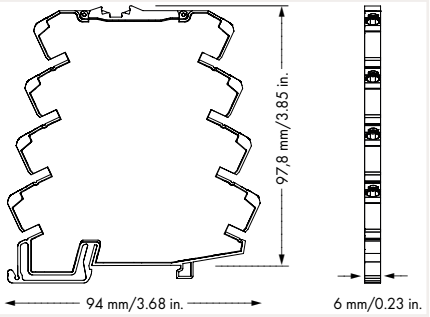
Isolation Amplifier; Configurable; with Zero/Span Adjustment
857 Series





Isolation Amplifier; Current and voltage input signal; Bipolar current and voltage output signal; Zero/span adjustment; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-402	1



Short description:
This isolation amplifier converts standard unipolar/bipolar signals, as well as amplifies, filters and electrically isolates standard analog signals.

Features:
- Overload protection of current input via resettable fuse
- Zero/span adjustment across the entire measurement range (via push/slide switch)
- Calibrated measurement range switching for all 456 signals
- Unipolar/bipolar standard analog signals at both input/output
- Switchable limit frequency
- Switchable clipping
- Limitation of standard analog signals to upper range values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

» Accessories Page 338

Configuration	
Configuration options	DIP switch; Push/slide switch

Input	
Input signal type	Voltage; Current
Input signal (voltage)	±60 mV; 0 … 60 mV; ±100 mV; 0 … 100 mV; ±150 mV; 0 … 150 mV; ±300 mV; 0 … 300 mV; ±500 mV; 0 … 500 mV; ±1 V; 0 … 1 V; ±5 V; 0 … 5 V; 1 … 5 V; ±10 V; 0 … 10 V; 2 … 10 V; ±100 V; 0 … 100 V; ±200 V; 0 … 200 V
Input signal (current)	±0.3 mA; 0 … 0.3 mA; ±1 mA; 0 … 1 mA; ±5 mA; 0 … 5 mA; ±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA; ±50 mA; 0 … 50 mA; ±100 mA; 0 … 100 mA
Input resistance (current input)	10 Ω (≥ 5 mA); 100 Ω (≤ 5 mA)
Input resistance (voltage input)	1 MΩ
Zero/span adjustment	Adjustable via push/slide switch

Output	
Output signal type	Current; Voltage
Output signal (voltage)	±5 V; 0 … 5 V; 1 … 5 V; ±10 V; 0 … 10 V; 2 … 10 V
Output signal (current)	±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Signal Processing	
Limit frequency	100 Hz / 5 kHz (configurable via DIP switch)
Step response (typ.)	3.5 ms (100 Hz); 100 µs (5 kHz)

Measurement Error	
Transmission error (typ.)	≤ 0.08 % of upper-range value
Temperature coefficient	≤ 0.01%/K

Power Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	38.4 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

Specialty Functions:




Configuration via:




857-402

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

Input Signal Ranges							Zero/Span Adjustment		Max. Operating Frequency	
1	2	3	4	5	6		7		8	
						Default setting*		Inactive		5 kHz
				●		0 … 60 mV	●	Active	●	100 Hz
				●	●	±60 mV				
			●			0 … 100 mV				
			●		●	±100 mV				
			●	●		0 … 150 mV				
			●	●	●	±150 mV				
		●				0 … 300 mV				
		●			●	±300 mV				
		●		●		0 … 500 mV				
		●		●	●	±500 mV				
		●	●			0 … 1 V				
		●	●		●	±1 V				
		●	●	●		0 … 5 V				
		●	●	●	●	±5 V				
	●					0 … 10 V				
	●				●	±10 V				
	●			●		0 … 50 V				
	●			●	●	±50 V				
	●		●			0 … 100 V				
	●		●		●	±100 V				
	●		●	●		0 … 200 V				
	●		●	●	●	±200 V				

DIP Switch S1

Input Signal Ranges						
1	2	3	4	5	6	
	●	●				0 … 0.3 mA
	●	●			●	±0.3 mA
	●	●		●		0 … 1 mA
	●	●		●	●	±1 mA
	●	●	●			0 … 5 mA
	●	●	●		●	±5mA
	●	●	●	●		0 … 10 mA
	●	●	●	●	●	±10 mA
●						0 … 20 mA
●					●	±20 mA
●				●		0 … 50 mA
●				●	●	±50 mA
●			●			0 … 100 mA
●			●		●	±100 mA
●		●				1 … 5 V
●		●		●		2 … 10 V
●		●	●			2 … 10 mA
●		●	●	●		4 … 20 mA

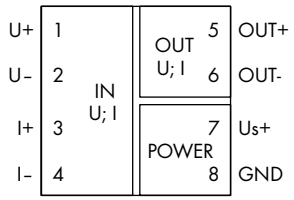
DIP Switch S2

Output Signal Ranges						Reserve	Clipping		Rocker Switch Lock	
1	2	3	4	5		6	7		8	
					Default setting*			inactive (analog response)		switched off
		●			0 … 10 V		●	active (limiting response)	●	switched on
		●		●	±10 V					
		●	●		2 … 10 V					
	●				0 … 5 V					
	●			●	±5 V					
	●		●		1 … 5 V					
	●	●			0 … 20 mA					
	●	●		●	±20 mA					
	●	●	●		4 … 20 mA					
●					0 … 10 mA					
●				●	±10 mA					
●			●		2 … 10 mA					

More information on measurement range setting is available in 857-402 instruction leaflet.
*The input and output range DIP switches must be readjusted when changing the default setting.

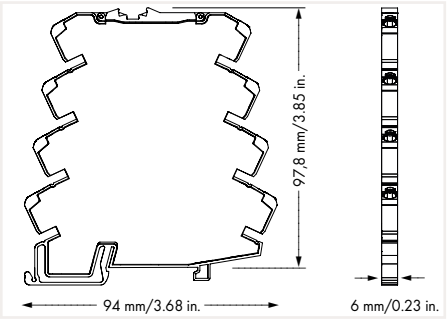
Isolation Amplifier; Configurable; with Zero/Span Adjustment
857 Series





Isolation Amplifier; Bipolar current and voltage input signal; Bipolar current and voltage output signal; Zero/span adjustment; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-409	1



Short description:
WAGO's bipolar isolation amplifier converts, amplifies, filters, and electrically isolates standard unipolar/bipolar analog signals.

Features:
- Overload protection of current input via resettable fuse
- Zero/span adjustment across the entire measurement range
- Calibrated measurement range switching
- Unipolar/bipolar standard analog signals at both input/output
- Switchable limit frequency
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Specialty Functions:



Configuration via:



Configuration	
Configuration options	DIP switch

Input	
Input signal type	Voltage; Current
Input signal (voltage)	±5 V; 0 … 5 V; 1 … 5 V; ±10 V; 0 … 10 V; 2 … 10 V
Input signal (current)	±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA
Input resistance (current input)	≤ 50 Ω (approx.)
Input resistance (voltage input)	1 MΩ (approx.)
Input current (max.)	50 mA
Input voltage (max.)	32 V
Zero/span adjustment	±5 % of upper range value

Output	
Output signal type	Current; Voltage
Output signal (voltage)	±5 V; 0 … 5 V; 1 … 5 V; ±10 V; 0 … 10 V; 2 … 10 V
Output signal (current)	±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Residual ripple	≤ 10 mV (rms)

Signal Processing	
Limit frequency	100 Hz / 5 kHz (configurable via DIP switch)
Step response (typ.)	3.5 ms (100 Hz); 60 µs (5 kHz)

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01%/K

Power Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 25 mA

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	38.4 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3

» Accessories Page 338

857-409

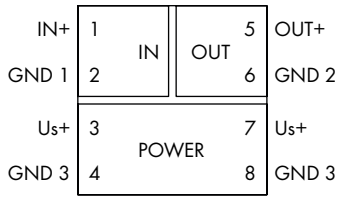
DIP Switch Adjustability

● = ON | Default

DIP Switch S1 (4-fold)					DIP Switch S2 (6-fold)							
Input Signal					Output Signal						Max. Operating Frequency	
1	2	3	4		1	2	3	4	5		6	
●				±20 mA				●		±20 mA		5 kHz
●	●			±10 mA			●	●		±10 mA	●	100 Hz
●				±10 V	●	●		●		±10 V		
●	●			±5 V	●	●	●	●		±5 V		
				0 ... 20 mA						0 ... 20 mA		
		●		4 ... 20 mA					●	4 ... 20 mA		
	●			0 ... 10 mA			●			0 ... 10 mA		
	●	●		2 ... 10 mA			●		●	2 ... 10 mA		
				0 ... 10 V	●	●				0 ... 10 V		
		●		2 ... 10 V	●	●			●	2 ... 10 V		
	●			0 ... 5 V	●	●	●			0 ... 5 V		
	●	●		1 ... 5 V	●	●	●		●	1 ... 5 V		

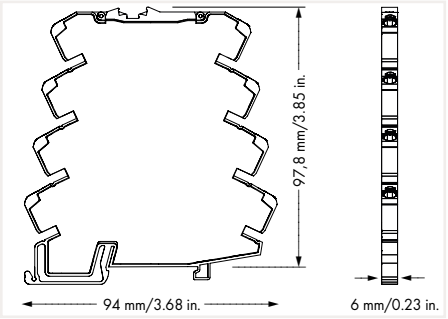
Isolation Amplifier; Pre-Configured; Current Input; Current Output
857 Series





Isolation Amplifier; Current input signal: 0 (4) ... 20 mA; Current output signal: 0 (4) ... 20 mA; Supply voltage: 24 VDC; Module width: 6 mm wide

	Item No.	Pack. Unit
	857-411	1



Short description:
WAGO's pre-configured isolation amplifier converts, amplifies, filters, and electrically isolates standard analog signals.

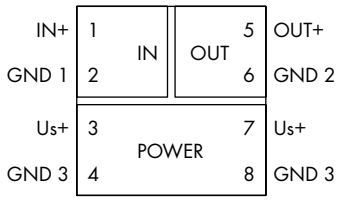
Features:
- Input/output: current or voltage signal
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Configuration	
Configuration options	Pre-configured
Input	
Input signal type	Current
Input signal (current)	0 ... 20 mA; 4 ... 20 mA
Input resistance (current input)	≤ 50 Ω
Input current (max.)	50 mA
Output	
Output signal type	Current
Output signal (current)	0 ... 20 mA; 4 ... 20 mA
Load impedance (current output)	≤ 600 Ω
Signal Processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms
Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01%/K
Power Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 25 mA
Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	36.1 g
Environmental Requirements	
Surrounding air temperature (operation)	–25 ... +70 °C
Surrounding air temperature (storage)	–40 ... +85 °C
Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

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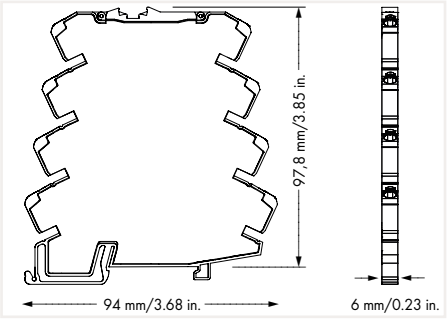
Isolation Amplifier; Pre-Configured; Voltage Input; Voltage Output
857 Series





Isolation Amplifier; Voltage input signal: 0 (2) ... 10 V; Voltage output signal: 0 (2) ... 10 V; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-412	1



Short description:
WAGO's pre-configured isolation amplifier converts, amplifies, filters, and electrically isolates standard analog signals.

Features:
- Input/output: current or voltage signal
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Configuration	
Configuration options	Pre-configured

Input	
Input signal type	Voltage
Input signal (voltage)	0 ... 10 V; 2 ... 10 V
Input resistance (voltage input)	≥ 100 kΩ
Input voltage (max.)	30 V

Output	
Output signal type	Voltage
Output signal (voltage)	0 ... 10 V; 2 ... 10 V
Load impedance (voltage output)	≥ 2 kΩ

Signal Processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01%/K

Power Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 25 mA

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	35.6 g

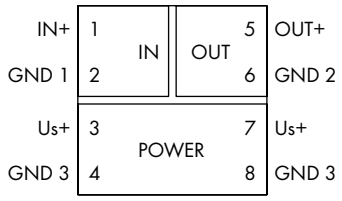
Environmental Requirements	
Surrounding air temperature (operation)	–25 ... +70 °C
Surrounding air temperature (storage)	–40 ... +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

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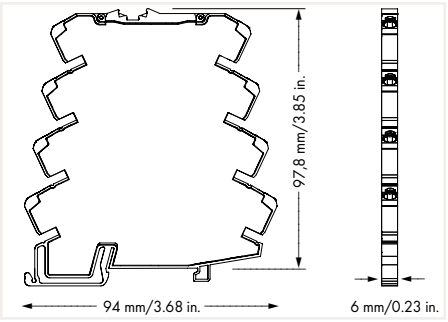
Isolation Amplifier; Pre-Configured; Voltage Input; Current Output
857 Series





Isolation Amplifier; Voltage input signal: 0 ... 10 V; Supply voltage: 24 VDC; Module width: 6 mm

Output Signal	Item No.	Pack. Unit
0 ... 20 mA	**857-413**	1
4 ... 20 mA	**857-414**	1



Short description:
WAGO's pre-configured isolation amplifier converts, amplifies, filters, and electrically isolates standard analog signals.

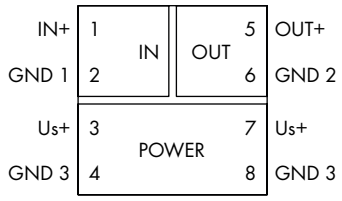
Features:
- Input/output: current or voltage signal
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Configuration	
Configuration options	Pre-configured
Input	
Input signal type	Voltage
Input signal (voltage)	0 ... 10 V
Input resistance (voltage input)	≥ 100 kΩ
Input voltage (max.)	30 V
Output	
Output signal type	Current
Load impedance (current output)	≤ 600 Ω
Signal Processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms
Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01%/K
Power Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 25 mA
Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	36.01 g
Environmental Requirements	
Surrounding air temperature (operation)	–25 ... +70 °C
Surrounding air temperature (storage)	–40 ... +85 °C
Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

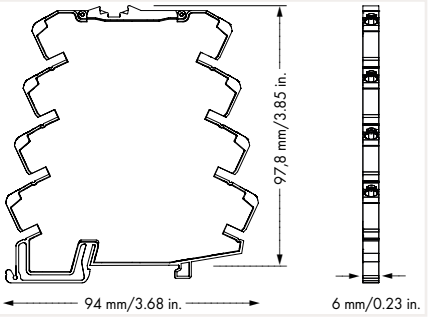
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Isolation Amplifier; Pre-Configured; Current Input; Voltage Output
857 Series





Isolation Amplifier; Voltage output signal: 0 ... 10 V; Supply voltage: 24 VDC; Module width: 6 mm		
Input Signal	**Item No.**	Pack. Unit
0 ... 20 mA	**857-415**	1
4 ... 20 mA	**857-416**	1



Short description:
WAGO's pre-configured isolation amplifier converts, amplifies, filters, and electrically isolates standard analog signals.

Features:
- Input/output: current or voltage signal
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Configuration	
Configuration options	Pre-configured

Input	
Input signal type	Current
Input resistance (current input)	≤ 50 Ω
Input current (max.)	50 mA

Output	
Output signal type	Voltage
Output signal (voltage)	0 ... 10 V
Load impedance (voltage output)	≥ 2 kΩ

Signal Processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01%/K

Power Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 25 mA

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	35.31 g

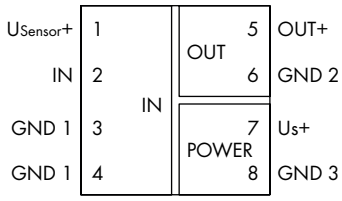
Environmental Requirements	
Surrounding air temperature (operation)	–25 ... +70 °C
Surrounding air temperature (storage)	–40 ... +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

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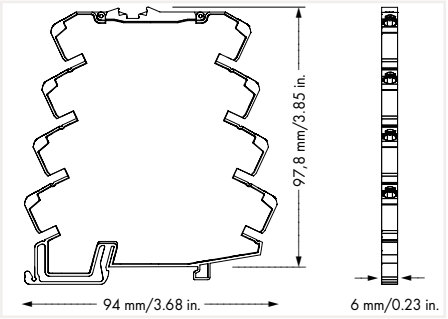
Isolation Amplifier; Configurable; with Current and Voltage Output
857 Series





Isolation Amplifier; Current input signal; Current and voltage output signal; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-420	1



Short description:
WAGO's repeater power supply provides the power required for 2- or 3-wire field transmitters, and electrically isolates analog signals.

Features:
- Power supply to SMART transmitters
- Calibrated measurement range switching
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Configuration via:



Configuration	
Configuration options	DIP switch

Input	
Input signal type	Current
Input signal (current)	0 … 20 mA; 4 … 20 mA (calibrated switching)
Input resistance (current input)	≤ 50 Ω
Input current (max.)	50 mA
Sensor supply	U_v = 18 V; 30 mA

Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (calibrated switching)
Output signal (current)	0 … 20 mA; 4 … 20 mA (calibrated switching)
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Offset	≤ 20 µA
Residual ripple	≤ 10 mV (rms)

Signal Processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01%/K

Power Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 45 mA

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	37 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE

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857-420

DIP Switch Adjustability

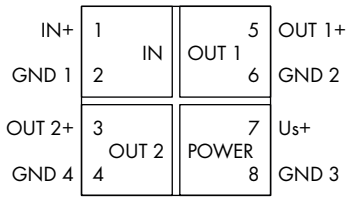
● = ON Default

DIP Switch S1 (6-fold)

1	2	3	4	5	6	Input Signal	Output Signal
					n.c.	0 … 20 mA	0 … 20 mA
			●		n.c.	0 … 20 mA	4 … 20 mA
●	●				n.c.	0 … 20 mA	0 … 10 V
●	●		●		n.c.	0 … 20 mA	2 … 10 V
●	●	●			n.c.	0 … 20 mA	0 … 5 V
●	●	●	●		n.c.	0 … 20 mA	1 … 5 V
				●	n.c.	4 … 20 mA	0 … 20 mA
					n.c.	4 … 20 mA	4 … 20 mA
●	●			●	n.c.	4 … 20 mA	0 … 10 V
●	●				n.c.	4 … 20 mA	2 … 10 V
●	●	●		●	n.c.	4 … 20 mA	0 … 5 V
●	●	●			n.c.	4 … 20 mA	1 … 5 V

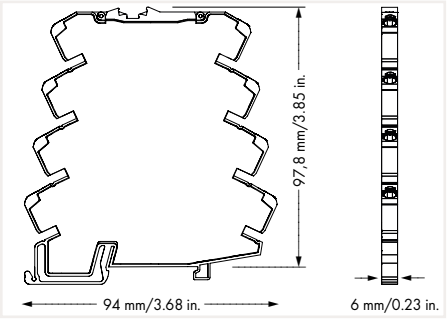
Isolation Amplifier; Configurable; with 2 Current Outputs
857 Series





Isolation Amplifier; Current and voltage input signal; 2x current output signal; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-423	1



Short description:
WAGO's signal splitter converts, amplifies, filters, and electrically isolates standard analog signals.

Features:
- Two configurable current outputs
- Calibrated measurement range switching
- Switchable limit frequency
- Safe 4-way isolation with 2.5 kV test voltage per EN 61140

Configuration via:



Configuration	
Configuration options	DIP switch
Input	
Input signal type	Voltage; Current
Input signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (calibrated switching)
Input signal (current)	0 … 20 mA; 4 … 20 mA (calibrated switching)
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	≥ 100 kΩ
Output	
Output signal type	Current
Output signal (current)	0 … 20 mA; 4 … 20 mA (calibrated switching)
Load impedance (current output)	≤ 300 Ω
Signal Processing	
Limit frequency	100 Hz / 1 kHz (configurable via DIP switch)
Step response (typ.)	3.5 ms (100 Hz); 300 µs (1 kHz)
Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Transmission error (max.)	≤ 0.2 % of upper-range value
Temperature coefficient	≤ 0.01%/K
Power Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 35 mA
Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	40.6 g
Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

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857-423

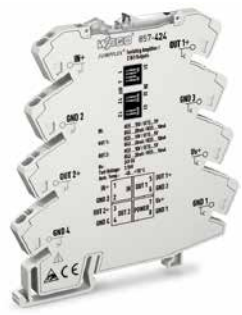
DIP Switch Adjustability

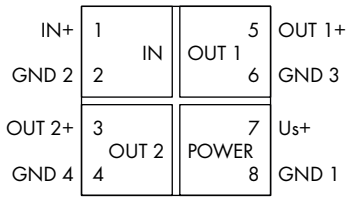
● = ON | Default

DIP Switch S1 (6-fold)

Input Signal				Max. Operating Frequency		Output Signal 1		Output Signal 2	
1	2	3		4		5		6	
●			0 ... 20 mA		1 kHz		0 ... 20 mA		0 ... 20 mA
●		●	4 ... 20 mA	●	100 Hz	●	4 ... 20 mA	●	4 ... 20 mA
	●		0 ... 10 V						
	●	●	2 ... 10 V						
			0 ... 5 V						
		●	1 ... 5 V						

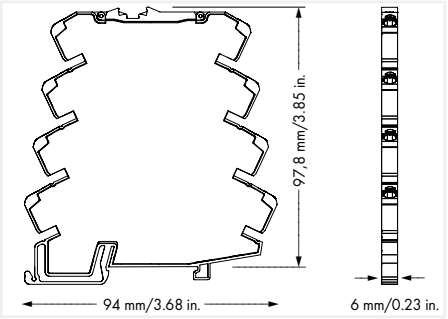
Isolation Amplifier; Configurable; with Current and Voltage Output
857 Series





Isolation Amplifier; Current and voltage input signal; Current and voltage output signal; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-424	1



Short description:
WAGO's signal splitter converts, amplifies, filters, and electrically isolates standard analog signals. In addition, the input signal is split into two separate outputs.

Features:
- Two configurable voltage/current outputs
- Switchable limit frequency
- Safe 4-way isolation with 3 kV test voltage per EN 61010-1

Configuration via:



Configuration	
Configuration options	DIP switch

Input	
Input signal type	Voltage; Current
Input signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 1 V; 0 … 10 V; 2 … 10 V
Input signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	≥ 100 kΩ
Input current (max.)	50 mA
Input voltage (max.)	30 V

Output	
Output signal type	Voltage; Current
Output signal (voltage)	0 … 10 V; 2 … 10 V (calibrated switching)
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA (calibrated switching)
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Signal Processing	
Limit frequency	100 Hz / 1 kHz (configurable via DIP switch)
Step response (typ.)	3.5 ms (100 Hz); 300 µs (1 kHz)

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01%/K

Power Supply	
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 35 mA

Safety and Protection	
Test voltage (input/output/supply)	3 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	41.5 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Operating altitude (max.)	2000 m

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-1; EN 50121-3-2
EMC emission of interference	EN 61000-6-3; EN 61326-1; EN 50121-3-2
Standards/specifications	EN 61010-1; EN 61373

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857-424

DIP Switch Adjustability

● = ON | Default

DIP Switch S1 (4 positions)

Input Signal				Max. Operating Frequency	
1	2	3		4	
●			0 … 20 mA		> 1 kHz
●		●	4 … 20 mA	●	100 Hz
●	●		0 … 10 mA		
●	●	●	2 … 10 mA		
			0 … 10 V		
		●	2 … 10 V		
	●		0 … 5 V		
	●	●	1 … 5 V		

DIP Switch S2 (2 positions)

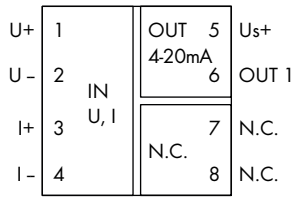
Output Signal 1		
1	2	
		0 … 10 V
●		2 … 10 V
	●	0 … 20 mA
●	●	4 … 20 mA

DIP Switch S3 (2 positions)

Output Signal 2		
1	2	
		0 … 10 V
●		2 … 10 V
	●	0 … 20 mA
●	●	4 … 20 mA

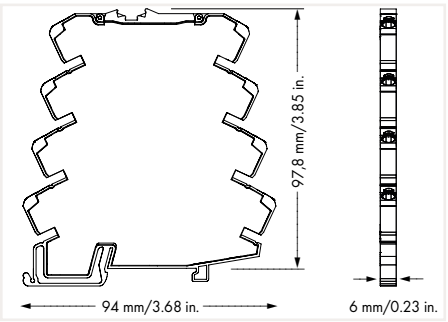
Loop-Powered Isolation Amplifier
857 Series





Loop-Powered Isolation Amplifier; Bipolar current and voltage input signal; Current output signal; Power via input; Module width: 6 mm

	Item No.	Pack. Unit
	857-450	1



Short description:
WAGO's loop-powered isolation amplifier converts, amplifies, filters, and electrically isolates standard unipolar/bipolar analog signals.

Features:
- No additional supply voltage required
- Zero/span adjustment
- Standard unipolar/bipolar analog signals at input
- Calibrated measurement range switching
- Switchable limit frequency
- Safe 2-way isolation with 2.5 kV test voltage per EN 61140

Specialty Functions:



Configuration via:



Configuration	
Configuration options	DIP switch

Input	
Input signal type	Voltage; Current
Input signal (voltage)	±1 V; 0 … 1 V; ±2 V; 0 … 2 V; ±5 V; 0 … 5 V; 1 … 5 V; ±10 V; 0 … 10 V; 2 … 10 V; ±20 V
Input signal (current)	±5 mA; 0 … 5 mA; ±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA
Input resistance (current input)	≤ 50 Ω
Input resistance (voltage input)	≥ 1 mΩ
Input current (max.)	50 mA
Input voltage (max.)	30 V
Zero/span adjustment	±5 % of upper range value

Output	
Output signal type	Current
Output signal (current)	4 … 20 mA
Load impedance (current output)	≤ 600 Ω

Signal Processing	
Limit frequency	100 Hz / 30 Hz (configurable via DIP switch)
Step response (typ.)	3.5 ms

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K

Power Supply	
Supply voltage	8 … 30 VDC (power derived from the output circuit)

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	37.9 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3

» Accessories Page 338

857-450

DIP Switch Adjustability

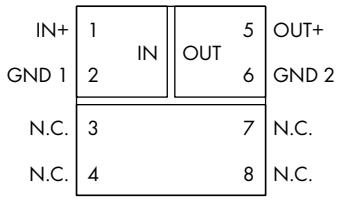
● = ON **Default**

DIP switch (6 positions)

Input Signal							Output Signal	Max. Operating Frequency	
1	2	3	4	5				6	
					4 ... 20 mA	Current	4 ... 20 mA		100 Hz
●		●	●		0 ... 20 mA			●	30 Hz
●		●	●	●	±20 mA				
●		●			2 ... 10 mA				
●			●		0 ... 10 mA				
●			●	●	±10 mA				
●					0 ... 5 mA				
●				●	±5 mA				
	●	●	●		0 ... 20 V	Voltage			
	●	●	●	●	±20 V				
	●	●			2 ... 10 V				
	●		●		0 ... 10 V				
	●		●	●	±10 V				
	●				1 ... 5 V				
		●	●		0 ... 5 V				
		●	●	●	±5 V				
		●			0 ... 2 V				
		●		●	±2 V				
			●		0 ... 1 V				
			●	●	±1 V				

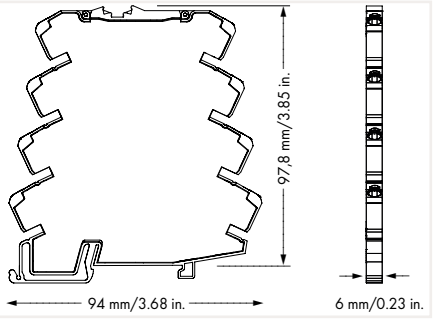
Passive Isolator; 1-Channel
857 Series





Passive Isolator; 1-channel; Current input signal; Current output signal; Power via input; Module width: 6 mm wide

	Item No.	Pack. Unit
	857-451	1



Short description:
WAGO's passive isolator (1-channel) electrically isolates and filters 0(4)–20 mA standard analog signals, while drawing power for signal transmission from the input circuit. The connected sensor supplies the passive isolator with the required power to energize the connected load.

Features:
- No additional supply voltage required
- Safe 2-way isolation with 2.5 kV test voltage per EN 61140

Configuration	
Configuration options	Pre-configured

Input	
Input signal type	Current
Input signal (current)	0 … 20 mA; 4 … 20 mA
Voltage drop at input	≤ 2.5 V at 20 mA (output)
Input current (max.)	40 mA
Input voltage (max.)	20 V
Response threshold	200 µA

Output	
Output signal type	Current
Output signal (current)	0 … 20 mA; 4 … 20 mA
Load impedance (current output)	≤ 600 Ω (temperature range restrictions may occur)

Signal Processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Load error	≤ 0.05 % (of upper-range value; per 100 Ω load)
Temperature coefficient	≤ 0.01 %/K

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	34.2 g

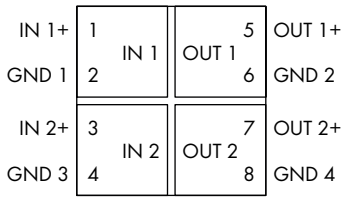
Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

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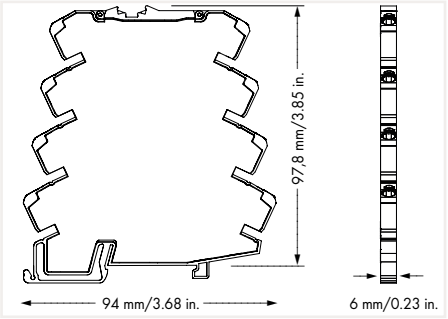
Passive Isolator; 2-Channel
857 Series





Passive Isolator; 2-channel; Current input signal; 2 x Current output signal; Power via input; Module width: 6 mm wide

	Item No.	Pack. Unit
	857-452	1



Short description:
WAGO's passive isolator (2-channel) electrically isolates and filters 0(4)–20 mA standard analog signals, while drawing power for signal transmission from the input circuit. The connected sensor supplies the passive isolator with the required power to energize the connected load.

Features:
- No additional supply voltage required
- Safe 2-way isolation with 2.5 kV test voltage per EN 61140

Configuration	
Configuration options	Pre-configured

Input	
Input signal type	Current
Input signal (current)	0 … 20 mA; 4 … 20 mA
Voltage drop at input	≤ 2.5 V at 20 mA (output)
Input current (max.)	40 mA
Input voltage (max.)	20 V
Response threshold	200 µA

Output	
Output signal type	Current
Output signal (current)	0 … 20 mA; 4 … 20 mA
Load impedance (current output)	≤ 600 Ω (temperature range restrictions may occur)

Signal Processing	
Limit frequency	100 Hz
Step response (typ.)	3.5 ms

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Load error	≤ 0.05 % (of upper-range value; per 100 Ω load)
Temperature coefficient	≤ 0.01 %/K

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	62 g

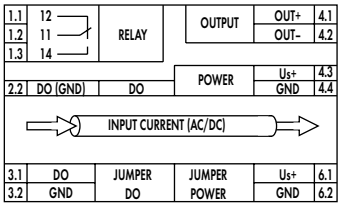
Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

» Accessories Page 338

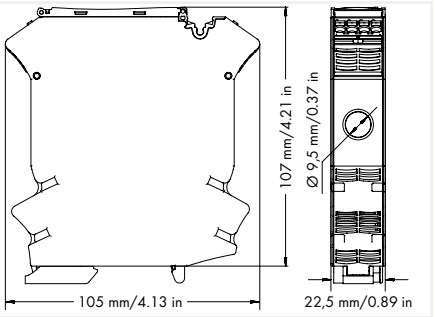
Current Signal Conditioner; Configurable; with Digital and Relay Output
857 Series





Current Signal Conditioner; Current input signal: 100 A AC/DC; Current and voltage output signal; Digital and relay output; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	2857-550	1



Short description:
WAGO's current signal conditioner measures AC/DC currents up to 100 A and converts the measured current into a standard analog signal at the output.

Features:
- Both digital signal output and relay with changeover contact react to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values)
- Clipping capability provides analog signal limitation to output end values
- Adjustable software filter
- Input/output response simulation via configuration display
- Safe 3-way isolation with 3 kV test voltage per EN 61010-1

Note:
Additional setting options via interface configuration software/app

» Configuration software	Page 326
» Configuration app	Page 327
» Configuration display	Page 328
» Accessories	Page 338

Configuration

Configuration options	DIP switch; Interface configuration software; Interface configuration app; Configuration display

Input

Input signal type	Current
Input signal (current)	0.5 … 100 AAC; −100 … +100 ADC
Frequency range	15 … 1000 Hz
Input current (max.)	100 A AC/DC
Response threshold	500 mA (AC); 250 mA (DC)
Resolution	10 mA

Output

Output signal type	Current; Voltage
Output signal (voltage)	±5 V; 0 … 5 V; 1 … 5 V; ±10 V; 0 … 10 V; 2 … 10 V
Output signal (current)	±10 mA; 0 … 10 mA; 2 … 10 mA; ±20 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 1 kΩ
Load impedance (current output)	≤ 600 Ω

Output – Digital

Max. switching voltage (DO)	Supply voltage applied: −0.3 V
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)

Output – Relay

Number of changeover/switchover contacts	1
Contact material (relay)	AgNi (gold-plated)
Switching voltage (max.)	250 VAC
Limiting continuous current (relay; module assembly)	6 A (≤ 60 °C); 3 A (60 … +70 °C)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	8 ms
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 … 60 s (via software)

Signal Processing

Measurement method	True RMS measurement; Arithmetic mean value
Limit frequency	3.3 kHz
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	60 ms (DC; for software filter 3/default setting); 250 ms (AC)

Measurement Error

Transmission error (max.)	≤ 1 % (of the full scale value)
Temperature coefficient	≤ 0.01 %/K

Power Supply

Nominal supply voltage U_s	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 50 mA (+ IDO)

Safety and Protection

Test voltage (input/output/supply)	3 kVAC; 50 Hz; 1 min
Test voltage (measuring circuit/output)	4 kVAC; 50 Hz; 1 min
Protection type	IP20

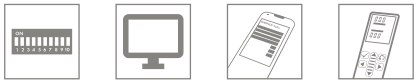
Connection Data

Connection technology	Push-in CAGE CLAMP®
WAGO Connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Feedthrough for measurement conductor	9.5 mm Ø

Specialty Functions:



Configuration via:



Geometric Data	
Width	22.5 mm / 0.886 inch
Height from upper-edge of DIN-rail	107 mm / 4.213 inch
Depth	105 mm / 4.134 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	102.94 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 61010-1; EN 61373

3

2857-550

DIP Switch Adjustability

● = ON **Default**

DIP Switch S1

Measurement method		Filter		Analog Output, Inverted		Output Signal (Bipolar for Arithmetic Mean Value)			
1		2		3		4	5	6	Analog Output
	True RMS		inavtive		Not inverted				(±)0 … 20 mA
●	Arithmetic mean value (Output signal bipolar)	●	avtive	●	Inverted		●		4 … 20 mA
						●			(±)0 … 10 V
						●	●		2 … 10 V
								●	(±)0 … 10 mA
							●	●	2 … 10 mA
						●		●	(±)0 … 5 V
						●	●	●	1 … 5 V

DIP Switch S1

7	8	Measurement Range Underflow	Measurement Range Overflow	Overcurrent (Input Signal End Value + 20 %)	Digital Output (DO)/ Relay		
					9	10	
		Lower limit of output range -5% *	Upper limit of output range +2.5% *	Upper limit of output range +5%			Off
●		Lower limit of output range	Upper limit of output range +2.5%	Upper limit of output range +5%	●		DO U_s+ switching – Relay pulls in
	●	Lower limit of output range	Upper limit of output range	Lower limit of output range -5 %		●	DO GND switching – Relay drops out
●	●	Lower limit of output range -5%	Upper limit of output range +5%	Upper limit of output range	●	●	Off

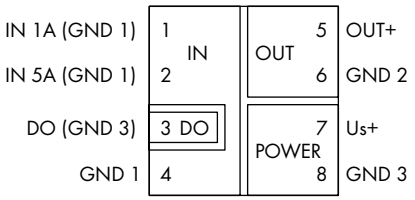
*acc. to NAMUR NE 43

DIP Switch S2

Start Value						End Value			
1	2	3	4	A / % (RMS)	A / % (Arithmetic Mean Value)	5	6	7	A / %
				Software configuration (0)	Software configuration (-100)				Software configuration (100)
●				0	-100	●			100
	●			5	-75		●		90
●	●			8	-50	●	●		70
		●		10	-25			●	50
●		●		12	-10	●		●	30
	●	●		14	0		●	●	20
●	●	●		16	5	●	●	●	10
			●	18	10				
●			●	20	15				
	●		●	25	20				
●	●		●	30	25				
		●	●	35	30				
●		●	●	40	35				
	●	●	●	45	40				
●	●	●	●	50	50				

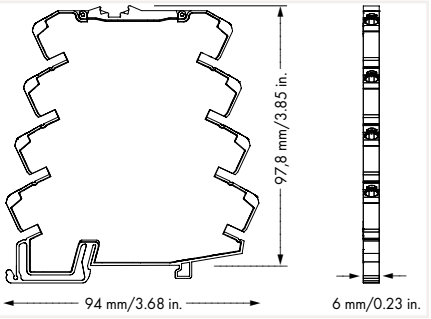
Current Signal Conditioner; Configurable; with Digital Output
857 Series





Current Signal Conditioner; Current input signal: 5 A AC/DC; Current and voltage output signal; Digital output; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-550	1



Short description:
WAGO's current signal conditioner measures both 0–1 A and 0–5 A AC/DC currents, converting the input signal to an standard analog signal at the output.

Features:
- PC configuration interface
- True RMS measurement or arithmetic mean value
- Digital switching output (configurable switching thresholds)
- Switchable filter function
- Calibrated measurement range switching
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140
- Extremely fast response times
- Measurement range overflow indication

Note:
Additional setting options via interface configuration software/app

» Configuration software Page 326
» Configuration app Page 327
» Accessories Page 338

Configuration

Configuration options	DIP switch; Interface configuration software; Interface configuration app

Input

Input signal type	Current
Input signal (current)	0 …1 A AC/DC (IN 1); 0 …5 A AC/DC (IN 2)
Frequency range	16 … 400 Hz
Input resistance (current input)	10 mΩ (IN 1); 47 mΩ (IN 2)
Input current (max.)	10 A (IN 1; 5 s); 15 A (IN 2; 5 s)
Response threshold	2 mA (IN 1); 4 mA (IN 2)

Output

Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ (temperature range restrictions may occur)
Load impedance (current output)	≤ 600 Ω (temperature range restrictions may occur)

Output – Digital

Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 (adjustable)

Signal Processing

Measurement method	True RMS measurement; Arithmetic mean value
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	60 ms

Measurement Error

Transmission error (typ.)	≤ 0.1 % of upper-range value
Transmission error (max.)	≤ 0.4 % of upper-range value
Temperature coefficient	≤ 0.01 %/K

Power Supply

Nominal supply voltage U_s	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA (+ IDO)

Safety and Protection

Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	64 g

Environmental Requirements

Surrounding air temperature (operation)	–25 °C … +70 °C (at nominal current)
Surrounding air temperature (storage)	–40 … +85 °C

Specialty Functions:





Configuration via:





Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

857-550

DIP Switch Adjustability

● = ON **Default**

DIP Switch S1

Input Signal		Measurement Method		Filter		Output Signal			
1		2		3		4	5	6	
	5 A		Mean square value		off				0 ... 20 mA
●	1 A	●	Arithmetic mean value	●	active		●		4 ... 20 mA
						●			0 ... 10 V
						●	●		2 ... 10 V
								●	0 ... 10 mA
							●	●	2 ... 10 mA
						●		●	0 ... 5 V
						●	●	●	1 ... 5 V

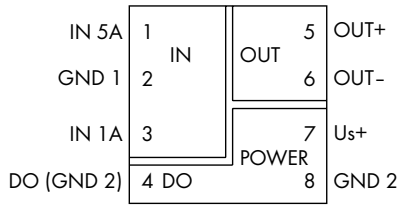
Filter:
The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

DIP Switch S1

7	8	Measurement Range Underflow	Measurement Range Overflow	Overcurrent (Input Signal - End Value + 20%)	9	10	Digit Output DO Signaling
		Lower limit of measurement range -5 %*	Upper limit of measurement range +2.5 %*	Upper limit of measurement range +5 %*			DO not active
●		Lower limit of measurement range	Upper limit of measurement range +2.5 %	Upper limit of measurement range +5 %		●	DO U_s+ switching
	●	Lower limit of measurement range	Upper limit of measurement range	Lower limit of measurement range	●	●	DO GND switching
●	●	Lower limit of measurement range	Upper limit of measurement range	Upper limit of measurement range			*acc. to NAMUR NE 43

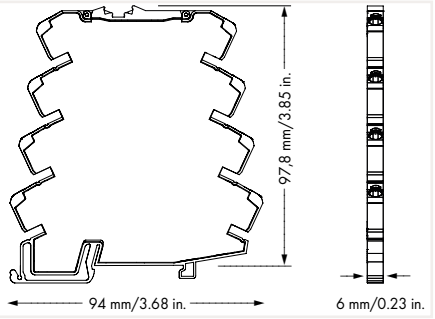
Current Signal Conditioner; Configurable; with Digital Output
Serie 857





Current Signal Conditioner; Current input signal: 5 A AC/DC; Current and voltage output signal; Digital output; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-551	1



Short description:
WAGO's current signal conditioner measures AC/DC currents up to 5 A, converting the input signal to a standard analog signal at the output.

Features:
- Two isolated measurement inputs for 1 and 5 A AC/DC
- RMS measurement or arithmetic mean value
- A digital signal output reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values)
- Switchable filter function
- Safe 3-way isolation with 3 kV test voltage per DIN EN 61010-1

Notes:
- Additional setting options via interface configuration software
- In the present network, ensure that the neutral conductor is not dangerously active!

Configuration

Configuration options	DIP switch; Interface configuration software

Input

Input signal type	Current
Input signal (current)	0 … 5 A AC/DC (IN 1; Individual arrangement); 0 … 6 A AC/DC (IN 1; Block arrangement); 0 … 1 A AC/DC (IN 2)
Frequency range	16 … 200 Hz
Input resistance (current input)	47 mΩ (IN 1); 10 mΩ (IN 2)
Input current (max.)	6.2 A (IN 1; permanent); 15 A (IN 1; 5 s); 2 A (IN 2; permanent); 10 A (IN 2; 5 s)
Response threshold	10 mA (IN 1); 2 mA (IN 2)
Resolution	1 mA (IN 1); 0.5 mA (IN 2)

Output

Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (can be inverted, also bipolar)
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA (can be inverted, also bipolar)
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Output – Digital

Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)

Signal Processing

Measurement method	RMS measurement; Arithmetic mean value
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	60 ms (with software filter 3)
Step response (max.)	250 ms

Measurement Error

Transmission error (max.)	≤ 0.5 % (of the full scale value)
Temperature coefficient	≤ 0.01 %/K

Power Supply

Nominal supply voltage US	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 46 mA (+ IDO)

Safety and Protection

Test voltage (input/output/supply)	3 kV AC; 50 Hz; 1 min
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data

Mounting type	DIN-35 rail

» Configuration software Page 326
» Accessories Page 338

Specialty Functions:





Configuration via:




Material Data	
Weight	55 g

Environmental Requirements	
Surrounding air temperature (operation)	-40 °C ... +70 °C (at nominal current)
Surrounding air temperature (storage)	–40 ... +85 °C
Operating altitude (max.)	2000 m

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-1
EMC emission of interference	EN 61000-6-3; EN 61326-1
Standards/specifications	EN 61010-1; EN 61010-2-201

3

857-551

DIP Switch Adjustability

● = ON Default

DIP Switch S1

1	2	Input	3	Measurement Method	4	Filter
		5 A		Effective value (RMS)		off
	●	2.5 A	●	Arithmetic mean value (bipolar output)	●	active
●		1 A				
●	●	0.5 A				

DIP Switch S1

5	6	7	Output Signal Range (Bipolar for Arithmetic Mean Value)
			(+/-) 0 ... 20 mA
	●		4 ... 20 mA
●			(+/-) 0 ... 10 V
●	●		2 ... 10 V
		●	(+/-) 0 ... 10 mA
	●	●	2 ... 10 mA
●		●	(+/-) 0 ... 5 V
●	●	●	1 ... 5 V

DIP Switch S1

8	9	Measurement Range Underflow	Measurement Range Overflow	10	Digital Output DO Signaling
		Lower limit of measurement range +2.5 %*	Upper limit of measurement range -5 %*		DO V_s + switching
●		Lower limit of measurement range +2.5 %	Upper limit of measurement range	●	DO GND switching
	●	Lower limit of measurement range	Upper limit of measurement range		
●	●	Lower limit of measuring range	Upper limit of measuring range -5 %		

*acc. to NAMUR NE 43

Filter

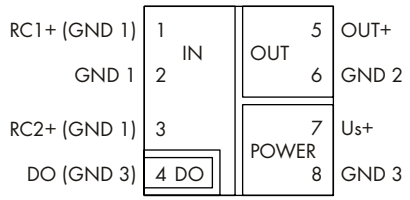
The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

Digital Output DO/Signaling

The digital output (DO) signals error messages and can be configured as follows: 24 V → 0 V/0 V → 24 V.

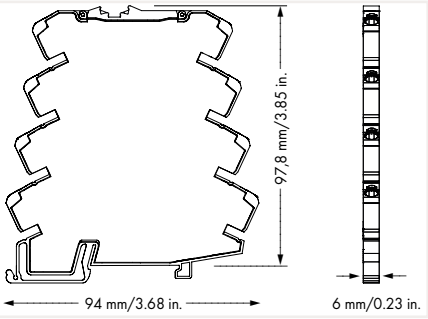
Current Signal Conditioner; Configurable; Input for Rogowski Coils
857 Series





Current Signal Conditioner; Input for Rogowski coils; Current and voltage output signal; Digital output; Supply voltage: 24 VDC; Module width: 6 mm

Item No.	Pack. Unit
857-552	1



Short description:
WAGO's rogowski signal conditioner records RMS values from alternating currents via Rogowski coil, converting the input signal into an standard analog signal on the output side.

Features:
- PC configuration interface
- Supports different Rogowski coil types
- Digital switching output (configurable switching thresholds)
- True RMS measurement (TRMS)
- Configurable output signal
- Configuration via DIP switch
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140
- No current bar interruption during installation
- Measurement range overflow indication

Note:
Additional setting options via interface configuration software/app

» Configuration software Page 326
» Configuration app Page 327
» Accessories Page 338

Configuration	
Configuration options	DIP switch; Interface configuration software; Interface configuration app

Input	
Input signal type	Voltage
Input signal (voltage)	50 Hz sinusoidal signals: 10.05 mVAC (RC1); 40.2 mVAC (RC2A); 90 mVAC (RC2B)
Sensitivity	RC2B: 22.5 mV/kA
Measurement range (current)	500 AAC (RC1); 2000 AAC (RC2A); 4000 AAC (RC2B)
Frequency range	50 Hz (sinusoidal signals)
Response threshold	≤ 1 % (of measurement range nominal value)
Resolution	250 mA (RC1); 1 A (RC2A); 1.5 A (RC2B)

Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 1 kΩ
Load impedance (current output)	≤ 600 Ω

Output – Digital	
Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 (adjustable)

Signal Processing	
Measurement method	True RMS measurement (TRMS)
Limit frequency	2 kHz
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	60 ms

Measurement Error	
Transmission error (max.)	≤ 1 % (of the full scale value)
Temperature coefficient	≤ 0.01 %/K

Power Supply	
Nominal supply voltage U_s	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA (+ IDO)

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

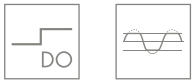
Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	35.1 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Specialty Functions:



Configuration via:



Standards and Specifications	
Conformity marking	CE

857-552

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

Input Signal		RC Configuration Input		Filter		Output Signal			
1		2		3		4	5	6	
	RC1 = RT500 from LEM		RC2A = RT2000 from LEM		off				0 ... 20 mA
●	RC2	●	RC2B = 22.5 mV/kA	●	active		●		4 ... 20 mA
						●			0 ... 10 V
						●	●		2 ... 10 V
								●	0 ... 10 mA
							●	●	2 ... 10 mA
						●		●	0 ... 5 V
						●	●	●	1 ... 5 V

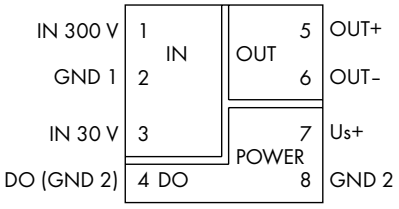
Filter:
The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

DIP Switch S1

7	8	Measurement Range Underflow	Measurement Range Overflow	Overcurrent (Input Signal – End Value + 20%)	9	10	Digital Output DO Signaling
		Lower limit of measurement range +5 %*	Upper limit of measurement range +2.5 %*	Upper limit of measurement range +5 %*			DO not active
●		Lower limit of measurement range	Upper limit of measurement range +2.5 %	Upper limit of measurement range +5 %		●	DO U_s+ switching
	●	Lower limit of measurement range	Upper limit of measurement range	Lower limit of measurement range	●	●	DO GND switching
●	●	Lower limit of measurement range	Upper limit of measurement range	Upper limit of measurement range			*acc. to NAMUR NE 43

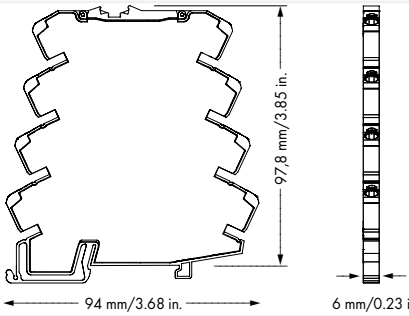
Voltage Signal Conditioner; Configurable; with Digital Output
857 Series





Voltage Signal Conditioner; Voltage input signal; Current and voltage output signal; Digital output; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-560	1



Short description:
WAGO's voltage signal conditioner measures AC/DC voltages up to 300 V, converting the input signal into a standard analog signal at the output.

Features:
- Two isolated measurement inputs for 30 and 300 V AC/DC
- RMS measurement or arithmetic mean value
- A digital signal output reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values)
- Switchable filter function
- Safe 3-way isolation with 3 kV test voltage per DIN EN 61010-1

» Configuration software Page 326
» Configuration app Page 327
» Accessories Page 338

Configuration

Configuration options	DIP switch; Interface configuration software; Interface configuration app

Input

Input signal type	Voltage
Input signal (voltage)	300 V AC/DC (IN 1); 30 V AC/DC (IN 2)
Frequency range	10 … 100 Hz (AC)
Input resistance (voltage input)	≥ 300 kΩ
Input voltage (max.)	600 V (IN 1; permanent); 60 V (IN 2; permanent)
Response threshold	300 mV (IN 1); 30 mV (IN 2)
Resolution	30 mV (IN 1); 3 mV (IN 2)

Output

Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V (can be inverted, also bipolar)
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA (can be inverted, also bipolar)
Load impedance (voltage output)	≥ 1 kΩ
Load impedance (current output)	≤ 600 Ω

Output – Digital

Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)

Signal Processing

Measurement method	RMS measurement; Arithmetic mean value
Limit frequency	2 kHz
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	30 ms

Measurement Error

Transmission error (max.)	≤ 0.5 % (of the full scale value)
Temperature coefficient	≤ 0.01 %/K

Power Supply

Nominal supply voltage U_s	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 46 mA (+ IDO)

Safety and Protection

Test voltage (input/output/supply)	3 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	39.1 g

Environmental Requirements

Surrounding air temperature (operation)	–25 °C … +70 °C (at nominal current)
Surrounding air temperature (storage)	–40 … +85 °C
Operating altitude (max.)	2000 m

Specialty Functions:





Configuration via:





Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-3; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 61010-1; EN 61373

857-560

DIP Switch Adjustability

● = ON **Default**

DIP Switch S1

1	2	Input	3	Measurement Method	4	Filter
		300 V		Effective value (RMS)		off
	●	150 V	●	Arithmetic mean value (bipolar output)	●	active
●		30 V				
●	●	15 V				

DIP Switch S1

5	6	7	Output Signal Range (Bipolar for Arithmetic Mean Value)
			(+/-) 0 ... 20 mA
	●		4 ... 20 mA
●			(+/-) 0 ... 10 V
●	●		2 ... 10 V
		●	(+/-) 0 ... 10 mA
	●	●	2 ... 10 mA
●		●	(+/-) 0 ... 5 V
●	●	●	1 ... 5 V

DIP Switch S1

8	9	Measurement Range Underflow	Measurement Range Overflow	10	Digital Output DO/ Signaling
		Lower limit of measurement range -5 %*	Upper limit of measurement range +2.5 %*		DO V_s+ switching
●		Lower limit of measurement range	Upper limit of measurement range +2.5 %	●	DO GND switching
	●	Lower limit of measurement range	Upper limit of measurement range		
●	●	Lower limit of measurement range	Upper limit of measurement range		

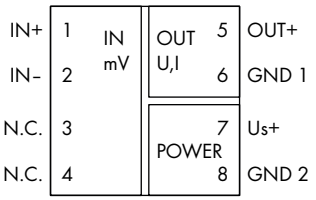
*acc. to NAMUR NE 43

Filter
The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

Digital Output DO/Signaling
The digital output (DO) signals error messages and can be configured as follows: 24 V → 0 V/0 V → 24 V.

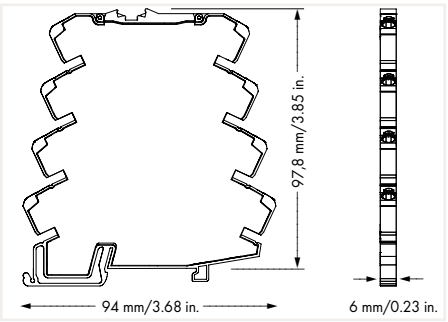
Voltage Signal Conditioner; Configurable
857 Series





Voltage Signal Conditioner; Bipolar voltage input signal; Current and voltage output signal; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-819	1



Short description:
WAGO's voltage signal conditioner converts millivolt signals (at the input) into a standard analog signal at the output.

Features:
- PC configuration interface
- Calibrated measurement range switching
- Switchable clipping
- Limitation of standard analog signal to upper range values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Note:
Additional setting options via interface configuration software/app

Configuration	
Configuration options	DIP switch; Interface configuration software; Interface configuration app
Input	
Input signal type	Voltage
Input signal (voltage)	±100 mV; 0 … 200 mV; 0 … 300 mV; 0 … 400 mV; 0 … 500 mV; 0 … 600 mV; 0 … 700 mV; 0 … 800 mV; 0 … 900 mV; 0 … 1 V
Input resistance (voltage input)	≥ 1 mΩ
Input voltage (max.)	±31.2 VDC
Measurement span (voltage)	10 mV
Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal Processing	
Step response (typ.)	50 ms
Measurement Error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Temperature coefficient	≤ 0.01 %/K
Power Supply	
Nominal supply voltage U_s	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA
Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	36.3 g
Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

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» Configuration app Page 327
» Accessories Page 338

Specialty Functions:



Configuration via:





857-819

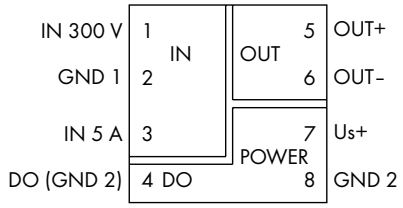
DIP Switch Adjustability

● = ON | Default

| Input Start Value | | | | | | | | | | | | | | | | | | | | | | Input End Value | | | | | | | | | | | | | | | | | | |

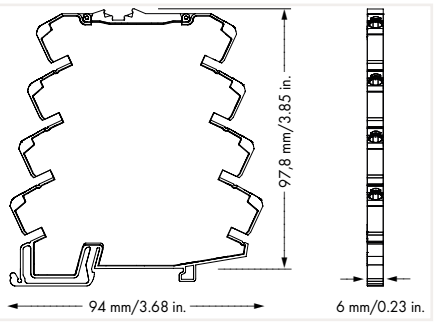
Power Signal Conditioner; Configurable; with Digital Output
857 Series





Power Signal Conditioner; 300 VAC / 5 A; Current and voltage output signal; Digital output; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-569	1



Short description:
WAGO's power signal conditioner measures both AC/DC voltages and currents, converting the input signal into a standard analog signal at the output. Measured value processing can be switched between RMS value or arithmetic mean value and between effective, apparent or reactive power, and phase angle.

Features:
- Two isolated measurement inputs for both AC/DC voltages and currents
- RMS measurement or arithmetic mean value
- A digital signal output reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values)
- Switchable filter function
- Safe 3-way isolation with 3 kV test voltage per DIN EN 61010-1

» Configuration software	Page 326
» Configuration app	Page 327
» Accessories	Page 338

Configuration

Configuration options	DIP switch; Interface configuration software; Interface configuration app

Input

Input signal type	Voltage; Current
Input signal (voltage)	300 V AC/DC (IN 1)
Input signal (current)	0 ...5 A AC/DC (IN 2)
Frequency range	15 ... 70 Hz (AC)
Input resistance (current input)	≤ 10 mΩ
Input resistance (voltage input)	≥ 300 kΩ
Input current (max.)	10 A AC/DC (IN 2; permanent)
Input voltage (max.)	600 V (IN 1; permanent)
Response threshold	300 mV (IN 1); 10 mA (IN 2)
Resolution	30 mV (IN 1); 1 mA (IN 2)

Output

Output signal type	Current; Voltage
Output signal (voltage)	0 ... 5 V; 1 ... 5 V; 0 ... 10 V; 2 ... 10 V (can be inverted, also bipolar)
Output signal (current)	0 ... 10 mA; 2 ... 10 mA; 0 ... 20 mA; 4 ... 20 mA (can be inverted, also bipolar)
Load impedance (voltage output)	≥ 1 kΩ
Load impedance (current output)	≤ 600 Ω

Output – Digital

Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 ... 60 s (via software)

Signal Processing

Measurement method	RMS measurement; Arithmetic mean value
Limit frequency	2 kHz
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	100 ms

Measurement Error

Transmission error (max.)	≤ 0.5 % (of the full scale value)
Temperature coefficient	≤ 0.01 %/K

Power Supply

Nominal supply voltage U_s	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 46 mA (+ IDO)

Safety and Protection

Test voltage (input/output/supply)	3 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch

Geometric Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	39.2 g

Specialty Functions:





Configuration via:





Environmental Requirements	
Surrounding air temperature (operation)	–25 °C … +70 °C (at nominal current)
Surrounding air temperature (storage)	–40 … +85 °C
Operating altitude (max.)	2000 m

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-3; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 61010-1; EN 61373

857-569

DIP Switch Adjustability

● = ON Default

DIP Switch S1

1	2	Measured Variable	3		4	Filter
		Effective power		Not assigned		Off
	●	Apparent power			●	Active
●		Reactive power				
●	●	Power factor				

DIP Switch S1

5	6	7	Output Signal Range
			0 … 20 mA
	●		4 … 20 mA
●			0 … 10 V
●	●		2 … 10 V
		●	0 … 10 mA
	●	●	2 … 10 mA
●		●	0 … 5 V
●	●	●	1 … 5 V

DIP Switch S1

8	9	Measurement Range Underflow	Measurement Range Overflow	10	Digit Output DO/Signaling
		Lower limit of measurement range -5 %*	Upper limit of measurement range +2.5 %*		DO V_s+ switching
●		Lower limit of measurement range	Upper limit of measurement range +2.5 %	●	DO GND switching
	●	Lower limit of measurement range	Upper limit of measurement range		
●	●	Lower limit of measurement range	Upper limit of measurement range		

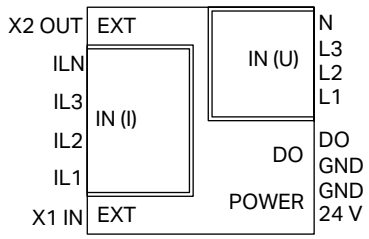
*acc. to NAMUR NE 43

Filter:
The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

Digital Output DO/Signaling:
The digital output (DO) signals error messages and can be configured as follows: 24 V → 0 V/0 V → 24 V.

3-Phase Power Measurement Module; 3 x 400 / 690 V; 1 A; Modbus RTU
Serie 2857





3-Phase Power Measurement Module; 3 x 400 / 690 V; 1 A; Modbus RTU		
	Item No.	Pack. Unit
	2857-570/024-001	1

Short description:
WAGO's 3-phase power measurement module in a DIN-rail-mount enclosure measures electrical data in three-phase supply networks – remotely from the control level.
Measured variables such as active/apparent/reactive power, energy consumption, power factor, phase angle and frequency can be accessed via Modbus® Interface. In addition, the measured variables can be stored on a microSD card.

Features:
- Current measurement via 1A current transformer
- Mobile measurement and storage of measured values on microSD card
- Configuration and display of measured values during operation via configuration interface
- Compact device in DIN-rail-mount enclosure saves space used for building technology
- Communication of measured values via Modbus® Interface
- Configurable digital signal output as pulse output

Note:
- Additional setting options via interface configuration software

Specialty Functions:



Configuration via:



Configuration	
Configuration options	Interface configuration software

Input	
Input signal type	Voltage; Current
Network configuration	3-phase power measurement with N-conductor (4 conductors); 3-phase power measurement with N-conductor (3 conductors)
Input signal (voltage)	3 x 400 VAC (U_{LN}); 3 x 690 VAC (U_{LL})
Input signal (current)	4 x 1 AAC (current transformer)
Frequency range	45 … 65 Hz (Harmonics analysis: 0 … 3.3 kHz)
Input resistance (voltage input)	1.5 MΩ
Input resistance (current input)	22 mΩ
Input voltage (max.)	400 VAC (U_{LN}); 690 VAC (U_{LL})
Input current (max.)	1 AAC
Response threshold	10 mA
Resolution (current)	10 mA

Output – Digital	
Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Configurable functions (DO)	Threshold value switch; S0 interface (pulse output)

Communication	
Communication	Modbus RTU
Interface	RS-485 (2-wire) via RJ-45
Number of participants (max.)	32
Addressing	Via interface configuration software

Signal Processing	
Measurement method	True RMS measurement (measured value acquisition with 8 kHz)
Measured variables (calculated)	Line-to-line voltage; Power output; Energy; Power factors; Mains frequency; Harmonic analysis (up to the 41st harmonic); Total harmonic distortion (THD)
Signal form	Any periodic signals (considering the threshold frequencies)
Limit frequency	15.9 kHz
Type of memory card	WAGO 758-879/000-3102 (microSD; 2 GB)

Measurement Error	
Transmission error (max.)	≤ 0.5 % for current and voltage (of the full scale value)

Power Supply	
Nominal supply voltage U_S	24 VDC (SELV)
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 50 mA (+ I_{DO})

Safety and Protection	
Test voltage (input/output/supply)	3.51 kV AC; 50 Hz; 1 min
Safe isolation (input/supply and communication)	Per EN 61010-1
Requirement (N input)	Shall not be dangerously active
Requirement (IL_x input)	Coils/converters with basic insulation
External/Neutral conductor voltage	600 V AC/DC
Overvoltage category	III
Pollution degree	2
Protection type	IP20

» Configuration software Page 326

Connection Data	
Connection type	Voltage
Connection technology	Push-in CAGE CLAMP®
WAGO Connector	WAGO 804 Series
Solid conductor	0.25 … 2.5 mm² / 20 … 12 AWG
Fine-stranded conductor	0.25 … 2.5 mm² / 22 … 12 AWG
Strip length	10 … 11 mm / 0.39 … 0.43 inch
Connection type 2	Current/Power supply/DO
Connection technology 2	Push-in CAGE CLAMP®
WAGO Connector 2	WAGO 805 Series
Solid conductor 2	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor 2	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length 2	9 … 10 mm / 0.35 … 0.39 inch
Connection type 3	Modbus® communication
Connector	2 x RJ-45 (daisy chain configuration)

Geometric Data	
Width	72 mm / 2.835 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

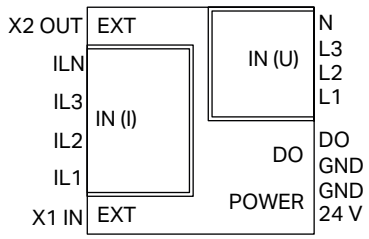
Material Data	
Weight	118 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Relative humidity	5 … 95 % (non-condensing)

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3
Standards/specifications	EN 61010-1

3-Phase Power Measurement Module; 3 x 400 / 690 V; 5 A; Modbus RTU
Serie 2857





3-Phase Power Measurement Module; 3 x 400 / 690 V; 5 A; Modbus RTU		
	Item No.	Pack. Unit
	2857-570/024-005	1

Short description:
WAGO's 3-phase power measurement module in a DIN-rail-mount enclosure measures electrical data in three-phase supply networks – remotely from the control level. Measured variables such as active/apparent/reactive power, energy consumption, power factor, phase angle and frequency can be accessed via Modbus® Interface. In addition, the measured variables can be stored on a microSD card.

Features:
- Current measurement via 5A current transformer
- Mobile measurement and storage of measured values on microSD card
- Configuration and display of measured values during operation via configuration interface
- Compact device in DIN-rail-mount enclosure saves space used for building technology
- Communication of measured values via Modbus® Interface
- Configurable digital signal output as pulse output

Note:
- Additional setting options via interface configuration software

Specialty Functions:



Configuration via:



Configuration	
Configuration options	Interface configuration software

Input	
Input signal type	Voltage; Current
Network configuration	3-phase power measurement with N-conductor (4 conductors); 3-phase power measurement with N-conductor (3 conductors)
Input signal (voltage)	3 x 400 VAC (U_{LN}); 3 x 690 VAC (U_{LL})
Input signal (current)	4 x 5 AAC (current transformer)
Frequency range	45 … 65 Hz (Harmonics analysis: 0 … 3.3 kHz)
Input resistance (voltage input)	1.5 MΩ
Input resistance (current input)	22 mΩ
Input voltage (max.)	400 VAC (U_{LN}); 690 VAC (U_{LL})
Input current (max.)	5 AAC
Response threshold	5 mA
Resolution (current)	0.15 mA

Output – Digital	
Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Configurable functions (DO)	Threshold value switch; S0 interface (pulse output)

Communication	
Communication	Modbus RTU
Interface	RS-485 (2-wire) via RJ-45
Number of participants (max.)	32
Addressing	Via interface configuration software

Signal Processing	
Measurement method	True RMS measurement (measured value acquisition with 8 kHz)
Measured variables (calculated)	Line-to-line voltage; Power output; Energy; Power factors; Mains frequency; Harmonic analysis (up to the 41st harmonic); Total harmonic distortion (THD)
Signal form	Any periodic signals (considering the threshold frequencies)
Limit frequency	15.9 kHz
Type of memory card	WAGO 758-879/000-3102 (microSD; 2 GB)

Measurement Error	
Transmission error (max.)	≤ 0.5 % for current and voltage (of the full scale value)

Power Supply	
Nominal supply voltage U_S	24 VDC (SELV)
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 50 mA (+ I_{DO})

Safety and Protection	
Test voltage (input/output/supply)	3.51 kV AC; 50 Hz; 1 min
Safe isolation (input/supply and communication)	Per EN 61010-1
Requirement (N input)	Shall not be dangerously active
Requirement (IL_x input)	Coils/converters with basic insulation
External/Neutral conductor voltage	600 V AC/DC
Overvoltage category	III
Pollution degree	2
Protection type	IP20

» Configuration software Page 326

Connection Data	
Connection type	Voltage
Connection technology	Push-in CAGE CLAMP®
WAGO Connector	WAGO 804 Series
Solid conductor	0.25 … 2.5 mm² / 20 … 12 AWG
Fine-stranded conductor	0.25 … 2.5 mm² / 22 … 12 AWG
Strip length	10 … 11 mm / 0.39 … 0.43 inch
Connection type 2	Current/Power supply/DO
Connection technology 2	Push-in CAGE CLAMP®
WAGO Connector 2	WAGO 805 Series
Solid conductor 2	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor 2	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length 2	9 … 10 mm / 0.35 … 0.39 inch
Connection type 3	Modbus® communication
Connector	2 x RJ-45 (daisy chain configuration)

Geometric Data	
Width	72 mm / 2.835 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

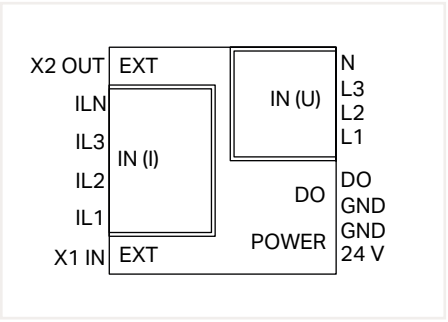
Material Data	
Weight	118 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Relative humidity	5 … 95 % (non-condensing)

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3
Standards/specifications	EN 61010-1

3-Phase Power Measurement Module; 3 x 400 / 690 V; RC; Modbus RTU
Serie 2857





3-Phase Power Measurement Module; 3 x 400 / 690 V; RC; Modbus RTU		
	Item No.	Pack. Unit
	2857-570/024-000	1

Short description:
WAGO's 3-phase power measurement module in a DIN-rail-mount enclosure measures electrical data in three-phase supply networks – remotely from the control level. Measured variables such as active/apparent/reactive power, energy consumption, power factor, phase angle and frequency can be accessed via Modbus® Interface. In addition, the measured variables can be stored on a microSD card.

Features:
- Current measurement via Rogowski Coils RC xxx
- Mobile measurement and storage of measured values on microSD card
- Configuration and display of measured values during operation via configuration interface
- Compact device in DIN-rail-mount enclosure saves space used for building technology
- Communication of measured values via Modbus® Interface
- Configurable digital signal output as pulse output

Note:
- Additional setting options via interface configuration software

Specialty Functions:



Configuration via:



Configuration	
Configuration options	Interface configuration software

Input	
Input signal type	Voltage; Current
Network configuration	3-phase power measurement with N-conductor (4 conductors); 3-phase power measurement with N-conductor (3 conductors)
Input signal (voltage)	3 x 400 VAC (U_{LN}); 3 x 690 VAC (U_{LL}); 4 x 90 mVAC (WAGO Rogowski Coils RC xxx)
Sensitivity	22.5 mV/kA (WAGO Rogowski Coils RC xxx)
Measurement range (current)	4 x 4000 AAC (WAGO Rogowski Coils RC xxx)
Frequency range	45 … 65 Hz (Harmonics analysis: 0 … 3.3 kHz)

Output – Digital	
Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Configurable functions (DO)	Threshold value switch; S0 interface (pulse output)

Communication	
Communication	Modbus RTU
Interface	RS-485 (2-wire) via RJ-45
Number of participants (max.)	32
Addressing	Via interface configuration software

Signal Processing	
Measurement method	True RMS measurement (measured value acquisition with 8 kHz)
Measured variables (calculated)	Line-to-line voltage; Power output; Energy; Power factors; Mains frequency; Harmonic analysis (up to the 41st harmonic); Total harmonic distortion (THD)
Signal form	Any periodic signals (considering the threshold frequencies)
Limit frequency	15.9 kHz
Type of memory card	WAGO 758-879/000-3102 (microSD; 2 GB)

Measurement Error	
Transmission error (max.)	≤ 0.5 % for current and voltage (of the full scale value)

Power Supply	
Nominal supply voltage U_S	24 VDC (SELV)
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 50 mA (+ I_{DO})

Safety and Protection	
Test voltage (input/output/supply)	3.51 kV AC; 50 Hz; 1 min
Safe isolation (input/supply and communication)	Per EN 61010-1
Requirement (N input)	Shall not be dangerously active
Requirement (IL_x input)	Coils/converters with basic insulation
External/Neutral conductor voltage	600 V AC/DC
Overvoltage category	III
Pollution degree	2
Protection type	IP20

» Configuration software Page 326

Connection Data	
Connection type	Voltage
Connection technology	Push-in CAGE CLAMP®
WAGO Connector	WAGO 804 Series
Solid conductor	0.25 … 2.5 mm² / 20 … 12 AWG
Fine-stranded conductor	0.25 … 2.5 mm² / 22 … 12 AWG
Strip length	10 … 11 mm / 0.39 … 0.43 inch
Connection type 2	Current/Power supply/DO
Connection technology 2	Push-in CAGE CLAMP®
WAGO Connector 2	WAGO 805 Series
Solid conductor 2	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor 2	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length 2	9 … 10 mm / 0.35 … 0.39 inch
Connection type 3	Modbus® communication
Connector	2 x RJ-45 (daisy chain configuration)

Geometric Data	
Width	72 mm / 2.835 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

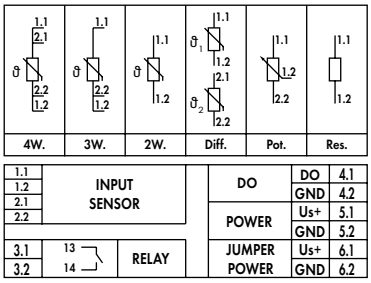
Material Data	
Weight	118 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Relative humidity	5 … 95 % (non-condensing)

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-3
Standards/specifications	EN 61010-1

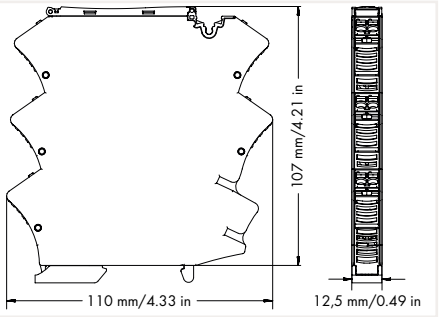
RTD Threshold Value Switch; Configurable
857 Series





Threshold Value Switch; RTD sensors; Relay/1 make contact; Digital output; Supply voltage: 24 VDC; Module width: 12.5 mm

	Item No.	Pack. Unit
	2857-533	1



Short description:
WAGO's RTD threshold value switch for RTD sensors, potentiometers and resistors monitors and reports signals of up to two switching thresholds.

Features:
- Both digital signal output and relay with make contact react to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values)
- Configurable RTD factor
- Adjustable software filter
- Input/output response simulation via configuration display
- Safe 3-way isolation with 4 kV test voltage per EN 61140

Note:
Additional setting options via interface configuration software/app

» Configuration software Page 326
» Configuration app Page 327
» Configuration display Page 328
» Accessories Page 338

Configuration

Configuration options	DIP switch; Interface configuration software; Interface configuration app; Configuration display

Input

Input signal type	Resistor; TC sensors; Frequency

Input – RTD Sensors

Sensor types (RTD)	Pt100; Pt200; Pt500; Pt1000; Pt5000; Pt10000; Pt10 ... Pt20000
Sensor connection	2-wire; 3-wire; 4-wire; differential
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	−200 ... +850 °C

Input – Resistors

Input range (resistor)	0 ... 100 kΩ
Input range (potentiometer)	0 ... 100 kΩ

Output – Digital

Max. switching voltage (DO)	Supply voltage applied: −0.3 V
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 ... 60 s (via software)

Output – Relay

Number of make contacts/switch-on contacts	1
Contact material (relay)	AgNi (gold-plated)
Switching voltage (max.)	250 VAC
Limiting continuous current (relay; module assembly)	6 A (≤ 60 °C); 3 A (60 ... +70 °C)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	8 ms
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 ... 60 s (via software)

Signal Processing

Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	60 ms (2-wire); 360 ms (3-wire); 540 ms (4-wire); 360 ms (potentiometer)

Measurement Error

Transmission error (max.)	±1 K
Temperature coefficient	≤ 0.01 %/K

Power Supply

Nominal supply voltage U_s	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA (+ IDO)

Safety and Protection

Test voltage (input/output/supply)	4 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
WAGO Connector	picoMAX® 5.0
Solid conductor	0.2 ... 2.5 mm² / 24 ... 12 AWG
Fine-stranded conductor	0.2 ... 2.5 mm² / 24 ... 12 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch

Geometric Data

Width	12.5 mm / 0.492 inch
Height from upper-edge of DIN-rail	107 mm / 4.213 inch
Depth	110 mm / 4.331 inch

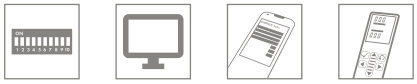
Mechanical Data

Mounting type	DIN-35 rail

Specialty Functions:



Configuration via:



Material Data	
Weight	86.5 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 61010-1; EN 61373

3

2857-533

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

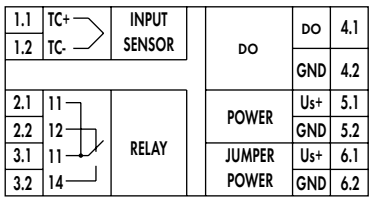
Sensor Type				Connection Technology			Hysteresis		Rise/Fall Delay Relay/ DO					
1	2	3		4	5		6	T / K	7	8	9	t / s	10	Reserve
			Pt100			2-wire		3				0		
●			Pt200	●		3-wire	●	5	●			1		
	●		Pt500		●	4-wire				●		2		
●	●		Pt1000	●	●	Difference			●	●		3		
		●	Pt5000								●	4		
●		●	Pt10000						●		●	5		
	●	●	Resistance							●	●	8		
●	●	●	Potentiometer						●	●	●	10		

DIP Switch S2

Start Value								End Value							
1	2	3	4	5	Temperature / °C	Resistance / Ω	Potentiometer Position	6	7	8	9	10	Temperature / °C	Resistance / Ω	Potentiometer Position
					0	OFF	OFF						100	OFF	OFF
●					OFF	10	0 %	●					OFF	10	0 %
	●				-200	15	5 %		●				-200	15	5 %
●	●				-150	22	10 %	●	●				-150	22	10 %
		●			-100	33	15 %			●			-100	33	15 %
●		●			-50	47	20 %	●		●			-50	47	20 %
	●	●			-10	68	25 %		●	●			-10	68	25 %
●	●	●			10	100	30 %	●	●	●			10	100	30 %
			●		20	120	35 %				●		20	120	35 %
●			●		30	150	40 %	●			●		30	150	40 %
	●		●		40	220	45 %		●		●		40	220	45 %
●	●		●		50	330	50 %	●	●		●		50	330	50 %
		●	●		60	470	55 %			●	●		60	470	55 %
●		●	●		70	560	60 %	●		●	●		70	560	60 %
	●	●	●		80	680	65 %		●	●	●		80	680	65 %
●	●	●	●		90	1000	70 %	●	●	●	●		90	1000	70 %
				●	100	1200	75 %					●	100	1200	75 %
●				●	150	1500	80 %	●				●	150	1500	80 %
	●			●	200	2200	85 %		●			●	200	2200	85 %
●	●			●	250	3300	90 %	●	●			●	250	3300	90 %
		●		●	300	4700	95 %			●		●	300	4700	95 %
●		●		●	350	5600	100 %	●		●		●	350	5600	100 %
	●	●		●	400	6800	OFF		●	●		●	400	6800	OFF
●	●	●		●	450	10000	OFF	●	●	●		●	450	10000	OFF
			●	●	500	12000	OFF				●	●	500	12000	OFF
●			●	●	550	15000	OFF	●			●	●	550	15000	OFF
	●		●	●	600	22000	OFF		●		●	●	600	22000	OFF
●	●		●	●	650	33000	OFF	●	●		●	●	650	33000	OFF
		●	●	●	700	47000	OFF			●	●	●	700	47000	OFF
●		●	●	●	750	56000	OFF	●		●	●	●	750	56000	OFF
	●	●	●	●	800	68000	OFF		●	●	●	●	800	68000	OFF
●	●	●	●	●	850	100000	OFF	●	●	●	●	●	850	100000	OFF

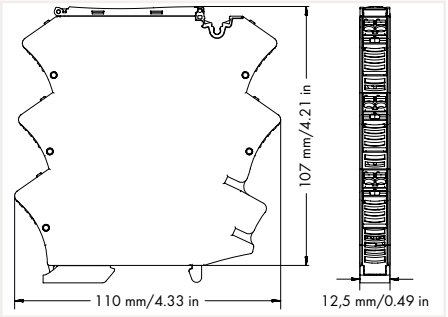
Threshold Value Switch; Thermocouples; Configurable
857 Series





Threshold Value Switch; Thermocouple; Relay/1 changeover contact; Digital output; Supply voltage: 24 VDC; Module width: 12.5 mm

Item No.	Pack. Unit
2857-534	1



Short description:
WAGO's thermocouple threshold value switch for TC sensors monitors and reports signals of up to two switching thresholds.

Features:
- Both digital signal output and relay with changeover contact react to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values)
- Adjustable software filter
- Input/output response simulation via configuration display
- Safe 3-way isolation with 4 kV test voltage per EN 61140

Note:
Additional setting options via interface configuration software/app

» Configuration software Page 326
» Configuration app Page 327
» Configuration display Page 328
» Accessories Page 338

Configuration

Configuration options	DIP switch; Interface configuration software; Interface configuration app; Configuration display

Input

Input signal type	TC sensors; Type J, K, E, N, R, S, T, B, C

Input – TC Sensors

Sensor types (TC)	Type J, K, E, N, R, S, T, B, C
Temperature measurement range (TC)	−210 … +1200 °C (Type J); −200 … +1372 °C (Type K)
Cold junction compensation	ON/OFF (default: ON)
Cold junction error	3 K (2 K typ.)

Output – Digital

Max. switching voltage (DO)	Supply voltage applied: −0.3 V
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)

Output – Relay

Number of changeover/switchover contacts	1
Contact material (relay)	AgNi (gold-plated)
Switching voltage (max.)	250 VAC
Limiting continuous current (relay; module assembly)	6 A (≤ 60 °C); 3 A (60 … +70 °C)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	8 ms
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 … 60 s (via software)

Signal Processing

Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	60 ms (cold junction compensation OFF); 360 ms (cold junction compensation ON)

Measurement Error

Transmission error (max.)	±1 K
Temperature coefficient	≤ 0.01 %/K

Power Supply

Nominal supply voltage U_s	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA (+ IDO)

Safety and Protection

Test voltage (input/output/supply)	4 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
WAGO Connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data

Width	12.5 mm / 0.492 inch
Height from upper-edge of DIN-rail	107 mm / 4.213 inch
Depth	110 mm / 4.331 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	105.8 g

Specialty Functions:





Configuration via:






Environmental Requirements	
Surrounding air temperature (operation)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 61010-1; EN 61373

2857-534

DIP Switch Adjustability

● = ON **Default**

DIP Switch S1

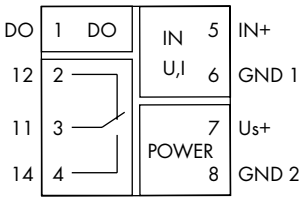
Sensor Type					Cold Junction Compensation		Hysteresis		Rise/Fall Delay Relay/ DO					
1	2	3	4	Typ	5		6	T / K	7	8	9	t / s	10	Reserve
				J		ON		3				0		
●				K	●	OFF	●	5	●			1		
	●			E						●		2		
●	●			R					●	●		3		
		●		N							●	4		
●		●		S					●		●	5		
	●	●		T						●	●	8		
●	●	●		B					●	●	●	10		
			●	C										

DIP Switch S2

Start Value						End Value					
1	2	3	4	5	Temperature / °C	6	7	8	9	10	Temperature / °C
					0						100
●					OFF	●					OFF
	●				-200		●				-200
●	●				-150	●	●				-150
		●			-100			●			-100
●		●			-50	●		●			-50
	●	●			50		●	●			50
●	●	●			100	●	●	●			100
			●		150				●		150
●			●		200	●			●		200
	●		●		250		●		●		250
●	●		●		300	●	●		●		300
		●	●		350			●	●		350
●		●	●		400	●		●	●		400
	●	●	●		450		●	●	●		450
●	●	●	●		500	●	●	●	●		500
				●	550					●	550
●				●	600	●				●	600
	●			●	650		●			●	650
●	●			●	700	●	●			●	700
		●		●	750			●		●	750
●		●		●	800	●		●		●	800
	●	●		●	850		●	●		●	850
●	●	●		●	900	●	●	●		●	900
			●	●	950				●	●	950
●			●	●	1000	●			●	●	1000
	●		●	●	1050		●		●	●	1050
●	●		●	●	1100	●	●		●	●	1100
		●	●	●	1150			●	●	●	1150
●		●	●	●	1200	●		●	●	●	1200
	●	●	●	●	1300		●	●	●	●	1300
●	●	●	●	●	1400	●	●	●	●	●	1400

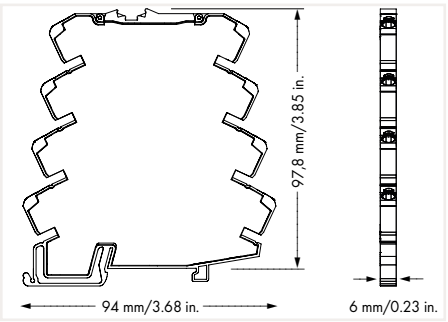
Threshold Value Switch; Configurable; with Analog Input and Changeover Relay Output
857 Series





Threshold Value Switch; Analog values; Relay/1 changeover contact; Digital output; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-531	1



Short description:
WAGO's threshold value switch for analog signals monitors standard analog signals and reports signals exceeding a preset threshold.

Features:
- PC configuration interface
- Digital switching output
- Changeover contact relay output
- Calibrated measurement range switching
- Threshold value configuration via DIP switch and teach-in function via push/slide switch
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Note:
Additional setting options via interface configuration software/app

» Configuration software Page 326
» Configuration App Page 327
» Accessories Page 338

Configuration	
Configuration options	DIP switch; Interface configuration software; Interface configuration app; Push/slide switch

Input	
Input signal type	Voltage; Current
Input signal (voltage)	±10 V; 0 … 30 V
Input signal (current)	± 20 mA
Input resistance (current input)	≤ 200 Ω
Input resistance (voltage input)	≥ 100 kΩ
Input current (max.)	22 mA
Input voltage (max.)	31 V

Output – Digital	
Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 (adjustable)
Configurable rise/fall delay time (DO)	10 s

Output – Relay	
Number of changeover/switchover contacts	1
Switching voltage (max.)	250 VAC
Limiting continuous current (relay; module assembly)	6 A (≤ 60 °C); 2 A (60 … +70 °C)
Switching power (resistive) max.	1250 VA AC
Drop-out time (typ.)	4 ms
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 … 30 s (via software)

Signal Processing	
Step response (typ.)	16 ms

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K

Power Supply	
Nominal supply voltage Us	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 25 mA (+ IDO)

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	38.6 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Specialty Functions:



Configuration via:



Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61131-2; EN 61326-1
EMC emission of interference	EN 61000-6-4; EN 61131-2; EN 61326-1
Standards/specifications	EN 61373

857-531

DIP Switch Adjustability

● = ON **Default**

DIP-Switch S1

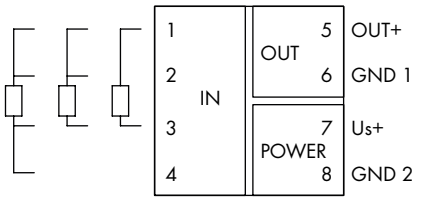
Input Signal Limits ±0.25 V; ±0.5 mA					Hysteresis	
1	2	3	4		5	
				±10 V		5 mV; 10 µA
	●			0 ... 10 V	●	10 mV, 20 µA
		●		2 ... 10 V		
	●	●		0 ... 5 V		
			●	1 ... 5 V		
	●		●	±5 V		
		●	●	0 ... 15 V		
	●	●	●	0 ... 30 V		
●				±20 mA		
●	●			0 ... 20 mA		
●		●		4 ... 20 mA		
●	●	●		0 ... 10 mA		
●			●	2 ... 10 mA		
●	●		●	±10 mA		

DIP Switch S1

Configurable Rise/Fall Delay Time in sec.				Digital Output DO Signaling		
6	7	8		9	10	
			0			DO not active
●			1		●	GND → U_N (switching)
	●		2	●	●	U_N → GND (switching)
●	●		3			
		●	4			
●		●	5			
	●	●	8			
●	●	●	10			

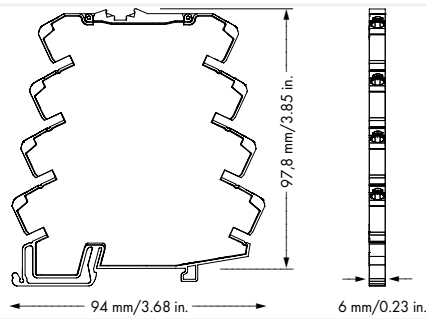
Temperature Signal Conditioner; Configurable; for RTD Sensors
857 Series





Temperature Signal Conditioner for Pt Sensors; Current and voltage output signal; Supply voltage: 24 VDC; Module width: 6 mm

Item No.	Pack. Unit
857-800	1



Short description:
WAGO's temperature signal conditioner records Pt100, Pt200, Pt500, and Pt1000 sensors, as well as resistors up to 4.5 kOhm, converting the temperature signal into a standard analog signal at the output.

Features:
- For Pt100, Pt200, Pt500 and Pt1000 sensors, as well as resistors up to 4.5 kOhm
- 2-, 3- and 4-wire connection technology
- Calibrated measurement range switching
- Detects sensor wire break/short circuit
- Detects measurement range underflow/overflow
- Switchable clipping
- Limitation of standard analog signal to upper range values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

» Accessories Page 338

Configuration	
Configuration options	DIP switch
Input	
Input signal type	Pt sensors; Resistor
Input – RTD Sensors	
Sensor types (RTD)	Pt100; Pt200; Pt500; Pt1000
Sensor connection	2-wire; 3-wire; 4-wire (switchable)
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	−200 … +850 °C
Input – Resistors	
Input range (resistor)	0 … 1 kΩ; 0 … 4.5 kΩ
Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal Processing	
Step response (typ.)	180 ms (2-wire); 360 ms (3-wire)
Measurement Error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ ((10 K/set measurement range [K]) + 0.1) %
Temperature coefficient	≤ 0.02 %/K
Power Supply	
Nominal supply voltage Us	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA
Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	35.3 g
Environmental Requirements	
Surrounding air temperature (operation)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

Specialty Functions:



Configuration via:



857-800

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

Wire Connection			Sensor Type				Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
1	2		3	4	5		6	7	8		9	10				
		2 Leiter				Pt100				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *	Lower limit of output range - 12.5 % *
●		3 Leiter	●			Pt200	●			4 ... 20 mA						
	●	4 Leiter		●		Pt500		●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %	Lower limit of output range
			●	●		Pt1000	●	●		2 ... 10 mA						
					●	1 kΩ			●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %	Upper limit of output range + 5 %
			●		●	4,5 kΩ	●		●	2 ... 10 V						
								●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range
							●	●	●	1 ... 5 V						

* acc. to NAMUR NE 43

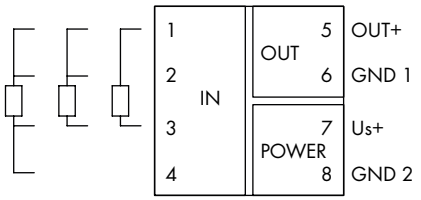
DIP Switch S2

Start Temperature						End Temperature																									
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							100	212					●		75	167						●	210	410					●	●	475	887
●				-200	-328	●						0	32	●				●		80	176	●					●	220	428	●				●	●	500	932
	●			-175	-283		●					5	41		●			●		85	185		●				●	230	446		●			●	●	525	997
●	●			-150	-238	●	●					10	50	●	●			●		90	194	●	●				●	240	464	●	●			●	●	550	1022
		●		-125	-193			●				15	59			●		●		95	203			●			●	250	482			●		●	●	575	1067
●		●		-100	-148	●		●				20	68	●		●		●		100	212	●		●			●	260	500	●		●		●	●	600	1112
	●	●		-90	-130		●	●				25	77		●	●		●		110	230		●	●			●	270	518		●	●		●	●	625	1157
●	●	●		-80	-112	●	●	●				30	86	●	●	●		●		120	248	●	●	●			●	280	536	●	●	●		●	●	650	1202
			●	-70	-94				●			35	95				●	●		130	266				●		●	290	554				●	●	●	675	1247
●			●	-60	-76	●			●			40	104	●			●	●		140	284	●			●		●	300	572	●			●	●	●	700	1292
	●		●	-50	-58		●		●			45	113		●		●	●		150	302		●		●		●	325	617		●		●	●	●	725	1337
●	●		●	-40	-40	●	●		●			50	122	●	●		●	●		160	320	●	●		●		●	350	662	●	●		●	●	●	750	1382
		●	●	-30	-22			●	●			55	131			●	●	●		170	338			●	●		●	375	707			●	●	●	●	775	1427
●		●	●	-20	-4	●		●	●			60	140	●		●	●	●		180	356	●		●	●		●	400	752	●		●	●	●	●	800	1472
	●	●	●	-10	14		●	●	●			65	149		●	●	●	●		190	374		●	●	●		●	425	797		●	●	●	●	●	825	1517
●	●	●	●	0	32	●	●	●	●			70	158	●	●	●	●	●		200	392	●	●	●	●		●	450	842	●	●	●	●	●	●	850	1562

The minimum distance from the start temperature to the end temperature may not fall short of 50K degrees on the Celsius (C) scale or 122K degrees on the Fahrenheit (F) scale.

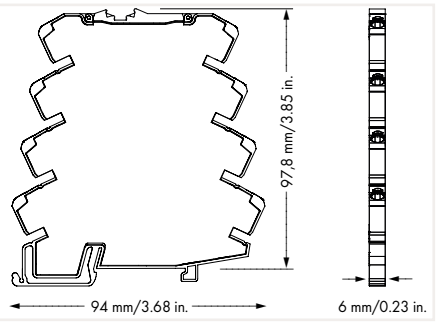
Temperature Signal Conditioner; Configurable; for RTD Sensors
857 Series





Temperature Signal Conditioner for Pt Sensors; Current and voltage output signal; Supply voltage: 24 VDC; Module width: 6 mm

Item No.	Pack. Unit
857-801	1



Short description:
WAGO's temperature signal conditioner records Pt100, Pt200, Pt500, and Pt1000 sensors, as well as resistors up to 4.5 kOhm, converting the temperature signal into a standard analog signal at the output.

Features:
- PC configuration interface
- For Pt100, Pt200, Pt500 and Pt1000 sensors, as well as resistors up to 4.5 kOhm
- 2-, 3- and 4-wire connection technology
- Detects calibrated measurement range switching
- Detects sensor wire break/short circuit
- Measurement range underflow/overflow
- Switchable clipping
- Limitation of standard analog signal to upper range values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Note:
Additional setting options as well as output signal inversion via interface configuration software or interface configuration app

» Configuration software	Page 326
» Configuration App	Page 327
» Accessories	Page 338

Configuration	
Configuration options	DIP switch; Interface configuration software; Interface configuration app
Input	
Input signal type	Pt sensors; Resistor
Input – RTD Sensors	
Sensor types (RTD)	Pt100; Pt200; Pt500; Pt1000
Sensor connection	2-wire, 3-wire, 4-wire (switchable)
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	−200 … +850 °C
Measurement span (RTD) min.	50 K
Input – Resistors	
Input range (resistor)	0 … 1 kΩ; 0 … 4.5 kΩ
Measurement span (min.)	50 Ω
Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal Processing	
Step response (typ.)	180 ms (2-wire); 360 ms (3-wire)
Measurement Error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ ((10 K/set measurement range [K]) + 0.1) %
Temperature coefficient	≤ 0.02 %/K
Power Supply	
Nominal supply voltage Us	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA
Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	35.1 g
Environmental Requirements	
Surrounding air temperature (operation)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

Specialty Functions:



Configuration via:





857-801

DIP Switch Adjustability

● = ON | **Default**

DIP Switch S1

Wire Connection			Sensor Type				Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
1	2		3	4	5		6	7	8		9	10				
		2-wire				Pt100				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *	Lower limit of output range - 12.5 % *
●		3-wire	●			Pt200	●			4 ... 20 mA						
	●	4-wire		●		Pt500		●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %	Lower limit of output range
			●	●		Pt1000	●	●		2 ... 10 mA						
					●	1 kΩ			●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %	Upper limit of output range + 5 %
			●		●	4,5 kΩ	●		●	2 ... 10 V						
								●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range
							●	●	●	1 ... 5 V						

* acc. to NAMUR NE 43

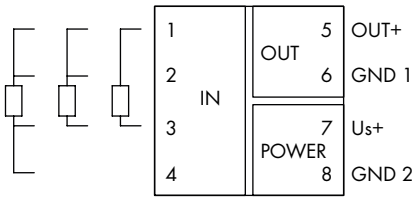
DIP Switch S2

Start Temperature						End Temperature																									
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							100	212					●		75	167						●	210	410					●	●	475	887
●				-200	-328	●						0	32	●				●		80	176	●					●	220	428	●				●	●	500	932
	●			-175	-283		●					5	41		●			●		85	185		●				●	230	446		●			●	●	525	997
●	●			-150	-238	●	●					10	50	●	●			●		90	194	●	●				●	240	464	●	●			●	●	550	1022
		●		-125	-193			●				15	59			●		●		95	203			●			●	250	482			●		●	●	575	1067
●		●		-100	-148	●		●				20	68	●		●		●		100	212	●		●			●	260	500	●		●		●	●	600	1112
	●	●		-90	-130		●	●				25	77		●	●		●		110	230		●	●			●	270	518		●	●		●	●	625	1157
●	●	●		-80	-112	●	●	●				30	86	●	●	●		●		120	248	●	●	●			●	280	536	●	●	●		●	●	650	1202
			●	-70	-94				●			35	95				●	●		130	266				●		●	290	554				●	●	●	675	1247
●			●	-60	-76	●			●			40	104	●			●	●		140	284	●			●		●	300	572	●			●	●	●	700	1292
	●		●	-50	-58		●		●			45	113		●		●	●		150	302		●		●		●	325	617		●		●	●	●	725	1337
●	●		●	-40	-40	●	●		●			50	122	●	●		●	●		160	320	●	●		●		●	350	662	●	●		●	●	●	750	1382
		●	●	-30	-22			●	●			55	131			●	●	●		170	338			●	●		●	375	707			●	●	●	●	775	1427
●		●	●	-20	-4	●		●	●			60	140	●		●	●	●		180	356	●		●	●		●	400	752	●		●	●	●	●	800	1472
	●	●	●	-10	14		●	●	●			65	149		●	●	●	●		190	374		●	●	●		●	425	797		●	●	●	●	●	825	1517
●	●	●	●	0	32	●	●	●	●			70	158	●	●	●	●	●		200	392	●	●	●	●		●	450	842	●	●	●	●	●	●	850	1562

The minimum distance from the start temperature to the end temperature may not fall short of 50K degrees on the Celsius (C) scale or 122K degrees on the Fahrenheit (F) scale.

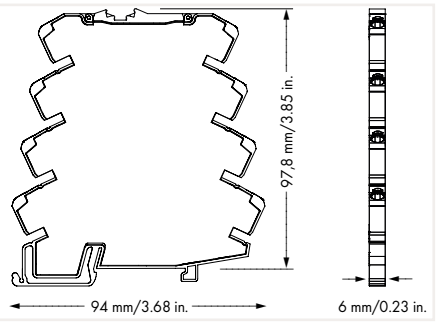
Temperature Signal Conditioner; Configurable; for RTD Sensors
857 Series





Temperature Signal Conditioner for RTD Sensors; Current and voltage output signal; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-808	1



Short description:
WAGO's temperature signal conditioner records signals from Pt46 and Cu53 sensors and converts the temperature signal into a standard analog signal at the output.

Features:
- 2-, 3- and 4-wire connection technology
- Calibrated measurement range switching
- Detects sensor wire break/short circuit
- Detects measurement range underflow/overflow
- Clipping function limits the standard analog signal to the upper range values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Configuration via:



Configuration	
Configuration options	DIP switch

Input	
Input signal type	Pt sensors; Cu sensors

Input – RTD Sensors	
Sensor types (RTD)	Pt46; Cu53
Sensor connection	2-wire, 3-wire, 4-wire (switchable)
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 … +300 °C (Pt46); 0 … +180 °C (Cu53)
Measurement span (RTD) min.	50 K

Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Signal Processing	
Step response (typ.)	180 ms (2-wire); 360 ms (3-wire)

Measurement Error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ ((10 K/set measurement range [K]) + 0.1) %
Temperature coefficient	≤ 0.02 %/K

Power Supply	
Nominal supply voltage Us	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	35.4 g

Environmental Requirements	
Surrounding air temperature (operation)	-25 … +70 °C
Surrounding air temperature (storage)	-40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

» Accessories Page 338

857-808

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

Wire Connection			Sensor Type				Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
1	2		3	4	5		6	7	8		9	10				
		2-wire				Pt46				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *	Lower limit of output range - 12.5 % *
●		3-wire	●			Cu53	●			4 ... 20 mA						
	●	4-wire						●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %	Lower limit of output range
							●	●		2 ... 10 V						
									●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %	Upper limit of output range + 5 %
							●		●	2 ... 10 V						
								●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range
							●	●	●	1 ... 5 V						

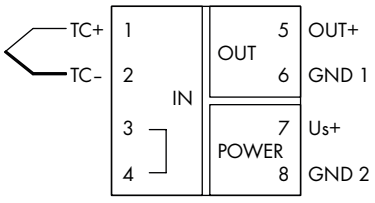
* acc. to NAMUR NE 43

DIP Switch S2

Start Temperature						End Temperature																			
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							100	212					●		75	167						●	210	410
●				-200	-328	●						0	32	●				●		80	176	●					●	220	428
	●			-175	-283		●					5	41		●			●		85	185		●				●	230	446
●	●			-150	-238	●	●					10	50	●	●			●		90	194	●	●				●	240	464
		●		-125	-193			●				15	59			●		●		95	203			●			●	250	482
●		●		-100	-148	●		●				20	68	●		●		●		100	212	●		●			●	260	500
	●	●		-90	-130		●	●				25	77		●	●		●		110	230		●	●			●	270	518
●	●	●		-80	-112	●	●	●				30	86	●	●	●		●		120	248	●	●	●			●	280	536
			●	-70	-94				●			35	95				●	●		130	266				●		●	290	554
●			●	-60	-76	●			●			40	104	●			●	●		140	284	●			●		●	300	572
	●		●	-50	-58		●		●			45	113		●		●	●		150	302								
●	●		●	-40	-40	●	●		●			50	122	●	●		●	●		160	320								
		●	●	-30	-22			●	●			55	131			●	●	●		170	338								
●		●	●	-20	-4	●		●	●			60	140	●		●	●	●		180	356								
	●	●	●	-10	14		●	●	●			65	149		●	●	●	●		190	374								
●	●	●	●	0	32	●	●	●	●			70	158	●	●	●	●	●		200	392								

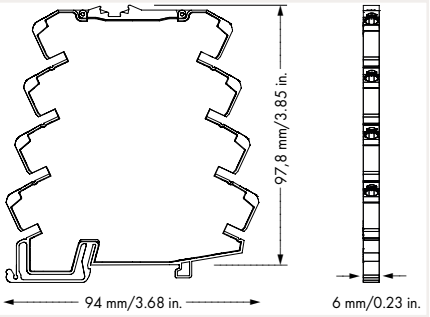
Temperature Signal Conditioner; Configurable; for Thermocouples
857 Series





Temperature Signal Conditioner for Thermocouples; Current and voltage output signal; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-810	1



Short description:
WAGO's temperature signal conditioner records signals from thermocouples (type J, K) and converts the temperature signal into a standard analog signal at the output.

Features:
- For type J and K thermocouples
- Cold junction compensation (ON/OFF)
- Calibrated measurement range switching
- Detects a sensor wire break
- Detects measurement range underflow/overflow
- Switchable clipping
- Limitation of standard analog signal to upper range values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Specialty Functions:



Configuration via:



» Accessories Page 338

Configuration

Configuration options	DIP switch

Input

Input signal type	TC sensors

Input – TC Sensors

Sensor types (TC)	Type J; Type K
Temperature measurement range (TC)	−150 … +1200 °C (Type J); −150 … +1350 °C (Type K)
Measurement min. (TC)	100 K
Cold junction compensation	ON/OFF (default: ON)
Cold junction error	3 K (2 K typ.)

Output

Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Signal Processing

Step response (typ.)	60 ms (cold junction compensation OFF); 120 ms (cold junction compensation ON)

Measurement Error

Transmission error (typ.)	≤ 0.1% at max. measurement span (type J, K)
Transmission error for the set measurement range	≤ (150 K/set measurement range [K]) %
Temperature coefficient	≤ 0.04 %/K

Power Supply

Nominal supply voltage Us	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA

Safety and Protection

Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	35.5 g

Environmental Requirements

Surrounding air temperature (operation)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C

Standards and Specifications

Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

857-810

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

Cold Junction Compensation	Sensor type			Output signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break
1	2	3		4	5	6		7	8			
on			J				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *
off	●		K	●			4 ... 20 mA					
					●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %
				●	●		2 ... 10 mA					
						●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %
				●		●	2 ... 10 V					
					●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range
				●	●	●	1 ... 5 V					

DIP 9 and 10 n.c.

* acc. to NAMUR NE 43

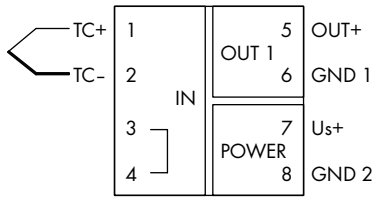
DIP Switch S2

Start Temperature						End Temperature																									
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							1000	1832					●		225	437						●	625	1157					●	●	1025	1877
●				-200	-328	●						0	32	●				●		250	482	●					●	650	1202	●				●	●	1050	1922
	●			-175	-283		●					10	50		●			●		275	527		●				●	675	1247		●			●	●	1075	1967
●	●			-150	-283	●	●					20	68	●	●			●		300	572	●	●				●	700	1292	●	●			●	●	1100	2012
		●		-125	-193			●				30	86			●		●		325	617			●			●	725	1337			●		●	●	1125	2057
●		●		-100	-148	●		●				40	104	●		●		●		350	662	●		●			●	750	1382	●		●		●	●	1150	2102
	●	●		-90	-130		●	●				50	122		●	●		●		375	707		●	●			●	775	1427		●	●		●	●	1175	2147
●	●	●		-80	-112	●	●	●				60	140	●	●	●		●		400	752	●	●	●			●	800	1472	●	●	●		●	●	1200	2192
			●	-70	-94				●			70	158				●	●		425	797				●		●	825	1517				●	●	●	1225	2237
●			●	-60	-76	●			●			80	176	●			●	●		450	842	●			●		●	850	1562	●			●	●	●	1250	2282
	●		●	-50	-58		●		●			90	194		●		●	●		475	887		●		●		●	875	1607		●		●	●	●	1275	2327
●	●		●	-40	-40	●	●		●			100	212	●	●		●	●		500	932	●	●		●		●	900	1652	●	●		●	●	●	1300	2372
		●	●	-30	-22			●	●			125	257			●	●	●		525	977			●	●		●	925	1697			●	●	●	●	1325	2417
●		●	●	-20	-4	●		●	●			150	302	●		●	●	●		550	1022	●		●	●		●	950	1742	●		●	●	●	●	1350	2462
	●	●	●	-10	14		●	●	●			175	347		●	●	●	●		575	1067		●	●	●		●	975	1787		●	●	●	●	●	1375	2507
●	●	●	●	0	32	●	●	●	●			200	392	●	●	●	●	●		600	1112	●	●	●	●		●	1000	1832	●	●	●	●	●	●	1400	2552

The minimum distance from the start temperature to the end temperature may not fall short of 100K degrees on the Celsius (C) scale or 212K degrees on the Fahrenheit (F) scale.

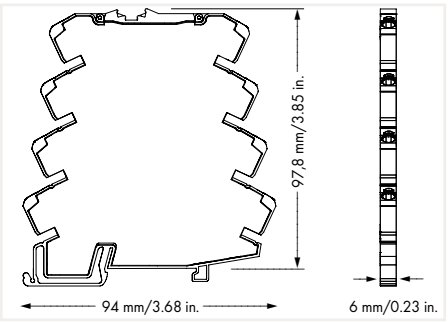
Temperature Signal Conditioner; Configurable; for Thermocouples
857 Series





Temperature Signal Conditioner for Thermocouples; Current and voltage output signal; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-811	1



Short description:
WAGO's temperature signal conditioner records signals from thermocouples of type J and K (E, R, N, S, T, B, C) and converts the temperature signal into a standard analog signal.

Features:
- PC configuration interface
- For thermocouples of type J and K (E, R, N, S, T, B, C)
- Cold junction compensation (ON/OFF)
- Calibrated measurement range switching
- Detects a sensor wire break
- Detects measurement range underflow/overflow
- Switchable clipping
- Limitation of standard analog signal to upper range values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Note:
Additional setting options as well as output signal inversion via interface configuration software or interface configuration app

» Configuration software	Page 326
» Configuration App	Page 327
» Accessories	Page 338

Configuration	
Configuration options	DIP switch; Interface configuration software; Interface configuration app

Input	
Input signal type	TC sensors

Input – TC Sensors	
Sensor types (TC)	Type J; Type K
Temperature measurement range (TC)	–150 … +1200 °C (Type J); –150 … +1350 °C (Type K)
Measurement min. (TC)	100 K
Cold junction compensation	ON/OFF (default: ON)
Cold junction error	3 K (2 K typ.)

Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Signal Processing	
Step response (typ.)	60 ms (cold junction compensation OFF); 120 ms (cold junction compensation ON)

Measurement Error	
Transmission error (typ.)	≤ 0.1% at max. measurement span (type J, K)
Transmission error for the set measurement range	≤ (150 K/set measurement range [K]) %
Temperature coefficient	≤ 0.04 %/K

Power Supply	
Nominal supply voltage Us	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	36 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

Specialty Functions:



Configuration via:





857-811

DIP Switch Adjustability

● = ON | **Default**

DIP Switch S1

Cold Junction Compensation		Sensor Type			Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break
1		2	3		4	5	6		7	8			
	ein			J				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *
●	aus	●		K	●			4 ... 20 mA					
						●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %
					●	●		2 ... 10 mA					
							●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %
					●		●	2 ... 10 V					
						●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range
					●	●	●	1 ... 5 V					

DIP 9 and 10 n.c.

* acc. to NAMUR NE 43

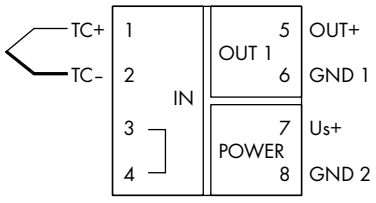
DIP Switch S2

Start Temperature						End Temperature																									
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							1000	1832					●		225	437						●	625	1157					●	●	1025	1877
●				-200	-328	●						0	32	●				●		250	482	●					●	650	1202	●				●	●	1050	1922
	●			-175	-283		●					10	50		●			●		275	527		●				●	675	1247		●			●	●	1075	1967
●	●			-150	-283	●	●					20	68	●	●			●		300	572	●	●				●	700	1292	●	●			●	●	1100	2012
		●		-125	-193			●				30	86			●		●		325	617			●			●	725	1337			●		●	●	1125	2057
●		●		-100	-148	●		●				40	104	●		●		●		350	662	●		●			●	750	1382	●		●		●	●	1150	2102
	●	●		-90	-130		●	●				50	122		●	●		●		375	707		●	●			●	775	1427		●	●		●	●	1175	2147
●	●	●		-80	-112	●	●	●				60	140	●	●	●		●		400	752	●	●	●			●	800	1472	●	●	●		●	●	1200	2192
			●	-70	-94				●			70	158				●	●		425	797				●		●	825	1517				●	●	●	1225	2237
●			●	-60	-76	●			●			80	176	●			●	●		450	842	●			●		●	850	1562	●			●	●	●	1250	2282
	●		●	-50	-58		●		●			90	194		●		●	●		475	887		●		●		●	875	1607		●		●	●	●	1275	2327
●	●		●	-40	-40	●	●		●			100	212	●	●		●	●		500	932	●	●		●		●	900	1652	●	●		●	●	●	1300	2372
		●	●	-30	-22			●	●			125	257			●	●	●		525	977			●	●		●	925	1697			●	●	●	●	1325	2417
●		●	●	-20	-4	●		●	●			150	302	●		●	●	●		550	1022	●		●	●		●	950	1742	●		●	●	●	●	1350	2462
	●	●	●	-10	14		●	●	●			175	347		●	●	●	●		575	1067		●	●	●		●	975	1787		●	●	●	●	●	1375	2507
●	●	●	●	0	32	●	●	●	●			200	392	●	●	●	●	●		600	1112	●	●	●	●		●	1000	1832	●	●	●	●	●	●	1400	2552

The minimum distance from the start temperature to the end temperature may not fall short of 100K degrees on the Celsius (C) scale or 212K degrees on the Fahrenheit (F) scale.

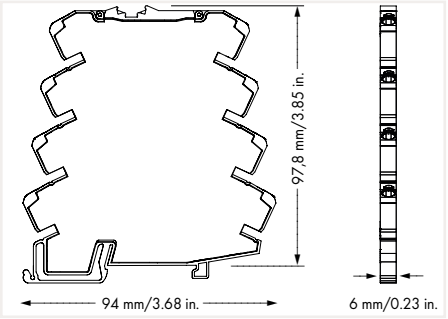
Temperature Signal Conditioner; Configurable; for Thermocouples
857 Series





Temperature Signal Conditioner for Thermocouples; Current and voltage output signal; Supply voltage: 24 VDC; Module width: 6 mm

Item No.	Pack. Unit
857-812	1



Short description:
WAGO's temperature signal conditioner records signals from thermocouples (type K, S, B, R) and converts the temperature signal into a standard analog signal at the output.

Features:
- For thermocouples of type K, S, B and R
- Cold junction compensation (ON/OFF)
- Calibrated measurement range switching
- Detects a sensor wire break
- Detects measurement range underflow/overflow
- Clipping function limits the standard analog signal to the upper range values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Configuration via:



Configuration	
Configuration options	DIP switch
Input	
Input signal type	TC sensors
Input – TC Sensors	
Sensor types (TC)	Type K, S, B, R
Temperature measurement range (TC)	0 … +1200 °C (Type K); 0 … +1600 °C (Type S); 600 … +1800 °C (Type B); 0 … +1600 °C (Type R)
Cold junction compensation	ON/OFF (default: ON)
Cold junction error	3 K (2 K typ.)
Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Signal Processing	
Step response (typ.)	60 ms (cold junction compensation OFF); 120 ms (cold junction compensation ON)
Measurement Error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ (150 K/set measurement range [K]) %
Temperature coefficient	≤ 0.04 %/K
Power Supply	
Nominal supply voltage Us	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA
Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	35.7 g
Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

» Accessories Page 338

857-812

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

Cold Junction Compensation		Sensor Type			Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break
1		2	3		4	5	6		7	8			
	Ein			K				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *
●	Aus	●		S	●			4 ... 20 mA					
			●	B		●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %
		●	●	R	●	●		2 ... 10 mA					
							●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %
					●		●	2 ... 10 V					
						●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range
					●	●	●	1 ... 5 V					

DIP Switch S1 (9) n.c.

* acc. to NAMUR NE 43

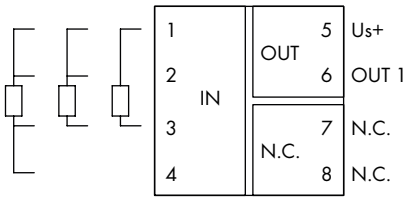
DIP Switch S1+S2

Start Temperature							End Temperature													
S1	S2				°C	°F	S2						°C	°F	S2						°C	°F
10	1	2	3	4			5	6	7	8	9	10			5	6	7	8	9	10		
					0	32							1000	1832	●		●		●		1000	1832
●					50	122	●						0	32		●	●		●		1050	1922
	●				100	212		●					50	122	●	●	●		●		1100	2012
●	●				150	302	●	●					100	212				●	●		1150	2102
		●			200	392			●				150	302	●			●	●		1200	2192
●		●			250	482	●		●				200	392		●		●	●		1250	2282
	●	●			300	572		●	●				250	482	●	●		●	●		1300	2372
●	●	●			350	662	●	●	●				300	572			●	●	●		1350	2462
			●		400	752				●			350	662	●		●	●	●		1400	2552
●			●		450	842	●			●			400	752		●	●	●	●		1450	2642
	●		●		500	932		●		●			450	842	●	●	●	●	●		1500	2732
●	●		●		550	1022	●	●		●			500	932						●	1550	2822
		●	●		600	1112			●	●			550	1022	●					●	1600	2912
●		●	●		650	1202	●		●	●			600	1112		●				●	1650	3002
	●	●	●		700	1292		●	●	●			650	1202	●	●				●	1700	3092
●	●	●	●		750	1382	●	●	●	●			700	1292			●			●	1750	3182
				●	800	1472					●		750	1382	●		●			●	1800	3272
●				●	850	1562	●				●		800	1472								
	●			●	900	1652		●			●		850	1562								
●	●			●	950	1742	●	●			●		900	1652								
		●		●	1000	1832			●		●		950	1742								

3

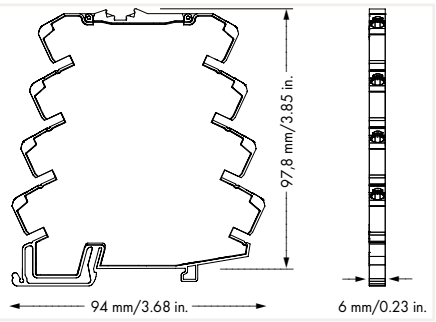
Temperature Signal Conditioner; Configurable; for RTD Sensors
857 Series





Temperature Signal Conditioner for RTD Sensors; Current and voltage output signal; Loop-powered RTD; Module width: 6 mm

	Item No.	Pack. Unit
	857-815	1



Short description:
WAGO's loop-powered RTD temperature signal conditioner records sensors (Pt100, Pt200, Pt500, Pt1000) and resistors up to 4.5 kΩ, converting the temperature signal into a standard analog signal at the output. The loop-powered RTD temperature signal conditioner provides safe isolation between input and output with 3 kV test voltage per EN 61010-1.

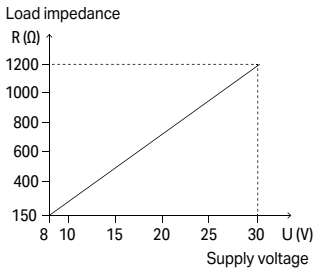
Features:
- No additional supply voltage required
- For Pt100, Pt200, Pt500 and Pt1000 sensors, as well as resistors up to 4.5 kOhm
- 2-, 3- and 4-wire connection technology
- Calibrated measurement range switching
- Detects sensor wire break/short circuit
- Safe 2-way isolation with 2.5 kV test voltage per EN 61010-1

Configuration via:



Configuration	
Configuration options	DIP switches
Input	
Input signal type	Pt sensors; resistor
Input current (max.)	50 mA
Input voltage (max.)	30 VDC
Input – RTD Sensors	
Sensor types (RTD)	Pt100; Pt200; Pt500; Pt1000
Sensor connection	2-wire, 3-wire, 4-wire (switchable)
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	−200 … +850 °C
Measurement span (RTD) min.	50 K
Input – Resistors	
Input range (resistor)	0 … 1 kΩ; 0 … 4.5 kΩ
Output	
Output signal type	Current
Output signal (current)	4 … 20 mA; 20 … 4 mA
Load impedance (current output)	See derating graph
Signal Processing	
Step response (typ.)	1000 ms
Measurement Error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ ((40 K/set measurement range [K]) + 0.1) %
Temperature coefficient	≤ 0.02 %/K
Power Supply	
Supply voltage	8 … 30 VDC (power derived from the output circuit)
Safety and Protection	
Test voltage (input/output)	3 kVAC; 50 Hz; 1 min
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	39.8 g
Environmental Requirements	
Surrounding air temperature (operation)	−25 … +70 °C (at nominal current)
Surrounding air temperature (storage)	−40 … +85 °C
Relative humidity	5 … 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

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Derating

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-1; EN 50121-3-2
EMC emission of interference	EN 61000-6-3; EN 61326-1; EN 50121-3-2
Standards/specifications	EN 61010-1; EN 61373

3

857-815

DIP Switch Adjustability

● = ON Default

DIP Switch S1

Sensor Connection			Sensor Type				Output Signal		N.C.				Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
1	2		3	4	5		6		7	8	9	10				
		2-wire				Pt100		4 ... 20 mA					Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *	Lower limit of output range - 12.5 % *
●		3-wire	●			Pt200	●	20 ... 4 mA								
	●	4-wire		●		Pt500					●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %	Lower limit of output range
●	●	2-wire	●	●		Pt1000										
					●	1 kΩ						●	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %	Upper limit of output range + 5 %
			●		●	4,5 kΩ										
											●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range

* acc. to NAMUR NE 43

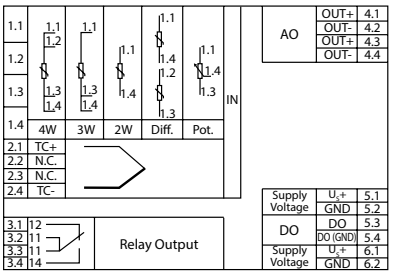
DIP Switch S2

Output Signal Start Temperature						Output Signal End Temperature																									
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							100	212					●		75	167						●	210	410					●	●	475	887
●				-200	-328	●						0	32	●				●		80	176	●					●	220	428	●				●	●	500	932
	●			-175	-283		●					5	41		●			●		85	185		●				●	230	446		●			●	●	525	997
●	●			-150	-238	●	●					10	50	●	●			●		90	194	●	●				●	240	464	●	●			●	●	550	1022
		●		-125	-193			●				15	59			●		●		95	203			●			●	250	482			●		●	●	575	1067
●		●		-100	-148	●		●				20	68	●		●		●		100	212	●		●			●	260	500	●		●		●	●	600	1112
	●	●		-90	-130		●	●				25	77		●	●		●		110	230		●	●			●	270	518		●	●		●	●	625	1157
●	●	●		-80	-112	●	●	●				30	86	●	●	●		●		120	248	●	●	●			●	280	536	●	●	●		●	●	650	1202
			●	-70	-94				●			35	95				●	●		130	266				●		●	290	554				●	●	●	675	1247
●			●	-60	-76	●			●			40	104	●			●	●		140	284	●			●		●	300	572	●			●	●	●	700	1292
	●		●	-50	-58		●		●			45	113		●		●	●		150	302		●		●		●	325	617		●		●	●	●	725	1337
●	●		●	-40	-40	●	●		●			50	122	●	●		●	●		160	320	●	●		●		●	350	662	●	●		●	●	●	750	1382
		●	●	-30	-22			●	●			55	131			●	●	●		170	338			●	●		●	375	707			●	●	●	●	775	1427
●		●	●	-20	-4	●		●	●			60	140	●		●	●	●		180	356	●		●	●		●	400	752	●		●	●	●	●	800	1472
	●	●	●	-10	14		●	●	●			65	149		●	●	●	●		190	374		●	●	●		●	425	797		●	●	●	●	●	825	1517
●	●	●	●	0	32	●	●	●	●			70	158	●	●	●	●	●		200	392	●	●	●	●		●	450	842	●	●	●	●	●	●	850	1562

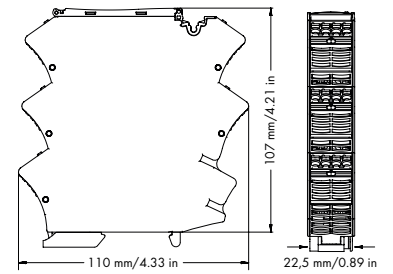
The measurement span must have the following min. magnitude:
- in the Celsius scale (°C): 50 K
- in the Fahrenheit scale (°F): 90 K

Temperature Signal Conditioner; Configurable; for RTD and TC Sensors; Analog
857 Series





RTD/TC Temperature Signal Conditioner; analog		
	Item No.	Pack. Unit
	2857-535	1



Short description:
WAGO's RTD TC temperature signal conditioner for RTD sensors, potentiometers, resistors and thermocouples monitors and reports signals of up to two switching thresholds. The sensor and status information that is collected is also converted to a standard analog signal.

Features:
- A relay with changeover contact reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values)
- Configurable Pt factor
- Adjustable software filter
- Simulation of input/output response via interface configuration display
- Input of customer-specific sensors via interface configuration software
- Safe 3-way isolation with 3 kV test voltage per EN 61010-1
- Analog unipolar/bipolar signals (current/voltage) at output
- Additional digital signal output for configured measurement range limits
- Adjustable transfer characteristic

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» Configuration display Page 327
» Accessories Page 338

Configuration

Configuration options	Interface configuration software; configuration display

Input

Input signal type	RTD sensors; Potentiometers; Resistors; TC sensors

Input – RTD Sensors

Sensor types (RTD)	Pt10 ... Pt2000 (expandable)
Sensor connection	2-wire; 3-wire; 4-wire; differential; potentiometer
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	−200 ... +850 °C
Measurement span (RTD) min.	50 K

Input – TC Sensors

Sensor types (TC)	Type J, K, E, R, N, S, T, B, C
Temperature measurement range (TC)	-210 ... +1200 °C (Type J); -200 ... +1372 °C (Type K); -200 ... +1000 °C (Type E); 250 ... 1768 °C (Type R); -200 ... +1300 °C (Type N); -50 ... +1664 °C (Type S); -200 ... +400 °C (Type T); 250 ... 1820 °C (Type B); 0 ... 2320 °C (Type C)
Measurement min. (TC)	100 K
Cold junction compensation	ON/OFF (default: ON)
Cold junction error	3 K (2 K typ.)

Input – Resistors

Input range (resistor)	0 ... 10 kΩ
Input range (potentiometer)	0 ... 10 kΩ
Measurement span (min.)	50 Ω

Output

Output signal type	Current; Voltage
Output signal (voltage)	±12 V
Output signal (current)	±24 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Output – Digital

Max. switching voltage (DO)	Supply voltage applied: −0.3 V
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 ... 60 s (via software)

Output – Relay

Number of changeover/switchover contacts	1
Switching voltage (max.)	250 VAC
Limiting continuous current (relay; module assembly)	6 A (≤ 60 °C); 3 A (60 ... +70 °C)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 ... 60 s (via software)

Signal Processing

Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	130 ms (2-wire); 700 ms (3-wire); 700 ms (4-wire); 600 ms (differential); 500 ms (potentiometer); 150 ms (cold junction compensation OFF); 400 ms (cold junction compensation ON)

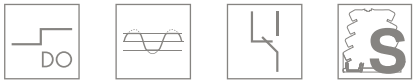
Measurement Error

Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ (100 K/set measurement range [K]) %
Temperature coefficient	≤ 0.01 %/K

Power Supply

Nominal supply voltage Us	24 VDC
Supply voltage range	−60 ... +30 %
Power consumption at nominal supply voltage	≤ 70 mA (+ IDO)

Specialty Functions:



Configuration via:



Safety and Protection	
Rated voltage	250 VAC/DC
Pollution degree	2
Test voltage (input/output/supply)	3 kVAC; 50 Hz; 1 min
Overvoltage category	II
Safe isolation	Input/relay contact/output/supply per EN 61010-1
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
WAGO Connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	22.5 mm / 0.886 inch
Height from upper-edge of DIN-rail	107 mm / 4.213 inch
Depth	110 mm / 4.331 inch

Mechanical Data	
Mounting type	DIN-35 rail

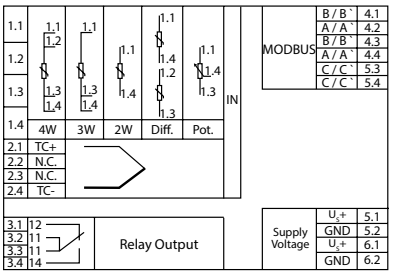
Material Data	
Weight	126.9 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Relative humidity	5 … 95 % (non-condensing)
Operating altitude (max.)	2000 m

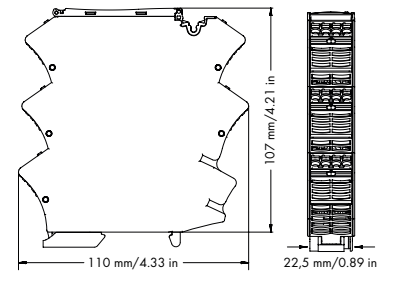
Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3
EMC emission of interference	EN 61000-6-3; EN 61326-2-3
Standards/specifications	EN 61010-1; EN 61373

Temperature Signal Conditioner; Configurable; for RTD and TC Sensors; Serial
857 Series





RTD/TC Temperature Signal Conditioner; serial		
	Item No.	Pack. Unit
	2857-535/000-001	1



Short description:
WAGO's RTD TC temperature signal conditioner for RTD sensors, potentiometers, resistors and thermocouples monitors and reports signals of up to two switching thresholds. The sensor and status information that is collected is also made available to a higher-order device (e.g., a PLC) via a bus connection.

Features:
- A relay with changeover contact reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values)
- Configurable Pt factor
- Adjustable software filter
- Simulation of input/output response via interface configuration display
- Input of customer-specific sensors via the interface configuration software
- Safe 3-way isolation with 3 kV test voltage per EN 61010-1
- RS-485 interface with Modbus protocol at the output
- Terminating resistor can be adjusted at the output
- Adjustable transfer characteristic

» Configuration software	Page 326
» Configuration display	Page 327
» Accessories	Page 338

Configuration	
Configuration options	Interface configuration software; Configuration display; Rotary encoder switch

Input	
Input signal type	RTD sensors; Potentiometers; Resistors; TC sensors

Input – RTD Sensors	
Sensor types (RTD)	Pt10 … Pt2000 (expandable)
Sensor connection	2-wire; 3-wire; 4-wire; differential; potentiometer
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	−200 … +850 °C
Measurement span (RTD) min.	50 K

Input – TC Sensors	
Sensor types (TC)	Type J, K, E, R, N, S, T, B, C
Temperature measurement range (TC)	-210 … +1200 °C (Type J); -200 … +1372 °C (Type K); -200 … +1000 °C (Type E); 250 … 1768 °C (Type R); -200 … +1300 °C (Type N); -50 … +1664 °C (Type S); -200 … +400 °C (Type T); 250 … 1820 °C (Type B); 0 … 2320 °C (Type C)
Measurement min. (TC)	100 K
Cold junction compensation	ON/OFF (default: ON)
Cold junction error	3 K (2 K typ.)

Input – Resistors	
Input range (resistor)	0 … 10 kΩ
Input range (potentiometer)	0 … 10 kΩ
Measurement span (min.)	50 Ω

Output – Relay	
Number of changeover/switchover contacts	1
Switching voltage (max.)	250 VAC
Limiting continuous current (relay; module assembly)	6 A (≤ 60 °C); 3 A (60 … +70 °C)
Dielectric strength, open contact (AC, 1 min)	1 kV_{rms}
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 … 60 s (via software)

Communication	
Communication	Modbus RTU
Interface	RS-485 (2-wire)
Number of participants (max.)	64

Signal Processing	
Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	130 ms (2-wire); 700 ms (3-wire); 700 ms (4-wire); 600 ms (differential); 500 ms (potentiometer); 150 ms (cold junction compensation OFF); 400 ms (cold junction compensation ON)

Measurement Error	
Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ (100 K/set measurement range [K]) %
Temperature coefficient	≤ 0.01 %/K

Power Supply	
Nominal supply voltage Us	24 VDC
Supply voltage range	−60 … +30 %
Power consumption at nominal supply voltage	≤ 50 mA

Specialty Functions:




Configuration via:





Safety and Protection	
Rated voltage	250 VAC/DC
Pollution degree	2
Test voltage (input/output/supply)	3 kVAC; 50 Hz; 1 min
Overvoltage category	II
Safe isolation	Input/relay contact/output/supply per EN 61010-1
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
WAGO Connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	22.5 mm / 0.886 inch
Height from upper-edge of DIN-rail	107 mm / 4.213 inch
Depth	110 mm / 4.331 inch

Mechanical Data	
Mounting type	DIN-35 rail

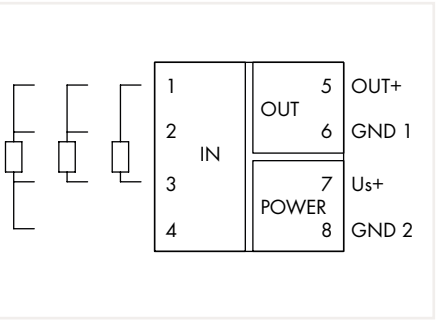
Material Data	
Weight	127.83 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Relative humidity	5 … 95 % (non-condensing)
Operating altitude (max.)	2000 m

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3
EMC emission of interference	EN 61000-6-3; EN 61326-2-3
Standards/specifications	EN 61010-1; EN 61373

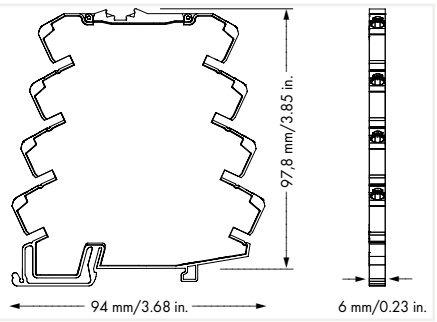
Temperature Signal Conditioner; Configurable; for Ni Sensors
857 Series





Temperature Signal Conditioner for Ni Sensors; Current and voltage output signal; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-818	1



Short description:
WAGO's Ni temperature signal conditioner (Ni = nickel) records signals from Ni sensors featuring all standard characteristics and converts the temperature signal into a standard analog signal at the output.

Features:
- For Ni100, Ni120, Ni200; Ni500 und Ni1000 sensors
- Calibrated measurement range switching
- Switchable clipping
- Limitation of standard analog signal to upper range values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Specialty Functions:



Configuration via:



Configuration	
Configuration options	DIP switch

Input	
Input signal type	Ni sensors
Input voltage (max.)	±31.2 VDC

Input – RTD Sensors	
Sensor types (RTD)	Ni100; Ni120; Ni200; Ni500; Ni1000
Sensor connection	2-wire, 3-wire, 4-wire (switchable)

Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Signal Processing	
Step response (typ.)	60 ms (2-wire); 120 ms (3-wire); 30 ms (4-wire)

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value

Power Supply	
Nominal supply voltage Us	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	34.9 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

» Accessories Page 338

857-818

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

Connection Technology			Temperature Coefficient			Sensor Type			
1	2		3	4		5	6	7	
		2-wire			6178 ppm/K *1				Ni100
●		3-wire	●		5000 ppm/K	●			Ni120
	●	4-wire		●	6720 ppm/K		●		Ni200
			●	●	6370 ppm/K	●	●		Ni500
								●	Ni1000

*1 6178 ppm/K acc. to DIN 4376

DIP Switch S1 DIP Switch S2

Start Temperature				End Temperature															
8	9	10	°C	1	2	3	4	5	T / °C	1	2	3	4	5	T / °C	1	2	3	4	5	T / °C
			0						100	●	●		●		100		●	●		●	210
●			-60	●					0			●	●		110	●	●	●		●	220
	●		-50		●				10	●		●	●		120				●	●	230
●	●		-40	●	●				20		●	●	●		130	●			●	●	240
		●	-30			●			30	●	●	●	●		140		●		●	●	250
●		●	-20	●		●			40					●	150	●	●		●	●	260
	●	●	-10		●	●			50	●				●	160			●	●	●	270
●	●	●	0	●	●	●			60		●			●	170	●		●	●	●	280
							●		70	●	●			●	180		●	●	●	●	290
				●			●		80			●		●	190	●	●	●	●	●	300
					●		●		90	●		●		●	200						

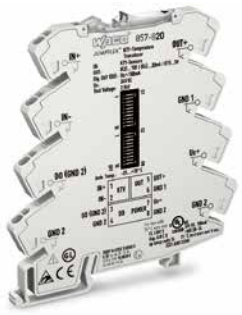
DIP Switch S2

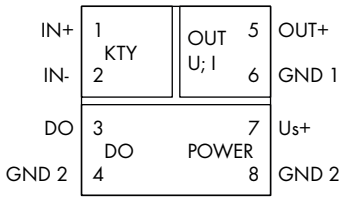
Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
6	7	8		9	10				
			0 ... 20 mA			Lower limit of output range -5 % **2	Upper limit of output range +2.5 %*2	Upper limit of output range +5 %*2	Lower limit of output range -12.5 % **2
●			4 ... 20 mA						
	●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range +2.5 %	Upper limit of output range +5 %	Lower limit of output range
●	●		2 ... 10 mA						
		●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range +5 %	Upper limit of output range +5 %
●		●	2 ... 10 V						
	●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range
●	●	●	1 ... 5 V						

* but not when lower limit of output range = 0 V or 0 mA

*2 acc. to NAMUR NE 43

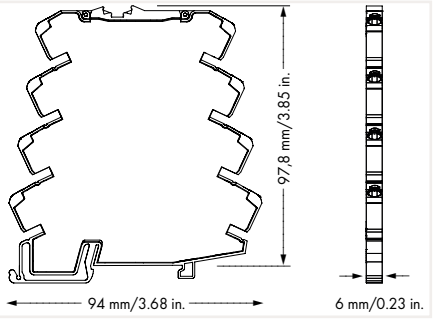
KTY Signal Conditioner; Configurable
857 Series





Temperature Signal Conditioner for KTY Sensors; Current and voltage output signal; Supply voltage: 24 VDC; Module width: 6 mm

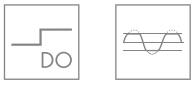
	Item No.	Pack. Unit
	857-820	1



Short description:
WAGO's KTY temperature signal conditioner records signals from KTY sensors featuring all standard characteristics and converts the temperature signal into a standard analog signal at the output.

Features:
- Supports all standard KTY sensors
- Calibrated measurement range switching
- Switchable clipping
- Limitation of standard analog signal to upper range values
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Specialty Functions:



Configuration via:



» Accessories Page 338

Configuration	
Configuration options	DIP switch
Input	
Input signal type	KTY sensors
Input voltage (max.)	±30 VDC
Input – KTY Sensors	
Sensor types (KTY)	KTY81-110; KTY81-120; KTY81-121; KTY81-122; KTY81-150; KTY81-210; KTY81-220; KTY81-221; KTY81-222; KTY81-250; KTY82-110; KTY82-120; KTY82-121; KTY82-122; KTY82-150; KTY82-220; KTY82-221; KTY82-222; KTY82-250; KTY83-110; KTY83-120; KTY83-121; KTY83-122; KTY83-150; KTY83-151; KTY84-130; KTY84-150; KTY84-151; KTY16; KTY19; ST13; ST20
Sensor connection	2-wire
Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω
Output – Digital	
Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Signal Processing	
Step response (typ.)	50 ms
Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Power Supply	
Nominal supply voltage Us	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA (+ IDO)
Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	35.5 g
Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

857-820

DIP Switch Adjustability

● = ON

Default

DIP Switch S1

Sensor Type				
1	2	3	4	
				KTY81-110, KTY81-120, KTY82-110, KTY82-120
●				KTY81-121, KTY82-121
	●			KTY81-122, KTY82-122
●	●			KTY81-150, KTY82-150
		●		KTY81-210, KTY81-220, KTY82-210, KTY82-220
●		●		KTY81-221, KTY82-221
	●	●		KTY81-222, KTY82-222
●	●	●		KTY81-250, KTY82-250
			●	KTY83-110, KTY83-120,
●			●	KTY83-121
	●		●	KTY83-122
●	●		●	KTY83-150
		●	●	KTY83-151
●		●	●	KTY84-130, KTY84-150
	●	●	●	KTY84-151
●	●	●	●	KTY16, KTY19, ST13, ST20

DIP Switch S2

Start Temperature				End Temperature														
1	2	3	°C	4	5	6	7	8	°C	4	5	6	7	8	°C	4	5	6	7	8	°C
			0						100	●	●		●		100		●	●		●	210
●			-55	●					0			●	●		110	●	●	●		●	220
	●		-50		●				10	●		●	●		120				●	●	230
●	●		-40	●	●				20		●	●	●		130	●			●	●	240
		●	-30			●			30	●	●	●	●		140		●		●	●	250
●		●	-20	●		●			40					●	150	●	●		●	●	260
	●	●	-10		●	●			50	●				●	160			●	●	●	270
●	●	●	0	●	●	●			60		●			●	170	●		●	●	●	280
							●		70	●	●			●	180		●	●	●	●	290
				●			●		80			●		●	190	●	●	●	●	●	300
					●		●		90	●		●		●	200						

DIP Switch S1

Output Signal				9	10	Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
6	7	8							
			0 ... 20 mA			Lower limit of output range -5 % **2	Upper limit of output range +2.5 %*2	Upper limit of output range 5 %*2	Lower limit of output range -12.5 % **2
●			4 ... 20 mA						
	●		0 ... 10 mA	●		Lower limit of output range	Upper limit of output range +2.5 %	Upper limit of output range +5 %	Lower limit of output range
●	●		2 ... 10 mA						
		●	0 ... 10 V		●	Lower limit of output range	Upper limit of output range	Upper limit of output range +5 %	Upper limit of output range +5 %
●		●	2 ... 10 V						
	●	●	0 ... 5 V	●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range
●	●	●	1 ... 5 V						

* but not when lower limit of output range = 0V or 0mA

*2 acc. to NAMUR NE 43

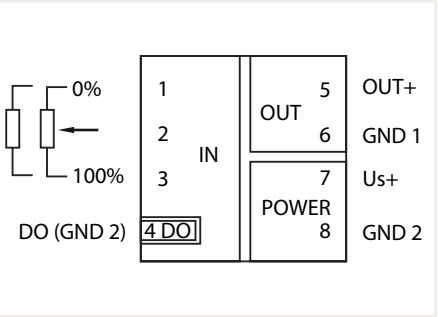
DIP Switch S2

9	10	Digital Output DO Measurement Range Overflow Indication
		DO not active
	●	GND → U_N (rising)
●	●	U_N → GND (falling)

3

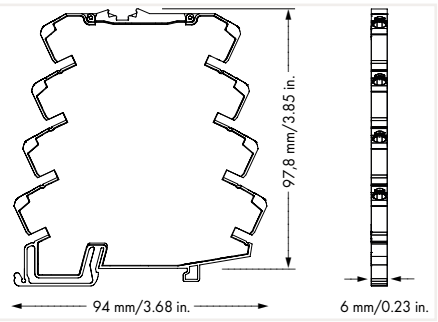
Potentiometer Signal Conditioner; Configurable
857 Series





Potentiometer Position Signal Conditioner; Current and voltage output signal; Digital output; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-809	1



Short description:
WAGO's potentiometer signal conditioner records resistance signals (e.g., from potentiometers) and converts them into a standard analog signal. The device is supplied with 24 VDC (nominal voltage). It is set via DIP switch or push/slide switch.

Features:
- PC configuration interface
- Calibrated measurement range switching
- Automatic potentiometer identification
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Note:
Additional setting options via interface configuration software/app

» Configuration software	Page 326
» Configuration App	Page 327
» Accessories	Page 338

Configuration	
Configuration options	DIP switch; Interface configuration software; Interface configuration app; Push/slide switch

Input	
Input signal type	Potentiometer; Resistor

Input – Resistors	
Input range (resistor)	10 Ω … 100 kΩ
Input range (potentiometer)	100 Ω … 100 kΩ
Potentiometer supply voltage (max.)	2.5 V
Measurement range (min.)	100 Ω

Output	
Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Output – Digital	
Max. switching voltage (DO)	Supply voltage applied
Max. continuous current (DO)	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 (adjustable)

Signal Processing	
Step response (typ.)	32 ms

Measurement Error	
Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K

Power Supply	
Nominal supply voltage U_s	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA (+ IDO)

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

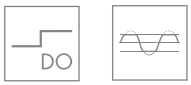
Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	36.6 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

Specialty Functions:



Configuration via:



857-809

DIP Switch Adjustability

● = ON | **Default**

DIP Switch S1 und S2

Input		Start Value						End Value					
DIP S1		DIP S1					Resistor Ω	DIP S1				DIP S2	Resistor Ω
1		2	3	4	5	6		7	8	9	10	1	
	Potentiometer						0						100000
●	Resistor	●					0	●					0
			●				10		●				10
		●	●				11	●	●				11
				●			12			●			12
		●		●			13	●		●			13
			●	●			15		●	●			15
		●	●	●			16	●	●	●			16
					●		18				●		18
		●			●		20	●			●		20
			●		●		22		●		●		22
		●	●		●		24	●	●		●		24
				●	●		27			●	●		27
		●		●	●		30	●		●	●		30
			●	●	●		33		●	●	●		33
		●	●	●	●		36	●	●	●	●		36
						●	39					●	39
		●				●	43	●				●	43
			●			●	47		●			●	47
		●	●			●	51	●	●			●	51
				●		●	56			●		●	56
		●		●		●	62	●		●		●	62
			●	●		●	68		●	●		●	68
		●	●	●		●	75	●	●	●		●	75
					●	●	82				●	●	82
		●			●	●	91	●			●	●	91
			●		●	●	40		●		●	●	40
		●	●		●	●	50	●	●		●	●	50
				●	●	●	60			●	●	●	60
		●		●	●	●	70	●		●	●	●	70
			●	●	●	●	80		●	●	●	●	80
		●	●	●	●	●	90	●	●	●	●	●	90

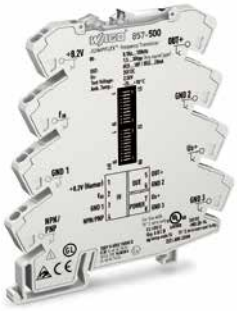
DIP Switch S2

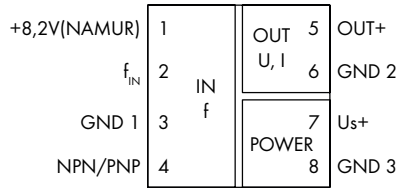
Factor of Initial Value			Factor of End Value			Output		Output Signal Range		
2	3		4	5		6		7	8	
		x1			x1		Current			0 ... 10 V/0 ... 20 mA
●		x10	●		x10	●	Voltage	●		2 ... 10 V/4 ... 20 mA
	●	x100		●	x100				●	0 ... 5 V/0 ... 10 mA
●	●	x1000	●	●	x1000			●	●	1 ... 5 V/2 ... 10 mA

9	10	Measurement Range Underflow	Measurement Range Overflow	Wire Break
		Upper limit of output range* +2.5 %	Lower limit of output range* -5 %	Upper limit of output range* +5 %
●		Upper limit of output range +2.5 %	Lower limit of output range	Upper limit of output range +5 %
	●	Upper limit of output range	Lower limit of output range	Upper limit of output range +5 %
●	●	Upper limit of output range	Lower limit of output range	Lower limit of output range

* acc. to NAMUR NE 45

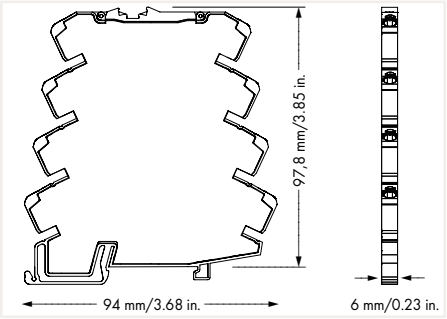
Frequency Signal Conditioner; Configurable
857 Series





Frequency Signal Conditioner; Current and voltage output signals; Supply voltage: 24 VDC; Module width: 6 mm

	Item No.	Pack. Unit
	857-500	1



Short description:
WAGO's frequency signal conditioner collects 0.1–120 kHz signals from NAMUR, NPN or PNP sensors and converts them into a standard analog signal.

Features:
- PC configuration interface
- Signal acquisition from NAMUR, NPN or PNP sensors
- Calibrated measurement range switching
- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Specialty Functions:



Configuration via:



» Configuration software	Page 326
» Configuration App	Page 327
» Accessories	Page 338

Configuration

Configuration options	DIP switch; Interface configuration software; Interface configuration app

Input

Input signal type	Frequency generators; NAMUR sensors; NPN/PNP transistor outputs; Mechanical contact (dry contact)

Input – Sensor Type 1

Sensor type 1	Frequency generator; NPN/PNP transistor output with pull-up or pull-down resistor
Measurement range (frequency) 1	0.1 Hz … 120 kHz
Pulse length 1	≥ 1 µs
Measurement span 1 (min.)	10 Hz
Signal level	1.5 V; 10 V; 20 V (switchable)
Input voltage (max.)	±31.2 VDC
Signal form	Any
Coupling	AC/DC (adjustable; AC above 10 Hz)
Input resistance 1	10 kΩ

Input – Sensor Type 2

Sensor type 2	NAMUR sensor per DIN EN 50227
Measurement range (frequency) 2	0.1 Hz … 1 kHz
Pulse length 2	≥ 500
Measurement span 2 (min.)	10 Hz
Sensor supply	8.2 VDC
Signal current (0)	≤ 1.2 mA
Signal current (1)	≥ 2.1 mA
Hysteresis	0.45 mA
Short-circuit current	≤ 14 mA
Short circuit monitoring	≥ 4.7 mA
Wire break monitoring	≤ 0.2 mA
Input resistance 2	≤ 600 Ω

Input – Sensor Type 3

Sensor type 3	NPN/PNP transistor output without pull-up or pull-down resistor; Mechanical contact (dry contact)
Measurement range (frequency) 3	0.1 Hz … 20 kHz
Pulse length 3	≥ 25 µs
Measurement span 3 (min.)	100 Hz
Open-circuit voltage	5 VDC
NPN residual voltage	≤ 1.5 V
PNP switching voltage	≥ 7.5 V (+ residual voltage UCE sat)

Output

Output signal type	Current; Voltage
Output signal (voltage)	0 … 5 V; 1 … 5 V; 0 … 10 V; 2 … 10 V
Output signal (current)	0 … 10 mA; 2 … 10 mA; 0 … 20 mA; 4 … 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Signal Processing

Conversion time	Peak-time measurement method (> 400 Hz): < 20 ms; Pulse time measurement method (< 400 Hz): < 200 µs + $T_{Cycle\ duration}$

Measurement Error

Transmission error (typ.)	≤ 0.1 % of upper-range value
Temperature coefficient	≤ 0.01 %/K

Power Supply

Nominal supply voltage Us	24 VDC
Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 mA

Safety and Protection	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min
Protection type	IP20
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	36.2 g
Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4

Frequency Signal Conditioner; Configurable
857 Series

857-500

DIP Switch Adjustability

● = ON Default

DIP Switch S1

Source Input			Coupling		Operation with Disturbed Frequency Signals for Acceptable Signal Level (applies only to f_{IN} input)			
1	2		3		4	5	High	Low
		Frequency generator or NPN/PNP transistor outputs with pull-up or pull-down resistor		AC/DC			> 1.5 V	< 0.4 V
●		NAMUR	●	AC (without DC), see Figure 1	●		> 10 V	< 8 V
	●	NPN/PNP transistor outputs without pull-up or pull-down resistor input Dry Contact				●	> 20 V	<16 V
					●	●	> 1.5 V	< 0.4 V

DIP Switch S1 / DIP Switch S2

Input Start Value					Frequency/Hz	Input End Value					Frequency/Hz
6	7	8	9	10		1	2	3	4	5	
					100						1000
●					0.1	●					0.1
	●				1		●				1
●	●				100	●	●				100
		●			200			●			200
●		●			300	●		●			300
	●	●			400		●	●			400
●	●	●			500	●	●	●			500
			●		600				●		600
●			●		700	●			●		700
	●		●		800		●		●		800
●	●		●		900	●	●		●		900
		●	●		1000			●	●		1000
●		●	●		2000	●		●	●		2000
	●	●	●		3000		●	●	●		3000
●	●	●	●		4000	●	●	●	●		4000
				●	5000					●	5000
●				●	6000	●				●	6000
	●			●	7000		●			●	7000
●	●			●	8000	●	●			●	8000
		●		●	9000			●		●	9000
●		●		●	10000	●		●		●	10000
	●	●		●	20000		●	●		●	20000
●	●	●		●	30000	●	●	●		●	30000
			●	●	40000				●	●	40000
●			●	●	50000	●			●	●	50000
	●		●	●	60000		●		●	●	60000
●	●		●	●	70000	●	●		●	●	70000
		●	●	●	80000			●	●	●	80000
●		●	●	●	90000	●		●	●	●	90000
	●	●	●	●	100000		●	●	●	●	100000
●	●	●	●	●	120000	●	●	●	●	●	120000

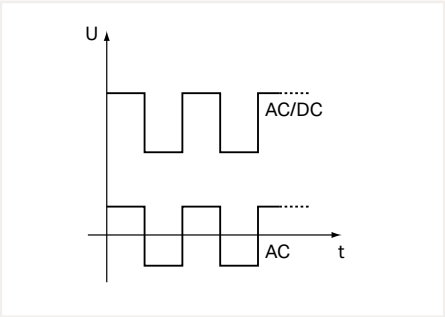


Figure 1: Coupling

DIP Switch S2

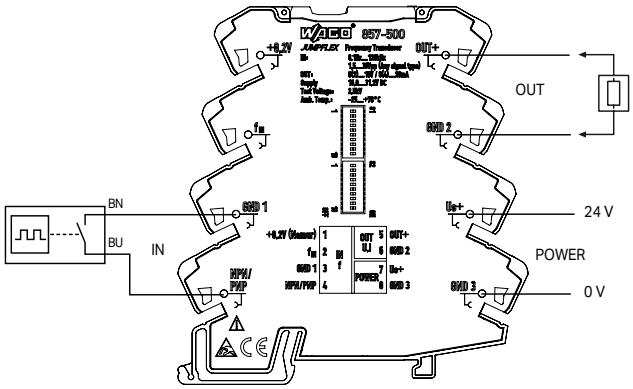
Output Signal					9	10	Measurement Range Underflow	Measurement Range Overflow	Only for NAMUR Sensors	
6	7	8							Wire Break	Short Circuit
			0 ... 20 mA	Current			Lower limit of output range* -5 %	Upper limit of output range* +2.5 %	Upper limit of output range* 5 %	Lower limit of output range * -12.5 %
	●		4 ... 20 mA							
		●	0 ... 10 mA		●		Lower limit of output range	Upper limit of output range +2.5 %	Upper limit of output range 5 %	Lower limit of output range
	●	●	2 ... 10 mA							
●			0 ... 10 V	Voltage		●	Lower limit of output range	Upper limit of output range	Upper limit of output range 5 %	Upper limit of output range 5 %
●	●		2 ... 10 V							
●		●	0 ... 5 V		●	●	Lower limit of output range	Upper limit of output range	Ausgangsbereichsanfang	Lower limit of output range
●	●	●	1 ... 5 V							

*acc. to NAMUR NE 43

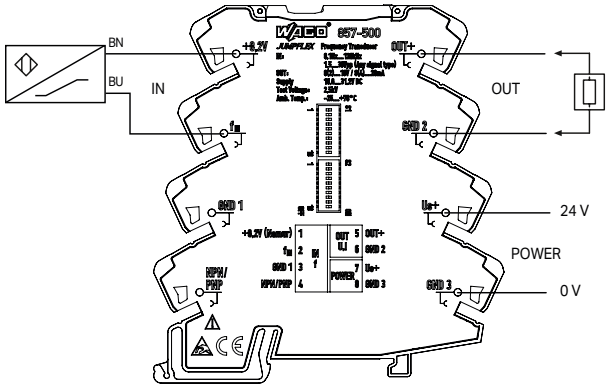
857-500

Wiring Material

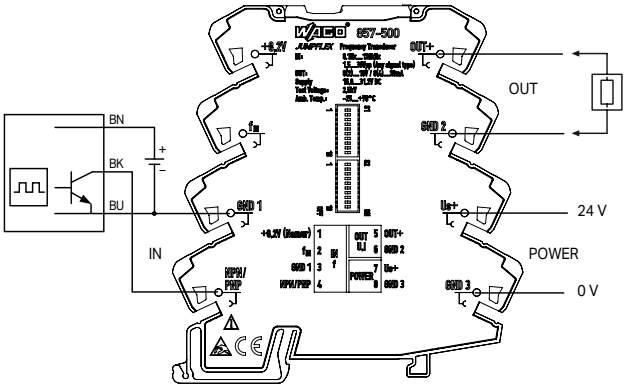
2-Wire DC (Mechanical Contact)



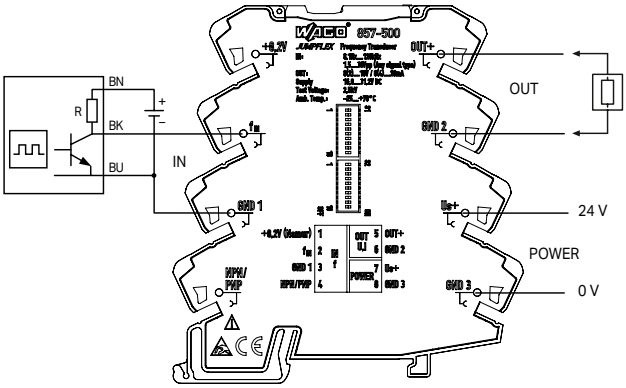
2-Wire DC NAMUR Sensor



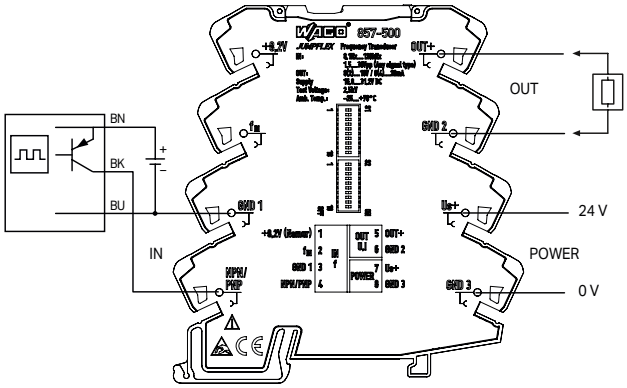
NPN Transistor Output



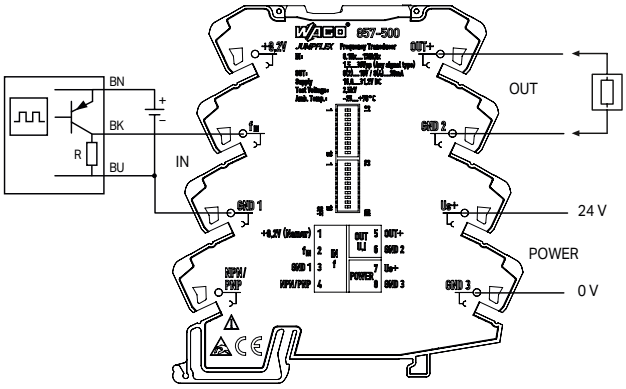
NPN Transistor Output with Pull-Up Resistor



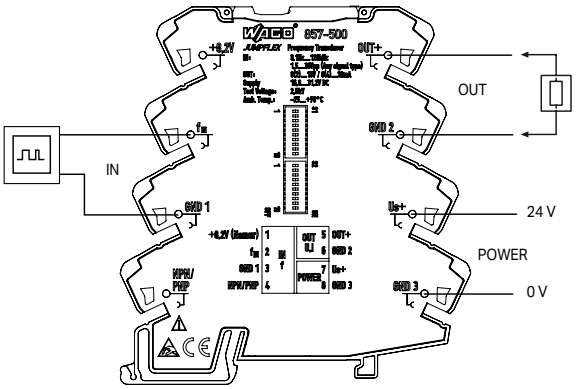
PNP Transistor Output



PNP Transistor Output with Pull-Down Resistor



Frequency Generator



Interface Configuration Software

All signal conditioners offer user-friendly configuration at a glance using the interface configuration software.

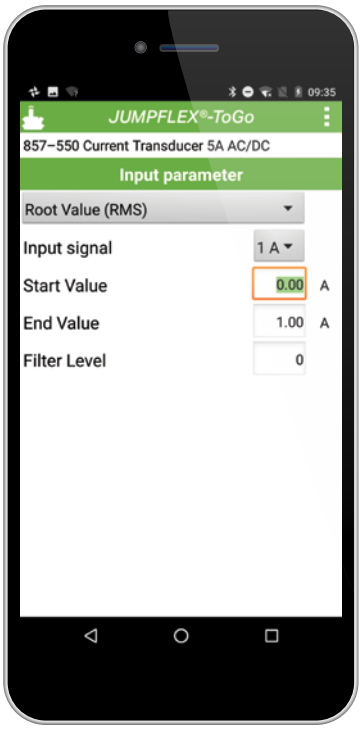
All devices marked with the software symbol can be configured accordingly via the software.

Software features:
- Simulation of input and output parameters (2857 Series)
- Automatic module recognition
- Configuration and visualization of process values
- Parameterization of the digital switch output (threshold functionality)
- Communication via WAGO USB Service Cable (750-923) or WAGO *Bluetooth*® Adapter (750-921), pluggable on both series
- Creation of configuration reports
- Backup of configuration settings



Free software download at:
www.wago.com/configuration-software

JUMPFLEX®-ToGo Configuration App



(Android smartphone)

The *JUMPFLEX*®-ToGo App brings the power of PC-based configuration software to your Android mobile device.

All devices marked with the app symbol can be configured accordingly via the app.

App features:
- Configuration of input and output parameters with a stroke of the finger
- Simple display of configuration data and current value
- Communication via WAGO *Bluetooth*® Adapter (750-921)

3

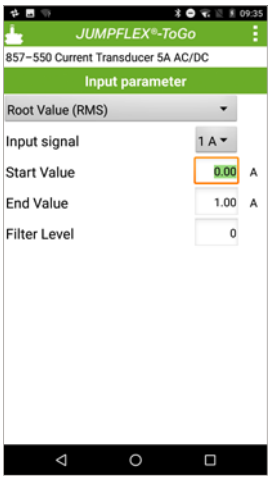
Free download from Google Play Store



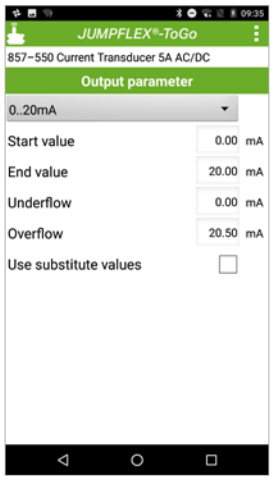
Bluetooth® Adapter, 750-921



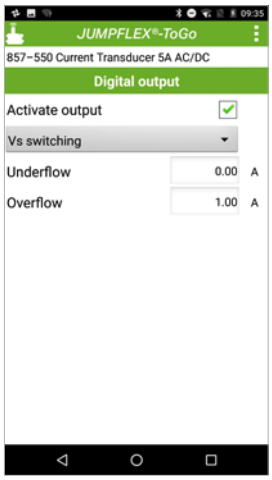
Device information



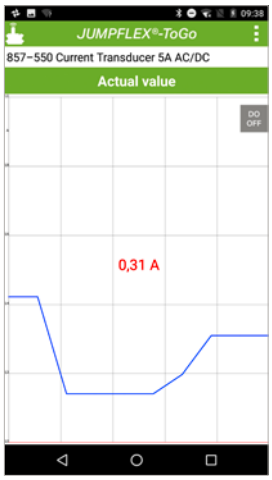
Input parameters



Output parameters



Digital output



Actual value

Configuration Display
2857 Series



3

Configuration Display		
	Item No.	Pack. Unit
	2857-900	1

Features:
- Easy mounting on 2857 Series devices
- Automatic module recognition
- Capacitive user interface with slider function
- Intuitive menu navigation
- Multicolor backlight for status indication
- Device configuration and process value visualization
- Easy copying of device configuration

All devices marked with the display symbol can be configured accordingly via the display.



Operating Data	
Operating voltage	3.3 VDC
Power consumption	≤ 60 mA

Geometric Data	
Width	22 mm / 0.866 inch
Height	13 mm / 0.512 inch
Depth	59 mm / 2.323 inch

Mechanical Data	
Mounting type	Pluggable module

Material Data	
Weight	24.3 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	-30 … +80 °C
Relative humidity	10 … 90 % (non-condensing)
Operating altitude (max.)	2000 m

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 61373



Housing width: 22.5 mm

Housing width: 12.5 mm

Bluetooth® Adapter
750 Series



Bluetooth® Adapter		
	Item No.	Pack. Unit
	750-921	1

***Bluetooth*® Adapter in Connection with 750 Series**
The *Bluetooth*® Adapter wirelessly connects a notebook computer with *Bluetooth*® functionality to the service interface of the coupler/controller. It also provides an active connection to a programmable fieldbus controller.

As a cable substitute, the *Bluetooth*® Adapter allows communication between two fieldbus controllers, as well as between fieldbus couplers/controllers via WAGO software tools (e.g., WAGO-I/O-*CHECK*, WAGO-I/O-*PRO*).

Configurable coexistence properties ensure trouble-free operation in the presence of other radio systems.

***Bluetooth*® Adapter in Connection with 857 Series**
The *Bluetooth*® Adapter wirelessly connects a notebook computer with *Bluetooth*® functionality to the service interface of a configurable 857 Series Module.

As a cable substitute, the *Bluetooth*® adapter allows communication between modules and the WAGO software tool (WAGOframe) or configuration app for Android-based end-devices.

If required, adapter configuration may be performed via AT commands.

The adapter is supplied via both service interface and power supply of coupler/controller or module.

Technical Data	
Security encryption	128-bit encryption
Radio technology	*Bluetooth*® 2.1
Frequency band	ISM band, 2402 … 2483 MHz
Security authentication	Pin code or configurable access list
Supported profiles	Serial Port Profile (SPP)
Type of communication	Peer-to-peer connection
Coexistence	Frequency hopping spread spectrum (FHSS); Adaptive frequency hopping (AFH); Adaptive transmission power with configurable upper limit; Configurable channel blacklist; Supports coexistence optimized inquiry (transmission time ≤ 0.1 s; transmission cycle ≥ 2.9 s)
Transmission range	20 m in open air (Class 2)
Antenna	Integrated
Receiver sensitivity	-82 dBm
Baud rate	9600 … 115,000 bps
Current consumption (system supply)	60 mA
Indicators	Operating mode

Connection Data	
Contact type	4-pole male connector
Connection type	4-pole male connector

Geometric Data	
Width	15 mm / 0.591 inch
Height	50 mm / 1.969 inch
Depth	19 mm / 0.748 inch

Material Data	
Color	light gray
Weight	16.6 g
Conformity marking	CE

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +60 °C
Protection type	IP20



Application example: 750 Series



Application example: 857 Series

WAGO USB Communication Cable
750 Series



Configuration Cable; USB connection		
Length	Item No.	Pack. Unit
2.5 m	750-923	1
5.0 m	750-923/000-001	1

The WAGO USB Communication Cable connects a PC (notebook) to both the service interface of the 857/2857 Series Signal Conditioners and the configuration interface of WAGO's I/O fieldbus couplers/controllers.

Notice:
Using the WAGO 759-923 USB Communication Cable in combination with select programmable fieldbus controllers requires the specific firmware versions listed below (or higher):
750-841: version 12 and higher
750-872/0020-0000: version 2 and higher

Technical Data	
Connection type	4-pole male connector; USB plug (type A)
Number of poles	4
Supported operating systems	Windows XP (SP3 or higher); Windows 7

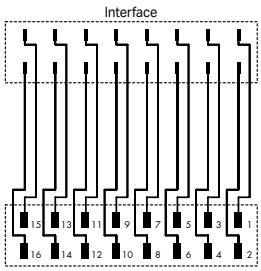
Geometric Data	
Width	15 mm / 0.591 inch
Height	50 mm / 1.97 inch
Depth	19 mm / 0.748 inch

Mechanical Data	
Weight	64.8 g
Color	black

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Protection type	IP20
EMC immunity to interference	Per EN 61000-4-3, EN 61000-4-6
EMC emission of interference	Per EN 55022

Interface Adapter
857 Series





Interface Adapter; with 16-pole ribbon cable connector (DIN 41651); analog		
	Item No.	Pack. Unit
	857-980	1

Electrical Data	
Inputs/Outputs	8-channel analog input or output
Circuit type	Analog
Limiting continuous current	1 A
Contact resistance	≤ 20 mΩ

Safety and Protection	
Pollution degree	2
Overvoltage category	III
Test voltage	500 VAC; 50 Hz; 1 min

Connection Data	
Connection type 1	System
Pole number 1	16
Connector 1	DIN 41651 male connector
Performance level 1	3
Connection type 2	Field
Pole number 2	16
Design 2	Plug for jumper slot

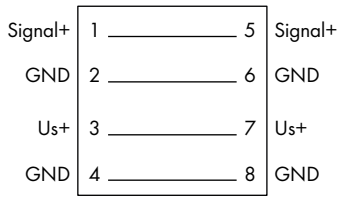
Mechanical Data	
Mounting type	Pluggable module

Material Data	
Weight	41.4 g

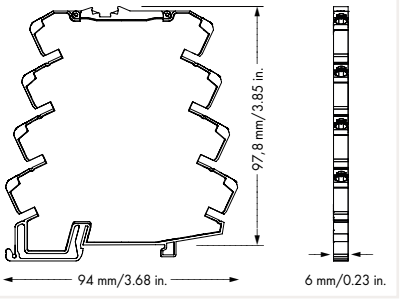
Environmental Requirements	
Surrounding air temperature (operation)	–20 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Supply and Through Module
857 Series





Supply and Through Module		
	Item No.	Pack. Unit
	857-979	25



Short description:
WAGO's supply and through module transmits electrically isolated signals, e.g., in conjunction with the 857-980 Interface Adapter for analog signals (Item No. 857-980). When used as a supply module, it transmits the power from the connected clamping points to the adjacent modules via push-in type jumper bars.

Electrical Data	
Operating voltage	≤ 33 V AC/DC
Continuous current (max.)	8 A
Contact resistance	≤ 10 Ω

Safety and Protection	
Protection type	IP20

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Geometric Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	97.8 mm / 3.85 inch
Depth	94 mm / 3.701 inch

Mechanical Data	
Mounting type	DIN-35 rail
Protection type	IP20

Material Data	
Weight	28.8 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE

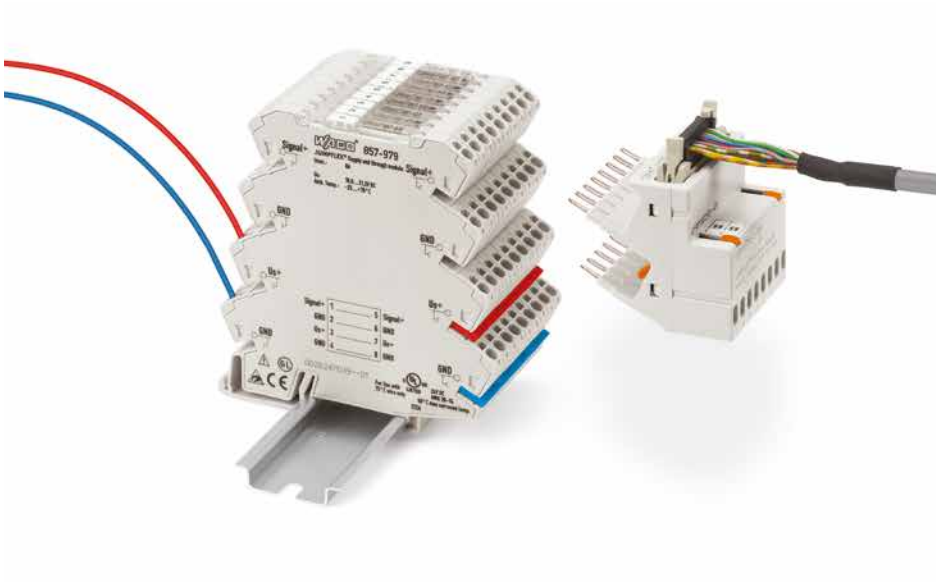
857-979

Application example:

Power supply for 8 modules with plugged interface adapter

•WAGO interface adapter, 857-980
•WAGO ribbon cable, 706-100/1602-200, 16-pole socket/open-ended
•Push-in type jumper bar, 9-way, 859-409

1

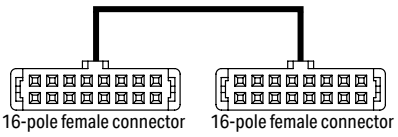


2



Connection Cable; Paired with an Interface Adapter
706 Series





Connection Cable; 16-pole; DIN 41651 connector; 16-pole; DIN 41651 connector; Conductor cross section: 0.14 mm²/24 AWG		
Length	**Item No.**	Pack. Unit
1 m	**706-753/301-100**	1
2 m	**706-753/301-200**	1
3 m	**706-753/301-300**	1

WAGO's 16-pole connection cables transmit the signal one-to-one from the 16-pole connector and are available in 1-, 2- and 3-meter lengths. Signal transmission from the 857-980 Interface Adapter is also possible.
They are suitable for system wiring when paired with WAGO's Interface Adapter (Item No. 857-980).

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	2 x 16-pole DIN 41651 connector
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C

Connection Cable; Paired with an Interface Adapter
706 Series



Connection Cable; 16-pole;
DIN 41651 connector; open-ended; Conductor cross section: 0.14 mm²/24 AWG; UR components

Length	Item No.	Pack. Unit
2 m	706-100/1602-200	1

Color Coding acc. to DIN VDE 47100		HE 10 16-pole Contact Number
white		1
brown		2
green		3
yellow		4
gray		5
pink		6
blue		7
red		8
black		9
violet		10
gray/pink		11
red/blue		12
white/green		13
brown/green		14
white/yellow		15
yellow/brown		16

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data

Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection

Degree of protection	IP20

Connection Data

Connectors	1 x 16-pole connector per DIN 41651; open-ended
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Physical Data

Cable length	2 m

Material Data

Weight	202 g

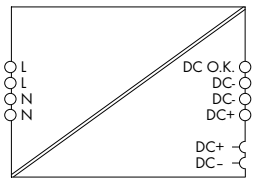
Environmental Requirements

Surrounding air temperature (operation)	–25 … +70 °C

3

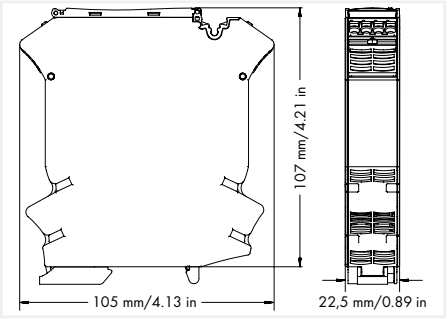
Switched-Mode Power Supply in 2857 Series Housing
787 Series





Switched-Mode Power Supply; for signal conditioners; 1-phase; Output voltage: 24 VDC; Output current: 1 A

	Item No.	Pack. Unit
	787-2852	1



- Switched-mode power supply in 22.5 mm wide 2857 Series housing, same profile as 2857 and 857 Series Signal Conditioners
- Both 24 VDC and 0 V output voltage can be easily supplied to adjacent modules via 859-4xx Jumpers
- Pluggable *picoMAX*® connection technology
- Natural convection cooling
- DC OK message as active signal output (24 VDC; 20 mA)
- Integrated redundancy diode enables easy fail-safe power supply via parallel connection of two power supplies
- Approvals for worldwide applications with modules (pending)

Input

Phases	1
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 0.28 A (240 VAC; nominal load); ≤ 0.49 A (100 VAC; nominal load)
Discharge current	≤ 1 mA
Inrush current	≤ 30 A
Power factor	≥ 0.6 (230 VAC, nominal load; per EN 61000-3-2)
Power factor correction (PFC)	None
Mains failure hold-up time	≥ 20 ms (100 VAC)

Output

Nominal output voltage $U_{o\,nom}$	24 VDC (SELV)
Default setting	24 VDC
Nominal output current $I_{o\,nom}$	1 A
Nominal output power	24 W
Adjustment accuracy	2 %
Deviation; Dynamic load change: 10 … 90 %	1 %
Residual ripple	≤ 100 mV (peak-to-peak)
Current limitation	1.1 x $I_{o\,nom}$ typ.
Overload behavior	Constant current

Signaling and Communication

Signaling	1 x DC OK LED (green); 1 x Overload LED (red); 1 x active DC OK signal output (24 VDC; 20 mA)
Status indication	Green LED (U_o > 21.5 V); Red LED (overload)

Efficiency/Power Losses

Power loss P_l	≤ 1 W (230 VAC; no load); ≤ 4.3 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 5 W (100 VAC / 24 VDC; 1 A)
Efficiency	≥ 86 % (230 VAC; nominal load); ≥ 84 % (110 VAC, nominal load);

Fuse Protection

Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C

Safety and Protection

Isolation voltage (pri.-sec.)	4.242 kVDC
Pollution degree	2
Protection class	II
Protection type	IP20 (per EN 60529)
Feedback voltage	≤ 60 VDC
Transient suppression (primary)	Varistor
Overvoltage protection (secondary)	Internal protective circuit; ≤ 29 … 31 VDC (in the event of a fault)
Short-circuit-protected	Yes
Open-circuit-proof	Yes
Parallel operation	Yes, for two devices of the same type
Series operation	Yes, for two devices of the same type
MTBF	> 500,000 h (at +25 °C per IEC 61709)

Connection Data

Number of jumper slots	4
Connection type 1	Input/output/signaling
Connection technology	Push-in CAGE CLAMP®
WAGO Connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 10 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

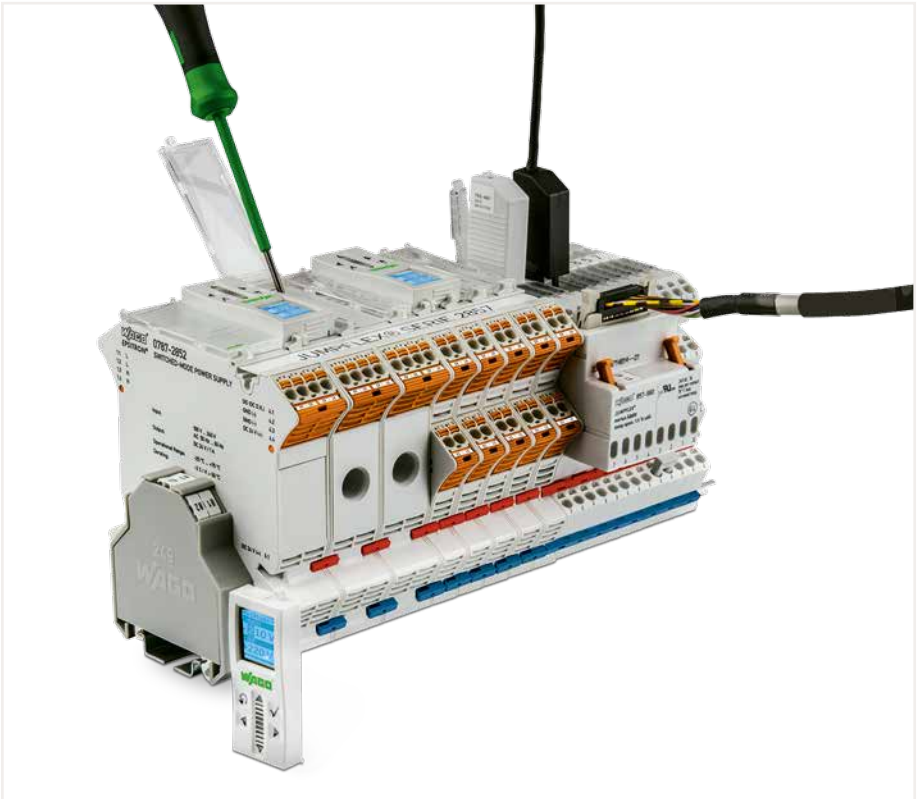
Geometric Data	
Width	22.5 mm / 0.89 inch
Height from upper-edge of DIN-rail	107 mm / 4.21 inch
Depth	105 mm / 4.13 inch

Mechanical Data	
Mounting type	DIN-35 rail (EN 60715)
Protection type	IP20 (per EN 60529)

Material Data	
Weight	1.1 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–25 … +85 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–2 %/K (> +60 °C)
Climatic category	3K3 (per EN 60721)

Standards and Specifications	
Conformity marking	CE
Standards/specifications	EN 61000-6-2; EN 61000-6-3; EN 60950-1; UL 60950*; cULus 508*; ANSI-ISA 12.12.01 (Class I Div 2)*; ATEX/IEC Ex*; DNV GL (*pending)



Application example

Accessories



Push-in type jumper bar; light gray; insulated; 18 A		
Description	Item No.	Pack. Unit
2-way	859-402	200 (8x25)
3-way	859-403	200 (8x25)
4-way	859-404	200 (8x25)
5-way	859-405	200 (8x25)
6-way	859-406	100 (4x25)
7-way	859-407	100 (4x25)
8-way	859-408	100 (4x25)
9-way	859-409	100 (4x25)
10-way	859-410	100 (4x25)

Item no. suffixes for colored push-in type jumper bars		
	Item No.	
yellow	... /000-029	
red	... /000-005	
blue	... /000-006	



Comb-style jumper bar; insulated		
	Item No.	Pack. Unit
2-way	281-482	100



Operating tool with a partially insulated shaft; Type 2; Blade: 3.5 x 0.5 mm		
	Item No.	Pack. Unit
	210-720	1

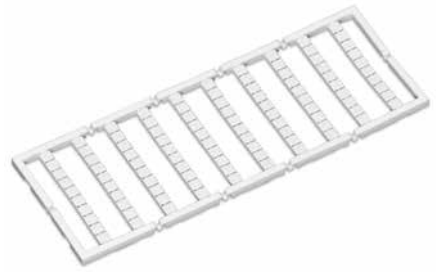


End stop		
Width	Item No.	Pack. Unit
6 mm	249-116	1
10 mm	249-117	1
14 mm	249-197	1



Test pin		
	Item No.	Pack. Unit
	735-500	1

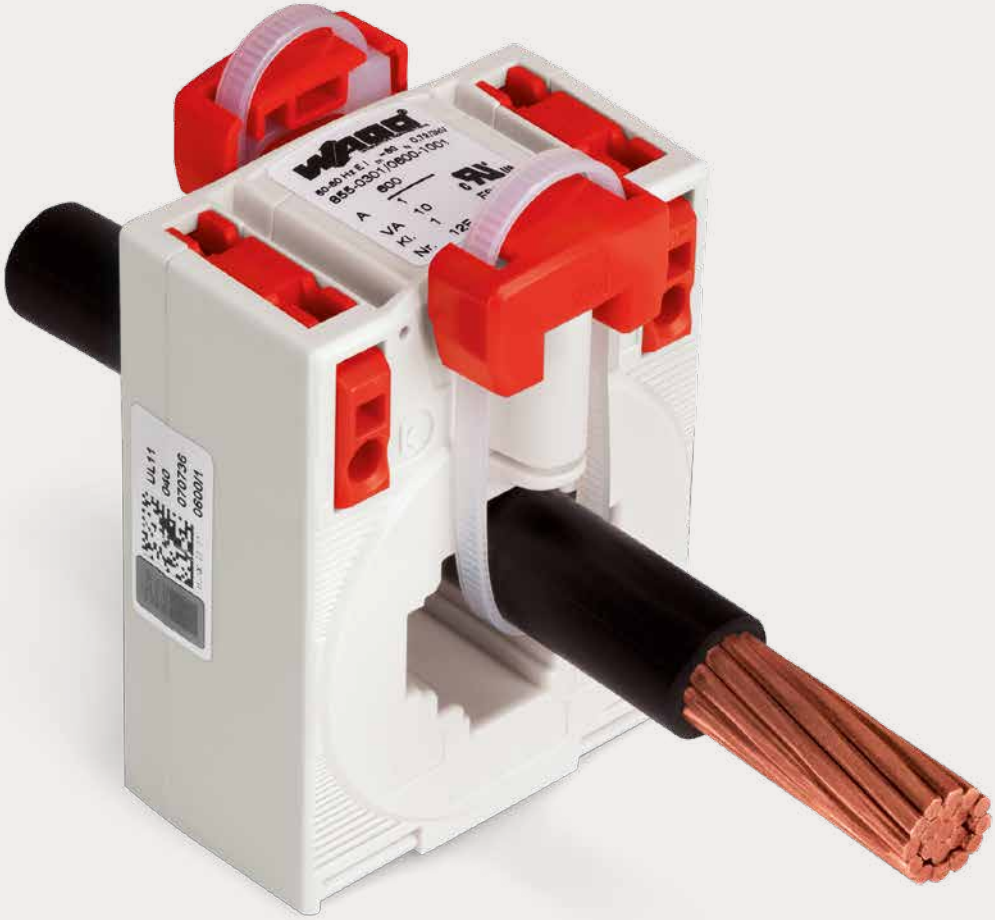
Marking





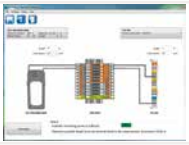
WMB Multi Marking System		
Marking	**Item No.**	Pack. Unit
plain	**793-501**	5 cards
1 ...10 (10 x)	**793-502**	5 cards
11 ... 20 (10 x)	**793-503**	5 cards
21 ... 30 (10 x)	**793-504**	5 cards
31 ... 40 (10 x)	**793-505**	5 cards
41 ... 50 (10 x)	**793-506**	5 cards
1 ... 50 (2 x)	**793-566**	5 cards

Marking Strip for TOPJOB® S; white; plain; 11 mm wide		
	Item No.	Pack. Unit
50 m reel	**2009-110**	1



WAGO Current and Energy Measurement Technology

WAGO Current and Energy Measurement Technology

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4

Selection Guide: Current Transformers

Current Transformers; 855 Series	Split-Core Current Transformers	Plug-In Current Transformers; with CAGE CLAMP® Connection Technology
		
Application	Retrofits	New systems
Coil bobbin	Separable	Closed
Connection technology	Connection cable (color coded)	CAGE CLAMP®
Mounting	Round cable (insulated); Copper current bar (insulated)	Round cable; Copper current bar; DIN-rail; Mounting plate
Compatibility with other WAGO components	750-493; (750-493/000-001) 750-494; (750-494/000-001) 750-495; (750-495/000-001) 857-550	
Primary rated current	60 … 1000 A	50 … 2500 A
Secondary rated current	1 A / 5 A	1 A / 5 A
Accuracy class	0.5; 1 or 3	1 or 3
Surrounding air temperature	–10 … +55 °C	–5 … +50 °C
Standards	EN 61869-2	EN 61869-2
Approvals	–	
Page	350	344

*In the measurement range 0.8 to 32 A and in combination with WAGO's 3-phase power measurement modules, the accuracy class 0.5 is met per EN 61869-2.

Plug-In Current Transformers; with a *picoMAX*® Pluggable Connector		Rogowski Coils RC70 / RC 125 / RC 175
		
New systems		Retrofits
Closed		Bayonet connector, separable
picoMAX®		Connection cable
Round cables; DIN-rail; Mounting plate		Round cable; Copper current bar
750-493 750-494 750-495 857-550		750-495/000-002 857-552
32 A	35 A / 64 A	Up to 4000 A
320 mA	1 A	22.5 mV / kA
0.5*	1	0.5
–10 … +55 °C		–40 … +80 °C
EN 61869-2		EN 61010-1/EN 61869-2
–	c UL us	UL
348		354

4

Plug-In Current Transformer; with CAGE CLAMP® Connection
855 Series



Short description:
WAGO's plug-in units (855 Series) are inductive, single-conductor current transformers. Due to the measurement principle used, these current transformers are exclusively designed for AC network applications.

Features:
- Screwless CAGE CLAMP® connection technology
- Several mounting options available
- Vibration- and shock-resistant
- High mechanical retention forces
- High current-carrying capacity
- Continuous overload of 120% the nominal primary current
- Low-voltage current transformer for operating voltages up to max. 1.2 kV
- For 690 V power networks
- UL recognized components

Input – Current Transformer	
Rated continuous thermal current I_{cth}	1.2 x I_N
Rated short-time thermal current I_{th}	60 x I_N/1 s (max. 100 kA/1 s)
Overcurrent limiting factor	FS5 / FS10 (type dependent; see type plate inscription)
Rated frequency	50 … 60 Hz

Safety and Protection	
Test voltage	6 kVAC; 50 Hz; 1 min
Highest voltage for equipment U_m	3.75 $kVAC_{rms}$

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 4 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 4 mm² / 28 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Mechanical Data	
Mounting type	Current transformer (closed); Installation on mounting plate; Mounting on DIN-rail via carrier rail adapter; Mounting on round cable

Material Data	
Insulation class	E

Environmental Requirements	
Surrounding air temperature (operation)	–5 … +50 °C
Surrounding air temperature (storage)	–25 … +70 °C
Operating altitude (max.)	1000 m

Standards and Specifications	
Conformity marking	CE
Standards/specifications	EN 61869-1; EN 61869-2; UL: E356480

Accessories



Carrier rail adapter for plug-in current transformers (855-3xx/xxxx-xxxx and 855-4xx/xxxx-xxxx)

Item No.	Pack. Unit
855-9900	1



Quick-mount kit for plug-in current transformers with CAGE CLAMP® connections

Item No.	Pack. Unit
855-9910	1



3-phase power measurement module

Rated Voltage	Item No.	Pack. Unit
480 VAC	750-493	1
480 VAC	750-494	1
690 VAC	750-495	1



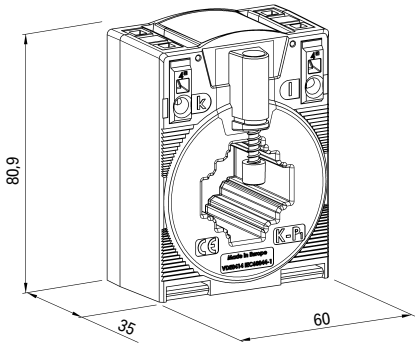
Operating tool with a partially insulated shaft; Type 1; Blade: (3.5 x 0.4) mm

Item No.	Pack. Unit
210-720	1

» Terminal Block Assembly for Current Transformers Page 356

Plug-In Current Transformer; with CAGE CLAMP® Connection
855 Series





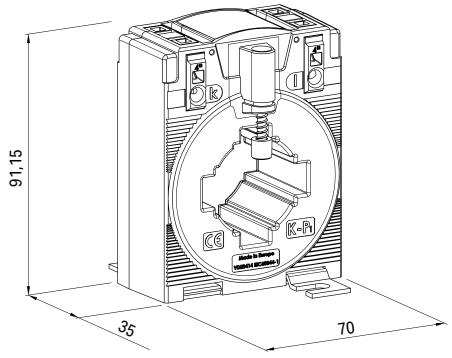
855-3xx/xxxx-xxxx

Busbar 1: 30 x 10 mm
Busbar 2: 25 x 12 mm
Busbar 3: 20 x 20 mm

Round cable: 26 mm

Plug-In Current Transformer; with CAGE CLAMP® Connection					
Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	**Item No.**	Pack. Unit
50 A	1 A	1.25 VA	3	**855-301/050-103**	1
50 A	5 A	1.25 VA	3	**855-305/050-103**	1
60 A	1 A	1.25 VA	1	**855-301/060-101**	1
60 A	5 A	1.25 VA	1	**855-305/060-101**	1
75 A	1 A	2.5 VA	1	**855-301/075-201**	1
75 A	5 A	2.5 VA	1	**855-305/075-201**	1
100 A	1 A	2.5 VA	1	**855-301/100-201**	1
100 A	5 A	2.5 VA	1	**855-305/100-201**	1
150 A	1 A	5 VA	1	**855-301/150-501**	1
150 A	5 A	5 VA	1	**855-305/150-501**	1
200 A	1 A	5 VA	1	**855-301/200-501**	1
200 A	5 A	5 VA	1	**855-305/200-501**	1
250 A	1 A	5 VA	1	**855-301/250-501**	1
250 A	5 A	5 VA	1	**855-305/250-501**	1
300 A	5 A	5 VA	1	**855-305/300-501**	1
400 A	1 A	10 VA	1	**855-301/400-1001**	1
400 A	5 A	10 VA	1	**855-305/400-1001**	1
600 A	1 A	10 VA	1	**855-301/600-1001**	1
600 A	5 A	10 VA	1	**855-305/600-1001**	1





855-4xx/xxxx-xxxx

Busbar 1: 40 x 10 mm
Busbar 2: 30 x 15 mmm

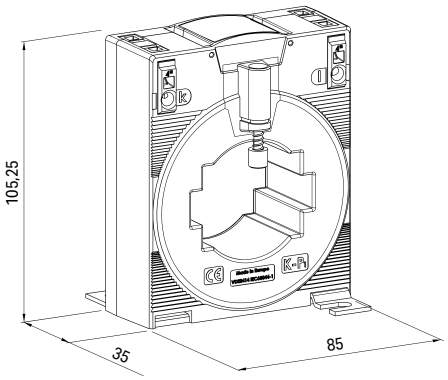
Round cable: 32 mm

Plug-In Current Transformer; with CAGE CLAMP® Connection					
Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	**Item No.**	Pack. Unit
250 A	1 A	5 VA	1	**855-401/250-501**	1
250 A	5 A	5 VA	1	**855-405/250-501**	1
400 A	1 A	5 VA	1	**855-401/400-501**	1
400 A	5 A	5 VA	1	**855-405/400-501**	1
600 A	1 A	5 VA	1	**855-401/600-501**	1
750 A	5 A	5 VA	1	**855-405/750-501**	1

Plug-In Current Transformer; with CAGE CLAMP® Connection
855 Series



Plug-In Current Transformer; with CAGE CLAMP® Connection					
Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	Item No.	Pack. Unit
400 A	1 A	10 VA	1	**855-501/400-1001**	1
400 A	5 A	10 VA	1	**855-505/400-1001**	1
600 A	1 A	10 VA	1	**855-501/600-1001**	1
600 A	5 A	10 VA	1	**855-505/600-1001**	1
800 A	1 A	10 VA	1	**855-501/800-1001**	1
800 A	5 A	10 VA	1	**855-505/800-1001**	1
1000 A	1 A	10 VA	1	**855-501/1000-1001**	1
1000 A	5 A	10 VA	1	**855-505/1000-1001**	1



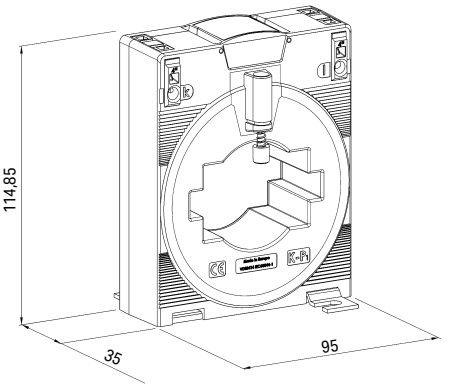
855-5xx/xxxx-xxxx

Busbar 1: 50 x 12 mm
Busbar 2: 40 x 30 mm

Round cable: 44 mm



Plug-In Current Transformer; with CAGE CLAMP® Connection					
Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	Item No.	Pack. Unit
1500 A	5 A	5 VA	1	**855-605/1500-501**	1
1500 A	1 A	5 VA	1	**855-601/1500-501**	1



855-6xx/xxxx-xxxx

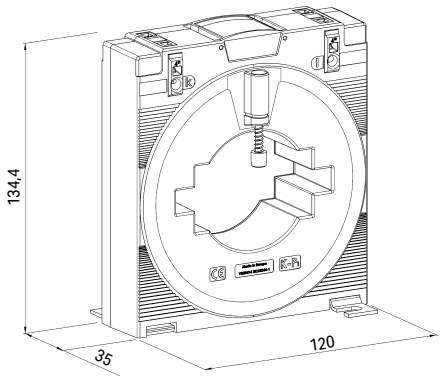
Busbar 1: 63 x 10 mm
Busbar 2: 50 x 30 mm

Round cable: 44 mm

Plug-In Current Transformer; with CAGE CLAMP® Connection
855 Series



Plug-In Current Transformer; with CAGE CLAMP® Connection					
Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	**Item No.**	Pack. Unit
1000 A	1 A	10 VA	1	**855-801/1000-1001**	1
2000 A	5 A	10 VA	1	**855-805/2000-1001**	1
2000 A	1 A	10 VA	1	**855-801/2000-1001**	1



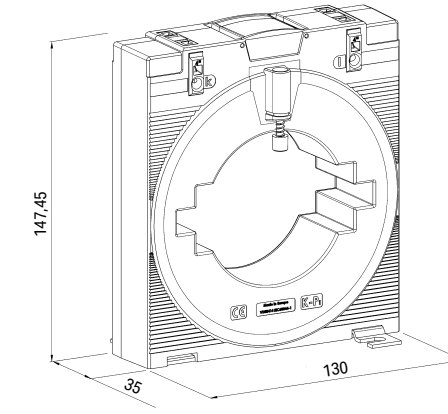
855-8xx/xxxx-xxxx

Busbar 1: 80 x 10 mm
Busbar 2: 60 x 30 mm

Round cable: 55 mm



Plug-In Current Transformer; with CAGE CLAMP® Connection					
Primary Rated Current	Secondary Rated Current	Rated Power	Accuracy Class	**Item No.**	Pack. Unit
2500 A	5 A	10 VA	1	**855-1005/2500-1001**	1
2500 A	1 A	10 VA	1	**855-1001/2500-1001**	1



855-10xx/xxxx-xxxx

Busbar 1: 100 x 10 mm
Busbar 2: 80 x 30 mm

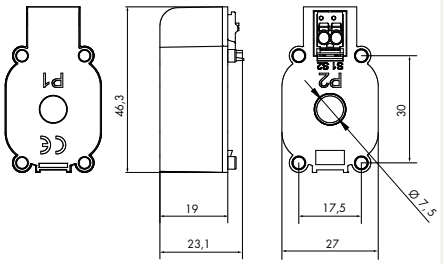
Round cable: 70 mm

Plug-In Current Transformer; with a *picoMAX*® Pluggable Connector
855 Series



Plug-In Current Transformer with *picoMAX*® Connection Technology; Secondary rated current: 1 A; Rated power: 0.2 VA; Accuracy class: 1

Prim. Rated Current	Item No.	Pack. Unit
35 A	855-2701/035-001	15 (1)
64 A	855-2701/064-001	15 (1)



Short description:
WAGO's plug-in units (855 Series) are inductive, single-conductor current transformers. Due to the measurement principle used, these current transformers are exclusively designed for AC network applications.

Features:
- First current transformer with *picoMAX*® connection technology
- Also suitable for space-restricted applications
- Simple assembly permits 17.5 mm phase spacing, allowing perfect adjustment to any circuit breaker
- Easy mount on DIN-rail or panels via carrier rail adapter
- Converts current from 64 A or 35 A to 1 A
- Accuracy class: 1

Input – Current Transformer

Rated continuous thermal current I_{cth}	100 %
Rated short-time thermal current I_{th}	60 x I_N/1 s
Rated surge current I_{dyn}	2.5 x I_{th}
Rated frequency	50 … 60 Hz

Output – Current Transformer

Secondary rated current	1 A
Rated Power	0.2 VA

Measurement error

Accuracy class	1

Safety and Protection

Test voltage	3 kVAC; 50 Hz; 1 min
Protection type	IP20
Highest voltage for equipment U_m	720 VAC

Connection Data

Connection technology	Push-in CAGE CLAMP®
WAGO Connector	*picoMAX*® 3.5, 2091-1122
Solid conductor	0.2 … 1.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 1.5 mm² / 24 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Feedthrough for measurement conductor	7.5 mm Ø

Geometric Data

Width	27 mm / 1.063 inch
Height	46 mm / 1.811 inch
Depth	23 mm / 0.906 inch

Mechanical Data

Mounting type	Current transformer (closed); Mounting on DIN-rail via carrier rail adapter; Mounting on round cable

Material Data

Insulation class	E
Housing material	PA 66

Environmental Requirements

Surrounding air temperature (operation)	–10 … +55 °C
Surrounding air temperature (storage)	–20 … +70 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m

Standards and Specifications

Conformity marking	CE
Standards/specifications	EN 61869-1; EN 61869-2; UL

Accessories



Carrier rail adapter; for plug-in current transformer

Item No.	Pack. Unit
855-9927	1



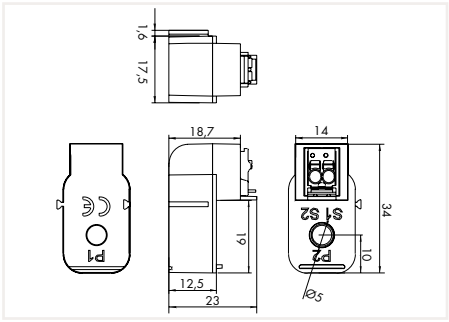
Operating tool with a partially insulated shaft; Type 1; Blade: (2.5 x 0.4) mm

Item No.	Pack. Unit
210-719	1

Plug-In Current Transformer; with a *picoMAX*® Pluggable Connector
855 Series



Plug-In Current Transformer; Primary rated current: 32 A; Secondary rated current: 320 mA		
	Item No.	Pack. Unit
	855-1700/032-000	15 (1)



Short description:
The *picoMAX*® Plug-In Current Transformer with low-power output is specifically tailored to WAGO's 750 Series 3-Phase Power Measurement Modules.

Features:
- First *picoMAX*® Plug-In Current Transformer with low power output
- Assembly via side latches
- Can be mounted directly on an ECB

Notes:
- The 855-1700/032-000 Plug-In Current Transformer is exclusive to the WAGO-I/O-SYSTEM and shall only be used with WAGO's 750 Series 3-Phase Power Measurement Modules.
- WAGO recommends the following conductor cross section and length: 1.5 mm² (14 AWG) and maximum 3.0 m at the output

*Measurement range: 0.8 to 32 A in combination with the three-phase power measurement modules (750-493/494/495)
**Testing adheres to EN 61869-2 with a conversion ratio of 16 A/0.16 A (accuracy class: 0.5) and an extended primary current of 200%.

Input – Current Transformer	
Primary rated current	32 A
Rated short-time thermal current I_{th}	2 kA/0.1 s
Rated surge current I_{dyn}	2.5 x I_{th}
Rated frequency	50 … 60 Hz

Output – Current Transformer	
Secondary rated current	0.32 A
Rated Power	0.01 VA

Measurement error	
Accuracy class	0,5

Safety and Protection	
Test voltage	3 kVAC; 50 Hz; 1 min
Protection type	IP20
Highest voltage for equipment U_m	720 VAC

Connection Data	
Connection technology	Push-in CAGE CLAMP®
WAGO Connector	*picoMAX*® 3.5, 2091-1122
Solid conductor	0.2 … 1.5 mm² / 24 … 14 AWG
Fine-stranded conductor	0.2 … 1.5 mm² / 24 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch
Feedthrough for measurement conductor	5.0 mm Ø

Geometric Data	
Width	17 mm / 0.669 inch
Height	34 mm / 1.339 inch
Depth	23 mm / 0.906 inch

Mechanical Data	
Mounting type	Current transformer (closed); Mounting on round cable

Material Data	
Insulation class	E
Housing material	PA 66
Weight	11 g

Environmental Requirements	
Surrounding air temperature (operation)	–10 … +55 °C
Surrounding air temperature (storage)	–20 … +70 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m

Standards and Specifications	
Standards/specifications	EN 61869-1; EN 61869-2

Accessories



3-phase power measurement module

Rated Voltage	Item No.	Pack. Unit
480 VAC	**750-493**	1
480 VAC	**750-494**	1
690 VAC	**750-495**	1



Operating tool with a partially insulated shaft; Type 1; Blade: (2.5 x 0.4) mm

Item No.	Pack. Unit
210-719	1

Split-Core Current Transformers
855 Series



Short description:
WAGO's compact split-core current transformers are ideal for retrofitting existing systems. They are perfect for applications in which the current path must not be disrupted. The transformer's accuracy permits extremely precise current measurements. The split-core current transformers are capable of supplying the specified rated power at the end of the secondary cable. All transformers are supplied with color-coded cables. Two UV-resistant cable ties are also included for secure and easy mounting.

Features:
- Current ratios from 60 A up to 1000 A (primary side) and 1 A or 5 A (secondary side)
- No measuring cable interruption
- Ideal for use in very confined spaces
- Rapid mounting
- For use around insulated cables up to 42 mm diameter
- Compact and hinged
- Color-coded connecting cables up to 5 m

Input – Current Transformer	
Rated continuous thermal current I_{cth}	100 %
Rated short-time thermal current I_{th}	60 x I_N/1 s
Rated surge current I_{dyn}	2.5 x I_{th}
Rated frequency	50 … 60 Hz

Safety and Protection	
Test voltage	3 kVAC; 50 Hz; 1 min
Protection type	IP20
Highest voltage for equipment U_m	720 VAC

Mechanical Data	
Mounting type	Split-core current transformer

Material Data	
Insulation class	E
Flammability class per UL94	V2
Housing material	PA 66

Environmental Requirements	
Surrounding air temperature (operation)	–10 … +55 °C
Surrounding air temperature (storage)	–20 … +70 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m

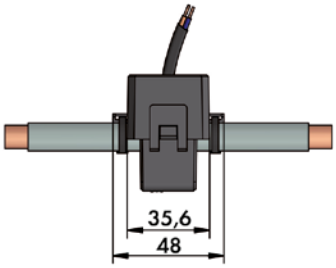
Standards and Specifications	
Conformity marking	CE
Standards/specifications	EN 61869-1; EN 61869-2

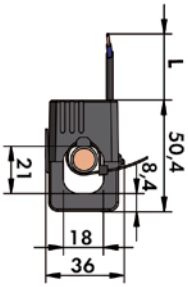


Split-Core Current Transformers
855 Series



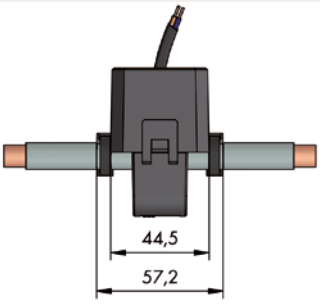
Split-Core Current Transformer; Feedthrough for measurement conductor: 18 mm Ø							
Prim. Rated Current	Sec. Rated Current	Rated Power	Accuracy class	Cable Length	Conductor Cross Section	Item No.	Pack. Unit
60 A	1 A	0.2 VA	3	3 m	0.5 mm²	855-3001/060-003	1
100 A	1 A	0.2 VA	3	3 m	0.5 mm²	855-3001/100-003	1
200 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-3001/200-001	1
250 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-3001/250-001	1

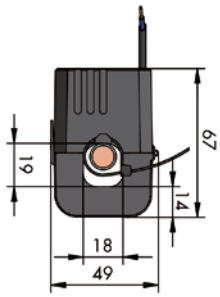






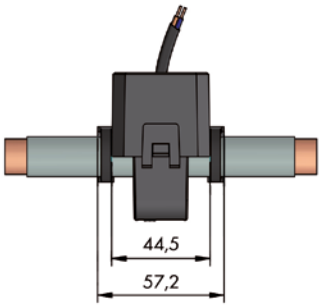
Split-Core Current Transformer; Feedthrough for measurement conductor: 18 mm Ø							
Prim. Rated Current	Sec. Rated Current	Rated Power	Accuracy class	Cable Length	Conductor Cross Section	Item No.	Pack. Unit
100 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-4001/100-001	1
150 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-4001/150-001	1
150 A	5 A	1 VA	1	0.5 m	1.5 mm²	855-4005/150-101	1
200 A	1 A	0.2 VA	0,5	3 m	0.5 mm²	855-4001/200-001	1

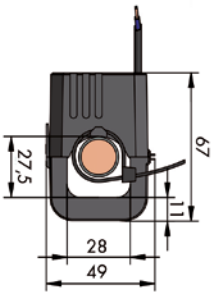






Split-Core Current Transformer; Feedthrough for measurement conductor: 28 mm Ø							
Prim. Rated Current	Sec. Rated Current	Rated Power	Accuracy class	Cable Length	Conductor Cross Section	Item No.	Pack. Unit
200 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-4101/200-001	1
250 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-4101/250-001	1
250 A	5 A	1 VA	1	0.5 m	1.5 mm²	855-4105/250-101	1
400 A	1 A	0.2 VA	1	3 m	0.5 mm²	855-4101/400-001	1
400 A	5 A	1 VA	1	0.5 m	1.5 mm²	855-4105/400-101	1



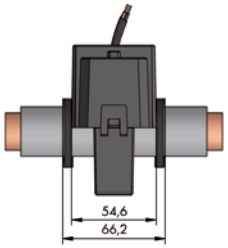


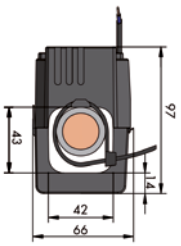
4

Split-Core Current Transformers
855 Series



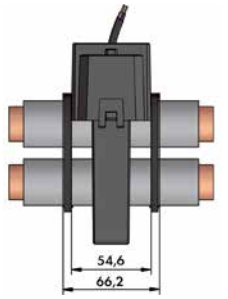
Split-Core Current Transformer; Feedthrough for measurement conductor: 42 mm Ø							
Prim. Rated Current	Sec. Rated Current	Rated Power	Accuracy class	Cable Length	Conductor Cross Section	Item No.	Pack. Unit
250 A	1 A	0.5 VA	1	5 m	0.5 mm²	855-5001/250-001	1
400 A	1 A	0.5 VA	0,5	5 m	0.5 mm²	855-5001/400-000	1
400 A	5 A	0.5 VA	1	3 m	1.5 mm²	855-5005/400-001	1
600 A	1 A	0.5 VA	0,5	5 m	0.5 mm²	855-5001/600-000	1
600 A	5 A	0.5 VA	0,5	3 m	1.5 mm²	855-5005/600-000	1
1000 A	1 A	0.5 VA	0,5	5 m	0.5 mm²	855-5001/1000-000	1
1000 A	5 A	0.5 VA	0,5	3 m	1.5 mm²	855-5005/1000-000	1

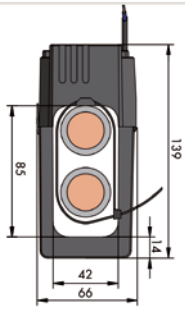






Split-Core Current Transformer; Feedthrough for measurement conductor: 42 mm Ø							
Prim. Rated Current	Sec. Rated Current	Rated Power	Accuracy class	Cable Length	Conductor Cross Section	Item No.	Pack. Unit
1000 A	1 A	0.5 VA	0,5	5 m	0.5 mm²	855-5101/1000-000	1
1000 A	5 A	0.5 VA	0,5	3 m	1.5 mm²	855-5105/1000-000	1





Rogowski Coil; RC 70, RC 125 and RC 175
855 Series



Input – Current Transformer	
Primary rated current	4000 A (in combination with WAGO products)
Rated short-time thermal current I_{th}	300 kA at 50 Hz
Rated frequency	50 … 60 Hz

Output	
Sensitivity	22.5 mV/kA at 50 Hz
Output signal (max.)	30 VDC

Measurement error	
Accuracy class	0.5
Positioning error	±0.32 %

Safety and Protection	
Rated insulation voltage	1000 V_{rms} AC (Cat. III); 600 V_{rms} AC (Cat. IV)
Test voltage for isolation	7.4 kVAC; 50 Hz; 1 min
Impulse withstand voltage (1.2/50 µs)	12.8 kV
Protection type	IP67

Mechanical Data	
Mounting type	Split-core current transformer (suspended)

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +80 °C
Surrounding air temperature (storage)	–40 … +80 °C
Relative humidity	≤ 90 % (no condensation permissible)
Operating altitude (max.)	2000 m

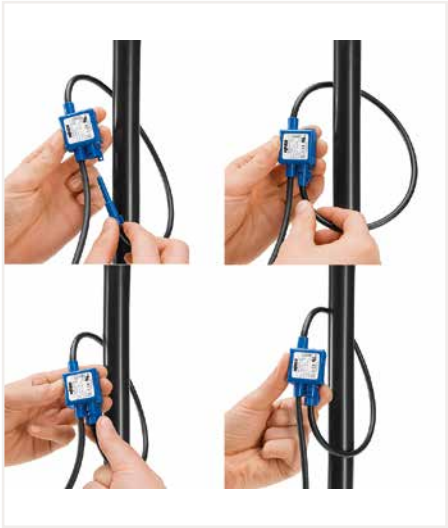
Standards and Specifications	
Conformity marking	CE
Standards/specifications	EN 61010-1; EN 61010-2-32; EN 61869-1; EN 61869-2; EN 61869-6; EN 61869-10; UL 61010-1

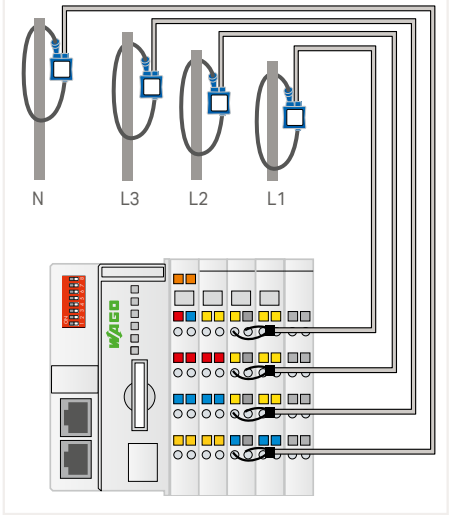
Short description:
WAGO's Rogowski coils are closed-air coils featuring a non-magnetic split core that can be connected to WAGO products (857-552; 750-495/000-002; 2857-570/024-000).

Easy mounting of the Rogowski coils allows existing systems to be retrofitted without time-consuming installation or process interruption.

Features:
- Rated insulation voltage: 1000 V Cat. III/600 V Cat. IV
- Accuracy class: 0.5 (per EN 61869-2)
- Degree of protection: IP67
- Measurement coil diameter: 70, 125 or 175 mm
- Length of signal lines: 1.5 m or 4.5 m
- Surrounding air temperature: –40 … +80°C
- Sealable bayonet connector
- Anchor points for cable ties

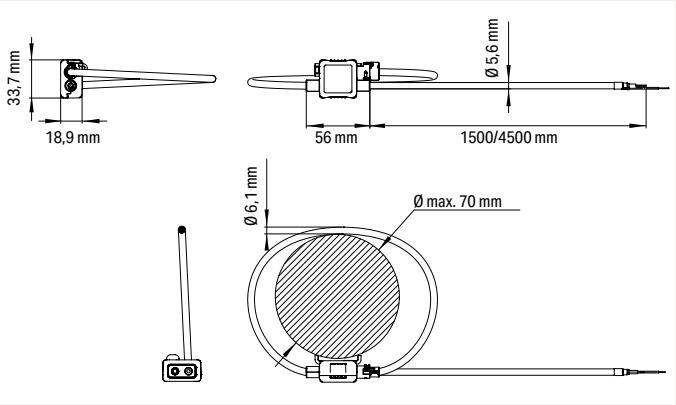
Note:
The specifications for the primary rated current refer to a combination with the WAGO Modules (857-552 and 750-495/000-002). Rogowski technology allows the coils to measure a wide primary current range of up to 10,000 A without loss of accuracy, because there are no saturation effects.
The requirements for standards EN 61869-1, EN 61869-2, EN 61869-6 and EN 61869-10 are only partially met, as there are fundamental differences with current transformers for a Rogowski coil.





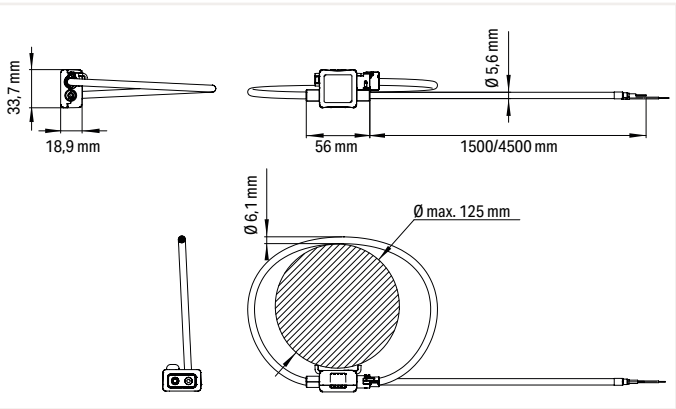
Direct connection of Rogowski coils to the three-phase power measurement module (750-495/000-002)

Rogowski Coil; RC 70, RC 125 and RC 175
855 Series



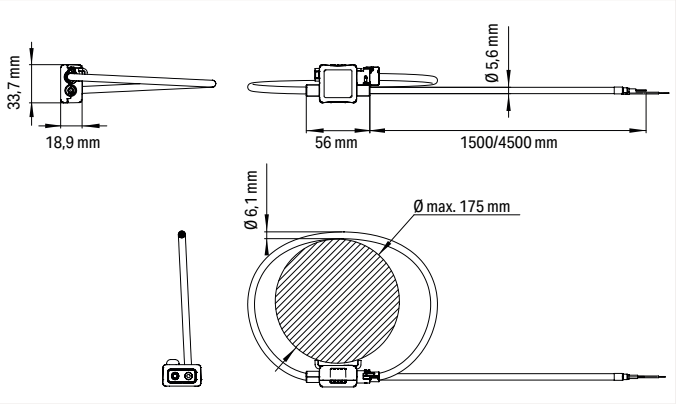
Rogowski Coil; Primary rated current: 4000 A; Output signal: 22.5 mV per kA; Accuracy class: 1; Feedthrough for measurement conductor: 70 mm Ø

Mutual Inductance M	Cable Length	Item No.	Pack. Unit
71.98 mH	1.5 m	**855-9150/2000-701**	1
71.98 mH	4.5 m	**855-9450/2000-701**	1



Rogowski Coil; Primary rated current: 4000 A; Output signal: 22.5 mV per kA; Accuracy class: 1; Feedthrough for measurement conductor: 125 mm Ø

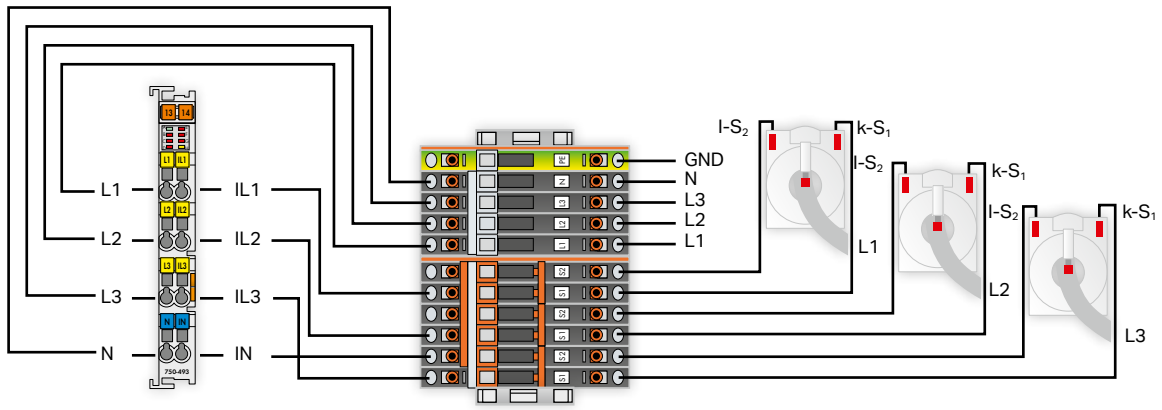
Mutual Inductance M	Cable Length	Item No.	Pack. Unit
72.14 mH	1.5 m	**855-9150/2000-1251**	1
72.14 mH	4.5 m	**855-9450/2000-1251**	1



Rogowski Coil; Primary rated current: 4000 A; Output signal: 22.5 mV per kA; Accuracy class: 1; Feedthrough for measurement conductor: 175 mm Ø

Mutual Inductance M	Cable Length	Item No.	Pack. Unit
72.31 mH	1.5 m	**855-9150/2000-1751**	1
72.31 mH	4.5 m	**855-9450/2000-1751**	1

Terminal Block Assemblies for Current and Voltage Transformers
For Fast and Easy Connections

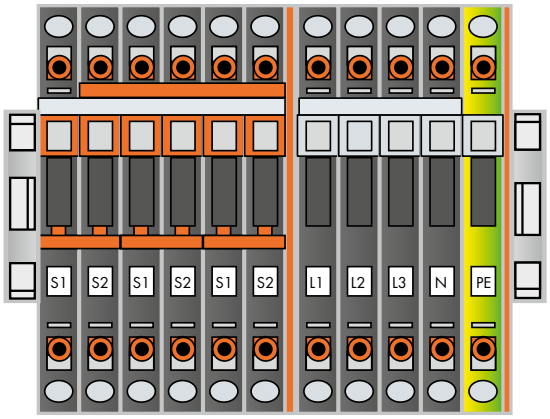


3-Phase Power Measurement Module, 750 Series

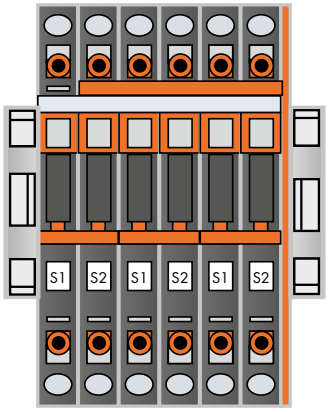
Terminal Block Assembly (2007 Series) for Current Transformers and Voltage Taps

Current Transformers, 855 Series

Pre-assembled terminal block assembly for easily connecting and short-circuiting current transformers, suitable for three-phase power measurement modules (750-493 and 750-494)

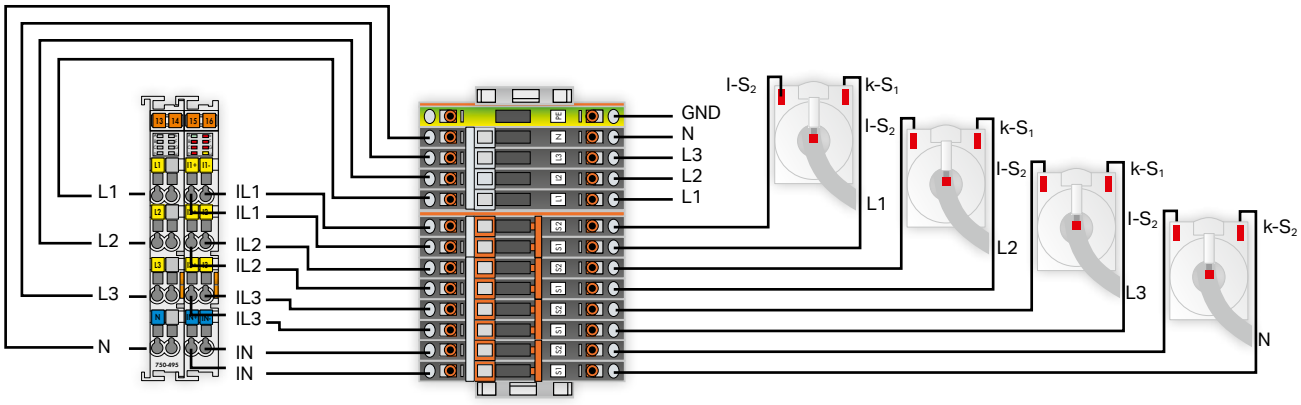


Compact terminal block for current transformer circuit, 2007-8873
Connection option for current and voltage, including 'Y' point jumper



Compact terminal block for current transformer circuit, 2007-8875
Connection option for current and voltage, including 'Y' point jumper

ADVANTAGES:
- 'Y' point jumper
- Easy and clear wiring
- Short-circuiting of current transformers
- Test sockets for control measurements
- Visible current and voltage path separation



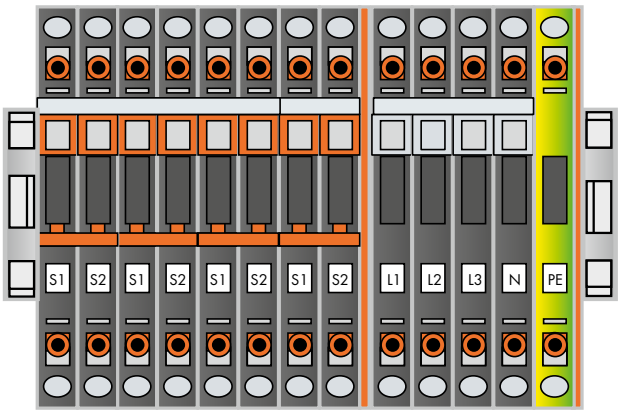
3-Phase Power Measurement Module, 750 Series

Terminal Block Assembly (2007 Series) for Current Transformers and Voltage Taps

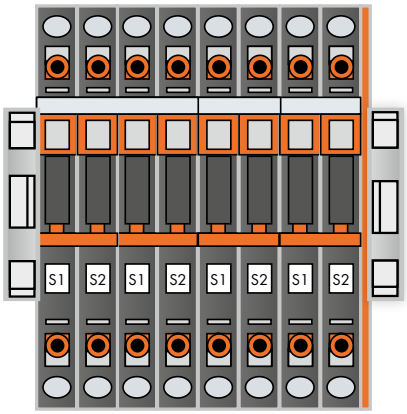
Current Transformers, 855 Series

4

Pre-assembled terminal block assembly for easily connecting and short circuiting current transformers, suitable for three-phase power measurement modules (750-495)



Compact terminal block for current transformer circuit, 2007-8874
Connection option for current and voltage



Compact terminal block for current transformer circuit, 2007-8877
Connection option for current

Current Sensor with Bus Connection; in DIN-Rail-Mount Enclosure
789 Series



Current Sensor with Bus Connection; in DIN-rail-mount enclosure; Measurement range: 0 … 80 A		
	Item No.	Pack. Unit
	789-620	1

Short description:
WAGO's intelligent current sensor monitors solar plants or inverters for DC measurements within a large current measurement range.

Input	
Input signal type	Current
Input signal, current	0 … 80 ADC
Resolution [bit]	15 bits
Communication	
Communication	Modbus RTU
Interface	RS-485
Transmission channels	Half duplex; 8-bit data; 1 stop bit
Number of participants (max.)	32
Bus length (max.)	≤ 1200 m
Parity	Even
Baud rate	19.2 kB
Terminating resistor	150 Ω (can be activated via DIP switch 1)
Measurement Error	
Transmission error (typ.)	≤ 0.5 % of upper-range value (at room temperature)
Temperature coefficient	≤ 0.01 %/K
Power Supply	
Supply voltage range	12 … 34 VDC
Power consumption at nominal supply voltage	≤ 8 mA
Safety and Protection	
Protection type	IP20
Connection Data	
Feedthrough for measurement conductor	15 mm
Connector	RJ-45
Geometric Data	
Width	35 mm / 1.378 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	80.2 g
Environmental Requirements	
Surrounding air temperature (operation)	–20 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DIN EN 50178

Accessories



Interface Module with RJ-45 Connector		
	Item No.	Pack. Unit
	289-965	1



Interface Module with RJ-45 Connector and Shield Clamping Saddle		
Color	**Item No.**	Pack. Unit
white	**289-966**	1



ETHERNET RJ-45 Connector		
	Item No.	Pack. Unit
	750-975	1

789-620

RJ-45-Connector Pin Assignment:

Pin	Function
1	Ub
2	
3	n. c.
4	A (Data+)
5	B (Data-)
6	n.c.
7	GND
8	

Communication Description:

Modbus®-Function	Read Holding Registers (0x03)
Address of Measured Value	0x0004
Data Type Measurement	Integer

Error Numbers	
id	Description
01	Illegal Function
03	Illegal Data
101	Overflow (Current > +83 A)
102	Underflow (Current < -3 A)

DIP Switch Adjustability

● = ON

Adress	DIP Switch					Terminating Resistor	DIP Switch 1
	2	3	4	5	6	-	
1						150 Ohm	●
2					●		
3				●			
4				●	●		
5			●				
6			●		●		
7			●	●			
8			●	●	●		
9		●					
10		●			●		
11		●		●			
12		●		●	●		
13		●	●				
14		●	●		●		
15		●	●	●			
16		●	●	●	●		
17	●						
18	●				●		
19	●			●			
20	●			●	●		
21	●		●				
22	●		●		●		
23	●		●	●			
24	●		●	●	●		
25	●	●					
26	●	●			●		
27	●	●		●			
28	●	●		●	●		
29	●	●	●				
30	●	●	●		●		
31	●	●	●	●			
32	●	●	●	●	●		

NOTICE:
Only set the Modbus® address in the OFF state.

Current Sensor with Bus Connection; in DIN-Rail-Mount Enclosure
789 Series



Current Signal Conditioner; Current input signal: 140 ADC; Modbus® RTU; Supply voltage: 24 VDC; Module width: 35 mm

	Item No.	Pack. Unit
	789-621	1

Short description:
WAGO's intelligent current sensor monitors solar plants or inverters for DC measurements within a large current measurement range. The sensor is mounted on DIN-35 rail.

Input	
Input signal type	Current
Input signal, current	0 … 140 ADC
Resolution [bit]	15 bits
Communication	
Communication	Modbus® RTU
Interface	RS-485
Transmission channels	Half duplex; 8-bit data; 1 stop bit
Number of participants (max.)	32
Bus length (max.)	≤ 1200 m
Parity	Even
Baud rate	19.2 kB
Terminating resistor	150 Ω (can be activated via DIP switch 1)
Measurement Error	
Transmission error (typ.)	≤ 0.5 % of upper-range value (0 … 80 A; at room temperature); ≤ 1 % of upper-range value (80 … 140 A; at room temperature)
Temperature coefficient	≤ 0.05 %/K (−20 … +60 °C); ≤ 0.1 %/K (−60 … +70 °C)
Power Supply	
Supply voltage range	12 … 34 VDC
Power consumption at nominal supply voltage	≤ 8 mA
Safety and Protection	
Protection type	IP20
Connection Data	
Feedthrough for measurement conductor	15 mm Ø
Connector	RJ-45
Geometric Data	
Width	35 mm / 1.378 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch
Mechanical Data	
Mounting type	DIN-35 rail
Material Data	
Weight	77.22 g
Environmental Requirements	
Surrounding air temperature (operation)	−20 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C
Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DIN EN 50178

Accessories



Interface Module with RJ-45 Connector

	Item No.	Pack. Unit
	289-965	1



Interface Module with RJ-45 Connector and Shield Clamping Saddle

Color	Item No.	Pack. Unit
white	289-966	1



ETHERNET RJ-45 Connector

	Item No.	Pack. Unit
	750-975	1

789-621

RJ-45-Connector Pin Assignment:

Pin	Function
1	Ub
2	
3	n.c.
4	A (Data+)
5	B (Data-)
6	n.c.
7	GND
8	

Communication Description:

Modbus® Function	Read Holding Registers (0x03)
Address of Measured Value	0x0004
Data Type Measurement	Integer

Error Numbers	
id	Description
01	Illegal Function
03	Illegal Data
101	Overflow (Current > +83 A)
102	Underflow (Current < -3 A)

DIP Switch Adjustability

● = ON

Adress	DIP Switch					Terminating Resistor	DIP Switch 1
	2	3	4	5	6	-	
1						150 Ohm	●
2					●		
3				●			
4				●	●		
5			●				
6			●		●		
7			●	●			
8			●	●	●		
9		●					
10		●			●		
11		●		●			
12		●		●	●		
13		●	●				
14		●	●		●		
15		●	●	●			
16		●	●	●	●		
17	●						
18	●				●		
19	●			●			
20	●			●	●		
21	●		●				
22	●		●		●		
23	●		●	●			
24	●		●	●	●		
25	●	●					
26	●	●			●		
27	●	●		●			
28	●	●		●	●		
29	●	●	●				
30	●	●	●		●		
31	●	●	●	●			
32	●	●	●	●	●		

NOTICE:
Only set the Modbus® Adress in the OFF state.

Current Sensor with Bus Connection; in DIN-Rail-Mount Enclosure
789 Series



Current Signal Conditioner; Current input signal: 50 ADC; Modbus® RTU; Supply voltage: 24 VDC; Module width: 35 mm

	Item No.	Pack. Unit
	789-622	1

Short description:
WAGO's intelligent current sensor monitors AC currents and is mounted on DIN-35 rail.

Input	
Input signal type	Current
Input signal, current	0 … 50 AAC
Resolution [bit]	14 bits

Communication	
Communication	Modbus® RTU
Interface	RS-485
Transmission channels	Half duplex; 8-bit data; 1 stop bit
Number of participants (max.)	32
Bus length (max.)	≤ 1200 m
Parity	Even
Baud rate	19.2 kB
Terminating resistor	150 Ω (can be activated via DIP switch 1)

Measurement Error	
Transmission error (typ.)	1 % (typ.); Max. 3 % of upper-range value (at room temperature)
Temperature coefficient	≤ 0.01 %/K

Power Supply	
Supply voltage range	12 … 34 VDC
Power consumption at nominal supply voltage	≤ 8 mA

Safety and Protection	
Protection type	IP20

Connection Data	
Feedthrough for measurement conductor	15 mm Ø
Connector	RJ-45

Geometric Data	
Width	35 mm / 1.378 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	77.22 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Standards and Specifications	
Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DIN EN 50178

Accessories



Interface Module with RJ-45 Connector

Item No.	Pack. Unit
289-965	1



Interface Module with RJ-45 Connector and Shield Clamping Saddle

Color	Item No.	Pack. Unit
white	289-966	1



ETHERNET RJ-45 Connector

Item No.	Pack. Unit
750-975	1

789-622

RJ-45-Connector Pin Assignment:

Pin	Function
1	Ub
2	
3	n.c.
4	A (Data+)
5	B (Data-)
6	n.c.
7	GND
8	

Communication Description:

Modbus® Function	Read Holding Registers (0x03)
Address of Measured Value	0x0004
Data Type Measurement	Integer

Error Numbers:	
id	Description
01	Illegal Function
03	Illegal Data
101	Overflow (Current > +83 A)
102	Underflow (Current < -3 A)

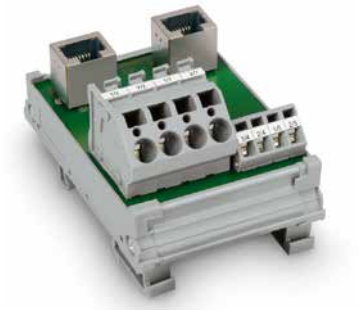
DIP Switch Adjustability

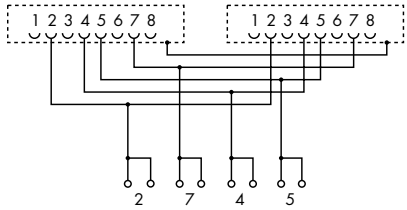
● = ON

Adress	DIP Switch					Terminating Resistor	DIP Switch 1
	2	3	4	5	6	-	
1						150 Ohm	●
2					●		
3				●			
4				●	●		
5			●				
6			●		●		
7			●	●			
8			●	●	●		
9		●					
10		●			●		
11		●		●			
12		●		●	●		
13		●	●				
14		●	●		●		
15		●	●	●			
16		●	●	●	●		
17	●						
18	●				●		
19	●			●			
20	●			●	●		
21	●		●				
22	●		●		●		
23	●		●	●			
24	●		●	●	●		
25	●	●					
26	●	●			●		
27	●	●		●			
28	●	●		●	●		
29	●	●	●				
30	●	●	●		●		
31	●	●	●	●			
32	●	●	●	●	●		

NOTICE:
Only set the Modbus® address in the OFF state.

Interface Module for Current Sensors
289 Series





Interface Module; with RJ-45 connector		
	Item No.	Pack. Unit
	289-965	1

Short description:
Compatible on the field side with the
789-620, 789-621 and 789-622 Current Sensors.

Required terminal assignment:

2: + Supply
7: - Supply
4: D+
5: D-

General Specifications	
Current load	1.5 A
Contact resistance (typ.)	20 mΩ
Connection cable	RJ-45 cable assembly (recommended: UTP)

Safety and Protection	
Dielectric strength, contact/contact	0.5 kVrms
Insulation resistance	> 500 MΩ

Connection Data	
Connection type 1	Connector
Connection type 2	Clamping units 2, 7
Connection technology 2	CAGE CLAMP®
WAGO Connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Clamping units 4, 5
Connection technology 3	CAGE CLAMP®
WAGO Connector 3	WAGO 745 Series
Solid conductor 3	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 3	0.2 … 6 mm² / 24 … 10 AWG
Strip length 3	11 … 12 mm / 0.43 … 0.47 inch
Note (conductor cross section)	12 AWG: THHN, THWN
Connector	RJ-45; shielded
Mating cycles (min.)	500

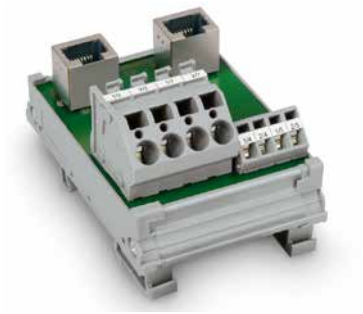
Geometric Data	
Width	58 mm / 2.283 in
Height from upper-edge of DIN-rail	40 mm / 1.575 in
Depth	85 mm / 3.346 in

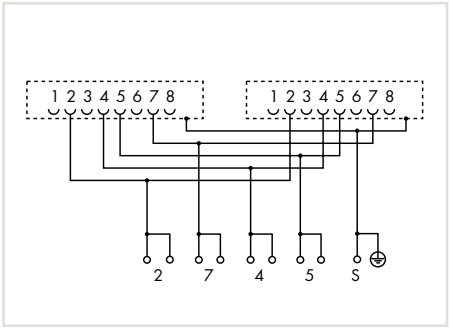
Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	70 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +85 °C

Interface Module for Current Sensors
289 Series





Interface Module; with RJ-45 connector and shield clamping saddle		
	Item No.	Pack. Unit
	289-966	1

Short description:
Compatible on the field side with the
789-620, 789-621 and 789-622 Current Sensors.

Required terminal assignment:

2: + Supply
7: - Supply
4: D+
5: D-

Direct shield connection to the DIN-rail via shield grounding foot

General Specifications	
Current load	1.5 A
Contact resistance (typ.)	20 mΩ
Connection cable	Shielded RJ-45 cable assembly (recommended: UTP, STP)
WAGO Shield Clamping Saddle	790-124 (included)

Safety and Protection	
Dielectric strength, contact/contact	0.5 kVrms
Insulation resistance	> 500 MΩ

Connection Data	
Connection type 1	Connector
Connection type 2	Clamping units 2, 7
Connection technology 2	CAGE CLAMP®
WAGO Connector 2	WAGO 236 Series
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Clamping units 4, 5
Connection technology 3	CAGE CLAMP®
WAGO Connector 3	WAGO 745 Series
Solid conductor 3	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 3	0.2 … 6 mm² / 24 … 10 AWG
Strip length 3	11 … 12 mm / 0.43 … 0.47 inch
Note (conductor cross section)	12 AWG: THHN, THWN
Connector	RJ-45, shielded
Mating cycles (min.)	500

Geometric Data	
Width	69 mm / 2.717 in
Height from upper-edge of DIN-rail	40 mm / 1.575 in
Depth	85 mm / 3.346 in

Mechanical Data	
Mounting type	DIN-35 rail

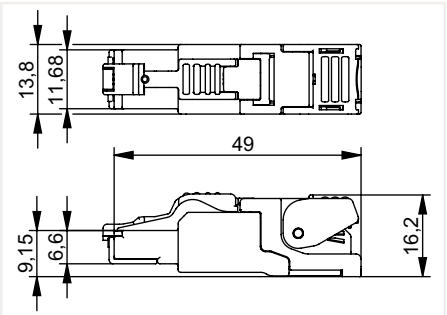
Material Data	
Weight	89.92 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +85 °C

ETHERNET RJ-45 Connector
750 Series



ETHERNET Plug; RJ-45; Cat. 6A; straight; 22 AWG		
Code	Item No.	Pack. Unit
TIA-568A	750-977/000-011	1
TIA-568B	750-977/000-012	1



Technical Data	
Connection type	RJ-45 connector
Number of poles	8
Cable connection direction to mating direction	0 °
Communication/fieldbus	ETHERNET
Baud rate	10,000 Mbit/s

Connection Data	
Connection type 1	IDC (Insulation Displacement Contact)
Solid conductor	0.21 … 0.32 mm² / 24/1 … 22/1 AWG
Stranded conductor (2)	0.11 … 0.36 mm² / 27/7 … 22/7 AWG

Geometric Data	
Width	13.8 mm
Height	16.2 mm
Depth	49 mm

Mechanical Data	
Connection requirement (permissible cable type)	Cat. 6A
Connectable sheathed cable diameter	5.5 … 9 mm
Housing material	Zinc die-cast
Weight	18 g

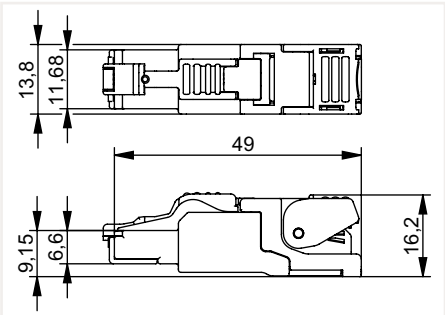
Environmental Requirements	
Surrounding air temperature (operation)	–40 … +85 °C
Surrounding air temperature (storage)	–40 … +85 °C
Protection type	IP20
Relative humidity (without condensation)	95 %

Standards and Specifications	
Standards/specifications	IEC 60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

ETHERNET RJ-45 Connector
750 Series



ETHERNET Plug; RJ-45; Cat. 6A; straight; 24 AWG		
Code	Item No.	Pack. Unit
TIA-568A	750-977/000-021	1
TIA-568B	750-977/000-022	1



Technical Data	
Connection type	RJ-45 connector
Number of poles	8
Cable connection direction to mating direction	0 °
Communication/fieldbus	ETHERNET
Baud rate	10,000 Mbit/s

Connection Data	
Connection type 1	IDC (Insulation Displacement Contact)
Solid conductor	0.13 … 0.21 mm² / 26/1 … 24/1 AWG
Stranded conductor (2)	0.11 … 0.23 mm² / 27/7 … 24/7 AWG

Geometric Data	
Width	13.8 mm
Height	16.2 mm
Depth	49 mm

Mechanical Data	
Connection requirement (permissible cable type)	Cat. 6A
Connectable sheathed cable diameter	5.5 … 9 mm
Housing material	Zinc die-cast
Weight	18 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +85 °C
Surrounding air temperature (storage)	–40 … +85 °C
Protection type	IP20
Relative humidity (without condensation)	95 %

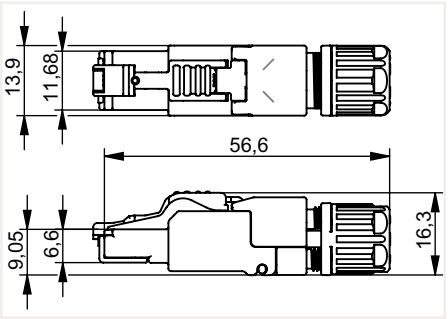
Standards and Specifications	
Standards/specifications	IEC 60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

ETHERNET RJ-45 Connector
750 Series



ETHERNET Plug; RJ-45; Cat. 6A; straight; 22 AWG; Strain relief

Code	Item No.	Pack. Unit
TIA-568A	**750-978/000-011**	1
TIA-568B	**750-978/000-012**	1



4

Technical Data

Connection type	RJ-45 connector
Number of poles	8
Cable connection direction to mating direction	0 °
Communication/fieldbus	ETHERNET
Baud rate	10,000 Mbit/s

Connection Data

Connection type 1	IDC (Insulation Displacement Contact)
Solid conductor	0.21 … 0.32 mm² / 24/1 … 22/1 AWG
Stranded conductor (2)	0.11 … 0.36 mm² / 27/7 … 22/7 AWG

Geometric Data

Width	13.9 mm
Height	16.3 mm
Depth	56.6 mm

Mechanical Data

Connection requirement (permissible cable type)	Cat. 6A
Connectable sheathed cable diameter	5.5 … 10 mm
Housing material	Zinc die-cast
Weight	22 g

Environmental Requirements

Surrounding air temperature (operation)	–40 … +85 °C
Surrounding air temperature (storage)	–40 … +85 °C
Protection type	IP20
Relative humidity (without condensation)	95 %

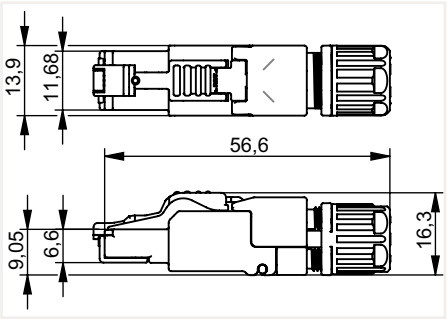
Standards and Specifications

Standards/specifications	IEC 60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

ETHERNET RJ-45 Connector
750 Series



ETHERNET Plug; RJ-45; Cat. 6A; straight; 24 AWG; Strain relief		
Code	**Item No.**	Pack. Unit
TIA-568A	**750-978/000-021**	1
TIA-568B	**750-978/000-022**	1



Technical Data

Connection type	RJ-45 connector
Number of poles	8
Cable connection direction to mating direction	0 °
Communication/fieldbus	ETHERNET
Baud rate	10,000 Mbit/s

Connection Data

Connection type 1	IDC (Insulation Displacement Contact)
Solid conductor	0.13 … 0.21 mm² / 26/1 … 24/1 AWG
Stranded conductor (2)	0.11 … 0.23 mm² / 27/7 … 24/7 AWG

Geometric Data

Width	13.9 mm
Height	16.3 mm
Depth	56.6 mm

Mechanical Data

Connection requirement (permissible cable type)	Cat. 6A
Connectable sheathed cable diameter	5.5 … 10 mm
Housing material	Zinc die-cast
Weight	22 g

Environmental Requirements

Surrounding air temperature (operation)	–40 … +85 °C
Surrounding air temperature (storage)	–40 … +85 °C
Protection type	IP20
Relative humidity (without condensation)	95 %

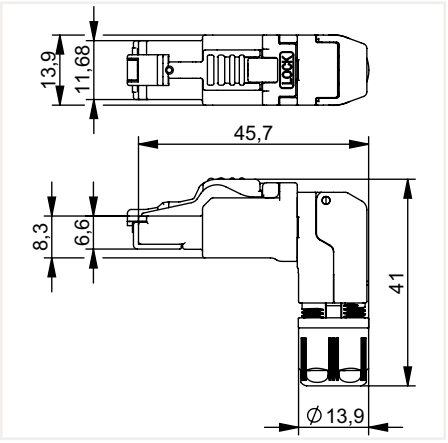
Standards and Specifications

Standards/specifications	IEC 60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

ETHERNET RJ-45 Connector
750 Series



ETHERNET Plug; RJ-45; Cat. 6A; angled; 22 AWG; Strain relief		
Code	**Item No.**	Pack. Unit
TIA-568A	**750-979/000-011**	1
TIA-568B	**750-979/000-012**	



Technical Data

Connection type	RJ-45 connector
Number of poles	8
Cable connection direction to mating direction	90 °
Communication/fieldbus	ETHERNET
Baud rate	10,000 Mbit/s

Connection Data

Connection type 1	IDC (Insulation Displacement Contact)
Solid conductor	0.21 … 0.32 mm² / 24/1 … 22/1 AWG
Stranded conductor (2)	0.11 … 0.36 mm² / 27/7 … 22/7 AWG

Geometric Data

Width	13.9 mm
Height	41 mm
Depth	45.7 mm

Mechanical Data

Connection requirement (permissible cable type)	Cat. 6A
Connectable sheathed cable diameter	5.5 … 10 mm
Housing material	Zinc die-cast
Weight	26 g

Environmental Requirements

Surrounding air temperature (operation)	−40 … +85 °C
Surrounding air temperature (storage)	−40 … +85 °C
Protection type	IP20
Relative humidity (without condensation)	95 %

Standards and Specifications

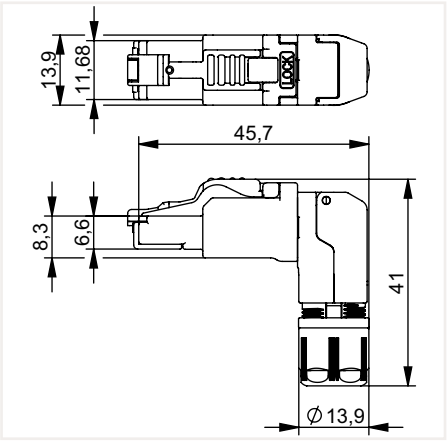
Standards/specifications	IEC 60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

ETHERNET RJ-45 Connector
750 Series



ETHERNET Plug; RJ-45; Cat. 6A; angled; 24 AWG; Strain relief

Code	Item No.	Pack. Unit
TIA-568A	**750-979/000-011**	1
TIA-568B	**750-979/000-012**	



Technical Data

Connection type	RJ-45 connector
Number of poles	8
Cable connection direction to mating direction	90 °
Communication/fieldbus	ETHERNET
Baud rate	10,000 Mbit/s

Connection Data

Connection type 1	IDC (Insulation Displacement Contact)
Solid conductor	0.13 … 0.21 mm² / 26/1 … 24/1 AWG
Stranded conductor (2)	0.11 … 0.23 mm² / 27/7 … 24/7 AWG

Geometric Data

Width	13.9 mm
Height	41 mm
Depth	45.7 mm

Mechanical Data

Connection requirement (permissible cable type)	Cat. 6A
Connectable sheathed cable diameter	5.5 … 10 mm
Housing material	Zinc die-cast
Weight	26 g

Environmental Requirements

Surrounding air temperature (operation)	–40 … +85 °C
Surrounding air temperature (storage)	–40 … +85 °C
Protection type	IP20
Relative humidity (without condensation)	95 %

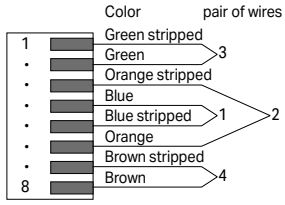
Standards and Specifications

Standards/specifications	IEC 60603-7-51, ISO/IEC 11801, IEEE 802.3an; EIA/TIA 568-C.2; DIN EN 50173-1; UL 1863; UL 2043

ETHERNET RJ-45 Connector
750 Series

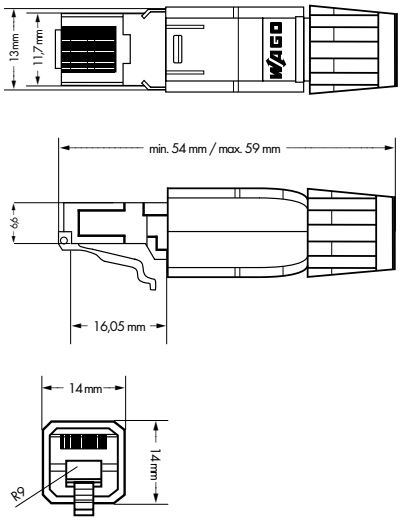


Pin assignment TIA-568A



ETHERNET Plug RJ-45, IP20; ETHERNET 10/100 Mbit/s; for field assembly

Item No.	Pack. Unit
750-975	1



Short description:
Versatile RJ-45 connector for industrial, office and building wiring applications.

WAGO's compact RJ-45 ETHERNET connector uses IDC technology for easy field assembly – connection is made without tools. The connector is compliant with all required standards. Large conductor cross sections can also be connected and the connector satisfies Category 5e.

Technical Data	
Connection type	RJ-45 connector
Number of poles	8
Cable connection direction to mating direction	0 °
Communication/fieldbus	ETHERNET
Code	TIA-568A
Baud rate	1000 Mbit/s
Insulation resistance	(100 V) > 1 GΩ

Connection Data	
Connection type 1	IDC (Insulation Displacement Contact)
Solid conductor	0.13 … 0.24 mm² / 26/1 … 23/1 AWG
Stranded conductor (2)	0.14 … 0.36 mm² / 26/7 … 22/7 AWG

Geometric Data	
Width	14 mm
Height	14 mm
Depth	59 mm

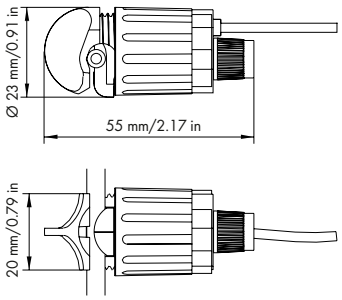
Mechanical Data	
Shield	Brass (CuZn); hot-dip tinned 3 µm; Shield contacting: large surface >180°
Connection requirement (permissible cable type)	Cat. 5e
Connectable sheathed cable diameter	4.5 … 8 mm
Housing material	Plastic
Contact material	Bronze (CuSn6)
Contact plating	> 1.2 µm gold over 1.2 µm nickel
Mating cycles (max.)	1000
Weight	12 g
Color	light gray

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +70 °C
Surrounding air temperature (storage)	–40 … +70 °C
Protection type	IP20
Relative humidity (without condensation)	95 %
Vibration resistance	4g per IEC 60068-2-6
Standards/specifications	- Basic standard: IEC 60603-7 RJ-45 Category 5; - CD ISO/IEC 11801: 2002; - EN 50173: 2002; - EIA/TIA 568A: 2002

Voltage Tap
855 Series



Voltage Tap; with fuse; 2.5 … 6 mm²; Phase		
Color	Item No.	Pack. Unit
black	855-8001	1



Short description:
WAGO's 855 Series Voltage Taps easily and safely tap the measurement voltage. This allows a fuse-protected measurement voltage to be tapped from an insulated conductor with just one turn – no tools required.

Features:
- Safely tap the measurement voltage with just one turn
- Tool-free assembly
- Secure mounting
- For insulated conductors up to 16 mm² (6 AWG)
- Cable length: 3 m

Note:
Spare fuse: SIBA Fuse, Item No. 7008913.2

Output – Voltage Tap	
Rated voltage	400 VAC
Continuous current (max.)	2 A
Max. voltage drop (output)	≤ 0.5 VAC
Fuse (voltage path)	2 A; 450 V; F, 70 kA, 5 x 25 mm

Safety and Protection	
Test voltage	3 kVAC; 50 Hz; 1 min
Rated surge voltage	6 kV
Overvoltage category	III
Pollution degree	2
Protection type	IP20

Connection Data	
Connection technology	IDC
Solid conductor	2.5 … 6 mm² / 14 … 10 AWG
Fine-stranded conductor	2.5 … 6 mm² / 14 … 10 AWG
Feedthrough for measurement conductor	3 … 5 mm Ø
Cable type	Secondary side: 1 x 1.0 mm²; flexible; with ferrule

Geometric Data	
Width	23 mm / 0.906 inch
Height	59 mm / 2.323 inch
Depth	23 mm / 0.906 inch
Cable length	3 m

Mechanical Data	
Mounting type	Insulation displacement connection (IDC)
Mounting type	Mounting on insulated round cable
Torque	1.5 … 2 Nm
Usability	Can be reused several times (max. 24 times)

Material Data	
Weight	25.9 g
Housing material	PA 6.6; UL94 V2

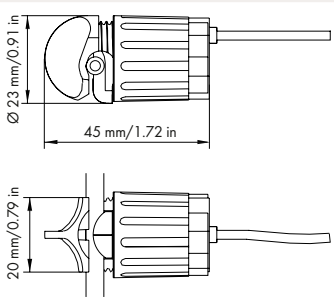
Environmental Requirements	
Surrounding air temperature (operation)	–5 … +55 °C
Surrounding air temperature (storage)	–20 … +70 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m

Standards and Specifications	
Conformity marking	CE
Standards/specifications	EN 60947-7-1

Voltage Tap
855 Series



Voltage Tap; without fuse; 2.5 … 6 mm²; Neutral conductor		
Color	Item No.	Pack. Unit
blue	855-8002	1



Short description:
WAGO's 855 Series Voltage Taps easily and safely tap the measurement voltage. This allows a fuse-protected measurement voltage to be tapped from an insulated conductor with just one turn – no tools required.

Features:
- Safely tap the measurement voltage with just one turn
- Tool-free assembly
- Secure mounting
- For insulated conductors up to 16 mm² (6 AWG)
- Cable length: 3 m

Output – Voltage Tap	
Rated voltage	400 VAC
Continuous current (max.)	2 A
Max. voltage drop (output)	≤ 0.5 VAC
Fuse (voltage path)	-

Safety and Protection	
Test voltage	3 kVAC; 50 Hz; 1 min
Rated surge voltage	6 kV
Overvoltage category	III
Pollution degree	2
Protection type	IP20

Connection Data	
Connection technology	IDC
Solid conductor	2.5 … 6 mm² / 14 … 10 AWG
Fine-stranded conductor	2.5 … 6 mm² / 14 … 10 AWG
Feedthrough for measurement conductor	3 … 5 mm Ø
Cable type	Secondary side: 1 x 1.0 mm²; flexible; with ferrule

Geometric Data	
Width	23 mm / 0.906 inch
Height	50 mm / 1.969 inch
Depth	23 mm / 0.906 inch
Cable length	3 m

Mechanical Data	
Mounting type	Insulation displacement connection (IDC)
Mounting type	Mounting on insulated round cable
Torque	1.5 … 2 Nm
Usability	Can be reused several times (max. 24 times)

Material Data	
Weight	20 g
Housing material	PA 6.6; UL94 V2

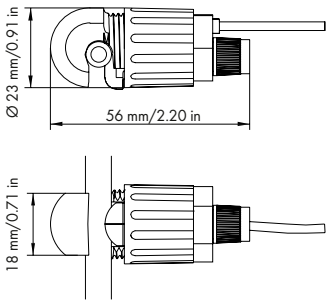
Environmental Requirements	
Surrounding air temperature (operation)	–5 … +55 °C
Surrounding air temperature (storage)	–20 … +70 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m

Standards and Specifications	
Conformity marking	CE
Standards/specifications	EN 60947-7-1

Voltage Tap
855 Series



Voltage Tap; with fuse; 10 … 16 mm²; Phase		
Color	Item No.	Pack. Unit
black	855-8003	1



Short description:
WAGO's 855 Series Voltage Taps easily and safely tap the measurement voltage. This allows a fuse-protected measurement voltage to be tapped from an insulated conductor with just one turn – no tools required.

Features:
- Safely tap the measurement voltage with just one turn
- Tool-free assembly
- Secure mounting
- For insulated conductors up to 16 mm² (6 AWG)
- Cable length: 3 m

Note:
Spare fuse: SIBA Fuse, Item No. 7008913.2

Output – Voltage Tap	
Rated voltage	400 VAC
Continuous current (max.)	2 A
Max. voltage drop (output)	≤ 0.5 VAC
Fuse	2 A; 450 V; F; 70 kA, 5 x 25 mm

Safety and Protection	
Test voltage	3 kVAC; 50 Hz; 1 min
Rated surge voltage	6 kV
Overvoltage category	III
Pollution degree	2
Protection type	IP20

Connection Data	
Connection technology	IDC
Solid conductor	10 … 16 mm² / 8 … 6 AWG
Fine-stranded conductor	10 … 16 mm² / 8 … 6 AWG
Feedthrough for measurement conductor	5 … 7 mm Ø
Cable type	Secondary side: 1 x 1.0 mm²; flexible; with ferrule

Geometric Data	
Width	23 mm / 0.906 inch
Height	59 mm / 2.323 inch
Depth	23 mm / 0.906 inch
Cable length	3 m

Mechanical Data	
Mounting type	Insulation displacement connection (IDC)
Mounting type	Mounting on insulated round cable
Torque	1.5 … 2 Nm
Usability	Can be reused several times (max. 24 times)

Material Data	
Weight	29 g
Housing material	PA 6.6; UL94 V2

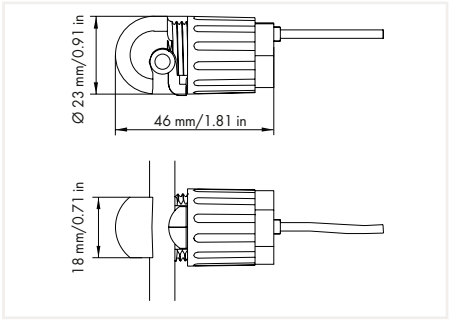
Environmental Requirements	
Surrounding air temperature (operation)	–5 … +55 °C
Surrounding air temperature (storage)	–20 … +70 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m

Standards and Specifications	
Conformity marking	CE
Standards/specifications	EN 60947-7-1

Voltage Tap
855 Series



Voltage Tap; without fuse; 10 … 16 mm²; Neutral conductor		
Color	Item No.	Pack. Unit
blue	855-8004	1



Short description:
WAGO's 855 Series Voltage Taps easily and safely tap the measurement voltage. This allows a fuse-protected measurement voltage to be tapped from an insulated conductor with just one turn – no tools required.

Features:
- Safely tap the measurement voltage with just one turn
- Tool-free assembly
- Secure mounting
- For insulated conductors up to 16 mm² (6 AWG)
- Cable length: 3 m

Output – Voltage Tap	
Rated voltage	400 VAC
Continuous current (max.)	2 A
Max. voltage drop (output)	≤ 0.5 VAC
Fuse	-

Safety and Protection	
Test voltage	3 kVAC; 50 Hz; 1 min
Rated surge voltage	6 kV
Overvoltage category	III
Pollution degree	2
Protection type	IP20

Connection Data	
Connection technology	IDC
Solid conductor	10 … 16 mm² / 8 … 6 AWG
Fine-stranded conductor	10 … 16 mm² / 8 … 6 AWG
Feedthrough for measurement conductor	5 … 7 mm Ø
Cable type	Secondary side: 1 x 1.0 mm²; flexible; with ferrule

Geometric Data	
Width	23 mm / 0.906 inch
Height	50 mm / 1.969 inch
Depth	23 mm / 0.906 inch
Cable length	3 m

Mechanical Data	
Mounting type	Insulation displacement connection (IDC)
Mounting type	Mounting on insulated round cable
Torque	1.5 … 2 Nm
Usability	Can be reused several times (max. 24 times)

Material Data	
Weight	21 g
Housing material	PA 6.6; UL94 V2

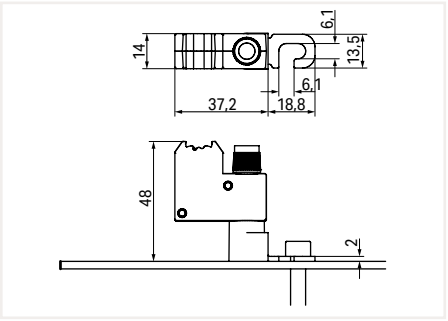
Environmental Requirements	
Surrounding air temperature (operation)	–5 … +55 °C
Surrounding air temperature (storage)	–20 … +70 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m

Standards and Specifications	
Conformity marking	CE
Standards/specifications	EN 60947-7-1

Voltage Tap
855 Series



Voltage Tap; for busbar; with fuse; M6 mount		
	Item No.	Pack. Unit
	855-8006	1



Short description:
WAGO's voltage taps serve as busbar taps for measuring L- or N-conductors and are equipped with an integrated SIBA fuse with indicator. The built-in fuse is located directly above the voltage-carrying busbar. In the event of an overload and short circuit, the downstream measurement unit is safely disconnected before major damage occurs.

The voltage taps can be mounted directly on the busbar. Mounting is performed via M6 screw.

The measurement line is connected via Push-in CAGE CLAMP®, the universal connection technology for all conductor types that provides the simplicity of push-in terminations. Rigid conductors, such as solid and stranded conductors, as well as fine-stranded conductors with ferrules, can be terminated by simply pushing them in – no operating tool needed. The connection unit with a fuse and Push-in CAGE CLAMP® rotates. This creates additional added value by directly guiding subsequent wiring into the cable channel.

In addition, the voltage taps can be labeled with two different marking options.

Features:
- Fuse-protected voltage tap for measurement purposes
- Safe protection through integrated fuse with indicator (measurement line/device)
- WAGO Push-in CAGE CLAMP® connection technology
- WAGO labelling options (WMB markers or marking strips)

Note:
Spare fuse: SIBA Fuse, Item No. 7008913.2

Output – Voltage Tap	
Rated voltage	400 VAC
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm

Connection Data	
Connection technology	Push-in CAGE CLAMP®
WAGO Connector	WAGO 2624 Series
Solid conductor	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 6 mm² / 24 … 10 AWG
Strip length	10 … 12 mm / 0.39 … 0.47 inch

Connection Data	
Width	57 mm / 2.244 inch
Height	14 mm / 0.551 inch
Depth	48 mm / 1.89 inch

Mechanical Data	
Mounting type	M6 mount
Mounting type	Installation on busbar

Material Data	
Weight	30 g

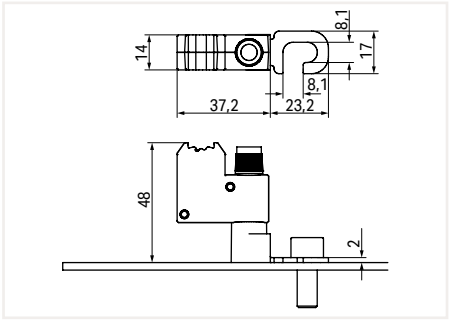
Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m
Vibration resistance	10g (Industry; 5 … 2000 Hz; per IEC 60068-2-6); 4g (Ship; 5 … 150 Hz; per IEC 60068-2-6)

Standards and Specifications	
Standards/specifications	EN 60947-7-3

Voltage Tap
855 Series



Voltage Tap; for busbar; with fuse; M8 mount		
	Item No.	Pack. Unit
	855-8008	1



Short description:
WAGO's voltage taps serve as busbar taps for measuring L- or N-conductors and are equipped with an integrated SIBA fuse with indicator. The built-in fuse is located directly above the voltage-carrying busbar. In the event of an overload and short circuit, the downstream measurement unit is safely disconnected before major damage occurs.

The voltage taps can be mounted directly on the busbar. Mounting is performed via M8 screw.

The measurement line is connected via Push-in CAGE CLAMP®, the universal connection technology for all conductor types that provides the simplicity of push-in terminations. Rigid conductors, such as solid and stranded conductors, as well as fine-stranded conductors with ferrules, can be terminated by simply pushing them in – no operating tool needed. The connection unit with a fuse and Push-in CAGE CLAMP® rotates. This creates additional added value by directly guiding subsequent wiring into the cable channel.

In addition, the voltage taps can be labeled with two different marking options.

Features:
- Fuse-protected voltage tap for measurement purposes
- Safe protection through integrated fuse with indicator (measurement line/device)
- WAGO Push-in CAGE CLAMP® connection technology
- WAGO labelling options (WMB markers or marking strips)

Note:
Spare fuse: SIBA Fuse, Item No. 7008913.2

Output – Voltage Tap	
Rated voltage	400 VAC
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm

Connection Data	
Connection technology	Push-in CAGE CLAMP®
WAGO Connector	WAGO 2624 Series
Solid conductor	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 6 mm² / 24 … 10 AWG
Strip length	10 … 12 mm / 0.39 … 0.47 inch

Connection Data	
Width	61 mm / 2.402 inch
Height	14 mm / 0.551 inch
Depth	48 mm / 1.89 inch

Mechanical Data	
Mounting type	M8 mount
Mounting type	Installation on busbar

Material Data	
Weight	31 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m
Vibration resistance	10g (Industry; 5 … 2000 Hz; per IEC 60068-2-6); 4g (Ship; 5 … 150 Hz; per IEC 60068-2-6)

Standards and Specifications	
Standards/specifications	EN 60947-7-3

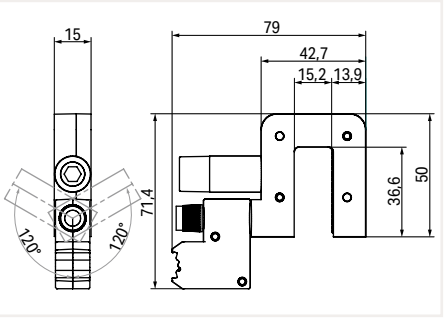
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Voltage Tap
855 Series



Voltage Tap; for busbar; with fuse; Clamp mount

Item No.	Pack. Unit
855-8015	1



Short description:
WAGO's voltage taps serve as busbar taps for measuring L- or N-conductors and are equipped with an integrated SIBA fuse with indicator. The built-in fuse is located directly above the voltage-carrying busbar. In the event of an overload and short circuit, the downstream measurement unit is safely disconnected before major damage occurs.

The voltage taps can be mounted directly on the busbar. Clamp mount via Allen screw is performed using an insulated Allen wrench and provides an excellent contact between the busbar and the fuse. This ensures high operational safety and short-circuit protection.

The measurement line is connected via Push-in CAGE CLAMP®, the universal connection technology for all conductor types that provides the simplicity of push-in terminations. Rigid conductors, such as solid and stranded conductors, as well as fine-stranded conductors with ferrules, can be terminated by simply pushing them in – no operating tool needed. The connection unit with a fuse and Push-in CAGE CLAMP® rotates (±120°). This creates additional added value by directly guiding subsequent wiring into the cable channel.

In addition, the voltage taps can be labeled with two different marking options.

Features:
- Fuse-protected voltage tap for measurement purposes
- Safe protection through integrated fuse with indicator (measurement line/device)
- WAGO push-in termination technology
- WAGO labelling options (WMB markers or marking strips)

Note:
Spare fuse: SIBA Fuse, Item No. 7008913.2

Output – Voltage Tap

Rated voltage	400 VAC
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm

Connection Data

Connection technology	Push-in CAGE CLAMP®
WAGO Connector	WAGO 2624 Series
Solid conductor	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor	0.2 … 6 mm² / 24 … 10 AWG
Strip length	10 … 12 mm / 0.39 … 0.47 inch
Busbar thickness (min.)	4 mm
Busbar thickness (max.)	15 mm

Connection Data

Width	79 mm / 3.11 inch
Height	15 mm / 0.591 inch
Depth	72 mm / 2.835 inch

Mechanical Data

Mounting type	Clamp mount
Mounting type	Installation on busbar

Material Data

Weight	160 g

Environmental Requirements

Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m
Vibration resistance	10g (Industry; 5 … 2000 Hz; per IEC 60068-2-6); 4g (Ship; 5 … 150 Hz; per IEC 60068-2-6)

Standards and Specifications

Standards/specifications	EN 60947-7-3

Accessories



T-wrench; with a partially insulated shaft; SW 6.0 x 100

Item No.	Pack. Unit
855-8000	1

Current and Voltage Tap
855 Series



Current and Voltage Tap for the 50 mm² (0/1 AWG) High-Current Through Terminal Block

	Item No.	Pack. Unit
	855-501/150-000	1

Short description:
WAGO's current and voltage tap for 50 mm² (0/1 AWG) high-current through terminal blocks provides the ideal basis for successful energy management, because current and voltage are required wherever electrical power is measured. A combination of current transformer and voltage tap, this solution can be quickly and easily mounted into the jumper slot of WAGO's 50 mm² (1/0 AWG) high-current through terminal block.

An integrated fuse reliably protects downstream energy meters. An integrated current transformer (conversion ratio: 150 A/1 A) allows precise current measurement per EN 61869-2 (accuracy class: 0.5).

The current output connectors are marked with S1 (black) and S2 (red). Both termination and removal of fine-stranded conductors is performed via push-buttons. The 4-pole configuration (2 x S1 and 2 x S2) provides the following advantages:
- Current transformer (S1 and S2) can be short circuited via jumper (2000-402)
- Direct 'Y' point jumper on current transformer

The voltage is connected using a redundant terminal block.

Additionally, the current and voltage tap can be marked either using continuous marking strips or via WMB Multi Marking System.

Features:
- Power data can be directly tapped into the power supply
- Easy installation – simply insert the tap into the jumper slot of the 50 mm² (1/0 AWG) high-current through terminal block
- Integrated current transformer (150 A/1 A)
- Accuracy class: 0.5
- Fuse-protected voltage path

Note:
- Suitable for 2-conductor through terminal blocks for DIN-rail mounting (285-150; 285-154)
- Suitable for 2-conductor through terminal blocks with mounting flanges (285-141; 285-144)
- Spare fuse: SIBA Fuse, Item No. 7008913.2

Input – Current Transformer

Primary rated current	150 A
Rated continuous thermal current I_{cth}	150 A
Rated short-time thermal current I_{th}	9 kA/1 s
Rated surge current I_{dyn}	22.5 kA
Rated frequency	50 … 60 Hz

Output – Current Transformer

Secondary rated current	1 A
Rated power S_r	0.2 VA

Output – Voltage Tap

Rated voltage	400 VAC
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm

Measurement Error

Accuracy class	0.5

Safety and Protection

Test voltage	3 kVAC; 50 Hz; 1 min
Protection type	IP20
Highest voltage for equipment U_m	720 VAC

Connection Data

Connection type 1	Current output
Connection technology	Push-in CAGE CLAMP®
WAGO Connector	WAGO 250 Series
Solid conductor	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length	8.5 … 9.5 mm / 0.33 … 0.37 inch
Connection type 2	Voltage output
Connection technology 2	Push-in CAGE CLAMP®
WAGO Connector 2	WAGO 2624 Series
Solid conductor 2	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 2	0.2 … 6 mm² / 24 … 10 AWG
Strip length 2	10 … 12 mm / 0.39 … 0.47 inch
Feedthrough for measurement conductor	Ø ≤ 12 mm

Geometric Data

Width	20 mm / 0.787 inch
Height	68 mm / 2.677 inch
Depth	57 mm / 2.244 inch

Mechanical Data

Mounting type	Via jumper slot of the 2-conductor high-current through terminal block (see note)

Material Data

Weight	78.5 g

Environmental Requirements

Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–25 … +70 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m
Vibration resistance	10g (Industry; 5 … 2000 Hz; per IEC 60068-2-6); 4g (Ship; 5 … 150 Hz; per IEC 60068-2-6)

Standards and Specifications

Conformity marking	CE
Standards/specifications	EN 61869-2; EN 60947-7-3

Current and Voltage Tap
855 Series



Current and Voltage Tap for the 95 mm² (4/0 AWG) High-Current Through Terminal Block

	Item No.	Pack. Unit
	855-951/250-000	1

4

Short description:
WAGO's current and voltage tap for 95 mm² (4/0 AWG) high-current through terminal blocks provides the ideal basis for successful energy management, because current and voltage are required wherever electrical power is measured. A combination of current transformer and voltage tap, this solution can be quickly and easily mounted into the jumper slot of WAGO's 95 mm² (4/0 AWG) high-current through terminal block.

An integrated fuse reliably protects downstream energy meters. An integrated current transformer (conversion ratio: 250 A/1 A) allows precise current measurement per EN 61869-2 (accuracy class: 0.5).

The current output connectors are marked with S1 (black) and S2 (red). Both termination and removal of fine-stranded conductors is performed via push-buttons. The 5-pole configuration (2 x S1 and 3 x S2) provides the following advantages:
- Current transformer (S1 and S2) can be short circuited via jumper (2000-402)
- Direct 'Y' point jumper on current transformer

The voltage is connected using a redundant terminal block.

Additionally, the current and voltage tap can be marked either using continuous marking strips or via WMB Multi Marking System.

Features:
- Power data can be directly tapped into the power supply
- Easy installation – simply insert the tap into the jumper slot of the 95 mm² (4/0 AWG) high-current through terminal block
- Integrated current transformer (250 A/1 A)
- Accuracy class: 0.5
- Fuse-protected voltage path

Note:
- Suitable for 2-conductor through terminal blocks for DIN-rail mounting (285-195; 285-194)
- Suitable for 2-conductor through terminal blocks with mounting flanges (285-181; 285-184)
- Spare fuse: SIBA Fuse, Item No. 7008913.2

Input – Current Transformer	
Primary rated current	250 A
Rated continuous thermal current I_{cth}	250 A
Rated short-time thermal current I_{th}	15 kA/1 s
Rated surge current I_{dyn}	37.5 kA
Rated frequency	50 … 60 Hz

Output – Current Transformer	
Secondary rated current	1 A
Rated power S_r	0.2 VA

Output – Voltage Tap	
Rated voltage	400 VAC
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm

Measurement Error	
Accuracy class	0.5

Safety and Protection	
Test voltage	3 kVAC; 50 Hz; 1 min
Protection type	IP20
Highest voltage for equipment U_m	720 VAC

Connection Data	
Connection type 1	Current output
Connection technology	Push-in CAGE CLAMP®
WAGO Connector	WAGO 250 Series
Solid conductor	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length	8.5 … 9.5 mm / 0.33 … 0.37 inch
Connection type 2	Voltage output
Connection technology 2	Push-in CAGE CLAMP®
WAGO Connector 2	WAGO 2624 Series
Solid conductor 2	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 2	0.2 … 6 mm² / 24 … 10 AWG
Strip length 2	10 … 12 mm / 0.39 … 0.47 inch
Feedthrough for measurement conductor	Ø ≤ 16 mm

Geometric Data	
Width	25 mm / 0.984 inch
Height	73 mm / 2.874 inch
Depth	58 mm / 2.283 inch

Mechanical Data	
Mounting type	Via jumper slot of the 2-conductor high-current through terminal block (see note)

Material Data	
Weight	98 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–25 … +70 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m
Vibration resistance	10g (Industry; 5 … 2000 Hz; per IEC 60068-2-6); 4g (Ship; 5 … 150 Hz; per IEC 60068-2-6)

Standards and Specifications	
Conformity marking	CE
Standards/specifications	EN 61869-2; EN 60947-7-3

Current and Voltage Tap
855 Series



Current and Voltage Tap for the 185 mm² (350 kcmil) High-Current Through Terminal Block		
	Item No.	Pack. Unit
	855-1851/350-000	1

Short description:
WAGO's current and voltage tap for 185 mm² (350 kcmil) high-current through terminal blocks provides the ideal basis for successful energy management, because current and voltage are required wherever electrical power is measured. A combination of current transformer and voltage tap, this solution can be quickly and easily mounted into the jumper slot of WAGO's 95 mm² (4/0 AWG) high-current through terminal block.

An integrated fuse reliably protects downstream energy meters. An integrated current transformer (conversion ratio: 350 A/1 A) allows precise current measurement per EN 61869-2 (accuracy class: 0.5).

The current output connectors are marked with S1 (black) and S2 (red). Both termination and removal of fine-stranded conductors is performed via push-buttons. The 5-pole configuration (2 x S1 and 3 x S2) provides the following advantages:
- Current transformer (S1 and S2) can be short circuited via jumper (2000-402)
- Direct 'Y' point jumper on current transformer

The voltage is connected using a redundant terminal block.

Additionally, the current and voltage tap can be marked either using continuous marking strips or via WMB Multi Marking System.

Features:
- Power data can be directly tapped into the power supply
- Easy installation – simply insert the tap into the jumper slot of the 185 mm² (350 kcmil) high-current through terminal block
- Integrated current transformer (350 A/1 A)
- Accuracy class: 0.5
- Fuse-protected voltage path

Note:
- Suitable for 2-conductor through terminal blocks for DIN-rail mounting (285-1185; 285-1184)
- Suitable for 2-conductor through terminal blocks with mounting flanges (285-1161; 285-1164)
- Spare fuse: SIBA Fuse, Item No. 7008913.2

Input – Current Transformer	
Primary rated current	350 A
Rated continuous thermal current I_{cth}	350 A
Rated short-time thermal current I_{th}	21 kA/1 s
Rated surge current I_{dyn}	52.5 kA
Rated frequency	50 … 60 Hz

Output – Current Transformer	
Secondary rated current	1 A
Rated power S_r	0.2 VA

Output – Voltage Tap	
Rated voltage	400 VAC
Fuse (voltage path)	2 A; 450 V; F; 70 kA; 5 x 25 mm

Measurement Error	
Accuracy class	0.5

Safety and Protection	
Test voltage	3 kVAC; 50 Hz; 1 min
Protection type	IP20
Highest voltage for equipment U_m	720 VAC

Connection Data	
Connection type 1	Current output
Connection technology	Push-in CAGE CLAMP®
WAGO Connector	WAGO 250 Series
Solid conductor	0.2 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor	0.2 … 1.5 mm² / 24 … 16 AWG
Strip length	8.5 … 9.5 mm / 0.33 … 0.37 inch
Connection type 2	Voltage output
Connection technology 2	Push-in CAGE CLAMP®
WAGO Connector 2	WAGO 2624 Series
Solid conductor 2	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 2	0.2 … 6 mm² / 24 … 10 AWG
Strip length 2	10 … 12 mm / 0.39 … 0.47 inch
Feedthrough for measurement conductor	Ø ≤ 21.5 mm

Geometric Data	
Width	32 mm / 1.256 inch
Height	84 mm / 3.307 inch
Depth	60 mm / 2.362 inch

Mechanical Data	
Mounting type	Via jumper slot of the 2-conductor high-current through terminal block (see note)

Material Data	
Weight	140 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–25 … +70 °C
Relative humidity	5 … 85 % (non-condensing)
Operating altitude (max.)	2000 m
Vibration resistance	10g (Industry; 5 … 2000 Hz; per IEC 60068-2-6); 4g (Ship; 5 … 150 Hz; per IEC 60068-2-6)

Standards and Specifications	
Conformity marking	CE
Standards/specifications	EN 61869-2; EN 60947-7-3

Power and Energy Measurement
With the WAGO-I/O-SYSTEM 750 and 750 XTR

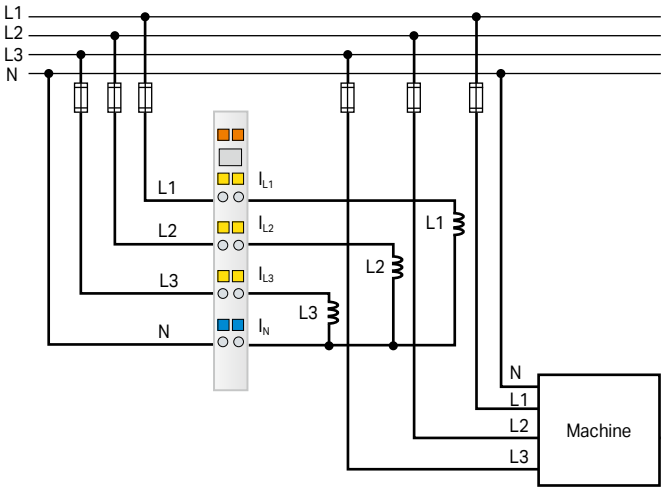
WAGO's 3-phase power measurement modules measure and process all relevant metrics from a three-phase supply network. They provide system operators with increased insight into energy consumption by specific machines and systems, as well as the ability to perform comprehensive network analysis.	Advantages: • Measure machine and system energy consumption values • Detect and process all relevant metrics • Comprehensive network analysis • Connect to the fieldbus-independent, compact and flexible WAGO-I/O-SYSTEM	The dark gray modules from the 750 XTR Series can also be used in eXTReme environments and offer these advantages: • eXTReme temperatures: −40 … +70 °C • eXTReme isolation: up to 5 kV of impulse voltage • eXTReme vibration resistance: up to 5g of acceleration

4

Image			
Energy consumption	✓	✓	✓
Voltage	3 x 480 VAC	3 x 480 VAC	3 x 480/690 VAC
Current	1 A (750-493) 5 A (750-493/000-001)	1 A (750-494) 5 A (750-494/000-001) External Shunts (750-494/000-005)	1 A (750-495) 5 A (750-495/000-001) Rogowski Coil (750-495/000-002)
Active energy/power	✓	✓	✓
Phase position	✓	✓	✓
Reactive power/energy	via function block	✓	✓
Apparent power/energy	via function block	✓	✓
Rotary field detection		✓	✓
Power factor	(✓)	✓	✓
Frequency measurement	✓	✓	✓
Four-quadrant operation (inductive, capacitive, consumer, generator)		✓	✓
Harmonic analysis (up to the 41st harmonic)		✓	✓
Neutral conductor measurement			✓
Other product variants		Extended temperature range: −20 … +60 °C: 750-494/025-000 (1 A), 750-494/025-001 (5 A)	750 XTR: 750-495/040-000 (1 A), 750-495/040-001 (5 A), 750-495/040-002 (Rogowski Coil)
Housing width	12 mm	12 mm	24 mm
Item number	**750-493**	**750-494**	**750-495**

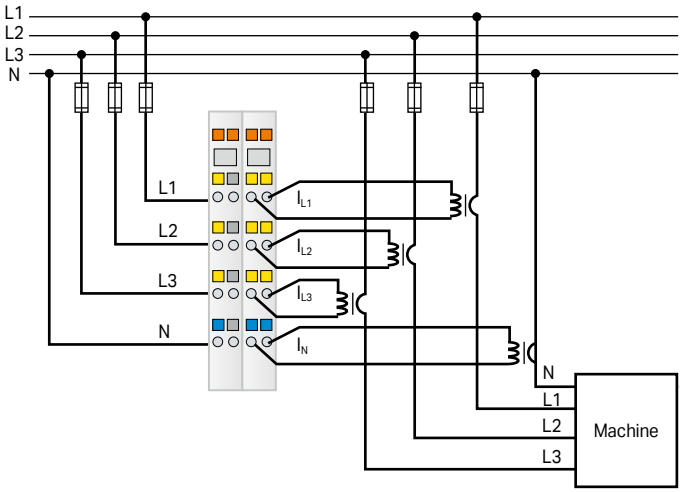
General Configuration

Power and energy measurement of a machine in a 480 VAC mains network via WAGO's 3-phase power measurement module (750-493, 750-494)



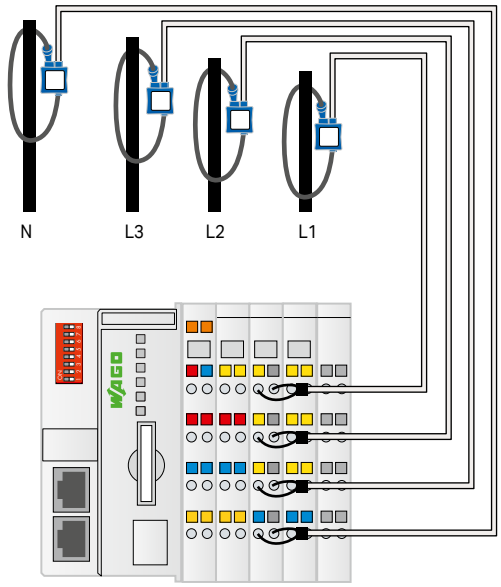
General Configuration

Power, energy and N-conductor measurement of a machine in a 480/690 VAC mains network via WAGO's 3-phase power measurement module (750-495)



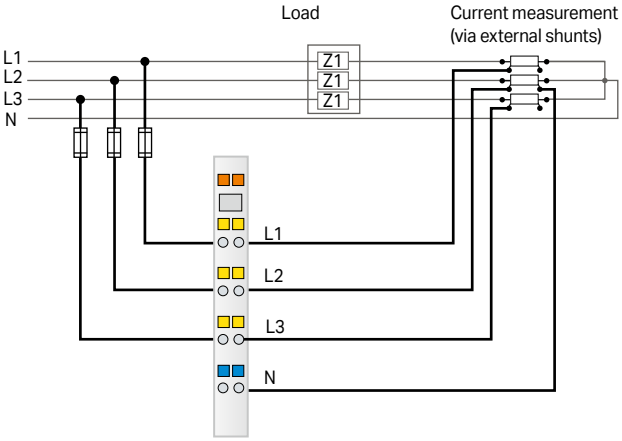
Application:

Direct connection of Rogowski coils to WAGO's 3-phase power measurement module (750-495/000-002)



Application:

Direct connection of external shunts to WAGO's 3-phase power measurement module (750-494/000-005)





Line Length Calculation for Current Transformers

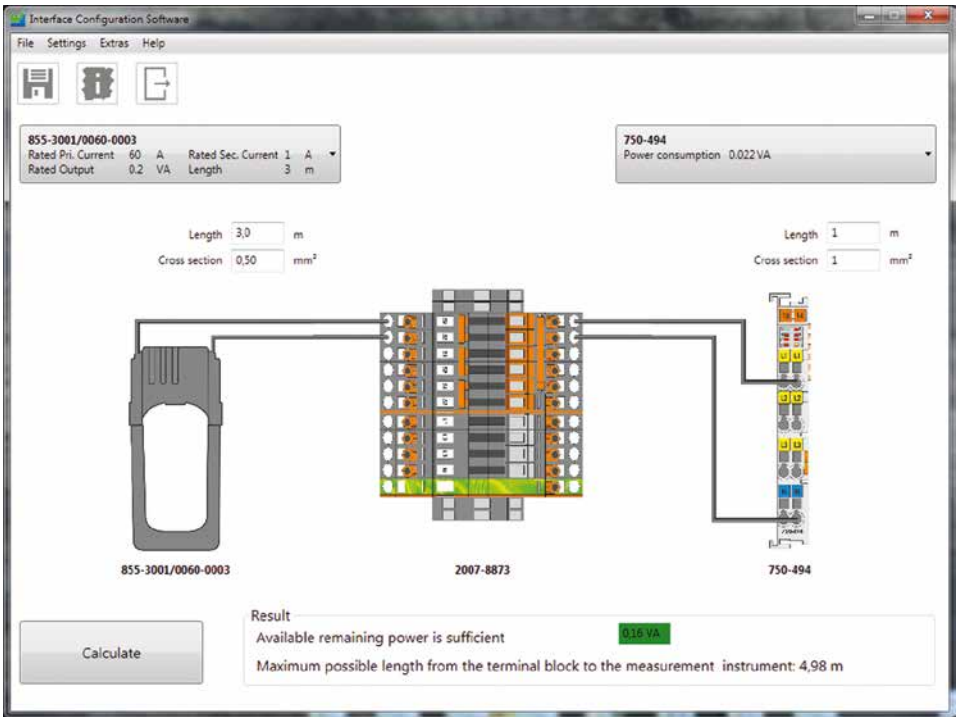
Refined Solution for Your System Planning

To determine actual power requirements, both the power requirements of the connected measurement devices and the power losses from the measurement lines connected to a transformer's secondary circuit must be taken into account.

The interface configuration software's new feature quickly and easily calculates cable length and provides the results for your system documentation.



WAGO Interface Configuration Software Start Screen



Cable length calculation using the interface configuration software



Simply documented!

Power calculation of copper cables between measurement device and current transformer:

$$P_V = \frac{I_S^2 \times 2 \times l}{A_{CU} \times 56} \text{ VA}$$

I_S	=	Secondary rated measuring current strength [A]
l	=	Simple cable length in m
A_{CU}	=	Cable cross section in mm²
P_V	=	Power loss of connection cables

Note: When using a common three-phase return line, the values for P_V are halved.

Example:
A 1 amp or 5 amp current transformer is used, with an ammeter on the secondary circuit, at a distance of 10 m between the transformer and the measurement device.

Current transformer 5 A

$$P_V = \frac{5^2 \times 2 \times 10}{1.5 \times 56} \text{ VA} = 5.96 \text{ VA}$$

Current transformer 1 A

$$P_V = \frac{1^2 \times 2 \times 10}{1.5 \times 56} \text{ VA} = 0.24 \text{ VA}$$

Free software download at:
www.wago.com/configuration-software



WAGO Power Supplies

WAGO Power Supplies

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WAGO Power Supplies
Selection Guide

Switched-Mode Power Supplies; 24 VDC Output

Nominal voltage (output)	Nominal current (output) [ADC]	Input, 1-phase	Input, 2-/3-phase	Approvals: EN 60335	Approvals: cURus 60950	Approvals: cULus 508	Approvals: DNVGL	Approvals: ANSI/ISA 12.12.1	Approvals: ATEX/IEC Ex	DC OK signal/ contact	RS-232 interface	TopBoost [1]	PowerBoost	Efficiency typ. [%]	Surrounding air temperature [°C] [4]	Item Number	Page
24 VDC	0.5	■		■		■								83.0	–25 … +70	787-1200	459
	1.0	■		■	■	■	■			■				86.0	–25 … +70	787-1602 [2]	418
	1.0	■				□	□	□	□	■				86.0	–25 … +70	787-2852	336
	1.25	■		■	■	■								80.0	–20 … +60	787-1702	443
	1.3	■			■	■	■							82.0	–25 … +60	787-1002	471
	1.3	■			■	■	■							82.0	–25 … +60	787-1102	456
	1.3	■		■	■	■								87.0	–25 … +70	787-1202	460
	2.0	■		■	■	■	■			■				89.0	–25 … +70	787-1606 [2]	419
	2.5	■			■	■		■	■					86.0	–10 … +70	787-712	436
	2.5	■		■	■	■								81.0	–20 … +60	787-1712	445
	2.5	■			■	■	■							88.0	–25 … +60	787-1012	472
	2.5	■			■	■	■							88.0	–25 … +60	787-1112	457
	2.5	■		■	■	■								89.0	–25 … +70	787-1212	462
	3.0	■			■	■				■		■	■	87.8	–25 … +70	787-818	398
	3.8	■		■	■	■	■			■				87.0	–25 … +70	787-1616/000-1000 [2]	421
	4.0	■		■	■	■	■			■				89.0	–25 … +70	787-1616	420
	4.0	■			■	■	■							88.0	–25 … +60	787-1022	473
	4.0	■			■	■	■							88.0	–25 … +60	787-1122	458
	4.0	■				■								92.3	–40 … +85	787-6716	542
	4.2	■		■	■	■								90.0	–25 … +70	787-1216	463
	5.0	■			■	■				■		■	■	87.8	–25 … +70	787-822	399
	5.0	■		■	■	■	■			■		■		89.0	–25 … +70	787-1622	422
	5.0	■	■		■	■	■			■		■		89.0	–25 … +70	787-1628	430
	5.0	■			■	■	■			■	■	■		89.0	–25 … +70	787-1675 [3]	474
	5.0	■			■	■		■	■					86.0	–10 … +60	787-722	437
	5.0	■		■	■	■								84.0	–20 … +60	787-1722	447
	6.0	■		■	■	■								90.0	–25 … +70	787-1226	464
	6.25		■		■	■				■				87.0	–25 … +70	787-738	450
	10.0	■			■	■				■		■	■	90.0	–25 … +70	787-832	400
	10.0	■			■	■	■			■		■		91.0	–25 … +70	787-1632 [5]	423
	10.0	■	■		■	■	■			■		■		90.0	–25 … +70	787-1638	431
	10.0	■			■	■		■	■					86.0	–10 … +70	787-732	438
	10.0	■		■	■	■								84.0	–20 … +60	787-1732	448
	10.0		■		■	■				■	■	■	■	91.7	–25 … +70	787-850	408
	10.0		■		■	■				■		■	■	91.7	–25 … +70	787-840	404
	10.0		■		■	■	■			■		■		90.0	–25 … +70	787-1640	432
	10.0		■		■	■				■				89.0	–25 … +70	787-740	451
	20.0	■			■	■				■		■	■	91.0	–25 … +70	787-834	401
	20.0	■			■	■	■			■		■		92.0	–25 … +70	787-1634	424
	20.0	■			■	■				■				90.0	–25 … +70	787-734	439
	20.0		■		■	■				■	■	■	■	92.9	–25 … +70	787-852	409
	20.0		■		■	■				■		■	■	92.9	–25 … +70	787-842	405
	20.0		■		■	■	■			■		■		92.0	–25 … +70	787-1642	433
	20.0		■		■	■				■				90.0	–25 … +70	787-742	452
	20.0		■		■	■				■				90.5	–20 … +70	787-2742	454
	40.0	■			■	■				■				90.0	–25 … +70	787-736	440
	40.0		■		■	■				■	■	■	■	93.6	–25 … +55	787-854	410
	40.0		■		■	■				■		■	■	93.6	–25 … +55	787-844	406
	40.0		■		■	■	■			■		■		92.0	–25 … +70	787-1644	434
	40.0		■		■	■								91.5	–20 … +70	787-2744	455

■ Yes □ Pending

[1] TopBoost enables magnetic tripping of circuit breakers in the output circuit.
[2] NEC Class 2 Power Unit per cURus 1310 or cURus 60950
[3] With uninterruptible power supply (UPS)
[4] Device starts at –40°C, type-tested for 787-8xx, -10xx, -16xx
[5] .../000-070 is optionally available with protective coating

Switched-Mode Power Supplies; 5, 12, 18, 48 VDC Output

Nominal voltage (output)	Nominal current (output) [ADC]	Input, 1-phase	Input, 2-/3-phase	Approvals: EN 60335	Approvals: cURus 60950	Approvals: cULus 508	Approvals: DNVGL	Approvals: ANSI/ISA 12.12.1	Approvals: ATEX/IEC Ex	DC OK signal/contact	RS-232 interface	TopBoost [1]	PowerBoost	Efficiency typ. [%]	Surrounding air temperature [°C] [4]	Item Number	Page
																Output: 5 VDC	
5 VDC	5.5	■			■	■	□							75.0	–25 … +60	787-1020	466
																Output: 12 VDC	
12 VDC	2.0	■		■	■	■	■			■				82.0	–25 … +70	787-1601 [2]	414
	2.0	■		■										80.0	–25 … +60	787-1701	442
	2.0	■			■	■	■							80.0	–25 … +60	787-1001	467
	4.0	■		■	■	■	■			■				86.0	–25 … +70	787-1611 [2]	415
	4.0	■		■		■								81.0	–25 … +60	787-1711	444
	4.0	■			■	■	■							85.0	–25 … +60	787-1011	468
	5.0	■		■		■								89.5	–25 … +70	787-1211	461
	6.0	■			■	■				■		■	■	83.0	–25 … +70	787-819	394
	6.5	■			■	■	■							87.0	–25 … +60	787-1021	469
	7.0	■		■	■	■	■			■				86.0	–25 … +70	787-1621	416
	8.0	■		■										84.0	–25 … +60	787-1721	446
	10.0	■			■	■				■		■	■	87.8	–25 … +70	787-821	395
	15.0	■			■	■				■		■	■	87.0	–25 … +70	787-831	396
	15.0	■			■	■	■			■		■		90.0	–25 … +70	787-1631	417
																Output: 18 VDC	
18 VDC	2.5	■			■	■	□							83.0	–25 … +60	787-1017	470
																Output: 48 VDC	
48 VDC	2.0	■		■	■	■	■			■				86.0	–25 … +70	787-1623	426
	5.0	■			■	■				■		■	■	91.0	–25 … +70	787-833	402
	5.0	■			■	■	■			■		■		92.0	–25 … +70	787-1633	427
	10.0	■			■	■				■		■	■	91.0	–25 … +70	787-835	403
	10.0	■			■	■	■			■		■		93.0	–25 … +70	787-1635 [5]	428
	10.0		■		■	■				■		■	■	93.0	–25 … +70	787-845	412
	20.0		■		■	■				■		■	■	94.4	–25 … +70	787-847	413

DC/DC Converters

Nominal voltage (input) [VDC]	Nominal voltage (output) [VDC]	Nominal current (output) [A]	Approvals: EN 50155	Approvals: EN 60335	Approvals: UL 61010-2-201	Approvals: cULus 508	Approvals: DNVGL	Approvals: ANSI/ISA 12.12.1	Approvals: ATEX/IEC Ex	DC OK signal/contact	Efficiency typ. [%]	Surrounding air temperature [°C]	Item Number	Page
24.0	5.0	0.5			□	□				■	82.5	–25 … +70	787-2801	534
24.0	10.0	0.5			□	□				■	89.0	–25 … +70	787-2802	535
48.0	24.0	0.5			□	□				■	91.0	–25 … +70	787-2803	537
24.0	12.0	0.5			□	□				■	90.0	–25 … +70	787-2805	536
24.0	5/10/12	0.5			□	□				■	82.5	–25 … +70	787-2810	538
24.0	12.0	0.4									84.0	–25 … +70	787-1650	533
110.0	24.0	2.0	■								85.0	–40 … +70	787-1014	530
72.0	24.0	2.0	■								86.0	–40 … +70	787-1014/072-000	531
72.0	12.0	4.0	■								86.0	–40 … +70	787-1015/072-000	532

Safety Transformers

Nominal voltage (output) [VAC]	Nominal power (output) [VA]	Nominal voltage (input) [VAC]	Approvals: EN 5085	Approvals: EN 61558-2-6	Approvals: UL 60601	Approvals: cULus 508	Approvals: DNVGL	Approvals: ANSI/ISA 12.12.1	Approvals: ATEX/IEC Ex	Surrounding air temperature [°C]	Item Number	Page
12/24	40	110/230	□	□	□					–25 … +55	787-974	540
12/24	63	110/230	□	□	□					–25 … +55	787-976	541

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WAGO System Devices
Selection Guide

Uninterruptible Power Supplies (UPS)

Input		Output		Approvals						Dimensions and Environmental Conditions					
Nominal voltage [VAC]	Nominal voltage [VDC]	Nominal voltage [VDC]	Nominal current [ADC]	EN 60335	cURus 60950	cULus 508	DNVGL	ANSI/ISA 12.12.1	ATEX/IEC Ex	Width [mm]	Height [mm]	Length [mm]	Surrounding air temperature [°C]	Item Number	Page
–	24	24	10.0		■	■				40.0	163.0	163.0	–10 … +60	787-870	476
–	24	24	20.0		■	■				57.0	163.0	171.0	–10 … +60	787-875	477
	24	24	40.0							68.0	181.0	162.0	0 … +55	787-915	478
100 … 240	110 … 370	24	5.0		■	■	■			60.0	135.5	127.0	–25 … +70	787-1675	474

Battery Modules

Input	Output		Approvals							Dimensions and Environmental Conditions					
Nominal voltage [VDC]	Nominal voltage [VDC]	Nominal capacity [Ah]	EN 60335	cURus 60950	cULus 508	GL	ANSI/ISA 12.12.1	ATEX/IEC Ex	VdS-tested battery	Width [mm]	Height [mm]	Length [mm]	Surrounding air temperature [°C]	Item Number	Page
24	24	0.8			□				■	72.0	124.5	97.0	–15 … +40	787-1671	484
24	24	1.2			■				■	55.0	136.5	153.0	–15 … +40	787-876	480
24	24	3.2			■				■	76.2	175.5	168.0	–15 … +40	787-871	481
24	24	7.0			■				■	86.0	217.5	236.0	–15 … +40	787-872	482
24	24	12.0			■				■	120.5	217.5	236.0	–15 … +40	787-873	483

Capacitive Buffer Modules

Input/Output, Buffer			Approvals						Dimensions and Environmental Conditions					
Nominal input/ output voltage [VDC]	Nominal current (output) [ADC]	Buffer time [s]	EN 60335	cURus 60950	cULus 508	GL	ANSI/ISA 12.12.1	ATEX/IEC Ex	Width [mm]	Height [mm]	Length [mm]	Surrounding air temperature [°C]	Item Number	Page
24	10.0	0.06 … 7.2		■	■				57.0	179.0	163.0	–10 … +50	787-880	486
24	20.0	0.17 … 16.5		■	■				57.0	179.0	181.0	–10 … +50	787-881	487
24	40.0	0.35 … 6.6							68.0	181.0	162.0	–10 … +50	787-916	488

Redundancy Modules

Input	Output		Approvals						Dimensions and Environmental Conditions					
Nominal voltage [VDC]	Nominal voltage [VDC]	Nominal current [ADC]	EN 60335	cURus 60950	cULus 508	DNVGL	ANSI/ISA 12.12.1	ATEX/IEC Ex	Width [mm]	Height [mm]	Length [mm]	Surrounding air temperature [°C]	Item Number	Page
12 … 48	12 … 48	12.5			■				50.0	92.0	130.0	–25 … +70	787-783	490
24	24	20.0		■	■				40.0	163.0	181.0	–10 … +60	787-885	492
24	24	40.0		■	■	■			42.0	139.5	127.0	–40 … +70	787-1685[2]	494
12 … 48	12 … 48	40.0			■				83.0	153.0	130.0	–25 … +70	787-785	491
48	48	20.0							40.0	163.0	181.0	–10 … +60	787-886	493

■ Yes □ Pending
[1] NEC Class 2
[2] …/000-070 is optionally available with protective coating
[3] Available upon request

Electronic Circuit Breakers

Nominal input/ output voltage	Input/Output				Approvals				Dimensions and Environmental Conditions				Item Number	Page
	Channels (output)	Nominal current (output) [ADC]	Communication	Active current limitation	UL 61010-2-201	UR 2367	cULus 508	GL	Width [mm]	Height [mm]	Length [mm]	Surrounding air temperature [°C]		
12 VDC	4	2 … 10	M			■	■	■	45	115.5	90	–25 … +70	787-1664/000-100	508
24 VDC	1	1	S		□				6	97.8	94	–25 … +70	787-2861/100-000	496
	1	2	S		□				6	97.8	94	–25 … +70	787-2861/200-000	497
	1	4	S		□				6	97.8	94	–25 … +70	787-2861/400-000	498
	1	6	S		□				6	97.8	94	–25 … +70	787-2861/600-000	499
	1	8	S		□				6	97.8	94	–25 … +70	787-2861/800-000	500
	1	1 … 8	S		□			□	6	97.8	94	–25 … +70	787-2861/108-020	501
24 VDC	2	2 … 10	M			■	■	■	45	115.5	90	–25 … +70	787-1662	504
	2	2 … 10	P			■	■	■	45	115.5	90	–25 … +70	787-1662/000-054	506
	2	3.8 LPS	M	■		■	■	□	45	115.5	90	–25 … +70	787-1662/004-1000 [1]	503
	2	0.5 … 6	M	■		■	■	■	45	115.5	90	–25 … +70	787-1662/006-1000	502
	2	1 … 6	M			■	■	■	45	115.5	90	–25 … +70	787-1662/106-000	505
24 VDC	4	2 … 10	M			■	■	■	45	115.5	90	–25 … +70	787-1664	514
	4	2 … 10	M			■	■	■	45	115.5	90	–25 … +70	787-1664/000-004	516
	4	2 … 10	P			■	■	■	45	115.5	90	–25 … +70	787-1664/000-054	517
	4	1 … 10	I			□	□	□	45	115.5	90	–25 … +70	787-1664/000-080	513
	4	3.8 LPS	M	■		■	■	□	45	115.5	90	–25 … +70	787-1664/004-1000 [1]	510
	4	0.5 … 6	M	■		■	■	■	45	115.5	90	–25 … +70	787-1664/006-1000	509
	4	1 … 6	M			■	■	■	45	115.5	90	–25 … +70	787-1664/106-000	515
	4	2 … 12	M	■		■	■	□	45	115.5	90	–25 … +70	787-1664/212-1000	511
	4	0.5 … 6	P	■		■	■	■	45	115.5	90	–25 … +70	787-1664/006-1054	512
24 VDC	8	2 … 10	M			■	■	■	42	142.5	127	–25 … +70	787-1668	523
	8	2 … 10	M			■	■	■	42	142.5	127	–25 … +70	787-1668/000-004	524
	8	2 … 10	P			■	■	■	42	142.5	127	–25 … +70	787-1668/000-054	525
	8	1 … 10	I			□	□	□	42	142.5	127	–25 … +70	787-1668/000-080	529
	8	0.5 … 6	M	■		■	■	■	42	142.5	127	–25 … +70	787-1668/006-1000	520
	8	1 … 6	M			■	■	■	42	142.5	127	–25 … +70	787-1668/106-000	522
	8	1 … 6	M			■	■	■	42	142,5	127	–25 … +70	787-1668/106-054	526
	8	1 … 6	P	■		■	■	■	42	142.5	127	–25 … +70	787-1668/006-1054	521
48 VDC	2	2 … 10	P			■	■	□	45	115.5	90	–25 … +70	787-1662/000-250	507
48 VDC	4	2 … 10	M			■	■	□	45	115.5	90	–25 … +70	787-1664/000-200	518
	4	2 … 10	P			■	■	□	45	115.5	90	–25 … +70	787-1664/000-250	519
48 VDC	8	2 … 10	M			■	■	□	42	142.5	127	–25 … +70	787-1668/000-200	527
	8	2 … 10	P			■	■	□	42	142.5	127	–25 … +70	787-1668/000-250	528

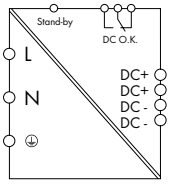
Other

Description	Approvals					Surrounding air temperature [°C]	Item Number	Page
	EN 60950	cULus 60950	EN 61204-3	EN 61000-6-3	DIN EN 60939-2			
Power supply for fan control	■	■	■	■			787-914	550
Radio interference suppression filter; 1-phase					■		787-980	551

S = Signal
N = Signal, low-side switching
P = Potential-free signal
I = IO-Link protocol
M = Manchester protocol

Switched-Mode Power Supply; Pro; 1-Phase; 12 VDC / 6 A
787 Series

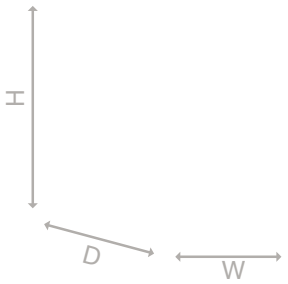




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Switched-Mode Power Supply; Pro; 1-phase; Output voltage: 12 VDC; Output current: 6 A; TopBoost + PowerBoost; DC OK contact

	Item No.	Pack. Unit
	787-819	1

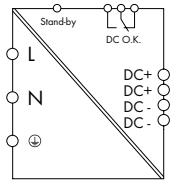


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	–5 %/V (< 95 VAC)
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 0.51 A (240 VAC; 6 ADC)
Inrush current	≤ 30 A (peak)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 70 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 1 %
Output voltage range	11 … 18 VDC (adjustable)
Nominal output current $I_{o\,nom}$	6 A (12 VDC)
Nominal output power	72 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 0.5 W (stand-by); ≤ 3 W (no load); ≤ 9.4 W (nominal load)
Efficiency	≥ 83 %
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	40 x 163 x 163; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	800 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

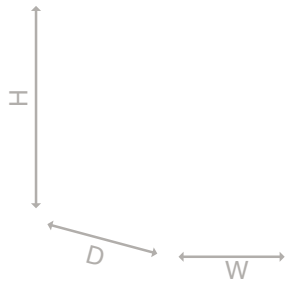
Switched-Mode Power Supply; Pro; 1-Phase; 12 VDC / 10 A
787 Series





Switched-Mode Power Supply; Pro; 1-phase; Output voltage: 12 VDC; Output current: 10 A; TopBoost + PowerBoost; DC OK contact

	Item No.	Pack. Unit
	787-821	1

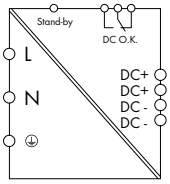


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	–5 %/V (< 95 VAC)
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 0.97 A (240 VAC; 10 ADC)
Inrush current	≤ 30 A (peak)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 35 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 1 %
Output voltage range	11 … 18 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (12 VDC)
Nominal output power	120 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 0.5 W (stand-by); ≤ 5 W (no load); ≤ 14.6 W (nominal load)
Efficiency	≥ 87.8 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	57 x 163 x 163; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1295 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

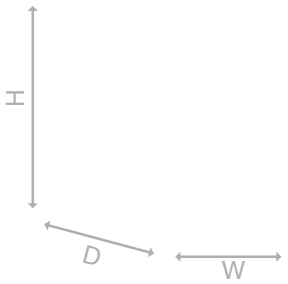
Switched-Mode Power Supply; Pro; 1-Phase; 12 VDC / 15 A
787 Series





Switched-Mode Power Supply; Pro; 1-phase; Output voltage: 12 VDC; Output current: 15 A; TopBoost + PowerBoost; DC OK contact

	Item No.	Pack. Unit
	787-831	1

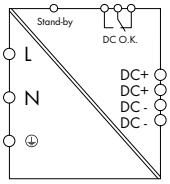


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	–1.5 %/V (< 110 VAC)
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 0.9 A (240 VAC; 15 ADC)
Inrush current	≤ 8 A (active PFC)
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 30 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 1 %
Output voltage range	11 … 18 VDC (adjustable)
Nominal output current $I_{o\,nom}$	15 A (12 VDC)
Nominal output power	180 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 0.8 W (stand-by); ≤ 4.6 W (no load); ≤ 23.4 W (nominal load)
Efficiency	≥ 87 %
Fuse Protection	
Internal fuse	T 6.3 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	57 x 163 x 179; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1480 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

Switched-Mode Power Supply; Pro; 1-Phase; 24 VDC / 3 A
787 Series

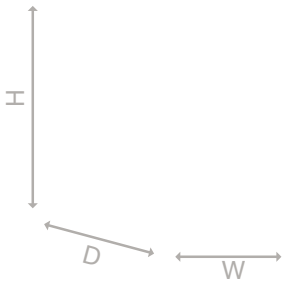




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Switched-Mode Power Supply; Pro; 1-phase; Output voltage: 24 VDC; Output current: 3 A; TopBoost + PowerBoost; DC OK contact

	Item No.	Pack. Unit
	787-818	1

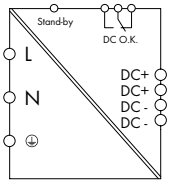


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	–5 %/V (< 95 VAC)
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 0.51 A (240 VAC; 3 ADC)
Inrush current	≤ 30 A (peak)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 70 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 29.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	3 A (24 VDC)
Nominal output power	72 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 0.5 W (stand-by); ≤ 3 W (no load); ≤ 8.8 W (nominal load)
Efficiency	≥ 87.8 %
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	40 x 163 x 163; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	960 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

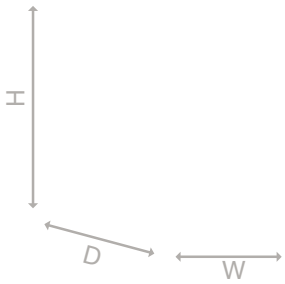
Switched-Mode Power Supply; Pro; 1-Phase; 24 VDC / 5 A
787 Series





Switched-Mode Power Supply; Pro; 1-phase; Output voltage: 24 VDC; Output current: 5 A; TopBoost + PowerBoost; DC OK contact

	Item No.	Pack. Unit
	787-822	1

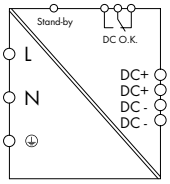


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 0.97 A (240 VAC; 5 ADC)
Inrush current	≤ 30 A (peak)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 35 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 29.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	5 A (24 VDC)
Nominal output power	120 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 0.5 W (stand-by); ≤ 5 W (no load); ≤ 14.6 W (nominal load)
Efficiency	≥ 87.8 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	57 x 163 x 163; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1268 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

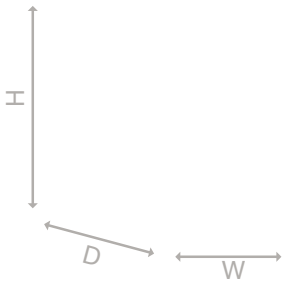
Switched-Mode Power Supply; Pro; 1-Phase; 24 VDC / 10 A
787 Series





Switched-Mode Power Supply; Pro; 1-phase; Output voltage: 24 VDC; Output current: 10 A; TopBoost + PowerBoost; DC OK contact

	Item No.	Pack. Unit
	787-832	1

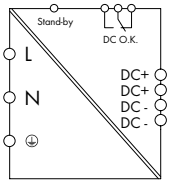


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 1.2 A (240 VAC; 10 ADC)
Inrush current	≤ 8 A (active PFC)
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 24 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 29.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (24 VDC)
Nominal output power	240 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 0.8 W (stand-by); ≤ 3.8 W (no load); ≤ 24 W (nominal load)
Efficiency	≥ 90 %
Fuse Protection	
Internal fuse	T 6.3 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	57 x 163 x 179; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1485 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

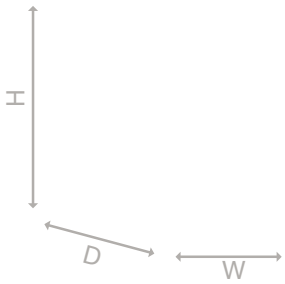
Switched-Mode Power Supply; Pro; 1-Phase; 24 VDC / 20 A
787 Series





Switched-Mode Power Supply; Pro; 1-phase; Output voltage: 24 VDC; Output current: 20 A; TopBoost + PowerBoost; DC OK contact

	Item No.	Pack. Unit
	787-834	1

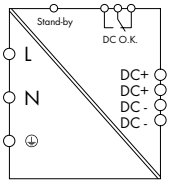


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	–1.5 %/V (< 110 VAC)
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 2.3 A (230 VAC; 20 ADC)
Inrush current	≤ 8 A (active PFC)
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 25 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 29.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	20 A (24 VDC)
Nominal output power	480 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 0.8 W (stand-by); ≤ 4.8 W (no load); ≤ 43.2 W (nominal load)
Efficiency	≥ 91 %
Fuse Protection	
Internal fuse	T 10 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	97 x 171 x 187; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	2300 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

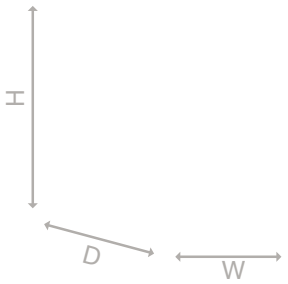
Switched-Mode Power Supply; Pro; 1-Phase; 48 VDC / 5 A
787 Series





Switched-Mode Power Supply; Pro; 1-phase; Output voltage: 48 VDC; Output current: 5 A; TopBoost + PowerBoost; DC OK contact

	Item No.	Pack. Unit
	787-833	1

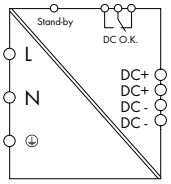


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	–1.5 %/V (< 110 VAC)
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 1.2 A (230 VAC; 5 ADC)
Inrush current	≤ 8 A (active PFC)
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 20 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	48 VDC (SELV) / ≤ 1 %
Output voltage range	33 … 52 VDC (adjustable)
Nominal output current $I_{o\,nom}$	5 A (48 VDC)
Nominal output power	240 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 0.8 W (stand-by); ≤ 7.4 W (no load); ≤ 21.6 W (nominal load)
Efficiency	≥ 91 %
Fuse Protection	
Internal fuse	T 6.3 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	57 x 163 x 179; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1475 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

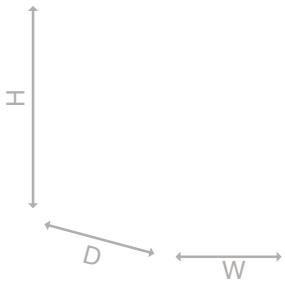
Switched-Mode Power Supply; Pro; 1-Phase; 48 VDC / 10 A
787 Series





Switched-Mode Power Supply; Pro; 1-phase; Output voltage: 48 VDC; Output current: 10 A; TopBoost + PowerBoost; DC OK contact

	Item No.	Pack. Unit
	787-835	1

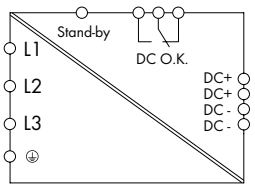


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	–1.5 %/V (< 110 VAC)
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 2.3 A (230 VAC; 10 ADC)
Inrush current	≤ 8 A (active PFC)
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 20 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	48 VDC (SELV) / ≤ 1 %
Output voltage range	33 … 52 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (48 VDC)
Nominal output power	480 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 0.8 W (stand-by); ≤ 4.8 W (no load); ≤ 43.2 W (nominal load)
Efficiency	≥ 91 %
Fuse Protection	
Internal fuse	T 10 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	97 x 171 x 187; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	2460 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

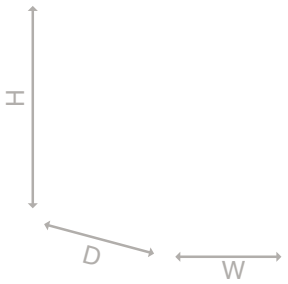
Switched-Mode Power Supply; Pro; 3-Phase; 24 VDC / 10 A
787 Series





Switched-Mode Power Supply; Pro; 3-phase; Output voltage: 24 VDC; Output current: 10 A; TopBoost + PowerBoost; DC OK contact

Item No.	Pack. Unit
787-840	1

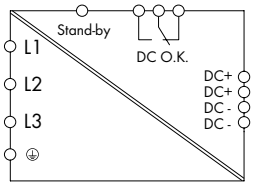


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 500 VAC
Input voltage range	(2 / 3) x 340 … 550 VAC; 480 … 780 VDC
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 3 x 0.6 A (340 VAC; 10 ADC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 22 ms (3 x 400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22.8 … 28.8 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (24 VDC)
Nominal output power	240 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 7.8 W (no load); ≤ 19.9 W (nominal load)
Efficiency	≥ 91.7 %
Fuse Protection	
Internal fuse	3 x T 2.5 A / 440 VAC
Recommended backup fusing	3 x Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C; Alternative: motor circuit breaker; Setpoint: 1.6 A; Setting range: 1.6 … 2.5 A
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	57 x 163 x 179; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1000 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

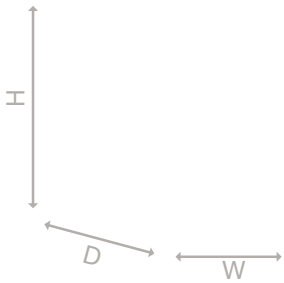
Switched-Mode Power Supply; Pro; 3-Phase; 24 VDC / 20 A
787 Series





Switched-Mode Power Supply; Pro; 3-phase; Output voltage: 24 VDC; Output current: 20 A; TopBoost + PowerBoost; DC OK contact

	Item No.	Pack. Unit
	787-842	1

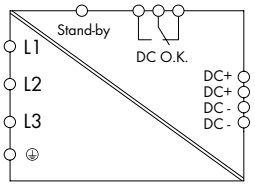


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 500 VAC
Input voltage range	(2 / 3) x 340 … 550 VAC; 480 … 780 VDC
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 3 x 1.1 A (340 VAC; 20 ADC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 13 ms (3 x 400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22.8 … 28.8 VDC (adjustable)
Nominal output current $I_{o\,nom}$	20 A (24 VDC)
Nominal output power	480 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 8.3 W (no load); ≤ 34.1 W (nominal load)
Efficiency	≥ 92.9 %
Fuse Protection	
Internal fuse	3 x T 2.5 A / 440 VAC
Recommended backup fusing	3 x Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C; Alternative: motor circuit breaker; Setpoint: 2.5 A; Setting range: 2.5 … 4 A
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	77 x 171 x 179; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1300 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

Switched-Mode Power Supply; Pro; 3-Phase; 24 VDC / 40 A
787 Series

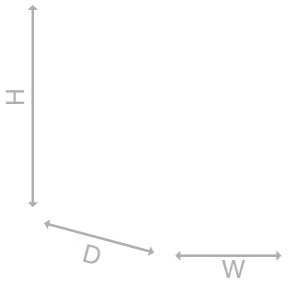




5

Switched-Mode Power Supply; Pro; 3-phase; Output voltage: 24 VDC; Output current: 40 A; TopBoost + PowerBoost; DC OK contact

	Item No.	Pack. Unit
	787-844	1
with lateral DIN-rail support	787-844/000-002	

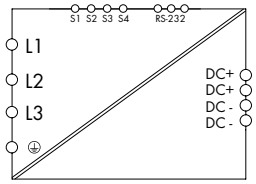


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 500 VAC
Input voltage range	(2 / 3) x 340 … 550 VAC; 480 … 780 VDC
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 3 x 2 A (340 VAC; 40 ADC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 15 ms (3 x 400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22.8 … 28.8 VDC (adjustable)
Nominal output current $I_{o\,nom}$	40 A (24 VDC)
Nominal output power	960 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 7 W (no load); ≤ 61.5 W (nominal load)
Efficiency	≥ 93.6 %
Fuse Protection	
Internal fuse	3 x T 3.2 A / 440 VAC
Recommended backup fusing	3 x Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C; Alternative: motor circuit breaker; Setpoint: 3.2 A; Setting range: 2.5 … 4 A
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +55 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–5 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	128 x 171 x 205; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	2500 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

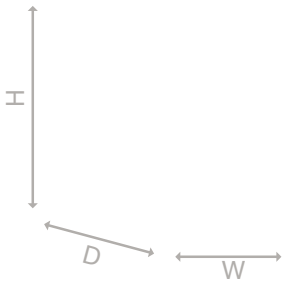
Switched-Mode Power Supply; Pro; 3-Phase; 24 VDC / 10 A
787 Series





Switched-Mode Power Supply; Pro; 3-phase; Output voltage: 24 VDC; Output current: 10 A; TopBoost + PowerBoost; LineMonitor; DC OK signal

Item No.	Pack. Unit
787-850	1

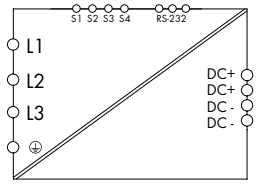


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- LineMonitor for parameter setting and monitoring
- RS-232 interface
- Four signal outputs

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 500 VAC
Input voltage range	(2 / 3) x 340 … 550 VAC; 480 … 780 VDC
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 3 x 0.6 A (340 VAC; 10 ADC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive (adjustable via software/display)
Mains failure hold-up time	≥ 22 ms (3 x 400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22.8 … 28.8 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (24 VDC)
Nominal output power	240 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	Adjustable (constant current/fuse mode)
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Warning LED (yellow); 1 x Error LED (red); LCD; 4 x Signal output (24 VDC; max. 25 mA); 1 x RS-232 interface
Communication	RS-232 interface
Efficiency/Power Losses	
Power loss P_l	≤ 7.8 W (no load); ≤ 19.9 W (nominal load)
Efficiency	≥ 91.7 %
Fuse Protection	
Internal fuse	3 x T 2.5 A / 440 VAC
Recommended backup fusing	3 x Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C; Alternative: motor circuit breaker; Setpoint: 1.6 A; Setting range: 1.6 … 2.5 A
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	57 x 163 x 179; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1000 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

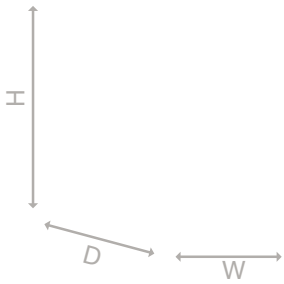
Switched-Mode Power Supply; Pro; 3-Phase; 24 VDC / 20 A
787 Series





Switched-Mode Power Supply; Pro; 3-phase; Output voltage: 24 VDC; Output current: 20 A; TopBoost + PowerBoost; LineMonitor; DC OK signal

	Item No.	Pack. Unit
	787-852	1



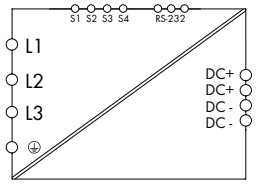
Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- LineMonitor for parameter setting and monitoring
- RS-232 interface
- Four signal outputs

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 500 VAC
Input voltage range	(2 / 3) x 340 … 550 VAC; 480 … 780 VDC
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 3 x 1.1 A (340 VAC; 20 ADC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive (adjustable via software/display)
Mains failure hold-up time	≥ 13 ms (3 x 400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22.8 … 28.8 VDC (adjustable)
Nominal output current $I_{o\,nom}$	20 A (24 VDC)
Nominal output power	480 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	Adjustable (constant current/fuse mode)
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Warning LED (yellow); 1 x Error LED (red); LCD; 4 x Signal output (24 VDC; max. 25 mA); 1 x RS-232 interface
Communication	RS-232 interface
Efficiency/Power Losses	
Power loss P_l	≤ 8.3 W (no load); ≤ 34.1 W (nominal load)
Efficiency	≥ 92.9 %
Fuse Protection	
Internal fuse	3 x T 2.5 A / 440 VAC
Recommended backup fusing	3 x Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C; Alternative: motor circuit breaker; Setpoint: 2.5 A; Setting range: 2.5 … 4 A
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	77 x 171 x 179; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1300 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

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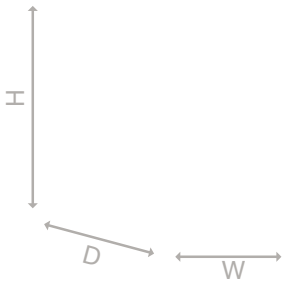
Switched-Mode Power Supply; Pro; 3-Phase; 24 VDC / 40 A
787 Series





Switched-Mode Power Supply; Pro; 3-phase; Output voltage: 24 VDC; Output current: 40 A; TopBoost + PowerBoost; LineMonitor; DC OK signal

Item No.	Pack. Unit
787-854	1

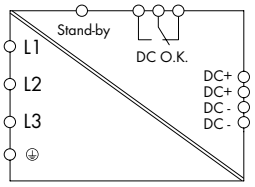


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- LineMonitor for parameter setting and monitoring
- RS-232 interface
- Four signal outputs

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 500 VAC
Input voltage range	(2 / 3) x 340 … 550 VAC; 480 … 780 VDC
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 3 x 2 A (340 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive (adjustable via software/display)
Mains failure hold-up time	≥ 15 ms (3 x 400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22.8 … 28.8 VDC (adjustable)
Nominal output current $I_{o\,nom}$	40 A (24 VDC)
Nominal output power	960 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	Adjustable (constant current/fuse mode)
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Warning LED (yellow); 1 x Error LED (red); LCD; 4 x Signal output (24 VDC; max. 25 mA); 1 x RS-232 interface
Communication	RS-232 interface
Efficiency/Power Losses	
Power loss P_l	≤ 7 W (no load); ≤ 61.5 W (nominal load)
Efficiency	≥ 93.6 %
Fuse Protection	
Internal fuse	3 x T 3.2 A / 440 VAC
Recommended backup fusing	3 x Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C; Alternative: motor circuit breaker; Setpoint: 3.2 A; Setting range: 2.5 … 4 A
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +55 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–5 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	128 x 171 x 205; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	2300 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

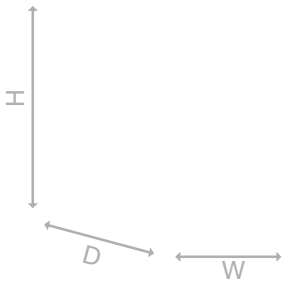
Switched-Mode Power Supply; Pro; 3-Phase; 48 VDC / 10 A
787 Series





Switched-Mode Power Supply; Pro; 3-phase; Output voltage: 48 VDC; Output current: 10 A; TopBoost + PowerBoost; DC OK contact

	Item No.	Pack. Unit
	787-845	1

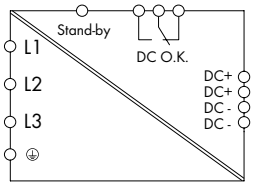


Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 500 VAC
Input voltage range	(2 / 3) x 340 … 550 VAC; 480 … 780 VDC
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 3 x 1.1 A (340 VAC; 10 ADC)
Inrush current	≤ 30 A (peak)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 12 ms (3 x 400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	48 VDC (SELV) / ≤ 1 %
Output voltage range	39 … 53 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (48 VDC)
Nominal output power	480 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 0.8 W (stand-by); ≤ 8.2 W (no load); ≤ 38 W (nominal load)
Efficiency	≥ 93 %
Fuse Protection	
Internal fuse	3 x T 2.5 A / 440 VAC
Recommended backup fusing	3 x Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C; Alternative: motor circuit breaker; Setpoint: 2.5 A; Setting range: 2.5 … 4 A
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	77 x 171 x 179; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1900 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

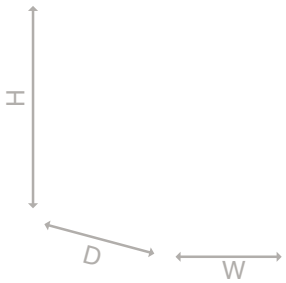
Switched-Mode Power Supply; Pro; 3-Phase; 48 VDC / 20 A
787 Series





Switched-Mode Power Supply; Pro; 3-phase; Output voltage: 48 VDC; Output current: 20 A; TopBoost + PowerBoost; DC OK contact

Item No.	Pack. Unit
787-847	1



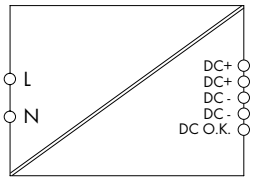
Features:
- Switched-mode power supply with PowerBoost and TopBoost
- Switch off the output and minimize power consumption via stand-by input
- Output monitoring via DC OK contact
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 500 VAC
Input voltage range	(2 / 3) x 340 … 550 VAC; 480 … 780 VDC
Nominal mains frequency range	50 … 60 Hz; 0 Hz
Input current I_i	≤ 3 x 2 A (340 VAC; 20 ADC)
Inrush current	≤ 30 A (peak)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 15 ms (3 x 400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	48 VDC (SELV) / ≤ 1 %
Output voltage range	39 … 53 VDC (adjustable)
Nominal output current $I_{o\,nom}$	20 A (48 VDC)
Nominal output power	960 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	TopBoost/PowerBoost/Constant current mode
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Error LED (red); 1 x Stand-by input; 1 x DC OK relay contact (changeover contact)
Efficiency/Power Losses	
Power loss P_l	≤ 0.8 W (stand-by); ≤ 5.2 W (no load); ≤ 59.2 W (nominal load)
Efficiency	≥ 94.4 %
Fuse Protection	
Internal fuse	3 x T 3.2 A / 440 VAC
Recommended backup fusing	3 x Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C; Alternative: motor circuit breaker; Setpoint: 3.2 A; Setting range: 2.5 … 4 A
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−5 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	128 x 171 x 205; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	3270 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508

Switched-Mode Power Supply; Classic; 1-Phase; 12 VDC / 2 A
787 Series



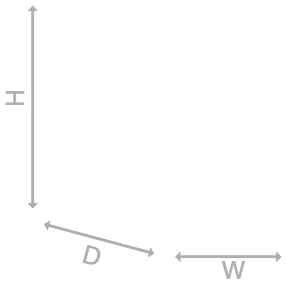
Similar to picture



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Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 12 VDC; Output current: 2 A; NEC Class 2; DC OK signal

	Item No.	Pack. Unit
	787-1601	1

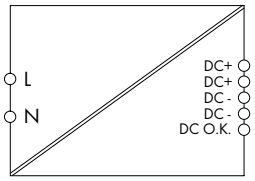


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval, also suitable for EMC 1 in conjunction with 787-980 Filter Module
- NEC Class 2 per UL 60950

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Input voltage derating	–2.5 %/V (< 95 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.29 A (240 VAC); ≤ 0.5 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 120 ms (230 VAC); > 15 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 1 %
Output voltage range	11.5 … 14.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	2 A (12 VDC); 2.1 A (< +40 °C)
Nominal output power	24 W
Residual ripple	≤ 20 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK active signal output (12 VDC; 40 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 0.7 W (230 VAC; no load); ≤ 5.3 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 5.7 W (100 VAC / 12 VDC; 2 A)
Efficiency	≥ 82 %
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	22.5 x 90 x 107.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	128 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; EN 60335-1; UL 60950-1; UL 508; GL

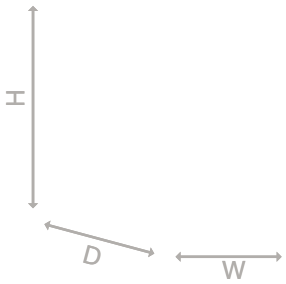
Switched-Mode Power Supply; Classic; 1-Phase; 12 VDC / 4 A
787 Series





Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 12 VDC; Output current: 4 A; NEC Class 2; DC OK signal

	Item No.	Pack. Unit
	787-1611	1



Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval, also suitable for EMC 1 in conjunction with 787-980 Filter Module
- NEC Class 2 per UL 60950

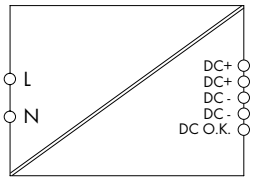
Input	
Nominal input voltage $U_{i\,nom}$	100 ... 240 VAC
Input voltage range	85 ... 264 VAC; 120 ... 372 VDC
Input voltage derating	–2.5 %/V (< 95 VAC)
Nominal mains frequency range	44 ... 66 Hz; 0 Hz
Input current I_i	≤ 0.46 A (240 VAC); ≤ 0.86 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 120 ms (230 VAC); > 15 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 1 %
Output voltage range	11.5 ... 14.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	4 A (12 VDC); 4.2 A (< +40 °C)
Nominal output power	48 W
Residual ripple	≤ 20 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK active signal output (12 VDC; 40 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 1 W (230 VAC; no load); ≤ 8 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 9.1 W (100 VAC / 12 VDC; 4 A)
Efficiency	≥ 86 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 ... +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 ... 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 ... 2.5 mm² / 0.08 ... 2.5 mm² / 28 ... 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 107.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	210 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; EN 60335-1; UL 60950-1; UL 508; GL

5

Switched-Mode Power Supply; Classic; 1-Phase; 12 VDC / 7 A
787 Series



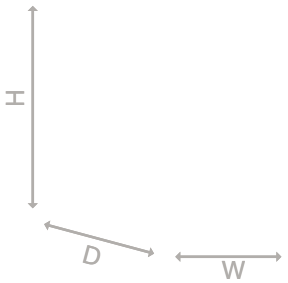
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Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 12 VDC; Output current: 7 A; DC OK signal

Item No.	Pack. Unit
787-1621	1



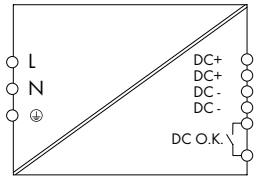
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval, also suitable for EMC 1 in conjunction with 787-980 Filter Module

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Input voltage derating	–2.5 %/V (< 95 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.9 A (240 VAC); ≤ 1.66 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 80 ms (230 VAC); > 15 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 1 %
Output voltage range	11.5 … 14.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	7 A (12 VDC); 7.5 A (< +40 °C)
Nominal output power	84 W
Residual ripple	≤ 20 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK active signal output (12 VDC; 40 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 1 W (230 VAC; no load); ≤ 16.2 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 19.8 W (100 VAC / 12 VDC; 7 A)
Efficiency	≥ 86 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	52 x 90 x 119; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	384 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; EN 60335-1; UL 60950-1; UL 508; GL

Switched-Mode Power Supply; Classic; 1-Phase; 12 VDC / 15 A
787 Series

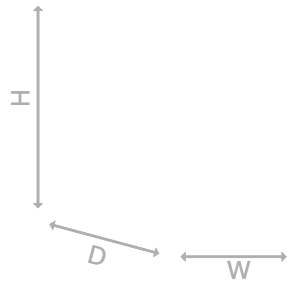


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Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 12 VDC; Output current: 15 A; TopBoost; DC OK signal

	Item No.	Pack. Unit
	787-1631	1



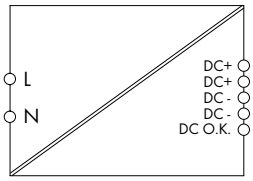
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval
- Integrated TopBoost enables secondary-side protection via miniature circuit breakers.

Input	
Nominal input voltage $U_{i\,nom}$	100 ... 240 VAC
Input voltage range	85 ... 264 VAC; 120 ... 372 VDC
Input voltage derating	−2.5 %/V (< 100 VAC)
Nominal mains frequency range	44 ... 66 Hz; 0 Hz
Input current I_i	≤ 0.93 A (240 VAC); ≤ 2.05 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 28 ms (230 VAC); > 28 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 1 %
Output voltage range	11.5 ... 15 VDC (adjustable)
Nominal output current $I_{o\,nom}$	15 A (12 VDC)
Nominal output power	180 W
Residual ripple	≤ 35 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK contact (make contact; max. 30 VAC/DC; 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 4.4 W (230 VAC; no load); ≤ 21.8 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 24.7 W (100 VAC / 12 VDC; 15 A)
Efficiency	≥ 90 %
Fuse Protection	
Internal fuse	T 6.3 A / 250 VAC
Recommended backup fusing	Circuit breaker: 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 ... +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 ... 96 % (no condensation permissible)
Derating	−5 %/K (> +60 °C; 196... 264 VAC); −2.5 %/K (> +50 °C; 85 ... 195 VAC)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 ... 2.5 mm² / 0.08 ... 2.5 mm² / 28 ... 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	55 x 127 x 172 ; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	930 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; GL

Switched-Mode Power Supply; Classic; 1-Phase; 24 VDC / 1 A
787 Series



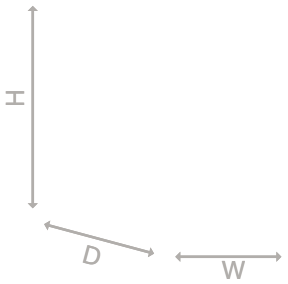
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Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 24 VDC; Output current: 1 A; NEC Class 2; DC OK signal

	Item No.	Pack. Unit
	787-1602	1



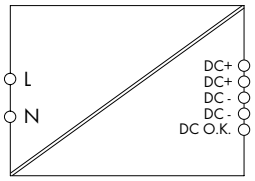
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval, also suitable for EMC 1 in conjunction with 787-980 Filter Module
- NEC Class 2 per UL 60950

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Input voltage derating	–2.5 %/V (< 95 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.28 A (240 VAC); ≤ 0.49 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 120 ms (230 VAC); > 20 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	1 A (24 VDC); 1.2 A (< 40 °C)
Nominal output power	24 W
Residual ripple	≤ 20 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK active signal output (24 VDC; 20 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 1 W (230 VAC; no load); ≤ 4 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 5 W (100 VAC / 24 VDC; 1 A)
Efficiency	≥ 86 %
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	22.5 x 90 x 107.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	128 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; EN 60335-1; UL 60950-1; UL 508; GL

Switched-Mode Power Supply; Classic; 1-Phase; 24 VDC / 2 A
787 Series

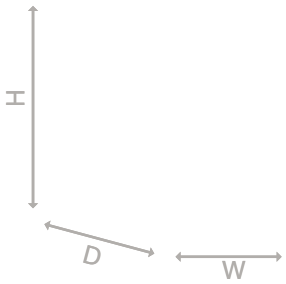


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Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 24 VDC; Output current: 2 A; NEC Class 2; DC OK signal

	Item No.	Pack. Unit
	787-1606	1



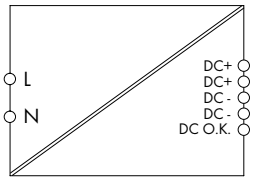
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval, also suitable for EMC 1 in conjunction with 787-980 Filter Module
- NEC Class 2 per UL 60950

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Input voltage derating	–2.5 %/V (< 95 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.48 A (240 VAC); ≤ 0.82 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 120 ms (230 VAC); > 20 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	2 A (24 VDC); 2.2 A (< +40 °C)
Nominal output power	48 W
Residual ripple	≤ 20 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK active signal output (24 VDC; 20 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 1 W (230 VAC; no load); ≤ 6 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 7 W (100 VAC / 24 VDC; 2 A)
Efficiency	≥ 89 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 107.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	210 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; EN 60335-1; UL 60950-1; UL 508; GL

Switched-Mode Power Supply; Classic; 1-Phase; 24 VDC / 4 A
787 Series



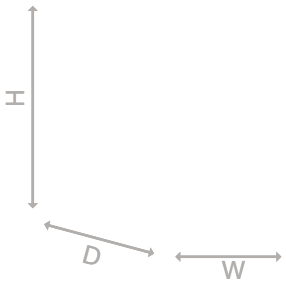
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Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 24 VDC; Output current: 4 A; DC OK signal

Item No.	Pack. Unit
787-1616	1



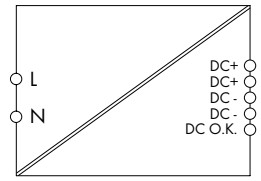
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Input voltage derating	–2.5 %/V (< 95 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.98 A (240 VAC); ≤ 1.82 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 80 ms (230 VAC); > 15 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	4 A (24 VDC); 4.2 A (< +40 °C)
Nominal output power	96 W
Residual ripple	≤ 20 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK active signal output (24 VDC; 20 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 1 W (230 VAC; no load); ≤ 12.4 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 15 W (100 VAC / 24 VDC; 4 A)
Efficiency	≥ 89 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	52 x 90 x 119.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	384 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; EN 60335-1; UL 60950-1; UL 508; GL

Switched-Mode Power Supply; Classic; 1-Phase; 24 VDC / 3.8 A
787 Series

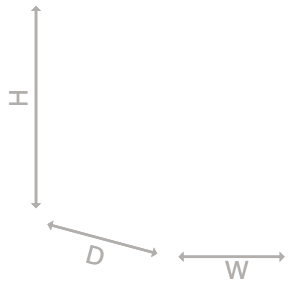


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Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 24 VDC; Output current: 3.8 A; NEC Class 2; DC OK signal

	Item No.	Pack. Unit
	787-1616/000-1000	1



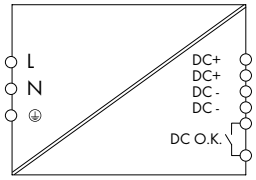
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval, also suitable for EMC 1 in conjunction with 787-980 Filter Module
- Limited Power Source (LPS) per NEC Class 2 (UL 1310 and UL 60950)

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Input voltage derating	–2.5 %/V (< 95 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.95 A (240 VAC); ≤ 1.73 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 80 ms (230 VAC); > 15 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	3.8 A (24 VDC)
Nominal output power	91.2 W
Residual ripple	≤ 20 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK active signal output (24 VDC; 20 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 2.8 W (230 VAC; no load); ≤ 14 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 20 W (100 VAC / 91 W)
Efficiency	≥ 87 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC
Recommended backup fusing	Circuit breaker: 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	52 x 90 x 119; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	384 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; EN 60335-1; UL 60950-1; UL 508; UL 1310; GL

Switched-Mode Power Supply; Classic; 1-Phase; 24 VDC / 5 A
787 Series



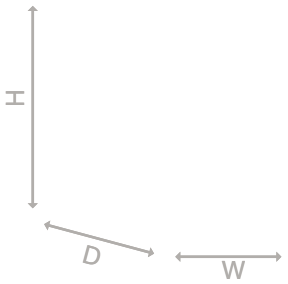
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5

Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 24 VDC; Output current: 5 A; TopBoost; DC OK signal

	Item No.	Pack. Unit
	787-1622	1



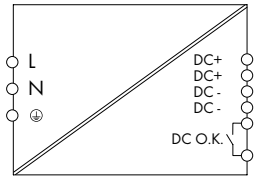
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval, also suitable for EMC 1 in conjunction with 787-980 Filter Module
- Integrated TopBoost enables secondary-side protection via miniature circuit breakers.

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Input voltage derating	–2.5 %/V (< 97 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 1.24 A (230 VAC); ≤ 2.3 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 80 ms (230 VAC); > 10 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	5 A (24 VDC)
Nominal output power	210 W
Residual ripple	≤ 30 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK contact (make contact; max. 30 VAC/DC; 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 1.2 W (230 VAC; no load); ≤ 14.6 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 19.4 W (100 VAC / 24 VDC; 5 A)
Efficiency	≥ 89 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–5 %/K (> +60 °C; 196… 264 VAC); –2.5 %/K (> +50 °C; 85 … 195 VAC)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 137.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	385 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; EN 60335-1; UL 60950-1; UL 508; GL

Switched-Mode Power Supply; Classic; 1-Phase; 24 VDC / 10 A
787 Series

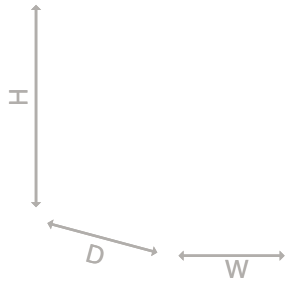


Similar to picture



Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 24 VDC; Output current: 10 A; TopBoost; DC OK signal

	Item No.	Pack. Unit
	787-1632	1
with coated PCBs	787-1632/000-070	1



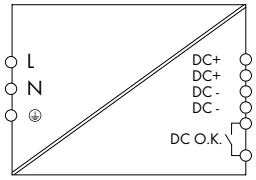
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval
- Integrated TopBoost enables secondary-side protection via miniature circuit breakers
  Input voltage 90 … 372 VDC possible at operating temperatures of 0 … +70 °C

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Input voltage derating	−2.5 %/V (< 100 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 1.25 A (230 VAC); ≤ 2.74 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 17 ms (230 VAC); > 15 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (24 VDC)
Nominal output power	240 W
Residual ripple	≤ 50 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK contact (make contact; max. 30 VAC/DC; 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 6.6 W (230 VAC; no load); ≤ 24.4 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 31.3 W (100 VAC / 24 VDC; 10 A)
Efficiency	≥ 91 %
Fuse Protection	
Internal fuse	T 6.3 A / 250 VAC
Recommended backup fusing	Circuit breaker: 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−5 %/K (> +60 °C; 196… 264 VAC); −2.5 %/K (> +50 °C; 85 … 195 VAC)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	55 x 127 x 172; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1140 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; GL

Switched-Mode Power Supply; Classic; 1-Phase; 24 VDC / 20 A
787 Series



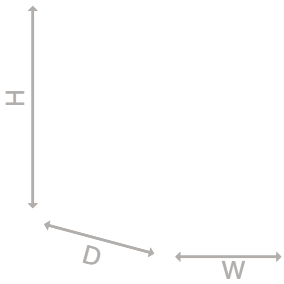
Similar to picture



5

Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 24 VDC; Output current: 20 A; TopBoost; DC OK signal

	Item No.	Pack. Unit
	787-1634	1



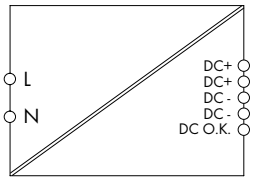
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval
- Integrated TopBoost enables secondary-side protection via miniature circuit breakers.

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Input voltage derating	–1.8 %/V (< 105 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 2.23 A (230 VAC); ≤ 5.56 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 20 ms (230 VAC); > 8 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	20 A (24 VDC)
Nominal output power	480 W
Residual ripple	≤ 70 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK contact (make contact; max. 30 VAC/DC; 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 7.2 W (230 VAC; no load); ≤ 42.4 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 68.3 W (100 VAC / 24 VDC; 20 A)
Efficiency	≥ 92 %
Fuse Protection	
Internal fuse	T 10 A / 250 VAC
Recommended backup fusing	Circuit breaker: 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–5 %/K (> +60 °C; 196… 264 VAC); –2.5 %/K (> +50 °C; 85 … 195 VAC)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	95 x 127 x 170; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1600 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; GL

Switched-Mode Power Supply; Classic; 1-Phase; 48 VDC / 2 A
787 Series



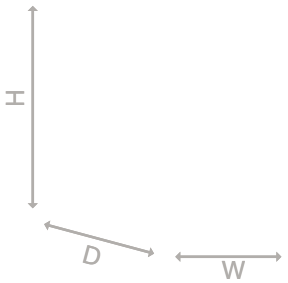
Similar to pictured device



5

Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 48 VDC; Output current: 2 A; DC OK signal

Item No.	Pack. Unit
787-1623	1



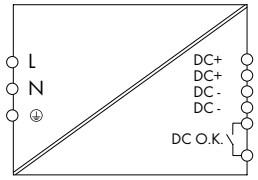
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Input voltage derating	–2.5 %/V (< 95 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.97 A (240 VAC); ≤ 1.84 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 80 ms (230 VAC); > 15 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	48 VDC (SELV) / ≤ 1 %
Output voltage range	40 … 53 VDC (adjustable)
Nominal output current $I_{o\,nom}$	2 A (48 VDC); 2.1 A (< +40 °C)
Nominal output power	96 W
Residual ripple	≤ 20 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK active signal output (48 VDC; 10 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 1 W (230 VAC; no load); ≤ 16.2 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 19.8 W (100 VAC / 48 VDC; 2 A)
Efficiency	≥ 86 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	52 x 90 x 119; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	590 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; EN 60335-1; UL 60950-1; UL 508; GL

Switched-Mode Power Supply; Classic; 1-Phase; 48 VDC / 5 A
787 Series

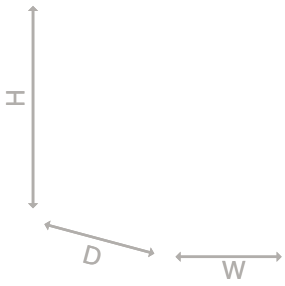


Similar to pictured device



Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 48 VDC; Output current: 5 A; TopBoost; DC OK signal

	Item No.	Pack. Unit
	787-1633	1



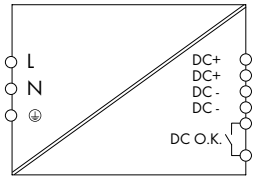
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval, also suitable for EMC 1 in conjunction with 787-980 Filter Module
- Integrated TopBoost enables secondary-side protection via miniature circuit breakers. Input voltage 100 ... 372 VDC is possible.

Input	
Nominal input voltage $U_{i\,nom}$	100 ... 240 VAC
Input voltage range	85 ... 264 VAC; 120 ... 372 VDC
Input voltage derating	–2.5 %/V (< 100 VAC)
Nominal mains frequency range	44 ... 66 Hz; 0 Hz
Input current I_i	≤ 1.25 A (230 VAC); ≤ 2.74 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 21 ms (230 VAC); > 21 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	48 VDC (SELV) / ≤ 1 %
Output voltage range	40 ... 56 VDC (adjustable)
Nominal output current $I_{o\,nom}$	5 A (48 VDC)
Nominal output power	240 W
Residual ripple	≤ 30 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK contact (make contact; max. 30 VAC/DC; 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 7 W (230 VAC; no load); ≤ 40.8 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 26.5 W (100 VAC / 48 VDC; 5 A)
Efficiency	≥ 92 %
Fuse Protection	
Internal fuse	T 6.3 A / 250 VAC
Recommended backup fusing	Circuit breaker: 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 ... +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 ... 96 % (no condensation permissible)
Derating	–5 %/K (> +60 °C; 196... 264 VAC); –2.5 %/K (> +50 °C; 85 ... 195 VAC)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 ... 2.5 mm² / 0.08 ... 2.5 mm² / 28 ... 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	55 x 127 x 172; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	930 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; GL

Switched-Mode Power Supply; Classic; 1-Phase; 48 VDC / 10 A
787 Series



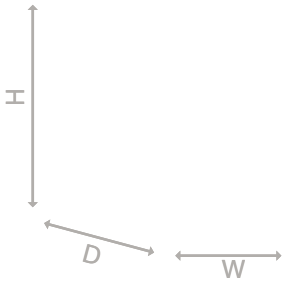
Similar to pictured device



5

Switched-Mode Power Supply; Classic; 1-phase; Output voltage: 48 VDC; Output current: 10 A; TopBoost; DC OK signal

	Item No.	Pack. Unit
	787-1635	1
with coated PCBs	**787-1635/000-070**	1

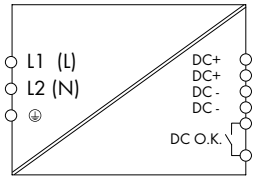


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Bounce-free switching signal (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- GL approval
- Integrated TopBoost enables secondary-side protection via miniature circuit breakers.

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Input voltage derating	–2.5 %/V (< 100 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 2.23 A (230 VAC); ≤ 5.56 A (100 VAC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 20 ms (230 VAC); > 20 ms (100 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	48 VDC (SELV) / ≤ 1 %
Output voltage range	40 … 56 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (48 VDC)
Nominal output power	480 W
Residual ripple	≤ 80 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK contact (make contact; max. 30 VAC/DC; 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 11.7 W (230 VAC; no load); ≤ 36.3 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 64.9 W (100 VAC / 48 VDC; 10 A)
Efficiency	≥ 93 %
Fuse Protection	
Internal fuse	T 10 A / 250 VAC
Recommended backup fusing	Circuit breaker: 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–5 %/K (> +60 °C; 196… 264 VAC); –2.5 %/K (> +50 °C; 85 … 195 VAC)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	95 x 127 x 170; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1600 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; GL

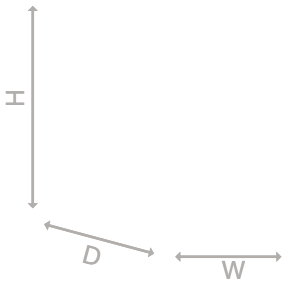
Switched-Mode Power Supply; Classic; 1-/2-Phase; 24 VDC / 5 A
787 Series





Switched-Mode Power Supply; Classic; 2-phase; Output voltage: 24 VDC; Output current: 5 A; TopBoost; DC OK signal

	Item No.	Pack. Unit
	787-1628	1

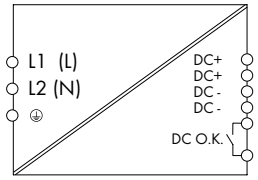


Features:
- Switched-mode power supply with TopBoost, enabling secondary-side protection via circuit breakers
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Contact (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(1 / 2) x 200 … 500 VAC
Input voltage range	(1 / 2) x 180 … 550 VAC; 254 … 780 VDC
Input voltage derating	–0.5 %/V (< 200 VAC); –0.4 %/V (< 280 VDC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 1.25 A (200 VAC); ≤ 0.67 A (500 VAC)
Inrush current	≤ 30 A (NTC)
Power factor	≥ 0.52
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 126 ms (500 VAC); > 15 ms (200 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	5 A (24 VDC)
Nominal output power	120 W
Residual ripple	≤ 30 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK contact (make contact; max. 30 VAC/DC; 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 0.94 W (no load); ≤ 16.36 W (230 VAC; nominal load); ≤ 14.55 W (400 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 18.2 W (200 VAC / 24 VDC; 5 A)
Efficiency	≥ 89 %
Fuse Protection	
Internal fuse	T 3.15 A / 500 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–2.5 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 143.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	600 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

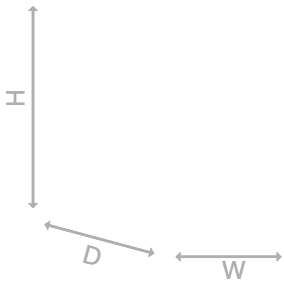
Switched-Mode Power Supply; Classic; 1-/2-Phase; 24 VDC / 10 A
787 Series





Switched-Mode Power Supply; Classic; 2-phase; Output voltage: 24 VDC; Output current: 10 A; TopBoost; DC OK signal

Item No.	Pack. Unit
787-1638	1

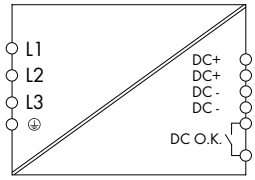


Features:
- Switched-mode power supply with TopBoost, enabling secondary-side protection via circuit breakers
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Contact (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(1 / 2) x 200 … 500 VAC
Input voltage range	(1 / 2) x 180 … 550 VAC; 254 … 780 VDC
Input voltage derating	−0.5 %/V (< 200 VAC); −0.4 %/V (< 280 VDC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 1.98 A (230 VAC); ≤ 1.36 A (230 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 78 ms (400 VAC); > 20 ms (200 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (24 VDC)
Nominal output power	240 W
Residual ripple	≤ 30 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK contact (make contact; max. 30 VAC/DC; 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 1.3 W (no load); ≤ 27.8 W (230 VAC; nominal load); ≤ 20.3 W (400 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 27.8 W (230 VAC / 24 VDC; 10 A)
Efficiency	≥ 89 % (230 VAC); ≥ 92.5 % (400 VAC)
Fuse Protection	
Internal fuse	T 6.3 A / 500 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−2.5 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	55 x 127 x 146.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	830 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

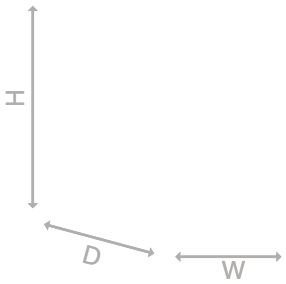
Switched-Mode Power Supply; Classic; 3-Phase; 24 VDC / 10 A
787 Series





Switched-Mode Power Supply; Classic; 3-phase; Output voltage: 24 VDC; Output current: 10 A; TopBoost; DC OK signal

	Item No.	Pack. Unit
	787-1640	1

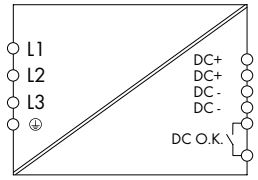


Features:
- Switched-mode power supply with TopBoost, enabling secondary-side protection via circuit breakers
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Contact (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2/3) x 400 … 500 VAC
Input voltage range	(2/3) x 320 … 575 VAC; 450 … 800 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 3 x 0.73 A (400 VAC); ≤ 3 x 0.66 A (500 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 50 ms (500 VAC); > 21 ms (400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (24 VDC)
Nominal output power	240 W
Residual ripple	≤ 50 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK contact (make contact; max. 30 VAC/DC; 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 2.1 W (no load); ≤ 27.9 W (400 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 28.3 W (500 VAC / 24 VDC; 10 A)
Efficiency	≥ 90 %
Fuse Protection	
Internal fuse	No
Required backup fusing	3 x Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B, C, max. 20 A; Alternative: motor circuit breaker; External DC fuse required for DC input voltage
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–2.5 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	55 x 127 x 171; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1000 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

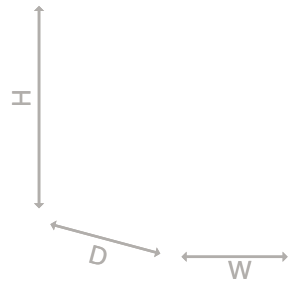
Switched-Mode Power Supply; Classic; 3-Phase; 24 VDC / 20 A
787 Series





Switched-Mode Power Supply; Classic; 3-phase; Output voltage: 24 VDC; Output current: 20 A; TopBoost; DC OK signal

	Item No.	Pack. Unit
	787-1642	1

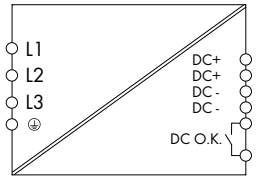


Features:
- Switched-mode power supply with TopBoost, enabling secondary-side protection via circuit breakers
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Contact (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2/3) x 400 … 500 VAC
Input voltage range	(2/3) x 320 … 575 VAC; 450 … 800 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 3 x 1.21 A (400 VAC); ≤ 3 x 1.03 A (500 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 25 ms (500 VAC); > 15 ms (400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	20 A (24 VDC)
Nominal output power	480 W
Residual ripple	≤ 15 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK contact (make contact; max. 30 VAC/DC; 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 5.8 W (no load); ≤ 42.8 W (400 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 47.6 W (500 VAC / 24 VDC; 20 A)
Efficiency	≥ 92 %
Fuse Protection	
Internal fuse	No
Required backup fusing	3 x Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B, C, max. 20 A; Alternative: motor circuit breaker; External DC fuse required for DC input voltage
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−2.5 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	80 x 127 x 180; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1623 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

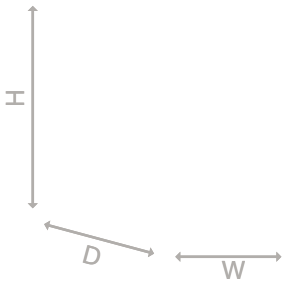
Switched-Mode Power Supply; Classic; 3-Phase; 24 VDC / 40 A
787 Series





Switched-Mode Power Supply; Classic; 3-phase; Output voltage: 24 VDC; Output current: 40 A; TopBoost; DC OK signal

Item No.	Pack. Unit
787-1644	1

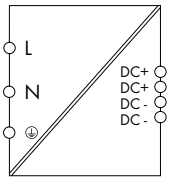


Features:
- Switched-mode power supply with TopBoost, enabling secondary-side protection via circuit breakers
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Contact (DC O K)
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2/3) x 400 … 500 VAC
Input voltage range	(2/3) x 320 … 575 VAC; 450 … 800 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 3 x 2.15 A (400 VAC); ≤ 3 x 1.82 A (500 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 25 ms (500 VAC); > 15 ms (400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	40 A (24 VDC)
Nominal output power	960 W
Residual ripple	≤ 30 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x DC OK contact (make contact; max. 30 VAC/DC; 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 4.2 W (no load); ≤ 83.9 W (400 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 83.9 W (500 VAC / 24 VDC; 40 A)
Efficiency	≥ 92 %
Fuse Protection	
Internal fuse	No
Required backup fusing	3 x Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B, C, max. 20 A; Alternative: motor circuit breaker; External DC fuse required for DC input voltage
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−2.5 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	126 x 127 x 198; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	2800 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

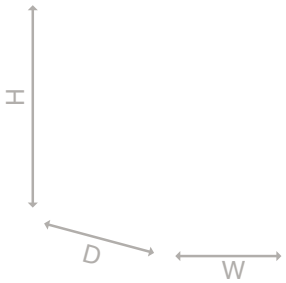
Switched-Mode Power Supply; Eco; 1-Phase; 24 VDC / 2.5 A
787 Series





Switched-Mode Power Supply; Eco; 1-phase; Output voltage: 24 VDC; Output current: 2.5 A

Item No.	Pack. Unit
787-712	1

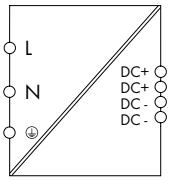


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	110 … 240 VAC
Input voltage range	85 … 264 VAC; 90 … 373 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 0.7 A (230 VAC); ≤ 1.2 A (115 VAC)
Inrush current	≤ 30 A
Power factor	≥ 0.5 (230 VAC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 20 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 28 VDC (adjustable)
Nominal output current $I_{o\,nom}$	2.5 A (24 VDC)
Nominal output power	60 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.15 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Overload LED (red)
Efficiency/Power Losses	
Power loss P_l	≤ 8.3 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 11.5 W (110 VAC / 24 VDC; 2.75 A)
Efficiency	≥ 86 % (230 VAC)
Fuse Protection	
Internal fuse	F 2.5 A / 250 VAC
Recommended backup fusing	Circuit breaker: 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	480,000 h (per IEC 61709)
Surrounding air temperature (operation)	−10 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	−3.3 %/K (> +50 °C; 230 VAC)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 4 mm² / 0.08 … 4 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	50 x 92 x 136; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	470 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; cURus 60950; cULus 508; ANSI/ISA 12.12.01 (Class I Div. 2); ATEX; IEC Ex

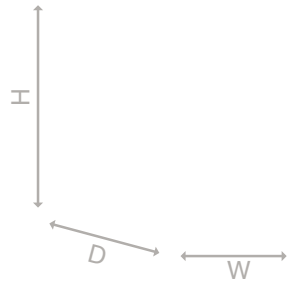
Switched-Mode Power Supply; Eco; 1-Phase; 24 VDC / 5 A
787 Series





Switched-Mode Power Supply; Eco; 1-phase; Output voltage: 24 VDC; Output current: 5 A

Item No.	Pack. Unit
787-722	1

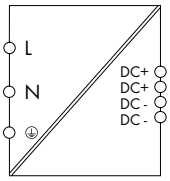


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	110 … 240 VAC
Input voltage range	85 … 264 VAC; 90 … 373 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 1 A (230 VAC); ≤ 2 A (115 VAC)
Inrush current	≤ 30 A
Power factor	≥ 0.94 (230 VAC); ≥ 0.98 (115 VAC)
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 20 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 28 VDC (adjustable)
Nominal output current $I_{o\,nom}$	5 A (24 VDC)
Nominal output power	120 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.15 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Overload LED (red)
Efficiency/Power Losses	
Power loss P_l	≤ 19.5 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 23.5 W (110 VAC / 24 VDC; 5.5 A)
Efficiency	≥ 86 % (230 VAC)
Fuse Protection	
Internal fuse	F 3.15 A / 250 VAC
Recommended backup fusing	Circuit breaker: 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	480,000 h (per IEC 61709)
Surrounding air temperature (operation)	−10 … +60 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	−5.33 %/K (> +45 °C; 230 VAC)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 4 mm² / 0.08 … 4 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	75 x 92 x 136; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	850 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; cURus 60950; cULus 508; ANSI/ISA 12.12.01 (Class I Div. 2); ATEX; IEC Ex

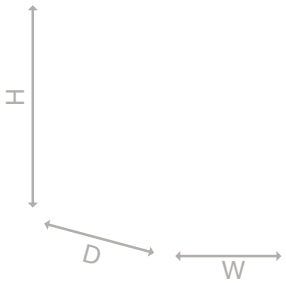
Switched-Mode Power Supply; Eco; 1-Phase; 24 VDC / 10 A
787 Series





Switched-Mode Power Supply; Eco; 1-phase; Output voltage: 24 VDC; Output current: 10 A

Item No.	Pack. Unit
787-732	1

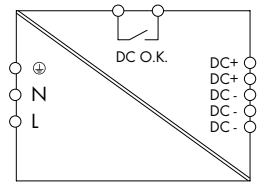


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	110 … 240 VAC
Input voltage range	85 … 264 VAC; 90 … 373 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 1.5 A (230 VAC); ≤ 3 A (115 VAC)
Inrush current	≤ 30 A
Power factor	≥ 0.94 (230 VAC); ≥ 0.98 (115 VAC)
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 20 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 28 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (24 VDC)
Nominal output power	240 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.15 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Overload LED (red)
Efficiency/Power Losses	
Power loss P_l	≤ 37.5 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 53 W (110 VAC / 24 VDC; 11 A)
Efficiency	≥ 86 % (230 VAC)
Fuse Protection	
Internal fuse	F 5 A / 250 VAC
Recommended backup fusing	Circuit breaker: 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	480,000 h (per IEC 61709)
Surrounding air temperature (operation)	−10 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	−2.33 %/K (> +40 °C; 230 VAC)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 4 mm² / 0.08 … 4 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	110 x 92 x 136; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1200 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; cURus 60950; cULus 508; ANSI/ISA 12.12.01 (Class I Div. 2); ATEX; IEC Ex

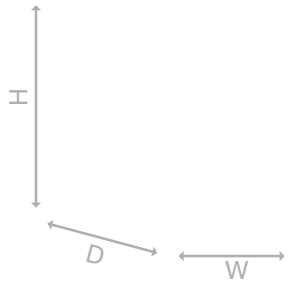
Switched-Mode Power Supply; Eco; 1-Phase; 24 VDC / 20 A
787 Series





Switched-Mode Power Supply; Eco; 1-phase; Output voltage: 24 VDC; Output current: 20 A

Item No.	Pack. Unit
787-734	1

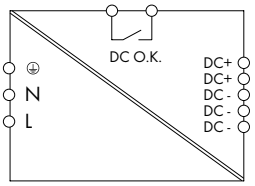


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	110 … 240 VAC
Input voltage range	85 … 264 VAC; 130 … 373 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 3 A (230 VAC); ≤ 6.3 A (115 VAC)
Inrush current	≤ 30 A
Power factor	≥ 0.94 (230 VAC); ≥ 0.98 (115 VAC)
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 20 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 28 VDC (adjustable)
Nominal output current $I_{o\,nom}$	20 A (24 VDC)
Nominal output power	480 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.15 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Overload LED (red); 1 x DC OK signal output (optocoupler as make contact; max. 31.2 V; 20 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 65 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 107 W (110 VAC / 24 VDC; 23 A)
Efficiency	≥ 90 %
Fuse Protection	
Internal fuse	T 10 A / 250 VAC
Recommended backup fusing	Circuit breaker: 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/sec.-signal/ pri.-sec.)	2.2 kVDC / 0.7 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 250,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	See instruction manual
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/signaling (solid/fine-stranded/AWG)	0.5 … 6 mm² / 0.5 … 6 mm² / 20 … 10 AWG
Output (solid/fine-stranded/AWG)	1.5 … 16 mm² / 1.5 … 16 mm² / 16 … 6 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	115 x 136 x 144; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	2120 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61000-6-2; EN 61000-6-3; UL 60950; UL 508

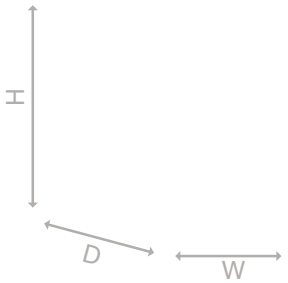
Switched-Mode Power Supply; Eco; 1-Phase; 24 VDC / 40 A
787 Series





Switched-Mode Power Supply; Eco; 1-phase; Output voltage: 24 VDC; Output current: 40 A

Item No.	Pack. Unit
787-736	1



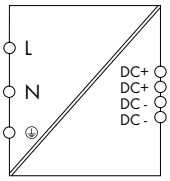
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	110 … 240 VAC
Input voltage range	90 … 264 VAC; 130 … 373 VDC
Input voltage derating	–2 %/V (< 100 VAC)
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 6 A (230 VAC); ≤ 12 A (115 VAC)
Inrush current	≤ 30 A
Power factor	≥ 0.94 (230 VAC); ≥ 0.98 (115 VAC)
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 17 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 28 VDC (adjustable)
Nominal output current $I_{o\,nom}$	40 A (24 VDC)
Nominal output power	960 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.15 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Overload LED (red); 1 x DC OK signal output (optocoupler as make contact; max. 31.2 V; 20 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 107 W (230 VAC; nominal load)
Efficiency	≥ 90 %
Fuse Protection	
Internal fuse	T 20 A / 250 VAC
Recommended backup fusing	Circuit breaker: 13 A, 16 A, 20 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/sec.-signal/ pri.-sec.)	2.2 kVDC / 0.7 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 250,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	–2.66 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/signaling (solid/fine-stranded/AWG)	0.5 … 6 mm² / 0.5 … 6 mm² / 20 … 10 AWG
Output (solid/fine-stranded/AWG)	1.5 … 16 mm² / 1.5 … 16 mm² / 16 … 6 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	170 x 136 x 150; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	3500 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61000-6-2; EN 61000-6-3; UL 60950; UL 508

Switched-Mode Power Supply; Eco; 1-Phase; 12 VDC / 2 A
787 Series

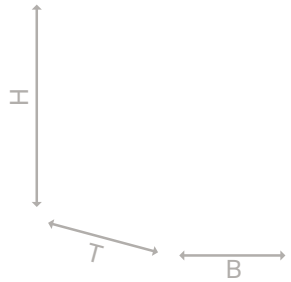


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Switched-Mode Power Supply; Eco; 1-phase; Output voltage: 12 VDC; Output current: 2 A; DC OK signal

Item No.	Pack. Unit
787-1701	1

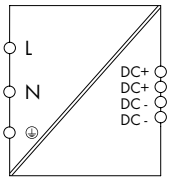


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1 and EN 60335-1; PELV per EN 60204
- DIN-35 rail mountable in different positions
- Direct installation on mounting plate via cable grip

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	90 … 264 VAC; 125 … 375 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 0.7 A (100 VAC)
Inrush current	≤ 18 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 10 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 1 %
Output voltage range	10 … 14 VDC (adjustable)
Nominal output current $I_{o\,nom}$	2 A (12 VDC; 110 … 240 VAC); 1.6 A (12 VDC; 100 … 240 VAC)
Nominal output power	24 W
Residual ripple	≤ 150 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green)
Efficiency/Power Losses	
Efficiency	≥ 80 % (230 VAC; 2 ADC)
Fuse Protection	
Internal fuse	F 1 A / 250 VAC
Recommended backup fusing	Circuit breaker: B6, B10
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes, for two devices of the same type
MTBF	> 300,000 h (per IEC 61709)
Surrounding air temperature (operation)	–20 … +60 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	–4 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	30 x 90 x 99; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mounting
Weight	250 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 60335; EN 61558-2-6; UL 508* (*pending)

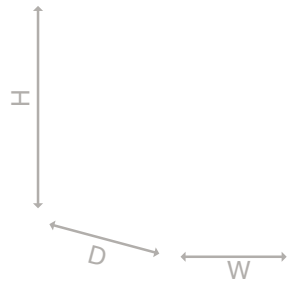
Switched-Mode Power Supply; Eco; 1-Phase; 24 VDC / 1.25 A
787 Series





Switched-Mode Power Supply; Eco; 1-phase; Output voltage: 24 VDC; Output current: 1.25 A

Item No.	Pack. Unit
787-1702	1



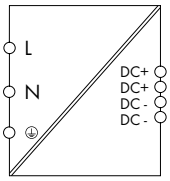
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1 and EN 60335-1; PELV per EN 60204
- DIN-35 rail mountable in different positions
- Direct installation on mounting plate via cable grip

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	90 … 264 VAC; 125 … 375 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 0.3 A (230 VAC); ≤ 0.6 A (115 VAC)
Inrush current	≤ 18 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 10 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 26 VDC (adjustable)
Nominal output current $I_{o\,nom}$	1.25 A (24 VDC; 110 … 240 VAC); 1 A (24 VDC; 100 … 240 VAC)
Nominal output power	30 W
Residual ripple	≤ 200 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green)
Efficiency/Power Losses	
Efficiency	≥ 87 % (230 VAC; 1.25 ADC)
Fuse Protection	
Internal fuse	F 1 A / 250 VAC
Recommended backup fusing	Circuit breaker: B6, B10
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes, for two devices of the same type
MTBF	> 300,000 h (per IEC 61709)
Surrounding air temperature (operation)	–20 … +60 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	–4 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	30 x 90 x 99; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mounting
Weight	300 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 60335; UL 60950; UL 508

Switched-Mode Power Supply; Eco; 1-Phase; 12 VDC / 4 A
787 Series



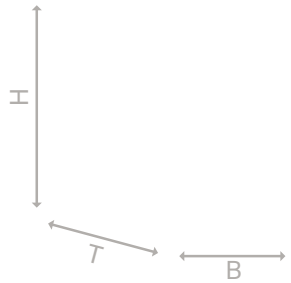
Similar to picture



5

Switched-Mode Power Supply; Eco; 1-phase; Output voltage: 12 VDC; Output current: 4 A; DC OK signal

Item No.	Pack. Unit
787-1711	1

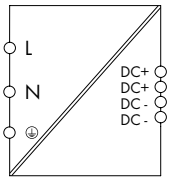


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1 and EN 60335-1; PELV per EN 60204
- DIN-35 rail mountable in different positions
- Direct installation on mounting plate via cable grip

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	90 … 264 VAC; 125 … 375 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 1.8 A (100 VAC)
Inrush current	≤ 18 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 10 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 1 %
Output voltage range	10 … 14 VDC (adjustable)
Nominal output current $I_{o\,nom}$	4 A (12 VDC; 110 … 240 VAC); 3.2 A (12 VDC; 100 … 240 VAC)
Nominal output power	48 W
Residual ripple	≤ 150 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green)
Efficiency/Power Losses	
Efficiency	≥ 80 % (230 VAC; 4 ADC)
Fuse Protection	
Internal fuse	F 2 A / 250 VAC
Recommended backup fusing	Circuit breaker: B6, B10
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes, for two devices of the same type
MTBF	> 300,000 h (per IEC 61709)
Surrounding air temperature (operation)	–20 … +60 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	–4 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	40 x 90 x 99; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mounting
Weight	250 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 60335; EN 61558-2-6; UL 508* (*pending)

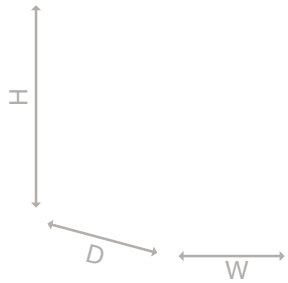
Switched-Mode Power Supply; Eco; 1-Phase; 24 VDC / 2.5 A
787 Series





Switched-Mode Power Supply; Eco; 1-phase; Output voltage: 24 VDC; Output current: 2.5 A

Item No.	Pack. Unit
787-1712	1



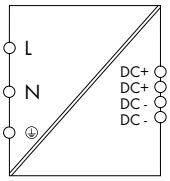
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1 and EN 60335-1; PELV per EN 60204
- DIN-35 rail mountable in different positions
- Direct installation on mounting plate via cable grip

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	90 … 264 VAC; 125 … 375 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 0.6 A (230 VAC); ≤ 1.2 A (115 VAC)
Inrush current	≤ 18 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 10 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 26 VDC (adjustable)
Nominal output current $I_{o\,nom}$	2.5 A (24 VDC; 110 … 240 VAC); 2 A (24 VDC; 100 … 240 VAC)
Nominal output power	60 W (max.)
Residual ripple	≤ 200 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green)
Efficiency/Power Losses	
Efficiency	≥ 88 % (230 VAC; 2.5 ADC)
Fuse Protection	
Internal fuse	F 2 A / 250 VAC
Recommended backup fusing	Circuit breaker: B6, B10
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes, for two devices of the same type
MTBF	> 300,000 h (per IEC 61709)
Surrounding air temperature (operation)	–20 … +60 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	–4 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	40 x 90 x 99; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mounting
Weight	300 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 60335; UL 60950; UL 508

Switched-Mode Power Supply; Eco; 1-Phase; 12 VDC / 8 A
787 Series

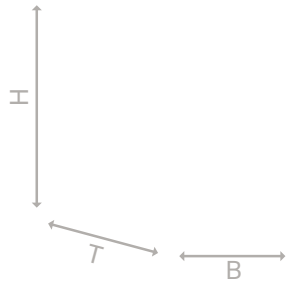


Similar to picture



Switched-Mode Power Supply; Eco; 1-phase; Output voltage: 12 VDC; Output current: 8 A; DC OK signal

Item No.	Pack. Unit
787-1721	1

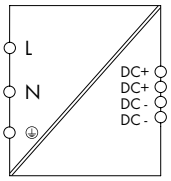


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1 and EN 60335-1; PELV per EN 60204
- DIN-35 rail mountable in different positions
- Direct installation on mounting plate via cable grip

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	90 … 264 VAC; 125 … 375 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 3 A (100 VAC)
Inrush current	≤ 18 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 10 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 1 %
Output voltage range	10 … 14 VDC (adjustable)
Nominal output current $I_{o\,nom}$	8 A (12 VDC; 110 … 240 VAC); 6.4 A (12 VDC; 100 … 240 VAC)
Nominal output power	96 W
Residual ripple	≤ 150 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green)
Efficiency/Power Losses	
Efficiency	≥ 80 % (230 VAC; 8 ADC)
Fuse Protection	
Internal fuse	F 3.15 A / 250 VAC
Recommended backup fusing	Circuit breaker: B6, B10
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes, for two devices of the same type
MTBF	> 300,000 h (per IEC 61709)
Surrounding air temperature (operation)	–20 … +60 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	–3 %/K (> +40 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	60 x 130 x 99; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mounting
Weight	520 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 60335; EN 61558-2-6; UL 508* (*pending)

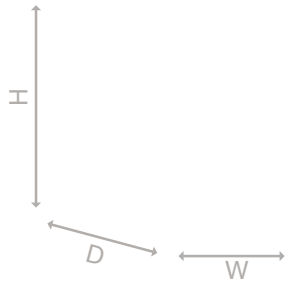
Switched-Mode Power Supply; Eco; 1-Phase; 24 VDC / 5 A
787 Series





Switched-Mode Power Supply; Eco; 1-phase; Output voltage: 24 VDC; Output current: 5 A

Item No.	Pack. Unit
787-1722	1

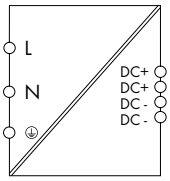


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1 and EN 60335-1; PELV per EN 60204
- DIN-35 rail mountable in different positions
- Direct installation on mounting plate via cable grip

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	90 … 264 VAC; 125 … 375 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 1 A (230 VAC); ≤ 2 A (115 VAC)
Inrush current	≤ 18 A
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 10 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 26 VDC (adjustable)
Nominal output current $I_{o\,nom}$	5 A (24 VDC; 110 … 240 VAC); 4 A (24 VDC; 100 … 240 VAC)
Nominal output power	120 W
Residual ripple	≤ 200 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green)
Efficiency/Power Losses	
Efficiency	≥ 88 % (230 VAC; 5 ADC)
Fuse Protection	
Internal fuse	F 3.15 A / 250 VAC
Recommended backup fusing	Circuit breaker: B6, B10
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes, for two devices of the same type
MTBF	> 300,000 h (per IEC 61709)
Surrounding air temperature (operation)	–20 … +60 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	–3 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	60 x 130 x 99; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mounting
Weight	550 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 60335; UL 60950; UL 508

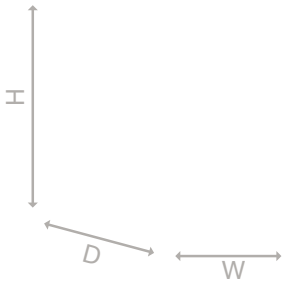
Switched-Mode Power Supply; Eco; 1-Phase; 24 VDC / 10 A
787 Series





Switched-Mode Power Supply; Eco; 1-phase; Output voltage: 24 VDC; Output current: 10 A

Item No.	Pack. Unit
787-1732	1

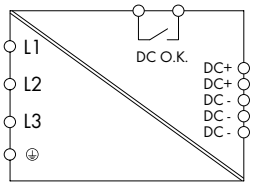


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1 and EN 60335-1; PELV per EN 60204
- DIN-35 rail mountable in different positions
- Direct installation on mounting plate via cable grip

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	90 … 264 VAC; 125 … 375 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 2 A (230 VAC); ≤ 4 A (115 VAC)
Inrush current	≤ 18 A
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 10 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 26 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (24 VDC; 110 … 240 VAC); 8 A (24 VDC; 100 … 240 VAC)
Nominal output power	240 W
Residual ripple	≤ 200 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green)
Efficiency/Power Losses	
Efficiency	≥ 91 % (230 VAC; 10 ADC)
Fuse Protection	
Internal fuse	F 5 A / 250 VAC
Recommended backup fusing	Circuit breaker: B6, B10
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes, for two devices of the same type
MTBF	> 300,000 h (per IEC 61709)
Surrounding air temperature (operation)	–20 … +60 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	–4 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	70 x 165 x 99; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mounting
Weight	840 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 60335; UL 60950; UL 508

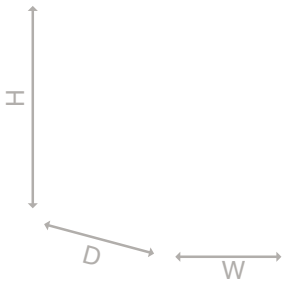
Switched-Mode Power Supply; Eco; 3-Phase; 24 VDC / 6.25 A
787 Series





Switched-Mode Power Supply; Eco; 3-phase; Output voltage: 24 VDC; Output current: 6.25 A; DC OK signal

Item No.	Pack. Unit
787-738	1

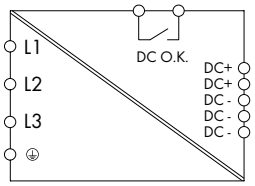


Features:
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Fast and tool-free termination via lever-actuated PCB terminal blocks
- Bounce-free switching signal (DC OK) via optocoupler
- Parallel operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 500 VAC
Input voltage range	(2 / 3) x 360 … 575 VAC; 500 … 800 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 3 x 0.6 A (400 VAC; 6.25 ADC)
Inrush current	≤ 25 A
Power factor	≥ 0.5
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 17 ms (3 x 400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 28 VDC (adjustable)
Nominal output current $I_{o\,nom}$	6.25 A (24 VDC)
Nominal output power	150 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.15 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Overload LED (red); 1 x DC OK signal output (optocoupler as make contact; max. 31.2 V; 20 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 18.5 W
Power loss (max.) $P_{l\,max.}$	≤ 20 W
Efficiency	≥ 87 %
Fuse Protection	
Internal fuse	3 x T 2 A / 250 VAC
Recommended backup fusing	3 x Circuit breaker ≥ 6 A; Tripping characteristic: B or C; Alternative: motor circuit breaker
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/sec.-signal/ pri.-sec.)	2.2 kVDC / 0.7 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 250,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	–2.5 %/K (> +50 °C; 230 VAC)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.5 … 0 mm² / 0.5 … 0 mm² / 20 … 10 AWG
LED indication (solid/fine-stranded/AWG)	0.2 … 1.5 mm² / 0.2 … 1.5 mm² / 24 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	50 130 x 92; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	844 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3 (Class A); UL 60950; UL 508

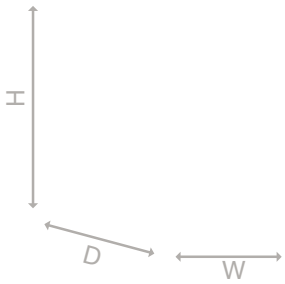
Switched-Mode Power Supply; Eco; 3-Phase; 4 VDC / 10 A
787 Series





Switched-Mode Power Supply; Eco; 3-phase; Output voltage: 24 VDC; Output current: 10 A; DC OK signal

	Item No.	Pack. Unit
	787-740	1

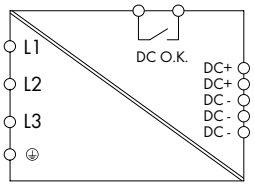


Features:
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Fast and tool-free termination via lever-actuated PCB terminal blocks
- Bounce-free switching signal (DC OK) via optocoupler
- Parallel operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 500 VAC
Input voltage range	(2 / 3) x 360 … 575 VAC; 500 … 800 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 3 x 1.2 A (400 VAC; 10 ADC)
Inrush current	≤ 25 A
Power factor	≥ 0.5
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 17 ms (3 x 400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 28 VDC (adjustable)
Nominal output current $I_{o\,nom}$	10 A (24 VDC)
Nominal output power	240 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.15 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Overload LED (red); 1 x DC OK signal output (optocoupler as make contact; max. 31.2 V; 20 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 32.5 W
Power loss (max.) $P_{l\,max.}$	≤ 36 W
Efficiency	≥ 89 %
Fuse Protection	
Internal fuse	3 x T 2 A / 250 VAC
Recommended backup fusing	3 x Circuit breaker ≥ 6 A; Tripping characteristic: B or C; Alternative: motor circuit breaker
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/sec.-signal/ pri.-sec.)	2.2 kVDC / 0.7 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 250,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	−1.25 %/K (> +50 °C; 230 VAC)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.5 … 0 mm² / 0.5 … 0 mm² / 20 … 10 AWG
LED indication (solid/fine-stranded/AWG)	0.2 … 1.5 mm² / 0.2 … 1.5 mm² / 24 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	65 x 130 x 130; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	2120 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3 (Class A); UL 60950; UL 508

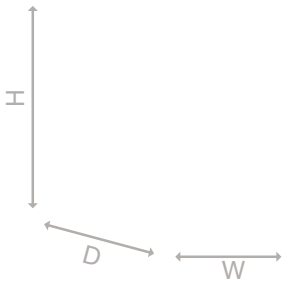
Switched-Mode Power Supply; Eco; 3-Phase; 24 VDC / 20 A
787 Series





Switched-Mode Power Supply; Eco; 3-phase; Output voltage: 24 VDC; Output current: 20 A; DC OK signal

Item No.	Pack. Unit
787-742	1

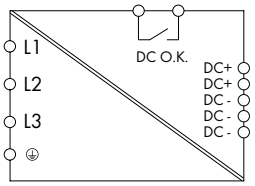


Features:
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Fast and tool-free termination via lever-actuated PCB terminal blocks
- Bounce-free switching signal (DC OK) via optocoupler
- Parallel operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 500 VAC
Input voltage range	(2 / 3) x 360 … 575 VAC; 500 … 800 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 3 x 2 A (400 VAC; 20 ADC)
Inrush current	≤ 30 A
Power factor	≥ 0.5
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 17 ms (3 x 400 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 28 VDC (adjustable)
Nominal output current $I_{o\,nom}$	20 A (24 VDC)
Nominal output power	480 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.15 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Overload LED (red); 1 x DC OK signal output (optocoupler as make contact; max. 31.2 V; 20 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 50 W
Power loss (max.) $P_{l\,max.}$	≤ 55 W
Efficiency	≥ 90 %
Fuse Protection	
Internal fuse	3 x T 5 A / 250 VAC
Recommended backup fusing	3 x Circuit breaker ≥ 6 A; Tripping characteristic: B or C; Alternative: motor circuit breaker
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/sec.-signal/ pri.-sec.)	2.2 kVDC / 0.7 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 250,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	–2 %/K (> +50 °C; 230 VAC)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.5 … 0 mm² / 0.5 … 0 mm² / 20 … 10 AWG
LED indication (solid/fine-stranded/AWG)	0.2 … 1.5 mm² / 0.2 … 1.5 mm² / 24 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	110 x 130 x 151; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1930 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3 (Class A); UL 60950; UL 508

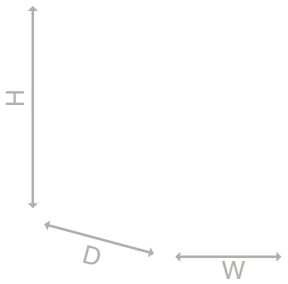
Switched-Mode Power Supply; Eco; 3-Phase; 24 VDC / 20 A
787 Series





Switched-Mode Power Supply; Eco; 3-phase; Output voltage: 24 VDC; Output current: 20 A; DC OK signal

Item No.	Pack. Unit
787-2742	1

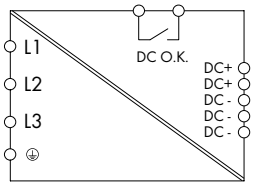


Features:
- Economical power supply for standard applications
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Fast and tool-free termination via lever-actuated terminals with push-in connection technology
- DC OK signal output
- Parallel operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 480 VAC
Input voltage range	(2 / 3) x 325 … 575 VAC; 560 … 700 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 3 x 1,2 A (AC 400 V)
Inrush current	≤ 30 A (AC 400 V)
Power factor	≥ 0.7 (AC 400 V)
Power factor correction (PFC)	passiv
Mains failure hold-up time	≥ 10 ms (3 x AC 400 V)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 28 VDC (adjustable)
Nominal output current $I_{o\,nom}$	20 A (24 VDC)
Nominal output power	480 W
Residual ripple	≤ 150 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Overload LED (red); 1 x DC OK signal output (PhotoMOS as make contact; max. 31.2 V / 100 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 50 W (400 VAC; nominal load)
Efficiency	≥ 90.5 % (400 VAC; nominal load)
Fuse Protection	
Internal fuse	3 x T 3.5 A / 500 VAC
Recommended backup fusing	3 x Circuit breaker ≥ 10 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND/sec.-signal)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes; max. 2 power supplies
MTBF	> 1,800,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	-2 %/K (> 45 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.5 … 6 mm² / 0.5 … 6 mm² / 20 … 10 AWG
Signaling (solid/fine-stranded/AWG)	0.2 … 1.5 mm² / 0.2 … 1.5 mm² / 24 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	80 x 130 x 170; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1710 g
Standards and Specifications	
Approvals/standards/specifications	CE; EAC; EN 61204-3; EN 60950-1; EN 62368-1; cURus 60950-1; cURus 62368-1; cULus 508; CSA C22.2

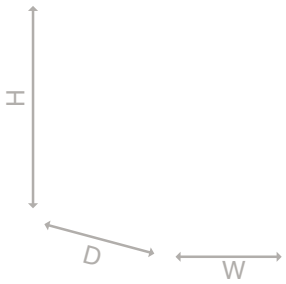
Switched-Mode Power Supply; Eco; 3-Phase; 24 VDC / 40 A
787 Series





Switched-Mode Power Supply; Eco; 3-phase; Output voltage: 24 VDC; Output current: 40 A; DC OK signal

	Item No.	Pack. Unit
	787-2744	1

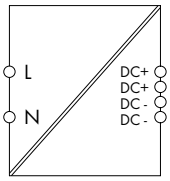


Features:
- Economical power supply for standard applications
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Fast and tool-free termination via lever-actuated terminals with push-in connection technology
- DC OK signal output
- Parallel operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	(2 / 3) x 400 … 480 VAC
Input voltage range	(2 / 3) x 325 … 575 VAC; 560 … 700 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 3 x 2.5 A (AC 400 V)
Inrush current	≤ 30 A (AC 400 V)
Power factor	≥ 0.7 (AC 400 V)
Power factor correction (PFC)	passiv
Mains failure hold-up time	≥ 10 ms (3 x AC 400 V)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 28 VDC (adjustable)
Nominal output current $I_{o\,nom}$	40 A (24 VDC)
Nominal output power	960 W
Residual ripple	≤ 150 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.4 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Overload LED (red); 1 x DC OK signal output (PhotoMOS as make contact; max. 31.2 V / 100 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 89 W (400 VAC; nominal load)
Efficiency	≥ 91.5 % (400 VAC; nominal load)
Fuse Protection	
Internal fuse	3 x T 6.3 A / 500 VAC
Recommended backup fusing	3 x Circuit breaker ≥ 10 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND/sec.-GND/sec.-signal)	4.242 kVDC / 2.2 kVDC / 0.7 kVDC / 0.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes; max. 2 power supplies
MTBF	> 1,300,000 h (per IEC 61709)
Surrounding air temperature (operation)	–20 … +70 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	-2 %/K (> 45 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input (solid/fine-stranded/AWG)	0.5 … 6 mm² / 0.5 … 6 mm² / 20 … 10 AWG
Output (solid/fine-stranded/AWG)	0.75 … 16 mm² / 0.75 … 25 mm² / 18 … 4 AWG
Singnaling (solid/fine-stranded/AWG)	0.2 … 1.5 mm² / 0.2 … 1.5 mm² / 24 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	140 x 130 x 170; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	2630 g
Standards and Specifications	
Approvals/standards/specifications	CE; EAC; EN 61204-3; EN 60950-1; EN 62368-1; cURus 60950-1; cURus 62368-1; cULus 508; CSA C22.2

Switched-Mode Power Supply; Compact; 1-Phase; 24 VDC / 1.3 A
787 Series

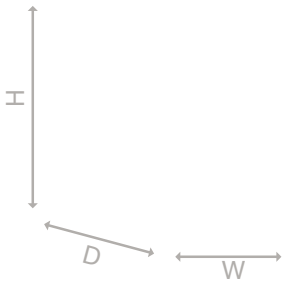




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Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 24 VDC; Output current: 1.3 A; DC OK signal

	Item No.	Pack. Unit
	787-1102	1

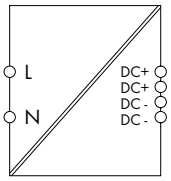


Features:
- Switched-mode power supply
- Stepped profile for installation in standard distribution boards
- Pluggable *picoMAX*® connection technology (tool-free)
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- Suitable for both parallel and series operation

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	I_o ≤ 1 A (< 100 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.5 A (230 VAC); ≤ 0.7 A (110 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 80 ms (230 VAC); > 10 ms (110 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 2 %
Output voltage range	22.8 … 26.4 VDC (adjustable)
Nominal output current $I_{o\,nom}$	1.3 A (24 VDC); 0.9 A (in any mounting position)
Nominal output power	31 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 2.6 W (230 VAC; no load); ≤ 7 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 7.3 W (100 VAC / 24 VDC; 1.3 A)
Efficiency	≥ 82 %
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +60 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.2 … 2.5 mm² / 0.2 … 2.5 mm² / 24 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	54 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

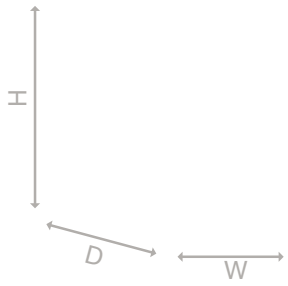
Switched-Mode Power Supply; Compact; 1-Phase; 24 VDC / 2.5 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 24 VDC; Output current: 2.5 A; DC OK signal

	Item No.	Pack. Unit
	787-1112	1

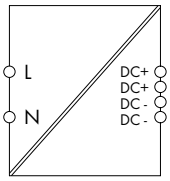


Features:
- Switched-mode power supply
- Stepped profile for installation in standard distribution boards
- Pluggable *picoMAX*® connection technology (tool-free)
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- Suitable for both parallel and series operation

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	I_o ≤ 2 A (< 100 VAC); I_o ≤ 1.8 A (< 90 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.6 A (230 VAC); ≤ 1.4 A (110 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 80 ms (230 VAC); > 10 ms (110 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 2 %
Output voltage range	22.8 … 26.4 VDC (adjustable)
Nominal output current $I_{o\,nom}$	2.5 A (24 VDC); 1.6 A (in any mounting position)
Nominal output power	60 W (max.)
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 2.2 W (230 VAC; no load); ≤ 8.5 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 10.5 W (100 VAC / 24 VDC; 2.5 A)
Efficiency	≥ 88 %
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.2 … 2.5 mm² / 0.2 … 2.5 mm² / 24 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	72 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	240 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

Switched-Mode Power Supply; Compact; 1-Phase; 24 VDC / 4 A
787 Series

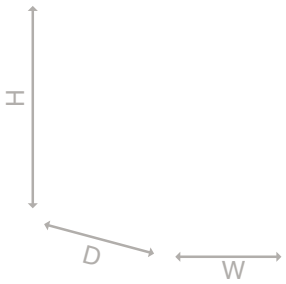




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Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 24 VDC; Output current: 4 A; DC OK signal

Item No.	Pack. Unit
787-1122	1

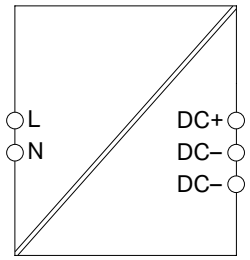


Features:
- Switched-mode power supply
- Stepped profile for installation in standard distribution boards
- Pluggable *picoMAX*® connection technology (tool-free)
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204
- Suitable for both parallel and series operation

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	I_o ≤ 3.5 A (< 100 VAC); I_o ≤ 3 A (< 90 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.9 A (230 VAC); ≤ 1.6 A (110 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 100 ms (230 VAC); > 15 ms (110 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 2 %
Output voltage range	22.8 … 26.4 VDC (adjustable)
Nominal output current $I_{o\,nom}$	4 A (24 VDC); 2.4 A (in any mounting position)
Nominal output power	96 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 0.8 W (230 VAC; no load); ≤ 13.1 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 14.8 W (264 VAC / 24 VDC; 4 A)
Efficiency	≥ 88 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.2 … 2.5 mm² / 0.2 … 2.5 mm² / 24 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	90 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	300 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

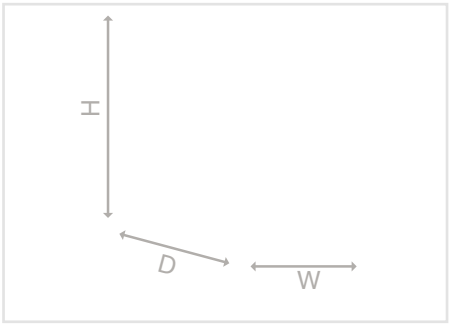
Switched-Mode Power Supply; Compact; 1-Phase; 24 VDC / 0.5 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output: 24 VDC; 0.5 A

Item No.	Pack. Unit
787-1200	1

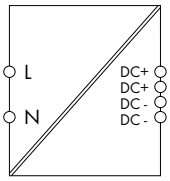


Features:
- Switched-mode power supply
- Stepped profile, ideal for distribution boards/boxes
- Pluggable *picoMAX*® Connection Technology (tool-free)
- Electrically isolated output voltage (SELV) per EN 62368/UL 62368 and EN 60335-1; PELV per EN 60204
- Series operation

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC; 140 … 340 VDC
Input voltage range	90 … 264 VAC; 125 … 375 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 0.27 A (100 VAC; 0.5 ADC)
Input voltage derating	–2 %/V (<100 VAC); –1.33 %/V (< 140 VDC)
Inrush current	≤ 30 A (NTC)
Power factor	≥ 0.5
Power factor correction (PFC)	None
Mains failure hold-up time	≥ 100 ms (230 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Nominal output current $I_{o\,nom}$	0.5 A
Nominal output power	12 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Efficiency	≥ 83 % (230 VAC; nominal load); ≥ 82 % (110 VAC, nominal load)
Power loss P_l	≤ 0.2 W (230 VAC; no load)
Power loss (max.) $P_{l\,max.}$	≤ 2.5 W (100 VAC / 24 VDC; 0.5 A)
Fuse Protection	
Internal fuse	T 1 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A; Tripping characteristic: B
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kV DC
Protection class/protection type	II / IP20 (per EN 60529)
Reverse voltage protection	Yes
Overvoltage category	II
Parallel operation/series operation	No/yes, for two devices of the same type
MTBF	> 700,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	20 … 90 % (no condensation permissible)
Derating	–2.6 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input (solid/fine-stranded/AWG)	0.2 … 2.5 mm² / 0.2 … 2.5 mm² / 24 … 12 AWG
Output (solid/fine-stranded/AWG)	0.2 … 1.5 mm² / 0.2 … 1.5 mm² / 24 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	18 x 90 x 52.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mount (back/side)
Weight	63 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61204-3; EN 60335-1; EN 62368; UL 62368; UL 508

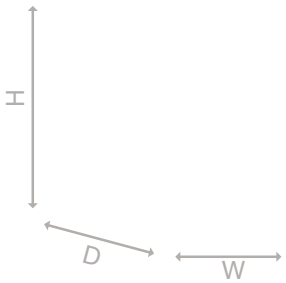
Switched-Mode Power Supply; Compact; 1-Phase; 24 VDC / 1.3 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 24 VDC; Output current: 1.3 A; DC OK signal

	Item No.	Pack. Unit
	787-1202	1

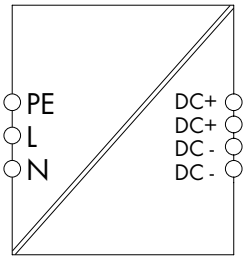


Features:
- Switched-mode power supply
- Stepped profile, ideal for distribution boards or distribution boxes
- Removable front panel and screw mounts provide an ideal installation alternative in distribution boxes or devices
- Pluggable *picoMAX*® connection technology (tool-free)
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1 and EN 60335-1; PELV per EN 60204
- Suitable for both parallel and series operation

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 125 … 375 VDC
Input voltage derating	–2 %/V (<100 VAC); –1.33 %/V (< 140 VDC)
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 0.6 A
Inrush current	≤ 20 A
Power factor	≥ 0.5
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 70 ms
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 26 VDC (adjustable)
Nominal output current $I_{o\,nom}$	1.3 A
Nominal output power	31.2 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.35 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit or permanent overload
Signaling and Communication	
Signaling	1 x DC OK LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 0.43 W (230 VAC; no load)
Power loss (max.) $P_{l\,max.}$	≤ 5.5 W (100 VAC / 24 VDC; 1.3 A)
Efficiency	≥ 87 % (230 VAC); ≥ 82 % (110 VAC)
Fuse Protection	
Internal fuse	T 1 A / 250 VAC
Recommended backup fusing	Circuit breaker 6 A (C characteristic), 10 A (B characteristic) or higher
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 700,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	–2.66 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.2 … 2.5 mm² / 0.2 … 2.5 mm² / 24 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	54 x 90 x 52.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mount (back/side)
Weight	210 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61204-3; EN 60335-1; EN 60950-1; UL 60950; UL 508

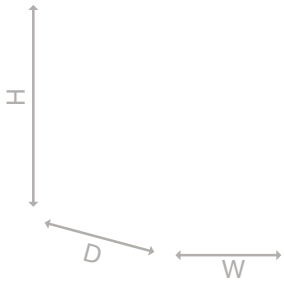
Switched-Mode Power Supply; Compact; 1-Phase; 12 VDC / 5 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output: 12 VDC; 5 A

Item No.	Pack. Unit
787-1211	1

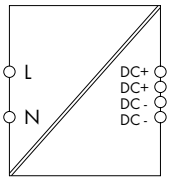


Features:
- Switched-mode power supply
- Stepped profile, ideal for distribution boards/boxes
- Removable front panel and screw mounts provide an ideal installation alternative in distribution boxes or devices
- Pluggable *picoMAX*® Connection Technology (tool-free)
- Electrically isolated output voltage (SELV) per EN 62368/UL 62368 and EN 60335-1; PELV per EN 60204
- Suitable for both parallel and series operation

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC; 140 … 340 VDC
Input voltage range	85 … 264 VAC; 125 … 375 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 0.98 A (100 VAC; 5 ADC)
Input voltage derating	−2 %/V (<100 VAC); −1.33 %/V (< 140 VDC)
Inrush current	≤ 30 A (NTC)
Power factor	≥ 0.5
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 60 ms (230 VAC); > 12 ms (110 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 1 %
Output voltage range	10 … 14 VDC (adjustable)
Nominal output current $I_{o\,nom}$	5 A
Nominal output power	60 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.22 … 1.7 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit
Signaling and Communication	
Signaling	1 x DC OK LED (green)
Efficiency/Power Losses	
Efficiency	≥ 88.5 % (230 VAC; nominal load); ≥ 87.5 % (110 VAC, nominal load)
Power loss P_l	≤ 0.6 W (230 VAC; no load)
Power loss (max.) $P_{l\,max.}$	≤ 9 W (100 VAC / 12 VDC; 5 A)
Fuse Protection	
Internal fuse	T 3.15 A / 250 VAC
Recommended backup fusing	Circuit breaker: 6 A, 10 A or higher; Tripping characteristic: B
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec./pri.-GND)	4.242 kV DC / 2.2 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Reverse voltage protection	Yes
Overvoltage category	II
Parallel operation/series operation	Yes, for devices of the same type/yes, for two devices of the same type
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C
Relative humidity	20 … 90 % (no condensation permissible)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.2 … 2.5 mm² / 0.2 … 2.5 mm² / 24 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	72 x 90 x 52.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mount (back/side)
Weight	270 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61204-3; EN 60335-1; EN 62368; UL 62368; UL 508

Switched-Mode Power Supply; Compact; 1-Phase; 24 VDC / 2.5 A
787 Series

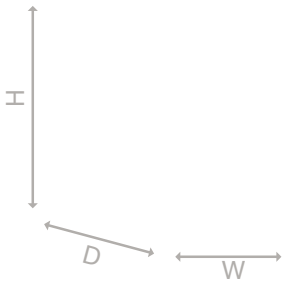




5

Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 24 VDC; Output current: 2.5 A; DC OK signal

	Item No.	Pack. Unit
	787-1212	1

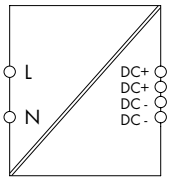


Features:
- Switched-mode power supply
- Stepped profile, ideal for distribution boards or distribution boxes
- Removable front panel and screw mounts provide an ideal installation alternative in distribution boxes or devices
- Pluggable *picoMAX*® connection technology (tool-free)
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1 and EN 60335-1; PELV per EN 60204
- Suitable for both parallel and series operation

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 125 … 375 VDC
Input voltage derating	–2 %/V (<100 VAC); –1.33 %/V (< 140 VDC)
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 1,5 A
Inrush current	≤ 20 A
Power factor	≥ 0.5
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 60 ms
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 26 VDC (adjustable)
Nominal output current $I_{o\,nom}$	2.5 A; 2 A (< 110 VAC)
Nominal output power	60 W (max.)
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.35 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit or permanent overload
Signaling and Communication	
Signaling	1 x DC OK LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 0.6 W (230 VAC; no load)
Power loss (max.) $P_{l\,max.}$	≤ 9 W (100 VAC / 24 VDC; 2.5 A)
Efficiency	≥ 89 % (230 VAC); ≥ 87 % (110 VAC)
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker 6 A (C characteristic), 10 A (B characteristic) or higher
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	–2.66 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.2 … 2.5 mm² / 0.2 … 2.5 mm² / 24 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	72 x 90 x 52.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mount (back/side)
Weight	270 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61204-3; EN 60335-1; EN 60950-1; UL 60950; UL 508

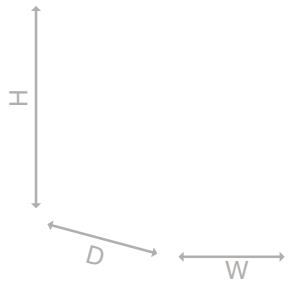
Switched-Mode Power Supply; Compact; 1-Phase; 24 VDC / 4.2 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 24 VDC; Output current: 4.2 A; DC OK signal

	Item No.	Pack. Unit
	787-1216	1

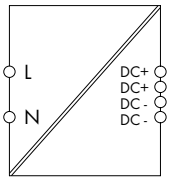


Features:
- Switched-mode power supply
- Stepped profile, ideal for distribution boards or distribution boxes
- Removable front panel and screw mounts provide an ideal installation alternative in distribution boxes or devices
- Pluggable *picoMAX*® connection technology (tool-free)
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1 and EN 60335-1; PELV per EN 60204
- Suitable for both parallel and series operation

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 125 … 375 VDC
Input voltage derating	–2 %/V (<100 VAC); –1.33 %/V (< 140 VDC)
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 2.5 A
Inrush current	≤ 20 A
Power factor	≥ 0.5
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 50 ms
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 26 VDC (adjustable)
Nominal output current $I_{o\,nom}$	4.2 A; 3.3 A (< 110 VAC)
Nominal output power	100 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.35 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit or permanent overload
Signaling and Communication	
Signaling	1 x DC OK LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 0.7 W (230 VAC; no load)
Power loss (max.) $P_{l\,max.}$	≤ 15 W (100 VAC / 24 VDC; 4.2 A)
Efficiency	≥ 90 % (230 VAC); ≥ 87 % (110 VAC)
Fuse Protection	
Internal fuse	T 3.15 A / 250 VAC
Recommended backup fusing	Circuit breaker 6 A (C characteristic), 10 A (B characteristic) or higher
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	–2.66 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.2 … 2.5 mm² / 0.2 … 2.5 mm² / 24 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	108 x 90 x 52.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mount (back/side)
Weight	415 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61204-3; EN 60335-1; EN 60950-1; UL 60950; UL 508

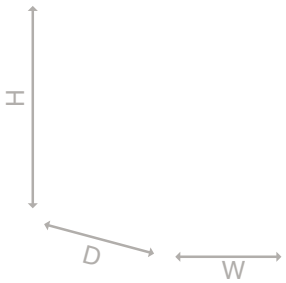
Switched-Mode Power Supply; Compact; 1-Phase; 24 VDC / 6 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 24 VDC; Output current: 6 A; DC OK signal

Item No.	Pack. Unit
787-1226	1

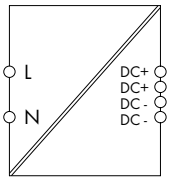


Features:
- Switched-mode power supply
- Stepped profile, ideal for distribution boards or distribution boxes
- Removable front panel and screw mounts provide an ideal installation alternative in distribution boxes or devices
- Pluggable *picoMAX*® connection technology (tool-free)
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1 and EN 60335-1; PELV per EN 60204
- Suitable for both parallel and series operation

Input	
Nominal input voltage $U_{i\,nom}$	100 … 120 VAC; 200 … 240 VAC
Input voltage range	90 … 132 VAC; 180 … 264 VAC; 250 … 375 VDC
Input voltage derating	–2 %/V (< 100 VAC)
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 3.8 A
Inrush current	≤ 20 A
Power factor	≥ 0.5
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 30 ms
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	22 … 26 VDC (adjustable)
Nominal output current $I_{o\,nom}$	6 A; 4.8 A (< 110 VAC)
Nominal output power	150 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.35 x $I_{o\,nom}$); Shutdown and automatic restart in the event of a short circuit or permanent overload
Signaling and Communication	
Signaling	1 x DC OK LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 0.4 W (230 VAC; no load)
Power loss (max.) $P_{l\,max.}$	≤ 16.5 W (100 VAC / 24 VDC; 6 A)
Efficiency	≥ 90 % (230 VAC); ≥ 89 % (110 VAC)
Fuse Protection	
Internal fuse	T 3.15 A / 250 VAC
Recommended backup fusing	Circuit breaker 6 A (C characteristic), 10 A (B characteristic) or higher
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	–2.66 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.2 … 2.5 mm² / 0.2 … 2.5 mm² / 24 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	144 x 90 x 52.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715); Screw mount (back/side)
Weight	510 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61204-3; EN 60335-1; EN 60950-1; UL 60950; UL 508

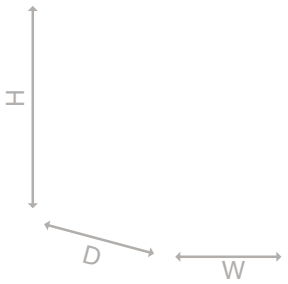
Switched-Mode Power Supply; Compact; 1-Phase; 5 VDC / 5.5 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 5 VDC; Output current: 5.5 A; DC OK signal

Item No.	Pack. Unit
787-1020	1

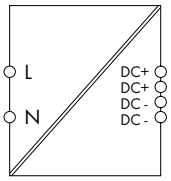


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Stepped profile, ideal for distribution boards or distribution boxes
- Overhead mounting is possible with derating
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.29 A (230 VAC); ≤ 0.56 A (110 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 80 ms (230 VAC); > 10 ms (110 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	5 VDC (SELV) / ≤ 2 %
Output voltage range	4.5 … 8.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	5.5 A (5 VDC); 3.5 A (in any mounting position)
Nominal output power	27.5 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 2.4 W (230 VAC; no load); ≤ 9.4 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 9.9 W (264 VAC / 5 VDC; 5.5 A)
Efficiency	≥ 75 %
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker 6 A (C characteristic), 10 A (B characteristic) or higher
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.2 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +60 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	72 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	240 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL* (*pending)

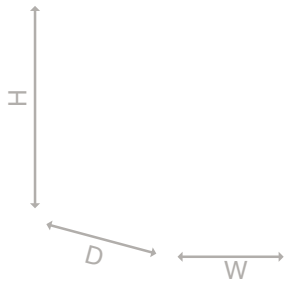
Switched-Mode Power Supply; Compact; 1-Phase; 12 VDC / 2 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 12 VDC; Output current: 2 A

	Item No.	Pack. Unit
	787-1001	1

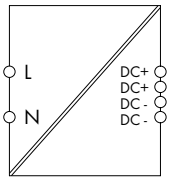


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Stepped profile, ideal for distribution boards or distribution boxes
- Overhead mounting is possible with derating
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	I_o ≤ 1.5 A (< 100 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.4 A (230 VAC); ≤ 0.6 A (110 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 80 ms (230 VAC); > 10 ms (110 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 2 %
Output voltage range	10.5 … 18 VDC (adjustable)
Nominal output current $I_{o\,nom}$	2 A (12 VDC); 1.4 A (12 VDC; in any mounting position); 0.75 A (18 VDC)
Nominal output power	24 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 2.6 W (230 VAC; no load); ≤ 6 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 6 W (100 VAC / 12 VDC; 2 A)
Efficiency	≥ 80 %
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker 6 A (C characteristic), 10 A (B characteristic) or higher
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +60 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	54 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	180 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

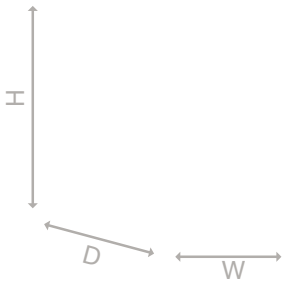
Switched-Mode Power Supply; Compact; 1-Phase; 12 VDC / 4 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 12 VDC; Output current: 4 A

Item No.	Pack. Unit
787-1011	1

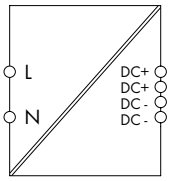


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Stepped profile, ideal for distribution boards or distribution boxes
- Overhead mounting is possible with derating
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	I_o ≤ 3.5 A (< 100 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.5 A (230 VAC); ≤ 0.9 A (110 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 80 ms (230 VAC); > 10 ms (110 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 2 %
Output voltage range	10.5 … 15.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	4 A (12 VDC); 2.4 A (in any mounting position)
Nominal output power	48 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 2.2 W (230 VAC; no load); ≤ 8.5 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 9 W (100 VAC / 12 VDC; 4 A)
Efficiency	≥ 85 %
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker 6 A (C characteristic), 10 A (B characteristic) or higher
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +60 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	72 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	255 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

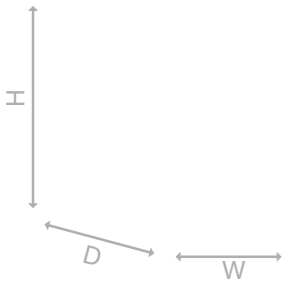
Switched-Mode Power Supply; Compact; 1-Phase; 12 VDC / 6 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 12 VDC; Output current: 6 A

Item No.	Pack. Unit
787-1021	1

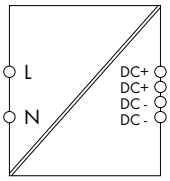


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Stepped profile, ideal for distribution boards or distribution boxes
- Overhead mounting is possible with derating
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	$I_o \leq 6$ A (< 100 VAC); $I_o \leq 5.5$ A (< 90 VAC)
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 0.9 A (230 VAC); ≤ 1.6 A (110 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 100 ms (230 VAC); > 15 ms (110 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 2 %
Output voltage range	10.5 … 15.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	6 A (12 VDC); 3.9 A (12 VDC; in any mounting position)
Nominal output power	78 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 1 W (230 VAC; no load); ≤ 15 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 15 W (100 VAC / 12 VDC; 6.5 A)
Efficiency	≥ 87 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC
Recommended backup fusing	Circuit breaker 6 A (C characteristic), 10 A (B characteristic) or higher
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +60 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	90 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	300 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

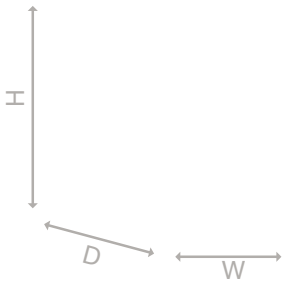
Switched-Mode Power Supply; Compact; 1-Phase; 18 VDC / 2.4 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 18 VDC; Output current: 2.4 A

Item No.	Pack. Unit
787-1017	1

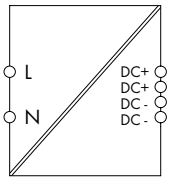


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Stepped profile, ideal for distribution boards or distribution boxes
- Overhead mounting is possible with derating
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	I_o ≤ 2 A (< 100 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.5 A (230 VAC); ≤ 0.9 A (110 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 10 ms (230 VAC); > 10 ms (110 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	18 VDC / ≤ 2 %
Output voltage range	15 … 28 VDC (adjustable)
Nominal output current $I_{o\,nom}$	2.4 A (18 VDC); 2 A (24 VDC; in any mounting position)
Nominal output power	43 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 2.6 W (230 VAC; no load); ≤ 8.1 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 8.2 W (100 VAC / 18 VDC; 2.4 A)
Efficiency	≥ 84 %
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker 6 A (C characteristic), 10 A (B characteristic) or higher
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +60 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	72 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	264 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL* (*pending)

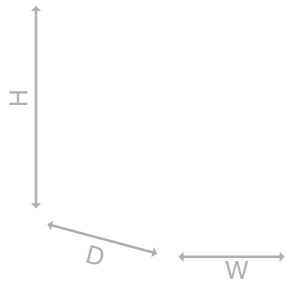
Switched-Mode Power Supply; Compact; 1-Phase; 24 VDC / 1.3 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 24 VDC; Output current: 1.3 A

	Item No.	Pack. Unit
	787-1002	1

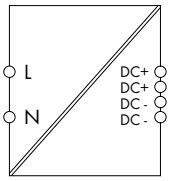


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Stepped profile, ideal for distribution boards or distribution boxes
- Overhead mounting is possible with derating
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	I_o ≤ 1 A (< 100 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.5 A (230 VAC); ≤ 0.7 A (110 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 80 ms (230 VAC); > 10 ms (110 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 2 %
Output voltage range	22.8 … 26.4 VDC (adjustable)
Nominal output current $I_{o\,nom}$	1.3 A (24 VDC); 0.9 A (in any mounting position)
Nominal output power	31.2 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 2.6 W (230 VAC; no load); ≤ 7 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 7.3 W (100 VAC / 24 VDC; 1.3 A)
Efficiency	≥ 82 %
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker 6 A (C characteristic), 10 A (B characteristic) or higher
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +60 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	54 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	180 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

Switched-Mode Power Supply; Compact; 1-Phase; 24 VDC / 2.5 A
787 Series

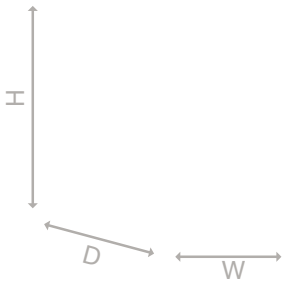




5

Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 24 VDC; Output current: 2.5 A

Item No.	Pack. Unit
787-1012	1

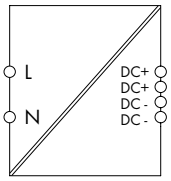


Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Stepped profile, ideal for distribution boards or distribution boxes
- Overhead mounting is possible with derating
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	$I_o \leq 2$ A (< 100 VAC); $I_o \leq 1.8$ A (< 90 VAC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.6 A (230 VAC); ≤ 1.4 A (110 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 80 ms (230 VAC); > 10 ms (110 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 2 %
Output voltage range	22.8 … 26.4 VDC (adjustable)
Nominal output current $I_{o\,nom}$	2.5 A (24 VDC); 1.6 A (in any mounting position)
Nominal output power	60 W (max.)
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 2.2 W (230 VAC; no load); ≤ 8.5 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 10.5 W (100 VAC / 24 VDC; 2.5 A)
Efficiency	≥ 88 %
Fuse Protection	
Internal fuse	T 2 A / 250 VAC
Recommended backup fusing	Circuit breaker 6 A (C characteristic), 10 A (B characteristic) or higher
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +60 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	72 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	255 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

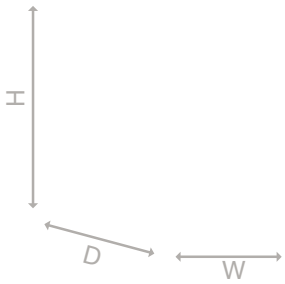
Switched-Mode Power Supply; Compact; 1-Phase; 24 VDC / 4 A
787 Series





Switched-Mode Power Supply; Compact; 1-phase; Output voltage: 24 VDC; Output current: 4 A

Item No.	Pack. Unit
787-1022	1



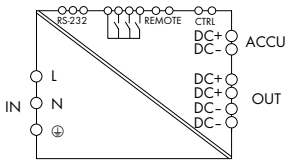
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Stepped profile, ideal for distribution boards or distribution boxes
- Overhead mounting is possible with derating
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 373 VDC
Input voltage derating	upon request
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 0.9 A (230 VAC); ≤ 1.6 A (110 VAC)
Inrush current	≤ 30 A (NTC)
Power factor correction (PFC)	Passive
Mains failure hold-up time	≥ 100 ms (230 VAC); > 15 ms (110 VAC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 2 %
Output voltage range	22.8 … 26.4 VDC (adjustable)
Nominal output current $I_{o\,nom}$	4 A (24 VDC); 2.4 A (in any mounting position)
Nominal output power	96 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 0.8 W (230 VAC; no load); ≤ 13.1 W (230 VAC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 14.8 W (264 VAC / 24 VDC; 4 A)
Efficiency	≥ 88 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC
Recommended backup fusing	Circuit breaker ≥ 6 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +60 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	90 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	310 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; UL 60950-1; UL 508; DNV GL

Switched-Mode Power Supply with Integrated UPS Charger and Controller; Classic; 1-phase; 24 VDC / 5 A

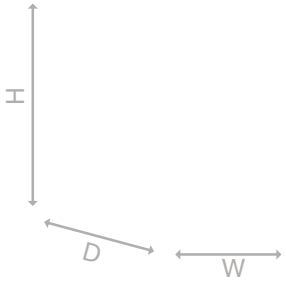
787 Series





Switched-Mode Power Supply with Integrated UPS Charger and Controller; Classic; 1-phase; Output voltage: 24 VDC; Output current: 5 A; communication-capable

Item No.	Pack. Unit
787-1675	1



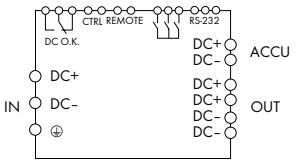
Features:

- Switched-mode power supply with integrated charger and controller for uninterruptible power supply (UPS)
- Battery control technology for smooth charging and predictive maintenance applications
- Potential-free contacts provide function monitoring
- Buffer time can be set on site via rotary switch
- Parameter setting and monitoring via RS-232 interface
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Input voltage derating	−1.5 %/V (< 100 VAC); −1 %/V (< 150 VDC)
Nominal mains frequency range	44 … 66 Hz; 0 Hz
Input current I_i	≤ 1.1 A (230 VAC; 5 ADC); ≤ 2.2 A (110 VAC; 5 ADC)
Inrush current	≤ 30 A
Power factor correction (PFC)	Passive
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Output voltage range	23 … 28.5 VDC (mains operation); 18.5 … 27.5 VDC (buffer mode)
Nominal output current $I_{o\,nom}$	5 A
Nominal output power	120 W
Residual ripple	≤ 50 mV (peak-to-peak)
Overload behavior	Constant current
Energy Storage Systems	
Buffer time	1 s … 20 min (or constant; PC mode; configurable via software)
Switch-on threshold (adjustable)	20 … 25.5 VDC (configurable via software; pre-configured: 22 VDC)
Charging current	0.3 … 1 A
End-of-charge voltage	26 … 29.5 VDC (temperature-controlled; optional fixed setting)
Recommended battery module	787-871, 787-872, 787-873, 787-876, 787-1671
Signaling and Communication	
Signaling	1 x Alarm LED (red); 1 x Battery Charge LED (yellow); 1 x DC OK LED (green); 3 x Signal output (24 VDC; max. 200 mA in total); 1 x RS-232 interface
Communication	RS-232 interface
Remote input	Switches buffer mode off
Efficiency/Power Losses	
Power loss P_l	≤ 5.2 W (buffer mode; 24 VDC; 5 A); ≤ 17 W (mains operation; 230 VAC; 24 VDC; 5 A); ≤ 22 W
Power loss (max.) $P_{l\,max.}$	≤ 30 W (90 VAC; charging)
Efficiency	≥ 88 %
Fuse Protection	
Internal fuse	T 4 A / 250 VAC (input side)
Recommended backup fusing	Circuit breaker: 6 A, 10 A, 16 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-GND/sec.-GND/pri.-sec.)	2.2 kVDC / 0.7 kVDC / 4.242 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Reverse voltage protection	Yes
Overvoltage category	II
Parallel operation/series operation	Yes, max. 3 battery modules for buffer time extension/no
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C (device starts at −40 °C, type-tested)
Relative humidity	5 … 96 % (no condensation permissible)
Derating	−3 %/K (> +50 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Interface (solid/fine-stranded/AWG)	0.08 … 1.5 mm² / 0.08 … 1.5 mm² / 28 … 14 AWG
Line length (max.)	≤ 3 m (output, battery control)
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	60 x 127 x 135.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	885 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 61558-2-16; UL 60950; UL 508; GL

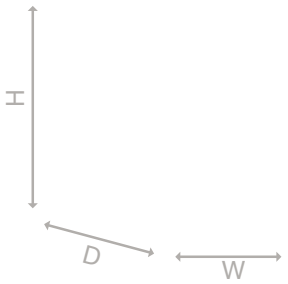
UPS Charger and Controller; 24 VDC / 10 A
787 Series





UPS Charger and Controller; Input voltage: 24 VDC; Output voltage: 24 VDC; Output current: 10 A; LineMonitor; communication-capable

	Item No.	Pack. Unit
	787-870	1

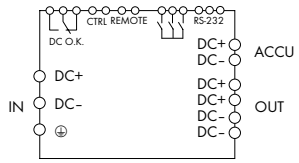


Features:
- Charger and controller for uninterruptible power supply (UPS)
- Current and voltage monitoring, as well as parameter setting via LCD and RS-232 interface
- Active signal outputs for function monitoring
- Remote input for buffered output deactivation
- Input for temperature control of connected battery
- Battery control (from manufacturing no. 215563) detects both battery life and battery type

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	22 … 29 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 0.1 A (no load running); ≤ 0.8 A (charging); ≤ 10.8 A
Inrush current	≤ 4 A (no load)
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	U_i – 1 VDC (rated operation); 20 … 25.5 VDC (buffer mode)
Nominal output current $I_{o\,nom}$	10 A
Energy Storage Systems	
Buffer Time	10 … 600 s (or constant; adjustable)
Switch-on threshold (adjustable)	20 … 25.5 VDC
Charging current	≤ 0.6 A
End-of-charge voltage	26 … 29.5 VDC (temperature-controlled; optional fixed setting)
Recommended battery module	787-871, 787-872, 787-873, 787-876, 787-1671
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Warning LED (yellow); 1 x Error LED (red); LCD; 3 x Signal output (24 VDC; max. 25 mA); 1 x Isolated relay contact (max. 30 VDC; 1 A); 1 x RS-232 interface; Battery control (C+; C-)
Communication	RS-232 interface
Remote input	Switches buffer mode off
Efficiency/Power Losses	
Power loss P_l	≤ 15 W (no load); ≤ 20 W (nominal load)
Efficiency	≥ 95 %
Fuse Protection	
Internal fuse	T 15 A
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Parallel operation/series operation	Yes, a maximum three battery modules for buffer time extension (temperature measurement evaluation is only possible via one battery module)/no
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–10 … +60 °C
Relative humidity	5 … 96 % (no condensation permissible)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Line length (max.)	≤ 3 m (input, output, battery control)
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	40 x 163 x 163; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	800 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; UL 60950; UL 508; EN 61000-6-2; EN 61000-6-3

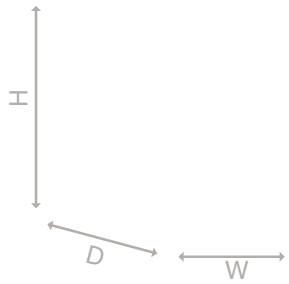
UPS Charger and Controller; 24 VDC / 20 A
787 Series





UPS Charger and Controller; Input voltage: 24 VDC; Output voltage: 24 VDC; Output current: 20 A; LineMonitor; communication-capable

	Item No.	Pack. Unit
	787-875	1

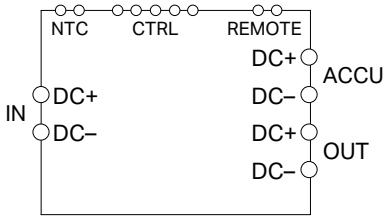


Features:
- Charger and controller for uninterruptible power supply (UPS)
- Current and voltage monitoring, as well as parameter setting via LCD and RS-232 interface
- Active signal outputs for function monitoring
- Remote input for buffered output deactivation
- Input for temperature control of connected battery
- Battery control (from manufacturing no. 215563) detects both battery life and battery type

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	22 … 29 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 0.1 A (no load running); ≤ 1.5 A (charging); ≤ 21.5 A
Inrush current	≤ 4 A (no load)
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	U_i – 1 VDC (rated operation); 20 … 25.5 VDC (buffer mode)
Nominal output current $I_{o\,nom}$	20 A
Energy Storage Systems	
Buffer Time	10 … 600 s (or constant; adjustable)
Switch-on threshold (adjustable)	20 … 25.5 VDC
Charging current	≤ 1 A
End-of-charge voltage	26 … 29.5 VDC (temperature-controlled; optional fixed setting)
Recommended battery module	787-871, 787-872, 787-873
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Warning LED (yellow); 1 x Error LED (red); LCD; 3 x Signal output (24 VDC; max. 25 mA); 1 x Isolated relay contact (max. 30 VDC; 1 A); 1 x RS-232 interface; Battery control (C+; C-)
Communication	RS-232 interface
Remote input	Switches buffer mode off
Efficiency/Power Losses	
Power loss P_l	≤ 15 W (no load); ≤ 30 W (nominal load)
Efficiency	≥ 95 %
Fuse Protection	
Internal fuse	T 25 A
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Parallel operation/series operation	Yes, a maximum three battery modules for buffer time extension (temperature measurement evaluation is only possible via one battery module)/no
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–10 … +60 °C
Relative humidity	5 … 96 % (no condensation permissible)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 0.5 mm² / 0.08 … 0.5 mm² / 28 … 20 AWG
Line length (max.)	≤ 3 m (input, output, battery control)
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	57 x 171 x 163; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1200 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; UL 60950; UL 508; EN 61000-6-2; EN 61000-6-3

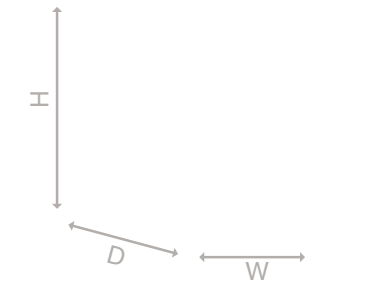
DC UPS Module; 24 VDC / 40 A
787 Series





DC UPS Module; Input voltage: 24 VDC; Output voltage: 24 VDC; Output current: 40 A

Item No.	Pack. Unit
787-915	1



Features:
- DC UPS module for uninterruptible power supply (UPS)
- Potential-free contacts provide function monitoring
- Remote input for buffered output deactivation
- Input for temperature control of connected battery
- Battery internal resistance measurement for diagnosing batteries, including connection cable and fuse

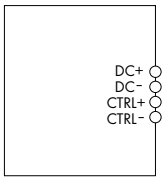
Note:
For North America: Use only batteries with appropriate safety approvals!

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	22 … 28 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 0.16 A (no load running); ≤ 4 A (charging); ≤ 44 A
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	U_i (rated operation); 19.5 … 26.5 VDC (unregulated battery voltage in buffer mode)
Nominal output current $I_{o\,nom}$	40 A
Energy Storage Systems	
Buffer time	Load-dependent
Switch-on threshold (adjustable)	21.5 … 22.5 VDC
Charging current	1 … 4 A (adjustable in 1 A steps via DIP switch; Default setting: 2 A)
End-of-charge voltage	26.4 … 29 VDC (temperature controlled with NTC; without temperature sensor: 27.2 V)
Recommended battery module	Type: VRLA 24 V; 7 … 40 Ah
Signaling and Communication	
Signaling	1 x Power LED (green); 1 x UPS LED (yellow); 1 x Warning LED (red); 2 x isolated relay contact (max. 30 VDC, 1 A)
Remote input	Switches buffer mode off
Efficiency/Power Losses	
Power loss P_l	≤ 4 W (no load); ≤ 22.5 W (nominal load)
Efficiency	≥ 97 % (rated operation); ≥ 85 % (charging)
Fuse Protection	
Internal fuse	T 6.3 A (charging circuit)
Recommended backup fusing	T 50 A
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Parallel operation/series operation	No/no
MTBF	600,000 h (+40 °C; per SN 29500)
Surrounding air temperature (operation)	0 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.75 … 16 mm² / 0.75 … 25 mm² / 18 … 4 AWG
Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	68 x 181 x 162; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1100 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 62368-1; EN 61000-6-2; EN 61000-6-3; CSA* (*pending)

Lead-Acid AGM Battery Module; 24 VDC / 7.5 A
787 Series



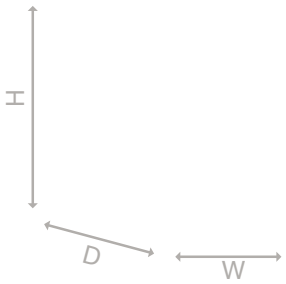
Similar to pictured device



5

Lead-Acid (AGM) Battery Module; Input voltage: 24 VDC; Output current: 7.5 A; Capacity: 1.2 Ah; with battery control

	Item No.	Pack. Unit
	787-876	1



Features:
- Lead-acid, absorbed glass mat (AGM) battery module for uninterruptible power supply (UPS)
- Can be connected to both 787-870/875 UPS Charger/ Controller and 787-1675 Power Supply with integrated UPS charger and controller
- Parallel operation provides higher buffer time
- Built-in temperature sensor
- DIN-35-rail mountable
- Battery control (from manufacturing no. 216570) detects both battery life and battery type

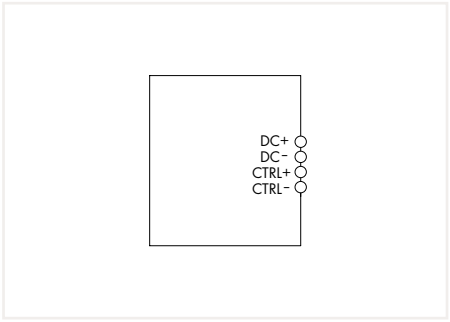
Note:
For parallel connection, please switch battery capacity setting to “OFF” in the UPS charger and controller.

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Nominal output current $I_{o\,nom}$	7.5 A
Energy Storage Systems	
Battery capacity	1.2 Ah
Charging current	≤ 0.3 A
End-of-charge voltage	27 VDC (+25 °C)
Signaling and Communication	
Signaling	Battery control (C+; C-)
Fuse Protection	
Internal fuse	T 15 A
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP20 (per EN 60529)
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Service life (typ.)	5 / 4 / 2 a (20 / 30 / 40 °C)
Surrounding air temperature (operation)	−10 … +40 °C
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/battery control (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Line length (max.)	≤ 3 m (input, output, battery control)
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	55 x 153 x 126.6; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	2140 g
Standards and Specifications	
Approvals/standards/specifications	CE; VdS-tested battery; UL 508

Lead-Acid AGM Battery Module; 24 VDC / 20 A
787 Series

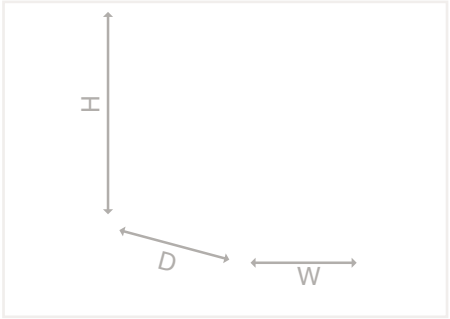


Similar to pictured device



Lead-Acid (AGM) Battery Module; Input voltage: 24 VDC; Output current: 20 A; Capacity: 3.2 Ah; with battery control

	Item No.	Pack. Unit
	787-871	1



Features:
- Lead-acid, absorbed glass mat (AGM) battery module for uninterruptible power supply (UPS)
- Can be connected to both 787-870/875 UPS Charger/ Controller and 787-1675 Power Supply with integrated UPS charger and controller
- Parallel operation provides higher buffer time
- Built-in temperature sensor
- Mounting plate installation via continuous DIN-rail
- Battery control (from manufacturing no. 216570) detects both battery life and battery type

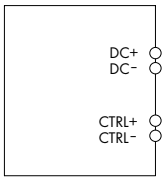
Note:
For parallel connection, please switch battery capacity setting to “OFF” in the UPS charger and controller.

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Nominal output current $I_{o\,nom}$	20 A
Energy Storage Systems	
Battery capacity	3.2 Ah
Charging current	≤ 0.8 A
End-of-charge voltage	27 VDC (+25 °C)
Signaling and Communication	
Signaling	Battery control (C+; C-)
Fuse Protection	
Internal fuse	T 25 A
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP20 (per EN 60529)
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Service life (typ.)	5 / 4 / 2 a (20 / 30 / 40 °C)
Surrounding air temperature (operation)	−10 … +40 °C
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/battery control (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Line length (max.)	≤ 3 m (input, output, battery control)
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	76.2 x 168 x 175.5
Mounting type	Screw mount
Weight	3975 g
Standards and Specifications	
Approvals/standards/specifications	CE; VdS-tested battery; UL 508

Lead-Acid AGM Battery Module; 24 VDC / 40 A
787 Series

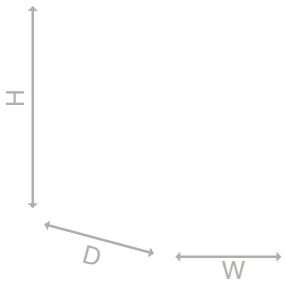


Similar to pictured device



Lead-Acid (AGM) Battery Module; Input voltage: 24 VDC; Output current: 40 A; Capacity: 7 Ah; with battery control

	Item No.	Pack. Unit
	787-872	1



Features:
- Lead-acid, absorbed glass mat (AGM) battery module for uninterruptible power supply (UPS)
- Can be connected to both 787-870/875 UPS Charger/ Controller and 787-1675 Power Supply with integrated UPS charger and controller
- Parallel operation provides higher buffer time
- Built-in temperature sensor
- Mounting plate installation via continuous DIN-rail
- Battery control (from manufacturing no. 216570) detects both battery life and battery type

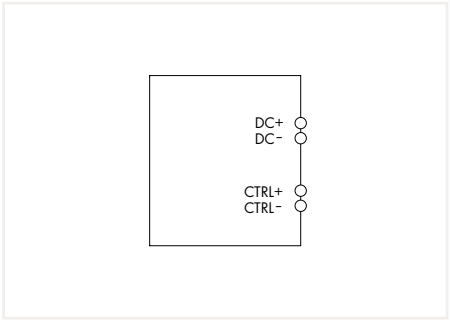
Note:
For parallel connection, please switch battery capacity setting to “OFF” in the UPS charger and controller.

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Nominal output current $I_{o\,nom}$	40 A
Energy Storage Systems	
Battery capacity	7 Ah
Charging current	≤ 1.8 A
End-of-charge voltage	27 VDC (+25 °C)
Signaling and Communication	
Signaling	Battery control (C+; C-)
Fuse Protection	
Internal fuse	2 x T 25 A
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP20 (per EN 60529)
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Service life (typ.)	5 / 4 / 2 a (20 / 30 / 40 °C)
Surrounding air temperature (operation)	−10 … +40 °C
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Battery control (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Line length (max.)	≤ 3 m (input, output, battery control)
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	86 x 239 x 217.5
Mounting type	Screw mount
Weight	6500 g
Standards and Specifications	
Approvals/standards/specifications	CE; VdS-tested battery; UL 508

Lead-Acid AGM Battery Module; 24 VDC / 40 A
787 Series

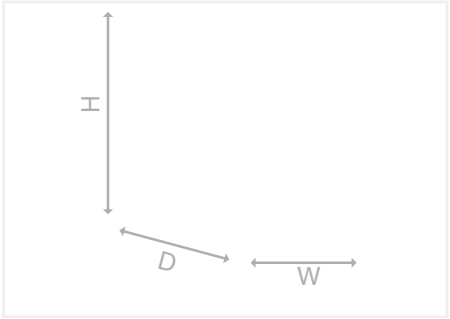


Similar to pictured device



Lead-Acid (AGM) Battery Module; Input voltage: 24 VDC; Output current: 40 A; Capacity: 12 Ah; with battery control

	Item No.	Pack. Unit
	787-873	1



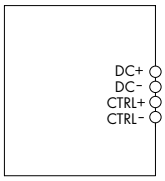
Features:
- Lead-acid, absorbed glass mat (AGM) battery module for uninterruptible power supply (UPS)
- Can be connected to both 787-870/875 UPS Charger/ Controller and 787-1675 Power Supply with integrated UPS charger and controller
- Parallel operation provides higher buffer time
- Built-in temperature sensor
- Mounting plate installation via continuous DIN-rail
- Battery control (from manufacturing no. 216570) detects both battery life and battery type

Note:
For parallel connection, please switch battery capacity setting to “OFF” in the UPS charger and controller.

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Nominal output current $I_{o\,nom}$	40 A
Energy Storage Systems	
Battery capacity	12 Ah
Charging current	≤ 3 A
End-of-charge voltage	27 VDC (+25 °C)
Signaling and Communication	
Signaling	Battery control (C+; C-)
Fuse Protection	
Internal fuse	2 x T 25 A
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP20 (per EN 60529)
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Service life (typ.)	5 / 4 / 2 a (20 / 30 / 40 °C)
Surrounding air temperature (operation)	−10 … +40 °C
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Battery control (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Line length (max.)	≤ 3 m (input, output, battery control)
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	120.5 x 239 x 217.5
Mounting type	Screw mount
Weight	10,650 g
Standards and Specifications	
Approvals/standards/specifications	CE; VdS-tested battery; UL 508

Lead-Acid AGM Battery Module; 24 VDC / 5 A
787 Series

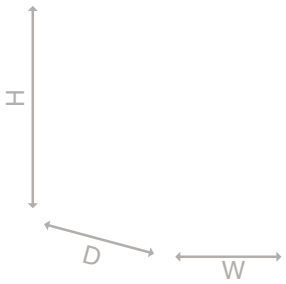




5

Lead-Acid (AGM) Battery Module; Input voltage: 24 VDC; Output current: 5 A; Capacity: 0.8 Ah; with battery control

	Item No.	Pack. Unit
	787-1671	1



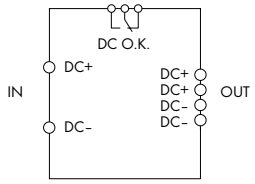
Features:
- Lead-acid, absorbed glass mat (AGM) battery module for uninterruptible power supply (UPS)
- Can be connected to both 787-870/875 UPS Charger/ Controller and 787-1675 Power Supply with integrated UPS charger and controller
- Parallel operation provides higher buffer time
- Built-in temperature sensor
- DIN-35-rail mounting
- Battery control (from manufacturing no. 216570) detects both battery life and battery type

Note:
For parallel connection, please switch battery capacity setting to “OFF” in the UPS charger and controller.

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Nominal output current $I_{o\,nom}$	5 A
Energy Storage Systems	
Battery capacity	0.8 Ah
Charging current	0.2 A (recommended)
End-of-charge voltage	27 VDC (+25 °C)
Signaling and Communication	
Signaling	Battery control (C+; C-)
Fuse Protection	
Internal fuse	T 10 A
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP20 (per EN 60529)
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Service life (typ.)	5 / 4 / 2 a (20 / 30 / 40 °C)
Surrounding air temperature (operation)	–15 … +40 °C (–20 … +40 °C during discharge)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/battery control (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Line length (max.)	≤ 3 m
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	72 x 97 x 124; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1000 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; (*pending)

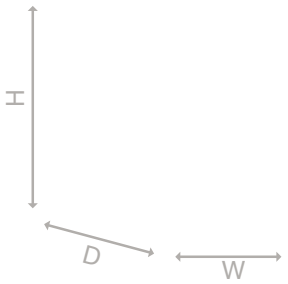
Capacitive Buffer Module; 24 VDC / 10 A
787 Series





Capacitive Buffer Module; Input voltage: 24 VDC; Output voltage: 24 VDC; Output current: 10 A; Buffer time: 0.17 … 16.5 s; communication-capable

Item No.	Pack. Unit
787-880	1



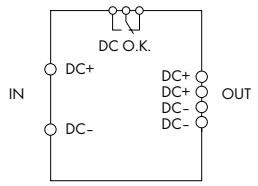
Features:
- Capacitive buffer module bridges short duration voltage drops or load fluctuations
- For uninterruptible power supply
- Internal diode between input and output enables operation with decoupled output.
- Buffer modules can be readily parallel-connected to increase buffer time or load current.
- Potential-free contact for charge condition monitoring

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	20 … 30 VDC
Input current I_i	≤ 0.06 A (no load running); ≤ 1 A (charging); ≤ 11 A
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	U_i – 0.5 VDC (rated operation); 20.4 … 24 VDC (buffer mode)
Nominal output current $I_{o\,nom}$	10 A
Switch-on threshold (adjustable)	20 … 24 VDC
Energy Storage Systems	
Buffer time	0.06 … 7.2 s (depends on load current and switch-on threshold)
Switch-on threshold (adjustable)	20 … 24 VDC
Charging time (typ.)	5 min
Signaling and Communication	
Signaling	1 x LED DC OK (green); 1 x LED Charge (yellow); 1 x LED DC not OK (red); 1 x isolated relay contact (max. 30 VDC, 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 1.5 W (no load); ≤ 6.5 W (nominal load)
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Parallel operation/series operation	Yes/no
MTBF	typ. 87,600 h (at +25 °C); typ. 30,500 h (at +40 °C)
Surrounding air temperature (operation)	–10 … +50 °C
Relative humidity	5 … 96 % (no condensation permissible)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output/relay (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	57 x 163 x 179; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1000 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; UL 508; EN 61000-6-2; EN 61000-6-3

Capacitive Buffer Module; 24 VDC / 20 A
787 Series

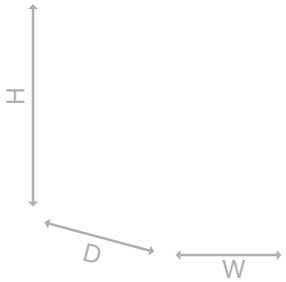


Similar to picture



Capacitive Buffer Module; Input voltage: 24 VDC; Output voltage: 24 VDC; Output current: 20 A; Buffer time: 0.17 … 16.5 s; communication-capable

	Item No.	Pack. Unit
	787-881	1

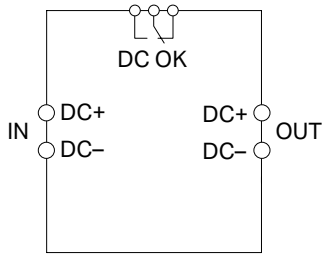


Features:
- Capacitive buffer module bridges short duration voltage drops or load fluctuations
- For uninterruptible power supply
- Internal diode between input and output enables operation with decoupled output.
- Buffer modules can be readily parallel-connected to increase buffer time or load current.
- Potential-free contact for charge condition monitoring

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	20 … 30 VDC
Input current I_i	≤ 0.06 A (no load running); ≤ 1 A (charging); ≤ 22 A
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	U_i – 1 VDC (rated operation); 20.4 … 24 VDC (buffer mode)
Nominal output current $I_{o\,nom}$	20 A
Switch-on threshold (adjustable)	20 … 24 VDC
Energy Storage Systems	
Buffer time	0.17 … 16.5 s (depends on load current and switch-on threshold)
Switch-on threshold (adjustable)	20 … 24 VDC
Charging time (typ.)	5 min
Signaling and Communication	
Signaling	1 x LED DC OK (green); 1 x LED Charge (yellow); 1 x LED DC not OK (red); 1 x isolated relay contact (max. 30 VDC, 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 1.5 W (no load); ≤ 15 W (nominal load)
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Parallel operation/series operation	Yes/no
MTBF	typ. 87,600 h (at +25 °C); typ. 30,500 h (at +40 °C)
Surrounding air temperature (operation)	–10 … +50 °C
Relative humidity	5 … 96 % (no condensation permissible)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Relay (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	57 x 181 x 179; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1000 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; UL 508; EN 61000-6-2; EN 61000-6-3

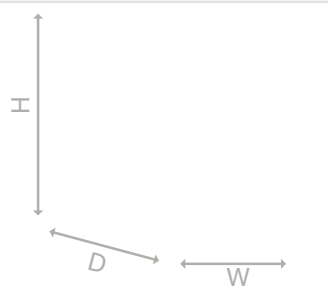
Capacitive Buffer Module; 24 VDC / 40 A
787 Series





Capacitive Buffer Module; Input voltage: 24 VDC; Output voltage: 24 VDC; Output current: 40 A; Buffer time: 0.35 … 6.6 s

	Item No.	Pack. Unit
	787-916	1

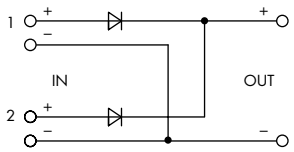


Features:
- Capacitive buffer module bridges short duration voltage drops or load fluctuations
- Internal diode between input and output enables operation with decoupled output
- Potential-free contact for charge condition monitoring

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	23 … 30 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 0.06 A (no load running); ≤ 0.8 A (charging); ≤ 40.8 A
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	U_i – 0.5 VDC (mains operation; Io = 20 A); U_i – 0.8 VDC (mains operation; I_o = 40 A); 20 … 29 VDC (buffer mode)
Nominal output current $I_{o\,nom}$	40 A
Energy Storage Systems	
Buffer time	0.3 … 6.6 s (depends on load current and temperature)
Switch-on threshold (typ.)	22 VDC
Nominal capacity	4.17 F
Nominal voltage	32.4 VDC
Effective energy content (typ.)	500 Ws
Charging time (typ.)	2.5 min
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x UPS LED (yellow); 1 x Warning LED (red); 1 x isolated relay contact (max. 30 VDC, 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 1.9 W (operation without decoupled output); ≤ 11.5 W (operation with decoupled output; I^o = 20 A); ≤ 33.5 W (operation with decoupled output; I_o = 40 A)
Efficiency	≥ 96.5 %
Fuse Protection	
Internal fuse	No
Recommended backup fusing	T 40 A
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Parallel operation/series operation	No/no
Life service	74,000 h (+25 °C; I_o = 40 A); 28,200 h (+40 °C; I_o = 40 A)
Surrounding air temperature (operation)	–10 … +50 °C
Relative humidity	5 … 95 % (no condensation permissible)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.75 … 16 mm² / 0.75 … 25 mm² / 18 … 4 AWG
Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	68 x 181 x 162; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	900 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 62368-1; EN 61000-6-2; EN 61000-6-3; CSA* (*pending)

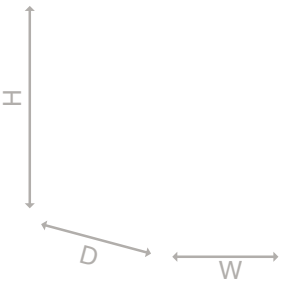
Redundancy Module; 24 VDC / 25 A
787 Series





Redundancy Module; Input voltage: 2 x 9 … 54 VDC; Input current: 2 x 12.5 A; Output voltage: 9 … 54 VDC; Output current: 25 A

	Item No.	Pack. Unit
	787-783	1

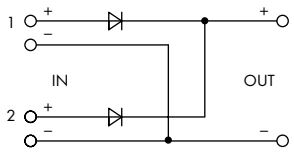


Features:
- Redundancy module with two inputs for decoupling two power supplies
- For redundant and fail-safe power supply
- With LED for input voltage monitoring on site

Input	
Nominal input voltage $U_{i\,nom}$	2 x 24 VDC
Input voltage range	2 x 9 … 54 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 12.5 A (per path)
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	9 … 54 VDC (U_i – Voltage drop)
Voltage drop	≤ 0.8 V (input/output)
Nominal output current $I_{o\,nom}$	25 A
Output power (max.)	1350 W
Nominal output power	600 W
Signaling and Communication	
Signaling	1 x IN1 LED (green); 1 x IN2 LED (green); 1 x OUT LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 19 W (nominal load)
Efficiency	≥ 96 %
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Short-circuit-protected	No
Parallel operation/series operation	Yes/no
MTBF	> 10 million h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	–2.66 %/K (+55 °C < Tamb ≤ +70 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.5 … 6 mm² / 0.5 … 6 mm² / 20 … 10 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	50 x 130 x 92; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	470 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508

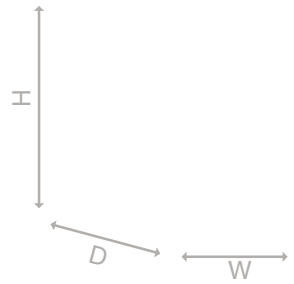
Redundancy Module; 24 VDC / 76 A
787 Series





Redundancy Module; Input voltage: 2 x 9 … 54 VDC; Input current: 2 x 40 A; Output voltage: 9 … 54 VDC; Output current: 76 A

	Item No.	Pack. Unit
	787-785	1

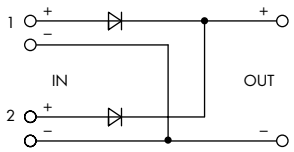


Features:
- Redundancy module with two inputs for decoupling two power supplies
- For redundant and fail-safe power supply
- With LED for input voltage monitoring on site

Input	
Nominal input voltage $U_{i\,nom}$	2 x 24 VDC
Input voltage range	2 x 9 … 54 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 40 A (per path); ≤ 76 A (in total)
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	9 … 54 VDC (U_i – Voltage drop)
Voltage drop	≤ 0.5 V (input/output)
Nominal output current $I_{o\,nom}$	76 A (UL: max. 65 A)
Output power (max.)	4104 W
Nominal output power	1824 W
Signaling and Communication	
Signaling	1 x IN1 LED (green); 1 x IN2 LED (green); 1 x OUT LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 38 W (nominal load)
Efficiency	≥ 97 %
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Short-circuit-protected	No
Parallel operation/series operation	Yes/no
MTBF	> 10 million h (per IEC 61709)
Surrounding air temperature (operation)	−25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	−2.66 %/K (+55 °C < Tamb ≤ +70 °C)
Pollution degree	2
Connection Data	
Connection technology	Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	1.5 … 16 mm² / 1.5 … 16 mm² / 16 … 6 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	83 x 130 x 153; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	960 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508

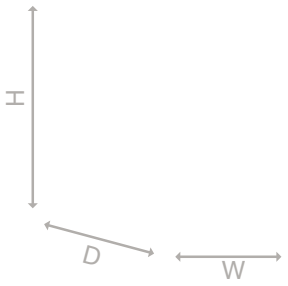
Redundancy Module; 24 VDC / 40 A
787 Series





Redundancy Module; Input voltage: 2 x 24 VDC; Input current: 2 x 20 A; Output voltage: 24 VDC; Output current: 40 A; communication-capable

	Item No.	Pack. Unit
	787-885	1

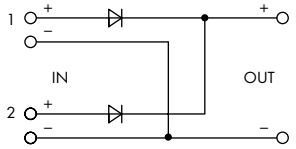


Features:
- Redundancy module with two inputs for decoupling two power supplies
- For redundant and fail-safe power supply
- With LED and potential-free contact for input voltage monitoring on site and remotely

Input	
Nominal input voltage $U_{i\,nom}$	2 x 24 VDC
Input voltage range	2 x 18 … 30 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 20 A (per path)
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 0.6 V (input/output)
Nominal output current $I_{o\,nom}$	40 A
Output power (max.)	1200 W
Nominal output power	960 W
Signaling and Communication	
Signaling	1 x OUT LED (green); 1 x IN1 LED (yellow); 1 x IN2 LED (yellow); 1 x isolated relay contact (max. 30 VDC, 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 1.5 W (no load); ≤ 14 W (24 VDC; 20 A); ≤ 26 W (48 VDC; 40 A)
Efficiency	≥ 97 %
Fuse Protection	
Internal fuse	No
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Parallel operation/series operation	Yes/no
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–10 … +60 °C
Relative humidity	5 … 96 % (no condensation permissible)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Relay (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	40 x 181 x 163; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715) in two positions
Weight	870 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; UL 60950; UL 508; EN 61000-6-2; EN 61000-6-3

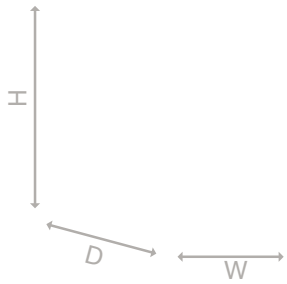
Redundancy Module; 48 VDC / 40 A
787 Series





Redundancy Module; Input voltage: 2 x 48 VDC; Input current: 2 x 20 A; Output voltage: 48 VDC; Output current: 40 A; communication-capable

Item No.	Pack. Unit
787-886	1



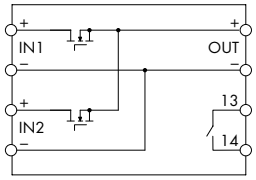
Features:
- Redundancy module with two inputs for decoupling two power supplies
- For redundant and fail-safe power supply
- With LED and potential-free contact for input voltage monitoring on site and remotely

Input	
Nominal input voltage $U_{i\,nom}$	2 x 48 VDC
Input voltage range	2 x 36 … 54 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 20 A (per path)
Output	
Nominal output voltage $U_{o\,nom}$	48 VDC
Output voltage range	36 … 54 VDC (U_i – Voltage drop)
Voltage drop	≤ 1 V (input/output)
Nominal output current $I_{o\,nom}$	40 A
Output power (max.)	2160 W
Nominal output power	1920 W
Signaling and Communication	
Signaling	1 x OUT LED (green); 1 x IN1 LED (yellow); 1 x IN2 LED (yellow); 1 x isolated relay contact (max. 30 VDC, 1 A)
Efficiency/Power Losses	
Power loss P_l	≤ 1.7 W (48 VDC; no load); ≤ 20 W (48 VDC; 20 A); ≤ 40 W (48 VDC; 40 A)
Efficiency	≥ 96 %
Fuse Protection	
Internal fuse	No
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Parallel operation/series operation	Yes/no
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–10 … +60 °C
Relative humidity	5 … 96 % (no condensation permissible)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Relay (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	40 x 181 x 163; height including connector; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	860 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; UL 60950*; UL 508*; EN 61000-6-2; EN 61000-6-3 (*pending)

Redundancy Module; 24 VDC / 40 A
787 Series

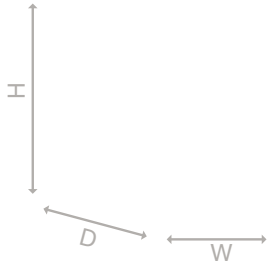


Similar to picture



Redundancy Module; Input voltage: 2 x 24 VDC; Input current: 2 x 20 A; Output voltage: 24 VDC; Output current: 40 A; communication-capable

	Item No.	Pack. Unit
	787-1685	1

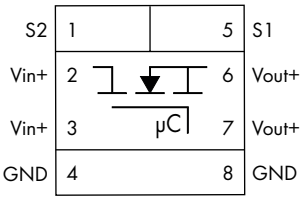


Features:
- Redundancy module with low-loss Mosfet® decouples two power supplies
- For redundant and fail-safe power supply, incl. Mosfet® monitoring
- Continuous output current: 40 ADC, in any ratio of both inputs (e.g., 20 A / 20 A or 0 A / 40 A)
- Suitable for power supplies with PowerBoost and TopBoost
- Same profile as CLASSIC Power Supplies
- Connects to power supplies with electrically isolated output voltage (SELV) per EN 60950-1/UL 60950-1; PELV per EN 60204

Input	
Nominal input voltage $U_{i\,nom}$	2 x 24 VDC
Input voltage range	2 x 10 … 36 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 40 A (from one input path); ≤ 20 A (via both input paths)
PowerBoost input	60 ADC (4 s); 50 ADC (8 s)
TopBoost input	100 ADC (50 ms)
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	10 … 36 VDC (U_i – Voltage drop)
Voltage drop	≤ 100 mV (input/output)
Nominal output current $I_{o\,nom}$	40 A
Nominal output power	960 W
Switching frequency	5 kHz
TopBoost	200 ADC (50 ms)
PowerBoost	120 ADC (4 s); 100 ADC (8 s)
Signaling and Communication	
Signaling	1 x IN1 LED (green); 1 x IN2 LED (green); 1 x DC OK signal contact (IN1 and IN2 > 10 VDC)
Efficiency/Power Losses	
Power loss P_l	≤ 1.5 W (no load); ≤ 9.5 W (nominal load)
Efficiency	≥ 99.5 %
Fuse Protection	
Internal fuse	No
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Parallel operation/series operation	Yes/no
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–40 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	–1.5 %/K (> +65 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
LED indication (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 139.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	370 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61204-3; EN 60950-1; UL 60950; UL 508; DNV GL

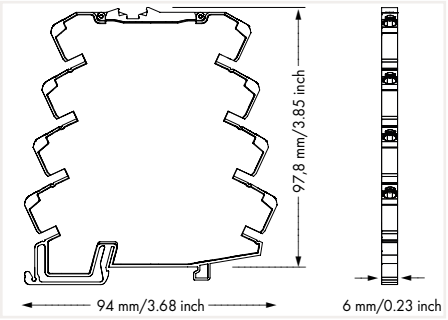
Electronic Circuit Breaker; 24 VDC / 1 A
787 Series





Electronic Circuit Breaker; 1-channel; Input voltage: 24 VDC; 1 A; communication-capable

Item No.	Pack. Unit
787-2861/100-000	1

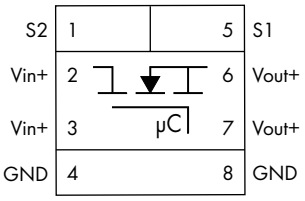


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 50 mV (1 A)
Nominal output current $I_{o\,nom}$	1 x 1 A (fixed setting)
Trip time	4 ms … 100 s
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	No
Signaling and Communication	
Signaling	1 x Status LED (green/yellow/red/blue); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/Power Losses	
Power loss P_l	≤ 0.3 W (no load)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,263,074 h (per MIL-HDBK-217F2)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	6 x 97.8 x 94; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	37 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61000-6-2; EN 61000-6-3; EN 60950-1; UL 61010-2-201* (*pending)

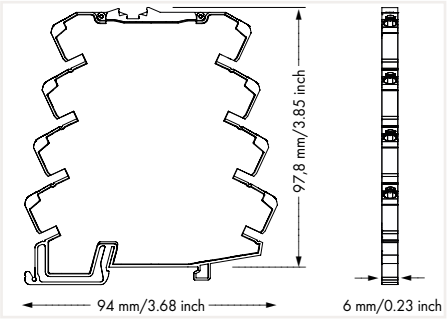
Electronic Circuit Breaker; 24 VDC / 2 A
787 Series





Electronic Circuit Breaker; 1-channel; Input voltage: 24 VDC; 2 A; communication-capable

Item No.	Pack. Unit
787-2861/200-000	1

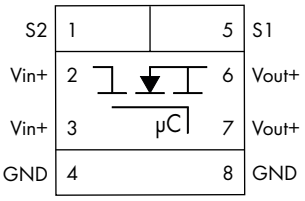


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 100 mV (2 A)
Nominal output current $I_{o\,nom}$	1 x 2 A (fixed setting)
Trip time	4 ms … 100 s
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	No
Signaling and Communication	
Signaling	1 x Status LED (green/yellow/red/blue); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/Power Losses	
Power loss P_l	≤ 0.3 W (no load)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,262,142 h (per MIL-HDBK-217F2)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	6 x 97.8 x 94; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	37 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61000-6-2; EN 61000-6-3; EN 60950-1; UL 61010-2-201* (*pending)

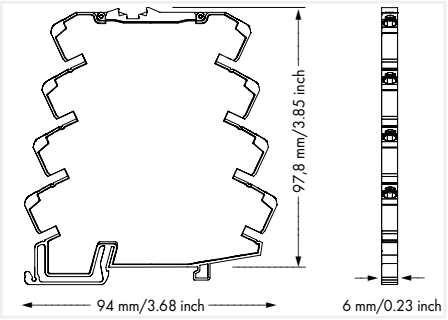
Electronic Circuit Breaker; 24 VDC / 4 A
787 Series





Electronic Circuit Breaker; 1-channel; Input voltage: 24 VDC; 4 A; communication-capable

Item No.	Pack. Unit
787-2861/400-000	1

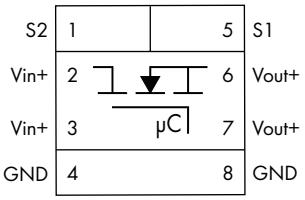


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 80 mV (4 A)
Nominal output current $I_{o\,nom}$	1 x 4 A (fixed setting)
Trip time	4 ms … 100 s
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	No
Signaling and Communication	
Signaling	1 x Status LED (green/yellow/red/blue); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/Power Losses	
Power loss P_l	≤ 0.3 W (no load)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,258,733 h (per MIL-HDBK-217F2)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	10 … 95 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	6 x 97.8 x 94; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	37 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61000-6-2; EN 61000-6-3; EN 60950-1; UL 61010-2-201* (*pending)

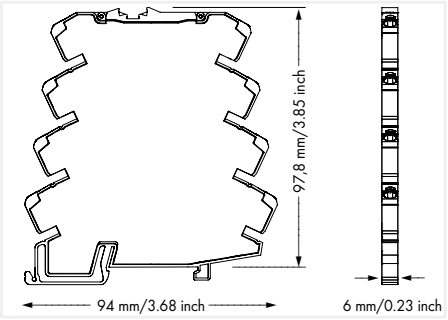
Electronic Circuit Breaker; 24 VDC / 6 A
787 Series





Electronic Circuit Breaker; 1-channel; Input voltage: 24 VDC; 6 A; communication-capable

Item No.	Pack. Unit
787-2861/600-000	1

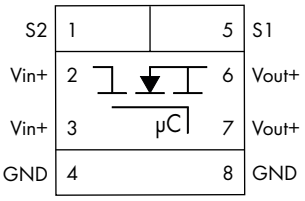


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 1200 mV (6 A)
Nominal output current $I_{o\,nom}$	1 x 6 A (fixed setting)
Trip time	4 ms … 100 s
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	No
Signaling and Communication	
Signaling	1 x Status LED (green/yellow/red/blue); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/Power Losses	
Power loss P_l	≤ 0.3 W (no load)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,253,313 h (per MIL-HDBK-217F2)
Surrounding air temperature (operation)	–25 … +70 °C (derating must be observed)
Relative humidity	10 … 95 % (no condensation permissible)
Derating	See instruction manual
Pollution degree	2
Connection Data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	6 x 97.8 x 94; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	37 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61000-6-2; EN 61000-6-3; EN 60950-1; UL 61010-2-201* (*pending)

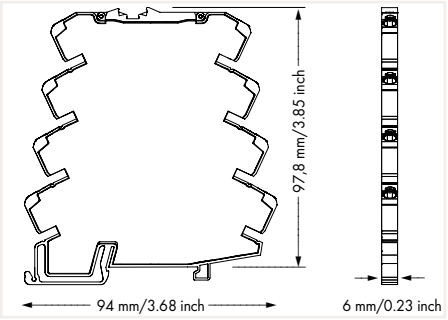
Electronic Circuit Breaker; 24 VDC / 8 A
787 Series





Electronic Circuit Breaker; 1-channel; Input voltage: 24 VDC; 8 A; communication-capable

Item No.	Pack. Unit
787-2861/800-000	1

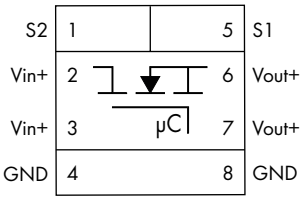


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 160 mV (8 A)
Nominal output current $I_{o\,nom}$	1 x 8 A (fixed setting)
Trip time	4 ms … 100 s
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	No
Signaling and Communication	
Signaling	1 x Status LED (green/yellow/red/blue); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/Power Losses	
Power loss P_l	≤ 0.3 W (no load)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,245,816 h (per MIL-HDBK-217F2)
Surrounding air temperature (operation)	–25 … +65 °C (derating must be observed)
Relative humidity	10 … 95 % (no condensation permissible)
Derating	See instruction manual
Pollution degree	2
Connection Data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	6 x 97.8 x 94; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	37 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61000-6-2; EN 61000-6-3; EN 60950-1; UL 61010-2-201* (*pending)

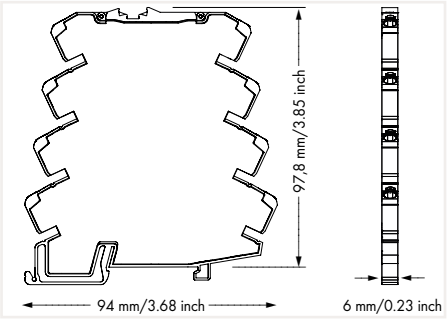
Electronic Circuit Breaker; 24 VDC / 1 … 8 A
787 Series





Electronic Circuit Breaker; 1-channel; Input voltage: 24 VDC; adjustable 1 … 8 A; Signal contact

Item No.	Pack. Unit
787-2861/108-020	1

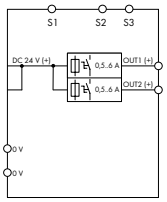


Features:
- Space-saving ECB with one channel
- Reliably and safely trips in the event of an overload and short circuit on the secondary side
- Switch-on capacity > 50,000 µF
- Enables the use of an economical, standard power supply
- Minimizes wiring via two voltage outputs and maximizes commoning options on both input and output sides (e.g., commoning of the output voltage on 857 and 2857 Series devices)
- Status signal – adjustable as single or group message
- Reset, switch on/off via remote input or local switch
- Prevents power supply overload due to total inrush current thanks to time-delayed switching on during interconnected operation

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	1
Nominal output voltage $U_{o\,nom}$	1 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 160 mV (8 A)
Nominal output current $I_{o\,nom}$	1 x 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 A (adjustable)
Trip time	4 ms … 100 s
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 170 ms/max. 500 ms)
Active current limitation	No
Signaling and Communication	
Signaling	1 x Status LED (green/yellow/red/blue/violet); 1 x Control input; 1 x Active signal output (U_i, max. 4 mA)
Remote input	18 … 30 VDC signal, switches on/off and resets the channel
Efficiency/Power Losses	
Power loss P_l	≤ 0.3 W (no load)
Efficiency	≥ 98 %
Fuse Protection	
Internal fuse	T 15 A
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	1,262,142 h (per MIL-HDBK-217F2)
Surrounding air temperature (operation)	–25 … +70 °C (derating must be observed)
Relative humidity	10 … 95 % (no condensation permissible)
Derating	See instruction manual
Pollution degree	2
Connection Data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	6 x 97.8 x 94; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	37 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61000-6-2; EN 61000-6-3; EN 60950-1; UL 61010-2-201* (*pending)

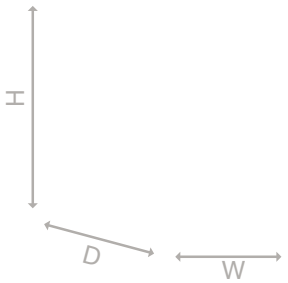
Electronic Circuit Breaker; with Active Current Limitation; 24 VDC / 0.5 … 6 A
787 Series





Electronic Circuit Breaker; 2-channel; Input voltage: 24 VDC; adjustable 0.5 … 6 A; Active current limitation; communication-capable

	Item No.	Pack. Unit
	787-1662/006-1000	1



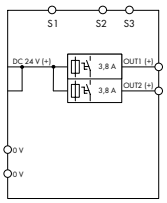
Features:
- Space-saving ECB with two channels
- Nominal current: 0.5 … 6 A (adjustable for each channel via sealable selector switch)
- Active current limitation
- Switch-on capacity > 65,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	2
Nominal output voltage $U_{o\,nom}$	2 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 145 mV (6 A)
Nominal output current $I_{o\,nom}$	2 x 0.5 / 1 / 2 / 3 / 4 / 6 A (adjustable for each channel via selector switch)
Trip time	16 ms … 5 s (load-dependent)
Switch-on capacity	> 65,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	1.7 x $I_{o\,nom}$ typ.
Signaling and Communication	
Signaling	2 x LED (green/red/orange); 1 x Remote control input (S1); 2 x active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 0.55 W (no load); ≤ 2.5 W (2 x 6 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL; EN 60950; EN 61000-6-2; EN 61000-6-3

Electronic Circuit Breaker; with Active Current Limitation; 24 VDC / 3.8 A
787 Series

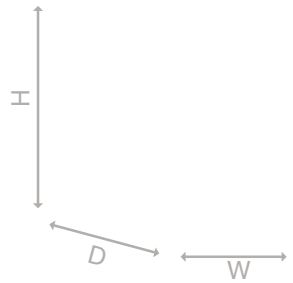


Similar to picture



Electronic Circuit Breaker; 2-channel; Input voltage: 24 VDC; 3.8 A; Active current limitation; NEC Class 2; communication-capable

	Item No.	Pack. Unit
	787-1662/004-1000	1

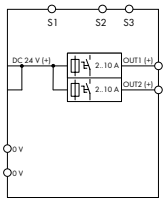


Features:
- Space-saving ECB with two channels
- Nominal current is fixed at 3.8 A for each channel
- Each output complies with NEC Class 2
- Active current limitation
- Switch-on capacity > 65,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	20 … 28.8 VDC
Output	
Total number of channels (module)	2
Nominal output voltage $U_{o\,nom}$	2 x 24 VDC
Output voltage range	20 … 28.8 VDC (U_i – Voltage drop)
Voltage drop	≤ 125 mV (3.8 A)
Nominal output current $I_{o\,nom}$	2 x 3.8 A (fixed setting; NEC Class 2 at 20 … 24 VDC); 2 x 3.2 A (NEC Class 2 at 28 VDC)
Trip time	16 ms … 4.7 s (load-dependent)
Switch-on capacity	> 65,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	3.8 A (3.2 A at U_o > 25 VDC); LPS per NEC Class 2
Signaling and Communication	
Signaling	2 x LED (green/red/orange); 1 x Remote control input (S1); 2 x active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 0.65 W (no load); ≤ 1.6 W (2 x 3.8 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	No
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

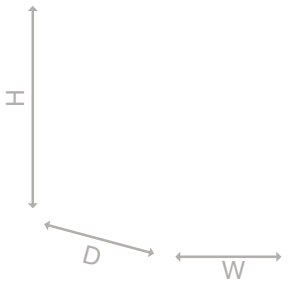
Electronic Circuit Breaker; 24 VDC / 2 … 10 A
787 Series





Electronic Circuit Breaker; 2-channel; Input voltage: 24 VDC; adjustable 2 … 10 A; communication-capable

Item No.	Pack. Unit
787-1662	1

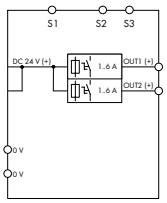


Features:
- Space-saving ECB with two channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input for switching on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	2
Nominal output voltage $U_{o\,nom}$	2 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	2 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	2 x LED (green/red/orange); 1 x Remote control input (S1); 2 x active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 0.85 W (no load); ≤ 5.5 W (2 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	200 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL; EN 60950; EN 61000-6-2; EN 61000-6-3

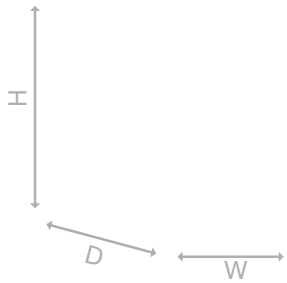
Electronic Circuit Breaker; 24 VDC / 1 … 6 A
787 Series





Electronic Circuit Breaker; 2-channel; Input voltage: 24 VDC; adjustable 1 … 6 A; communication-capable

Item No.	Pack. Unit
787-1662/106-000	1



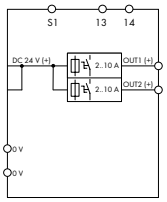
Features:
- Space-saving ECB with two channels
- Nominal current: 1 … 6 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input for switching on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	2
Nominal output voltage $U_{o\,nom}$	2 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 120 mV (6 A)
Nominal output current $I_{o\,nom}$	2 x 1 / 2 / 3 / 4 / 5 / 6 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	2 x LED (green/red/orange); 1 x Remote control input (S1); 2 x active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 0.85 W (no load); ≤ 2.5 W (2 x 6 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL; EN 60950; EN 61000-6-2; EN 61000-6-3

Electronic Circuit Breaker; 24 VDC / 2 … 10 A
787 Series

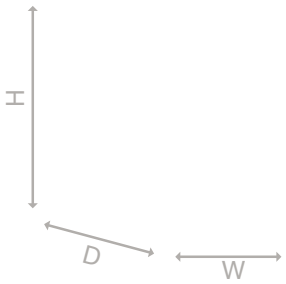


Similar to picture



Electronic Circuit Breaker; 2-channel; Input voltage: 24 VDC; adjustable 2 … 10 A; Signal contact; Specialty configuration

	Item No.	Pack. Unit
	787-1662/000-054	1



Features:

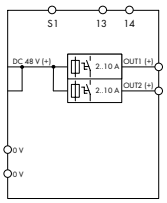
- Space-saving ECB with two channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Potential-free signal contact 13/14 reports “channel switched off” and “tripped channel” – does not support communication via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	2
Nominal output voltage $U_{o\,nom}$	2 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	2 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	2 x LED (green/red/orange); 1 x Remote control input (S1); 1 x Group signal contact (13; 14)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms
Efficiency/Power Losses	
Power loss P_l	≤ 0.84 W (no load); ≤ 5.5 W (2 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	161 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

Electronic Circuit Breaker; 48 VDC / 2 … 10 A
787 Series

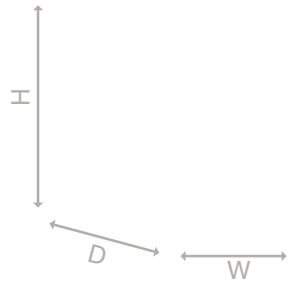


Similar to picture



Electronic Circuit Breaker; 2-channel; Input voltage: 48 VDC; adjustable 2 … 10 A; Signal contact

	Item No.	Pack. Unit
	787-1662/000-250	1



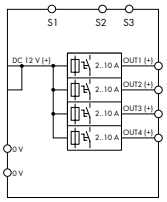
Features:
- Space-saving ECB with two channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 23,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- Potential-free signal contact 13/14 reports "channel switched off" and "tripped channel" – does not support communication via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	48 VDC
Input voltage range	32 … 58 VDC
Output	
Total number of channels (module)	2
Nominal output voltage $U_{o\,nom}$	2 x 48 VDC
Output voltage range	32 … 58 VDC (U_i – Voltage drop)
Voltage drop	≤ 175 mV (10 A)
Nominal output current $I_{o\,nom}$	2 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 23,000 µF per channel at 48 VDC, 2.5 mm² cable cross section and 2.5 m cable length
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	2 x LED (green/red/orange); 1 x Remote control input (S1); 1 x Group signal contact (13; 14)
Remote input	Reactivation of all tripped channels via 15 … 58 VDC pulse for min. 500 ms
Efficiency/Power Losses	
Power loss P_l	≤ 0.84 W (no load); ≤ 4.5 W (2 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

Electronic Circuit Breaker; 12 VDC / 2 … 10 A
787 Series



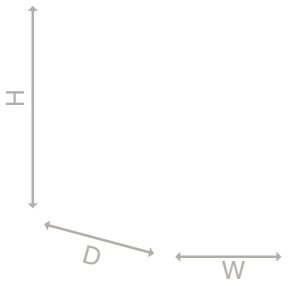
Similar to picture



5

Electronic Circuit Breaker; 4-channel; Input voltage: 12 VDC; adjustable 2 … 10 A; communication-capable

Item No.	Pack. Unit
787-1664/000-100	1

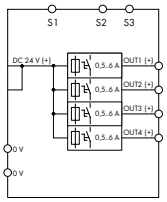


Features:
- Space-saving ECB with four channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets tripped channels or switches on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	12 VDC
Input voltage range	10 … 16 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 12 VDC
Output voltage range	10 … 16 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 9 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 0.53 W (no load); ≤ 10 W (4 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

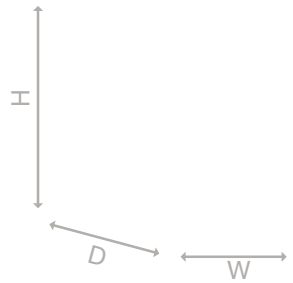
Electronic Circuit Breaker; with Active Current Limitation; 24 VDC / 0.5 … 6 A
787 Series





Electronic Circuit Breaker; 4-channel; Input voltage: 24 VDC; adjustable 0.5 … 6 A; Active current limitation; communication-capable

	Item No.	Pack. Unit
	787-1664/006-1000	1



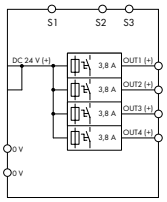
Features:
- Space-saving ECB with four channels
- Nominal current: 0.5 … 6 A (adjustable for each channel via sealable selector switch)
- Active current limitation
- High switch-on capacity per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets all tripped channels
- Remote input for switching on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 145 mV (6 A)
Nominal output current $I_{o\,nom}$	4 x 0.5 / 1 / 2 / 3 / 4 / 6 A (adjustable for each channel via selector switch)
Trip time	16 ms … 5 s (load-dependent)
Switch-on capacity	> 65,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	1.7 x $I_{o\,nom}$ typ.
Signaling and Communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 0.77 W (no load); ≤ 4.3 W (4 x 6 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL; EN 60950; EN 61000-6-2; EN 61000-6-3

Electronic Circuit Breaker; with Active Current Limitation; 24 VDC / 3.8 A
787 Series

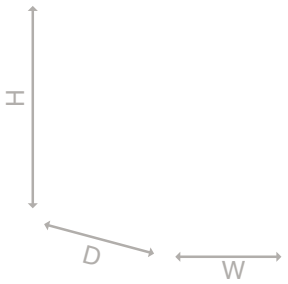


Similar to picture



Electronic Circuit Breaker; 4-channel; Input voltage: 24 VDC; 3.8 A; Active current limitation; NEC Class 2; communication-capable

	Item No.	Pack. Unit
	787-1664/004-1000	1



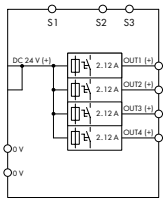
Features:
- Space-saving ECB with four channels
- Nominal current is fixed at 3.8 A for each channel
- Each output complies with NEC Class 2
- Active current limitation
- High switch-on capacity per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets all tripped channels
- Remote input for switching on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	20 … 28.8 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	20 … 28.8 VDC (U_i – Voltage drop)
Voltage drop	≤ 150 mV (3.8 A)
Nominal output current $I_{o\,nom}$	4 x 3.8 A (fixed setting; NEC Class 2 at 20 … 24 VDC); 4 x 3.2 A (NEC Class 2 at 28 VDC)
Trip time	16 ms … 4.7 s (load-dependent)
Switch-on capacity	> 65,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	3.8 A (3.2 A at U_o > 25 VDC); LPS per NEC Class 2
Signaling and Communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 0.82 W (no load); ≤ 3.1 W (4 x 3.8 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	No
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

Electronic Circuit Breaker; with Active Current Limitation; 24 VDC / 2 … 12 A
787 Series

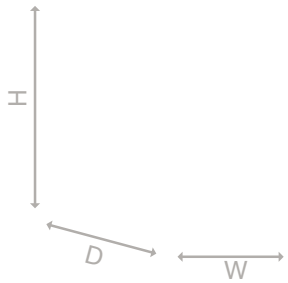


Similar to picture



Electronic Circuit Breaker; 4-channel; Input voltage: 24 VDC; adjustable 2 … 12 A; Active current limitation; communication-capable

	Item No.	Pack. Unit
	787-1664/212-1000	1



Features:
- Space-saving ECB with four channels
- Nominal current: 2 … 12 A (adjustable for each channel via sealable selector switch)
- Active current limitation
- High switch-on capacity per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets all tripped channels
- Remote input for switching on/off any number of channels via pulse sequence

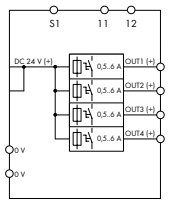
Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 240 mV (12 A)
Nominal output current $I_{o\,nom}$	4 x 2 / 4 / 6 / 8 / 10 / 12 A (adjustable for each channel via selector switch)
Trip time	16 ms … 5 s (load-dependent)
Switch-on capacity	> 65,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	1.7 x $I_{o\,nom}$ typ.
Signaling and Communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 0.77 W (no load); ≤ 12.3 W (4 x 12 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

5

Electronic Circuit Breaker; with Active Current Limitation; 24 VDC / 0.5 … 6 A
787 Series

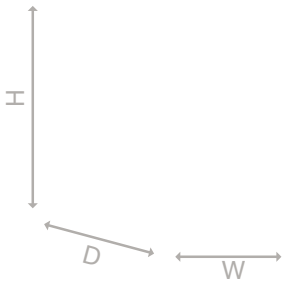


Similar to picture



Electronic Circuit Breaker; 4-channel; Input voltage: 24 VDC; adjustable 0.5 … 6 A; Active current limitation; Signal contact; Specialty configuration

	Item No.	Pack. Unit
	787-1664/006-1054	1



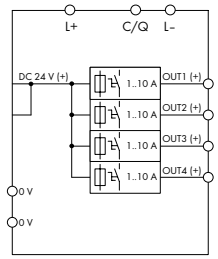
Features:

- Space-saving ECB with four channels
- Nominal current: 0.5 … 6 A (adjustable for each channel via sealable selector switch)
- Active current limitation
- High switch-on capacity per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- Potential-free signal contact 11/12 reports “channel switched off” and “tripped channel” – does not support communication via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 145 mV (6 A)
Nominal output current $I_{o\,nom}$	4 x 0.5 / 1 / 2 / 3 / 4 / 6 A (adjustable for each channel via selector switch)
Trip time	16 ms … 5 s (load-dependent)
Switch-on capacity	> 58,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	1.3 x $I_{o\,nom}$ typ.
Signaling and Communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1); 1 x Group signal contact (11; 12)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms
Efficiency/Power Losses	
Power loss P_l	≤ 0.77 W (no load); ≤ 4.3 W (4 x 6 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

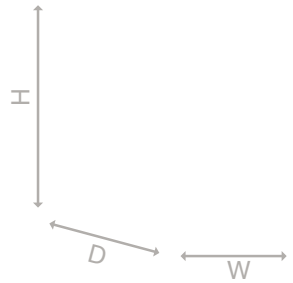
Electronic Circuit Breaker; 24 VDC / 1 … 10 A
787 Series





Electronic Circuit Breaker; 4-channel; Input voltage: 24 VDC; adjustable 1 … 10 A; IO-Link

Item No.	Pack. Unit
787-1664/000-080	1

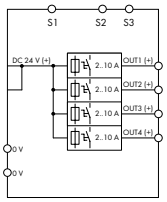


Features:
- Space-saving ECB with four channels
- Nominal current: 1 … 10 A (adjustable for each channel via sealable selector switch or IO-Link interface)
- Switch-on capacity > 50,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Status message and current measurement of each individual channel via IO-Link interface
- Switch on/off each channel separately via IO-Link interface

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	4 x 1 / 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via IO-Link interface; 1, 2, 4, 6, 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	4 x LED (green/red/orange); 1 x IO-Link interface
Remote input	Switching on/off any number of channels via IO-Link interface
Efficiency/Power Losses	
Power loss P_l	≤ 0.84 W (no load); ≤ 10 W (4 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

Electronic Circuit Breaker; 24 VDC / 2 … 10 A
787 Series

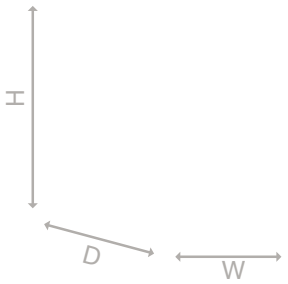




5

Electronic Circuit Breaker; 4-channel; Input voltage: 24 VDC; adjustable 2 … 10 A; communication-capable

Item No.	Pack. Unit
787-1664	1

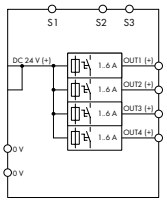


Features:
- ECB with four channels, parametrizable
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Status message for each channel via pulse sequence
- Remote input for switching on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 0.84 W (no load); ≤ 10 W (4 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL; EN 60950; EN 61000-6-2; EN 61000-6-3

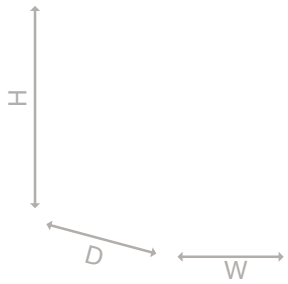
Electronic Circuit Breaker; 24 VDC / 1 … 6 A
787 Series





Electronic Circuit Breaker; 4-channel; Input voltage: 24 VDC; adjustable 1 … 6 A; communication-capable

Item No.	Pack. Unit
787-1664/106-000	1



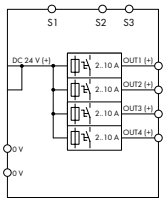
Features:
- ECB with four channels, parametrizable
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Status message for each channel via pulse sequence
- Remote input for switching on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 120 mV (6 A)
Nominal output current $I_{o\,nom}$	4 x 1 / 2 / 3 / 4 / 5 / 6 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 0.84 W (no load); ≤ 4.2 W (4 x 6 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	210 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL; EN 60950; EN 61000-6-2; EN 61000-6-3

Electronic Circuit Breaker; 24 VDC / 2 … 10 A
787 Series

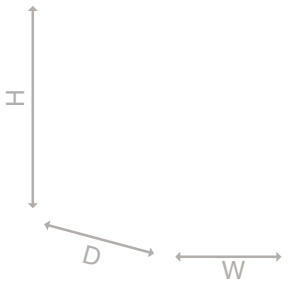


Similar to picture



Electronic Circuit Breaker; 4-channel; Input voltage: 24 VDC; adjustable 2 … 10 A; communication-capable; Specialty configuration

	Item No.	Pack. Unit
	787-1664/000-004	1



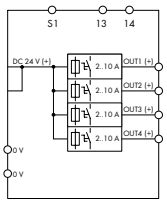
Features:
- ECB with four channels, parametrizable
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Status message for each channel via pulse sequence
- Remote input for switching on/off any number of channels via pulse sequence
- Group signal S3 reports “channel switched off” and “tripped channel”

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 0.84 W (no load); ≤ 10 W (4 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	161 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL; EN 60950; EN 61000-6-2; EN 61000-6-3

Electronic Circuit Breaker; 24 VDC / 2 … 10 A
787 Series

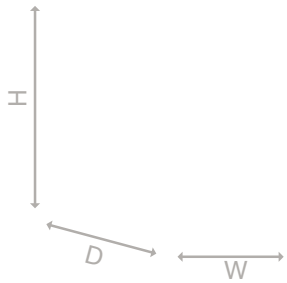


Similar to picture



Electronic Circuit Breaker; 4-channel; Input voltage: 24 VDC; adjustable 2 … 10 A; Signal contact; Specialty configuration

Item No.	Pack. Unit
787-1664/000-054	1



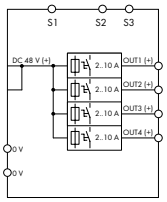
Features:
- ECB with four channels, parametrizable
- Time-delayed switching of channels
- Potential-free signal contact 13 / 14 reports "channel switched off" and "tripped channel" – does not support communication via pulse sequence
- Tripped message (group signal)
- Remote input resets all tripped channels
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1); 1 x Group signal contact (13; 14)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms
Efficiency/Power Losses	
Power loss P_l	≤ 0.84 W (no load); ≤ 10 W (4 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

Electronic Circuit Breaker; 48 VDC / 2 … 10 A
787 Series

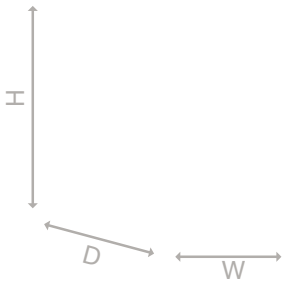


Similar to picture



Electronic Circuit Breaker; 4-channel; Input voltage: 48 VDC; adjustable 2 … 10 A; communication-capable

Item No.	Pack. Unit
787-1664/000-200	1



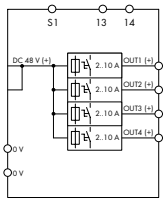
Features:
- Space-saving ECB with four channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 23,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets all tripped channels
- Remote input for switching on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	48 VDC
Input voltage range	32 … 58 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 48 VDC
Output voltage range	32 … 58 VDC (U_i – Voltage drop)
Voltage drop	≤ 175 mV (10 A)
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 23,000 µF per channel at 48 VDC, 2.5 mm² cable cross section and 2.5 m cable length
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 58 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 0.84 W (no load); ≤ 8 W (4 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

Electronic Circuit Breaker; 48 VDC / 2 … 10 A
787 Series

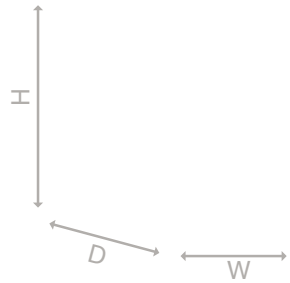


Similar to picture



Electronic Circuit Breaker; 4-channel; Input voltage: 48 VDC; adjustable 2 … 10 A; Signal contact

Item No.	Pack. Unit
787-1664/000-250	1



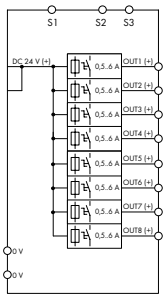
Features:
- Space-saving ECB with four channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 23,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- Potential-free signal contact 13 / 14 reports "channel switched off" and "tripped channel" – does not support communication via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	48 VDC
Input voltage range	32 … 58 VDC
Output	
Total number of channels (module)	4
Nominal output voltage $U_{o\,nom}$	4 x 48 VDC
Output voltage range	32 … 58 VDC (U_i – Voltage drop)
Voltage drop	≤ 175 mV (10 A)
Nominal output current $I_{o\,nom}$	4 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 23,000 µF per channel at 48 VDC, 2.5 mm² cable cross section and 2.5 m cable length
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	4 x LED (green/red/orange); 1 x Remote control input (S1);1 x Group signal contact (13; 14)
Remote input	Reactivation of all tripped channels via 15 … 58 VDC pulse for min. 500 ms
Efficiency/Power Losses	
Power loss P_l	≤ 0.84 W (no load); ≤ 8 W (4 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 115.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

Electronic Circuit Breaker; with Active Current Limitation; 24 VDC / 0.5 … 6 A
787 Series

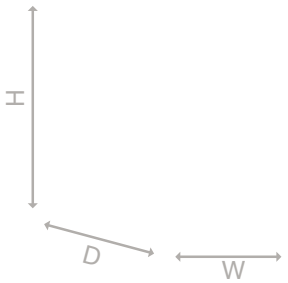


Similar to picture



Electronic Circuit Breaker; 8-channel; Input voltage: 24 VDC; adjustable 0.5 … 6 A; Active current limitation; communication-capable

	Item No.	Pack. Unit
	787-1668/006-1000	1



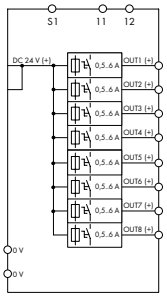
Features:
- Space-saving ECB with eight channels
- Nominal current: 0.5 … 6 A (adjustable for each channel via sealable selector switch)
- Active current limitation
- Switch-on capacity > 65,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets all tripped channels
- Remote input for switching on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 155 mV (6 A)
Nominal output current $I_{o\,nom}$	8 x 0.5 / 1 / 2 / 3 / 4 / 6 A (adjustable for each channel via selector switch)
Trip time	16 ms … 5 s (load-dependent)
Switch-on capacity	> 65,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	1.7 x $I_{o\,nom}$ typ.
Signaling and Communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 1.15 W (no load); ≤ 8.6 W (8 x 6 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 142.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	440 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

Electronic Circuit Breaker; with Active Current Limitation; 24 VDC / 0.5 … 6 A
787 Series

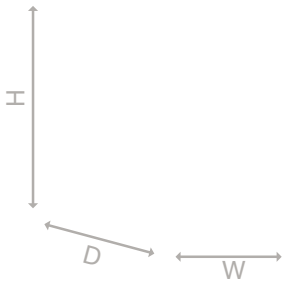


Similar to picture



Electronic Circuit Breaker; 8-channel; Input voltage: 24 VDC; adjustable 0.5 … 6 A; Active current limitation; Signal contact; Specialty configuration

	Item No.	Pack. Unit
	787-1668/006-1054	1



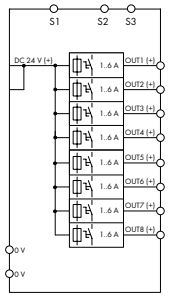
Features:
- Space-saving ECB with eight channels
- Nominal current: 0.5 … 6 A (adjustable for each channel via sealable selector switch)
- Active current limitation
- Switch-on capacity > 65,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- Potential-free signal contact 11/12 reports "channel switched off" and "tripped channel" – does not support communication via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 155 mV (6 A)
Nominal output current $I_{o\,nom}$	8 x 0.5 / 1 / 2 / 3 / 4 / 6 A (adjustable for each channel via selector switch)
Trip time	16 ms … 5 s (load-dependent)
Switch-on capacity	> 58,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	Yes
Current limitation	1.3 x $I_{o\,nom}$ typ.
Signaling and Communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1); 1 x Group signal contact (11; 12)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms
Efficiency/Power Losses	
Power loss P_l	≤ 1.15 W (no load); ≤ 8.6 W (8 x 6 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 142.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	440 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

Electronic Circuit Breaker; 24 VDC / 1 … 6 A
787 Series

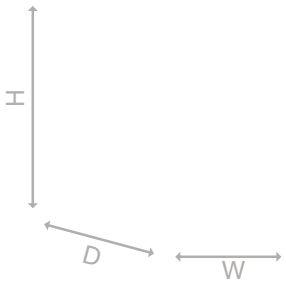


Similar to picture



Electronic Circuit Breaker; 8-channel; Input voltage: 24 VDC; adjustable 1 … 6 A; communication-capable

Item No.	Pack. Unit
787-1668/106-000	1



Features:

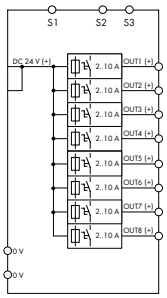
- Space-saving ECB with eight channels
- Nominal current: 1 … 6 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets all tripped channels
- Remote input for switching on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 120 mV (6 A)
Nominal output current $I_{o\,nom}$	8 x 1 / 2 / 3 / 4 / 5 / 6 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 1.32 W (no load); ≤ 8 W (8 x 6 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 142.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	490 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL; EN 60950; EN 61000-6-2; EN 61000-6-3

Electronic Circuit Breaker; 24 VDC / 2 … 10 A
787 Series

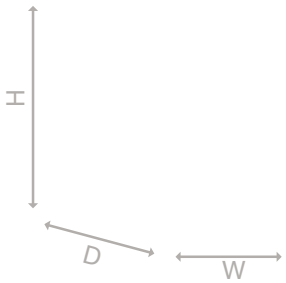


Similar to picture



Electronic Circuit Breaker; 8-channel; Input voltage: 24 VDC; adjustable 2 … 10 A; communication-capable

Item No.	Pack. Unit
787-1668	1



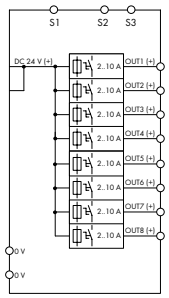
Features:
- Space-saving ECB with eight channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets all tripped channels
- Remote input for switching on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	8 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 1.3 W (no load); ≤ 20 W (8 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 142.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	440 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL; EN 60950; EN 61000-6-2; EN 61000-6-3

Electronic Circuit Breaker; 24 VDC / 2 … 10 A
787 Series

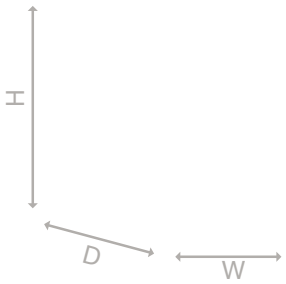


Similar to picture



Electronic Circuit Breaker; 8-channel; Input voltage: 24 VDC; adjustable 2 … 10 A; communication-capable; Specialty configuration

	Item No.	Pack. Unit
	787-1668/000-004	1



Features:

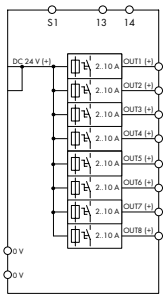
- Space-saving ECB with eight channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input resets all tripped channels
- Remote input for switching on/off any number of channels via pulse sequence
- Group signal S3 reports “channel switched off” and “tripped channel”

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	8 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 1.3 W (no load); ≤ 20 W (8 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 142.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	420 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508; UL 2367; GL; EN 60950; EN 61000-6-2; EN 61000-6-3

Electronic Circuit Breaker; 24 VDC / 2 … 10 A
787 Series

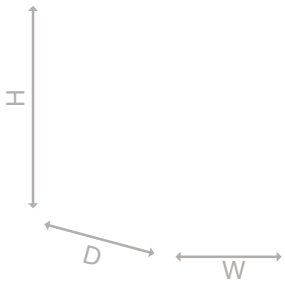


Similar to picture



Electronic Circuit Breaker; 8-channel; Input voltage: 24 VDC; adjustable 2 … 10 A; Signal contact; Specialty configuration

Item No.	Pack. Unit
787-1668/000-054	1



Features:

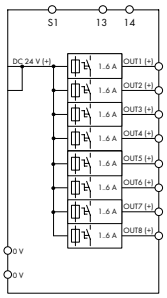
- Space-saving ECB with eight channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- Potential-free signal contact 13 / 14 reports “channel switched off” and “tripped channel” – does not support communication via pulse sequence.

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	8 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch; max. 70 A in total)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1); 1 x Group signal contact (13; 14)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms
Efficiency/Power Losses	
Power loss P_l	≤ 1.32 W (no load); ≤ 20 W (8 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 142.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	440 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

Electronic Circuit Breaker; 24 VDC / 1 … 6 A
787 Series

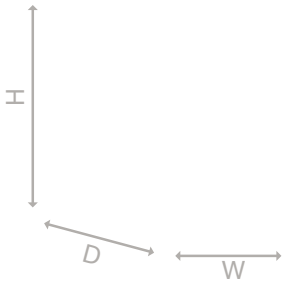


Similar to picture



Electronic Circuit Breaker; 8-channel; Input voltage: 24 VDC; adjustable 1 … 6 A; Signal contact

Item No.	Pack. Unit
787-1668/106-054	1



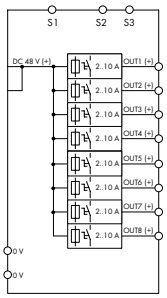
Features:
- Space-saving ECB with eight channels
- Nominal current: 1 … 6 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 50,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Remote input resets all tripped channels
- Potential-free signal contact 13/14 reports “channel switched off” and “tripped channel” – does not support communication via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 120 mV (6 A)
Nominal output current $I_{o\,nom}$	8 x 1 / 2 / 3 / 4 / 5 / 6 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1); 1 x Group signal contact (13; 14)
Remote input	Reactivation of all tripped channels via 15 … 30 VDC pulse for min. 500 ms
Efficiency/Power Losses	
Power loss P_l	≤ 0.84 W (no load); ≤ 8 W (8 x 6 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 142.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	440 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

Electronic Circuit Breaker; 48 VDC / 2 … 10 A
787 Series

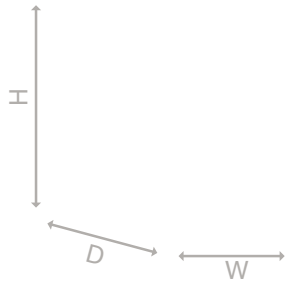


Similar to picture



Electronic Circuit Breaker; 8-channel; Input voltage: 48 VDC; adjustable 2 … 10 A; communication-capable

Item No.	Pack. Unit
787-1668/000-200	1



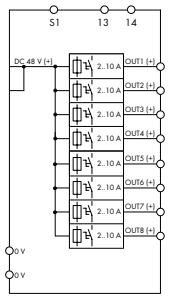
Features:
- Space-saving ECB with eight channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 23,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Status message for each channel via pulse sequence
- Remote input for switching on/off any number of channels via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	48 VDC
Input voltage range	32 … 58 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 48 VDC
Output voltage range	32 … 58 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	8 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch; max. 70 A in total)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 23,000 µF per channel at 48 VDC, 2.5 mm² cable cross section and 2.5 m cable length
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1); 2 x Active signal output (S2; S3)
Remote input	Reactivation of all tripped channels via 15 … 58 VDC pulse for min. 500 ms; Switching on/off any number of channels via pulse sequence
Efficiency/Power Losses	
Power loss P_l	≤ 1.3 W (no load); ≤ 20 W (8 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 142.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	440 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

Electronic Circuit Breaker; 48 VDC / 2 … 10 A
787 Series

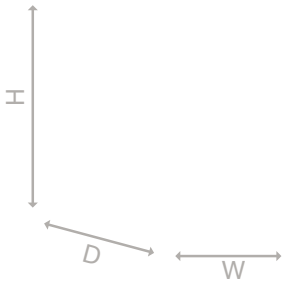


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Electronic Circuit Breaker; 8-channel; Input voltage: 48 VDC; adjustable 2 … 10 A; Signal contact

Item No.	Pack. Unit
787-1668/000-250	1

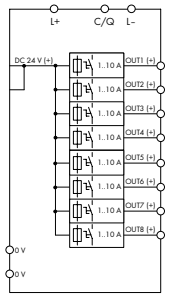


Features:
- Space-saving ECB with eight channels
- Nominal current: 2 … 10 A (adjustable for each channel via sealable selector switch)
- Switch-on capacity > 23,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Tripped message (group signal)
- Potential-free signal contact 13 / 14 reports "channel switched off" and "tripped channel" – does not support communication via pulse sequence

Input	
Nominal input voltage $U_{i\,nom}$	48 VDC
Input voltage range	32 … 58 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 48 VDC
Output voltage range	32 … 58 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	8 x 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via selector switch; max. 70 A in total)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 23,000 µF per channel at 48 VDC, 2.5 mm² cable cross section and 2.5 m cable length
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	8 x LED (green/red/orange); 1 x Remote control input (S1); 1 x Group signal contact (13; 14)
Remote input	Reactivation of all tripped channels via 15 … 58 VDC pulse for min. 500 ms
Efficiency/Power Losses	
Power loss P_l	≤ 1.3 W (no load); ≤ 20 W (8 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	500 VDC
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 142.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	440 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

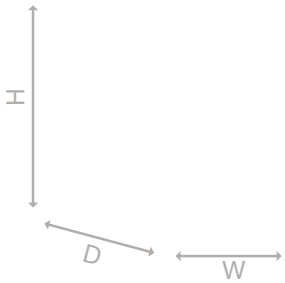
Electronic Circuit Breaker; 24 VDC / 1 … 10 A
787 Series





Electronic Circuit Breaker; 8-channel; Input voltage: 24 VDC; adjustable 1 … 10 A; IO-Link

Item No.	Pack. Unit
787-1668/000-080	1

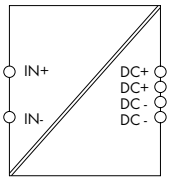


Features:
- Space-saving ECB with eight channels
- Nominal current: 1 … 10 A (adjustable for each channel via sealable selector switch or IO-Link interface)
- Switch-on capacity > 50,000 µF per channel
- One illuminated, three-colored button per channel simplifies switching (on/off), resetting, and on-site diagnostics
- Time-delayed switching of channels
- Status message and current measurement of each individual channel via IO-Link interface
- Switch on/off each channel separately via IO-Link interface

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 30 VDC
Output	
Total number of channels (module)	8
Nominal output voltage $U_{o\,nom}$	8 x 24 VDC
Output voltage range	18 … 30 VDC (U_i – Voltage drop)
Voltage drop	≤ 200 mV (10 A)
Nominal output current $I_{o\,nom}$	8 x 1 / 2 / 3 / 4 / 6 / 8 / 10 A (adjustable for each channel via IO-Link interface); 1, 2, 4, 6, 10 A (adjustable for each channel via selector switch)
Trip time	16 ms … 100 s (load-dependent)
Switch-on capacity	> 50,000 µF per channel
Switch-on behavior	Time-delayed channel switching (load-dependent, min. 50 ms / max. 5 s)
Active current limitation	No
Signaling and Communication	
Signaling	8 x LED (green/red/orange); 1 x IO-Link interface
Remote input	Switching on/off any number of channels via IO-Link interface
Efficiency/Power Losses	
Power loss P_l	≤ 1.3 W (no load); ≤ 20 W (8 x 10 A)
Efficiency	≥ 99 %
Fuse Protection	
Internal fuse	T 15 A per channel
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	No
Parallel operation of single channels	Not permitted
Series operation	No
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	≥ +50 °C (see instruction manual)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®; Push-in CAGE CLAMP®
Input (+) (solid/fine-stranded/AWG)	0.5 … 10 mm² / 0.5 … 10 mm² / 20 … 8 AWG
Input (–); Output; Signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	42 x 127 x 142.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	440 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 508*; UL 2367*; GL*; EN 60950; EN 61000-6-2; EN 61000-6-3 (*pending)

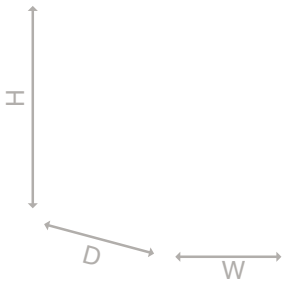
DC/DC Converter; Compact; 24 VDC / 2 A
787 Series





DC/DC Converter; Compact; Input voltage: 110 VDC; Output voltage: 24 VDC; Output current: 2 A; electrically isolated

	Item No.	Pack. Unit
	787-1014	1

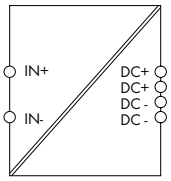


Input	
Nominal input voltage $U_{i\,nom}$	110 VDC
Input voltage range	77 … 140 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 0.77 A (77 VDC); ≤ 0.42 A (140 VDC)
Inrush current	≤ 30 A (NTC)
Mains failure hold-up time	≥ 8 ms (77 VDC); > 25 ms (140 VDC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Nominal output current $I_{o\,nom}$	2 A (24 VDC); 1.6 A (in any mounting position)
Nominal output power	48 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 1.9 W (110 VDC; no load); ≤ 9.9 W (110 VDC; nominal load)
Efficiency	≥ 85 %
Fuse Protection	
Internal fuse	T 4 A / 125 VDC
Recommended backup fusing	Circuit breaker: 6 A, 10 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	–40 … +70 °C
Relative humidity	5 … 96 % (coated PCB)
Derating	–1.5 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	72 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	250 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 50121-3-2; EN 50125*; UL 60950*; UL 508*; DNV GL* (*pending)

DC/DC Converter; Compact; 24 VDC / 2 A
787 Series

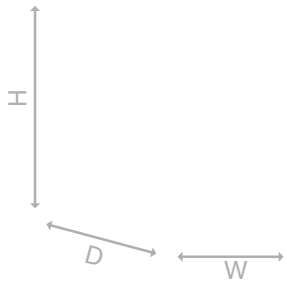


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DC/DC Converter; Compact; Input voltage: 72 VDC; Output voltage: 24 VDC; Output current: 2 A; electrically isolated

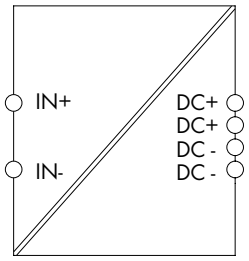
	Item No.	Pack. Unit
	787-1014/072-000	1



Input	
Nominal input voltage $U_{i\,nom}$	72 VDC
Input voltage range	40 … 90 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 0.79 A (72 VDC)
Inrush current	≤ 30 A (NTC)
Mains failure hold-up time	≥ 8 ms (72 VDC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC (SELV) / ≤ 1 %
Nominal output current $I_{o\,nom}$	2 A (24 VDC); 1.6 A (in any mounting position)
Nominal output power	48 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 2 W (72 VDC; no load); ≤ 9 W (72 VDC; nominal load)
Efficiency	≥ 84 %
Fuse Protection	
Internal fuse	T 4 A / 125 VDC
Recommended backup fusing	Circuit breaker: 6 A, 10 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−40 … +70 °C
Relative humidity	5 … 96 % (coated PCB)
Derating	−1.5 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	72 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	250 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 50121-3-2; EN 50125*; UL 60950*; UL 508*; DNV GL* (*pending)

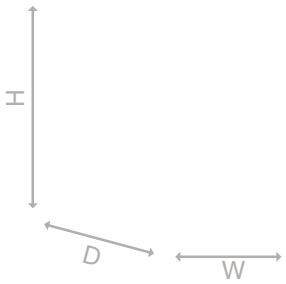
DC/DC Converter; Compact; 12 VDC / 4 A
787 Series





DC/DC Converter; Compact; Input voltage: 72 VDC; Output voltage: 12 VDC; Output current: 4 A; electrically isolated

	Item No.	Pack. Unit
	787-1015/072-000	1



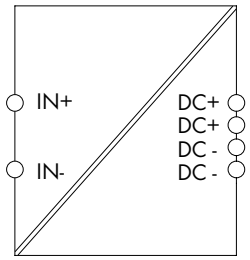
Features:
- Switched-mode power supply
- Natural convection cooling when horizontally mounted
- Stepped profile, ideal for distribution boards or distribution boxes
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1
- Control deviation: ±1 % (±10 % within the application range of EN 50121-3-2)
- Suitable for railway applications

Input	
Nominal input voltage $U_{i\,nom}$	72 VDC
Input voltage range	40 … 90 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 0.79 A (72 VDC)
Inrush current	≤ 30 A (NTC)
Mains failure hold-up time	≥ 8 ms (72 VDC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / 1 %
Nominal output current $I_{o\,nom}$	4 A (24 VDC); 3.1 A (in any mounting position)
Nominal output power	48 W
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x Status indication LED (green)
Efficiency/Power Losses	
Power loss P_l	≤ 1.2 W (72 VDC; no load); ≤ 8.6 W (72 VDC; nominal load)
Power loss (max.) $P_{l\,max.}$	≤ 9.7 W (40 VDC / 12 VDC; 4 A)
Efficiency	≥ 85 %
Fuse Protection	
Internal fuse	T 4 A / 125 VDC
Recommended backup fusing	Circuit breaker: 6 A, 10 A; Tripping characteristic: B or C
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	II
Short-circuit-protected	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air temperature (operation)	−40 … +70 °C
Relative humidity	5 … 96 % (coated PCB)
Derating	−1.5 %/K (> +55 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	72 x 89 x 55; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	235 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204-3; EN 50121-3-2; EN 50125

DC/DC Converter; 12 VDC / 4 A
787 Series

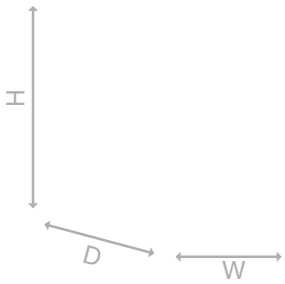


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DC/DC Converter; 24 VDC input voltage; 12 VDC output voltage; 4 A output current; galvanically isolated

Item No.	Pack. Unit
787-1650	1

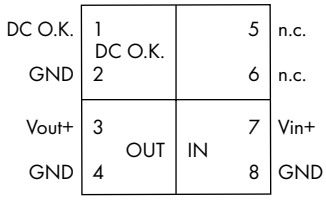


Features:
- Primary switch mode power supply unit
- Natural convection cooling when horizontally mounted
- Suitable for both parallel and series operation
- Electrically isolated output voltage (SELV) per EN 60950-1
- Adjustment accuracy: ± 1 %

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	18 … 60 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 3.39 A
Inrush current	≤ 60 A (NTC)
Mains failure hold-up time	≥ 5 ms (24 VDC)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	12 VDC (SELV) / ≤ 1 %
Output voltage range	11.5 … 14.5 VDC (adjustable)
Nominal output current $I_{o\,nom}$	4 A
Nominal output power	48 W
Residual ripple	≤ 50 mV (peak-to-peak)
Overload behavior	Constant current
Signaling and communication	
Signaling	1 x LED operation status indicator (green)
Efficiency/Power losses:	
Power loss P_v	≤ 1 W (no load)
Power loss (max.) $P_{l\,max.}$	≤ 11.4 W (24 VAC; / 3 A)
Efficiency	≥ 84 %
Fuse protection:	
Internal fuse	T 4 A
Safety and Protection/Environmental Requirements:	
Insulation voltage (pri.-sec.)	2.2 kV DC
Protection class/protection type	III / IP20 (per EN 60529)
Overvoltage category	II
Short circuit protection	Yes
Parallel operation/series operation	Yes/yes
MTBF	> 500,000 h (per IEC 61709)
Surrounding air (operating) temperature	-25 … 70 °C
Relative humidity	5 … 96 % (no condensation permissible)
Derating	-2 %/K (> 55 °C)
Pollution degree	2
Connection data	
Connection technology	CAGE CLAMP®
Input/output/signaling (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 90 x 107.5; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	240 g
Standards and specifications	
Approvals/standards/specifications	CE; EN 60950-1; EN 61204-3; EN 61558-2-16

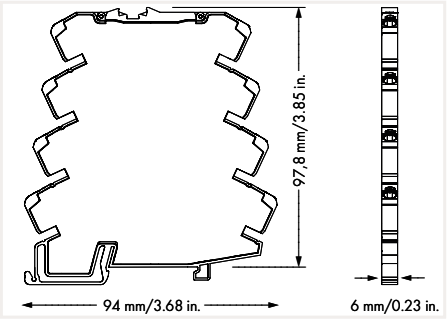
DC/DC Converter; 5 VDC / 0.5 A
787 Series





DC/DC Converter; Input voltage: 24 VDC; Output voltage: 5 VDC; Output current: 0.5 A

	Item No.	Pack. Unit
	787-2801	1

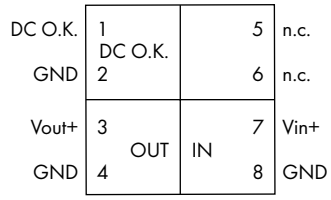


Features:
- DC/DC converter in a compact 6 mm housing
- DC/DC converters (787-28xx) supply devices with 5, 10, 12 or 24 VDC from a 24 or 48 VDC power supply with an output power up to 12 W
- Output voltage monitoring via DC OK contact
- Can be commoned with 857 and 2857 Series devices
- Comprehensive range of approvals for multiple applications

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	10 … 30 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 0.34 A
Inrush current	≤ 0.5 A (at nominal input voltage)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	5 VDC / ≤ 3 %
Output voltage range	±3 %
Nominal output current $I_{o\,nom}$	0.5 A
Nominal output power	2.5 W
Mains/load regulation	≤ 1 %
Residual ripple	≤ 20 mV (peak-to-peak)
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Short circuit LED (red); 1 x Active signal output (U_i, max. 4 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 0.13 W (no load); ≤ 0.6 W (nominal load)
Efficiency	≥ 82.5 % (at nominal input voltage and nominal output)
Fuse Protection	
Internal fuse	No
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Short-circuit-protected	Yes
Parallel operation/series operation	No/no
MTBF	> 1,800,000 h
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	6 x 97.8 x 94; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	36.2 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61000-6-2; EN 61000-6-3; EN 60950-1; UL 60950*; UL 508*; ANSI/ISA 12.12.01*; ATEX*; IEC Ex*; DNV GL* (*pending)

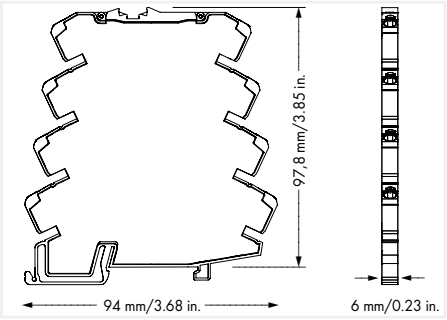
DC/DC Converter; 10 VDC / 0.5 A
787 Series





DC/DC Converter; Input voltage: 24 VDC; Output voltage: 10 VDC; Output current: 0.5 A

	Item No.	Pack. Unit
	787-2802	1

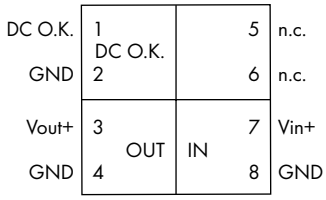


Features:
- DC/DC converter in a compact 6 mm housing
- DC/DC converters (787-28xx) supply devices with 5, 10, 12 or 24 VDC from a 24 or 48 VDC power supply with an output power up to 12 W
- Output voltage monitoring via DC OK contact
- Can be commoned with 857 and 2857 Series devices
- Comprehensive range of approvals for multiple applications

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	15 … 30 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 0.42 A
Inrush current	≤ 0.5 A (at nominal input voltage)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	10 VDC / ≤ 2 %
Output voltage range	±3 %
Nominal output current $I_{o\,nom}$	0.5 A
Nominal output power	5 W
Mains/load regulation	≤ 1 %
Residual ripple	≤ 20 mV (peak-to-peak)
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Short circuit LED (red); 1 x Active signal output (U_i, max. 4 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 0.19 W (no load); ≤ 0.7 W (nominal load)
Efficiency	≥ 89 % (at nominal input voltage and nominal output)
Fuse Protection	
Internal fuse	No
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Short-circuit-protected	Yes
Parallel operation/series operation	No/no
MTBF	> 1,800,000 h
Surrounding air temperature (operation)	−25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	6 x 97.8 x 94; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	35.9 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61000-6-2; EN 61000-6-3; EN 60950-1; UL 60950*; UL 508*; ANSI/ISA 12.12.01*; ATEX*; IEC Ex*; DNV GL* (*pending)

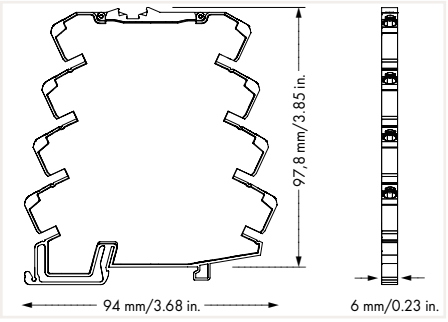
DC/DC Converter; 12 VDC / 0.5 A
787 Series





DC/DC Converter; Input voltage: 24 VDC; Output voltage: 12 VDC; Output current: 0.5 A

	Item No.	Pack. Unit
	787-2805	1

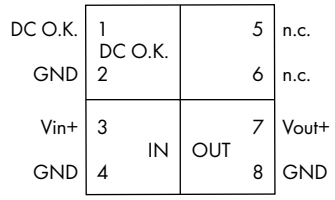


Features:
- DC/DC converter in a compact 6 mm housing
- DC/DC converters (787-28xx) supply devices with 5, 10, 12 or 24 VDC from a 24 or 48 VDC power supply with an output power up to 12 W
- Output voltage monitoring via DC OK contact
- Can be commoned with 857 and 2857 Series devices
- Comprehensive range of approvals for multiple applications

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	15 … 30 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 0.5 A
Inrush current	≤ 0.5 A (at nominal input voltage)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	5 VDC / ≤ 2 %
Output voltage range	±2 %
Nominal output current $I_{o\,nom}$	0.5 A
Nominal output power	6 W
Mains/load regulation	≤ 1 %
Residual ripple	≤ 20 mV (peak-to-peak)
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Short circuit LED (red); 1 x Active signal output (U_i, max. 4 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 0.21 W (no load); ≤ 0.7 W (nominal load)
Efficiency	≥ 90 % (at nominal input voltage and nominal output)
Fuse Protection	
Internal fuse	No
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Short-circuit-protected	Yes
Parallel operation/series operation	No/no
MTBF	> 1,800,000 h
Surrounding air temperature (operation)	–25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	6 x 97.8 x 94; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	48.6 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61000-6-2; EN 61000-6-3; EN 60950-1; UL 60950*; UL 508*; ANSI/ISA 12.12.01*; ATEX*; IEC Ex*; DNV GL* (*pending)

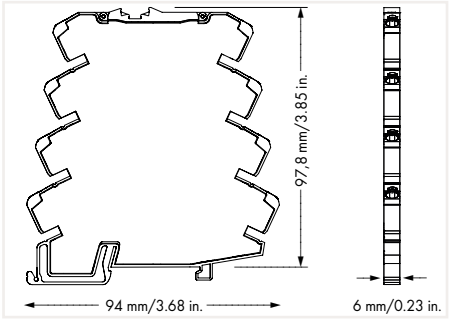
DC/DC Converter; 24 VDC / 0.25 A
787 Series





DC/DC Converter; Input voltage: 48 VDC; Output voltage: 24 VDC; Output current: 0.25 A

	Item No.	Pack. Unit
	787-2803	1

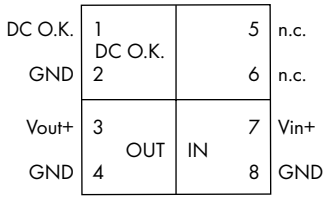


Features:
- DC/DC converter in a compact 6 mm housing
- DC/DC converters (787-28xx) supply devices with 5, 10, 12 or 24 VDC from a 24 or 48 VDC power supply with an output power up to 12 W
- Output voltage monitoring via DC OK contact
- Can be commoned with 857 and 2857 Series devices
- Comprehensive range of approvals for multiple applications

Input	
Nominal input voltage $U_{i\,nom}$	48 VDC
Input voltage range	40 … 55 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 0.34 A
Inrush current	≤ 0.5 A (at nominal input voltage)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	24 VDC / ≤ 3 %
Output voltage range	±3 %
Nominal output current $I_{o\,nom}$	0.5 A
Nominal output power	12 W
Mains/load regulation	≤ 1 %
Residual ripple	≤ 20 mV (peak-to-peak)
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Short circuit LED (red); 1 x Active signal output (U_i, max. 4 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 0.29 W (no load); ≤ 1.2 W (nominal load)
Efficiency	≥ 91 % (at nominal input voltage and nominal output)
Fuse Protection	
Internal fuse	No
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Short-circuit-protected	Yes
Parallel operation/series operation	No/no
MTBF	> 1,800,000 h
Surrounding air temperature (operation)	−25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	6 x 97.8 x 94; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	32.57 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61000-6-2; EN 61000-6-3; EN 60950-1; UL 60950*; UL 508*; ANSI/ISA 12.12.01*; ATEX*; IEC Ex*; DNV GL* (*pending)

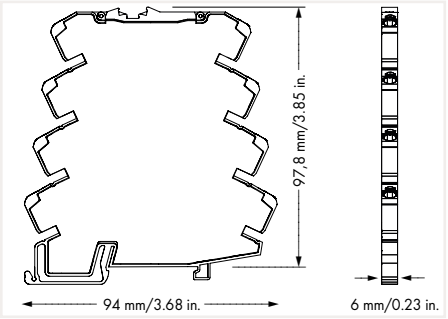
DC/DC Converter; 5 … 12 VDC / 0.5 A
787 Series





DC/DC Converter; Input voltage: 24 VDC; Output voltage (adjustable): 5/10/12 VDC; Output current: 0.5 A

	Item No.	Pack. Unit
	787-2810	1

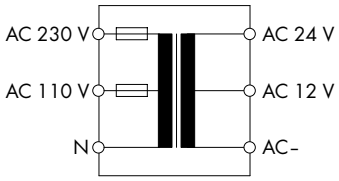


Features:
- DC/DC converter in a compact 6 mm housing
- DC/DC converters (787-28xx) supply devices with 5, 10, 12 or 24 VDC from a 24 or 48 VDC power supply with an output power up to 12 W
- Output voltage monitoring via DC OK contact
- Can be commoned with 857 and 2857 Series devices
- Comprehensive range of approvals for multiple applications

Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	15 … 30 VDC
Nominal mains frequency range	0 Hz
Input current I_i	≤ 0.5 A
Inrush current	≤ 0.5 A (at nominal input voltage)
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	5/10/12 VDC (adjustable via DIP switches) / ≤ 3 %
Output voltage range	±3 %
Nominal output current $I_{o\,nom}$	0.5 A
Nominal output power	6 W
Mains/load regulation	≤ 1 %
Residual ripple	≤ 20 mV (peak-to-peak)
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Short circuit LED (red); 1 x Active signal output (U_i, max. 4 mA)
Efficiency/Power Losses	
Power loss P_l	≤ 0.21 W (no load); ≤ 0.7 W (nominal load)
Efficiency	≥ 82.5 % (at nominal input voltage and nominal output)
Fuse Protection	
Internal fuse	No
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP20 (per EN 60529)
Reverse voltage protection	Yes
Short-circuit-protected	Yes
Parallel operation/series operation	No/no
MTBF	> 1,800,000 h
Surrounding air temperature (operation)	−25 … +70 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	No derating
Pollution degree	2
Connection Data	
Number of jumper slots	8
Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	6 x 97.8 x 94; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	36.4 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 61000-6-2; EN 61000-6-3; EN 60950-1; UL 60950*; UL 508*; ANSI/ISA 12.12.01*; ATEX*; IEC Ex*; DNV GL* (*pending)

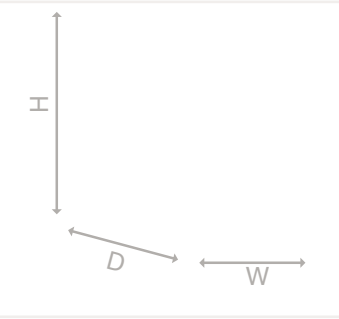
Transformer Power Supply; 1-Phase; 12 / 24 VAC / 40 VA
787 Series





Transformer Power Supply; Input voltage: 230 VAC; Output voltage: 12 … 24 VAC; Output power: 40 VA

Item No.	Pack. Unit
787-974	1

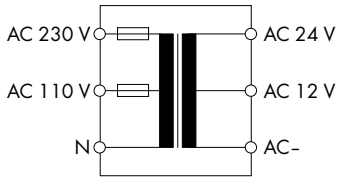


Features:
- Maintenance-free, DIN-rail-mount safety transformer for 12/24 VAC
- Center tap-off modules provide variable input/output voltage
- Enables brief performance peaks
- Peak output power of 45 VA for 1 min/h

Input	
Nominal input voltage $U_{i\,nom}$	115 VAC; 230 VAC
Input voltage range	0 … 230 VAC
Nominal mains frequency range	50 … 60 Hz
Output	
Nominal output voltage $U_{o\,nom}$	12/24 VAC
Nominal output current $I_{o\,nom}$	3.3 A (115 VAC); 1.67 A (230 VAC)
Load regulation	5 %
Overload behavior	Safety fuse in the primary circuit
Efficiency/Power Losses	
Power loss P_l	≤ 0.6 W
Fuse Protection	
Internal fuse	T 1.25 A / 250 VAC; T 0.63 A / 250 VAC
Safety and Protection/Environmental Requirements	
Isolation voltage (AC)	4.2 kVAC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	III
Short-circuit-protected	Yes
Parallel operation/series connection	No/yes (with identical power supply)
Surrounding air temperature (operation)	–25 … +55 °C
Relative humidity	≤ 90 %
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	126 x 90 x 54; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1000 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 5085; EN 61558-2-6

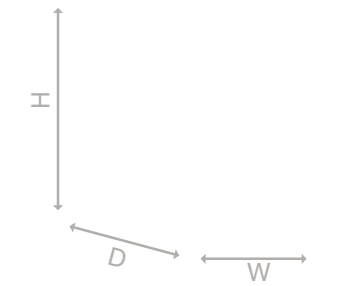
Transformer Power Supply; 1-Phase; 12 / 24 VAC / 63 VA
787 Series





Transformer Power Supply; Input voltage: 230 VAC; Output voltage: 12 … 24 VAC; Output power: 63 VA

Item No.	Pack. Unit
787-976	1

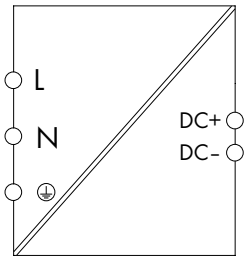


Features:
- Maintenance-free, DIN-rail-mount safety transformer for 12/24 VAC
- Center tap-off modules provide variable input/output voltage
- Enables brief performance peaks
- Peak output power of 70 VA for 1 min/h

Input	
Nominal input voltage $U_{i\,nom}$	115 VAC; 230 VAC
Input voltage range	0 … 230 VAC
Nominal mains frequency range	50 … 60 Hz
Output	
Nominal output voltage $U_{o\,nom}$	12/24 VAC
Nominal output current $I_{o\,nom}$	5.2 A (115 VAC); 2.6 A (230 VAC)
Load regulation	5 %
Overload behavior	Safety fuse in the primary circuit
Efficiency/Power Losses	
Power loss P_l	≤ 0.8 W
Fuse Protection	
Internal fuse	T 2 A / 250 VAC; T 1.6 A / 250 VAC
Safety and Protection/Environmental Requirements	
Isolation voltage (AC)	4.2 kVAC
Protection class/protection type	II / IP20 (per EN 60529)
Overvoltage category	III
Short-circuit-protected	Yes
Parallel operation/series connection	No/yes (with identical power supply)
Surrounding air temperature (operation)	–25 … +55 °C
Relative humidity	≤ 90 %
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Input/output (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	144 x 90 x 54; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1200 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 5085; EN 61558-2-6

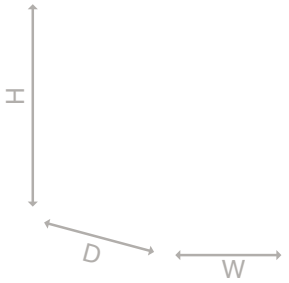
Switched-Mode Power Supply; 1-Phase; IP67; 24 VDC / 4 A
787 Series





Switched-Mode Power Supply; 1-phase; Output voltage: 24 VDC; Output current: 4 A; PowerBoost; DC OK signal

	Item No.	Pack. Unit
	787-6716	1



Features:
- Switched-mode power supply with PowerBoost
- Low-profile, compact design
- Extremely robust, fully encapsulated housing (IP67)
- Active power factor correction
- High efficiency up to 92.3%
- Surrounding air temperature up to 85°C
- Suitable for both parallel and series operation

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC/DC
Input voltage range	90 … 265 VAC/DC
Nominal mains frequency range	47 … 63.6 Hz; 0 Hz
Input current I_i	≤ 0.5 A (250 VAC); ≤ 1.1 A (100 VAC)
Inrush current	≤ 9 A
Power factor	≥ 0.98
Power factor correction (PFC)	Active
Mains failure hold-up time	≥ 45 ms
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	±2 %
Nominal output current $I_{o\,nom}$	4 A
Nominal output power	96 W
Residual ripple	≤ 100 mV (peak-to-peak); ≤ 20 mV (rms)
Overload behavior	Constant current
Signaling and Communication	
Signaling	1 x DC OK LED (green); 1 x Overload LED (red)
Efficiency/Power Losses	
Power loss P_l	≤ 1 W (no load); ≤ 7.9 W (nominal load)
Efficiency	≥ 92.3 % (230 VAC)
Fuse Protection	
Internal fuse	T 6.3 A
Recommended backup fusing	Circuit breaker: 4 … 20 A; Characteristic: C; T 20 A in building installations
Safety and Protection/Environmental Requirements	
Protection class/protection type	I / IP67
Short-circuit-protected	Yes
Parallel operation/series connection	Max. 3 devices/max. 2 devices
MTBF	> 960,000 h
Surrounding air temperature (operation)	–40 … +85 °C
Relative humidity	4 … 100 %
Derating	–3.84 W/K (> +60 °C)
Connection Data	
Input	7/8"; 3-pole plug
Output	7/8"; 5-pole socket
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	111 x 141 x 54
Mounting type	Screw mount
Weight	1100 g
Standards and Specifications	
Approvals/standards/specifications	CE; EN 60950; EN 61204; UL 508

Accessories for IP67 Power Supply Cable
787 Series



Electrical Data	
Operating voltage	600 VAC/VDC
Operating current	9 A
Safety and Protection/Environmental Requirements	
Rated surge voltage	4 kV
Protection type	IP67
Surrounding air temperature (operation)	−25 … +80 °C
Connection Data	
Sheathed cable diameter	7.4 mm

Features:
- 7/8" screw connection: Industry-proven connection technology for a large selection of different conductors
- High degree of protection for safe field applications
- Vibration- and shock-resistant via integrated locking mechanism
- PUR coating

5

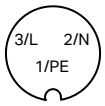
Accessories for IP67
Power Supply Cable
787 Series





Similar to picture

Power Supply Cable; pre-assembled; 7/8"; 3-pole; Straight socket; open-ended		
Length	**Item No.**	Pack. Unit
3 m	**787-6716/9310-030**	1
5 m	**787-6716/9310-050**	1
10 m	**787-6716/9310-100**	1



7/8" socket

1 green
2 black
3 white

Power Supply Cable; pre-assembled; 7/8"; 5-pole; Straight plug; open-ended		
Length	**Item No.**	Pack. Unit
1.5 m	**787-6716/9510-015**	1
3 m	**787-6716/9510-030**	1
5 m	**787-6716/9510-050**	1



7/8" plug

1 white
2 red
3 green
4 orange
5 black

5

Accessories for IP67 Connector
787 Series



Electrical Data	
Operating voltage	600 VAC/VDC
Operating current	9 A
Safety and Protection/Environmental Requirements	
Rated surge voltage	4 kV
Protection type	IP67
Surrounding air temperature (operation)	−25 … +80 °C
Connection Data	
Sheathed cable diameter	7.4 mm

Features:
- 7/8" screw connection: Industry-proven connection technology for a large selection of different conductors
- High degree of protection for safe field applications
- Vibration- and shock-resistant via integrated locking mechanism
- PUR coating

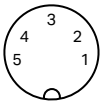
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Accessories for IP67 Connector
787 Series



Connector; 7/8"; 5-pole; Straight plug; Clamping range: 6 … 8 mm

	Item No.	Pack. Unit
	787-6716/9500-000	1

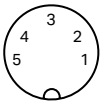


7/8" plug



Connector; 7/8"; 5-pole; Angled plug; Clamping range: 6 … 8 mm

	Item No.	Pack. Unit
	787-6716/9600-000	1

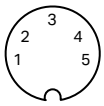


7/8" plug



Connector; 7/8"; 5-pole; Straight socket; Clamping range: 6 … 8 mm

	Item No.	Pack. Unit
	787-6716/9700-000	1

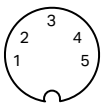


7/8" socket



Connector; 7/8"; 5-pole; Angled socket; Clamping range: 6 … 8 mm

	Item No.	Pack. Unit
	787-6716/9800-000	1

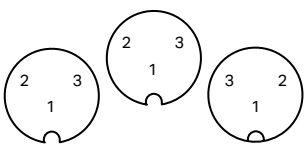


7/8" socket



Connector; 7/8"; 3-pole; T-connector

	Item No.	Pack. Unit
	787-6716/9000-1000	1



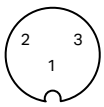
7/8" socket

7/8" socket 7/8" plug



Connector; 7/8"; 3-pole; Straight socket

	Item No.	Pack. Unit
	787-6716/9300-000	1



7/8" socket

Accessories for IP67
Connector
787 Series

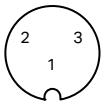




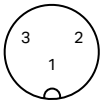
Similar to picture

Connector; 7/8"; 3-pole; Angled socket		
	Item No.	Pack. Unit
	787-6716/9400-000	1

Connector; 7/8"; 3-pole; Straight plug		
	Item No.	Pack. Unit
	787-6716/9100-000	1



7/8" socket

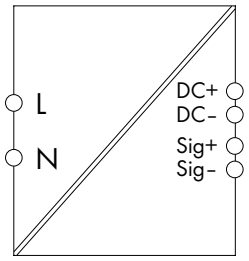


7/8" plug

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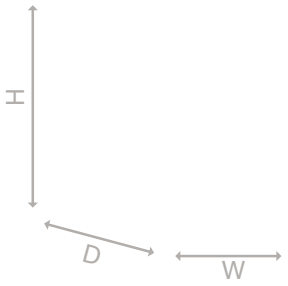
Power Supply for Fan Control; 1-Phase; 22 VDC / 1 A
787 Series





Switched-Mode Power Supply; 1-phase; Output voltage: 22 VDC; Output current: 1 A

Item No.	Pack. Unit
787-914	1

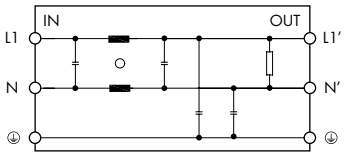


Features:
- Power supply for small loads that operate at a variable input voltage
- The output voltage can be adjusted linearly by hand or via an analog voltage signal (0 … 10 V) in the range from 12 … 22 V, e.g., for automatically controlling fan speed in control cabinets
- Flat design allows installation in confined spaces
- Variable mounting options for space-saving installation, e.g., in recesses

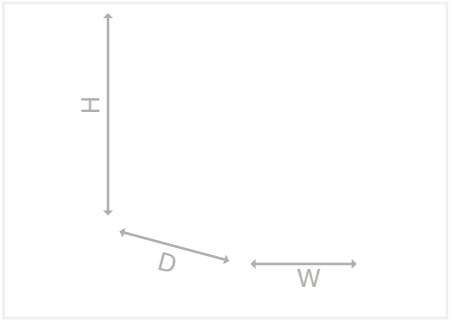
Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	90 … 264 VAC; 130 … 373 VDC
Nominal mains frequency range	47 … 63 Hz; 0 Hz
Input current I_i	≤ 0.6 A
Inrush current	≤ 18 A
Power factor	≥ 0.45
Power factor correction (PFC)	Not required
Mains failure hold-up time	≥ 15 ms
Output	
Nominal output voltage $U_{o\,nom}$/adjustment accuracy	22 VDC / ≤ 1 %
Output voltage range	12 … 22 VDC ±2.5 % (adjustable by hand or via signal input)
Nominal output current $I_{o\,nom}$	0.8 A (< 110 VAC); 1 A (110 … 240 VAC)
Residual ripple	≤ 100 mV (peak-to-peak)
Overload behavior	Constant power (in overload range: 1.05 … 1.7 x $I_{o\,nom}$); Hiccup in the event of a short circuit or permanent overload
Signaling and Communication	
Signaling	1 x Status indication LED (green); 1 x Signal input (10 VDC)
Input signal (voltage)	0 … 10 V
Input impedance	≥ 10 kΩ
Efficiency/Power Losses	
Power loss P_l	≤ 0.8 W (no load)
Power loss (max.) $P_{l\,max.}$	≤ 4 W
Efficiency	≥ 84 % (230 VAC); ≥ 80 % (110 VAC)
Fuse Protection	
Internal fuse	1 A / 250 VAC
Recommended backup fusing	Circuit breaker: B6, C4 or higher
Safety and Protection/Environmental Requirements	
Isolation voltage (pri.-sec.)	4.242 kVDC
Protection class/protection type	II / IP20 (per EN 60529)
Reverse voltage protection	Yes (signal input)
Short-circuit-protected	Yes
Parallel operation/series connection	Yes/yes
MTBF	> 500,000 h (at +25 °C per IEC 61709)
Surrounding air temperature (operation)	–20 … +60 °C
Relative humidity	20 … 90 % (no condensation permissible)
Derating	–2.47 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	45 x 156 x 35; height including fastening clips
Mounting type	DIN-35 rail (EN 60715); Screw mounting
Weight	160 g
Standards and Specifications	
Approvals/standards/specifications	CE; UL 60950; EN 60950; EN 61204-3; EN 61000-6-3

Radio Interference Suppression Filter; 1-Phase
787 Series





Radio Interference Suppression Filter; 1-phase		
	Item No.	Pack. Unit
	787-980	1

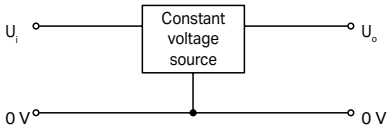


Features:
- Suppresses interference generated on the mains side of power supplies and electronic devices
- Fulfills general requirements
- Provides a single-stage filter solution
- Efficiently filters out line-bound interference emissions
- Increases the interference immunity of connected loads

Input	
Nominal input voltage $U_{i\,nom}$	250 VAC
Input voltage range	0 … 250 VAC
Nominal mains frequency range	50 … 60 Hz
Input current I_i	≤ 10 A
Efficiency/Power Losses	
Power loss P_l	≤ 4 W
Safety and Protection/Environmental Requirements	
Isolation voltage (connectors – housing)	2.7 kVDC
Protection class/protection type	I / IP20 (per EN 60529)
Series connection	No
Surrounding air temperature (operation)	–25 … +70 °C (device starts at –40 °C, type-tested)
Derating	–2.5 %/K (> +45 °C)
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
L1, N (solid/fine-stranded/AWG)	0.08 … 2.5 mm² / 0.08 … 2.5 mm² / 28 … 12 AWG
Ground	6.3 x 0.8 mm tab connector
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	50 x 85 x 100; depth from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	340 g
Standards and Specifications	
Approvals/standards/specifications	CE; DIN EN 60939-2

DIN-Rail-Mount Constant Voltage Source; 24 VDC / 3 A
289 Series





Input	
Input voltage range	27 … 35 VDC
Nominal mains frequency range	0 Hz
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	±10 %
Nominal output current $I_{o\,nom}$	3 A
Safety and Protection/Environmental Requirements	
Protection type	IP00 (per EN 60529)
Series operation	No
Surrounding air temperature (operation)	−25 … +40 °C
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	78.5 x 39 x 66; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	170.7 g
Standards and Specifications	
Approvals/standards/specifications	CE

Constant Voltage Source; Input voltage: 27 … 35 VDC; Output voltage: 24 VDC; Output current: 3 A; with mounting feet

	Item No.	Pack. Unit
	289-907	1

Accessories

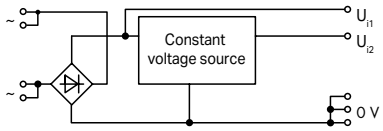


Marking strip; on reel; 7.5 mm wide; not stretchable; snap-on type; plain

Color	Item No.	Pack. Unit
white	709-178	1
translucent	709-177	1

DIN-Rail-Mount Constant Voltage Source; 24 VDC / 3 A
288 Series





Constant Voltage Source; Input voltage: 24 VAC; Output voltage: 24 VDC; Output current: 3 A; with mounting carrier

	Item No.	Pack. Unit
	288-800	1

Input	
Nominal input voltage $U_{i\,nom}$	24 VAC
Input voltage range	±10 %
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	±10 %
Nominal output current $I_{o\,nom}$	3 A
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP00 (per EN 60529)
Series operation	No
Surrounding air temperature (operation)	−25 … +40 °C
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	140 x 44 x 85; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	205.7 g
Standards and Specifications	
Approvals/standards/specifications	CE

5

Accessories

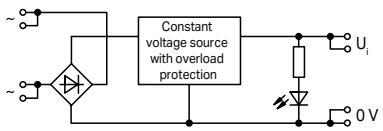


Marking strip; on reel; 7.5 mm wide; not stretchable; snap-on type; plain

Color	Item No.	Pack. Unit
white	709-178	1
translucent	709-177	1

DIN-Rail-Mount Constant Voltage Source; 24 VDC / 5 A
288 Series





Input	
Nominal input voltage $U_{i\,nom}$	24 VAC
Input voltage range	±10 %
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	±10 %
Nominal output current $I_{o\,nom}$	5 A
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP00 (per EN 60529)
Series operation	No
Surrounding air temperature (operation)	0 … +30 °C
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	170 x 85 x 108; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	634 g
Standards and Specifications	
Approvals/standards/specifications	CE

Constant Voltage Source; Input voltage: 24 VAC; Output voltage: 24 VDC; Output current: 5 A; Electronic overload protection; with mounting carrier

	Item No.	Pack. Unit
	288-801	1

Accessories

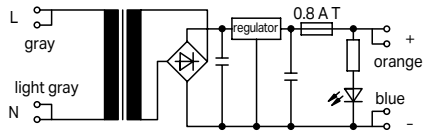


Marking strip; on reel; 7.5 mm wide; not stretchable; snap-on type; plain

Color	Item No.	Pack. Unit
white	709-178	1
translucent	709-177	1

DIN-Rail-Mount Power Supply Unit; 1-Phase; 24 VDC / 0.5 A
288 Series





5

Stabilized Power Supply; Input voltage: 230 VAC; Output voltage: 24 VDC; Output current: 0.5 A; with mounting carrier

	Item No.	Pack. Unit
	288-810	1

Input	
Nominal input voltage $U_{i\,nom}$	230 VAC
Input voltage range	±10 %
Nominal mains frequency range	50 … 60 Hz
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	±4 %
Nominal output current $I_{o\,nom}$	0.5 A
Residual ripple	≤ 10 mV (peak-to-peak)
Efficiency/Power Losses	
Power loss (max.) $P_{l\,max.}$	≤ 30 W
Fuse Protection	
Internal fuse	T 0.8 A
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP00 (per EN 60529)
Series operation	No
Surrounding air temperature (operation)	0 … +50 °C
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	77 x 52 x 106; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	569 g
Standards and Specifications	
Approvals/standards/specifications	CE

Accessories

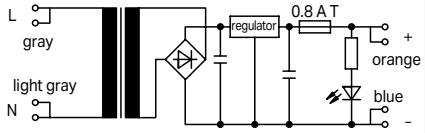


Marking strip; on reel; 7.5 mm wide; not stretchable; snap-on type; plain

Color	Item No.	Pack. Unit
white	709-178	1
translucent	709-177	1

DIN-Rail-Mount Power Supply Unit; 1-Phase; 12 VDC / 0.5 A
288 Series





Stabilized Power Supply; Input voltage: 230 VAC; Output voltage: 12 VDC; Output current: 0.5 A; with mounting carrier

	Item No.	Pack. Unit
	288-808	1

Input	
Nominal input voltage $U_{i\,nom}$	230 VAC
Input voltage range	±10 %
Nominal mains frequency range	50 … 60 Hz
Output	
Nominal output voltage $U_{o\,nom}$	12 VDC
Output voltage range	±4 %
Nominal output current $I_{o\,nom}$	0.5 A
Residual ripple	≤ 10 mV (peak-to-peak)
Efficiency/Power Losses	
Power loss (max.) $P_{l\,max.}$	≤ 23 W
Fuse Protection	
Internal fuse	T 0.8 A
Safety and Protection/Environmental Requirements	
Protection class/protection type	II / IP00 (per EN 60529)
Series operation	No
Surrounding air temperature (operation)	0 … +50 °C
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	77 x 52 x 106; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	560 g
Standards and Specifications	
Approvals/standards/specifications	CE

5

Accessories



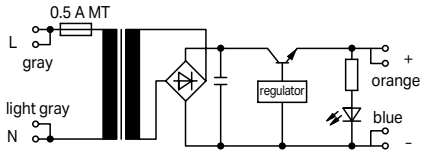
Marking strip; on reel; 7.5 mm wide; not stretchable; snap-on type; plain

Color	Item No.	Pack. Unit
white	709-178	1
translucent	709-177	1

DIN-Rail-Mount Power Supply Unit; 1-Phase; 24 VDC / 2 A

288 Series





Stabilized Power Supply; Input voltage: 230 VAC; Output voltage: 24 VDC; Output current: 2 A; with mounting carrier

	Item No.	Pack. Unit
	288-812	1

Input	
Nominal input voltage $U_{i\,nom}$	230 VAC
Input voltage range	±10 %
Nominal mains frequency range	50 … 60 Hz
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	±10 %
Nominal output current $I_{o\,nom}$	2 A
Residual ripple	≤ 80 mV (peak-to-peak)
Efficiency/Power Losses	
Power loss (max.) $P_{l\,max.}$	≤ 80 W
Fuse Protection	
Internal fuse	M 0.5 A; electronic; short-circuit-protected
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP00 (per EN 60529)
Series operation	No
Surrounding air temperature (operation)	0 … +40 °C
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	182 x 98 x 106; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	1907.3 g
Standards and Specifications	
Approvals/standards/specifications	CE

Accessories

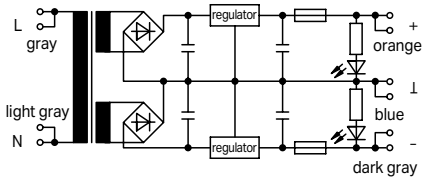


Marking strip; on reel; 7.5 mm wide; not stretchable; snap-on type; plain

Color	Item No.	Pack. Unit
white	709-178	1
translucent	709-177	1

DIN-Rail-Mount Power Supply Unit; 1-Phase; ±15 VDC / 2 x 0.5 A
288 Series





Stabilized Power Supply; Input voltage: 230 VAC; Output voltage: ±15 VDC; Output current: 2 x 0.5 A; with mounting carrier

$U_{o\ nom}$	Item No.	Pack. Unit
±15 VDC	288-815	1

Input	
Nominal input voltage $U_{i\ nom}$	230 VAC
Input voltage range	±10 %
Nominal mains frequency range	50 … 60 Hz
Output	
Nominal output voltage $U_{o\ nom}$	15 / −15 VDC
Output voltage range	±4 %
Nominal output current $I_{o\ nom}$	2 x 0.5 A
Residual ripple	≤ 10 mV (peak-to-peak)
Efficiency/Power Losses	
Power loss (max.) $P_{l\ max.}$	≤ 27 W
Fuse Protection	
Internal fuse	2 x T 0.8 A
Safety and Protection/Environmental Requirements	
Protection class/protection type	III / IP00 (per EN 60529)
Series operation	No
Surrounding air temperature (operation)	0 … +40 °C
Pollution degree	2
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	94 x 57 x 106; height from upper-edge of DIN-rail
Mounting type	DIN-35 rail (EN 60715)
Weight	681.8 g
Standards and Specifications	
Approvals/standards/specifications	CE

5

Accessories



Marking strip; on reel; 7.5 mm wide; not stretchable; snap-on type; plain

Color	Item No.	Pack. Unit
white	709-178	1
translucent	709-177	1

Accessories
Communication Cable; with RS-232 Interface
787 Series



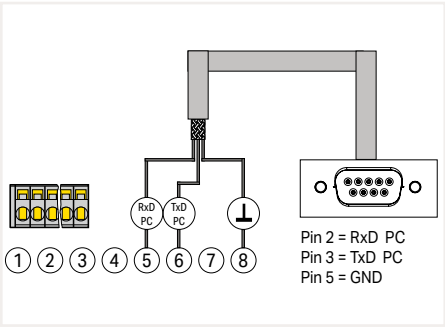
Similar to pictured device

RS-232 Communication Cable; 1.8 m long		
for	**Item No.**	Pack. Unit
787-8xx	**787-890**	1

This communication cable is used for configuration and visualization via PC or controller.
It is suitable for all 787-8xx Series devices equipped with an RS-232 serial interface. Download the corresponding PC software for all 787 Series devices at www.wago.com/epsitron.

Function modules for communication with the WAGO-I/O-SYSTEM 750 and other control systems are also available.

Note:
The 787-890 Communication Cable is not electrically isolated.



Signaling and Communication	
Signaling	1 x RS-232 cable
Communication	RS-232 interface
Safety and Protection/Environmental Requirements	
Protection type	IP20 (per EN 60529)
Surrounding air temperature (operation)	–10 … +70 °C
Connection Data	
Module side (787-8xx)	1 x 8-pole female connector (734-108) with strain relief
PC/controller side	1 x 9 pole D-sub socket
Cable type	3 x 0.34 mm²; shielded
Geometric Data/Mechanical Data/Material Data	
Cable length	1.8 m
Material Data	
Weight	113 g

5

Accessories
Communication Cable; with RS-232 Interface
787 Series



Similar to pictured device

RS-232 Communication Cable; 1.8 m long; for 787-1675		
for	**Item No.**	Pack. Unit
787-1675	**787-892**	1

This communication cable is used for configuration and visualization via PC or controller.
The communication cable is suitable for 787-1675. Download the corresponding PC software for all 787 Series devices at www.wago.com/epsitron.

Function modules for communication with the WAGO-I/O-SYSTEM 750 and other control systems are also available.

Note:
The 787-892 Communication Cable is not electrically isolated.

Signaling and Communication	
Signaling	1 x RS-232 cable
Communication	RS-232 interface
Safety and Protection/Environmental Requirements	
Protection type	IP20 (per EN 60529)
Surrounding air temperature (operation)	−10 … +70 °C
Connection Data	
Module side (787-1675)	1 x 4-pole female connector (734-104) with strain relief
PC/controller side	1 x 9 pole D-sub socket
Cable type	3 x 0.34 mm²; shielded
Geometric Data/Mechanical Data/Material Data	
Cable length	1.8 m
Material Data	
Weight	97 g

Accessories
Wall-Mount Adapter
787 Series



Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	35 x 15 x 158.5
Mounting type	Mounting holes: 4 slots, 5.3 mm x 9 mm; Mounting hole spacing: 143 mm x 19.5 mm
Mounting type	Wall-mount
Material	Sheet steel; galvanized
Weight	100 g

Wall-Mount Adapter; for screw mounting 787-8xx devices on a mounting plate or wall without DIN-35 rail

	Item No.	Pack. Unit
	787-895	5

The wall-mount adapter replaces the rail support of the 787-8xx device.
The adapter is secured to the 787-8xx device via the provided screws.



Accessories
DIN-Rail Adapter
787 Series

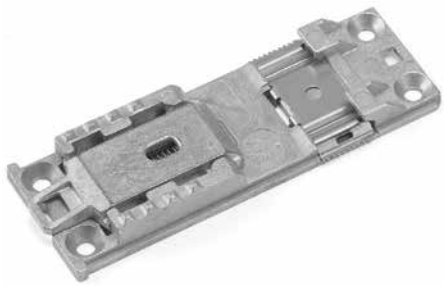


DIN-Rail Adapter; secures 787-8xx devices to a DIN-35 rail		
	Item No.	Pack. Unit
	787-896	1

WAGO's 787-896 DIN-Rail Adapter allows both vertical and horizontal mounting of 787-8xx devices.
Mounting the adapter to the device is performed by sliding both single parts into the guide slots of the cooling element and then screwing, allowing the position to be easily changed.

Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	35 x 136.5 x 15.5
Mounting type	Slide both single parts into the guide slot and then screw
Mounting type	DIN-35 rail (EN 60715)
Material	Sheet steel; galvanized
Weight	81 g

Accessories
DIN-Rail Adapter
787 Series



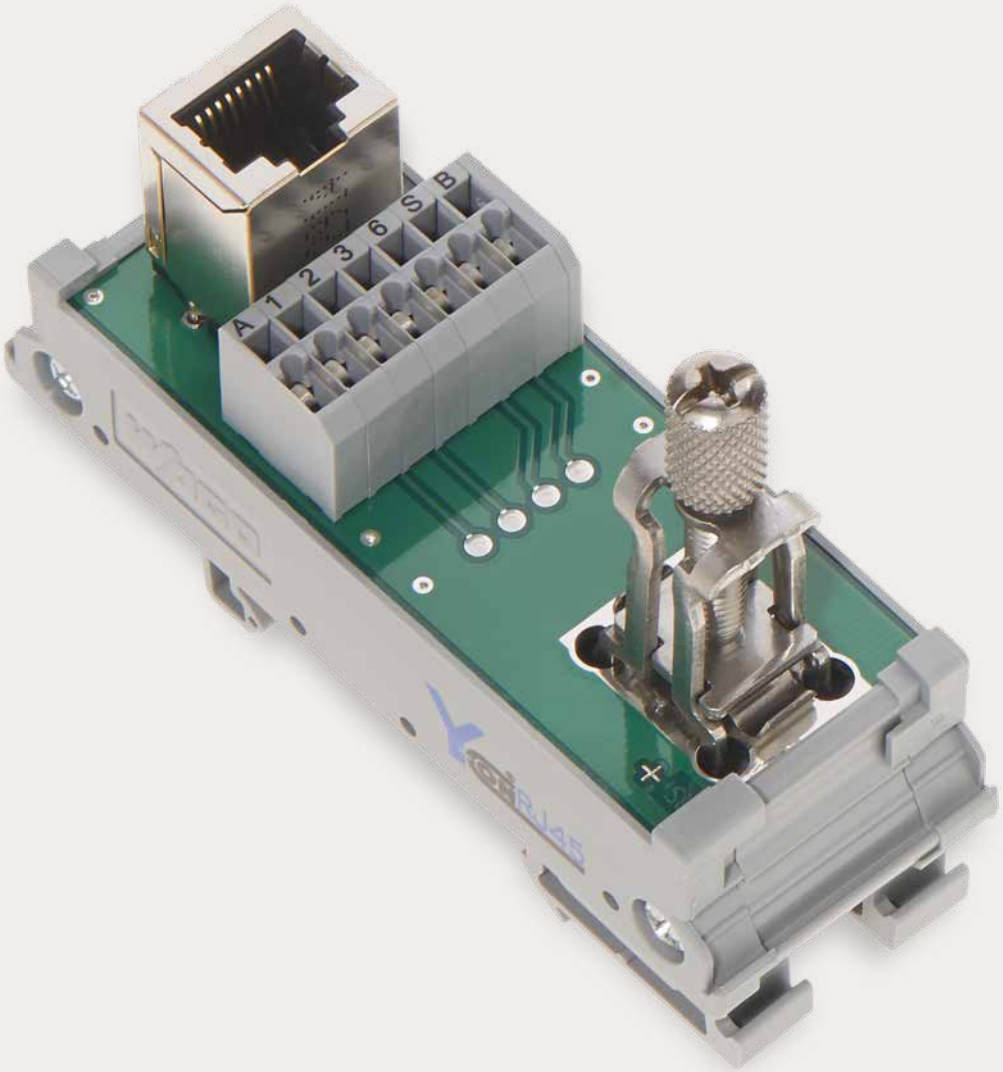
DIN-Rail Adapter; made of zinc die-cast; secures 787-8xx devices to a DIN-34 rail

	Item No.	Pack. Unit
	787-897	1

WAGO's 787-897 DIN-Rail Adapter allows horizontal mounting of 787-8xx devices.
Mounting the adapter to the device is performed by sliding both single parts into the guide slots of the cooling element and then screwing, allowing the position to be easily changed.

Geometric Data/Mechanical Data/Material Data	
Width x height x depth (mm)	37 x 102.5 x 10.5
Mounting type	Press the adapter into the guide slot
Mounting type	DIN-35 rail (EN 60715)
Material	Zinc die-cast
Weight	96 g

5



WAGO Interface Modules

WAGO Interface Modules



	Page
Interface Modules, for D-Sub/HD D-Sub Connectors	
Male Connectors; for Solder Mating Connectors; 289 Series	568
Male Connectors; for IDC Mating Connectors; 289 Series	574
Female Connectors; for Solder Mating Connectors; 289 Series	576
Female Connectors; for IDC Mating Connectors; 289 Series	584



Interface Modules; for DIN 41651 Connectors	
289 Series	586



Interface Modules; for DIN 41612 Connectors	
289 Series	590



Interface Modules; for RJ-45 Connectors	
RJ-45; 289 Series	596
RJ-45; with Power Contacts; 289 Series	600

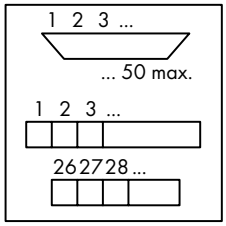


Sensor/Actuator Modules	
289 Series	604

6

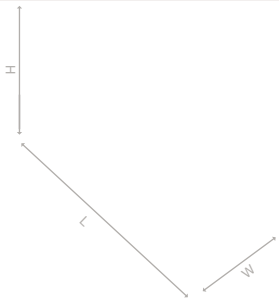
Interface Module for D-Sub Male Connector and Solder Mating Connector
289 Series





Interface Module; D-sub male connector; Solder mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting feet

Pole No.	Width	Item No.	Pack. Unit
9	38 mm	289-445	1
15	53.5 mm	289-446	1
25	79 mm	289-447	1
37	120 mm	289-448	1
50	157 mm	289-449	1



Notice:
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Electrical Data	
Operating voltage	≤ 30 VAC; ≤ 50 VDC
Nominal current	1 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection	
Pollution degree	2
Rated voltage	50 V
Rated surge voltage	0.8 kV
Degree of protection	IP00

Connection Data	
Connection type 1	System
Connector 1	D-sub male connector
Strain relief (stud bolt) 1	UNC 4-40
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Height from upper-edge of DIN-rail	19 mm / 0.748 inch
Depth	63.5 mm / 2.5 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Contact material (connector)	Au over Ni

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10

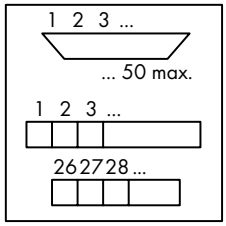


Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

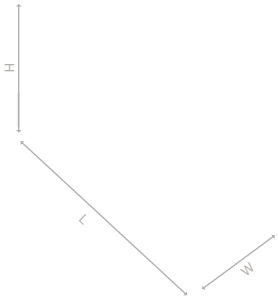
Interface Module for D-Sub Male Connector and Solder Mating Connector
289 Series





Interface Module; D-sub male connector; Solder mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting carrier

Pole No.	Width	Item No.	Pack. Unit
9	38 mm	289-545	1
15	46 mm	289-546	1
25	72 mm	289-547	1
37	102 mm	289-548	1
50	94 mm	289-549	1



Electrical Data

Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data

Connection type 1	System
Connector 1	D-sub male connector
Strain relief (stud bolt) 1	UNC 4-40
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

6

Accessories

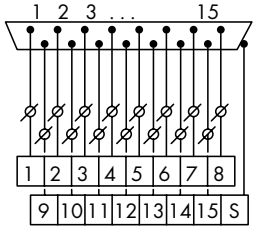


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

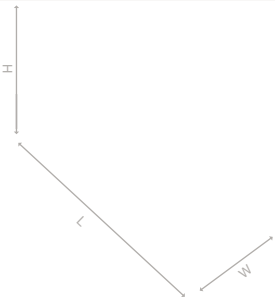
Interface Module for D-Sub Male Connector and Solder Mating Connector
289 Series





Interface Module; D-sub male connector; Double-deck PCB terminal blocks; with mounting carrier

Pole No.	Width	Item No.	Pack. Unit
9	33.5 mm	289-720	1
15	43.5 mm	289-721	1



Note:
One solder terminal per pole is available for testing and patching (except for shield contact).

Notice:
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Electrical Data	
Operating voltage	≤ 30 VAC; ≤ 50 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection	
Pollution degree	2
Rated voltage	50 V
Rated surge voltage	0.8 kV
Degree of protection	IP00

Connection Data	
Connection type 1	System
Connector 1	D-sub male connector
Strain relief (stud bolt) 1	UNC 4-40
Mating direction 1	Vertical
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Height from upper-edge of DIN-rail	48 mm / 1.89 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Contact material (connector)	Au over Ni

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10



Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

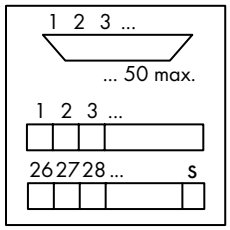


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

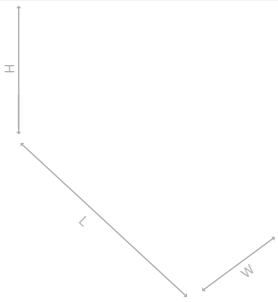
Interface Module for D-Sub Male Connector and Solder Mating Connector
289 Series





Interface Module; D-sub male connector; Solder mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting carrier; with shield connection

Pole No.	Width	Item No.	Pack. Unit
9	38.5 mm	289-585	1
15	46 mm	289-586	1
25	71.5 mm	289-587	1
37	102 mm	289-588	1



Electrical Data

Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data

Connection type 1	System
Connector 1	D-sub male connector
Strain relief (stud bolt) 1	UNC 4-40
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Standards and Specifications

Standards/specifications	UL 840

Accessories

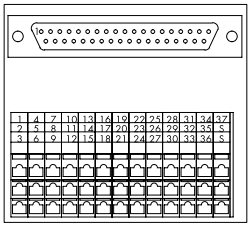


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

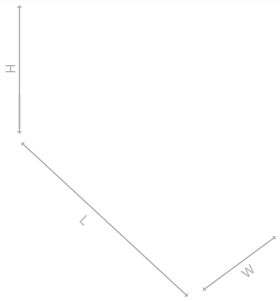
Interface Module for D-Sub Male Connector and Solder Mating Connector
289 Series





Interface Module; D-sub male connector; Solder mating connector; Vertical mating; Triple-deck PCB terminal blocks; with mounting carrier; with shield connection

Pole No.	Width	Item No.	Pack. Unit
25	56 mm	289-620	1
37	74 mm	289-621	1



Electrical Data	
Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection	
Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data	
Connection type 1	System
Connector 1	D-sub male connector
Strain relief (stud bolt) 1	UNC 4-40
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Height from upper-edge of DIN-rail	62 mm / 2.441 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Contact material (connector)	Au over Ni

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Standards and Specifications	
Standards/specifications	UL 840

Accessories

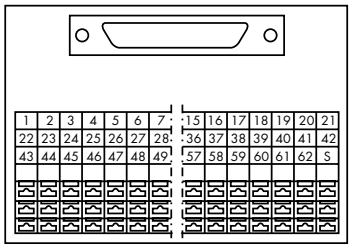


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

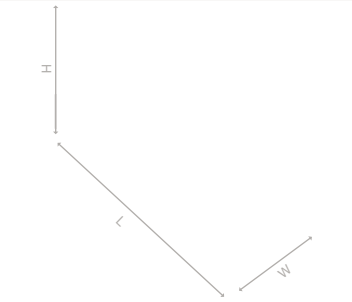
Interface Module for HD D-Sub Male Connector
289 Series





Interface Module; HD D-sub male connector; Triple-deck PCB terminal blocks; with mounting carrier

Pole No.	Width	Item No.	Pack. Unit
15	35 mm	**289-714**	1
62	108 mm	**289-710**	1



Electrical Data	
Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	1 A
Contact resistance (max.)	15 mΩ
Performance level	3 / 50 mating cycles

Safety and Protection	
Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data	
Connection type 1	System
Connector 1	HD D-sub male connector
Strain relief (stud bolt) 1	UNC 4-40
Mating direction 1	Vertical
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Height from upper-edge of DIN-rail	62 mm / 2.441 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Contact material (connector)	Au over Ni

Environmental Requirements	
Surrounding air temperature (operation)	−20 … +55 °C
Surrounding air temperature (storage)	−40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

6

Accessories

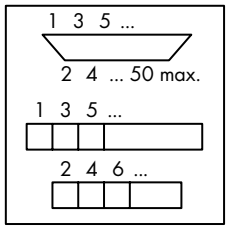


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

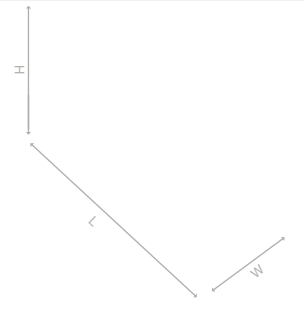
Interface Module for D-Sub Male Connector and IDC Mating Connector
289 Series

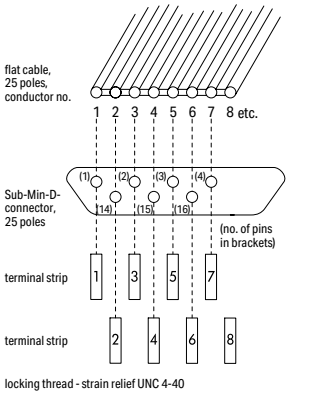




Interface Module; D-sub male connector; IDC mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting feet

Pole No.	Width	Item No.	Pack. Unit
9	38 mm	289-440	1
15	53.5 mm	289-441	1
25	79 mm	289-442	1
37	120 mm	289-443	1
50	157 mm	289-444	1





Notice:
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Electrical Data

Operating voltage	≤ 30 VAC; ≤ 50 VDC
Nominal current	1 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	50 V
Rated surge voltage	0.8 kV
Degree of protection	IP00

Connection Data

Connection type 1	System
Connector 1	D-sub male connector
Strain relief (stud bolt) 1	UNC 4-40
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	19 mm / 0.748 inch
Depth	63.5 mm / 2.5 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10

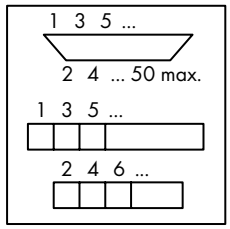


Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

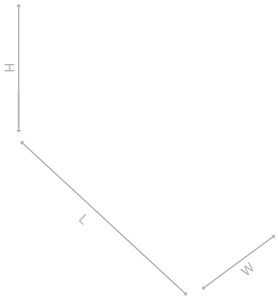
Interface Module for D-Sub Male Connector and IDC Mating Connector
289 Series





Interface Module; D-sub male connector; IDC mating connector; Vertical mating; Triple-row PCB terminal blocks; with mounting carrier

Pole No.	Width	Item No.	Pack. Unit
9	38 mm	289-540	1
15	46 mm	289-541	1
25	72 mm	289-542	1
37	102 mm	289-543	1
50	94 mm	289-544	1



Electrical Data

Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data

Connection type 1	System
Connector 1	D-sub male connector
Strain relief (stud bolt) 1	UNC 4-40
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Standards and Specifications

Standards/specifications	UL 840

Accessories

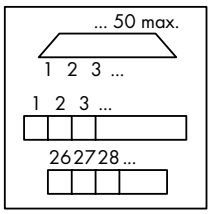


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

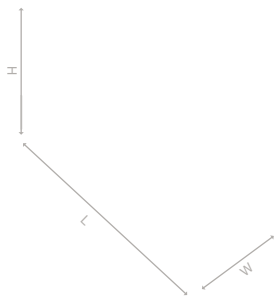
Interface Module for D-Sub Female Connector and Solder Mating Connector
289 Series





Interface Module; D-sub female connector; Solder mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting feet

Pole No.	Width	Item No.	Pack. Unit
9	38 mm	289-455	1
15	53,5	289-456	1
25	79 mm	289-457	1
37	120 mm	289-458	1
50	157 mm	289-459	1



Notice:
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Electrical Data	
Operating voltage	≤ 30 VAC; ≤ 50 VDC
Nominal current	1 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection	
Pollution degree	2
Rated voltage	50 V
Rated surge voltage	0.8 kV
Degree of protection	IP00

Connection Data	
Connection type 1	System
Connector 1	D-Sub female connector
Strain relief (stud bolt) 1	UNC 4-40
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Height from upper-edge of DIN-rail	19 mm / 0.748 inch
Depth	63.5 mm / 2.5 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Contact material (connector)	Au over Ni

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10

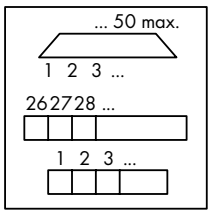


Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

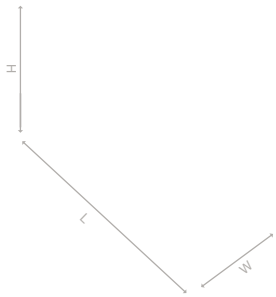
Interface Module for D-Sub Female Connector and Solder Mating Connector
289 Series





Interface Module; D-sub female connector; Solder mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting carrier

Pole No.	Width	Item No.	Pack. Unit
9	38 mm	289-555	1
15	46 mm	289-556	1
25	72 mm	289-557	1
37	102 mm	289-558	1
50	94 mm	289-559	1



Electrical Data

Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data

Connection type 1	System
Connector 1	D-Sub female connector
Strain relief (stud bolt) 1	UNC 4-40
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Standards and Specifications

Standards/specifications	UL 840

Accessories



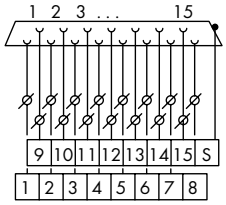
Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

6

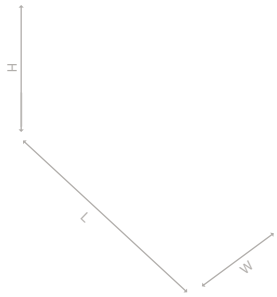
Interface Module for D-Sub Female Connector
289 Series





Interface Module; D-sub female connector; Double-deck PCB terminal blocks; with mounting carrier; with solder terminal

Pole No.	Width	Item No.	Pack. Unit
9	33.5 mm	289-725	1
15	43.5 mm	289-726	1



Note:
One solder terminal per pole is available for testing and patching (except for shield contact).

Notice:
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Electrical Data

Operating voltage	≤ 30 VAC; ≤ 50 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	50 V
Rated surge voltage	0.8 kV
Degree of protection	IP00

Connection Data

Connection type 1	System
Connector 1	D-Sub female connector
Strain relief (stud bolt) 1	UNC 4-40
Mating direction 1	Vertical
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	48 mm / 1.89 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10



Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

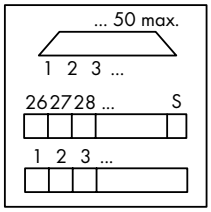


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

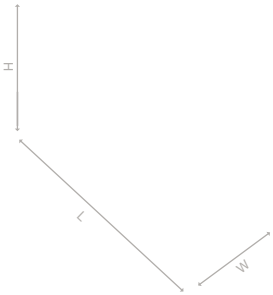
Interface Module for D-Sub Female Connector and Solder Mating Connector
289 Series





Interface Module; D-sub female connector; Solder mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting carrier; with shield connection

Pole No.	Width	Item No.	Pack. Unit
9	33 mm	289-575	1
15	43 mm	289-576	1
25	68.5 mm	289-577	1
37	99 mm	289-578	1



Electrical Data

Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data

Connection type 1	System
Connector 1	D-Sub female connector
Strain relief (stud bolt) 1	UNC 4-40
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Standards and Specifications

Standards/specifications	UL 840

Accessories



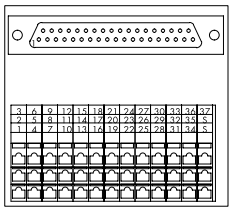
Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

6

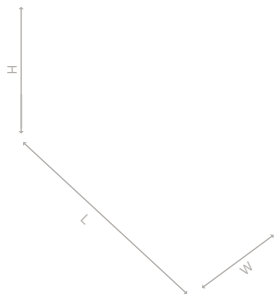
Interface Module for D-Sub Female Connector and Solder Mating Connector
289 Series





Interface Module; D-sub female connector; Solder mating connector; Vertical mating; Triple-deck PCB terminal blocks; with mounting carrier; with shield connection

Pole No.	Width	Item No.	Pack. Unit
25	56 mm	289-623	1
37	74 mm	289-624	1



Electrical Data

Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data

Connection type 1	System
Connector 1	D-Sub female connector
Strain relief (stud bolt) 1	UNC 4-40
Mating direction 1	Vertical
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	62 mm / 2.441 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni

Environmental Requirements

Surrounding air temperature (operation)	−20 … +50 °C
Surrounding air temperature (storage)	−40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Standards and Specifications

Standards/specifications	UL 840

Accessories

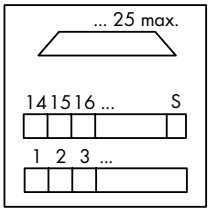


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

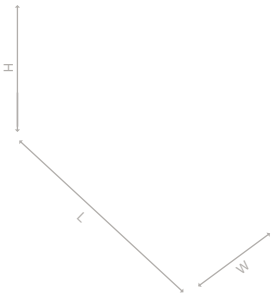
Interface Module for D-Sub Female Connector
289 Series





Interface Module; D-sub female connector; Double-deck PCB terminal blocks; with mounting carrier; with shield connection

Pole No.	Width	Item No.	Pack. Unit
9	33 mm	289-650	1
25	68.5 mm	289-652	1



Electrical Data	
Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection	
Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data	
Connection type 1	System
Connector 1	D-Sub female connector
Strain relief (stud bolt) 1	UNC 4-40
Mating direction 1	Vertical
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Height from upper-edge of DIN-rail	48 mm / 1.89 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Contact material (connector)	Au over Ni

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Standards and Specifications	
Standards/specifications	UL 840

6

Accessories

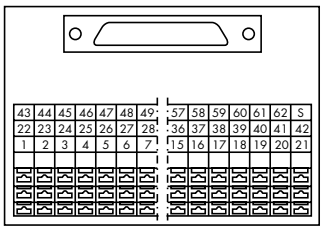


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

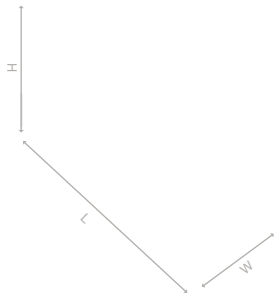
Interface Module for HD D-Sub Female Connector
289 Series





Interface Module; HD D-sub female connector; Triple-deck PCB terminal blocks; with mounting carrier

Pole No.	Width	Item No.	Pack. Unit
15	35 mm	289-713	1
44	79 mm	289-707	1
62	108 mm	289-708	1



Electrical Data	
Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	1 A
Contact resistance (max.)	15 mΩ
Performance level	3 / 50 mating cycles

Safety and Protection	
Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data	
Connection type 1	System
Connector 1	HD D-sub female connector
Strain relief (stud bolt) 1	UNC 4-40
Mating direction 1	Vertical
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Height from upper-edge of DIN-rail	62 mm / 2.441 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Contact material (connector)	Au over Ni

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

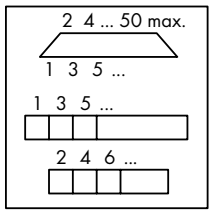


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

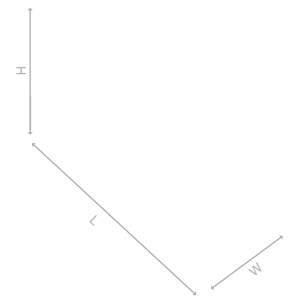
Interface Module for D-Sub Female Connector and IDC Mating Connector
289 Series

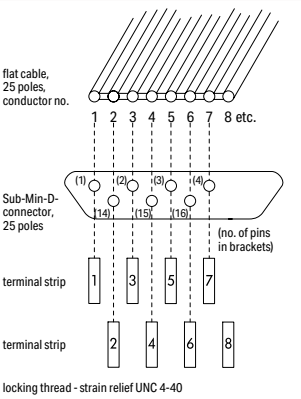




Interface Module; D-sub female connector; IDC mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting feet

Pole No.	Width	Item No.	Pack. Unit
9	38 mm	289-450	1
15	53.5 mm	289-451	1
25	79 mm	289-452	1
37	120 mm	289-453	1
50	157 mm	289-454	1





Notice:
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Electrical Data

Operating voltage	≤ 30 VAC; ≤ 50 VDC
Nominal current	1 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	50 V
Rated surge voltage	0.8 kV
Degree of protection	IP00

Connection Data

Connection type 1	System
Connector 1	D-Sub female connector
Strain relief (stud bolt) 1	UNC 4-40
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	19 mm / 0.748 inch
Depth	63.5 mm / 2.5 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10

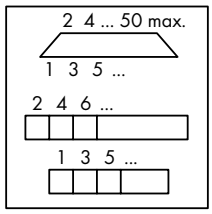


Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

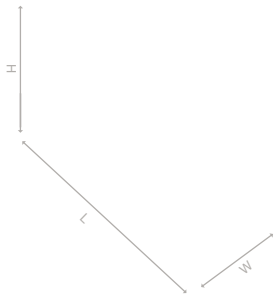
Interface Module for D-Sub Female Connector and IDC Mating Connector
289 Series





Interface Module; D-sub female connector; IDC mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting carrier

Pole No.	Width	Item No.	Pack. Unit
9	38 mm	289-550	1
15	46 mm	289-551	1
25	72 mm	289-552	1
37	102 mm	289-553	1
50	94 mm	289-554	1



Electrical Data

Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	2 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data

Connection type 1	System
Connector 1	D-Sub female connector
Strain relief (stud bolt) 1	UNC 4-40
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Standards and Specifications

Standards/specifications	UL 840

Accessories

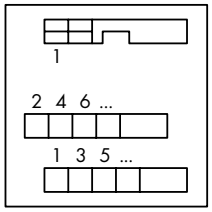


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

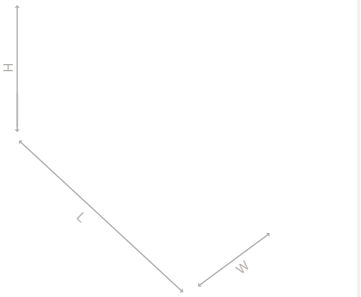
Interface Module for DIN 41651 Connector
289 Series





Interface Module; DIN 41651 connector; Double-row PCB terminal blocks; with mounting feet

Pole No.	Width	Item No.	Pack. Unit
10	41 mm	289-401	1
14	51.5 mm	289-402	1
16	56.5 mm	289-403	1
20	66.5 mm	289-404	1
26	81 mm	289-405	1
34	102 mm	289-406	1
40	126 mm	289-407	1
50	151 mm	289-408	1
64	187 mm	289-409	1



Notice:
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Electrical Data

Operating voltage	≤ 30 VAC; ≤ 50 VDC
Nominal current	1 A
Performance level	3 / 50 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	50 V
Rated surge voltage	0.8 kV
Degree of protection	IP00

Connection Data

Connection type 1	System
Connector 1	DIN 41651 male connector
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	28 mm / 1.102 inch
Depth	63.5 mm / 2.5 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni

Environmental Requirements

Surrounding air temperature (operation)	–20 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

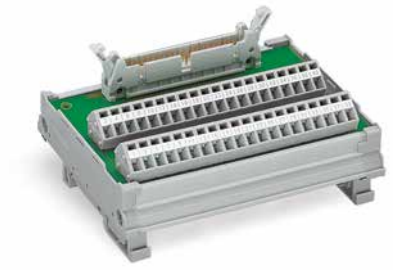
Item No.	Pack. Unit
709-167	10

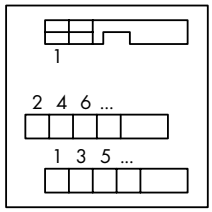


Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

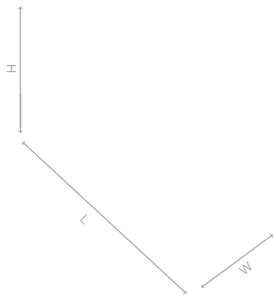
Interface Module for DIN 41651 Connector
289 Series





Interface Module; DIN 41651 connector; Double-row PCB terminal blocks; with mounting carrier

Pole No.	Width	Item No.	Pack. Unit
10	38 mm	289-501	1
14	43 mm	289-502	1
16	46 mm	289-503	1
20	53.5 mm	289-504	1
26	71 mm	289-505	1
34	94 mm	289-506	1
40	114 mm	289-507	1
50	132 mm	289-508	1
64	170 mm	289-509	1
64	120 mm	289-510	1



Electrical Data

Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	1 A
Performance level	3 / 50 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data

Connection type 1	System
Connector 1	DIN 41651 male connector
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	36 mm / 1.417 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni

Environmental Requirements

Surrounding air temperature (operation)	–20 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

6

Accessories

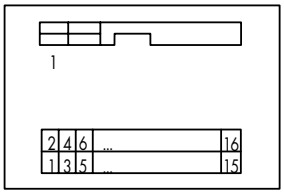


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

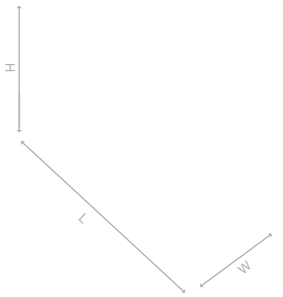
Interface Module for DIN 41651 Connector
289 Series





Interface Module; DIN 41651 connector; Double-deck PCB terminal blocks; with mounting carrier

Pole No.	Width	Item No.	Pack. Unit
10	35 mm	289-611	1
14	40 mm	289-612	1
16	45 mm	289-613	1



Electrical Data	
Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	1 A
Performance level	3 / 50 mating cycles

Safety and Protection	
Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data	
Connection type 1	System
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Height from upper-edge of DIN-rail	48 mm / 1.89 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Contact material (connector)	Au over Ni

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

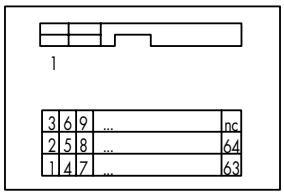


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

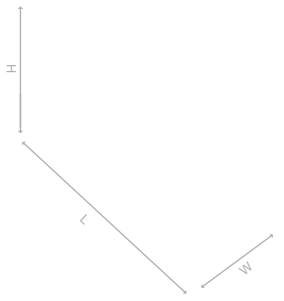
Interface Module for DIN 41651 Connector
289 Series





Interface Module; DIN 41651 connector; Triple-deck PCB terminal blocks; with mounting carrier

Pole No.	Width	Item No.	Pack. Unit
20	47 mm	289-614	1
26	55 mm	289-615	1
34	65 mm	289-616	1
40	74 mm	289-617	1
50	88 mm	289-618	1
64	114 mm	289-619	1



Electrical Data	
Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	1 A
Performance level	3 / 50 mating cycles

Safety and Protection	
Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data	
Connection type 1	System
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Height from upper-edge of DIN-rail	62 mm / 2.441 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Contact material (connector)	Au over Ni

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +55 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

6

Accessories

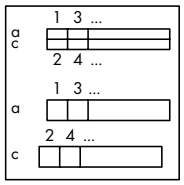


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

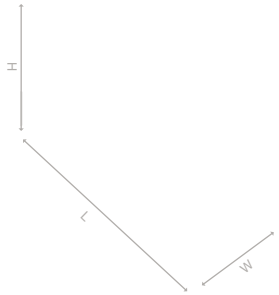
Interface Module for DIN 41612 Connector; Type C; IDC Mating Connector
289 Series





Interface Module; DIN 41612 connector; IDC mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting feet; Type C

Pole No.	Width	Item No.	Pack. Unit
32	79 mm	289-422	1



Notice!
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Electrical Data

Operating voltage	≤ 30 VAC; ≤ 50 VDC
Nominal current	1 A
Contact resistance (max.)	30 mΩ
Performance level	2 / 200 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	50 V
Rated surge voltage	0.8 kV
Degree of protection	IP00

Connection Data

Pole No.	32
Connection type 1	System
Connector 1	D-sub male connector
Strain relief (stud bolt) 1	UNC 4-40
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	79 mm / 3.11 inch
Height from upper-edge of DIN-rail	19 mm / 0.748 inch
Depth	63.5 mm / 2.5 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Au over Ni
Weight	52 g

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10

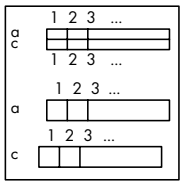


Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

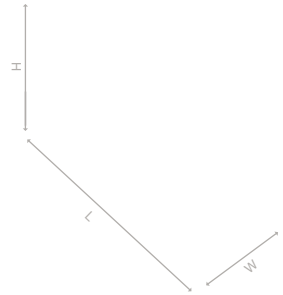
Interface Module for DIN 41612 Connector; Type C; Solder Mating Connector
289 Series





Interface Module; DIN 41612 connector; Solder mating connector; Horizontal mating; Double-row PCB terminal blocks; with mounting feet; Type C

Pole No.	Width	Item No.	Pack. Unit
64	187 mm	289-427	1



Notice!
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Electrical Data

Operating voltage	≤ 30 VAC; ≤ 50 VDC
Nominal current	1 A
Contact resistance (max.)	20 mΩ
Performance level	2 / 400 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	50 V
Rated surge voltage	0.8 kV
Degree of protection	IP00

Connection Data

Pole No.	64
Connection type 1	System
Connector 1	DIN 41612 male connector
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	187 mm / 7.362 inch
Height from upper-edge of DIN-rail	21 mm / 0.827 inch
Depth	63.5 mm / 2.5 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Copper alloy; gold plated
Weight	107.6 g

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10

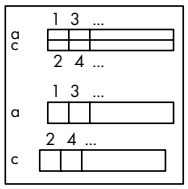


Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

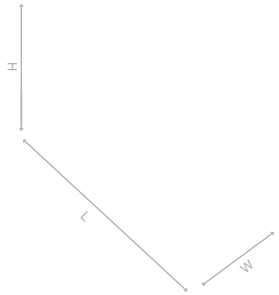
Interface Module for DIN 41612 Connector; Type C; IDC Mating Connector
289 Series





Interface Module; DIN 41612 connector; IDC mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting carrier; Type C

Pole No.	Width	Item No.	Pack. Unit
64	171 mm	289-522	1



Electrical Data	
Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	1 A
Contact resistance (max.)	20 mΩ
Performance level	2 / 400 mating cycles

Safety and Protection	
Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data	
Pole No.	64
Connection type 1	System
Connector 1	DIN 41612 male connector
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	171 mm / 6.732 inch
Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Contact material (connector)	Copper alloy; gold plated
Weight	165.4 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

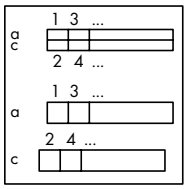


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

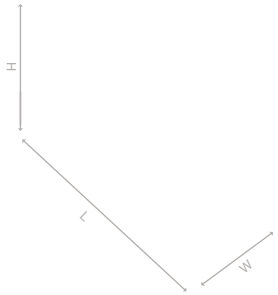
Interface Module for DIN 41612 Connector; Type C; IDC Mating Connector
289 Series





Interface Module; DIN 41612 connector; IDC mating connector; Horizontal mating; Double-row PCB terminal blocks; with mounting carrier; Type C

Pole No.	Width	Item No.	Pack. Unit
64	171 mm	289-523	1



Notice!
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Electrical Data

Operating voltage	≤ 30 VAC; ≤ 50 VDC
Nominal current	1 A
Contact resistance (max.)	20 mΩ
Performance level	2 / 400 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	50 V
Rated surge voltage	0.8 kV
Degree of protection	IP00

Connection Data

Pole No.	64
Connection type 1	System
Connector 1	DIN 41612 male connector
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	171 mm / 6.732 inch
Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Copper alloy; gold plated
Weight	159.3 g

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10



Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10



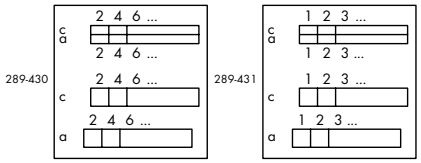
Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

6

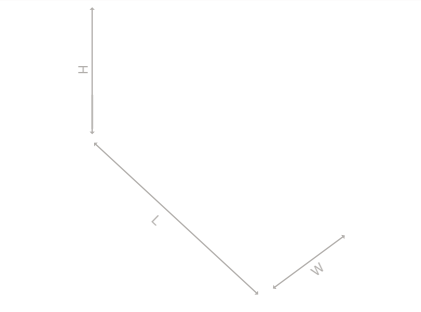
Interface Module for DIN 41612 Connector; Type C; Solder Mating Connector
289 Series





Interface Module; DIN 41612 connector; Solder mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting feet; Type C

Pole No.	Width	Item No.	Pack. Unit
32	97 mm	289-430	1
64	187 mm	289-431	1



Notice!
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Electrical Data

Operating voltage	≤ 30 VAC; ≤ 50 VDC
Nominal current	1 A
Contact resistance (max.)	20 mΩ
Performance level	2 / 400 mating cycles

Safety and Protection

Pollution degree	2
Rated voltage	50 V
Rated surge voltage	0.8 kV
Degree of protection	IP00

Connection Data

Connection type 1	System
Connector 1	DIN 41612 female connector
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Height from upper-edge of DIN-rail	21 mm / 0.827 inch
Depth	63.5 mm / 2.5 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Copper alloy; gold plated

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10

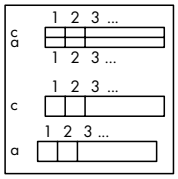


Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

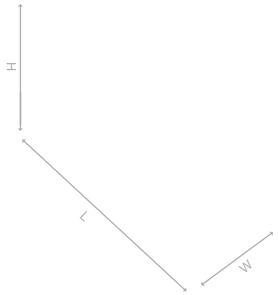
Interface Module for DIN 41612 Connector; Type C; Solder Mating Connector
289 Series





Interface Module; DIN 41612 connector; Solder mating connector; Vertical mating; Double-row PCB terminal blocks; with mounting carrier; Type C

Pole No.	Width	Item No.	Pack. Unit
64	171 mm	289-531	1



Electrical Data

Operating voltage	≤ 100 VAC; ≤ 125 VDC
Nominal current	1 A
Contact resistance (max.)	20 mΩ
Performance level	2 / 400 mating cycles

Safety and Protection

Pollution degree	2
Rated surge voltage	0.8 kV
Degree of protection	IP20

Connection Data

Pole No.	64
Connection type 1	System
Connector 1	DIN 41612 female connector
Connection type 2	Field
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	171 mm / 6.732 inch
Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Contact material (connector)	Copper alloy; gold plated
Weight	164.4 g

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

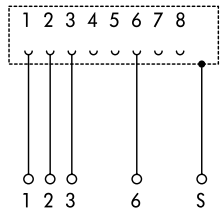


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

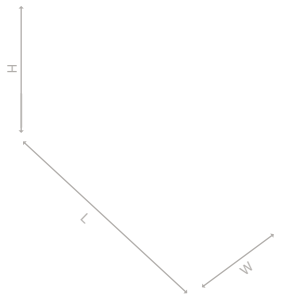
Interface Module for RJ-45 Connector
289 Series





Interface Module; RJ-45; PCB terminal blocks; Cat. 5; with mounting carrier; with shield connection

	Item No.	Pack. Unit
	289-174	1
with shield clamping saddle	289-174/790-108	1



Electrical Data	
Nominal current	1.5 A
Contact resistance (typ.)	20 mΩ
Insulation resistance	> 500 MΩ
Transmission length (max.)	100 m
Connection cable	Min. Cat. 5

Safety and Protection	
Dielectric strength (contact/contact)	1 kV_{rms}

Connection Data	
Connection type 1	System
Connector 1	RJ-45; shielded
Connection type 2	System
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Fine-stranded conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Mating cycles	500

Physical Data	
Width	24 mm / 0.945 inch
Height from upper-edge of DIN-rail	40 mm / 1.575 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	32.6 g

Environmental Requirements	
Surrounding air temperature (operation)	−40 … +85 °C (Actuation: −35 … +85 °C)
Surrounding air temperature (storage)	−40 … +85 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

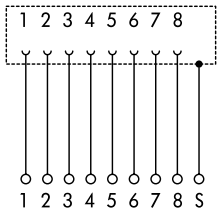


Shield clamping saddle; 11 mm wide; Connectable shield diameter: up to 8 mm

Item No.	Pack. Unit
790-108	50 (10)

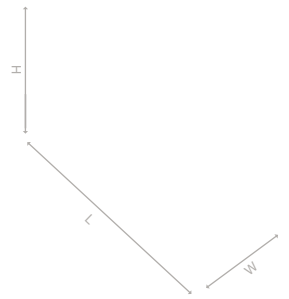
Interface Module for RJ-45 Connector
289 Series





Interface Module; RJ-45; Double-row PCB terminal blocks; Cat. 5; with mounting carrier; with shield connection

	Item No.	Pack. Unit
	289-175	1
with shield clamping saddle	289-175/790-108	1



Electrical Data

Nominal current	1.5 A
Contact resistance (typ.)	20 mΩ
Insulation resistance	> 500 MΩ
Transmission length (max.)	100 m
Connection cable	Min. Cat. 5
WAGO Shield Clamping Saddle	11 mm wide; cable diameter up to 8 mm

Safety and Protection

Dielectric strength (contact/contact)	1 kV_{rms}

Connection Data

Connection type 1	System
Connector 1	RJ-45 (shielded)
Connection type 2	System
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Fine-stranded conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Mating cycles	500

Physical Data

Width	24 mm / 0.945 inch
Height from upper-edge of DIN-rail	40 mm / 1.575 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	49 g

Environmental Requirements

Surrounding air temperature (operation)	−40 … +85 °C (Actuation: −35 … +85 °C)
Surrounding air temperature (storage)	−40 … +85 °C
Surrounding air (operating) temperature for UL	−40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Standards and Specifications

Standards/specifications	UL 840

Accessories



Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

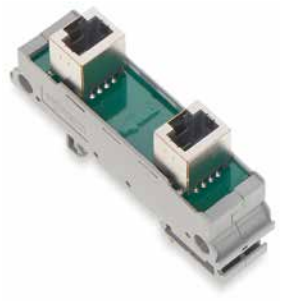
Item No.	Pack. Unit
709-178	1

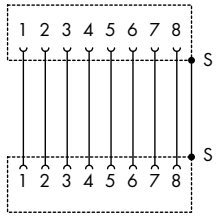


Shield clamping saddle; 11 mm wide; Connectable shield diameter: up to 8 mm

Item No.	Pack. Unit
790-108	50 (10)

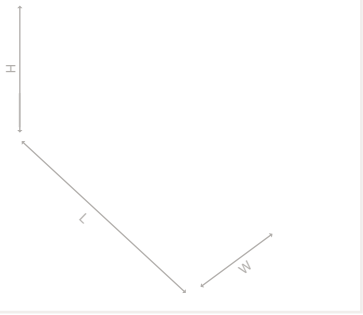
Interface Module for RJ-45 Connector
289 Series





Interface Module; RJ-45; RJ-45; Cat. 5; with mounting carrier

Item No.	Pack. Unit
289-172	1



Electrical Data	
Operating voltage	≤ 30 VAC; ≤ 42 VDC
Nominal current	1.5 A
Contact resistance (typ.)	20 mΩ
Insulation resistance	> 500 MΩ
Transmission length (max.)	100 m
Connection cable	Min. Cat. 5

Safety and Protection	
Dielectric strength (contact/contact)	1 kV_{rms}

Connection Data	
Connection type 1	System
Connector 1	RJ-45 (shielded)
Connection type 2	System
Connector 2	RJ-45 (shielded)
Mating cycles	500

Physical Data	
Width	20.5 mm / 0.807 inch
Height from upper-edge of DIN-rail	51 mm / 2.008 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	28.3 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +85 °C
Surrounding air temperature (storage)	–40 … +85 °C
Surrounding air (operating) temperature for UL	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Standards and Specifications	
Standards/specifications	UL 840

Accessories



Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

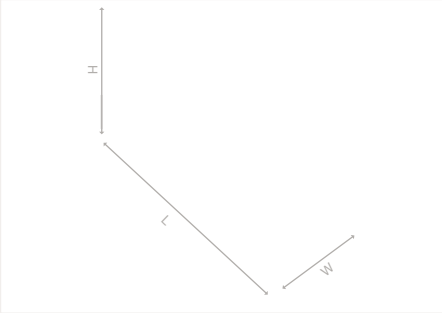
Item No.	Pack. Unit
709-178	1

Interface Module for RJ-45 Connector
289 Series



Interface Module; RJ-45; IDC; Cat. 6; with mounting carrier; with shield connection

	Item No.	Pack. Unit
	289-195	1



Electrical Data	
Contact resistance (typ.)	50 mΩ (20 °C)
Connection cable	Min. Cat. 6

Safety and Protection	
Degree of protection	IP20

Connection Data	
Pole No.	8
Connection type 1	System
Connector 1	RJ-45 (shielded)
Connection type 2	System
Connection technology 2	IDC
Solid conductor 2	0.2 … 0.32 mm² / 24 … 22 AWG
Stranded conductor (2)	0.2 … 0.32 mm² / 26/7 … 22/7 AWG
Strip length 2	0.8 … 1.6 mm / 0.03 … 0.06 inch
Mating cycles	750

Physical Data	
Width	26.8 mm / 1.056 inch
Height from upper-edge of DIN-rail	64.4 mm / 2.535 inch
Depth	81.4 mm / 3.205 inch

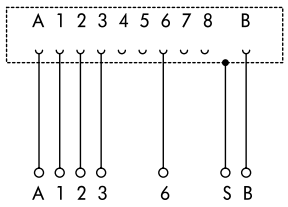
Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Contact material (connector)	Au over Ni
Weight	51 g

Environmental Requirements	
Surrounding air temperature (operation)	−10 … +60 °C
Surrounding air temperature (storage)	−40 … +70 °C
Relative humidity	≤ 95 % (non-condensing)

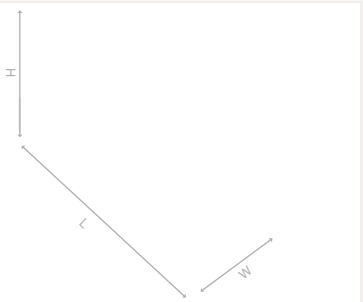
Interface Module for RJ-45 Connector; with Power Contacts
289 Series





Interface Module; RJ-45; with power contacts; PCB terminal blocks; Cat. 5; with mounting carrier; with shield connection; with shield clamping saddle

	Item No.	Pack. Unit
	289-178	1



Electrical Data	
Operating voltage	≤ 35 VAC; ≤ 50 VDC
Nominal current	2.1 A
Contact resistance (typ.)	40 mΩ
Insulation resistance	> 500 MΩ
Transmission length (max.)	100 m
Connection cable	Min. Cat. 5
WAGO Shield Clamping Saddle	11 mm wide; cable diameter up to 8 mm

Safety and Protection	
Dielectric strength (contact/contact)	1 kV_{rms}

Connection Data	
Connection type 1	System
Connector 1	RJ-45 (shielded); with two additional power contacts
Connection type 2	System
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Fine-stranded conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Mating cycles	1000

Physical Data	
Width	30 mm / 1.181 inch
Height from upper-edge of DIN-rail	67 mm / 2.638 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	51.7 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +85 °C (Actuation: –35 … +85 °C)
Surrounding air temperature (storage)	–40 … +85 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

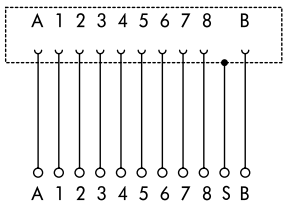


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

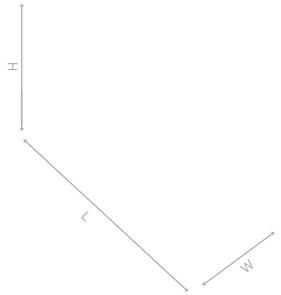
Interface Module for RJ-45 Connector; with Power Contacts
289 Series





Interface Module; RJ-45; with power contacts; Double-row PCB terminal blocks; Cat. 5; with mounting carrier; with shield connection; with shield clamping saddle

	Item No.	Pack. Unit
	289-179	1



Electrical Data

Operating voltage	≤ 35 VAC; ≤ 50 VDC
Nominal current	2.1 A
Contact resistance (typ.)	40 mΩ
Insulation resistance	> 500 MΩ
Transmission length (max.)	100 m
Connection cable	Min. Cat. 5
WAGO Shield Clamping Saddle	11 mm wide; cable diameter up to 8 mm

Safety and Protection

Dielectric strength (contact/contact)	1 kV_{rms}

Connection Data

Connection type 1	System
Connector 1	RJ-45 (shielded); with two additional power contacts
Connection type 2	System
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Fine-stranded conductor 2	0.08 … 1.5 mm² / 28 … 14 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Mating cycles	1000

Physical Data

Width	30 mm / 1.181 inch
Height from upper-edge of DIN-rail	67 mm / 2.638 inch
Depth	85 mm / 3.346 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	52.5 g

Environmental Requirements

Surrounding air temperature (operation)	–40 … +85 °C (Actuation: –35 … +85 °C)
Surrounding air temperature (storage)	–40 … +85 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

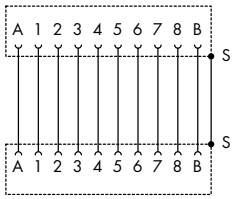


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

	Item No.	Pack. Unit
	709-178	1

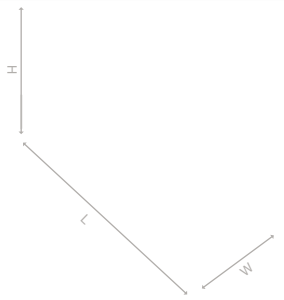
Interface Module for RJ-45 Connector; with Power Contacts
289 Series





Interface Module; RJ-45; with power contacts; RJ-45; Cat. 5; with mounting carrier

Item No.	Pack. Unit
289-176	1



Electrical Data	
Operating voltage	≤ 35 VAC; ≤ 50 VDC
Nominal current	2.1 A
Contact resistance (typ.)	40 mΩ
Insulation resistance	> 500 MΩ
Transmission length (max.)	100 m
Connection cable	Min. Cat. 5

Safety and Protection	
Dielectric strength (contact/contact)	1 kV_{rms}

Connection Data	
Connection type 1	System
Connector 1	RJ-45 (shielded); with two additional power contacts
Connection type 2	System
Connector 2	RJ-45 (shielded); with two additional power contacts
Mating cycles	1000

Physical Data	
Width	30 mm / 1.181 inch
Height from upper-edge of DIN-rail	51 mm / 2.008 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	29.4 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +85 °C
Surrounding air temperature (storage)	–40 … +85 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

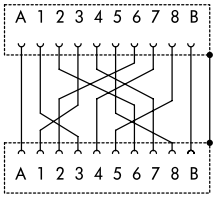


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

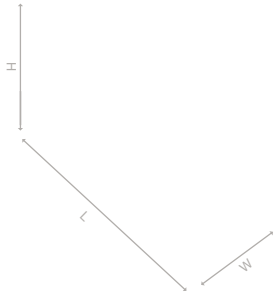
Interface Module for RJ-45 Connector; with Power Contacts
289 Series





Interface Module; RJ-45; with cross-over power contacts; RJ-45; Cat. 5; with mounting carrier

Item No.	Pack. Unit
289-177	1



Electrical Data	
Operating voltage	≤ 35 VAC; ≤ 50 VDC
Nominal current	2.1 A
Contact resistance (typ.)	40 mΩ
Insulation resistance	> 500 MΩ
Transmission length (max.)	100 m
Connection cable	Min. Cat. 5

Safety and Protection	
Dielectric strength (contact/contact)	1 kV_{rms}

Connection Data	
Connection type 1	System
Connector	RJ-45 (shielded); with two additional power contacts
Connection type 2	System
Connector	RJ-45 (shielded); with two additional power contacts
Mating cycles	1000

Physical Data	
Width	30 mm / 1.181 inch
Height from upper-edge of DIN-rail	51 mm / 2.008 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	34.3 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +85 °C
Surrounding air temperature (storage)	–40 … +85 °C
Relative humidity	≤ 85 % (non-condensing)

6

Accessories

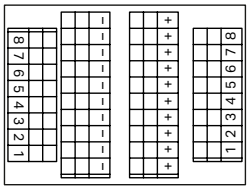


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

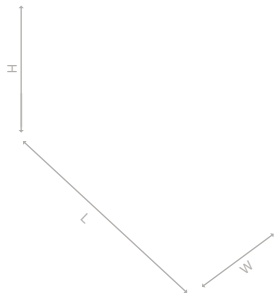
Sensor/Actuator Module
289 Series





Sensor/Actuator Module; 8-channel digital input; 3 conductors; with mounting carrier

Item No.	Pack. Unit
289-664	1



Electrical Data	
Operating voltage	≤ 100 VAC; ≤ 125 VDC
Total current	8 A
Current per connection (max.)	1 A

Safety and Protection	
Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	56 mm / 2.205 inch
Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	73 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

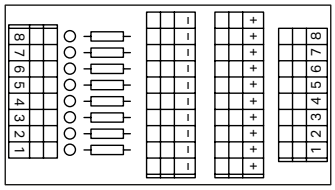


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

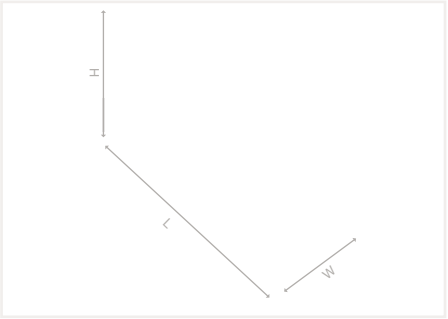
Sensor/Actuator Module
289 Series





Sensor/Actuator Module; 8-channel digital input; 3 conductors; High-side switching; Status indicator: red; with mounting carrier

	Item No.	Pack. Unit
	289-665	1



Electrical Data	
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Total current	8 A
Current per connection (max.)	1 A
Power consumption (status indication)	5.2 mA

Safety and Protection	
Pollution degree	2
Rated voltage	100 V
Rated surge voltage	0.8 kV

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	56 mm / 2.205 inch
Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	105 mm / 4.134 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	83.6 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

6

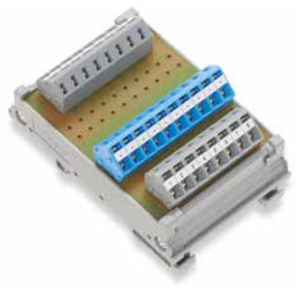
Accessories

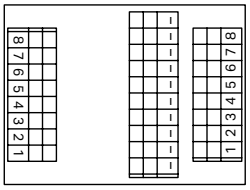


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

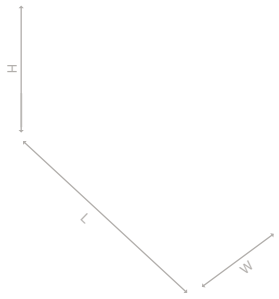
Sensor/Actuator Module
289 Series





Sensor/Actuator Module; 8-channel digital output; 2 conductors; with mounting carrier

Item No.	Pack. Unit
289-667	1



Electrical Data	
Operating voltage	≤ 100 VAC; ≤ 125 VDC
Total current	8 A
Current per connection (max.)	1 A

Safety and Protection	
Pollution degree	2
Rated voltage	100 V
Rated surge voltage	1.5 kV

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	56 mm / 2.205 inch
Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	64 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

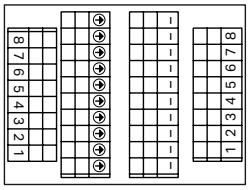


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1

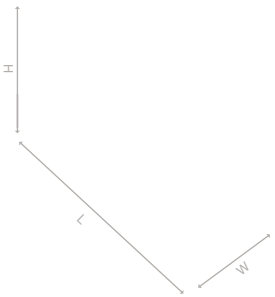
Sensor/Actuator Module
289 Series





Sensor/Actuator Module; 8-channel digital output; 2 conductors; with functional ground; with mounting carrier

Item No.	Pack. Unit
289-671	1



Electrical Data	
Operating voltage	≤ 100 VAC; ≤ 125 VDC
Total current	8 A
Current per connection (max.)	1 A

Safety and Protection	
Pollution degree	2
Rated voltage	100 V
Rated surge voltage	1.5 kV

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	56 mm / 2.205 inch
Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	70.8 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

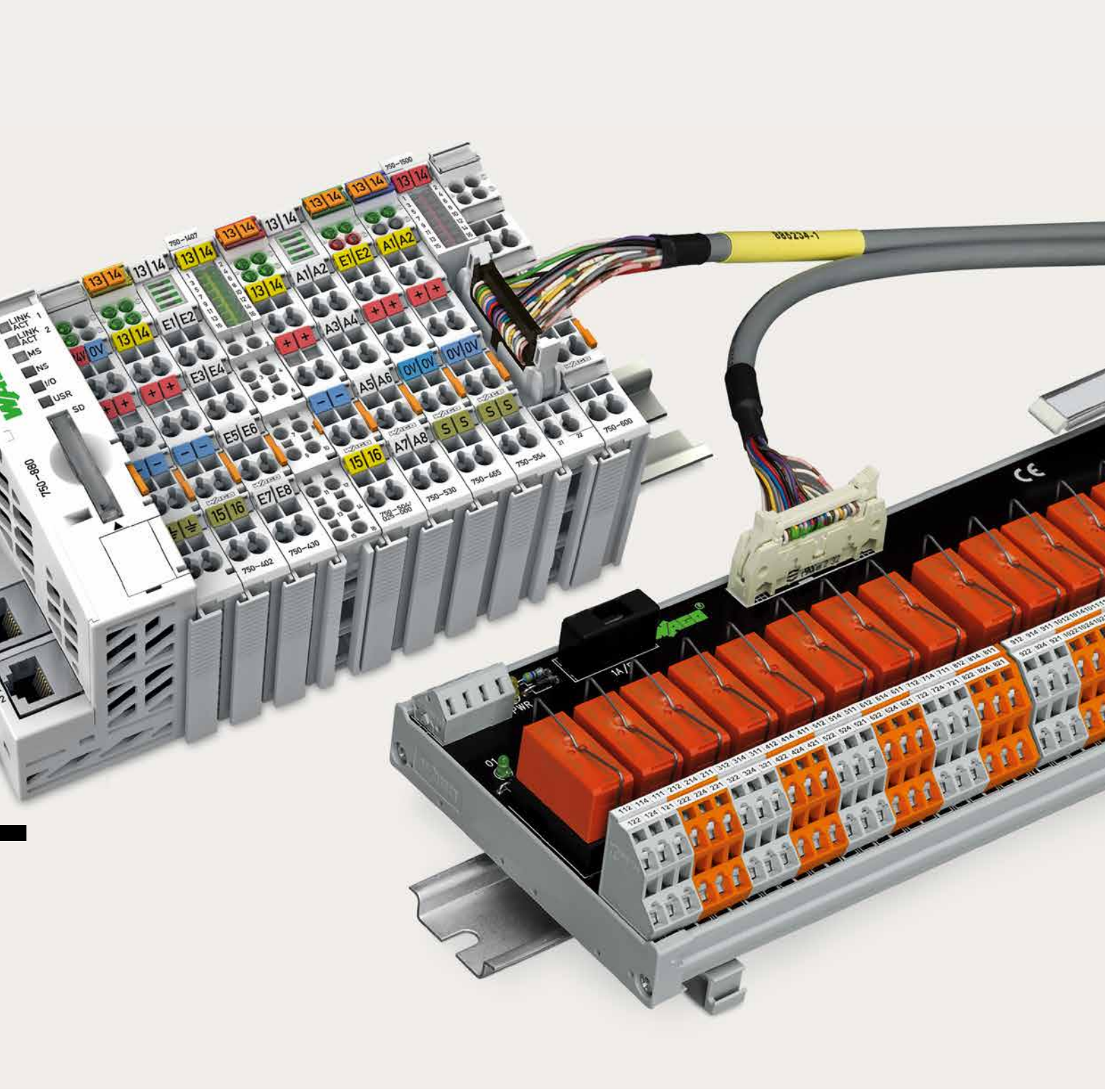
6

Accessories



Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

Item No.	Pack. Unit
709-178	1



WAGO System Wiring

WAGO System Wiring



WAGO System Wiring Page
Overview and Application Notes 610



Interface Modules for System Wiring
Input/Output Modules; 704 Series 614
Interface Adapters; 857 Series 630



WAGO Interface Cables; 706 Series
for 289; 704 Series 634
for Interface Adapters 648

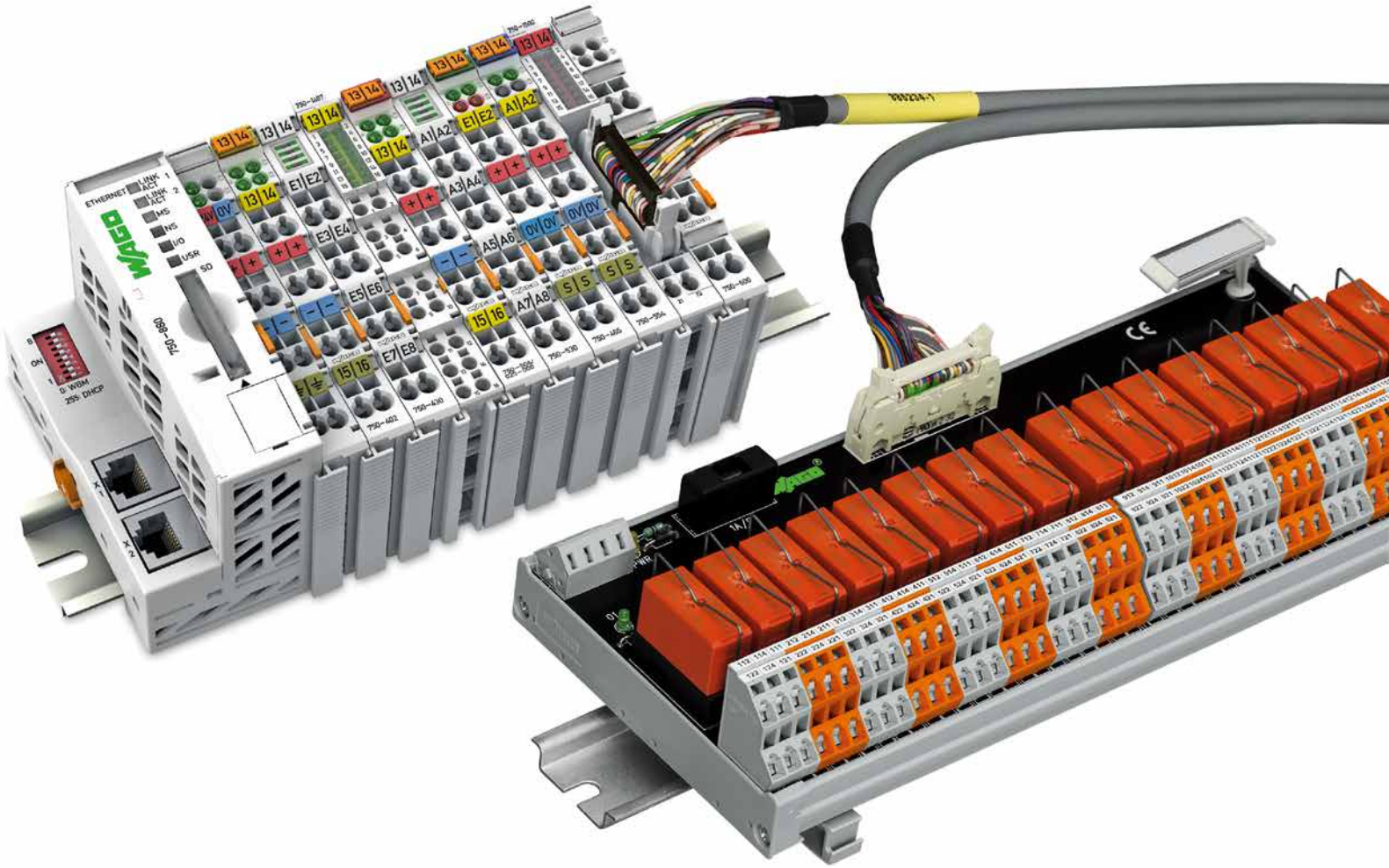
WAGO System Wiring
Overview and Application Examples

16-Channel I/O Module with Interface Module

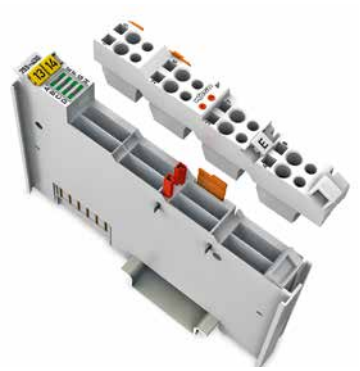
The 750-14xx and 750-15xx I/O Modules with a pluggable connector per DIN 41651 offer 16 digital channels in a module less than 1⁄2 inch (12 mm) wide. Offering quick connections and a space-efficient design, the DIN-rail-mount interface modules simplify installation in confined areas and conveniently relocate the termination point. When combined with WAGO's interface modules (e.g., Item No. 289-614, 289-611), a control cabinet can be pre-wired before installation to minimize wiring time and errors. This is beneficial as wiring can be performed independently of construction.

The programmed controller can be installed right before start-up, saving valuable time during final stages of project completion. The I/O modules are also ideal for connecting series machines or relay modules tasked with the higher loads common to buildings and industrial applications. The interface modules also combine the advantages of relays (e.g., manual operation or rapid replacement with socket-mounted versions) with the benefits of a modern I/O system. Another ideal application would be the integration of pneumatic controllers into a fieldbus network.

Most pneumatic modules have an appropriate connector and can be controlled by the WAGO-I/O-SYSTEM.
Six variants are available: two 16-channel input or output modules (one high-side and one low-side switching variant), as well as two versions combining 8 inputs and 8 outputs.



WAGO System Wiring
Overview and Application Examples

Application Example		
WAGO-I/O-SYSTEM 750/753	**WAGO Interface Cable**	**WAGO Interface Module**
		
753-430 (x2); 16 DI	WAGO 753 T8ES; 2 m long 706-7753/301-200	T16ES 704-2004

WAGO-I/O-SYSTEM 753			WAGO Interface Cable		WAGO Interface Modules	
I/O Modules			Item No.	Qty.	Type	Qty.
DI	753-430 (x1)	8 DI	**706-7753/300-XXX**	1	T8ES	1
	753-430 (x2)	16 DI	**706-7753/301-XXX**	1	T16ES	1
	753-431 (x1)	8 DI	**706-7753/300-XXX**	1	T8ES	1
	753-431 (x2)	16 DI	**706-7753/301-XXX**	1	T16ES	1
DO	753-530 (x1)	8 DO	**706-7753/300-XXX**	1	T8ES/T8S	1
	753-530 (x2)	16 DO	**706-7753/301-XXX**	1	T16ES/T16S	1

For an overview of cables and interface modules, see page 622.

WAGO-I/O-SYSTEM 750			WAGO Interface Cable		WAGO Interface Modules	
I/O Modules			Item No.	Qty.	Type	Qty.
DI	750-1400	16 DI	**706-3057/300-XXX**	1	T16ES	1
DO	750-1500	16 DO	**706-3057/300-XXX**	1	T16ES	1
DI/DO	750-1502	8 DI/8 DO	**706-7753/302-XXX**	1	T8ES/T8S	1/1
	750-1502	8 DI/8 DO	**706-3057/300-XXX**	1	T16ES	1

For an overview of cables and interface modules, see page 622.

WAGO System Wiring
Overview and Application Examples

SIEMENS S7-300			WAGO Interface Cable		WAGO Interface Modules	
			Item No.	Qty.	Type	Qty.
CPU	6ES7 313-5BE01-0AB0	16 DI/16 DO	706-2300/301-XXX	1	T16ES/T16S	1/1
	6ES7 313-5BF03-0AB0	16 DI/16 DO	706-2300/301-XXX	1	T16ES/T16S	1/1
	6ES7 313-6BE01-0AB0	16 DI/16 DO	706-2300/301-XXX	1	T16ES/T16S	1/1
	6ES7 313-6BF03-0AB0	16 DI/16 DO	706-2300/301-XXX	1	T16ES/T16S	1/1
	6ES7 313-6CE01-0AB0	16 DI/16 DO	706-2300/301-XXX	1	T16ES/T16S	1/1
	6ES7 313-6CF03-0AB0	16 DI/16 DO	706-2300/301-XXX	1	T16ES/T16S	1/1
	6ES7 314-6BF01-0AB0	16 DI/16 DO	706-2300/301-XXX	1	T16ES/T16S	1/1
	6ES7 314-6BG03-0AB0	16 DI/16 DO	706-2300/301-XXX	1	T16ES/T16S	1/1
	6ES7 314-6CF01-0AB0	16 DI/16 DO	706-2300/301-XXX	1	T16ES/T16S	1/1
	6ES7 314-6CG03-0AB0	16 DI/16 DO	706-2300/301-XXX	1	T16ES/T16S	1/1
DI	6ES7 321-1BH02-0AA0	16 DI	706-2300/300-XXX	1	T16ES	1
	6ES7 321-1BH10-0AA0	16 DI	706-2300/300-XXX	1	T16ES	1
	6ES7 321-1BH80-0AA0	16 DI	706-2300/300-XXX	1	T16ES	1
	6ES7 321-1BL00-0AA0	32 DI	706-2300/301-XXX	1	T16ES	2
	6ES7 321-1BL80-0AA0	32 DI	706-2300/301-XXX	1	T16ES	2
	6ES7 321-1BP00-0AA0	64 DI	706-2300/100-XXX	2	T16ES	4
	6ES7 321-7BH01-0AA0	16 DI	706-2300/101-XXX	1	T16ES	1
	6ES7 321-7BH80-0AA0	16 DI	706-2300/101-XXX	1	T16ES	1
DO	6ES7 322-1BH01-0AA0	16 DO	706-2300/300-XXX	1	T16ES /T16S	1
	6ES7 322-1BH10-0AA0	16 DO	706-2300/300-XXX	1	T16ES /T16S	1
	6ES7 322-1BH80-0AA0	16 DO	706-2300/300-XXX	1	T16ES /T16S	1
	6ES7 322-1BL00-0AA0	32 DO	706-2300/301-XXX	1	T16ES /T16S	2
	6ES7 322-1BP00-0AA0	64 DO	706-2300/200-XXX	2	T16ES /T16S	4
	6ES7 322-1EH01-0AA0	16 D0	706-2300/300-XXX	1	T16ES /T16S	1
	6ES7 322-8BF00-0AB0	8 DO	706-2300/201-XXX	1	T8ES /T8S	1
AI	6ES7 331-7HF01-0AB0	8 AI	706-2300/400-XXX	1	A8ES	1
	6ES7 331-7KF02-0AB0	8 AI	706-2300/400-XXX	1	A8ES	1
	6ES7 331-7NF00-0AB0	8 AI	706-2300/404-XXX	1	A8ES	1
	6ES7 331-7NF10-0AB0	8 AI	706-2300/406-XXX	1	A8ES	1
	6ES7 331-7SF00-0AB0	8 AI	706-2300/400-XXX	1	A8ES	1
	6ES7 331-7TF00-0AB0	8 AI	706-2300/400-XXX	1	A8ES	1
AO	6ES7 332-5HB01-0AB0	2 AO	706-2300/500-XXX	1	A4ES	1
	6ES7 332-5HB81-0AB0	2 AO	706-2300/500-XXX	1	A4ES	1
	6ES7 332-5HD01-0AB0	4 AO	706-2300/500-XXX	1	A4ES	1
	6ES7 332-5HF00-0AB0	8 AO	706-2300/502-XXX	1	A8ES	1
	6ES7 332-7ND02-0AB0	4 AO	706-2300/500-XXX	1	A4ES	1
	6ES7 332-8TF00-0AB0	8 AO	706-2300/400-XXX	1	A8ES	1

System cables for:
- GEFANUC 90-30 / ALSPA 80-35
- SCHNEIDER M340
- SCHNEIDER QUANTUM
- SCHNEIDER TSX 37 (Micro)
- SCHNEIDER TSX 57 (Premium)
- ROCKWELL COMPACT LOGIX (1769)
- ROCKWELL CONTROL LOGIX (1756)

are available upon request.

WAGO System Wiring
Overview and Application Examples

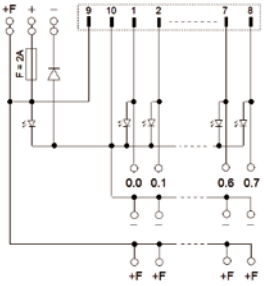
WAGO Interface Modules			
Type		Item No.	
DI/DO	T8ES	289-611	see page 588
		704-2003	see page 614
	T8S	704-5003	see page 615
		704-5013	see page 616
	T16ES	289-614	see page 589
		704-2004	see page 617
		704-2024	see page 618
		704-2044	see page 619
		704-2054	see page 620
	T16S	704-5004	see page 623
		704-5014	see page 623
		704-5024	see page 621
		704-5034	see page 624
		704-5044	see page 622
		704-5054	see page 625
		704-5064	see page 627
		704-5074	see page 626
AI/AO	A4ES	704-8012	see page 628
	A8ES	704-8013	see page 629

WAGO Interface Cable			
Type		Item No.	
DI/DO	WAGO-753 T8ES	706-7753/300-XXX	see www.wago.com
	WAGO-753 T16ES	706-7753/301-XXX	see www.wago.com
	WAGO-750 HE T8E8S	706-7753/302-XXX	see page 635
	TSX T16ES	706-3057/300-XXX	see page 634
	S7-300 T16E	706-2300/101-XXX	see page 637
	S7-300 2 x T16E	706-2300/100-XXX	see page 636
	S7-300 T8S	706-2300/201-XXX	see page 639
	S7-300 2 x T16S	706-2300/200-XXX	see page 638
	S7-300 T16ES	706-2300/300-XXX	See page 640
	S7-300 2 x T16ES	706-2300/301-XXX	see page 641
AI/AO	S7-300 A8E	706-2300/400-XXX	see page 642
	S7-300 A8EI1	706-2300/404-XXX	see page 643
	S7-300 A8EI2	706-2300/406-XXX	see page 644
	S7-300 A4SI	706-2300/500-XXX	see page 645
	S7-300 A8SI	706-2300/502-XXX	see page 646

Cable Length Overview			
Item No.	-XXX	Length	Example
706-2300/201-XXX	-100	1 m	706-2300/201-100
	-200	2 m	706-2300/201-200
	-300	3 m	706-2300/201-300

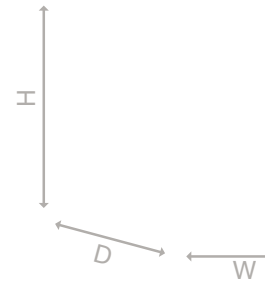
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 10-pole;
8-channel digital input or output; 3-wire connection;
Triple-deck PCB terminal blocks; with mounting carrier

	Item No.	Pack. Unit
	704-2003	1



Electrical Data	
Inputs/Outputs	8-channel digital input or output
Circuit type	3-wire connection
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Power consumption (status indication)	5 mA
Total current	2 A
Limiting continuous current	1 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	2 A

Safety and Protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2

Connection Data	
Connection type 1	System
Pole number 1	10
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	24
Design 2	PCB terminal blocks; triple-deck
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Power supply
Pole number 3	6
Design 3	PCB terminal blocks; double-deck
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	56 mm / 2.205 inch
Height from upper-edge of DIN-rail	63 mm / 2.48 inch
Depth	85 mm / 3.346 inch

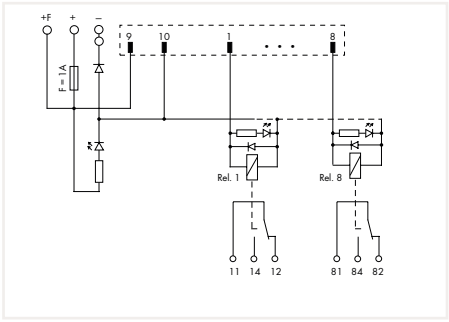
Mechanical Data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data	
Weight	92 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

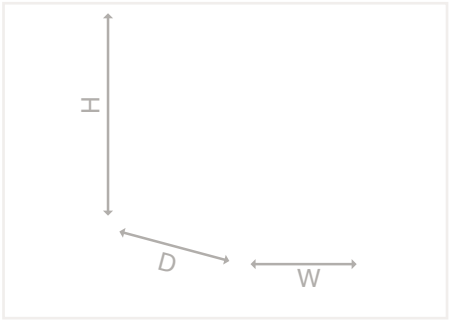
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 10-pole;
8-channel relay output; 1 changeover contact;
1 x cut-out; Triple-deck PCB terminal blocks;
with mounting carrier

	Item No.	Pack. Unit
	704-5003	1



Electrical Data	
Inputs/Outputs	8-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	1
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC; 48 VDC
Switching power (resistive) max.	1250 VA (AC)/50 W (DC)
Mechanical life (NO; resistive load; 23 °C)	10 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: -
WAGO Basic Relay	857-152

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1 kV_{rms}

Connection Data	
Connection type 1	System
Pole number 1	10
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	24
Design 2	PCB terminal blocks; triple-deck
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Power supply
Pole number 3	4
Design 3	PCB terminal blocks
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	70 mm / 2.756 inch
Height from upper-edge of DIN-rail	65 mm / 2.559 inch
Depth	105 mm / 4.134 inch

Mechanical Data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data	
Contact material (relay)	AgNi 90/10
Weight	230 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

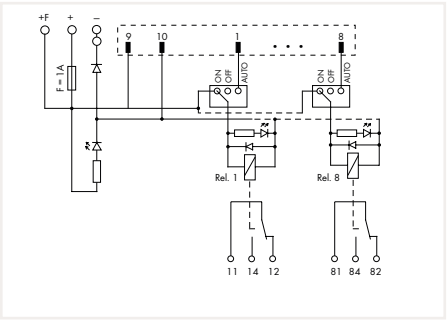


Basic Relay; 1 changeover contact; 24 VDC;
Limiting continuous current: 6 A; 5 mm wide;
15 mm high

	Item No.	Pack. Unit
	857-152	20

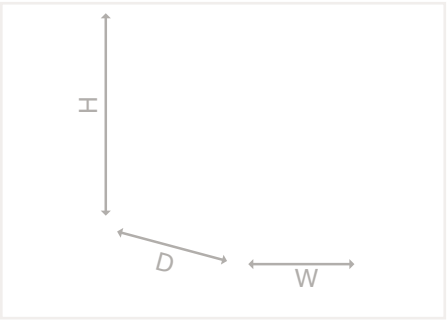
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 10-pole;
8-channel relay output; 1 changeover contact;
1 x cut-out; Triple-deck PCB terminal blocks;
with manual operation; with mounting carrier

	Item No.	Pack. Unit
	704-5013	1



Electrical Data	
Inputs/Outputs	8-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	1
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC; 48 VDC
Switching power (resistive) max.	1250 VA (AC)/50 W (DC)
Mechanical life (NO; resistive load; 23 °C)	10 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: -
WAGO Basic Relay	857-152
Specialty functions	Manual operation

Safety and Protection	
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1 kV_{rms}

Connection Data	
Connection type 1	System
Pole number 1	10
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	24
Design 2	PCB terminal blocks; triple-deck
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Power supply
Pole number 3	4
Design 3	PCB terminal blocks
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	70 mm / 2.756 inch
Height from upper-edge of DIN-rail	65 mm / 2.559 inch
Depth	105 mm / 4.134 inch

Mechanical Data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data	
Contact material (relay)	AgNi 90/10
Weight	240 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

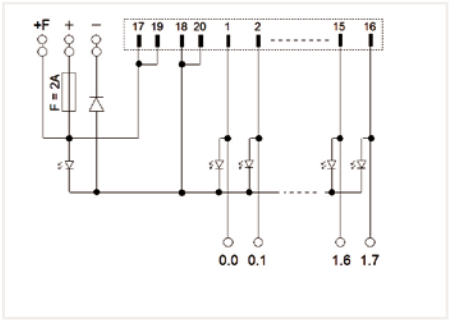


Basic Relay; 1 changeover contact; 24 VDC;
Limiting continuous current: 6 A; 5 mm wide;
15 mm high

Item No.	Pack. Unit
857-152	20

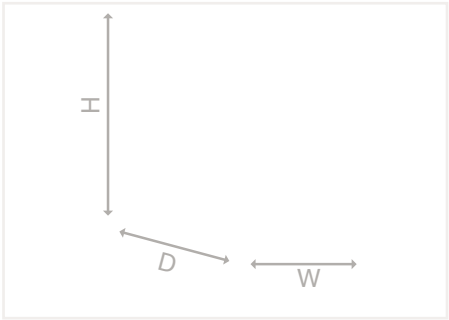
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 20-pole;
16-channel digital input or output; 1-wire connection;
Double-deck PCB terminal blocks;
with mounting carrier

	Item No.	Pack. Unit
	704-2004	1



Electrical Data	
Inputs/Outputs	16-channel digital input or output
Circuit type	1-wire connection
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Power consumption (status indication)	5 mA
Total current	2 A
Limiting continuous current	1 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	2 A

Safety and Protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2

Connection Data	
Connection type 1	System
Pole number 1	20
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	16
Design 2	PCB terminal blocks; double-deck
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Power supply
Pole number 3	6
Design 3	PCB terminal blocks; double-deck
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	55 mm / 2.165 inch
Height from upper-edge of DIN-rail	50 mm / 1.969 inch
Depth	85 mm / 3.346 inch

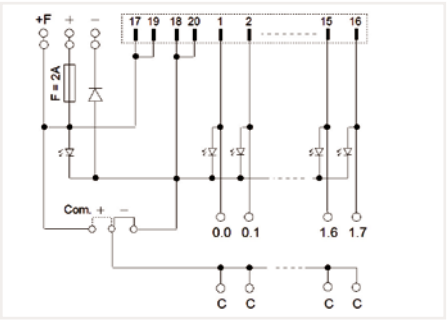
Mechanical Data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data	
Weight	80 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

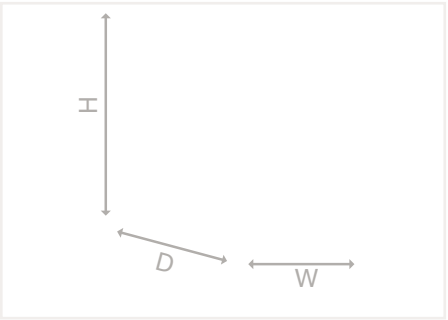
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 20-pole;
16-channel digital input or output; 2-wire connection;
Double-deck PCB terminal blocks;
with mounting carrier

	Item No.	Pack. Unit
	704-2024	1



Electrical Data	
Inputs/Outputs	16-channel digital input or output
Circuit type	2-wire connection
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Power consumption (status indication)	5 mA
Total current	2 A
Limiting continuous current	1 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	2 A

Safety and Protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2

Connection Data	
Connection type 1	System
Pole number 1	20
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	32
Design 2	PCB terminal blocks; double-deck
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Power supply
Pole number 3	6
Design 3	PCB terminal blocks; double-deck
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	85 mm / 3.346 inch
Height from upper-edge of DIN-rail	50 mm / 1.969 inch
Depth	85 mm / 3.346 inch

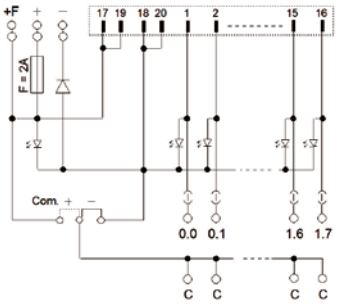
Mechanical Data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data	
Weight	112.3 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

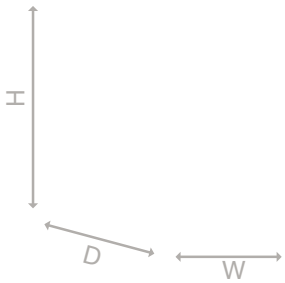
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 20-pole;
16-channel digital input or output; 2-wire connection;
Disconnect/test terminal blocks for PCBs;
with mounting carrier

	Item No.	Pack. Unit
	704-2044	1



Electrical Data	
Inputs/Outputs	16-channel digital input or output
Circuit type	2-wire connection
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Power consumption (status indication)	5 mA
Total current	2 A
Limiting continuous current	1 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	2 A
Specialty functions	Disconnect and test terminal blocks

Safety and Protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2

Connection Data	
Connection type 1	System
Pole number 1	20
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	16
Design 2	PCB terminal blocks
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inch
Connection type 3	Field
Pole number 3	16
Design 3	PCB terminal blocks
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch
Connection type 4	Power supply
Connection technology 4	CAGE CLAMP®
Solid conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 4	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	99 mm / 3.74 inch
Height from upper-edge of DIN-rail	50 mm / 1.969 inch
Depth	85 mm / 3.346 inch

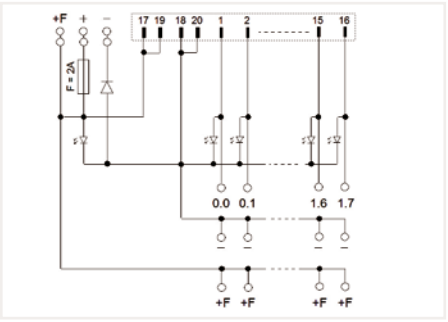
Mechanical Data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data	
Weight	184.1 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

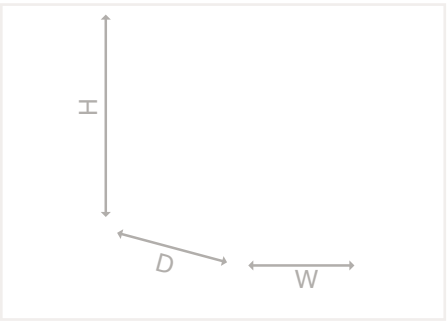
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 20-pole;
16-channel digital input or output; 3-wire connection;
Triple-deck PCB terminal blocks; with mounting carrier

	Item No.	Pack. Unit
	704-2054	1



Electrical Data	
Inputs/Outputs	16-channel digital input or output
Circuit type	3-wire connection
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Power consumption (status indication)	5 mA
Total current	2 A
Limiting continuous current	1 A
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	2 A

Safety and Protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2

Connection Data	
Connection type 1	System
Pole number 1	20
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	48
Design 2	PCB terminal blocks; triple-deck
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Power supply
Pole number 3	6
Design 3	PCB terminal blocks; double-deck
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	85 mm / 3.346 inch
Height from upper-edge of DIN-rail	50 mm / 1.969 inch
Depth	85 mm / 3.346 inch

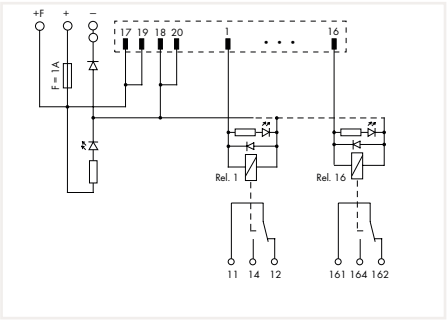
Mechanical Data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data	
Weight	143 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

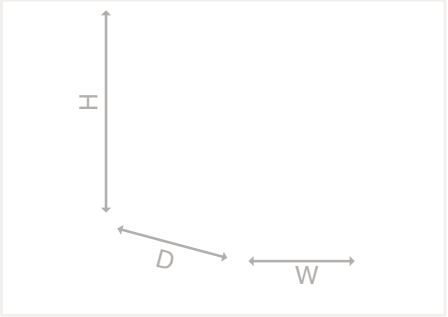
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 20-pole;
16-channel relay output; 1 changeover contact;
1 x cut-out; Triple-deck PCB terminal blocks;
with mounting carrier

	Item No.	Pack. Unit
	704-5024	1



Electrical Data

Inputs/Outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	1
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC; 48 VDC
Switching power (resistive) max.	1250 VA (AC)/50 W (DC)
Mechanical life (NO; resistive load; 23 °C)	10 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: -
WAGO Basic Relay	788-152

Safety and Protection

Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1 kV_{rms}

Connection Data

Connection type 1	System
Pole number 1	20
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	48
Design 2	PCB terminal blocks; triple-deck
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Power supply
Pole number 3	4
Design 3	PCB terminal blocks
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	111 mm / 4.37 inch
Height from upper-edge of DIN-rail	65 mm / 2.559 inch
Depth	105 mm / 4.134 inch

Mechanical Data

Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data

Contact material (relay)	AgNi 90/10
Weight	300 g

Environmental Requirements

Surrounding air temperature (operation)	–25 … +40 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



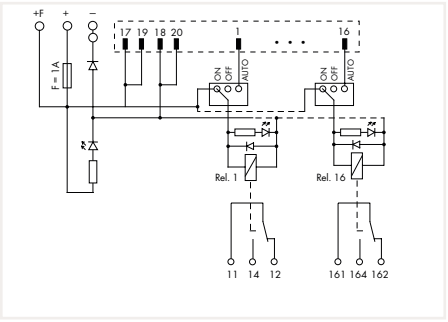
Basic Relay; 1 changeover contact; 24 VDC;
Limiting continuous current: 6 A; 5 mm wide;
15 mm high

Item No.	Pack. Unit
857-152	20

7

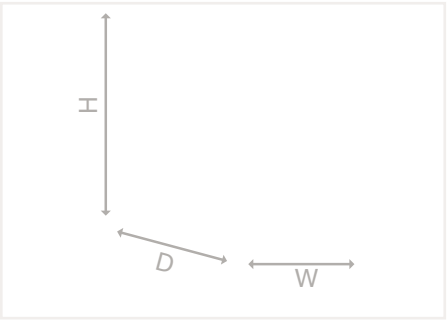
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 20-pole;
16-channel relay output; 1 changeover contact;
1 x cut-out; Triple-deck PCB terminal blocks;
with manual operation; with mounting carrier

	Item No.	Pack. Unit
	704-5044	1



Electrical Data	
Inputs/Outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	1
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC; 48 VDC
Switching power (resistive) max.	1250 VA (AC)/50 W (DC)
Mechanical life (NO; resistive load; 23 °C)	10 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: -
Specialty functions	Manual operation

Safety and Protection	
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1 kV_{rms}

Connection Data	
Connection type 1	System
Pole number 1	20
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	48
Design 2	PCB terminal blocks; triple-deck
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Power supply
Pole number 3	4
Design 3	PCB terminal blocks
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	111 mm / 4.37 inch
Height from upper-edge of DIN-rail	65 mm / 2.559 inch
Depth	105 mm / 4.134 inch

Mechanical Data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data	
Contact material (relay)	AgNi 90/10
Weight	319 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

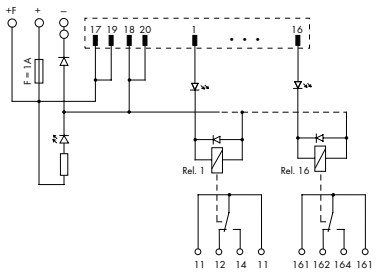


Basic Relay; 1 changeover contact; 24 VDC;
Limiting continuous current: 6 A; 5 mm wide;
15 mm high

Item No.	Pack. Unit
857-152	20

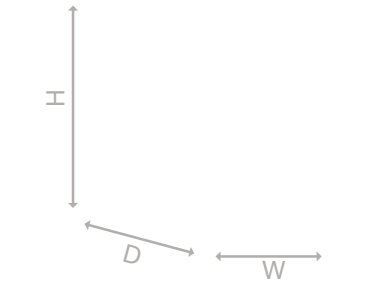
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 20-pole;
16-channel relay output; 1 changeover contact;
1 x cut-out; Double-deck PCB terminal blocks;
with mounting carrier

	Item No.	Pack. Unit
with miniature switching relay	704-5004	1
without miniature switching relay	704-5014	



Electrical Data

Inputs/Outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	1
Limiting continuous current	5 A
Making capacity	2 ms; 16 A
Switching voltage (max.)	250 VAC; 48 VDC
Switching power (resistive) max.	1250 VA (AC)/50 W (DC)
Mechanical life (NO; resistive load; 23 °C)	30 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: -
WAGO Basic Relay	788-154

Safety and Protection

Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	3 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1 kV_{rms}

Connection Data

Connection type 1	System
Pole number 1	20
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	64
Design 2	PCB terminal blocks; double-deck
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Power supply
Pole number 3	4
Design 3	PCB terminal blocks; double-deck
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	180 mm / 7.087 inch
Height from upper-edge of DIN-rail	50 mm / 1.969 inch
Depth	105 mm / 4.134 inch

Mechanical Data

Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data

Contact material (relay)	AgNi 90/10
Weight	550 g

Environmental Requirements

Surrounding air temperature (operation)	–25 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

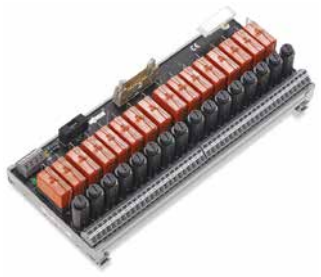
Accessories

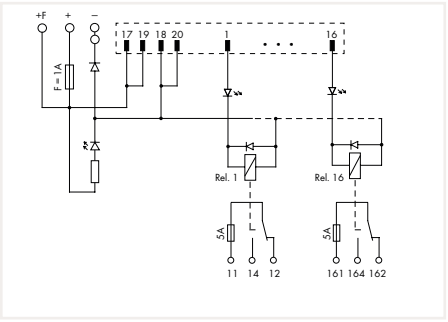


Basic Relay; 1 changeover contact; Limiting continuous current: 16 A; 13 mm wide; 15 mm high

Item No.	Pack. Unit
788-154	20

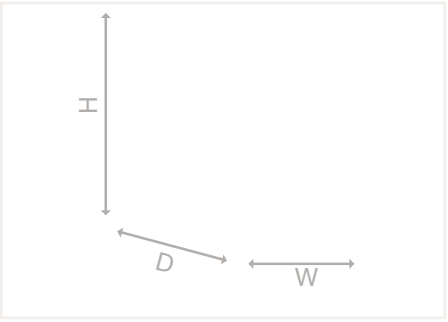
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 20-pole;
16-channel relay output; 1 changeover contact;
1 x cut-out; PCB terminal blocks; with output fuse;
with mounting carrier

	Item No.	Pack. Unit
	704-5034	1



Electrical Data	
Inputs/Outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	1
Limiting continuous current	5 A
Making capacity	2 ms; 16 A
Switching voltage (max.)	250 VAC; 48 VDC
Switching power (resistive) max.	1250 VA (AC)/50 W (DC)
Mechanical life (NO; resistive load; 23 °C)	30 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: 5 A
Specialty functions	Output fuse

Safety and Protection	
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1 kV_{rms}

Connection Data	
Connection type 1	System
Pole number 1	20
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	48
Design 2	PCB terminal blocks
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Power supply
Pole number 3	4
Design 3	PCB terminal blocks
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	247 mm / 9.724 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	105 mm / 4.134 inch

Mechanical Data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data	
Contact material (relay)	AgNi 90/10
Weight	685 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

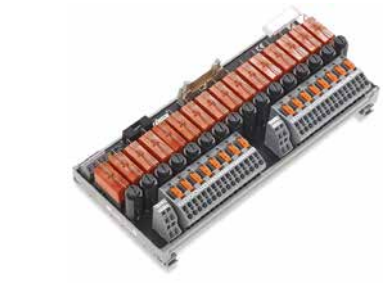
Accessories

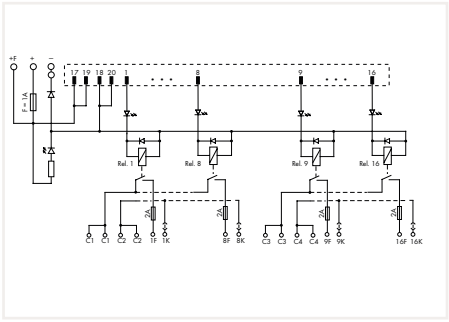


Basic Relay; 1 changeover contact; Limiting continuous current: 16 A; 13 mm wide; 15 mm high

Item No.	Pack. Unit
788-154	20

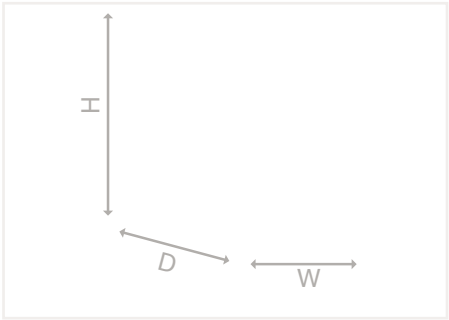
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 20-pole;
16-channel relay output; 1 changeover contact;
1 x cut-out; Disconnect/test terminal blocks for PDBs;
with output fuse; with mounting carrier

	Item No.	Pack. Unit
	704-5054	1



Electrical Data

Inputs/Outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of make contacts/switch-on contacts	1
Limiting continuous current	2 A
Switching voltage (max.)	250 VAC; 48 VDC
Switching power (resistive) max.	500 VA (AC)/50 W (DC)
Mechanical life (NO; resistive load; 23 °C)	30 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: 2 A
Specialty functions	Disconnect/test terminal blocks; Output fuse

Safety and Protection

Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1 kV_{rms}

Connection Data

Connection type 1	System
Pole number 1	20
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	32
Design 2	PCB terminal blocks
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inch
Connection type 3	Field
Pole number 3	8
Design 3	PCB terminal blocks; double-deck
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch
Connection type 4	Power supply
Connection technology 4	CAGE CLAMP®
Solid conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 4	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	240 mm / 9.449 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	105 mm / 4.134 inch

Mechanical Data

Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data

Contact material (relay)	AgNi 90/10
Weight	770 g

Environmental Requirements

Surrounding air temperature (operation)	–25 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories

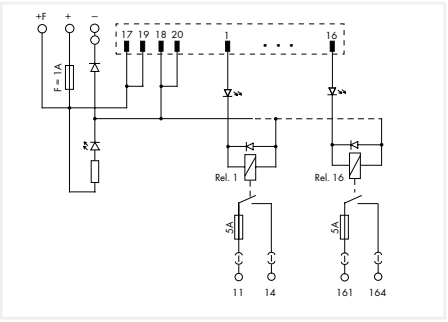


Basic Relay; 1 changeover contact; Limiting continuous current: 16 A; 13 mm wide; 15 mm high

Item No.	Pack. Unit
788-154	20

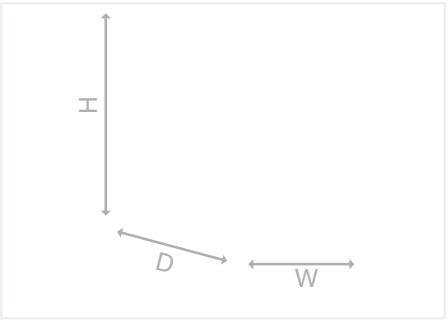
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 20-pole;
16-channel relay output; 1 changeover contact;
1 x cut-out; Disconnect/test terminal blocks for PDBs;
with output fuse; with mounting carrier

	Item No.	Pack. Unit
	704-5074	1



Electrical Data	
Inputs/Outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of make contacts/switch-on contacts	1
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC; 48 VDC
Switching power (resistive) max.	1250 VA (AC)/50 W (DC)
Mechanical life (NO; resistive load; 23 °C)	30 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: 5 A
WAGO Basic Relay	788-154
Specialty functions	Disconnect/test terminal blocks; Output fuse

Safety and Protection	
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1 kV_{rms}

Connection Data	
Connection type 1	System
Pole number 1	20
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	32
Design 2	PCB terminal blocks
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inch
Connection type 3	Power supply
Pole number 3	4
Design 3	PCB terminal blocks
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	240 mm / 9.449 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	105 mm / 4.134 inch

Mechanical Data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data	
Contact material (relay)	AgNi 90/10
Weight	785 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

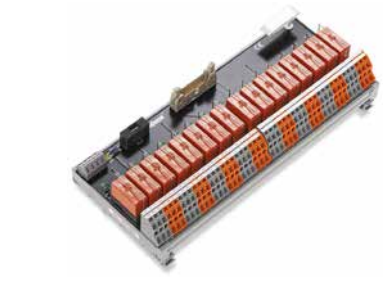
Accessories

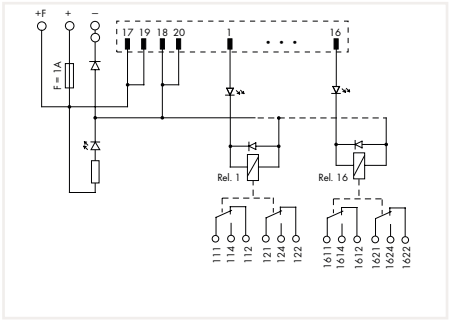


Basic Relay; 1 changeover contact; Limiting continuous current: 16 A; 13 mm wide; 15 mm high

Item No.	Pack. Unit
788-154	20

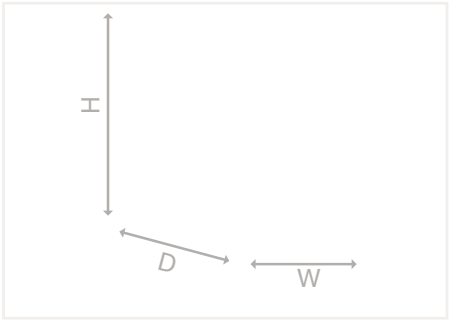
Interface Module for System Wiring
704 Series





Interface Module for System Wiring;
DIN 41651 connector; Male connector; 20-pole;
16-channel relay output; 2 changeover contacts;
Double-deck PCB terminal blocks;
with mounting carrier

	Item No.	Pack. Unit
	704-5064	1



Electrical Data

Inputs/Outputs	16-channel relay output
Nominal operating voltage	24 VDC
Operating voltage range	±10 %
Number of changeover/switchover contacts	2
Limiting continuous current	5 A
Making capacity	2 ms; 8 A
Switching voltage (max.)	250 VAC; 48 VDC
Switching power (resistive) max.	1000 VA (AC)/50 W (DC)
Mechanical life (NO; resistive load; 23 °C)	30 x 10^6 switching operations
Status indicator	Green LED (channel); Yellow LED (power supply)
Internal fuse	Supply: 1 A; Relay output: -
WAGO Basic Relay	788-156

Safety and Protection

Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	4 kV_{rms}
Dielectric strength, load/load circuit (AC, 1 min)	1 kV_{rms}

Connection Data

Connection type 1	System
Pole number 1	20
Connector 1	DIN 41651 male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	96
Design 2	PCB terminal blocks; double-deck
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch
Connection type 3	Power supply
Pole number 3	4
Design 3	PCB terminal blocks
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	247 mm / 9.724 inch
Height from upper-edge of DIN-rail	50 mm / 1.969 inch
Depth	105 mm / 4.134 inch

Mechanical Data

Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data

Contact material (relay)	AgNi 90/10
Weight	645 g

Environmental Requirements

Surrounding air temperature (operation)	–25 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Accessories



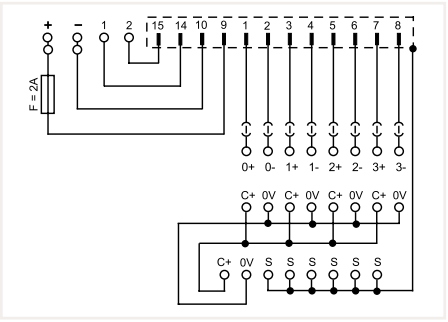
Basic Relay; 2 changeover contacts; Limiting continuous current: 8 A; 13 mm wide; 15 mm high

Item No.	Pack. Unit
788-156	20

7

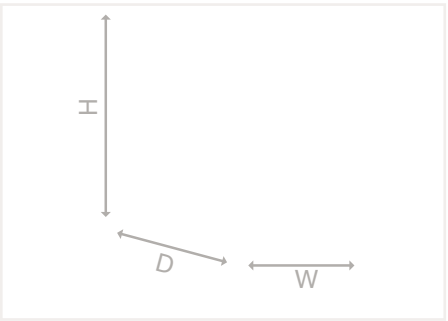
Interface Module for System Wiring
704 Series





Interface Module for System Wiring; D-sub; Male connector; 15-pole; 4-channel analog input or output; 4 conductors; Disconnect/test terminal blocks for PCBs; with mounting carrier

	Item No.	Pack. Unit
	704-8012	1



7

Electrical Data	
Inputs/Outputs	4-channel analog input or output
Circuit type	4-wire connection
Operating voltage	≤ 48 VDC
Limiting continuous current	1 A
Internal fuse	Supply: 2 A
Specialty functions	Disconnect and test terminal blocks

Safety and Protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2

Connection Data	
Connection type 1	System
Pole number 1	15
Connector 1	D-sub male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	8
Design 2	PCB terminal blocks
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inch
Connection type 3	Field
Pole number 3	16
Design 3	PCB terminal blocks; double-row
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch
Connection type 4	Power supply
Connection technology 4	CAGE CLAMP®
Solid conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 4	5 … 6 mm / 0.2 … 0.24 inch

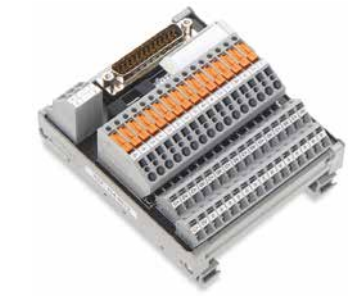
Physical Data	
Width	66 mm / 2.598 inch
Height from upper-edge of DIN-rail	50 mm / 1.969 inch
Depth	105 mm / 4.134 inch

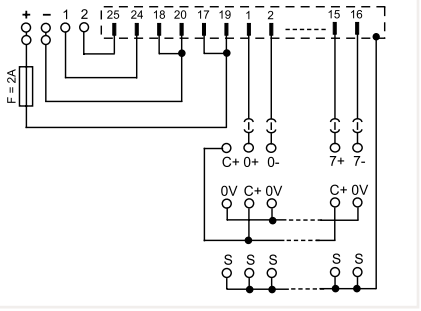
Mechanical Data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data	
Weight	131 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

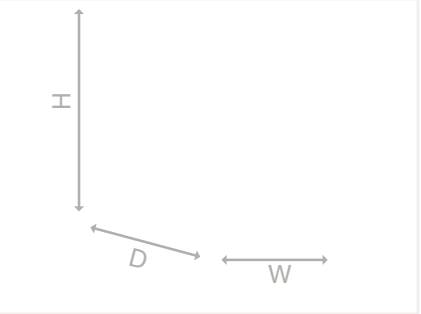
Interface Module for System Wiring
704 Series





Interface Module for System Wiring; D-sub; Male connector; 25-pole; 8-channel analog input or output; 4 conductors; Disconnect/test terminal blocks for PCBs; with mounting carrier

	Item No.	Pack. Unit
	704-8013	1



Electrical Data	
Inputs/Outputs	8-channel analog input or output
Circuit type	4-wire connection
Operating voltage	≤ 48 VDC
Limiting continuous current	1 A
Internal fuse	Supply: 2 A
Specialty functions	Disconnect and test terminal blocks

Safety and Protection	
Rated voltage	50 V
Rated surge voltage	0.8 kV
Pollution degree	2

Connection Data	
Connection type 1	System
Pole number 1	25
Connector 1	D-sub male connector
Mating direction 1	Vertical
Connection type 2	Field
Pole number 2	16
Design 2	PCB terminal blocks
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inch
Connection type 3	Field
Pole number 3	32
Design 3	PCB terminal blocks; double-row
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch
Connection type 4	Power supply
Connection technology 4	CAGE CLAMP®
Solid conductor 4	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 4	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	92 mm / 3.62 inch
Height from upper-edge of DIN-rail	50 mm / 1.969 inch
Depth	105 mm / 4.134 inch

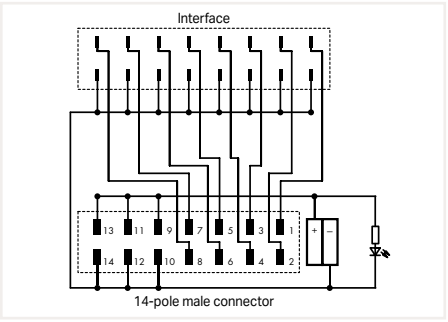
Mechanical Data	
Mounting type	DIN-35 rail
Housing design	Mounting carrier

Material Data	
Weight	190 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C
Relative humidity	≤ 85 % (non-condensing)

Interface Adapter
857 Series





Interface Adapter; 14-pole; High-side switching input		
	Item No.	Pack. Unit
	857-981	1

Electrical Data	
Inputs/Outputs	8-Channel Digital Input
Circuit type	High-side switching input
Nominal operating voltage	24 VDC
Operating voltage range	±30 %
Total current	3 A
Limiting continuous current	1 A
Contact resistance	≤ 20 mΩ
Status indicator	Green LED

Safety and Protection	
Test voltage	500 VAC; 50 Hz; 1 min

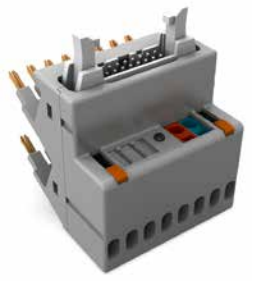
Connection Data	
Connection type 1	System
Pole number 1	14
Connector 1	DIN 41651 male connector
Performance level 1	3
Connection type 2	Field
Pole number 2	16
Design 2	Plug for jumper slot
Connection type 3	Power supply
Pole number 3	2
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

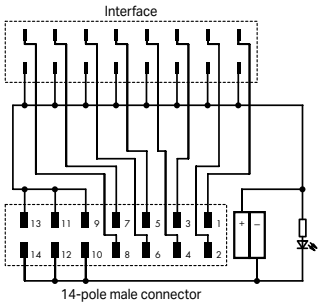
Mechanical Data	
Mounting type	Pluggable module

Material Data	
Weight	45 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Interface Adapter
857 Series





Interface Adapter; 14-pole; High-side switching output		
	Item No.	Pack. Unit
	857-982	1

Electrical Data	
Inputs/Outputs	8-channel digital output
Circuit type	High-side switching output
Nominal operating voltage	24 VDC
Operating voltage range	±30 %
Total current	3 A
Limiting continuous current	1 A
Contact resistance	≤ 20 mΩ
Status indicator	Green LED

Safety and Protection	
Test voltage	500 VAC; 50 Hz; 1 min

Connection Data	
Connection type 1	System
Pole number 1	14
Connector 1	DIN 41651 male connector
Performance level 1	3
Connection type 2	Field
Pole number 2	16
Design 2	Plug for jumper slot
Connection type 3	Power supply
Pole number 3	2
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

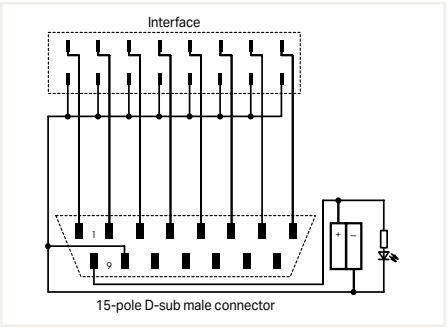
Mechanical Data	
Mounting type	Pluggable module

Material Data	
Weight	44.5 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Interface Adapter
857 Series





Interface Adapter; 15-pole; High-side switching input		
	Item No.	Pack. Unit
	857-986	1

Electrical Data	
Inputs/Outputs	8-Channel Digital Input
Circuit type	High-side switching input
Nominal operating voltage	24 VDC
Operating voltage range	±30 %
Total current	3 A
Limiting continuous current	1 A
Contact resistance	≤ 10 mΩ
Status indicator	Green LED

Safety and Protection	
Test voltage	500 VAC; 50 Hz; 1 min

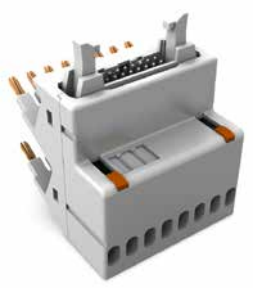
Connection Data	
Connection type 1	System
Pole number 1	15
Connector 1	D-sub male connector
Performance level 1	2
Connection type 2	Field
Pole number 2	16
Design 2	Plug for jumper slot
Connection type 3	Power supply
Pole number 3	2
Connection technology 3	CAGE CLAMP®
Solid conductor 3	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor 3	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length 3	5 … 6 mm / 0.2 … 0.24 inch

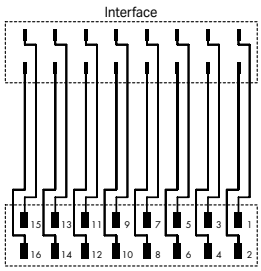
Mechanical Data	
Mounting type	Pluggable module

Material Data	
Weight	48.2 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

Interface Adapter
857 Series





16-pole male connector

Interface Adapter; with 16-pole ribbon cable connector (DIN 41651); analog

Item No.	Pack. Unit
857-980	1

Electrical Data	
Inputs/Outputs	8-channel analog input or output
Circuit type	Analog
Limiting continuous current	1 A
Contact resistance	≤ 20 mΩ

Safety and Protection	
Pollution degree	2
Overvoltage category	III
Test voltage	500 VAC; 50 Hz; 1 min

Connection Data	
Connection type 1	System
Pole number 1	16
Connector 1	DIN 41651 male connector
Performance level 1	3
Connection type 2	Field
Pole number 2	16
Design 2	Plug for jumper slot

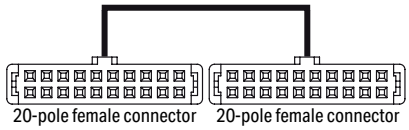
Mechanical Data	
Mounting type	Pluggable module

Material Data	
Weight	41.4 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

System Cable; for 289/704 Series; Paired with WAGO-I/O-SYSTEM 750
706 Series





Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	2 x 20-pole DIN 41651 connector
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C

System Cable; for Schneider TSX; 16 digital inputs or outputs; Conductor cross section: 0.14 mm²/24 AWG

Length	Item No.	Pack. Unit
1 m	**706-3057/300-100**	1
2 m	**706-3057/300-200**	1
3 m	**706-3057/300-300**	1

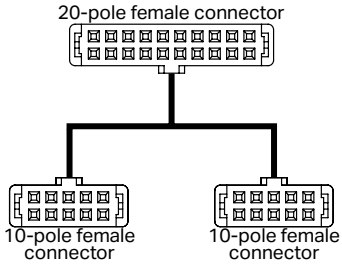
7

WAGO's System Cables provide fast and easy connection of WAGO I/O Modules equipped with a pluggable connector (750-1400, -1402, -1500, -1501, -1502) to appropriate interface or relay modules (16-channel) featuring a 20-pole pluggable connector.
The cables are available in 1-, 2- and 3-meter lengths; each has one 20-pole pluggable connector at both ends.

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

System Cable; for 289/704 Series; Paired with WAGO-I/O-SYSTEM 750
706 Series





System Cable; for 750 Series WAGO-I/O-SYSTEM; 8 digital inputs and 8 digital outputs; Conductor cross section: 0.14 mm²/24 AWG		
Length	**Item No.**	Pack. Unit
1 m	**706-7753/302-100**	1
2 m	**706-7753/302-200**	1

WAGO's System Cables provide fast and easy connection of WAGO I/O Modules equipped with a pluggable connector (750-1400, -1402, -1500, -1501, -1502) to appropriate interface or relay modules featuring a 10-pole pluggable connector. For example, this cable connects two relay modules (8-channel) to a WAGO I/O Module.
The cables are available in 1- and 2-meter lengths; each has one 20-pole and two 10-pole pluggable connectors at both ends.

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x 20-pole DIN 41651 connector; 2 x 10-pole DIN 41651 connector
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements	
Surrounding air temperature (operation)	−25 … +70 °C

System Cable; for 289/704 Series; Paired with Siemens S7-300
706 Series



System Cable; for Siemens S7-300;
2 x 16 digital inputs; Conductor cross section:
0.14 mm²/24 AWG

Length	Item No.	Pack. Unit
1 m	**706-2300/100-100**	1
2 m	**706-2300/100-200**	1
3 m	**706-2300/100-300**	1

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x Fujitsu FCN-367-J40; 2 x 20-pole DIN 41651 connector
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements	
Surrounding air temperature (operation)	−20 … +50 °C

System Cable; for 289/704 Series; Paired with Siemens S7-300
706 Series



System Cable; for Siemens S7-300;
16 digital inputs; Conductor cross section:
0.14 mm²/24 AWG

Length	Item No.	Pack. Unit
1 m	**706-2300/101-100**	1
2 m	**706-2300/101-200**	1
3 m	**706-2300/101-300**	1

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data

Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection

Degree of protection	IP20

Connection Data

Connectors	1 x Siemens 6ES7-392-1BJ00-0AA0; 1 x 20-pole DIN 41651 connector
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements

Surrounding air temperature (operation)	−20 … +50 °C

System Cable; for 289/704 Series; Paired with Siemens S7-300
706 Series



System Cable; for Siemens S7-300;
2 x 16 digital outputs; Conductor cross section:
0.14 mm²/24 AWG

Length	Item No.	Pack. Unit
1 m	**706-2300/200-100**	1
2 m	**706-2300/200-200**	1
3 m	**706-2300/200-300**	1

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x Fujitsu FCN-367-J40; 2 x 20-pole DIN 41651 connector
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements	
Surrounding air temperature (operation)	−20 … +50 °C

System Cable; for 289/704 Series; Paired with Siemens S7-300
706 Series



Similar to pictured device

System Cable; for Siemens S7-300; 8 digital outputs; Conductor cross section: 0.14 mm²/24 AWG

Length	Item No.	Pack. Unit
1 m	**706-2300/201-100**	1
2 m	**706-2300/201-200**	1
3 m	**706-2300/201-300**	1

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x Siemens 6ES7-392-1BJ00-0AA0; 1 x 10-pole DIN 41651 connector
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements	
Surrounding air temperature (operation)	−20 … +50 °C

System Cable; for 289/704 Series; Paired with Siemens S7-300
706 Series



System Cable; for Siemens S7-300;
16 digital inputs or outputs; Conductor cross section: 0.14 mm²/24 AWG

Length	Item No.	Pack. Unit
1 m	**706-2300/300-100**	1
2 m	**706-2300/300-200**	1
3 m	**706-2300/300-300**	1

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x Siemens 6ES7-392-1BJ00-0AA0; 1 x 20-pole DIN 41651 connector
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements	
Surrounding air temperature (operation)	−20 … +50 °C

7

System Cable; for 289/704 Series; Paired with Siemens S7-300
706 Series



System Cable; for Siemens S7-300;
2 x 16 digital inputs or outputs; Conductor cross section: 0.14 mm²/24 AWG

Length	Item No.	Pack. Unit
1 m	**706-2300/301-100**	1
2 m	**706-2300/301-200**	1
3 m	**706-2300/301-300**	1

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x Siemens 6ES7-392-1BM00-0AA0; 2 x 20-pole DIN 41651 connector
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements	
Surrounding air temperature (operation)	−20 … +50 °C

System Cable; for 289/704 Series; Paired with Siemens S7-300
706 Series



System Cable; for Siemens S7-300;
8 analog inputs; Conductor cross section:
0.25 mm²/22 AWG

Length	Item No.	Pack. Unit
1 m	**706-2300/400-100**	1
2 m	**706-2300/400-200**	1
3 m	**706-2300/400-300**	1

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 1 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	2 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x Siemens 6ES7-392-1BJ00-0AA0; 1 x 25-pole D-sub female connector
Color code	DIN VDE 47100
Wire cross section	0.25 mm²/22 AWG Li YCY

Environmental Requirements	
Surrounding air temperature (operation)	−20 … +50 °C

7

System Cable; for 289/704 Series; Paired with Siemens S7-300
706 Series



System Cable; for Siemens S7-300;
8 analog inputs (current); Conductor cross section:
0.25 mm²/22 AWG

Length	Item No.	Pack. Unit
1 m	**706-2300/404-100**	1
2 m	**706-2300/404-200**	1
3 m	**706-2300/404-300**	1

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 1 A.

Electrical Data

Operating voltage	≤ 35 VDC
Current per wire (max.)	2 A

Safety and Protection

Degree of protection	IP20

Connection Data

Connectors	1 x Siemens 6ES7-392-1BM00-0AA0; 1 x 25-pole D-sub female connector
Color code	DIN VDE 47100
Wire cross section	0.25 mm²/22 AWG Li YCY

Environmental Requirements

Surrounding air temperature (operation)	–20 … +50 °C

System Cable; for 289/704 Series; Paired with Siemens S7-300
706 Series



System Cable; for Siemens S7-300;
8 analog inputs (current); Conductor cross section:
0.25 mm²/22 AWG

Length	Item No.	Pack. Unit
1 m	**706-2300/406-100**	1
2 m	**706-2300/406-200**	1
3 m	**706-2300/406-300**	1

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 1 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	2 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x Siemens 6ES7-392-1BM00-0AA0; 1 x 25-pole D-sub female connector
Color code	DIN VDE 47100
Wire cross section	0.25 mm²/22 AWG Li YCY

Environmental Requirements	
Surrounding air temperature (operation)	−20 … +50 °C

7

System Cable; for 289/704 Series; Paired with Siemens S7-300
706 Series



System Cable; for Siemens S7-300;
4 analog outputs (current); Conductor cross section:
0.25 mm²/22 AWG

Length	Item No.	Pack. Unit
1 m	**706-2300/500-100**	1
2 m	**706-2300/500-200**	1
3 m	**706-2300/500-300**	1

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 1 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	2 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x Siemens 6ES7-392-1BJ00-0AA0; 1 x 15-pole D-sub female connector
Color code	DIN VDE 47100
Wire cross section	0.25 mm²/22 AWG Li YCY

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C

System Cable; for 289/704 Series; Paired with Siemens S7-300
706 Series



System Cable; for Siemens S7-300;
8 analog outputs (current); Conductor cross section:
0.25 mm²/22 AWG

Length	Item No.	Pack. Unit
1 m	**706-2300/502-100**	1
2 m	**706-2300/502-200**	1
3 m	**706-2300/502-300**	1

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 1 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	2 A

Safety and Protection	
Degree of protection	IP20

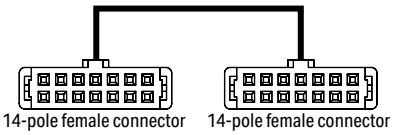
Connection Data	
Connectors	1 x Siemens 6ES7-392-1BM00-0AA0; 1 x 25-pole D-sub female connector
Color code	DIN VDE 47100
Wire cross section	0.25 mm²/22 AWG Li YCY

Environmental Requirements	
Surrounding air temperature (operation)	−20 … +50 °C

7

Connection Cable; Paired with an Interface Adapter
706 Series





Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	2 x 14-pole DIN 41651 connector
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C

Connection Cable; 14-pole;
DIN 41651 connector; 14-pole; DIN 41651 connector;
Conductor cross section: 0.14 mm²/24 AWG

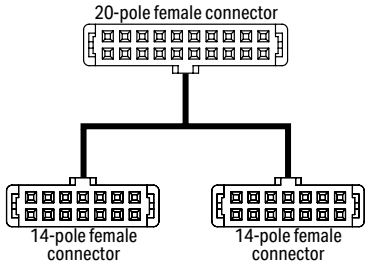
Length	Item No.	Pack. Unit
1 m	**706-753/300-100**	1
2 m	**706-753/300-200**	1
3 m	**706-753/300-300**	1

WAGO's 14-pole connection cables transmit the signal one-to-one from the 14-pole connector and are available in 1-, 2- and 3-meter lengths.
They are suitable for system wiring when paired with WAGO's Interface Adapters (Item No. 857-981 and 857-982).

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

System Cable; Paired with an Interface Adapter
706 Series





Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x 20-pole DIN 41651 connector; 2 x 14-pole DIN 41651 connector
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements	
Surrounding air temperature (operation)	−25 … +70 °C

System Cable; for 750 Series WAGO-I/O-SYSTEM; 2 x 8 analog inputs or outputs; Conductor cross section: 0.14 mm²/24 AWG

Length	Item No.	Pack. Unit
1 m	**706-7753/304-100**	1
2 m	**706-7753/304-200**	1
3 m	**706-7753/304-300**	1

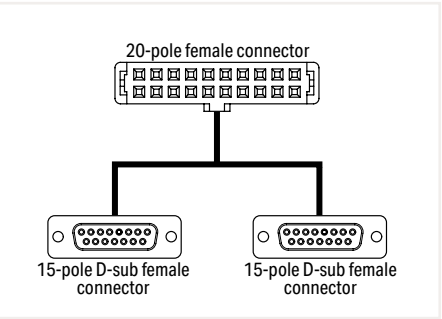
WAGO's System Cables provide fast and easy connection of WAGO I/O Modules equipped with pluggable connectors. The following WAGO I/O Modules and WAGO Adapters are compatible:
750-1500 (16 DO) -- > 857-981 (DO)
750-1502 (8 DO / 8 DI) --> 857-981 (DO) and 857-982 (DI)

The cables are available in 1-, 2- and 3-meter lengths; each has one 20-pole or two 14-pole pluggable connectors at both ends.
They are suitable for system wiring when paired with WAGO's Interface Adapters (Item No. 857-981 and 857-982).

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

System Cable; Paired with an Interface Adapter
706 Series





System Cable; for 750 Series WAGO-I/O-SYSTEM; 2 x 8 digital inputs or outputs; D-sub; Conductor cross section: 0.14 mm²/24 AWG; for 857 Series Relay Modules

Length	Item No.	Pack. Unit
1 m	**706-7753/306-100**	1
2 m	**706-7753/306-200**	1
3 m	**706-7753/306-300**	1

WAGO's System Cables provide fast and easy connection of WAGO I/O Modules equipped with pluggable connectors. The following WAGO I/O Modules and D-sub Adapters are compatible:
750-1500 (16 DO) --> 857-986 (DO)

The cables are available in 1-, 2- and 3-meter lengths; each has one 20-pole or two 15-pole pluggable connectors at both ends.
They are suitable for system wiring when paired with WAGO's Interface Adapter (Item No. 857-986).

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

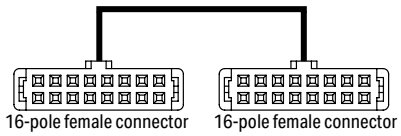
Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x 20-pole DIN 41651 connector; 2 x 15-pole DIN 41652 D-sub socket
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C

Connection Cable; Paired with an Interface Adapter
706 Series





Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	2 x 16-pole DIN 41651 connector
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C

Connection Cable; 16-pole;
DIN 41651 connector; 16-pole; DIN 41651 connector;
Conductor cross section: 0.14 mm²/24 AWG

Length	Item No.	Pack. Unit
1 m	**706-753/301-100**	1
2 m	**706-753/301-200**	1
3 m	**706-753/301-300**	1

WAGO's 16-pole connection cables transmit the signal one-to-one from the 16-pole connector and are available in 1-, 2- and 3-meter lengths. Signal transmission from the 857-980 Interface Adapter is also possible.
They are suitable for system wiring when paired with WAGO's Interface Adapter (Item No. 857-980).

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Connection Cable; Paired with an Interface Adapter
706 Series



Connection Cable; 10-pole;
DIN 41651 connector; open-ended; Conductor cross section: 0.14 mm²/24 AWG; UR components

Length	Item No.	Pack. Unit
2 m	706-100/1301-200	1

Color coding acc. to DIN VDE 47100		HE 10 10-pol. Contact number
white		1
brown		2
green		3
yellow		4
grey		5
pink		6
blue		7
red		8
black		9
violet		10

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x 10-pole DIN 41651 connector; open-ended
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Physical Data	
Cable length	2 m

Material Data	
Weight	162 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C

Connection Cable; Paired with an Interface Adapter
706 Series



Connection Cable; 14-pole;
DIN 41651 connector; open-ended; Conductor cross section: 0.14 mm²/24 AWG; UR components

Length	Item No.	Pack. Unit
2 m	706-100/1303-200	1

Color coding acc. to DIN VDE 47100	HE 10 14-pole Contact number
white	1
brown	2
green	3
yellow	4
grey	5
pink	6
blue	7
red	8
black	9
violet	10
grey/pink	11
red/blue	12
white/green	13
brown/green	14

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

Connection Data	
Connectors	1 x 14-pole connector per DIN 41651; open-ended
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Physical Data	
Cable length	2 m

Material Data	
Weight	199 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C

Connection Cable; Paired with an Interface Adapter
706 Series



Connection Cable; 16-pole;
DIN 41651 connector; open-ended; Conductor cross section: 0.14 mm²/24 AWG; UR components

Length	Item No.	Pack. Unit
2 m	706-100/1602-200	1

Color Coding acc. to DIN VDE 47100	HE 10 16-pole Contact Number
white	1
brown	2
green	3
yellow	4
gray	5
pink	6
blue	7
red	8
black	9
violet	10
gray/pink	11
red/blue	12
white/green	13
brown/green	14
white/yellow	15
yellow/brown	16

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data

Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection

Degree of protection	IP20

Connection Data

Connectors	1 x 16-pole connector per DIN 41651; open-ended
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Physical Data

Cable length	2 m

Material Data

Weight	202 g

Environmental Requirements

Surrounding air temperature (operation)	−25 … +70 °C

7

Connection Cable; Paired with an Interface Adapter
706 Series



Connection Cable; 20-pole;
DIN 41651 connector; open-ended; Conductor cross section: 0.14 mm²/24 AWG; UR components

Length	Item No.	Pack. Unit
2 m	706-100/1300-200	1

Color coding acc. to DIN VDE 47100	HE 10 20-pole Contact number
white	1
brown	2
green	3
yellow	4
gray	5
pink	6
blue	7
red	8
black	9
violet	10
grey/pink	11
red/blue	12
white/green	13
brown/green	14
white/yellow	15
yellow/brown	16
white/grey	17
grey/brown	18
white/pink	19
pink/brown	20

Note:
When using more than 10 wires, the maximum current per wire must be reduced to 0.7 A.

Electrical Data	
Operating voltage	≤ 35 VDC
Current per wire (max.)	1 A

Safety and Protection	
Degree of protection	IP20

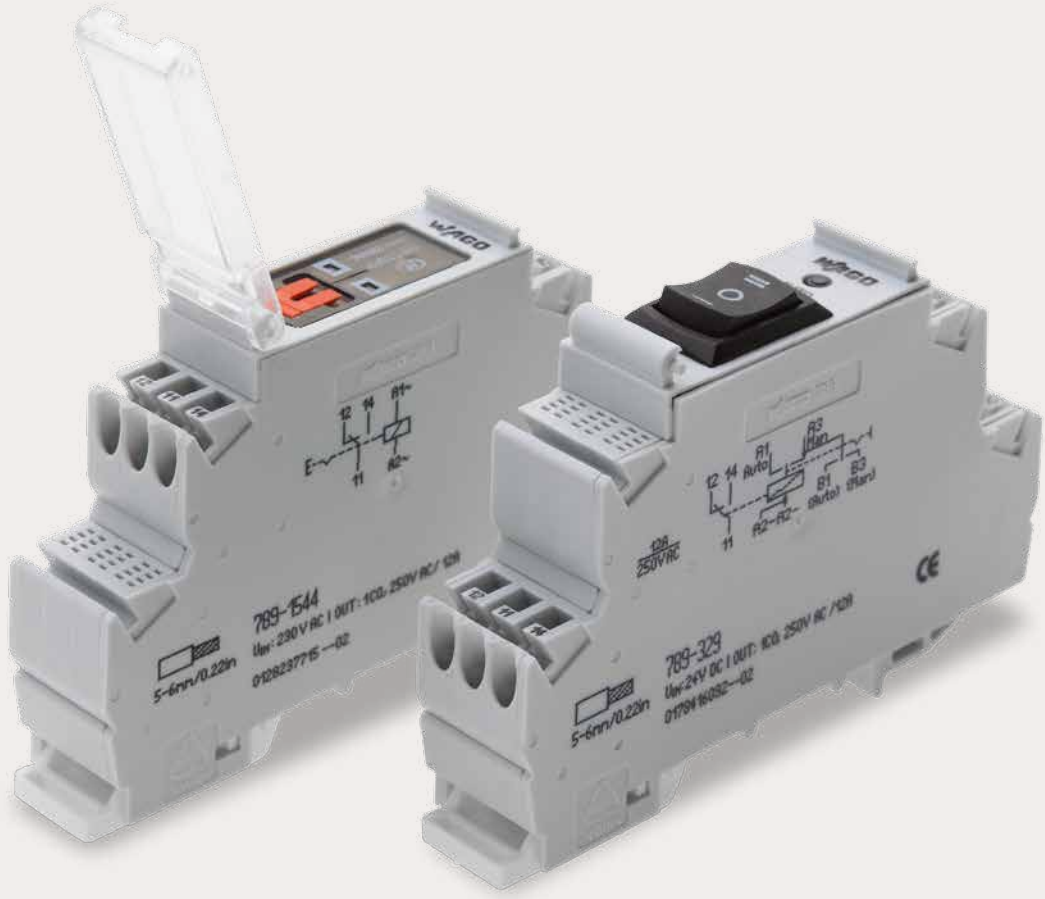
Connection Data	
Connectors	1 x 20-pole connector per DIN 41651; open-ended
Color code	DIN VDE 47100
Wire cross section	0.14 mm²/24 AWG LiYY

Physical Data	
Cable length	2 m

Material Data	
Weight	176.6 g

Environmental Requirements	
Surrounding air temperature (operation)	−25 … +70 °C

7



WAGO Interface Modules with Specialty Functions

WAGO Interface Modules with Specialty Functions



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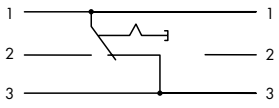


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8

Switching Module
286 Series





Electrical Data	
Switching voltage (max.) AC	250 V
Switching voltage (max.) DC	24 V
Switching current (resistive) max.	6 A
Switching current (motor load) max.	4 A
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Contact gab	≥ 3 mm

Physical Data	
Width	15 mm / 0.591 inch

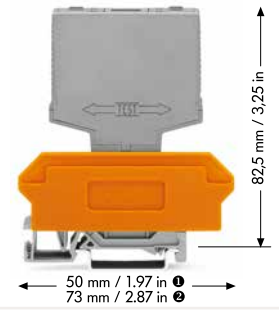
Mechanical Data	
Mounting type	Pluggable module for receptacle terminal blocks

Material Data	
Weight	20.5 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +40 °C

Switching Module; with changeover rocker switch; Switching voltage: 250 VAC; Switching current: 6 A

	Item No.	Pack. Unit
	286-895	1



8

Accessories



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

	Item No.	Pack. Unit
	280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

	Item No.	Pack. Unit
	280-609	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

	Item No.	Pack. Unit
	280-763	25

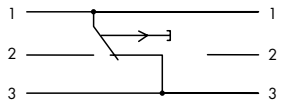


WSB marker card; white; for 5 … 17.5 mm terminal block width; 10 strips with 10 markers/card

Marking	Item No.	Pack. Unit
1 … 10	209-702	5
S	209-682	5

Switching Module
286 Series





Electrical Data	
Switching voltage (max.) AC	250 V
Switching voltage (max.) DC	24 V
Switching current (resistive) max.	6 A
Switching current (motor load) max.	4 A
Electrical life (NO; resistive load; 23 °C)	50 x 10^3 switching operations
Contact gab	≥ 3 mm

Physical Data	
Width	15 mm / 0.591 inch

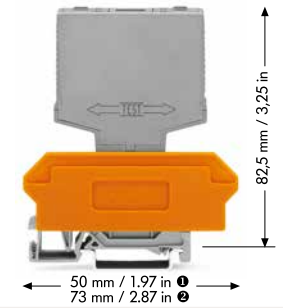
Mechanical Data	
Mounting type	Pluggable module for receptacle terminal blocks

Material Data	
Weight	19.5 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +40 °C

Switching Module; with momentary switch;
Switching voltage: 250 VAC; Switching current: 6 A

Item No.	Pack. Unit
286-896	1



8

Accessories



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-609	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Item No.	Pack. Unit
280-763	25

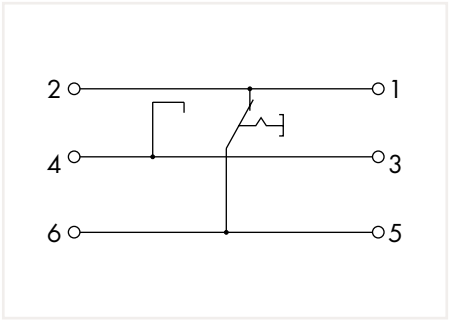


WSB marker card; white; for 5 … 17.5 mm terminal block width; 10 strips with 10 markers/card

Marking	Item No.	Pack. Unit
1 … 10	209-702	5
S	209-682	5

Switching Module
2042 Series





Switching Module; with changeover rocker switch; Switching voltage: 250 VAC

Item No.	Pack. Unit
2042-1008	10

Technical Data	
Switching voltage (max.)	250 VAC
Switching current (max.)	10 A
Inrush current (max.)	128 A
Contact resistance	≤ 20 mΩ
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations (UL: 6 x 10^3 switching operations)

Safety and Protection	
Dielectric strength, open contact (AC, 1 min)	1.5 kV_{rms}
Rated voltage	250 V
Insulation resistance	≥ 100 MΩ (500 VDC; new condition)
Overvoltage category	II
Pollution degree	2
Protection class	IP20

Physical Data	
Width	15.5 mm / 0.61 inch
Height	87 mm / 3.425 inch
Height from the surface	68 mm / 2.677 inch
Depth	52 mm / 2.047 inch

Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block

Material Data	
Flammability class per UL94	V0
Weight	78.4 g

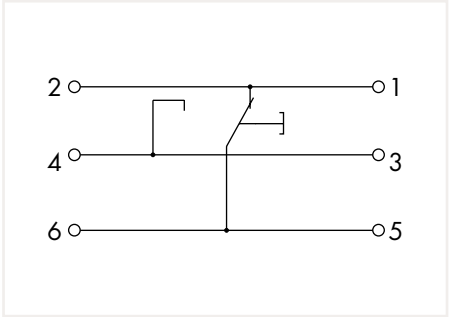
Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Operating altitude (max.)	2000 m

Standards and Specifications	
Conformity marking	CE
Standards/specifications	EN 61010-2-201; EN 50155; EN 61373

8

Switching Module
2042 Series





Switching Module; with momentary switch; Switching voltage: 250 VAC

Item No.	Pack. Unit
2042-1108	10

Technical Data	
Switching voltage (max.)	250 VAC
Switching current (max.)	10 A
Inrush current (max.)	128 A
Contact resistance	≤ 20 mΩ
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations (UL: 6 x 10^3 switching operations)

Safety and Protection	
Dielectric strength, open contact (AC, 1 min)	1.5 kV_{rms}
Rated voltage	250 V
Insulation resistance	≥ 100 MΩ (500 VDC; new condition)
Overvoltage category	II
Pollution degree	2
Protection class	IP20

Physical Data	
Width	15.5 mm / 0.61 inch
Height	87 mm / 3.425 inch
Height from the surface	68 mm / 2.677 inch
Depth	52 mm / 2.047 inch

Mechanical Data	
Mounting type	Pluggable module for TOPJOB® S Carrier Terminal Block

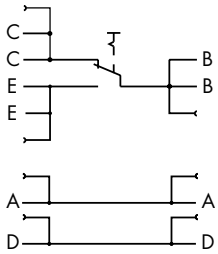
Material Data	
Flammability class per UL94	V0
Weight	78.4 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C
Operating altitude (max.)	2000 m

Standards and Specifications	
Conformity marking	CE
Standards/specifications	EN 61010-2-201; EN 50155; EN 61373

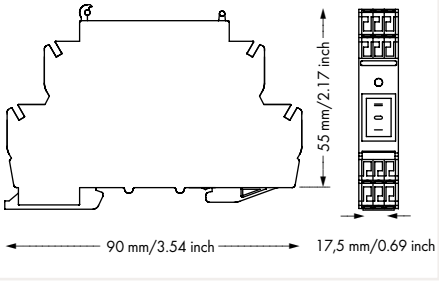
Switching Module
789 Series





Switching Module; with changeover rocker switch; Switching voltage: 250 VAC; Switching current: 10 A

Item No.	Pack. Unit
789-800	1



Electrical Data	
Switching voltage (max.)	≤ 250 VAC
Switching current (resistive) max.	10 A
Inrush current (max.)	100 A (capacitive)
Contact material	Ag alloy
Contact gab	≥ 3 mm
Contact resistance	≤ 100 mΩ (12 V / 1 ADC, new condition)
Insulation resistance	> 100 MΩ (500 VDC, new condition)
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	100 x 10^3 switching operations

Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Dielectric strength, open contact (AC, 1 min)	1.25 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

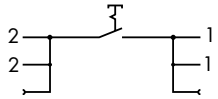
Material Data	
Weight	41.7 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +55 °C
Surrounding air temperature (storage)	–40 … +80 °C

8

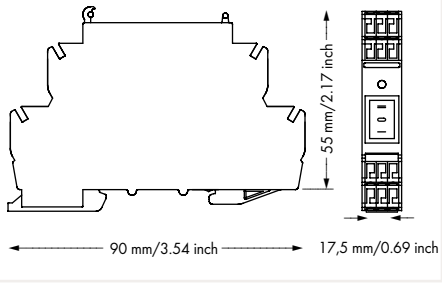
Switching Module
789 Series





Switching Module; with off switch;
Switching voltage: 250 VAC; Switching current: 16 A

Item No.	Pack. Unit
789-801	1



Electrical Data	
Switching voltage (max.)	≤ 250 VAC
Switching current (resistive) max.	16 A
Inrush current (max.)	100 A (capacitive)
Contact material	Ag alloy
Contact gab	≥ 3 mm
Contact resistance	≤ 100 mΩ (12 V / 1 ADC, new condition)
Insulation resistance	> 100 MΩ (500 VDC, new condition)
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	50 x 10^3 switching operations

Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Dielectric strength, open contact (AC, 1 min)	1.25 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

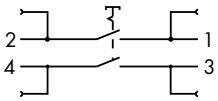
Material Data	
Weight	41.7 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +55 °C
Surrounding air temperature (storage)	–40 … +80 °C

8

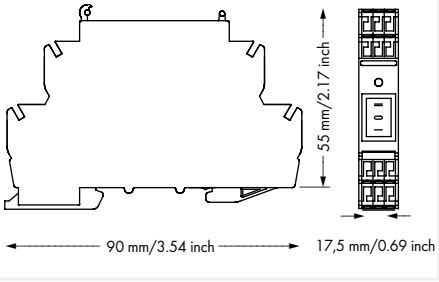
Switching Module
789 Series





Switching Module; with 2-pole off switch;
Switching voltage: 250 VAC; Switching current: 16 A

Item No.	Pack. Unit
789-802	1



Electrical Data	
Switching voltage (max.)	≤ 250 VAC
Switching current (resistive) max.	16 A
Inrush current (max.)	100 A (capacitive)
Contact material	Ag alloy
Contact gab	≥ 3 mm
Contact resistance	≤ 100 mΩ (12 V / 1 ADC, new condition)
Insulation resistance	> 100 MΩ (500 VDC, new condition)
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	50 x 10^3 switching operations

Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Dielectric strength, open contact (AC, 1 min)	1.25 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

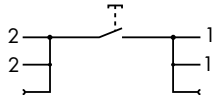
Material Data	
Weight	44.1 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +55 °C
Surrounding air temperature (storage)	–40 … +80 °C

8

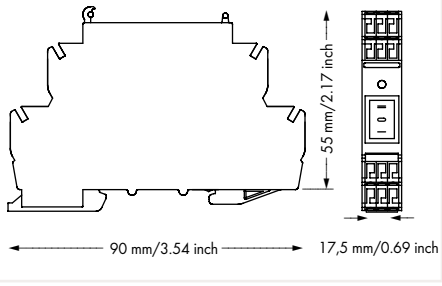
Switching Module
789 Series





Switching Module; with off button;
Switching voltage: 250 VAC; Switching current: 16 A

Item No.	Pack. Unit
789-803	1



Electrical Data	
Switching voltage (max.)	≤ 250 VAC
Switching current (resistive) max.	16 A
Inrush current (max.)	100 A (capacitive)
Contact material	Ag alloy
Contact gab	≥ 3 mm
Contact resistance	≤ 100 mΩ (12 V / 1 ADC, new condition)
Insulation resistance	> 100 MΩ (500 VDC, new condition)
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	50 x 10^3 switching operations

Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Dielectric strength, open contact (AC, 1 min)	1.25 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

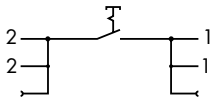
Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	42.4 g

Environmental Requirements	
Surrounding air temperature (operation)	−20 … +55 °C
Surrounding air temperature (storage)	−40 … +80 °C

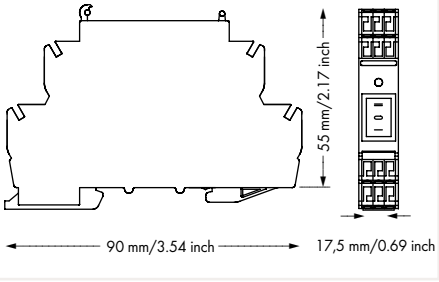
Switching Module
789 Series





Switching Module; with off button;
Switching voltage: 250 VAC; Switching current: 16 A

	Item No.	Pack. Unit
	789-804	1



Electrical Data	
Switching voltage (max.)	≤ 250 VAC
Switching current (resistive) max.	16 A
Inrush current (max.)	100 A (capacitive)
Contact material	Ag alloy
Contact gab	≥ 3 mm
Contact resistance	≤ 100 mΩ (12 V / 1 ADC, new condition)
Insulation resistance	> 100 MΩ (500 VDC, new condition)
Electrical life (NO; resistive load; 23 °C)	10 x 10^3 switching operations
Mechanical life	50 x 10^3 switching operations

Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Dielectric strength, open contact (AC, 1 min)	1.25 kV_{rms}

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip Length	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	17.5 mm / 0.689 inch
Height from upper-edge of DIN-rail	55 mm / 2.165 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

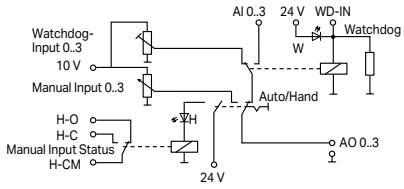
Material Data	
Weight	40.8 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +55 °C
Surrounding air temperature (storage)	–40 … +80 °C

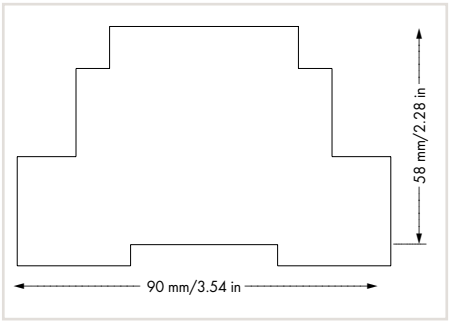
8

Manual Operation Module
789 Series





Manual Operation Module; 4 analog outputs		
	Item No.	Pack. Unit
	789-811	1



Short description:
The 789-811 Analog Manual Operation Module monitors 0 ... 3 analog inputs.
Depending on both manual/automatic switch and watchdog input, 0 to 10 V set voltage is transmitted to the output.

Electrical Data	
Nominal operating voltage	24 VDC
Operating voltage range	±20 %
Inputs	No. 1 / 10: 24 V; Power supply; No. 2: GND; No. 3 / 4 / 5 / 6: AI-0 ... 3; Input 0 ... 3; 0 ... 10 V / max. 20 mA; No.11: WD-IN; Watchdog input; 24 V / max. 20 mA
Outputs	No. 7: H-C; Manual operation; "closed"; No. 8: H-CM; Manual operation; "common"; No. 9: H-O; Manual operation; "open"; No. 12 / 15 / 18 / 21: DO-0 ... 3-NC; Channel 0 ... 3; Break contact; 250 VAC / 30 VDC; 8 A; No. 13 / 16 / 19 / 22: DO-0 ... 3-CM; Channel 0 ... 3; Common; No. 14 / 17 / 20 / 23: DO-0 ... 3-NO; Channel 0 ... 3; Make contact; 250 VAC / 30 VDC; 8 A

Connection Data	
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.08 ... 1.5 mm² / 28 ... 14 AWG
Fine-stranded conductor 1	0.08 ... 1.5 mm² / 28 ... 14 AWG
Strip length 1	7 mm / 0.28 inch
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 ... 2.5 mm² / 28 ... 12 AWG
Fine-stranded conductor 2	0.08 ... 2.5 mm² / 28 ... 12 AWG
Strip length 2	8 ... 9 mm / 0.31 ... 0.35 inch

Physical Data	
Width	106 mm / 4.173 inch
Height from upper-edge of DIN-rail	58 mm / 2.283 inch
Depth	90 mm / 3.543 inch

Mechanical Data	
Mounting type	DIN-35 rail

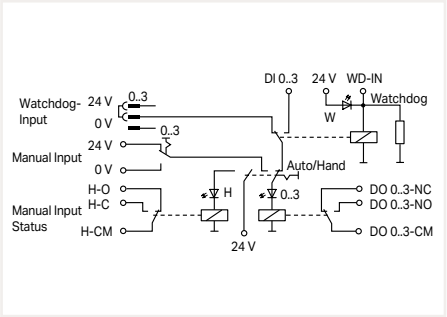
Material Data	
Weight	199.5 g

Environmental Requirements	
Surrounding air temperature (operation)	0 ... 50 °C
Surrounding air temperature (storage)	–25 ... +70 °C

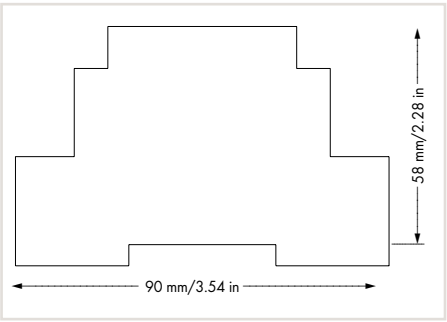
8

Manual Operation Module
789 Series





Manual Operation Module; 4 digital outputs		
	Item No.	Pack. Unit
	789-810	1



Short description:
The 789-810 Digital Manual Operation Module monitors 0 ... 3 inputs and indicates their status via green LED and power relay's changeover contact. Depending on both the manual/automatic switch and watchdog input, the states 0 or 1 are transmitted (electrically isolated) via relay to the output.

Electrical Data	
Nominal operating voltage	24 VDC
Operating voltage range	±20 %
Inputs	No. 1 / 10: 24 V; Power supply; No. 2: GND; No. 3 / 4 / 5 / 6: DI-0 ... 3; Input 0 ... 3; 24 V / max. 20 mA; No.11: WD-IN; Watchdog input; 24 V / max. 20 mA
Outputs	No. 7: H-C; Manual operation; "closed"; No. 8: H-CM; Manual operation; "common"; No. 9: H-O; Manual operation; "open"; No. 12 / 15 / 18 / 21: GND; No. 13 / 16 / 19 / 22: AO-0 ... 3; Output 0 ... 3; 0 ... 10 V / max. 20 mA; No. 14 / 17 / 20 / 23: GND

Safety and Protection	
Dielectric strength (input/output)	4 kV

Connection Data	
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.08 ... 1.5 mm² / 28 ... 14 AWG
Fine-stranded conductor 1	0.08 ... 1.5 mm² / 28 ... 14 AWG
Strip length 1	7 mm / 0.28 inch
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 ... 2.5 mm² / 28 ... 12 AWG
Fine-stranded conductor 2	0.08 ... 2.5 mm² / 28 ... 12 AWG
Strip length 2	8 ... 9 mm / 0.31 ... 0.35 inch

Physical Data	
Width	106 mm / 4.173 inch
Height from upper-edge of DIN-rail	58 mm / 2.283 inch
Depth	90 mm / 3.543 inch

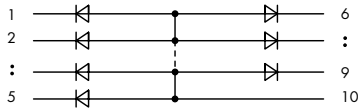
Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	251.6 g

Environmental Requirements	
Surrounding air temperature (operation)	0 ... 50 °C
Surrounding air temperature (storage)	−25 ... +70 °C

Component Module with Diodes
286 Series





Electrical Data	
Operating voltage	≤ 250 VAC/DC
Rectified current for each diode (resistive)	1 A
Peak reverse voltage	1000 V

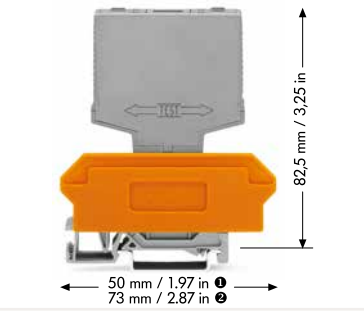
Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV

Mechanical Data	
Mounting type	Pluggable module for receptacle terminal blocks

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C

Component Module with a Diode; 1N4007 diode; with common anode; plugs into rail-mount terminal block; 10 mm wide

Module Width	Diodes	Item No.	Pack. Unit
10 mm/0.394 inch	3	**286-803**	1
15 mm/0.591 inch	5	**286-805**	1
20 mm/0.787 inch	7	**286-807**	1
25 mm/0.984 inch	9	**286-809**	1



Note:
Max. admissible current per the manufacturer's data sheet – with all diodes loaded, the continuous current must be reduced.

8

Component Module with Diodes
286 Series

Accessories



Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
12 mm	280-618	40



Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
12 mm	280-608	40



Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
15 mm	280-762	30



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
17 mm	280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
17 mm	280-609	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
20 mm	280-763	25



Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
22 mm	280-638	20



Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
22 mm	280-628	20



Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
25 mm	280-764	20



Terminal block for pluggable modules; 10-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
27 mm	280-639	15



Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

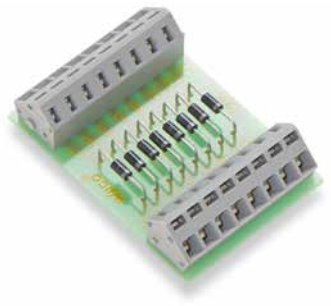
Width	Item No.	Pack. Unit
27 mm	280-629	15

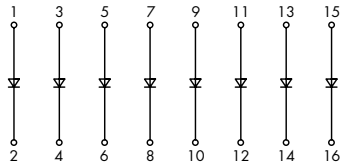


Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
30 mm	280-765	15

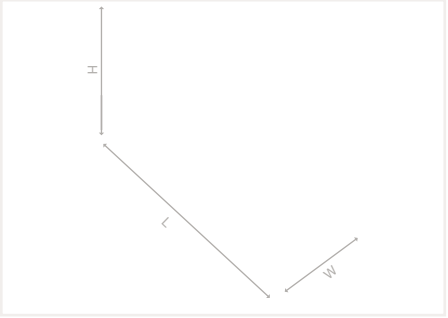
Component Module with Diodes
289 Series





Component Module with Diodes; with 8 diodes; 1N4007 diode

Item No.	Pack. Unit
289-101	1



Notice!
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Note:
Max. admissible current per the manufacturer's data sheet – with all diodes loaded, the continuous current must be reduced.

Electrical Data	
Operating voltage	≤ 250 VAC/DC
Rectified current for each diode	1 A
Forward voltage per diode	1.1 V
Forward current per diode (resistive)	1 A
Peak reverse voltage	1000 V
Leakage current	50 µA

Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Protection class	IP00

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	47 mm / 1.85 inch
Height from upper-edge of DIN-rail	31.5 mm / 1.24 inch
Depth	65.5 mm / 2.579 inch

Mechanical Data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter

Material Data	
Weight	24.9 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C

Accessories



Mounting carrier; for screw or DIN-rail mounting

Item No.	Pack. Unit
288-001	50



Universal mounting foot; for DIN-15/35/32 rails

Item No.	Pack. Unit
288-002	100



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

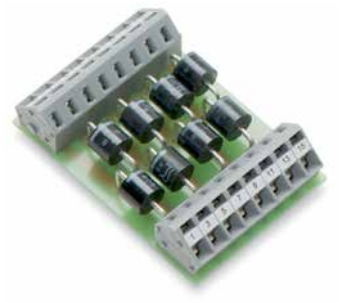
Item No.	Pack. Unit
709-167	10

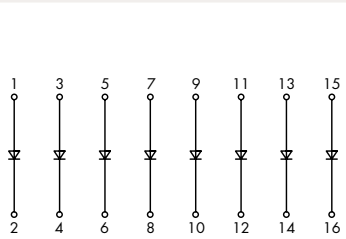


Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

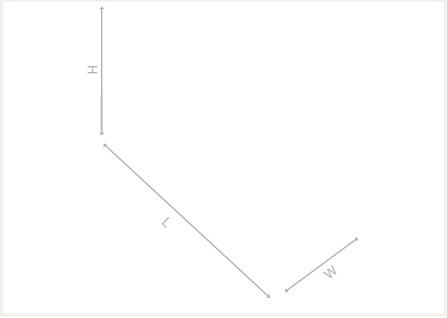
Component Module with Diodes
289 Series





Component Module with Diodes; with 8 diodes; P600B diode

Item No.	Pack. Unit
289-103	1



Notice!
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Note:
Max. admissible current per the manufacturer's data sheet – with all diodes loaded, the continuous current must be reduced.

Electrical Data

Operating voltage	≤ 100 VAC/DC
Rectified current for each diode	6 A
Forward voltage per diode	1 V
Forward current per diode (resistive)	6 A
Peak reverse voltage	100 V
Leakage current	5 µA

Safety and Protection

Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Protection class	IP00

Connection Data

Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	47 mm / 1.85 inch
Height from upper-edge of DIN-rail	31.5 mm / 1.24 inch
Depth	65.5 mm / 2.579 inch

Mechanical Data

Mounting type	Mounting on DIN-rail via DIN-rail adapter

Material Data

Weight	19 g

Environmental Requirements

Surrounding air temperature (operation)	–25 … +40 °C

Accessories



Mounting carrier; for screw or DIN-rail mounting

Item No.	Pack. Unit
288-001	50



Universal mounting foot; for DIN-15/35/32 rails

Item No.	Pack. Unit
288-002	100



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10



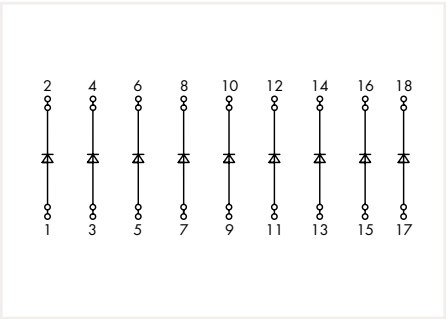
Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

8

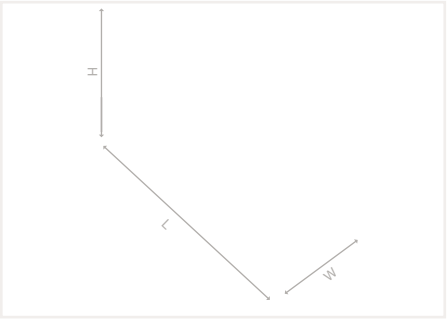
Component Module with Diodes
289 Series





Component Module with Diodes; with 9 diodes; 1N5408 diode

	Item No.	Pack. Unit
	289-105	1



Notice!
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Note:
Max. admissible current per the manufacturer's data sheet – with all diodes loaded, the continuous current must be reduced.

Electrical Data	
Operating voltage	≤ 250 VAC/DC
Rectified current for each diode	3 A
Forward voltage per diode	1.3 V
Forward current per diode (resistive)	3 A
Peak reverse voltage	1000 V
Leakage current	10 µA

Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Protection class	IP00

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	51 mm / 2.008 inch
Height from upper-edge of DIN-rail	48 mm / 1.89 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	80.6 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

	Item No.	Pack. Unit
	709-167	10



Cover; Type 1; for cover carrier (type 1); 1 m long

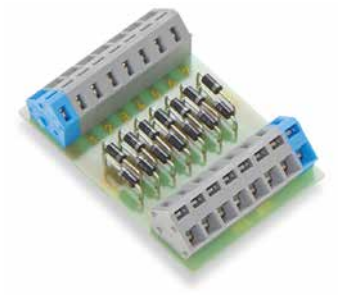
	Item No.	Pack. Unit
	709-153	10

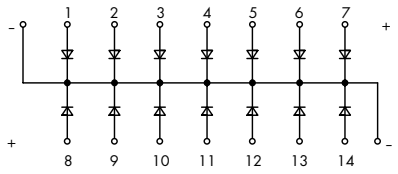


Marking strip; for mounting carrier; 7.5 mm wide; 50 m reel

	Item No.	Pack. Unit
	709-178	1

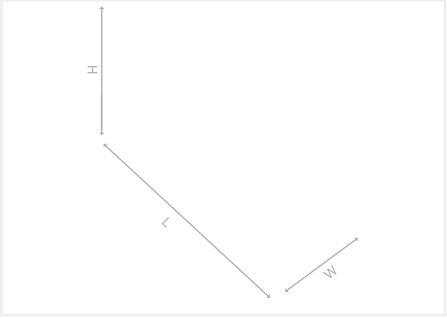
Component Module with Diodes
289 Series





Component Module with Diodes; with 14 diodes; 1N4007 diode; with common cathode

Item No.	Pack. Unit
289-111	1



Notice!
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Note:
Max. admissible current per the manufacturer's data sheet – with all diodes loaded, the continuous current must be reduced.

Electrical Data

Operating voltage	≤ 250 VAC/DC
Rectified current for each diode	1 A
Forward voltage per diode	1.1 V
Forward current per diode (resistive)	1 A
Peak reverse voltage	1000 V
Leakage current	50 µA

Safety and Protection

Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Protection class	IP00

Connection Data

Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	47 mm / 1.85 inch
Height from upper-edge of DIN-rail	31.5 mm / 1.24 inch
Depth	65.5 mm / 2.579 inch

Mechanical Data

Mounting type	Mounting on DIN-rail via DIN-rail adapter

Material Data

Weight	25.6 g

Environmental Requirements

Surrounding air temperature (operation)	–25 … +40 °C

Accessories



Mounting carrier; for screw or DIN-rail mounting

Item No.	Pack. Unit
288-001	50



Universal mounting foot; for DIN-15/35/32 rails

Item No.	Pack. Unit
288-002	100



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10

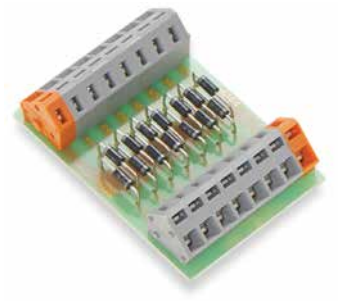


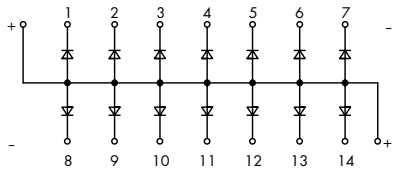
Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

8

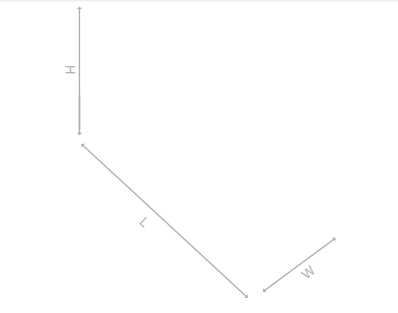
Component Module with Diodes
289 Series





Component Module with Diodes; with 14 diodes; 1N4007 diode; with common anode

Item No.	Pack. Unit
289-121	1



Notice!
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Note:
Max. admissible current per the manufacturer's data sheet – with all diodes loaded, the continuous current must be reduced.

Electrical Data	
Operating voltage	≤ 250 VAC/DC
Rectified current for each diode	1 A
Forward voltage per diode	1.1 V
Forward current per diode (resistive)	1 A
Peak reverse voltage	1000 V
Reverse current per diode	50 µA

Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Protection class	IP00

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	47 mm / 1.85 inch
Height from upper-edge of DIN-rail	31.5 mm / 1.24 inch
Depth	65.5 mm / 2.579 inch

Mechanical Data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter

Material Data	
Weight	25.3 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C

Accessories



Mounting carrier; for screw or DIN-rail mounting

Item No.	Pack. Unit
288-001	50



Universal mounting foot; for DIN-15/35/32 rails

Item No.	Pack. Unit
288-002	100



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

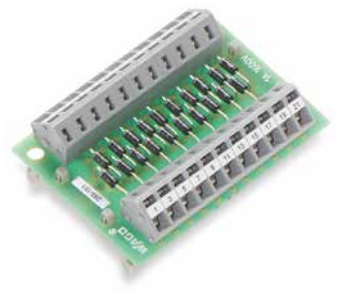
Item No.	Pack. Unit
709-167	10

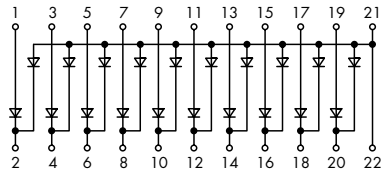


Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

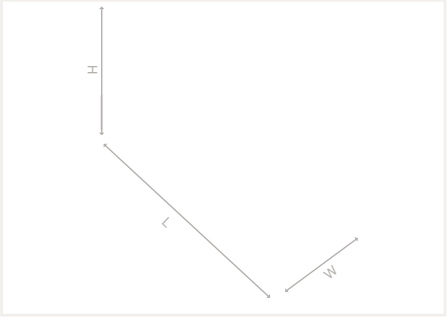
Component Module with Diodes
289 Series





Component Module with Diodes; with 20 diodes; EM513 diode

Item No.	Pack. Unit
289-151	1



Notice!
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Note:
Max. admissible current per the manufacturer's data sheet – with all diodes loaded, the continuous current must be reduced.

Electrical Data

Operating voltage	≤ 250 VAC/DC
Rectified current for each diode	1 A
Forward voltage per diode	1.1 V
Forward current per diode (resistive)	1 A
Peak reverse voltage	1600 V
Leakage current	50 µA

Safety and Protection

Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Protection class	IP00

Connection Data

Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data

Width	69 mm / 2.717 inch
Height from upper-edge of DIN-rail	21 mm / 0.827 inch
Depth	50 mm / 1.969 inch

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Weight	35.5 g

Environmental Requirements

Surrounding air temperature (operation)	–25 … +40 °C

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

Item No.	Pack. Unit
709-167	10

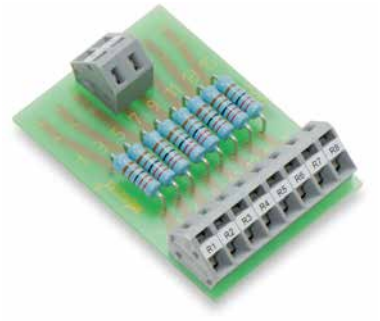


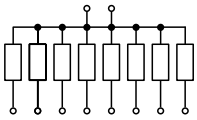
Cover; Type 1; for cover carrier (type 1); 1 m long

Item No.	Pack. Unit
709-153	10

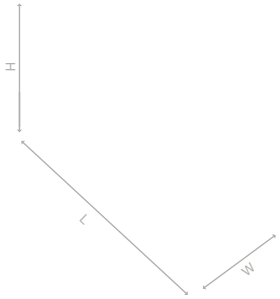
8

Component Module with Resistors
289 Series





Component Module with Resistors; with 8 resistors; 2K2 resistor; 1 Watt		
	Item No.	Pack. Unit
	289-113	1



Note:
- Max. admissible capacity of a single resistor – with all resistors loaded, the max. admissible power dissipation must be reduced.
- Other resistors are available upon request!

General Specifications	
Operating voltage	≤ 40 VAC/DC
Power dissipation, component (P70)	1 W
Resistance	2K2
Resistor type	DIN 0414
Temperature coefficient	50 ppm
Tolerance	±1 %

Safety and Protection	
Rated voltage	250 V
Rated surge voltage	4 kV

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	47 mm / 1.85 inch
Height from upper-edge of DIN-rail	31.5 mm / 1.24 inch
Depth	65.5 mm / 2.579 inch

Mechanical Data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter

Material Data	
Weight	18.9 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C

Accessories



Mounting carrier; for screw or DIN-rail mounting

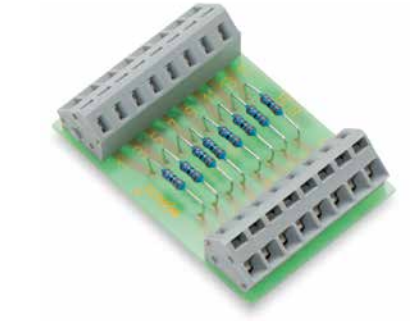
Item No.	Pack. Unit
288-001	50

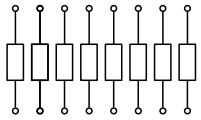


Universal mounting foot; for DIN-15/35/32 rails

Item No.	Pack. Unit
288-002	100

Component Module with Resistors
289 Series





General Specifications	
Operating voltage	≤ 40 VAC/DC
Power dissipation, component (P70)	0.6 W
Resistance	2K7
Resistor type	DIN 0207
Temperature coefficient	50 ppm
Tolerance	±1 %

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	47 mm / 1.85 inch
Height from upper-edge of DIN-rail	31.5 mm / 1.24 inch
Depth	65.5 mm / 2.579 inch

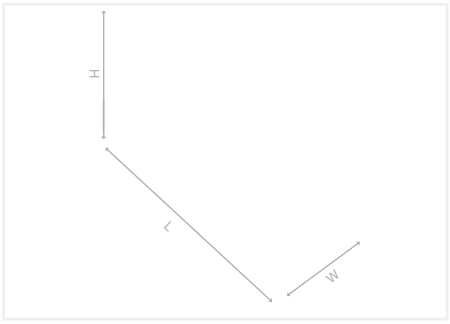
Mechanical Data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter

Material Data	
Weight	23.4 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C

Component Module with Resistors; with 8 resistors; 2K7 resistor; 0.6 Watt

Item No.	Pack. Unit
289-114	1



Note:
- Max. admissible capacity of a single resistor – with all resistors loaded, the max. admissible power dissipation must be reduced.
- Other resistors are available upon request!

Accessories



Mounting carrier; for screw or DIN-rail mounting

Item No.	Pack. Unit
288-001	50



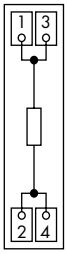
Universal mounting foot; for DIN-15/35/32 rails

Item No.	Pack. Unit
288-002	100

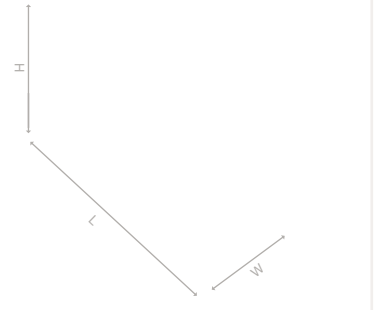
Component Module with Resistors
289 Series



Picture of 289-128/003-000



Component Module with a Resistor; with 1 resistor; 5 Watt		
Resistance	Item No.	Pack. Unit
100R	289-128/005-000	1
270R	289-128/006-000	1
2K4	289-128/001-000	1
4K7	289-128/002-000	1
6K8	289-128/003-000	1
9K1	289-128	1



Notice!
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

Note:
- Depending on operating conditions, the components' temperature may exceed the limit temperature for accessible parts.
- Other resistors are available upon request!

General Specifications	
Power dissipation, component (P70)	5 W
Temperature coefficient	50 ppm
Tolerance	±10 %

Safety and Protection	
Protection class	IP00*

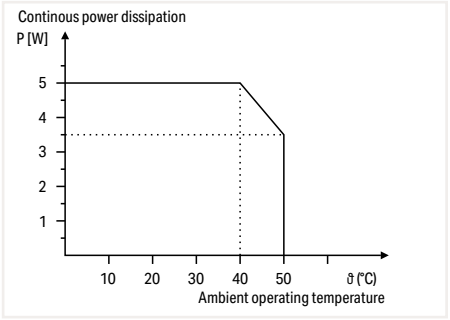
Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	13 mm / 0.512 inch
Height from upper-edge of DIN-rail	34 mm / 1.339 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	19.1 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C (derating must be observed)
Surrounding air temperature (storage)	–40 … +70 °C



Derating

Accessories



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

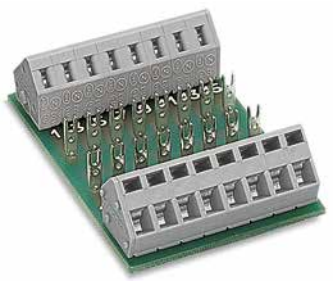
Item No.	Pack. Unit
709-167	10

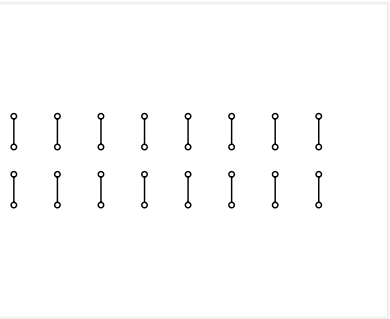


Cover; Type 1; for cover carrier (type 1); 1 m long

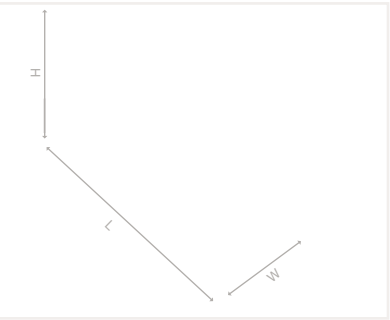
Item No.	Pack. Unit
709-153	10

PCB for Self-Assembly
289 Series





PCB for Self-Assembly; with 8 mounting positions		
	Item No.	Pack. Unit
	289-102	1
with solder terminals	289-131	1



Notice!
Live parts are likely to be touched! Protection against direct contact must be provided by the equipment manufacturer, e.g., using a WAGO 709 Series Cover (see "Accessories") or a similar cover.
The installation regulations must be observed for each individual application.

General Specifications	
Operating voltage	≤ 250 VAC/DC
Nominal current	3 A

Safety and Protection	
Protection class	IP00

Connection Data	
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	47 mm / 1.85 inch
Height from upper-edge of DIN-rail	31.5 mm / 1.24 inch
Depth	65.5 mm / 2.579 inch

Mechanical Data	
Mounting type	Mounting on DIN-rail via DIN-rail adapter

Material Data	
Weight	22.2 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C

Accessories



Mounting carrier; for screw or DIN-rail mounting

	Item No.	Pack. Unit
	288-001	50



Universal mounting foot; for DIN-15/35/32 rails

	Item No.	Pack. Unit
	288-002	100



Cover carrier; Type 1; incl. mounting/securing screws and knurled nuts

	Item No.	Pack. Unit
	709-167	10

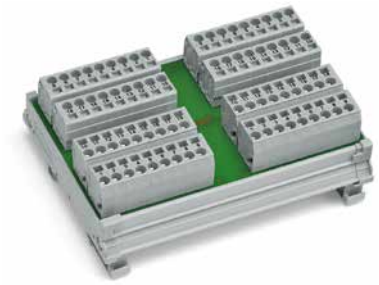


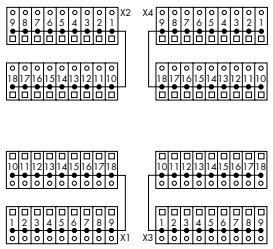
Cover; Type 1; for cover carrier (type 1); 1 m long

	Item No.	Pack. Unit
	709-153	10

8

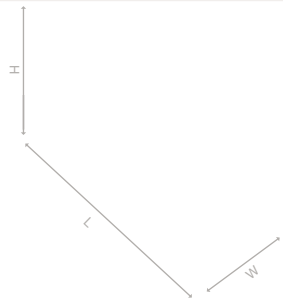
Potential Distribution Module
288 Series





Potential Distribution Module; 4 potentials; each with 18 connection points

	Item No.	Pack. Unit
	288-825	1



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	12 A
Current per connection (max.)	12 A

Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV

Connection Data	
Total number of potentials	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Strip Length	8 … 9 mm / 0.31 … 0.35 inch

Physical Data	
Width	115 mm / 4.528 inch
Height from upper-edge of DIN-rail	45 mm / 1.772 inch
Depth	85 mm / 3.346 inch

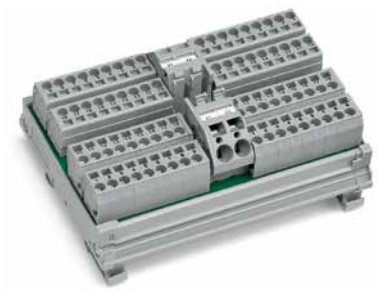
Mechanical Data	
Mounting type	DIN-35 rail

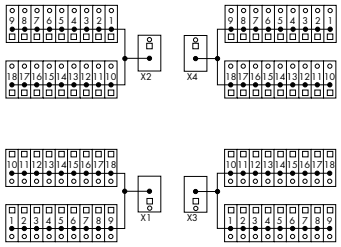
Material Data	
Weight	156.6 g

Environmental Requirements	
Surrounding air temperature (operation)	−20 … +50 °C
Surrounding air temperature (storage)	−40 … +80 °C

8

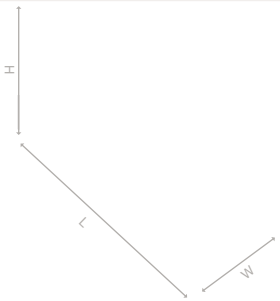
Potential Distribution Module
288 Series





Potential Distribution Module; 4 potentials; each with 19 connection points

Item No.	Pack. Unit
288-837	1



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	32 A
Current per connection (max.)	12 A

Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV

Connection Data	
Total number of potentials	4
Connection type 1	Power supply
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 1	0.2 … 6 mm² / 24 … 10 AWG
Strip length 1	11 … 12 mm / 0.43 … 0.47 inch
Connection type 2	Connection points
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inch

Physical Data	
Width	115 mm / 4.528 inch
Height from upper-edge of DIN-rail	45 mm / 1.772 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	178.2 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +80 °C

8

Accessories

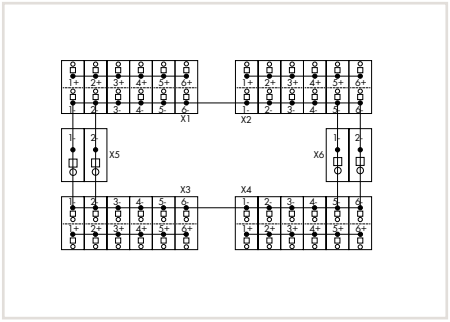


Comb-style jumper bar; 2-way

Item No.	Pack. Unit
745-382	250 (50)

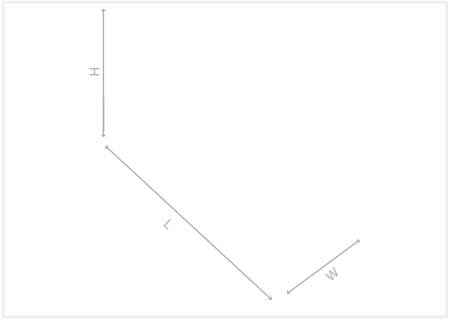
Potential Distribution Module
288 Series





Potential Distribution Module; 4 potentials; each with 6 connection points

Item No.	Pack. Unit
288-867	1



Features:
- May be used with electronic circuit breakers for 24 and 0 VDC power distribution, as a substitute for rail-mount terminal blocks
- Four potential groups for four output circuits
- Six connection points per potential group for positive and negative potentials
- On-unit commoned negative potential with optional commoning to adjacent modules via comb-style jumper bar (745-682)
- Marker carrier is available

General Specifications	
Nominal operating voltage	24 VDC
Total current 0 V (max.)	40 A
Total current per potential (max.)	10 A
Current per connection (max.)	10 A

Safety and Protection	
Pollution degree	2
Rated voltage	50 V
Rated surge voltage	0.8 kV

Connection Data	
Total number of potentials	4
Connection type 1	Connection points
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 1	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 1	5 … 6 mm / 0.2 … 0.24 inch
Connection type 2	Power supply
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.2 … 16 mm² / 24 … 6 AWG
Fine-stranded conductor 2	0.2 … 16 mm² / 24 … 6 AWG
Strip length 2	12 … 13 mm / 0.47 … 0.51 inch

Physical Data	
Width	105 mm / 4.134 inch
Height from upper-edge of DIN-rail	50 mm / 1.969 inch
Depth	70 mm / 2.756 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	136.2 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Surrounding air temperature (storage)	–40 … +70 °C

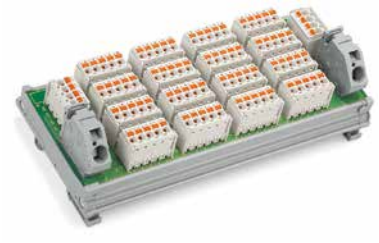
Accessories

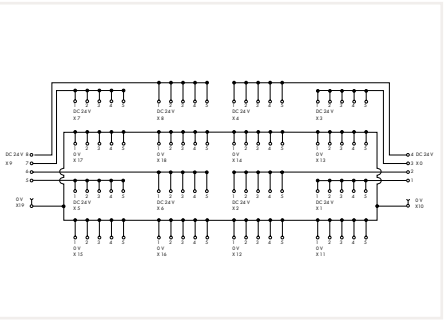


Comb-style jumper bar; 2-way

Item No.	Pack. Unit
745-682	400 (50)

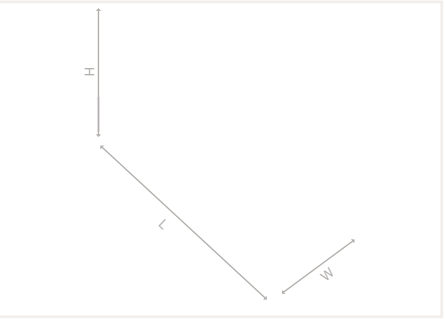
Potential Distribution Module
288 Series





Potential Distribution Module; 8 potentials; each with 6 connection points; with 42 ground connection points

Item No.	Pack. Unit
288-870/000-040	1



Features:
- May be used with electronic circuit breakers for 24 and 0 VDC power distribution, as a substitute for rail-mount terminal blocks
- Pre-wiring and electrical isolation of current paths via pluggable *picoMAX*® Female Headers
- Optional coding pins (2092-1610) protect against any inadvertent mixing of female headers
- Optional gripping plates with sliding connector release (2092-1601/002-000 or 2092-1602/002-000) provide conductor strain relief
- 0 V may be supplied to the adjancent modules via comb-style jumper bar (745-682) (Derating with jumper bar: -1 A/K > 60 °C surrounding air temperature)

General Specifications	
Nominal operating voltage	24 VDC
Total current 0 V (max.)	76 A
Total current per potential (max.)	10 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	8
Connection type 1	Power supply 0 V
Mating direction 1	45°
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.2 … 16 mm² / 24 … 6 AWG
Fine-stranded conductor 1	0.2 … 16 mm² / 24 … 6 AWG
Strip length 1	12 … 13 mm / 0.47 … 0.51 inch
Connection type 2	Power supply 24 V; connection points
Mating direction 2	Vertical
Connection technology 2	Push-in CAGE CLAMP®
Solid conductor 2	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor 2	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length 2	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	154 mm / 6.063 inch
Height from upper-edge of DIN-rail	49 mm / 1.929 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	226.9 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C (no condensation)
Surrounding air temperature (storage)	–40 … +85 °C

Accessories



Comb-style jumper bar; 2-way

Item No.	Pack. Unit
745-682	400 (50)



Coding pin carrier

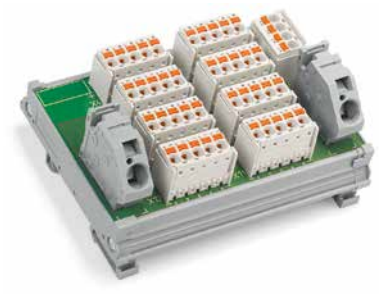
Item No.	Pack. Unit
2092-1610	100 (25)

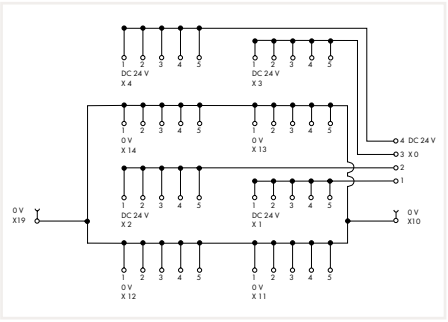


Gripping plate with sliding connector release

Description	Item No.	Pack. Unit
3- to 4-pole	2092-1601/002-000	100 (25)
5- to 8-pole	2092-1602/002-000	100 (25)

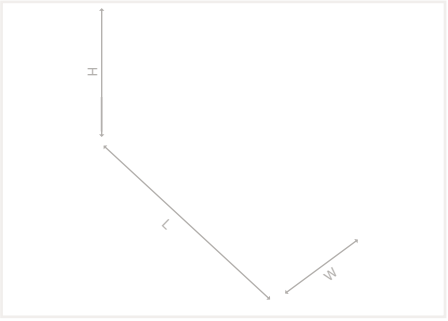
Potential Distribution Module
288 Series





Potential Distribution Module; 4 potentials;
each with 6 connection points;
with 22 ground connection points

Item No.	Pack. Unit
288-870/000-030	1



Features:
- May be used with electronic circuit breakers for 24 and 0 VDC power distribution, as a substitute for rail-mount terminal blocks
- Pre-wiring and electrical isolation of current paths via pluggable *picoMAX*® Female Headers
- Optional coding pins (2092-1610) protect against any inadvertent mixing of female headers
- Optional gripping plates with sliding connector release (2092-1601/002-000 or 2092-1602/002-000) provide conductor strain relief
- 0 V may be supplied to the adjancent modules via comb-style jumper bar (745-682)

General Specifications	
Nominal operating voltage	24 VDC
Total current 0 V (max.)	40 A
Total current per potential (max.)	10 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	4
Connection type 1	Power supply 0 V
Mating direction 1	45°
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.2 … 16 mm² / 24 … 6 AWG
Fine-stranded conductor 1	0.2 … 16 mm² / 24 … 6 AWG
Strip length 1	12 … 13 mm / 0.47 … 0.51 inch
Connection type 2	Power supply 24 V; connection points
Mating direction 2	Vertical
Connection technology 2	Push-in CAGE CLAMP®
Solid conductor 2	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor 2	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length 2	9 … 10 mm / 0.35 … 0.39 inch

Physical Data	
Width	100 mm / 3.937 inch
Height from upper-edge of DIN-rail	49 mm / 1.929 inch
Depth	85 mm / 3.346 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	140.4 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C (no condensation)
Surrounding air temperature (storage)	–40 … +85 °C

8

Accessories



Comb-style jumper bar; 2-way

Item No.	Pack. Unit
745-682	400 (50)



Coding pin carrier

Item No.	Pack. Unit
2092-1610	100 (25)

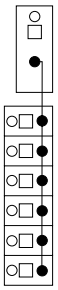


Gripping plate with sliding connector release

Description	Item No.	Pack. Unit
3- to 4-pole	2092-1601/002-000	100 (25)
5- to 8-pole	2092-1602/002-000	100 (25)

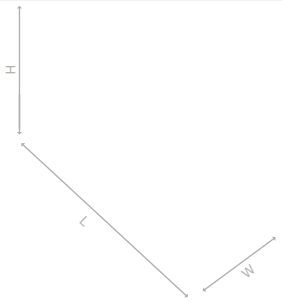
Potential Distribution Module
830 Series





Potential Distribution Module; 1 potential; with 1 input clamping point; Conductor cross section up to 16 mm²/6 AWG; with 6 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-302	10
blue	830-800/000-302/ 000-006	10



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	65 A
Current per connection (max.)	12 A

Connection Data	
Total number of potentials	1
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.2 … 16 mm² / 24 … 6 AWG
Fine-stranded conductor 1	0.2 … 16 mm² / 24 … 6 AWG
Strip length 1	11 … 12 mm / 0.43 … 0.47 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inch

Physical Data	
Width	21 mm / 0.81 inch
Height from upper-edge of DIN-rail	49 mm / 1.98 inch
Depth	85 mm / 3.35 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	51 g

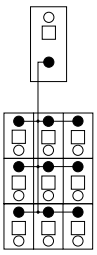
Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

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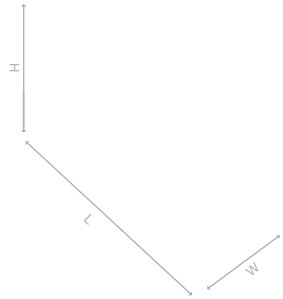
Potential Distribution Module
830 Series





Potential Distribution Module; 1 potential; with 1 input clamping point; Conductor cross section up to 16 mm²/6 AWG; with 9 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-303	10



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	65 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	1
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.2 … 16 mm² / 24 … 6 AWG
Fine-stranded conductor 1	0.2 … 16 mm² / 24 … 6 AWG
Strip length 1	11 … 12 mm / 0.43 … 0.47 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	21 mm / 0.81 inch
Height from upper-edge of DIN-rail	62 mm / 2.44 inch
Depth	85 mm / 3.35 inch

Mechanical Data	
Mounting type	DIN-35 rail

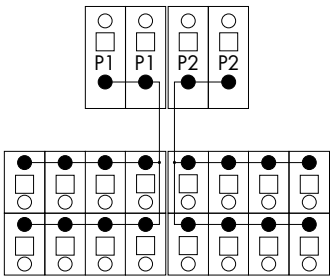
Material Data	
Weight	63 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

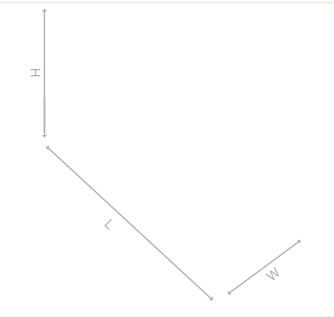
Potential Distribution Module
830 Series





Potential Distribution Module; 2 potentials; with 2 input clamping points; Conductor cross section up to 6 mm²/10 AWG; each with 8 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-305	6



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	30 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	2
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 1	0.2 … 6 mm² / 24 … 10 AWG
Strip length 1	11 … 12 mm / 0.43 … 0.47 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	49 mm / 1.92 inch
Height from upper-edge of DIN-rail	38 mm / 1.47 inch
Depth	55 mm / 2.17 inch

Mechanical Data	
Mounting type	DIN-35 rail

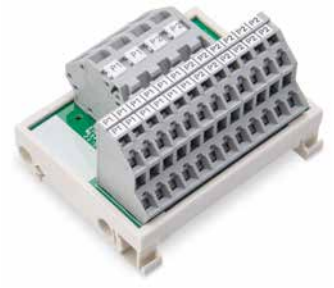
Material Data	
Weight	70 g

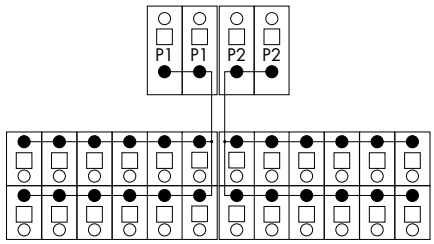
Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

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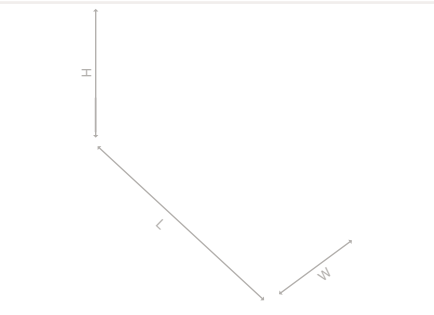
Potential Distribution Module
830 Series





Potential Distribution Module; 2 potentials; with 2 input clamping points; Conductor cross section up to 6 mm²/10 AWG; each with 12 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-306	6



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	30 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	2
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 1	0.2 … 6 mm² / 24 … 10 AWG
Strip length 1	11 … 12 mm / 0.43 … 0.47 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	69 mm / 2.72 inch
Height from upper-edge of DIN-rail	38 mm / 1.47 inch
Depth	55 mm / 2.17 inch

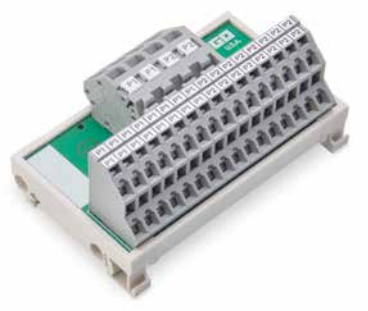
Mechanical Data	
Mounting type	DIN-35 rail

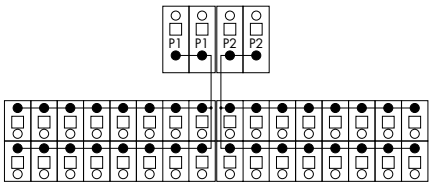
Material Data	
Weight	103.1 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

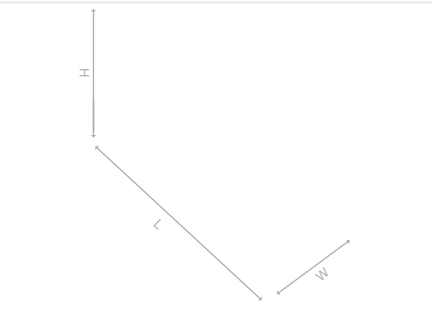
Potential Distribution Module
830 Series





Potential Distribution Module; 2 potentials; with 2 input clamping points; Conductor cross section up to 6 mm²/10 AWG; each with 16 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-307	6



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	30 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	2
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 1	0.2 … 6 mm² / 24 … 10 AWG
Strip length 1	11 … 12 mm / 0.43 … 0.47 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	89 mm / 3.51 inch
Height from upper-edge of DIN-rail	38 mm / 1.47 inch
Depth	55 mm / 2.17 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	118.9 g

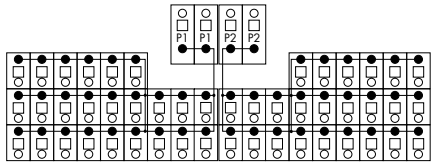
Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

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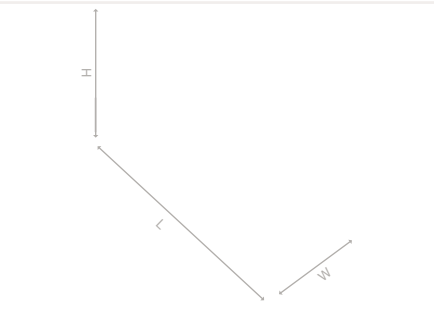
Potential Distribution Module
830 Series





Potential Distribution Module; 2 potentials; with 2 input clamping points; Conductor cross section up to 16 mm²/6 AWG; each with 24 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-308	6



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	30 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	2
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.2 … 6 mm² / 24 … 10 AWG
Fine-stranded conductor 1	0.2 … 6 mm² / 24 … 10 AWG
Strip length 1	11 … 12 mm / 0.43 … 0.47 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	102 mm / 4.02 inch
Height from upper-edge of DIN-rail	38 mm / 1.47 inch
Depth	55 mm / 2.17 inch

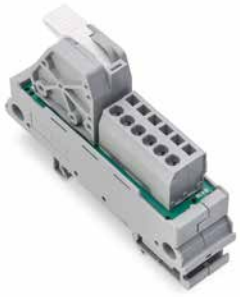
Mechanical Data	
Mounting type	DIN-35 rail

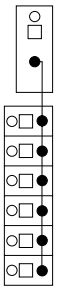
Material Data	
Weight	158.9 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

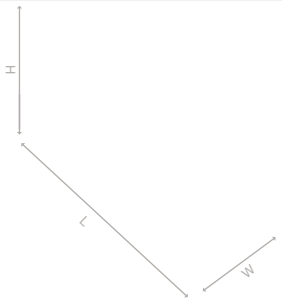
Potential Distribution Module
830 Series





Potential Distribution Module; 1 potential; with 1 input clamping point; Conductor cross section up to 16 mm²/6 AWG; Lever; with 6 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-312	10
blue	830-800/000-312/ 000-006	10



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	65 A
Current per connection (max.)	12 A

Connection Data	
Total number of potentials	1
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	1.5 … 16 mm² / 16 … 6 AWG
Fine-stranded conductor 1	1.5 … 16 mm² / 16 … 6 AWG
Strip length 1	12 … 13 mm / 0.47 … 0.51 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	8 … 9 mm / 0.31 … 0.35 inch

Physical Data	
Width	21 mm / 0.81 inch
Height from upper-edge of DIN-rail	49 mm / 1.98 inch
Depth	85 mm / 3.35 inch

Mechanical Data	
Mounting type	DIN-35 rail

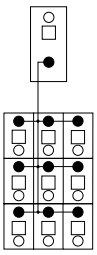
Material Data	
Weight	57.8 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

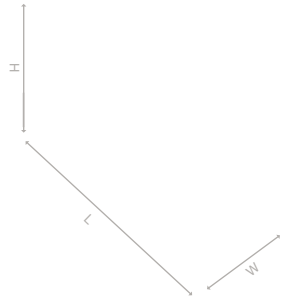
Potential Distribution Module
830 Series





Potential Distribution Module; 1 potential; with 1 input clamping point; Conductor cross section up to 16 mm²/6 AWG; Lever; with 9 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-313	10



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	65 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	1
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	1.5 … 16 mm² / 16 … 6 AWG
Fine-stranded conductor 1	1.5 … 16 mm² / 16 … 6 AWG
Strip length 1	12 … 13 mm / 0.47 … 0.51 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	21 mm / 0.81 inch
Height from upper-edge of DIN-rail	62 mm / 2.44 inch
Depth	85 mm / 3.35 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	61.9 g

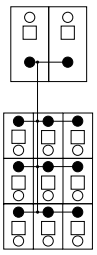
Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

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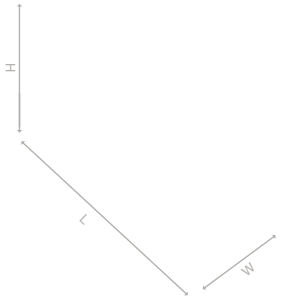
Potential Distribution Module
830 Series





Potential Distribution Module; 1 potential; with 2 input clamping points; Conductor cross section up to 6 mm²/10 AWG; Lever; with 9 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-314	10



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	30 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	1
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.5 … 6 mm² / 20 … 10 AWG
Fine-stranded conductor 1	0.5 … 6 mm² / 20 … 10 AWG
Strip length 1	11 mm / 0.43 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	21 mm / 0.81 inch
Height from upper-edge of DIN-rail	62 mm / 2.44 inch
Depth	85 mm / 3.35 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	62.6 g

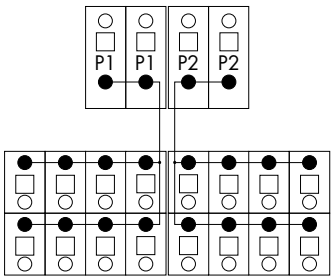
Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

8

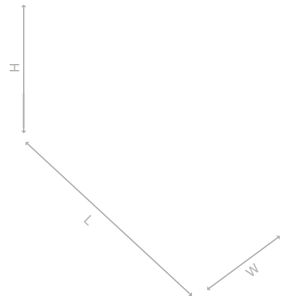
Potential Distribution Module
830 Series





Potential Distribution Module; 2 potentials; with 2 input clamping points; Conductor cross section up to 6 mm²/10 AWG; Lever; each with 8 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-315	10



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	30 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	2
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.5 … 6 mm² / 20 … 10 AWG
Fine-stranded conductor 1	0.5 … 6 mm² / 20 … 10 AWG
Strip length 1	11 … 12 mm / 0.43 … 0.47 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	49 mm / 1.92 inch
Height from upper-edge of DIN-rail	38 mm / 1.47 inch
Depth	55 mm / 2.17 inch

Mechanical Data	
Mounting type	DIN-35 rail

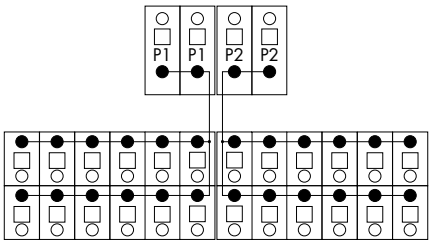
Material Data	
Weight	87.5 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

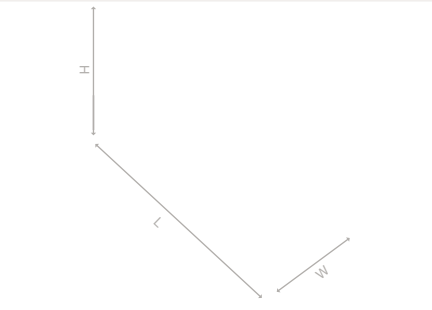
Potential Distribution Module
830 Series





Potential Distribution Module; 2 potentials; with 2 input clamping points; Conductor cross section up to 6 mm²/10 AWG; Lever; each with 12 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-316	6



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	30 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	2
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.5 … 6 mm² / 20 … 10 AWG
Fine-stranded conductor 1	0.5 … 6 mm² / 20 … 10 AWG
Strip length 1	11 … 12 mm / 0.43 … 0.47 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	69 mm / 2.72 inch
Height from upper-edge of DIN-rail	38 mm / 1.47 inch
Depth	55 mm / 2.17 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	101.6 g

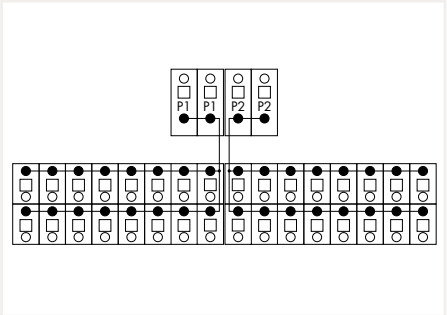
Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

8

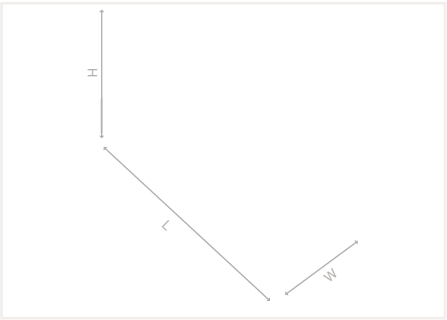
Potential Distribution Module
830 Series





Potential Distribution Module; 2 potentials; with 2 input clamping points; Conductor cross section up to 6 mm²/10 AWG; Lever; each with 16 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-317	6



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	30 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	2
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.5 … 6 mm² / 20 … 10 AWG
Fine-stranded conductor 1	0.5 … 6 mm² / 20 … 10 AWG
Strip length 1	11 … 12 mm / 0.43 … 0.47 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	89 mm / 3.51 inch
Height from upper-edge of DIN-rail	38 mm / 1.47 inch
Depth	55 mm / 2.17 inch

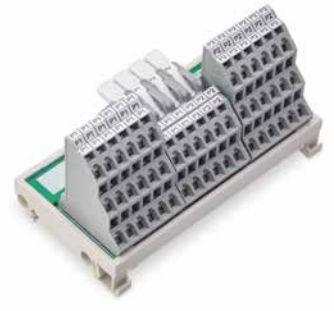
Mechanical Data	
Mounting type	DIN-35 rail

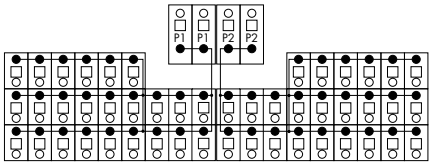
Material Data	
Weight	119.7 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

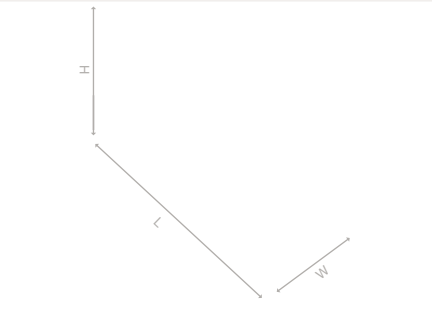
Potential Distribution Module
830 Series





Potential Distribution Module; 2 potentials; with 2 input clamping points; Conductor cross section up to 16 mm²/6 AWG; Lever; each with 24 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG

Color	Item No.	Pack. Unit
gray	830-800/000-318	3



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	30 A
Current per connection (max.)	10 A

Connection Data	
Total number of potentials	2
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.5 … 6 mm² / 20 … 10 AWG
Fine-stranded conductor 1	0.5 … 6 mm² / 20 … 10 AWG
Strip length 1	11 … 12 mm / 0.43 … 0.47 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	102 mm / 4.02 inch
Height from upper-edge of DIN-rail	53 mm / 2.02 inch
Depth	55 mm / 2.17 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	127.4 g

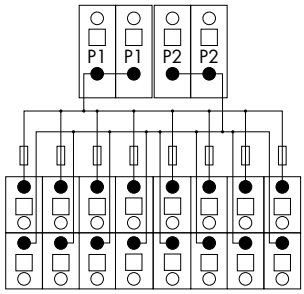
Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

8

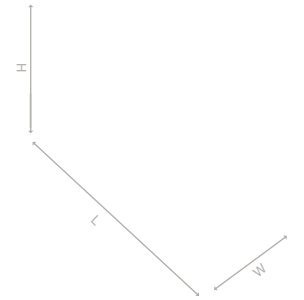
Potential Distribution Module
830 Series





Potential Distribution Module; 2 potentials; with 2 input clamping points; Conductor cross section up to 6 mm²/10 AWG; Lever; each with 8 output clamping points; Conductor cross section up to 2.5 mm²/12 AWG; with fuse

Color	Item No.	Pack. Unit
gray	830-800/000-319	3



General Specifications	
Operating voltage	≤ 250 VAC/DC
Total current per potential (max.)	30 A
Fuse capacity (max.)	6.3 A

Connection Data	
Total number of potentials	2
Connection type 1	Input
Connection technology 1	CAGE CLAMP®
Solid conductor 1	0.5 … 6 mm² / 20 … 10 AWG
Fine-stranded conductor 1	0.5 … 6 mm² / 20 … 10 AWG
Strip length 1	11 … 12 mm / 0.43 … 0.47 inch
Connection type 2	Output
Connection technology 2	CAGE CLAMP®
Solid conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor 2	0.08 … 2.5 mm² / 28 … 12 AWG
Strip length 2	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	98 mm / 3.85 inch
Height from upper-edge of DIN-rail	48 mm / 1.89 inch
Depth	106 mm / 4.18 inch

Mechanical Data	
Mounting type	DIN-35 rail

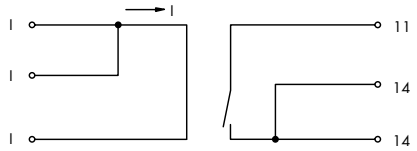
Material Data	
Weight	181.5 g

Environmental Requirements	
Surrounding air temperature (operation)	–20 … +50 °C
Relative humidity	≤ 95 % (no condensation permissible)

Standards and Specifications	
Standards/specifications	cULus 61010-2-201

Current Flow Monitoring Module
286 Series





General Specifications	
Operating voltage	12 … 28 VDC
Measurement span (max.)	0.4 … 3.5 ADC (–20 … +40 °C) 0.4 … 3 ADC (–20 … +60 °C) 0.4 … 2 ADC (–20 … +70 °C)
Turn on/off point	0.35 A / 0.07 A
Voltage drop at input	24 … 210 mV
Response time	0.5 ms
Number of make contacts/switch-on contacts	1
Switching voltage (max.)	200 VDC
Limiting continuous current	0.5 A
Switching power (resistive) max.	10 W (DC)

Safety and Protection	
Dielectric strength input/output (AC, 1 min)	1.5 kV

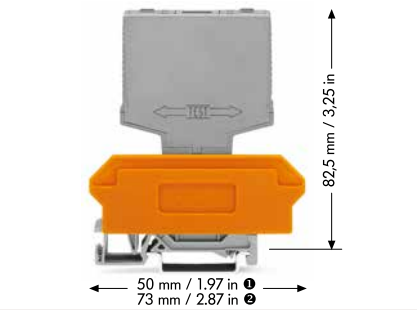
Mechanical Data	
Mounting type	Pluggable module for receptacle terminal blocks

Material Data	
Weight	22.7 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C

Current Flow Monitoring Module;
DC current flow monitoring module; 0.4 … 3.5 A;
Relay with 1 make contact (1a)

	Item No.	Pack. Unit
	286-662	1



8

Accessories



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
17 mm	280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
17 mm	280-609	30

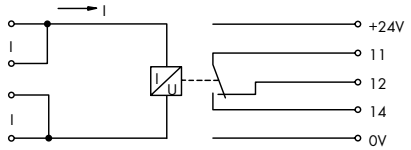


Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
20 mm	280-763	25

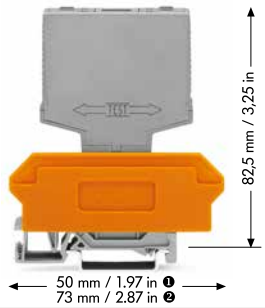
Current Flow Monitoring Module
286 Series





Current Flow Monitoring Module;
AC current flow monitoring module; 1 ... 10 AAC;
Relay with 1 changeover contact (1u); adjustable

	Item No.	Pack. Unit
	286-665	1



General Specifications	
Nominal operating voltage	24 VDC
Power consumption at nominal supply voltage	28 mA
Voltage drop at input	23 ... 850 mV
Measurement span (max.)	1 ... 10 A (AC)
Switching threshold (adjustable) min.	1 A
Response time	200 ms
Number of changeover/switchover contacts	1
Number of break contacts/switch-off contacts	1
Limiting continuous current	5 A
Switching voltage (max.)	250 VAC
Switching power (resistive) max.	1250 VA (AC)
Status indicator	Red LED; Energized relay (current < switching threshold)

Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Dielectric strength input/output (AC, 1 min)	1.5 kV

Mechanical Data	
Mounting type	Pluggable module for receptacle terminal blocks

Material Data	
Weight	58 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 ... +40 °C
Surrounding air temperature (storage)	–40 ... +70 °C

8

Accessories



Terminal block for pluggable modules; 10-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
27 mm	280-639	15



Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
27 mm	280-629	15

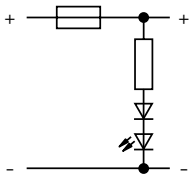


Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
30 mm	280-765	15

Component Module with a Fuse
286 Series





General Specifications	
Nominal operating voltage	24 VAC/DC
Leakage current in case of a blown fuse	5 mA
Fuse capacity (max.)	6.3 A

Safety and Protection	
Pollution degree	3
Rated voltage	250 V
Rated surge voltage	4 kV
Test voltage	2.5 kV

Physical Data	
Width	10 mm / 0.394 inch

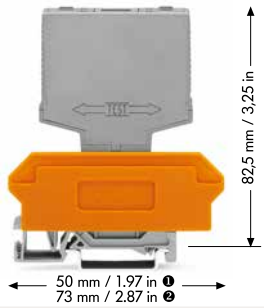
Mechanical Data	
Mounting type	Pluggable module for receptacle terminal blocks

Material Data	
Weight	14.6 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C

Component Module with a Fuse;
for 5 x 20 mm microfuse; Nominal voltage: 24 VAC/DC

	Item No.	Pack. Unit
	286-890	1



8

Accessories



Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
12 mm	280-618	40



Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
12 mm	280-608	40

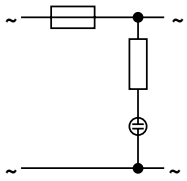


Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
15 mm	280-762	30

Component Module with a Fuse
286 Series





General Specifications	
Nominal operating voltage	230 VAC/DC
Leakage current in case of a blown fuse	0.5 mA
Fuse capacity (max.)	6.3 A

Safety and Protection	
Pollution degree	3
Rated voltage	250 V
Rated surge voltage	4 kV
Test voltage	2.5 kV

Physical Data	
Width	10 mm / 0.394 inch

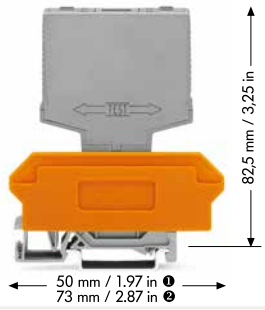
Mechanical Data	
Mounting type	Pluggable module for receptacle terminal blocks

Material Data	
Weight	14.1 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C

Component Module with a Fuse;
for 5 x 20 mm microfuse; Nominal voltage: 230 VAC/DC

Item No.	Pack. Unit
286-891	1



8

Accessories



Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
12 mm	280-618	40



Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
12 mm	280-608	40

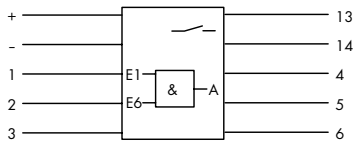


Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
15 mm	280-762	30

AND Gate Module
286 Series





General Specifications	
Nominal operating voltage	24 VDC
Operating voltage	24 … 27.5 VDC
Limiting continuous current	3 A
Power consumption at nominal supply voltage	34.6 mA
Number of make contacts/switch-on contacts	1
Switching voltage (max.)	250 VAC; 120 VDC
Switching power (resistive) max.	750 VA / 120 W

Safety and Protection	
Pollution degree	2
Rated voltage	250 V
Rated surge voltage	4 kV
Dielectric strength input/output (AC, 1 min)	2.5 kV

Physical Data	
Width	25 mm / 0.984 inch

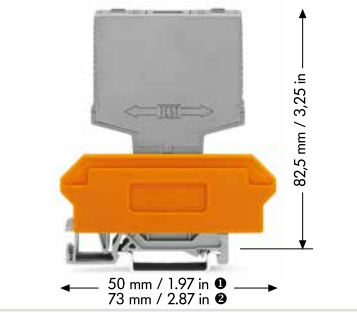
Mechanical Data	
Mounting type	Pluggable module for receptacle terminal blocks

Material Data	
Weight	34 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +40 °C

AND Gate Module; with 6 inputs

	Item No.	Pack. Unit
	286-826	1



8

Accessories



Terminal block for pluggable modules; 10-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
27 mm	**280-639**	15



Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
27 mm	**280-629**	15



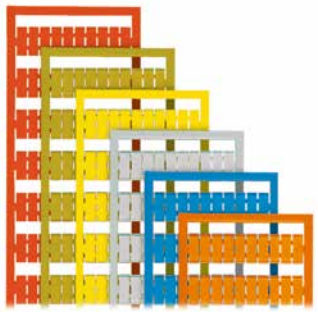
Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with marker carrier; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
30 mm	**280-765**	15

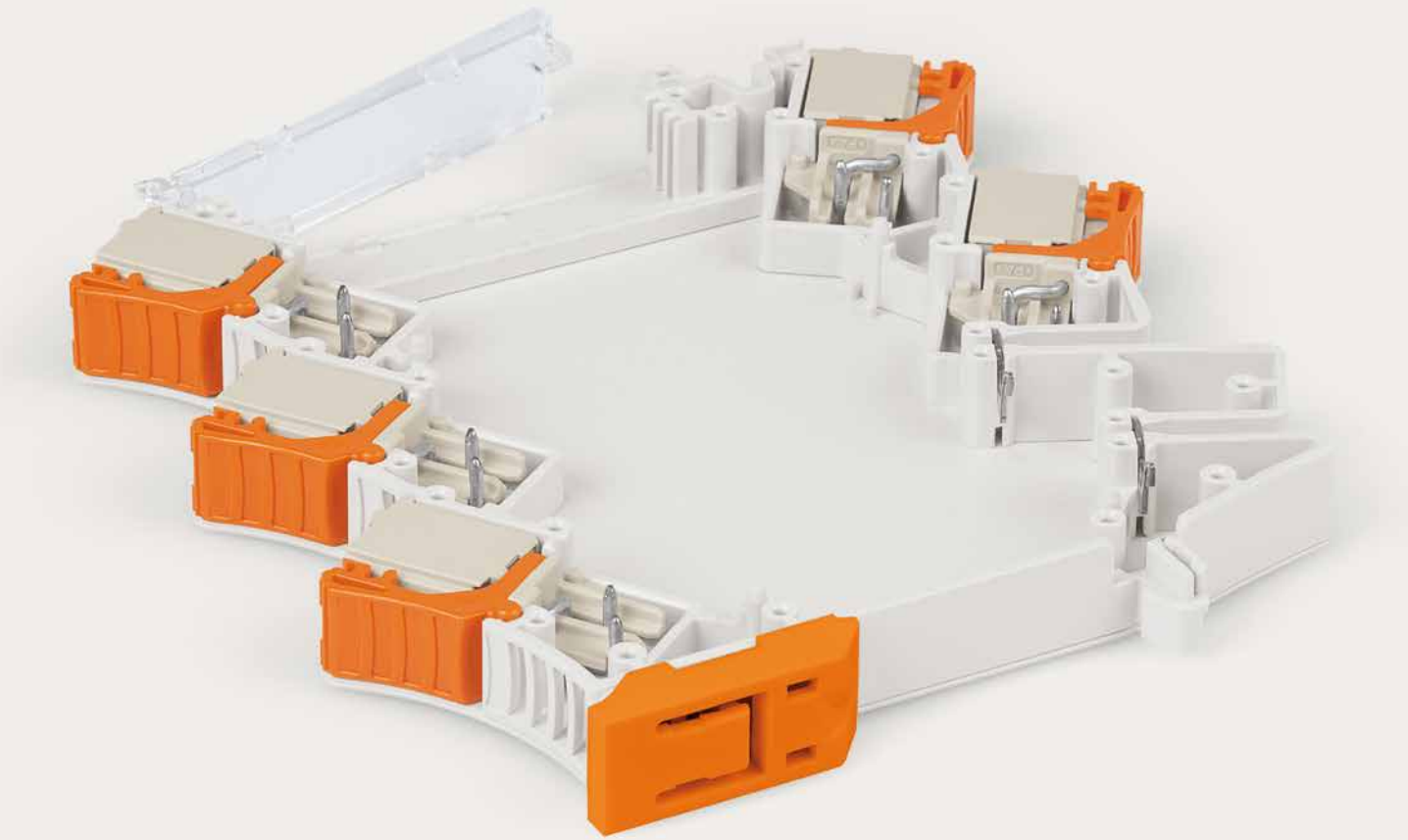
Accessories



WSB marker card; WSB marker width: 4 mm; 10 strips with 10 markers/card		
Marking	Item No.	Pack. Unit
K	209-782	50
1 ... 10 (10 x)	209-702	5
A1; A2; 13; 14	209-952	50
A1; A2; 11; 12	209-953	50
11; 12; 14; A1; A2; A2; 11; 12; 14	209-994	50
12; A1; A2; 24; 11; 14; 21; 22	209-995	50
A1; A1; A2; A2; 11; 12; 13; 14; 23; 24	209-693	50
12; A1; A2; 23; 24; 11; 13; 14; 21; 22	209-691	50
12; A1; A2; 23; 24; 11; 13; 14; 33; 34	209-690	50
14; A1; A2; 33; 34; 13; 23; 24; 43; 44	209-692	50
A1; A2; 32; 31; 34; 42; 41; 12; 11; 14; 22; 21; 24; 44	249-656	50
L+; 1; L-; L-; 11; 12; 13; 14	209-954	50
A1; A2; A3; 11; 12; 14	249-607	50
A1; A1; A2; A2; 12; 11; 11; 14	209-996	50
A1; A1; St; A2; A2; 12; 11; 11; 14	209-601	50
U1; U2; U3; U4; 0V; 12; 11; 11; 14; 14	209-951	50
U	209-789	50
A1; A2; A2; 1; 3; 2	209-685	50
A1; A2; A2; 1; 2; 2	209-686	50
A1+; A1+; A2-; A2-; 1; RL1; RL2; 2	209-955	50
A1+; A1+; A2-; A2-; 1+; 1+; A; 2-	249-651	50
+/-	209-552	50
1; 2; 3; 0V; +UB; OUT; ERR.; 0V	249-622	50
1; 2; 0V; +UB; OUT; ERR.; 0V	249-623	50
Lin; Lin; Lout; Lout; 24V; UA; UA; 0V	209-957	50
Lin; Lin; Lout; 11; 14; 14; Lin; Lin; Lout	249-654	50
Iin; Iin; Iout; Iout; 24V; 11; 12; 14; 0V	209-997	50
S	209-682	50
V	209-784	50
F1 ... F10	209-787	50
D	209-783	50
+; -; 1; 2; 3; 13; 14; 4; 5; 6	249-608	50
L; N; Ackn.; Failure; Test; N; 14; 24	249-606	50
A1; A2; Ackn.; Failure; 12; 11; 11; 14	249-653	50



WSB marker card; plain; WSB marker width: 4 mm; 10 strips with 10 markers/card		
Color	Item No.	Pack. Unit
white	209-701	100
yellow	209-701/000-002	100
red	209-701/000-005	100
blue	209-701/000-006	100
gray	209-701/000-007	100
orange	209-701/000-012	100
light green	209-701/000-017	100
green	209-701/000-023	100
violet	209-701/000-024	100



WAGO Empty Housings

WAGO Empty Housings



Empty Housings; 2857 Series
Overview and Configuration 710
Modular Empty Housings 712
Stripboards 714



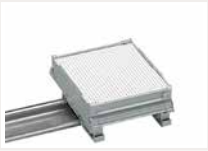
Empty Component Plug Housings; 280, 286, 786 Series
Empty Component Plug Housings; for Receptacle Terminal Blocks; for Self-Assembly 716
Empty Component Plug Housings; for Carrier Terminal Blocks; for Self-Assembly 718



Empty Housings; 859 Series
Empty Housings; for Rail-Mount Terminal Blocks 720

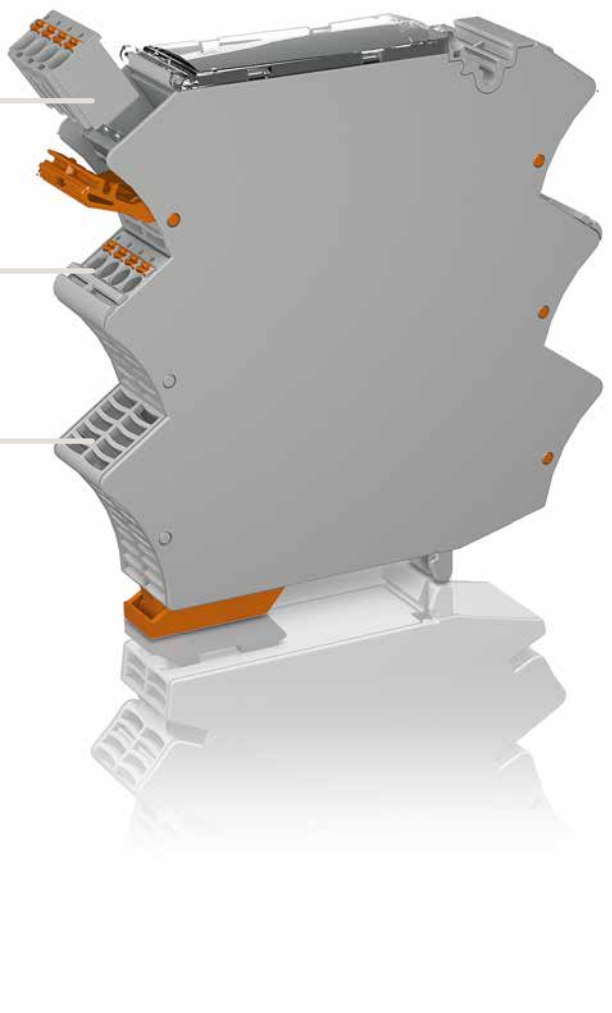


Empty Housings; 789 Series
DIN-Rail-Mount Enclosures 722
Accessories; 789 Series 723



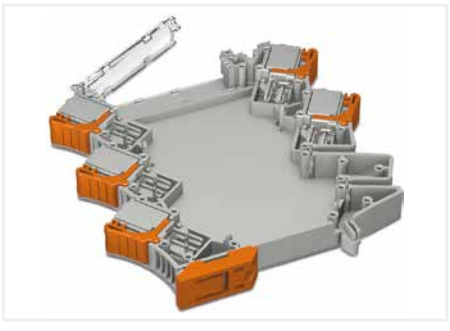
Mounting Carriers; 209, 288 Series
DIN-Rail Mount PCB Carriers 724
DIN-Rail-Mount PCB Carriers and Feet 725

Modular Empty Housings
Overview and Configuration
2857 Series

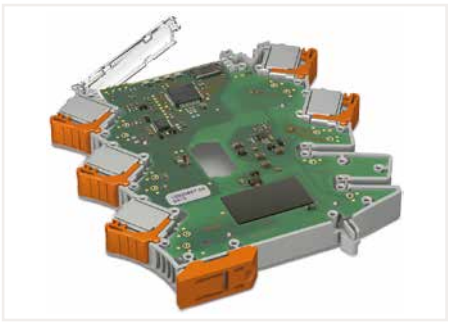


9

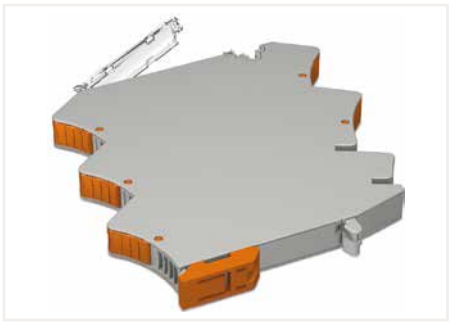
Supplied as a pre-assembled unit:



1. Pre-assembled unit



2. Insert and solder the PCB.



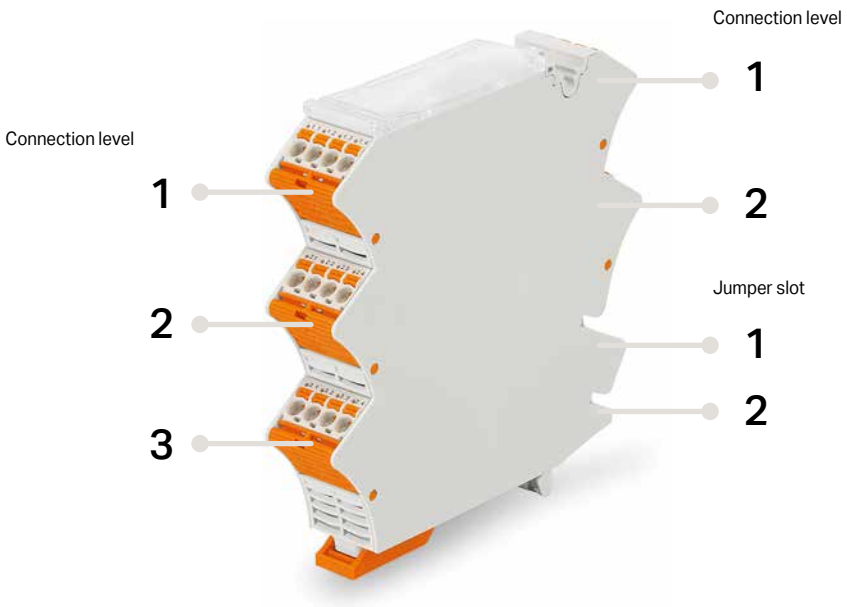
3. Snap on the side wall.

Housing configuration:

Housing width: 12.5 mm	 2857-101	 2857-102	 2857-103	–
Housing width: 22.5 mm	 2857-121	 2857-122	 2857-123	 2857-124
Connection levels	2-2	3-2	3-3	1-1
Jumper slots	2-2	0-2	0-0	2-2

Mixed configuration (fixed/removable/empty slot) upon request!

Example of connection level and jumper slot assignment:



Connection levels	3-2
Jumper slots	0-2

Modular Empty Housings
2857 Series



- *pico*MAX® female connectors, with coding keys, 4-pole
- Pre-assembled unit
- Flexible conductor termination
- Customizable connection levels
- Various marking options available
- Sealable, transparent cover
- Commoning via jumpers (859-402)

Electrical Data (*picoMAX*® 5.0 Female Connector)				
Ratings per	IEC/EN 60664-1			
Overvoltage category	III	III	II	
Pollution degree	3	2	2	
Rated voltage	250 V	320 V	630 V	
Rated surge voltage	4 kV	4 kV	4 kV	
Rated current	16 A	16 A	16 A	
Approvals per	UL 1059			
Use Group	B	C	D	
Rated voltage UL	300 V	-	300 V	
Rated current UL	15 A	-	10 A	

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Conductor connection direction to PCB	45 °
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor; with insulated ferrule	0.2 … 1.5 mm²
Fine-stranded conductor; with uninsulated ferrule	0.2 … 2.5 mm²

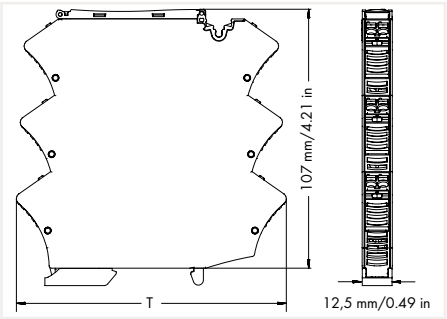
Material Data (*picoMAX*® 5.0 Female Connector)	
Material group	I
Insulation material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	–60 … +100 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (Ecu)
Contact plating	Tin-plated

Material Data (Empty Housing)	
Housing material	PC
Flammability class	V0
Surrounding air temperature	–40 … +70 °C
Storage temperature	–40 … +85 °C

» Marking Accessories Page 804
» Technical Data Catalog *picoMAX*®

Modular Empty Housing; for DIN-35 Rail
2857 Series



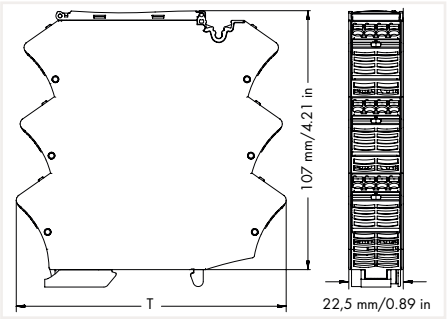


Housing width: 12.5 mm		
Description	Item No.	Pack. Unit
2-2 connection levels, 2-2 jumper slots	**2857-101**	10
3-2 connection levels, 0-2 jumper slots	**2857-102**	10
3-3 connection levels, 0-0 jumper slots	**2857-103**	10

Technical Data: Empty Housing	
Dimensions (mm) W x H x D	12.5 x 107 x 108 (2857-101) 12.5 x 107 x 110 (2857-102) 12.5 x 107 x 112 (2857-103) Height from upper-edge of DIN-rail
Power loss	2 W

Accessories		
Description	Item No.	Pack. Unit
Coding pin carrier	**2092-1610**	1
Jumper	**859-402**	1





Housing width: 22.5 mm		
Description	Item No.	Pack. Unit
2-2 connection levels, 2-2 jumper slots	**2857-121**	5
3-2 connection levels, 0-2 jumper slots	**2857-122**	5
3-3 connection levels, 0-0 jumper slots	**2857-123**	5
1-1 connection levels, 2-2 jumper slots	**2857-124**	5

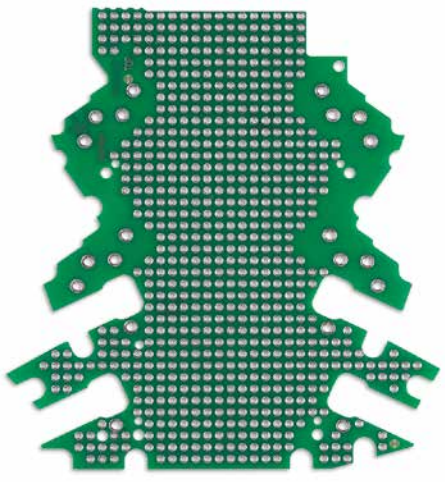
Technical Data: Empty Housing	
Dimensions (mm) W x H x D	22.5 x 107 x 108 (2857-121) 22.5 x 107 x 110 (2857-122) 22.5 x 107 x 112 (2857-123) 22.5 x 107 x 105 (2857-124) Height from upper-edge of DIN-rail
Power loss	3 W (max.)

Accessories		
Description	Item No.	Pack. Unit
Coding pin carrier	**2092-1610**	1
Jumper	**859-402**	1

PU = Packaging Unit; SPU = Subpackaging Unit

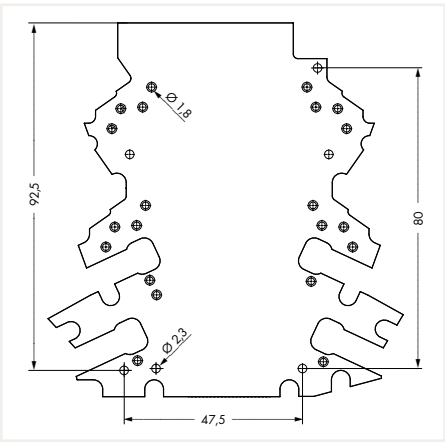
Stripboard; for installation in 12.5 mm and 22.5 mm empty housings
2857 Series

Connection levels: 2-2; Jumper slots: 2-2

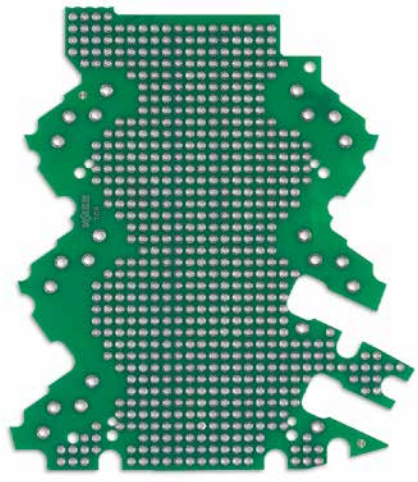


	Item No.	PU (SPU)
	2857-191/3140-000	5 (1)

Dimensions in mm

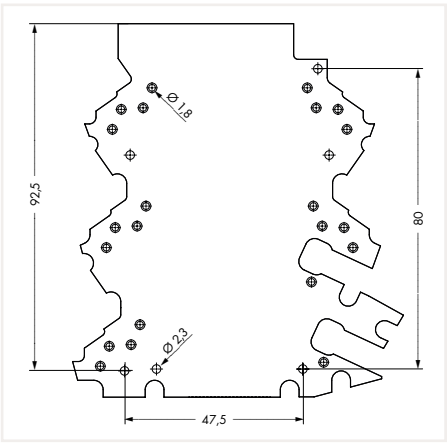


Connection levels: 3-2; Jumper slots: 0-2



	Item No.	PU (SPU)
	2857-192/3140-000	5 (1)

Dimensions in mm

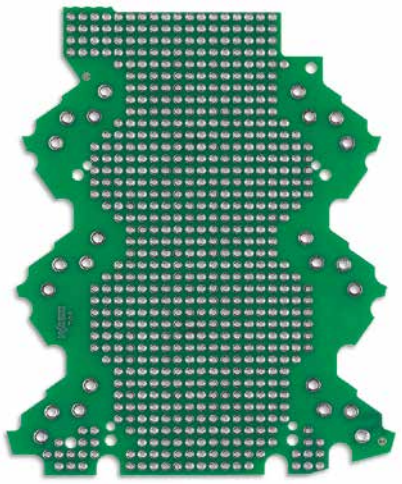


9

PU = Packaging Unit; SPU = Subpackaging Unit

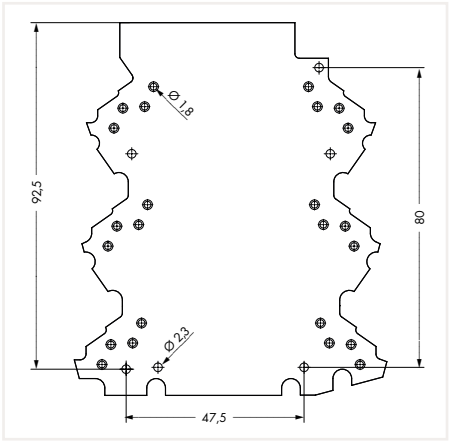
Stripboard; for installation in 12.5 mm and 22.5 mm empty housings
2857 Series

Connection levels: 3-3; Jumper slots: 0-0

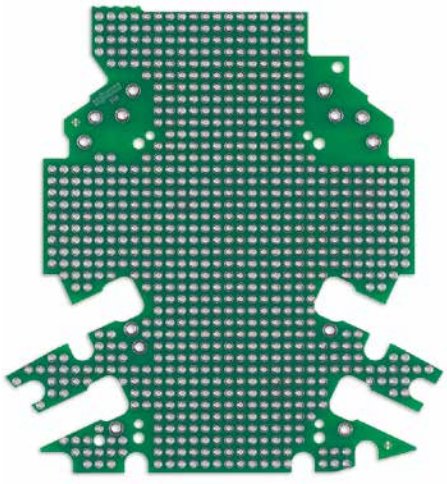


	Item No.	PU (SPU)
	2857-193/3140-000	5 (1)

Dimensions in mm

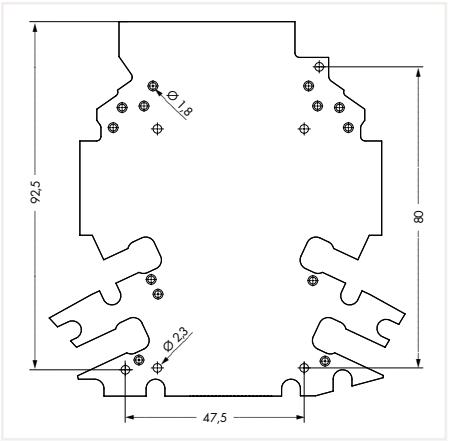


Connection levels: 1-1; Jumper slots: 2-2



	Item No.	PU (SPU)
	2857-194/3140-000	5 (1)

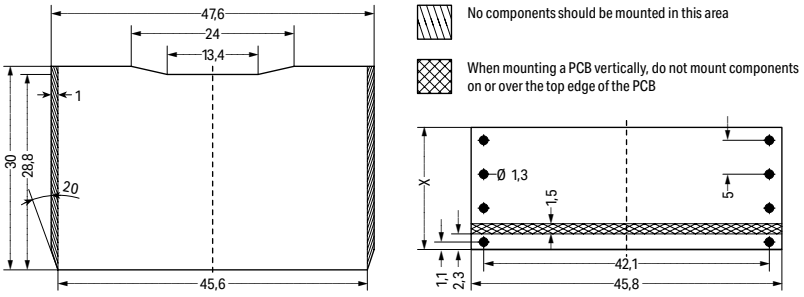
Dimensions in mm



PU = Packaging Unit; SPU = Subpackaging Unit

Empty Component Plug Housing for Receptacle Terminal Blocks; for Self-Assembly
286/786 Series





Bausteinbreite	10	15	20	25
Bestückungshöhe vor LP	4,2	9,2	14,2	19,2
X = Gesamtbreite LP	8	13	18	23

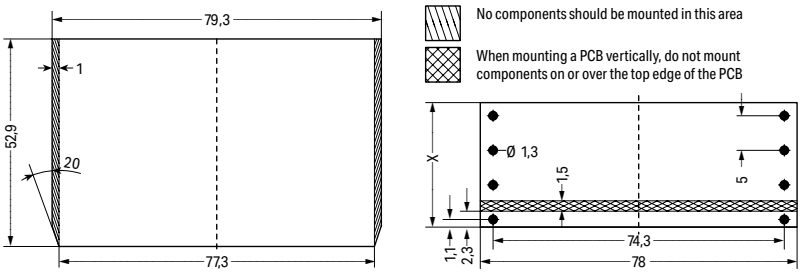
Empty Component Plug Housing; 286 Series

Type	Pole	Width	Item No.	Pack. Unit
9	4	10 mm / 0.394 inch	**286-110**	1
10	6	15 mm / 0.591 inch	**286-111**	1
11	8	20 mm / 0.787 inch	**286-112**	1
12	10	25 mm / 0.984 inch	**286-113**	1

Technical Data

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Per contact	6 A
Module height	82.5 mm (from upper-edge of DIN-35 rail)





Bausteinbreite	15	20	25
Bestückungshöhe vor LP	9,2	14,2	19,2
X = Gesamtbreite LP	13	18	23

Empty Component Plug Housing; 786 Series

Type	Pole	Width	Item No.	Pack. Unit
14	6	15 mm / 0.591 inch	**786-101**	1
15	8	20 mm / 0.787 inch	**786-102**	1
16	10	25 mm / 0.984 inch	**786-103**	1

Technical Data

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Per contact	6 A
Module height	82.5 mm (from upper-edge of DIN-35 rail)

Empty Component Plug Housing for Receptacle Terminal Blocks; for Self-Assembly
286/786 Series

Accessories



Terminal block for pluggable modules; 4-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
12 mm	280-618	40



Terminal block for pluggable modules; 8-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
12 mm	280-608	40



Terminal block for pluggable modules; 6-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
17 mm	280-619	30



Terminal block for pluggable modules; 12-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
17 mm	280-609	30



Terminal block for pluggable modules; 8-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
22 mm	280-638	20



Terminal block for pluggable modules; 16-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
22 mm	280-628	20



Terminal block for pluggable modules; 10-pole; with 2-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
27 mm	280-639	15



Terminal block for pluggable modules; 20-pole; with 4-conductor terminal blocks; with orange separator; for 35 x 15 mm and 35 x 7.5 mm DIN-rails; 2.5 mm²

Width	Item No.	Pack. Unit
27 mm	280-629	15



Unlocking pliers for component plug housings

	Item No.	Pack. Unit
	210-492	1



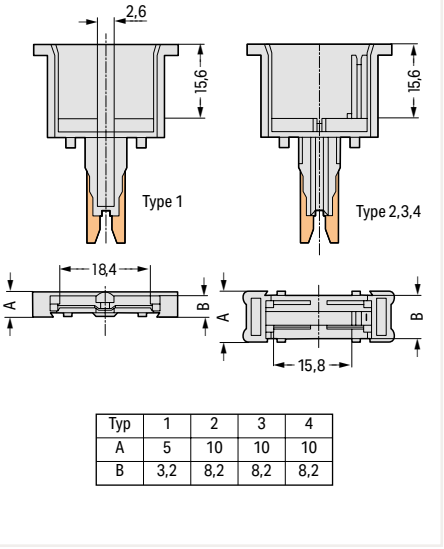
WSB marker card; white; for 5 … 17.5 mm terminal block width; 10 strips with 10 markers/card

Marking	Item No.	Pack. Unit
plain	209-501	5
1 … 10	209-702	5

9

Empty Component Plug Housing for Carrier Terminal Blocks; for Self-Assembly
280 Series





Typ	1	2	3	4
A	5	10	10	10
B	3,2	8,2	8,2	8,2

Empty Component Plug Housing

	Description	Item No.	Pack. Unit
Type 1	2-pole; 5 mm/0.197 inch wide; Plug inside dimensions (W/H/D): 3.2/15/15 mm	280-801	100
Type 2	2-pole; 10 mm/0.394 inch wide; Plug inside dimensions (W/H/D): 8.2/15/15 mm	280-802	50
Type 3	4-pole; 10 mm/0.394 inch wide; Plug inside dimensions (W/H/D): 8.2/15/15 mm	280-804	50

Technical Data

Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Per contact	6 A (max.)

Accessories



2-conductor carrier terminal block; Marking on both sides; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	Pack. Unit
280-616	100



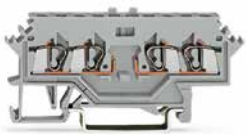
2-conductor carrier terminal block; Marking in center position; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	Pack. Unit
280-916	100



3-conductor carrier terminal block; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	Pack. Unit
280-610	100



4-conductor carrier terminal block; Marking on both sides; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	Pack. Unit
280-606	100



4-conductor carrier terminal block; Marking in center position; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

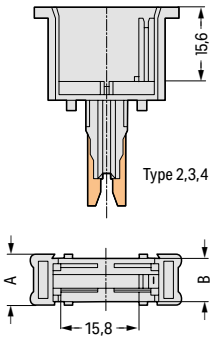
Item No.	Pack. Unit
280-686	100

Empty Component Plug Housing for Through Terminal Blocks; for Self-Assembly
280 Series



Empty Component Plug Housing			
	Description	Item No.	Pack. Unit
Type 4	2-pole; 10 mm/0.394 inch wide; Plug inside dimensions (W/H/D): 8.2/15/15 mm	280-803	50

Technical Data	
Rated voltage	250 V
Rated surge voltage	4 kV
Pollution degree	3
Per contact	6 A (max.)



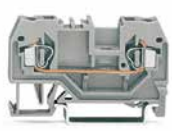
Typ	1	2	3	4
A	5	10	10	10
B	3,2	8,2	8,2	8,2

Accessories



2-conductor through terminal block; Marking on both sides; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	Pack. Unit
280-601	100



2-conductor through terminal block; Marking in center position; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	Pack. Unit
280-901	100



3-conductor through terminal block; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	Pack. Unit
280-681	100



4-conductor through terminal block; Marking on both sides; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

Item No.	Pack. Unit
280-621	100



4-conductor through terminal block; Marking in center position; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

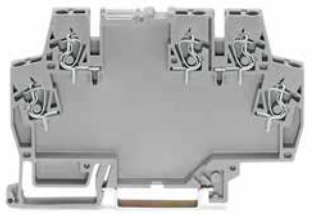
Item No.	Pack. Unit
280-833	100



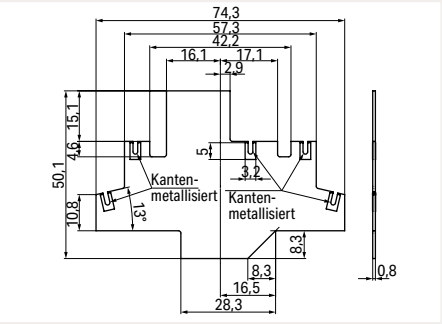
2-conductor through terminal block; gray; Terminal block width: 5 mm / 0.197 inch; Cross sections: 0.08 … 2.5 mm² / 28 … 14 AWG; Strip length: 8 … 9 mm / 0.31 … 0.35 inch

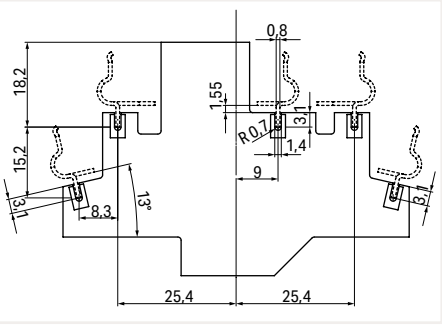
Item No.	Pack. Unit
280-101	100

Empty Rail-Mount Terminal Block Housing
859 Series



Universal Modular Component Plug Housing as Rail-Mount Terminal Block		
	Item No.	Pack. Unit
	859-110	1





PCB dimensions

Safety and Protection	
Protection class	IP00
Protection class with end and intermediate plate	IP20

Connection Data	
Connection points (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 in
Height from upper-edge of DIN-rail	56 mm / 2.205 in
Depth	91 mm / 3.583 in

Mechanical Data	
Mounting type	DIN-35 rail
Mounting position	Any

Material Data	
Color	Gray
Flammability class per UL94	V0
Housing material	PA 6.6
Weight	14.4 g

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

9

Accessories



End and intermediate plate; 1 mm thick; gray		
	Item No.	Pack. Unit
	859-525	100 (25)



Push-in type jumper bar; light gray; insulated; 18 A		
Description	**Item No.**	Pack. Unit
2-way	**859-402**	200 (8x25)
3-way	**859-403**	200 (8x25)
4-way	**859-404**	200 (8x25)
5-way	**859-405**	200 (8x25)
6-way	**859-406**	100 (4x25)
7-way	**859-407**	100 (4x25)
8-way	**859-408**	100 (4x25)
9-way	**859-409**	100 (4x25)
10-way	**859-410**	100 (4x25)

Item no. suffix for colored push-in type jumper bars	
yellow	**… /000-029**
red	**… /000-005**
blue	**… /000-006**



Test pin; 1 mm Ø; with solder connection for test cable		
	Item No.	Pack. Unit
	735-500	100 (1)

Empty Rail-Mount Terminal Block Housing
859 Series



Safety and Protection	
Protection class	IP00
Protection class with end and intermediate plate	IP20

Connection Data	
Connection points (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	8 mm / 0.315 in
Height from upper-edge of DIN-rail	56 mm / 2.205 in
Depth	91 mm / 3.583 in

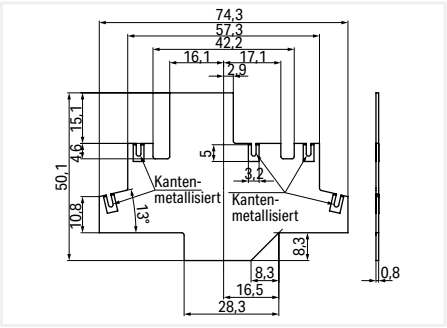
Mechanical Data	
Mounting type	DIN-35 rail
Mounting position	Any

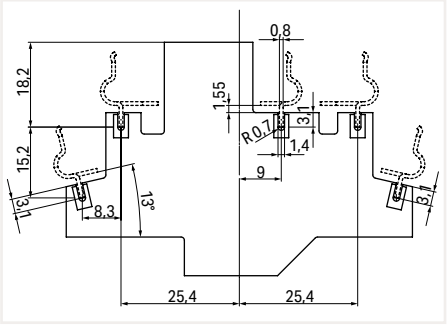
Material Data	
Color	Gray
Flammability class per UL94	V0
Housing material	PA 6.6
Weight	14.4 g

Environmental Requirements	
Surrounding air temperature (operation)	−25 … +70 °C
Surrounding air temperature (storage)	−40 … +85 °C

Frame to Enlarge Terminal block Width

Item No.	Pack. Unit
859-501	1





PCB dimensions

Accessories



End and intermediate plate; 1 mm thick; gray

Item No.	Pack. Unit
859-525	100 (25)



Push-in type jumper bar; light gray; insulated; 18 A

Description	Item No.	Pack. Unit
2-way	859-402	200 (8x25)
3-way	859-403	200 (8x25)
4-way	859-404	200 (8x25)
5-way	859-405	200 (8x25)
6-way	859-406	100 (4x25)
7-way	859-407	100 (4x25)
8-way	859-408	100 (4x25)
9-way	859-409	100 (4x25)
10-way	859-410	100 (4x25)

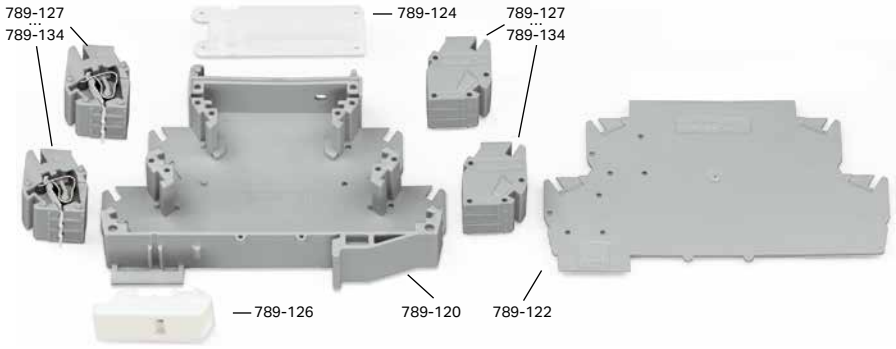
Item no. suffix for colored push-in type jumper bars	
yellow	… /000-029
red	… /000-005
blue	… /000-006

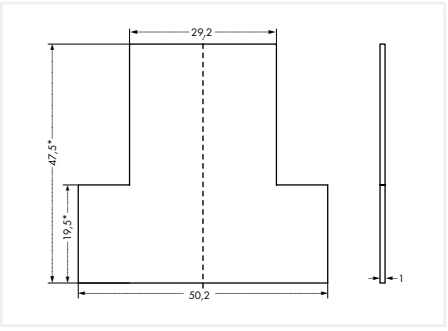


Test pin; 1 mm Ø; with solder connection for test cable

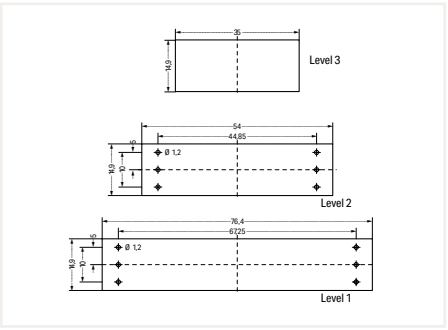
Item No.	Pack. Unit
735-500	100 (1)

DIN-Rail-Mount Enclosures
789 Series

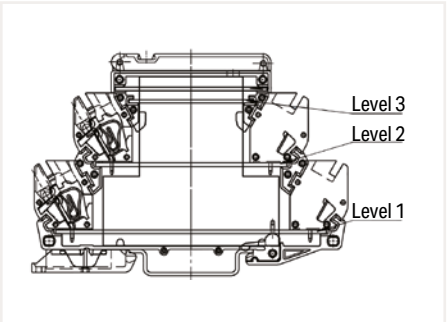




PCB dimensions, horizontal mounting
*less 4.5 mm when mounting a vertical PCB on level 1



PCB dimensions, vertical mounting:
(PCB thickness max. 1.5 mm) in level 1;
(PCB thickness max. 1 mm) in level 2 and 3



Universal Modular Component Plug Housing; as rail-mount terminal block		
Description	Item No.	Pack. Unit
Housing: 55 mm	789-120	1
Top cover: 55 mm	789-122	1
Cover; transparent	789-124	1
Release mechanism	789-126	1
Compact terminal block; 3-pole: CCC*	789-127	1
Compact terminal block; 3-pole: COC*	789-128	1
Compact terminal block; 3-pole: CCO*	789-129	1
Compact terminal block; 3-pole: OCC*	789-130	1
Compact terminal block; 3-pole: OCO*	789-131	1
Compact terminal block; 3-pole: OOO*	789-132	1
Compact terminal block; 3-pole: OOC*	789-133	1
Compact terminal block; 3-pole: COO*	789-134	1

*C = with clamping spring; O = without clamping spring, enclosure open on the right side

Electrical Data	
Rated nominal voltage	250 V
Rated surge voltage	4 kV

Safety and Protection	
Pollution degree	3
Protection class	IP20

Connection Data	
Width	17.5 mm
Height	55 mm
Depth	90 mm
Dimensions (note)	Height from upper-edge of DIN-rail

Physical Data	
Connection technology	CAGE CLAMP®
Cross sections	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch

Mechanical Data	
Mounting position	Any

Material Data	
Housing material	PA 66
Flammability class	V0
Color	Gray (similar to RAL 7038)

Environmental Requirements	
Surrounding air temperature (operation)	–25 … +70 °C
Surrounding air temperature (storage)	–40 … +85 °C

9

Accessories



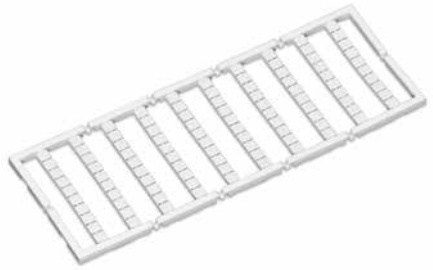
Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade		
	Item No.	Pack. Unit
	210-720	50



Felt-tip pen; for permanent marking		
	Item No.	Pack. Unit
	210-110	200



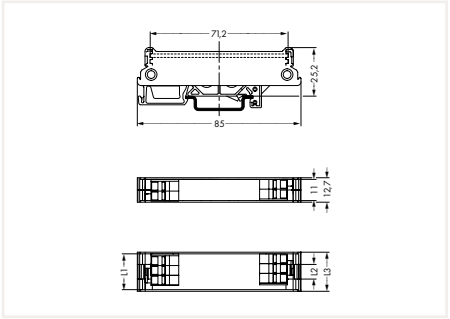
Push-in type jumper bar; 12-way; Nominal current: 16 A; uninsulated		
	Item No.	Pack. Unit
	789-112	100

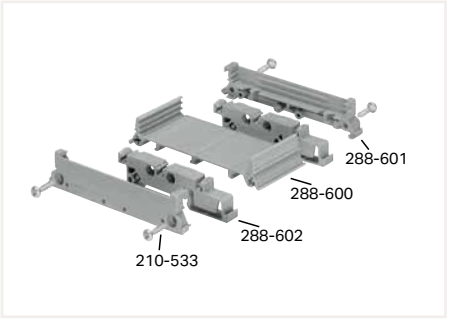


Mini-WSB marker card; Marker width: 5 mm; 10 strips with 10 markers/card		
Marking	Item No.	Pack. Unit
plain	248-501	50
1 … 10 (10 x)	248-502	5
11 … 20 (10 x)	248-503	5
21 … 30 (10 x)	248-504	5
31 … 40 (10 x)	248-505	5
41 … 50 (10 x)	248-506	5
1 … 50 (2 x)	248-566	5
K1 … K10	248-450	50
K11 … K20	248-451	50
K100	248-452	50
U1 … U10	248-453	50
U11 … U20	248-454	50
U100	248-455	50

DIN-Rail Mount PCB Carriers
288 Series





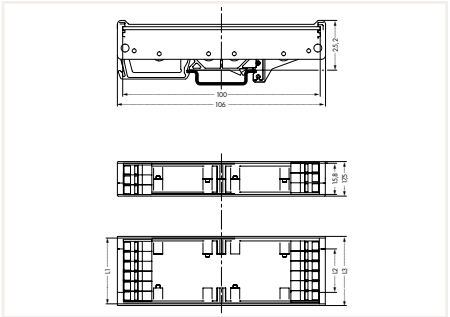


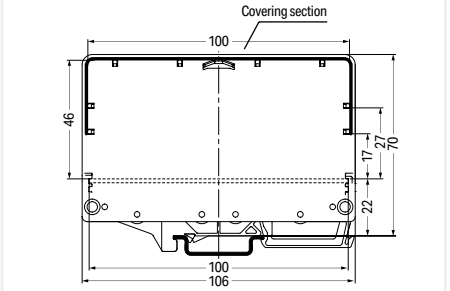
Mounting Carrier, Size 1

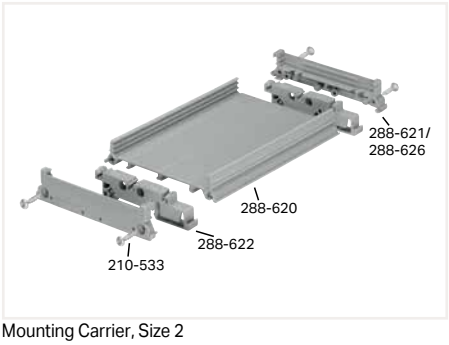
Length calculation for a complete mounting carrier:
PCB length: L1
Base length: L2 = L1 − 11 mm
Mounting carrier length: L3 = L1 + 2 mm
Lateral cover, size 1, 6.35 mm thick
Free space between base and PCB (when using upper PCB groove): 5 mm
PCB tolerances: 1.5 mm ± 0.2 mm (thickness), ± 0.2 mm (length/width), −0.1/+0.3 for milling contours

Mounting Carrier; Size 1		
Description	Item No.	Pack. Unit
Lateral cover; Type 1; small; 6.35 mm thick	288-601	1
Foot for DIN-35 rail	288-602	1
Carrier base; Size 1; 1 m long	288-600	1









Mounting Carrier, Size 2

Length calculation for a complete mounting carrier:
PCB length: L1
Base length: L2 = L1 − 15.8 mm
Mounting carrier length: L3 = L1 + 2 mm
Cover length: L4 = L1
Lateral cover, size 2, 8.75 mm thick
Free space between base and PCB (when using upper PCB groove): 5 mm
PCB tolerances: 1.5 mm ± 0.2 mm (thickness), ± 0.2 mm (length/width), −0.1/+0.3 for milling contours

Mounting Carrier; Size 2		
Description	Item No.	Pack. Unit
Lateral cover; Type 2; small; 8.75 mm thick	288-621	1
Lateral cover; Type 2; large; 8.75 mm thick	288-626	1
Foot for DIN-35 rail	288-622	1
Carrier base; Size 2; 1 m long	288-620	1
Cover; Size 2; 1 mm long	288-627	1

Accessories; for all mounting carriers

Marking strip

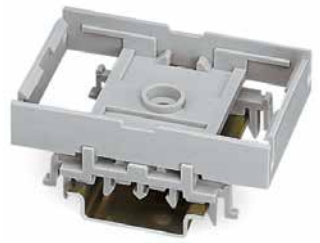


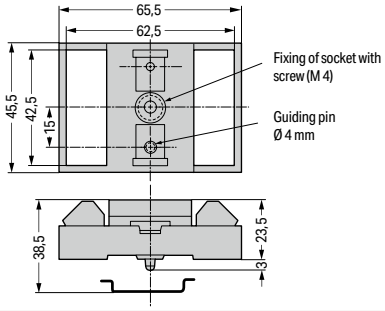
Description	Item No.	Pack. Unit
Phillips screw 2.9 x 13*	210-533	25
Marking strip 7.5 x 0.5 mm; 1 m long; translucent	709-196	1

* Two screws per lateral cover; for a module length of 35 mm or higher; lateral covers must be riveted for smaller modules. Rivet length depends on module length (rivets are not offered by WAGO).

PU = Packaging Unit; SPU = Subpackaging Unit

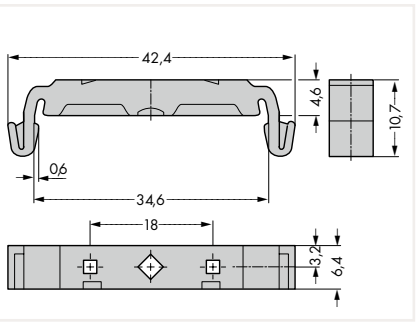
DIN-Rail-Mount PCB Carriers and Feet
288/209 Series





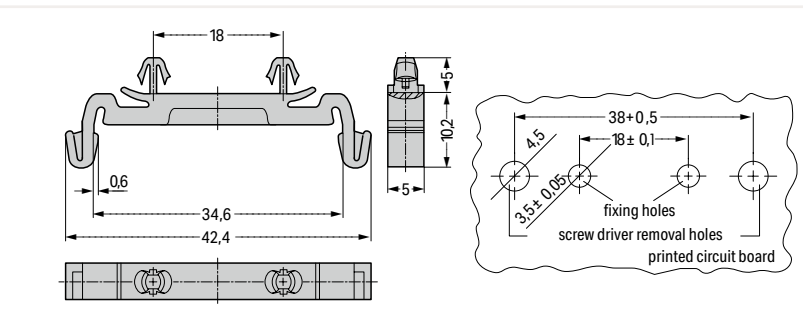
Mounting carrier			
Description		Item No.	Pack. Unit
Mounting carrier	For screw or DIN-rail mounting via universal snap-on type mounting feet (to be ordered separately)	288-001	1
Universal mounting foot	Snap-fit type; for DIN-15, DIN-32 and DIN-35 rails	288-002	10
Mounting carrier for PCBs	Suitable for a "Eurocard" PCB (100 x 160 mm)	288-003	1





Mounting foot			
Description		Item No.	Pack. Unit
Mounting foot		209-120	25
Mounting screw	for mounting foot (209-1209	209-119	50

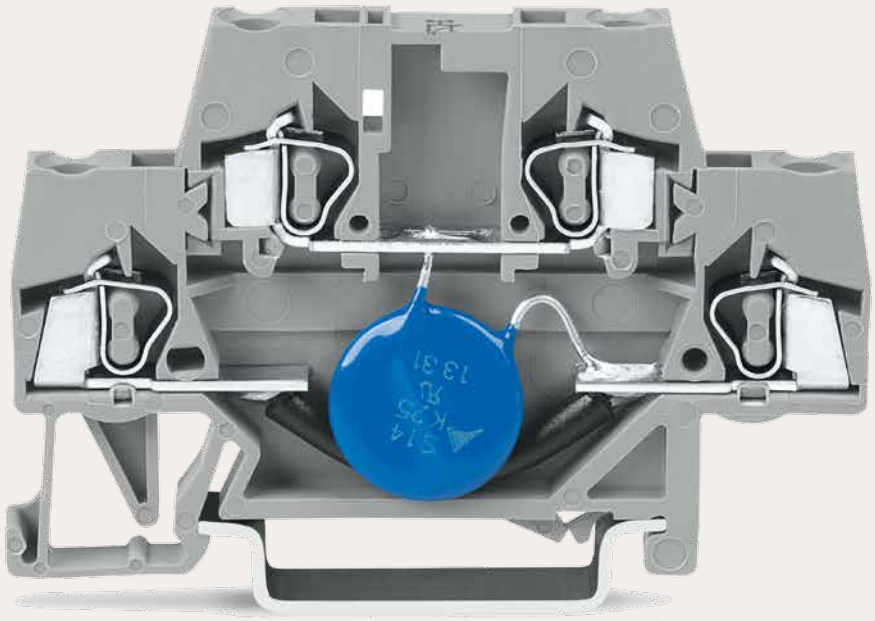




Mounting foot			
Description		Item No.	Pack. Unit
Mounting foot		209-188	25

9

PU = Packaging Unit; SPU = Subpackaging Unit



WAGO Overvoltage Protection

WAGO Overvoltage Protection



Rail-Mount Terminal Blocks with Overvoltage Protection Page
792 Series 728
Accessories 734

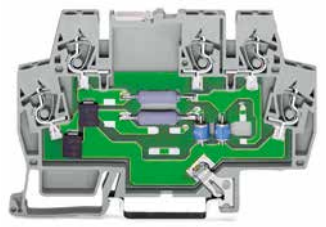


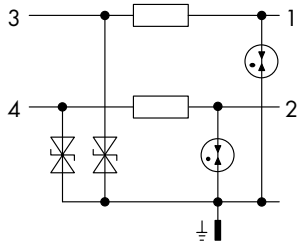
Rail-Mount Terminal Blocks with Surge Arresters
280 Series 736
Accessories 782



Double-Deck Terminal Blocks with Surge Arresters
280 Series 768
Accessories 782

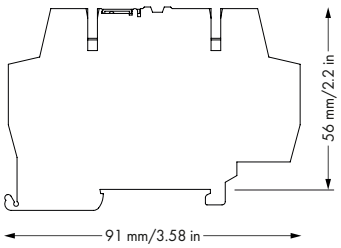
Rail-Mount Terminal Block; with Overvoltage Protection; for DIN-35 Rail
792 Series





Surge Protection Module for Signal Technology; Nominal voltage: 24 VDC; for 2 signal paths with common surge arrester; for asymmetric interfaces; 2-stage; 6 mm wide

Nominal Voltage	Item No.	Pack. Unit
24 VDC	792-800	1



Short description:
Surge protection devices for IT systems and devices in the voltage range up to 60 V (except custom solutions, e.g., telephone systems with ringing voltage)

Overvoltage protection is also possible for DIN-35 rail-mount terminal blocks. Multi-stage surge arresters in rail-mount terminal blocks (792-80x Series) of just 6 mm width ensure cost-effective protection for control and bus technology (e.g., LON® network, PROFIBUS network, binary signals).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	23 VAC / 33 VDC
Nominal current	0.5 A
Nominal discharge current I_{SN} (8/20 µs), line	5 kA
Nominal discharge current I_{SN} (8/20 µs), total	10 kA
Voltage protection level, line/line (cat. C2 at I_N)	≤ 65 V
Voltage protection level, line/PG (cat. C2 at I_N)	≤ 110 V
Voltage protection level, line/line (cat. C3 at I_N)	≤ 90 V
Voltage protection level, line/PG (cat. C3 at I_N)	≤ 45 V
Response time	≤ 1 ns
Limit frequency	6 MHz
Impedance	1.8 Ω
Capacitance (line/line)	≤ 0.5 nF
Capacitance (line/PG)	≤ 1 nF

Safety and Protection	
Protection class	IP00
Protection class with end and intermediate plate	IP20

Connection Data	
Connection points (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

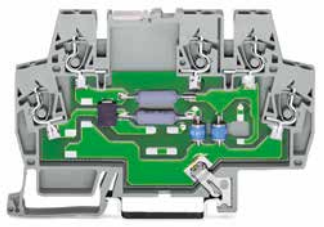
Mechanical Data	
Mounting type	DIN-35 rail

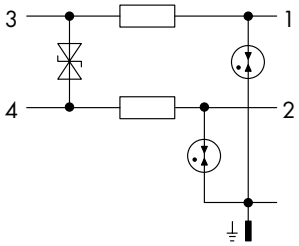
Material Data	
Weight	38.8 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +80 °C
Surrounding air temperature (storage)	–40 … +80 °C

Standards and Specifications	
Standards/specifications	IEC 61643-21

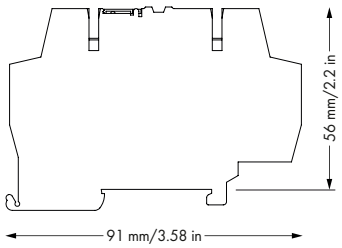
Rail-Mount Terminal Block; with Overvoltage Protection; for DIN-35 Rail
792 Series





Surge Protection Module for Signal Technology; Nominal voltage: 24 VDC; for 2 signal paths with common surge arrester; for symmetric interfaces; 2-stage; 6 mm wide

Nominal Voltage	Item No.	Pack. Unit
24 VDC	792-801	1



Short description:
Surge protection devices for IT systems and devices in the voltage range up to 60 V (except custom solutions, e.g., telephone systems with ringing voltage)

Overvoltage protection is also possible for DIN-35 rail-mount terminal blocks. Multi-stage surge arresters in rail-mount terminal blocks (792-80x Series) of just 6 mm width ensure cost-effective protection for control and bus technology (e.g., LON® network, PROFIBUS network, binary signals).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	23 VAC / 33 VDC
Nominal current	0.5 A
Nominal discharge current I_{SN} (8/20 µs), line	5 kA
Nominal discharge current I_{SN} (8/20 µs), total	10 kA
Voltage protection level, line/line (cat. C2 at I_N)	≤ 50 V
Voltage protection level, line/PG (cat. C2 at I_N)	≤ 750 V
Voltage protection level, line/line (cat. C3 at I_N)	≤ 45 V
Voltage protection level, line/PG (cat. C3 at I_N)	≤ 650 V
Response time	≤ 100 ns
Limit frequency	6 MHz
Impedance	1.8 Ω
Capacitance (line/line)	≤ 1 nF
Capacitance (line/PG)	≤ 5 pF

Safety and Protection	
Protection class	IP00
Protection class with end and intermediate plate	IP20

Connection Data	
Connection points (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

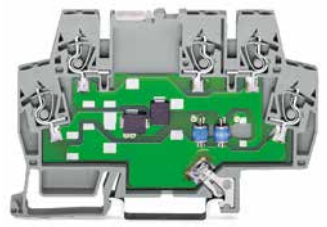
Material Data	
Weight	38.7 g

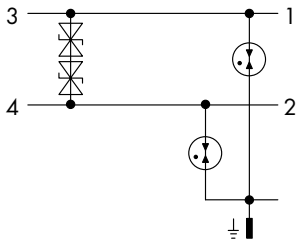
Environmental Requirements	
Surrounding air temperature (operation)	–40 … +80 °C
Surrounding air temperature (storage)	–40 … +80 °C

Standards and Specifications	
Standards/specifications	IEC 61643-21

10

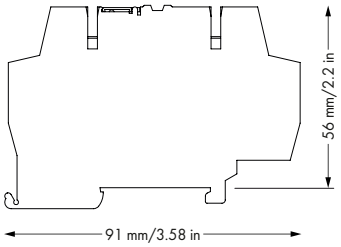
Rail-Mount Terminal Block; with Overvoltage Protection; for DIN-35 Rail
792 Series





Surge Protection Module for Signal Technology; Nominal voltage: 24 VDC; for 2 signal paths with common surge arrester; for supply lines; 1-stage; 6 mm wide

Nominal Voltage	Item No.	Pack. Unit
24 VDC	792-802	1



Short description:
Surge protection devices for IT systems and devices in the voltage range up to 60 V (except custom solutions, e.g., telephone systems with ringing voltage)

Overvoltage protection is also possible for DIN-35 rail-mount terminal blocks. Multi-stage surge arresters in rail-mount terminal blocks (792-80x Series) of just 6 mm width ensure cost-effective protection for control and bus technology (e.g., LON® network, PROFIBUS network, binary signals).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	23 VAC / 33 VDC
Nominal current	10 A
Nominal discharge current I_{SN} (8/20 µs), line	300 A
Nominal discharge current I_{SN} (8/20 µs), total	5 kA
Voltage protection level, line/line (cat. C2 at I_N)	≤ 50 V
Voltage protection level, line/PG (cat. C2 at I_N)	≤ 750 V
Voltage protection level, line/line (cat. C3 at I_N)	≤ 45 V
Voltage protection level, line/PG (cat. C3 at I_N)	≤ 650 V
Response time (line/line)	≤ 1 ns
Response time (line/PG)	≤ 100 ns
Limit frequency	7 MHz
Capacitance (line/line)	≤ 1 nF
Capacitance (line/PG)	≤ 12 pF

Safety and Protection	
Protection class	IP00
Protection class with end and intermediate plate	IP20

Connection Data	
Connection points (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

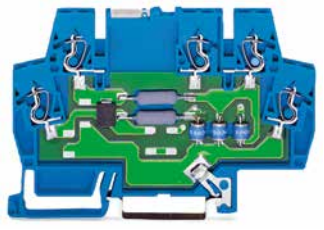
Mechanical Data	
Mounting type	DIN-35 rail

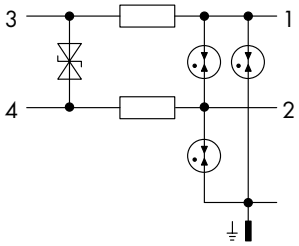
Material Data	
Weight	38 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +80 °C
Surrounding air temperature (storage)	–40 … +80 °C

Standards and Specifications	
Standards/specifications	IEC 61643-21

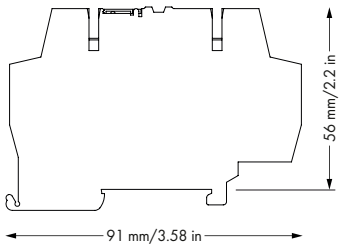
Rail-Mount Terminal Block; with Overvoltage Protection; for DIN-35 Rail
792 Series





Surge Protection Module for Signal Technology; Nominal voltage: 24 VDC; for 2 signal paths with common surge arrester; for symmetric interfaces; 2-stage; protects intrinsically safe circuits; 6 mm wide

Nominal Voltage	Item No.	Pack. Unit
24 VDC	792-803	1



Short description:
Surge protection devices for IT systems and devices in the voltage range up to 60 V (except custom solutions, e.g., telephone systems with ringing voltage)

Overvoltage protection is also possible for DIN-35 rail-mount terminal blocks. Multi-stage surge arresters in rail-mount terminal blocks (792-80x Series) of just 6 mm width ensure cost-effective protection for control and bus technology (e.g., LON® network, PROFIBUS network, binary signals).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	23 VAC / 33 VDC
Input voltage (max.) per EN 50020 U_i	30 V
Nominal current	0.5 A
Input current (max.) per EN 50020 I_i	0.5 A
Nominal discharge current I_{SN} (8/20 µs), line	5 kA
Nominal discharge current I_{SN} (8/20 µs), total	10 kA
Voltage protection level, line/line (cat. C2 at I_N)	≤ 1.5 kV
Voltage protection level, line/PG (cat. C2 at I_N)	≤ 50 V
Voltage protection level, line/line (cat. C3 at I_N)	≤ 45 V
Voltage protection level, line/PG (cat. C3 at I_N)	≤ 1.4 kV
Response time (line/line)	≤ 1 ns
Response time (line/PG)	≤ 100 ns
Limit frequency	6 MHz
Impedance	1.8 Ω
Capacitance (line/line)	≤ 1 nF
Capacitance (line/PG)	≤ 6 pF

Safety and Protection	
Protection class	IP00
Protection class with end and intermediate plate	IP20

Connection Data	
Connection points (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

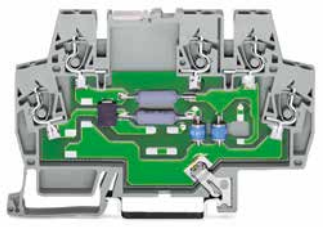
Mechanical Data	
Mounting type	DIN-35 rail

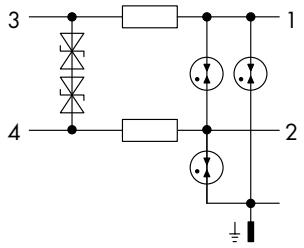
Material Data	
Color	Blue
Weight	38.3 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +80 °C
Surrounding air temperature (storage)	–40 … +80 °C

Standards and Specifications	
Standards/specifications	IEC 61643-21

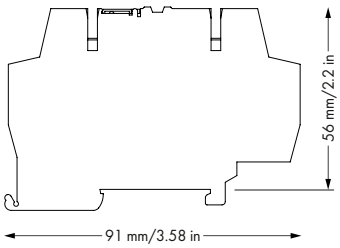
Rail-Mount Terminal Block; with Overvoltage Protection; for DIN-35 Rail
792 Series





Surge Protection Module for Signal Technology; Nominal voltage: 48 VDC; for 2 signal paths with common surge arrester; for symmetric interfaces; 2-stage; 6 mm wide

Nominal Voltage	Item No.	Pack. Unit
48 VDC	792-804	1



Short description:
Surge protection devices for IT systems and devices in the voltage range up to 60 V (except custom solutions, e.g., telephone systems with ringing voltage)

Overvoltage protection is also possible for DIN-35 rail-mount terminal blocks. Multi-stage surge arresters in rail-mount terminal blocks (792-80x Series) of just 6 mm width ensure cost-effective protection for control and bus technology (e.g., LON® network, PROFIBUS network, binary signals).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Note:
The coordination characteristics of the surge arrester provide information about its discharge capacity and protection capability.

Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	38.5 VAC / 55 VDC
Nominal current	1.7 A
Nominal discharge current I_{SN} (8/20 µs), line	5 kA
Nominal discharge current I_{SN} (8/20 µs), total	10 kA
Voltage protection level, line/line (cat. C2 at I_N)	≤ 100 V
Voltage protection level, line/PG (cat. C2 at I_N)	≤ 750 V
Voltage protection level, line/line (cat. C3 at I_N)	≤ 70 V
Voltage protection level, line/PG (cat. C3 at I_N)	≤ 650 V
Response time (line/line)	≤ 1 ns
Response time (line/PG)	≤ 100 ns
Limit frequency	10 MHz
Impedance	0.4 Ω
Capacitance (line/line)	≤ 10 pF
Capacitance (line/PG)	≤ 0.6 pF

Safety and Protection	
Protection class	IP00
Protection class with end and intermediate plate	IP20

Connection Data	
Connection points (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

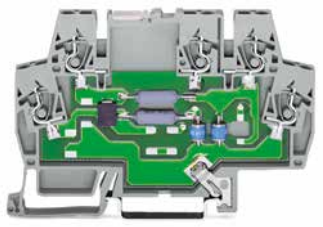
Mechanical Data	
Mounting type	DIN-35 rail

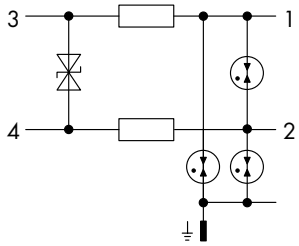
Material Data	
Weight	39.4 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +80 °C
Surrounding air temperature (storage)	–40 … +80 °C

Standards and Specifications	
Standards/specifications	IEC 61643-21

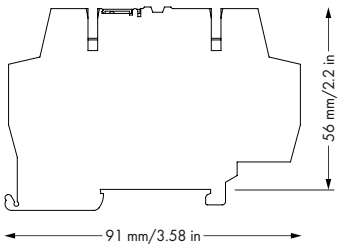
Rail-Mount Terminal Block; with Overvoltage Protection; for DIN-35 Rail
792 Series





Surge Protection Module for Signal Technology; Nominal voltage: 5 VDC; for 2 signal paths with common surge arrester; for symmetric interfaces; 2-stage; for interfaces with high data rates; 6 mm wide

Nominal Voltage	Item No.	Pack. Unit
5 VDC	792-805	1



Short description:
Surge protection devices for IT systems and devices in the voltage range up to 60 V (except custom solutions, e.g., telephone systems with ringing voltage)

Overvoltage protection is also possible for DIN-35 rail-mount terminal blocks. Multi-stage surge arresters in rail-mount terminal blocks (792-80x Series) of just 6 mm width ensure cost-effective protection for control and bus technology (e.g., LON® network, PROFIBUS network, binary signals).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	5 VDC
Maximum continuous operating voltage	4.2 VAC / 6 VDC
Nominal current	0.1 A
Nominal discharge current I_{SN} (8/20 µs), line	5 kA
Nominal discharge current I_{SN} (8/20 µs), total	10 kA
Voltage protection level, line/line (cat. C2 at I_N)	≤ 27 V
Voltage protection level, line/PG (cat. C2 at I_N)	≤ 50 V
Voltage protection level, line/line (cat. C3 at I_N)	≤ 14 V
Voltage protection level, line/PG (cat. C3 at I_N)	≤ 14 V
Response time (line/line)	≤ 1 ns
Limit frequency	250 MHz
Impedance	1 Ω
Capacitance (line/line)	≤ 19 pF
Capacitance (line/PG)	≤ 16 pF

Safety and Protection	
Protection class	IP00
Protection class with end and intermediate plate	IP20

Connection Data	
Connection points (number)	5
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	5 … 6 mm / 0.2 … 0.24 inch

Physical Data	
Width	6 mm / 0.236 inch
Height from upper-edge of DIN-rail	56 mm / 2.205 inch
Depth	91 mm / 3.583 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	38 g

Environmental Requirements	
Surrounding air temperature (operation)	–40 … +80 °C
Surrounding air temperature (storage)	–40 … +80 °C

Standards and Specifications	
Standards/specifications	IEC 61643-21

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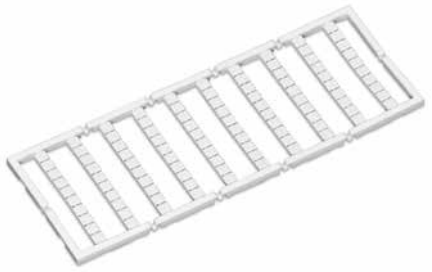
Accessories



End and intermediate plate; 1 mm thick		
	Item No.	Pack. Unit
	859-525	100



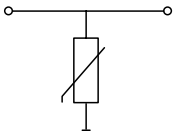
Push-in type jumper bar; light gray; insulated; 18 A		
Description	**Item No.**	Pack. Unit
2-way	**859-402**	200
3-way	**859-403**	200
4-way	**859-404**	200
5-way	**859-405**	200
6-way	**859-406**	100
7-way	**859-407**	100
8-way	**859-408**	100
9-way	**859-409**	100
10-way	**859-410**	100
Item no. suffixes for colored push-in type jumper bars		
yellow	**... /000-029**	
red	**... /000-005**	
Blue	**... /000-006**	



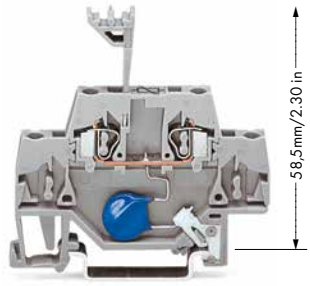
Mini-WSB marker card; Marker width: 5 mm; 10 strips with 10 markers/card		
Marking	**Item No.**	Pack. Unit
plain	**248-501**	50
1 ... 10 (10 x)	**248-502**	5
11 ... 20 (10 x)	**248-503**	5
21 ... 30 (10 x)	**248-504**	5
31 ... 40 (10 x)	**248-505**	5
41 ... 50 (10 x)	**248-506**	5
1 ... 50 (2 x)	**248-566**	5
K1 ... K10	**248-450**	50
K11 ... K20	**248-451**	50
K100	**248-452**	50
U1 ... U10	**248-453**	50
U11 ... U20	**248-454**	50
U100	**248-455**	50

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor; with direct connection to DIN-rail; 24 VDC		
U_{BN}	**Item No.**	Pack. Unit
24 VDC	**280-502/281-609**	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	31 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	60 A
Discharge current (max.)	0.25 kA
Voltage protection level (8/20 µs)	≤ 77 VDC
Capacitance	≤ 1.25 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

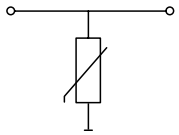
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

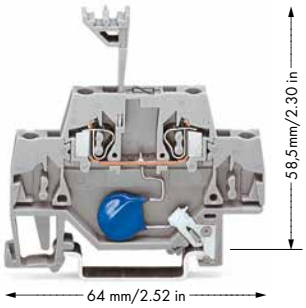
Material Data	
Weight	8.4 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor; with direct connection to DIN-rail; 48 VDC		
U_{BN}	**Item No.**	Pack. Unit
48 VDC	**280-502/281-610**	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	65 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1.2 kA
Voltage protection level (8/20 µs)	≤ 135 VDC
Capacitance	≤ 0.5 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

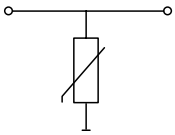
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

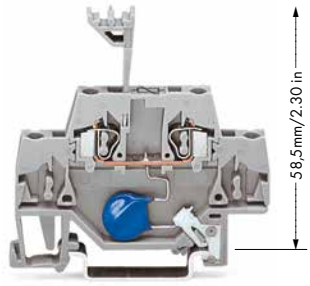
Material Data	
Weight	8.5 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor; with direct connection to DIN-rail; 60 VDC		
U_{BN}	Item No.	Pack. Unit
60 VDC	280-502/281-611	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	60 VDC
Maximum continuous operating voltage	85 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1.2 kA
Voltage protection level (8/20 µs)	≤ 165 VDC
Capacitance	≤ 0.48 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

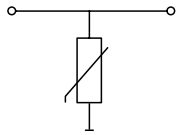
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

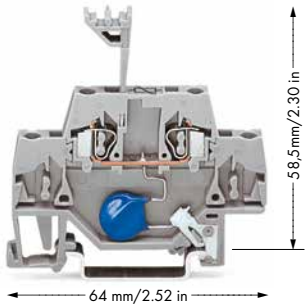
Material Data	
Weight	8.5 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor; with direct connection to DIN-rail; 110 VDC		
U_{BN}	**Item No.**	Pack. Unit
110 VDC	**280-502/281-612**	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	110 VDC
Maximum continuous operating voltage	150 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1.2 kA
Voltage protection level (8/20 µs)	≤ 300 VDC
Capacitance	≤ 0.22 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

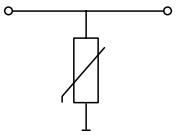
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

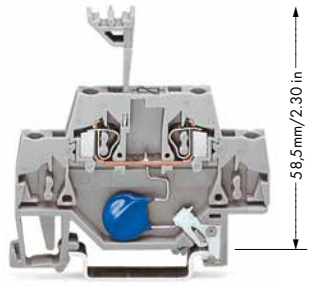
Material Data	
Weight	8.7 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor; with direct connection to DIN-rail; 24 VAC		
U_{BN}	**Item No.**	Pack. Unit
24 VAC	**280-502/281-613**	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VAC
Maximum continuous operating voltage	30 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	60 A
Discharge current (max.)	0.25 kA
Voltage protection level (8/20 µs)	≤ 93 VAC
Capacitance	≤ 1.05 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

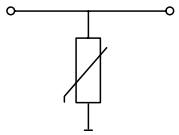
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

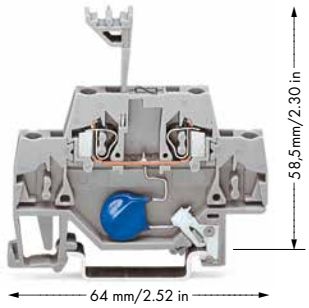
Material Data	
Weight	8.4 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor; with direct connection to DIN-rail; 115 VAC		
U_{BN}	**Item No.**	Pack. Unit
115 VAC	**280-502/281-614**	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	115 VAC
Maximum continuous operating voltage	140 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1.2 kA
Voltage protection level (8/20 µs)	≤ 360 VAC
Capacitance	≤ 0.18 nF

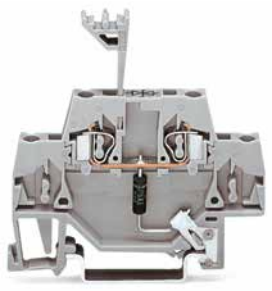
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

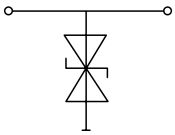
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

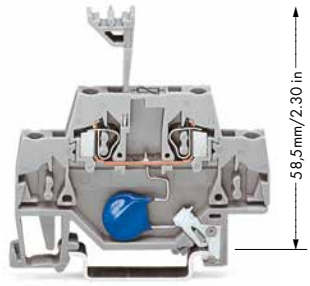
Material Data	
Weight	8.6 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode ; with direct connection to DIN-rail; 24 VDC		
U_{BN}	**Item No.**	Pack. Unit
24 VDC	**280-502/281-602**	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	30.8 VDC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	12 A
Voltage protection level (10/1000 µs)	≤ 50 VDC
Capacitance	≤ 1 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

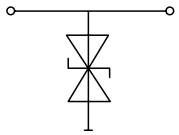
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

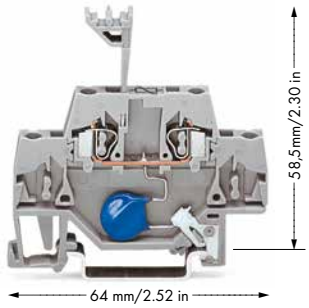
Material Data	
Weight	8.3 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode ; with direct connection to DIN-rail; 48 VDC		
U_{BN}	**Item No.**	Pack. Unit
48 VDC	**280-502/281-603**	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	58 VDC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	6.5 A
Voltage protection level (10/1000 µs)	≤ 92 VDC
Capacitance	≤ 0.63 nF

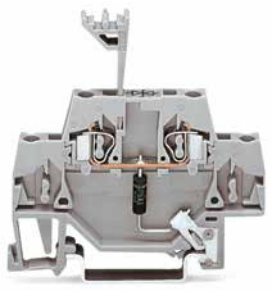
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

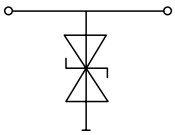
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

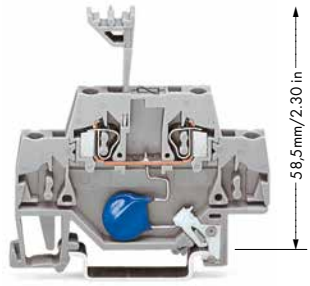
Material Data	
Weight	8.2 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode ; with direct connection to DIN-rail; 60 VDC		
U_{BN}	**Item No.**	Pack. Unit
60 VDC	**280-502/281-604**	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	60 VDC
Maximum continuous operating voltage	77 VDC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	4.8 A
Voltage protection level (10/1000 µs)	≤ 125 VDC
Capacitance	≤ 0.55 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

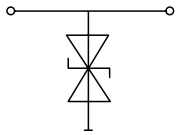
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

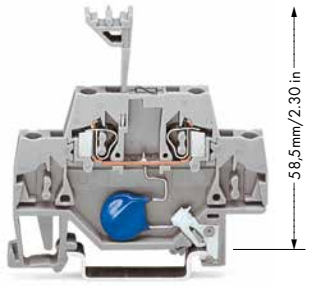
Material Data	
Weight	8.5 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode ; with direct connection to DIN-rail; 110 VDC		
U_{BN}	**Item No.**	Pack. Unit
110 VDC	**280-502/281-605**	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	110 VDC
Maximum continuous operating voltage	136 VDC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	2.7 A
Voltage protection level (10/1000 µs)	≤ 219 VDC
Capacitance	≤ 0.4 nF

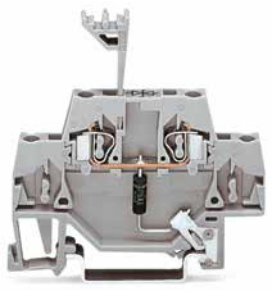
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

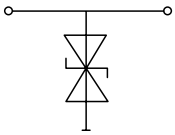
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

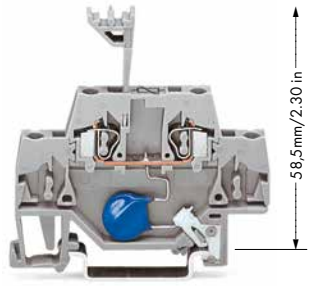
Material Data	
Weight	8.1 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode ; with direct connection to DIN-rail; 24 VAC		
U_{BN}	**Item No.**	Pack. Unit
24 VAC	**280-502/281-606**	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VAC
Maximum continuous operating voltage	28 VAC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	9.3 A
Voltage protection level (10/1000 µs)	≤ 65 VAC
Capacitance	≤ 0.8 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

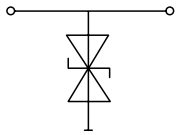
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

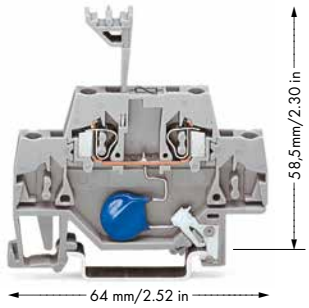
Material Data	
Weight	8.2 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode ; with direct connection to DIN-rail; 115 VAC		
U_{BN}	**Item No.**	Pack. Unit
115 VAC	**280-502/281-607**	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	115 VAC
Maximum continuous operating voltage	133 VAC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	1.7 A
Voltage protection level (10/1000 µs)	≤ 384 VAC
Capacitance	≤ 0.36 nF

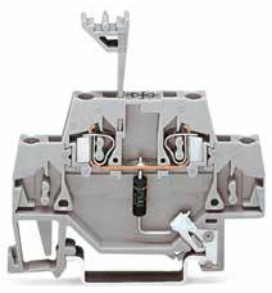
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

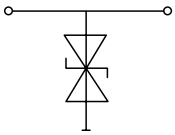
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

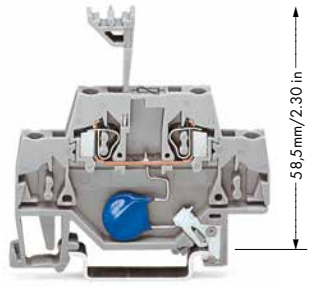
Material Data	
Weight	8.1 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode ; with direct connection to DIN-rail; 230 VAC		
U_{BN}	**Item No.**	Pack. Unit
230 VAC	**280-502/281-608**	50



Short description:
Terminal blocks with surge arresters and direct connection to the DIN-35 rail; these single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	230 VAC
Maximum continuous operating voltage	253 VAC
Rated continuous current	20 A
Nominal discharge current (10/1000 µs), line	1.1 A
Voltage protection level (10/1000 µs)	≤ 548 VAC
Capacitance	≤ 0.36 nF

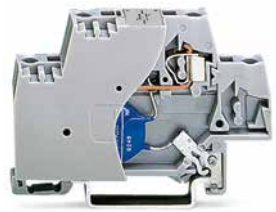
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

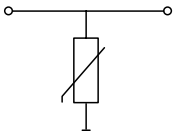
Physical Data	
Width	5 mm / 0.197 inch
Height from upper-edge of DIN-rail	58,5 mm / 2.303 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

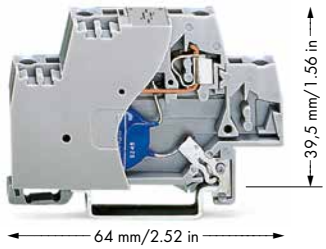
Material Data	
Weight	8.3 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor and End Plate; with direct connection to DIN-rail; 24 VDC		
U_{BN}	**Item No.**	Pack. Unit
24 VDC	**280-502/281-582**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	31 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1 kA
Voltage protection level (8/20 µs)	≤ 77 VDC
Capacitance	≤ 4.6 nF

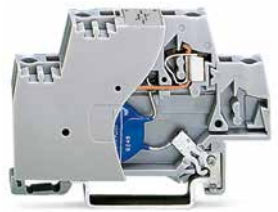
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

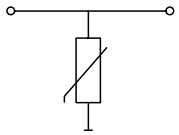
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

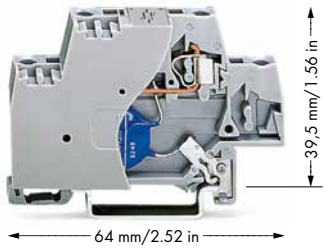
Material Data	
Weight	12.8 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor and End Plate; with direct connection to DIN-rail; 48 VDC		
U_{BN}	**Item No.**	Pack. Unit
48 VDC	**280-502/281-583**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	56 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1 kA
Voltage protection level (8/20 µs)	≤ 135 VDC
Capacitance	≤ 2.8 nF

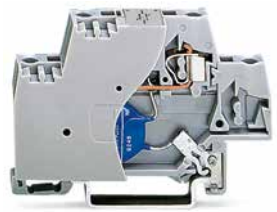
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

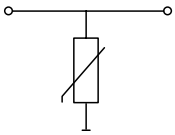
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

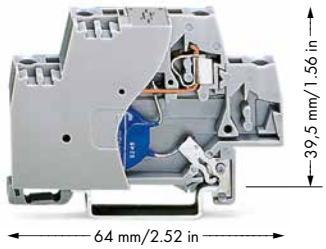
Material Data	
Weight	13.4 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor and End Plate; with direct connection to DIN-rail; 60 VDC		
U_{BN}	**Item No.**	Pack. Unit
60 VDC	**280-502/281-584**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	60 VDC
Maximum continuous operating voltage	85 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 165 VDC
Capacitance	≤ 1.7 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

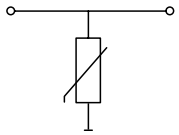
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

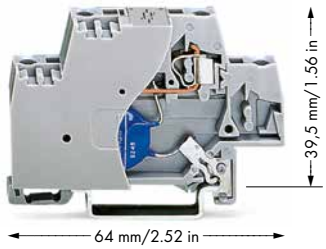
Material Data	
Weight	12.7 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor and End Plate; with direct connection to DIN-rail; 110 VDC		
U_{BN}	**Item No.**	Pack. Unit
110 VDC	**280-502/281-585**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	110 VDC
Maximum continuous operating voltage	150 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 300 VDC
Capacitance	≤ 0.8 nF

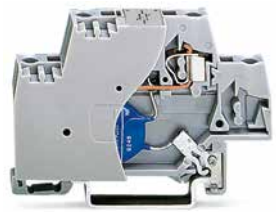
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

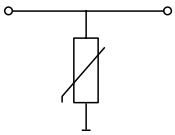
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

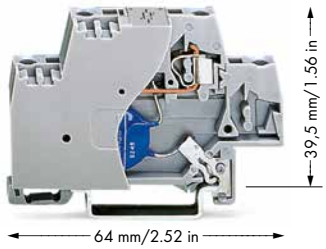
Material Data	
Weight	12.5 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor and End Plate; with direct connection to DIN-rail; 24 VAC		
U_{BN}	**Item No.**	Pack. Unit
24 VAC	**280-502/281-586**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VAC
Maximum continuous operating voltage	30 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1 kA
Voltage protection level (8/20 µs)	≤ 93 VAC
Capacitance	≤ 3.5 nF

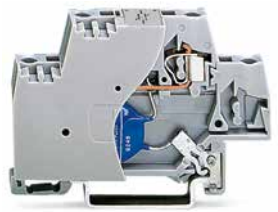
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

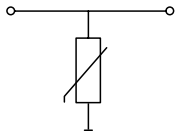
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

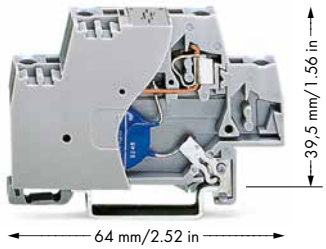
Material Data	
Weight	13.1 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor and End Plate; with direct connection to DIN-rail; 115 VAC		
U_{BN}	**Item No.**	Pack. Unit
115 VAC	**280-502/281-587**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	115 VAC
Maximum continuous operating voltage	150 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 395 VAC
Capacitance	≤ 0.57 nF

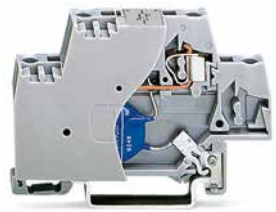
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

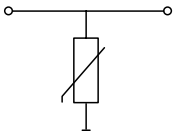
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

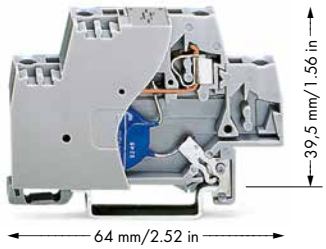
Material Data	
Weight	12.6 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Varistor and End Plate; with direct connection to DIN-rail; 230 VAC		
U_{BN}	**Item No.**	Pack. Unit
230 VAC	**280-502/281-588**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	230 VAC
Maximum continuous operating voltage	275 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 710 VAC
Capacitance	≤ 0.32 nF

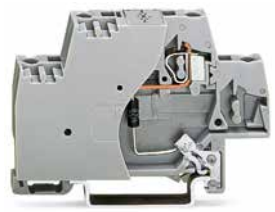
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

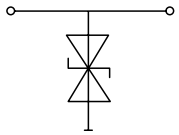
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

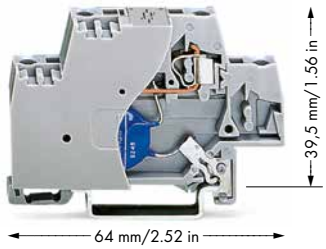
Material Data	
Weight	13.1 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode and End Plate; with direct connection to DIN-rail; 24 VDC		
U_{BN}	**Item No.**	Pack. Unit
24 VDC	**280-502/281-589**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	28 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	169 A
Voltage protection level (8/20 µs)	≤ 59 VDC
Capacitance	≤ 2.7 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

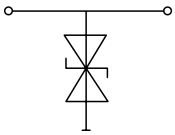
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

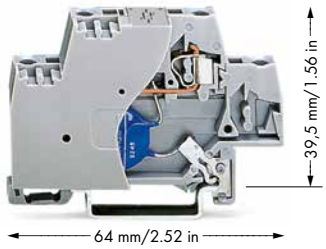
Material Data	
Weight	11.9 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode and End Plate; with direct connection to DIN-rail; 48 VDC		
U_{BN}	**Item No.**	Pack. Unit
48 VDC	**280-502/281-590**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	53 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	90 A
Voltage protection level (8/20 µs)	≤ 111 VDC
Capacitance	≤ 1.7 nF

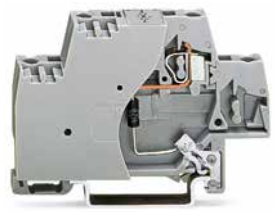
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

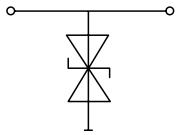
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

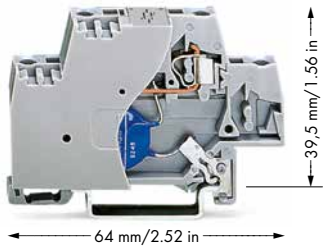
Material Data	
Weight	12 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode and End Plate; with direct connection to DIN-rail; 60 VDC		
U_{BN}	**Item No.**	Pack. Unit
60 VDC	**280-502/281-591**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	60 VDC
Maximum continuous operating voltage	70 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	69 A
Voltage protection level (8/20 µs)	≤ 146 VDC
Capacitance	≤ 1.35 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

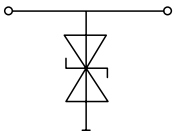
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

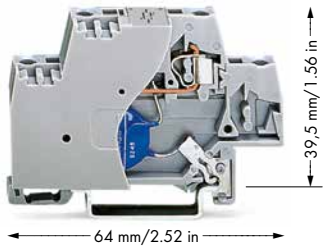
Material Data	
Weight	12.1 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode and End Plate; with direct connection to DIN-rail; 110 VDC		
U_{BN}	**Item No.**	Pack. Unit
110 VDC	**280-502/281-592**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	110 VDC
Maximum continuous operating voltage	128 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	38 A
Voltage protection level (8/20 µs)	≤ 265 VDC
Capacitance	≤ 0.85 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

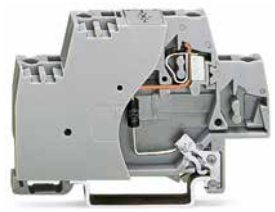
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

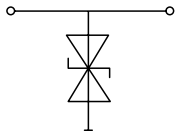
Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	12.2 g

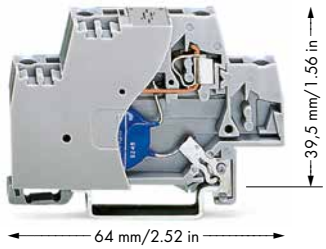
10

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode and End Plate; with direct connection to DIN-rail; 24 VAC		
U_{BN}	**Item No.**	Pack. Unit
24 VAC	**280-502/281-593**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VAC
Maximum continuous operating voltage	26 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	143 A
Voltage protection level (8/20 µs)	≤ 70 VAC
Capacitance	≤ 2.4 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

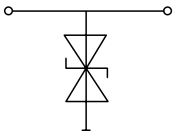
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

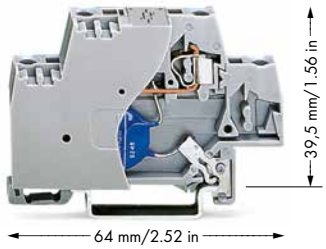
Material Data	
Weight	12.1 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode and End Plate; with direct connection to DIN-rail; 115 VAC		
U_{BN}	**Item No.**	Pack. Unit
115 VAC	**280-502/281-594**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	115 VAC
Maximum continuous operating voltage	133 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	26 A
Voltage protection level (8/20 µs)	≤ 388 VAC
Capacitance	≤ 0.63 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

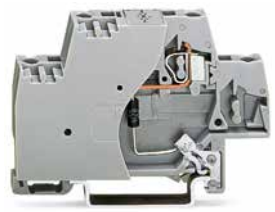
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

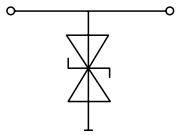
Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	12 g

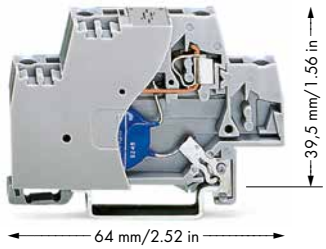
10

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Suppressor Diode and End Plate; with direct connection to DIN-rail; 230 VAC		
U_{BN}	**Item No.**	Pack. Unit
230 VAC	**280-502/281-595**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	230 VAC
Maximum continuous operating voltage	253 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	14 A
Voltage protection level (8/20 µs)	≤ 706 VAC
Capacitance	≤ 0.4 nF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

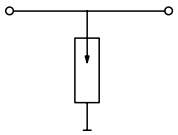
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

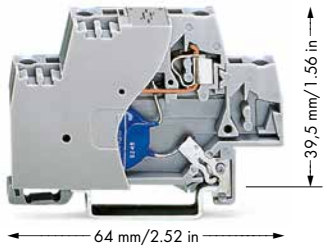
Material Data	
Weight	12.1 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Gas-Filled Surge Arrester and End Plate; with direct connection to DIN-rail; 24 VAC/DC		
U_{BN}	**Item No.**	Pack. Unit
24 VAC/DC	**280-503/281-579**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VAC/DC
Maximum continuous operating voltage	70 VAC / 90 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	5 kA
Voltage protection level (8/20 µs)	≤ 600 VAC
Capacitance	≤ 2 pF

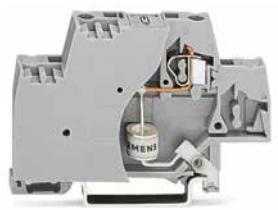
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

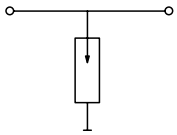
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

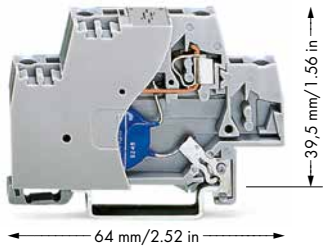
Material Data	
Weight	13 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Gas-Filled Surge Arrester and End Plate; with direct connection to DIN-rail; 115 VAC/DC		
U_{BN}	**Item No.**	Pack. Unit
115 VAC/DC	**280-503/281-580**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	115 VAC/DC
Maximum continuous operating voltage	180 VAC / 230 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	5 kA
Voltage protection level (8/20 µs)	≤ 650 VAC
Capacitance	≤ 2 pF

Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

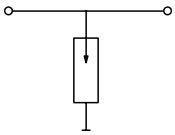
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

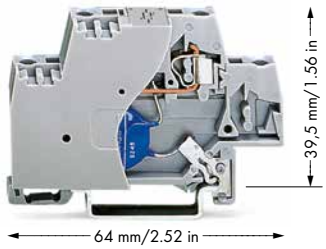
Material Data	
Weight	12.3 g

Rail-Mount Terminal Block; with Surge Arrester; with Direct Connection to the DIN-35 Rail
280 Series





Terminal Block with Gas-Filled Surge Arrester and End Plate; with direct connection to DIN-rail; 230 VAC/DC		
U_{BN}	**Item No.**	Pack. Unit
230 VAC/DC	**280-503/281-581**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	230 VAC/DC
Maximum continuous operating voltage	450 VAC / 600 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	5 kA
Voltage protection level (8/20 µs)	≤ 1100 VAC
Capacitance	≤ 2 pF

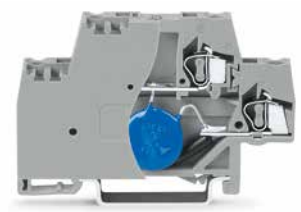
Connection Data	
Connection points (number)	2
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

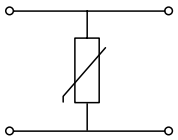
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

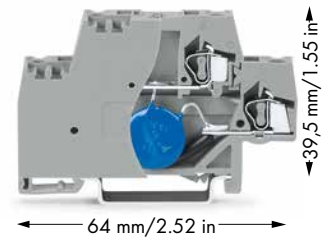
Material Data	
Weight	12.7 g

Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Varistor and End Plate; 24 VDC		
U_{BN}	**Item No.**	Pack. Unit
24 VDC	**280-504/281-582**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	31 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1 kA
Voltage protection level (8/20 µs)	≤ 77 VDC
Capacitance	≤ 4.6 nF

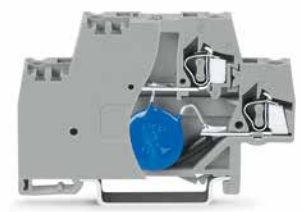
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

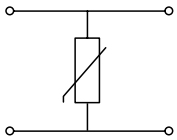
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

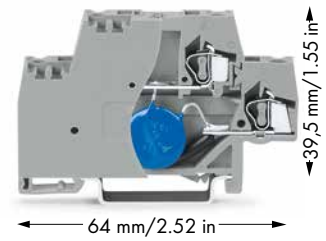
Material Data	
Weight	15.5 g

Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Varistor and End Plate; 48 VDC		
U_{BN}	Item No.	Pack. Unit
48 VDC	280-504/281-583	25



Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	56 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1 kA
Voltage protection level (8/20 µs)	≤ 135 VDC
Capacitance	≤ 2.8 nF

Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

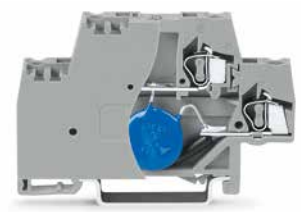
Mechanical Data	
Mounting type	DIN-35 rail

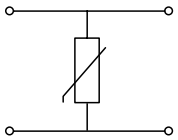
Material Data	
Weight	16 g

Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

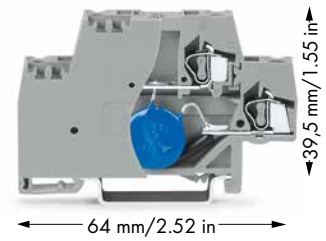
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Varistor and End Plate; 60 VDC		
U_{BN}	**Item No.**	Pack. Unit
60 VDC	**280-504/281-584**	25



Electrical Data	
Nominal operating voltage	60 VDC
Maximum continuous operating voltage	85 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 165 VDC
Capacitance	≤ 1.7 nF

Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

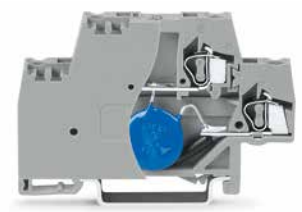
Material Data	
Weight	15.2 g

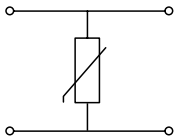
Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

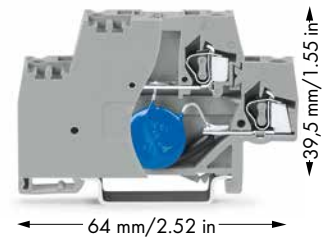
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Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Varistor and End Plate; 110 VDC		
U_{BN}	Item No.	Pack. Unit
110 VDC	280-504/281-585	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	110 VDC
Maximum continuous operating voltage	150 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 300 VDC
Capacitance	≤ 0.8 nF

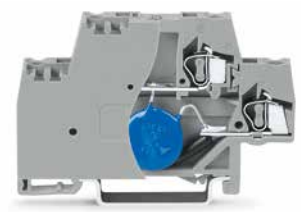
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

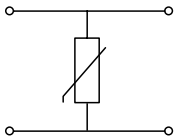
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

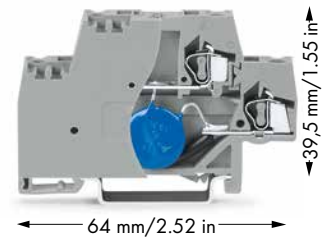
Material Data	
Weight	15.2 g

Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Varistor and End Plate; 24 VAC		
U_{BN}	**Item No.**	Pack. Unit
24 VAC	**280-504/281-586**	25



Electrical Data	
Nominal operating voltage	24 VAC
Maximum continuous operating voltage	30 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	300 A
Discharge current (max.)	1 kA
Voltage protection level (8/20 µs)	≤ 93 VAC
Capacitance	≤ 3.5 nF

Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

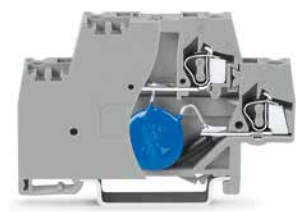
Material Data	
Weight	15.5 g

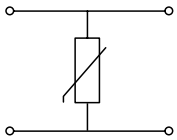
Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

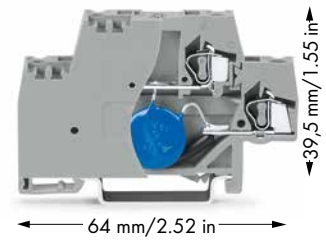
10

Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Varistor and End Plate; 115 VAC		
U_{BN}	Item No.	Pack. Unit
115 VAC	280-504/281-587	25



Electrical Data	
Nominal operating voltage	115 VAC
Maximum continuous operating voltage	150 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 395 VAC
Capacitance	≤ 0.57 nF

Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

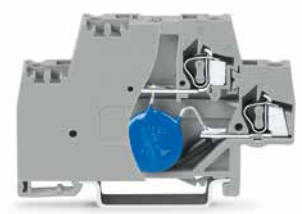
Mechanical Data	
Mounting type	DIN-35 rail

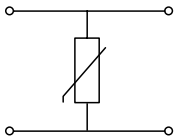
Material Data	
Weight	15.9 g

Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

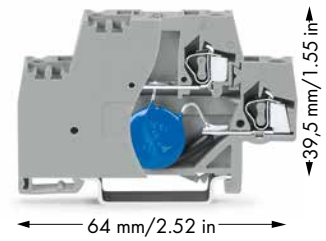
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Varistor and End Plate; 230 VAC		
U_{BN}	**Item No.**	Pack. Unit
230 VAC	**280-504/281-588**	25



Electrical Data	
Nominal operating voltage	230 VAC
Maximum continuous operating voltage	275 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	1 kA
Discharge current (max.)	4.5 kA
Voltage protection level (8/20 µs)	≤ 710 VAC
Capacitance	≤ 0.32 nF

Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

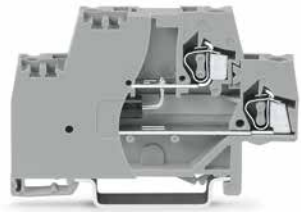
Mechanical Data	
Mounting type	DIN-35 rail

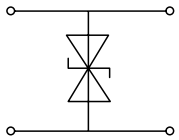
Material Data	
Weight	15.8 g

Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

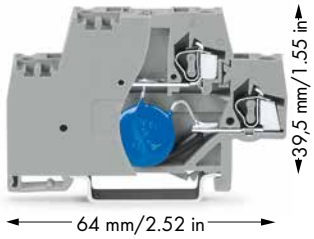
Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Suppressor Diode and End Plate; 24 VDC		
U_{BN}	**Item No.**	Pack. Unit
24 VDC	**280-944/281-589**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VDC
Maximum continuous operating voltage	28 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	169 A
Voltage protection level (8/20 µs)	≤ 59 VDC
Capacitance	≤ 2.7 nF

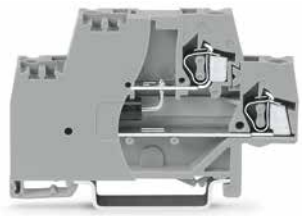
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

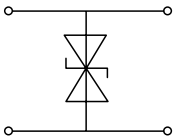
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

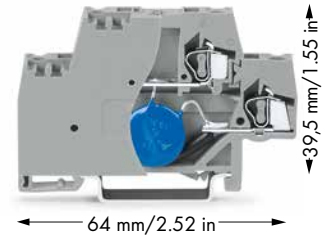
Material Data	
Weight	13.6 g

Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Suppressor Diode and End Plate; 48 VDC		
U_{BN}	**Item No.**	Pack. Unit
48 VDC	**280-944/281-590**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	48 VDC
Maximum continuous operating voltage	53 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	90 A
Voltage protection level (8/20 µs)	≤ 111 VDC
Capacitance	≤ 1.7 nF

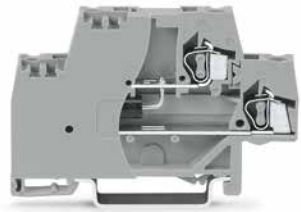
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

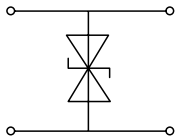
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

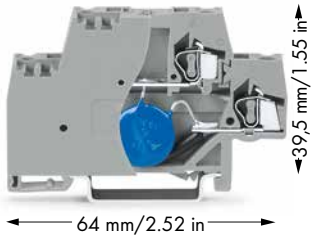
Material Data	
Weight	14 g

Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Suppressor Diode and End Plate; 60 VDC		
U_{BN}	**Item No.**	Pack. Unit
60 VDC	**280-944/281-591**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	60 VDC
Maximum continuous operating voltage	70 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	69 A
Voltage protection level (8/20 µs)	≤ 146 VDC
Capacitance	≤ 1.35 nF

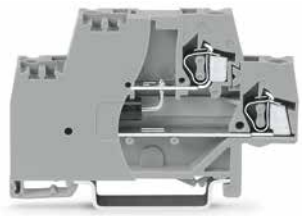
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

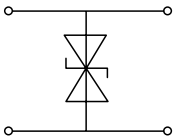
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

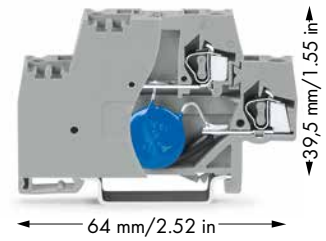
Material Data	
Weight	14.2 g

Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Suppressor Diode and End Plate; 110 VDC		
U_{BN}	**Item No.**	Pack. Unit
110 VDC	**280-944/281-592**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	110 VDC
Maximum continuous operating voltage	128 VDC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	38 A
Voltage protection level (8/20 µs)	≤ 265 VDC
Capacitance	≤ 0.85 nF

Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

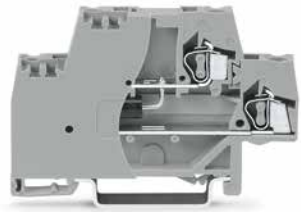
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

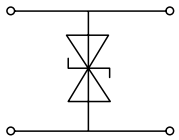
Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	14.2 g

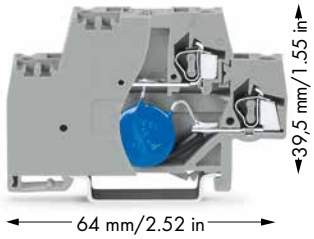
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Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Suppressor Diode and End Plate; 24 VAC		
U_{BN}	**Item No.**	Pack. Unit
24 VAC	**280-944/281-593**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	24 VAC
Maximum continuous operating voltage	26 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	143 A
Voltage protection level (8/20 µs)	≤ 70 VAC
Capacitance	≤ 2.4 nF

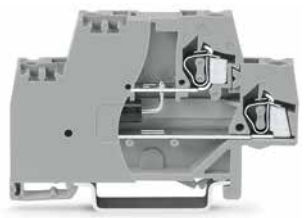
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

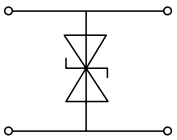
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

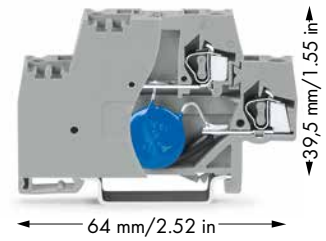
Material Data	
Weight	14.2 g

Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Suppressor Diode and End Plate; 115 VAC		
U_{BN}	**Item No.**	Pack. Unit
115 VAC	**280-944/281-594**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	115 VAC
Maximum continuous operating voltage	133 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	26 A
Voltage protection level (8/20 µs)	≤ 388 VAC
Capacitance	≤ 0.63 nF

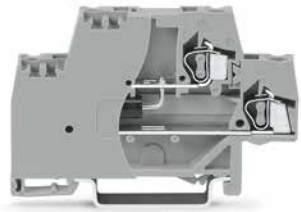
Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

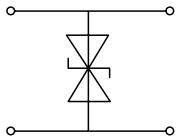
Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

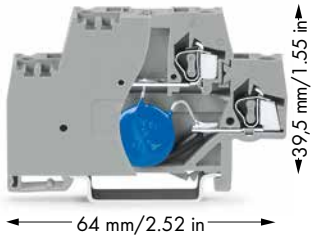
Material Data	
Weight	14 g

Double-Deck Terminal Block; with Surge Arrester
280 Series





Terminal Block with Suppressor Diode and End Plate; 230 VAC		
U_{BN}	**Item No.**	Pack. Unit
230 VAC	**280-944/281-595**	25



Short description:
These single-stage surge arresters are equipped either with 280 Series gas-filled surge arresters (coarse), varistors (medium) or suppressor diodes (fine).

Features:
- Protect your system against overvoltage
- Slim, space-saving design
- Control operational costs by preventing expensive, unplanned downtime
- High operational reliability and system uptime

Electrical Data	
Nominal operating voltage	230 VAC
Maximum continuous operating voltage	253 VAC
Rated continuous current	20 A
Nominal discharge current (8/20 µs), line	14 A
Voltage protection level (8/20 µs)	≤ 706 VAC
Capacitance	≤ 0.4 nF

Connection Data	
Connection points (number)	4
Connection technology	CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inch

Physical Data	
Width	10 mm / 0.394 inch
Height from upper-edge of DIN-rail	39,5 mm / 1.555 inch
Depth	64 mm / 2.52 inch

Mechanical Data	
Mounting type	DIN-35 rail

Material Data	
Weight	14.1 g

Accessories







End and intermediate plate; 2.5 mm thick		
Color	Item No.	Pack. Unit
orange	280-341	100
gray	280-340	100

Insulation stop; 5 pcs/strip			
Color	Diameter	Item No.	Pack. Unit
white	0.08 … 0.2 mm²	280-470	200
light gray	0.25 … 0.5 mm²	280-471	200
black	0.75 … 1 mm²	280-472	200

Comb-style jumper bar; insulated; I_N = I_N of terminal block		
	Item No.	Pack. Unit
2-way	280-482	200
3-way	280-483	200
10-way	280-490	50

Accessories



Alternate comb-style jumper bar; insulated; I_N = I_N of terminal block		
	Item No.	Pack. Unit
2-way	**280-492**	200



WAGO Accessories and WAGO Tools

WAGO Accessories and WAGO Tools

			Page
	Shield Clamping Saddles	790 Series	788
	Spring-Equipped Shield Clamping Saddles	790 Series	791
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	Stripping Tools		820
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Shield Connection System
790 Series
Installation



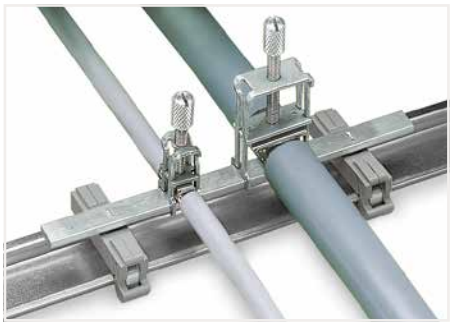
Carrier with grounding foot* (790-113),
45 mm long, busbar 90° to the rail

*for all shield clamping saddle sizes



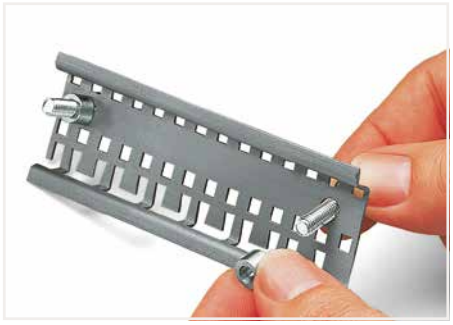
Carrier with grounding foot* (790-114),
45 mm long, busbar parallel to the rail

*for all shield clamping saddle sizes

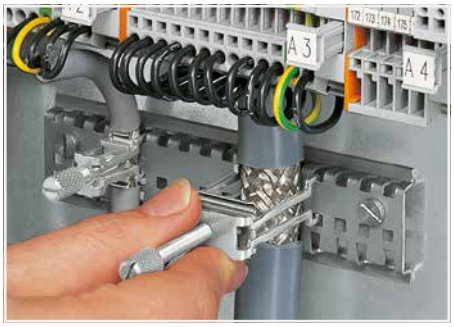


Carrier with grounding foot* (790-115),
125 mm long, busbar parallel to the rail

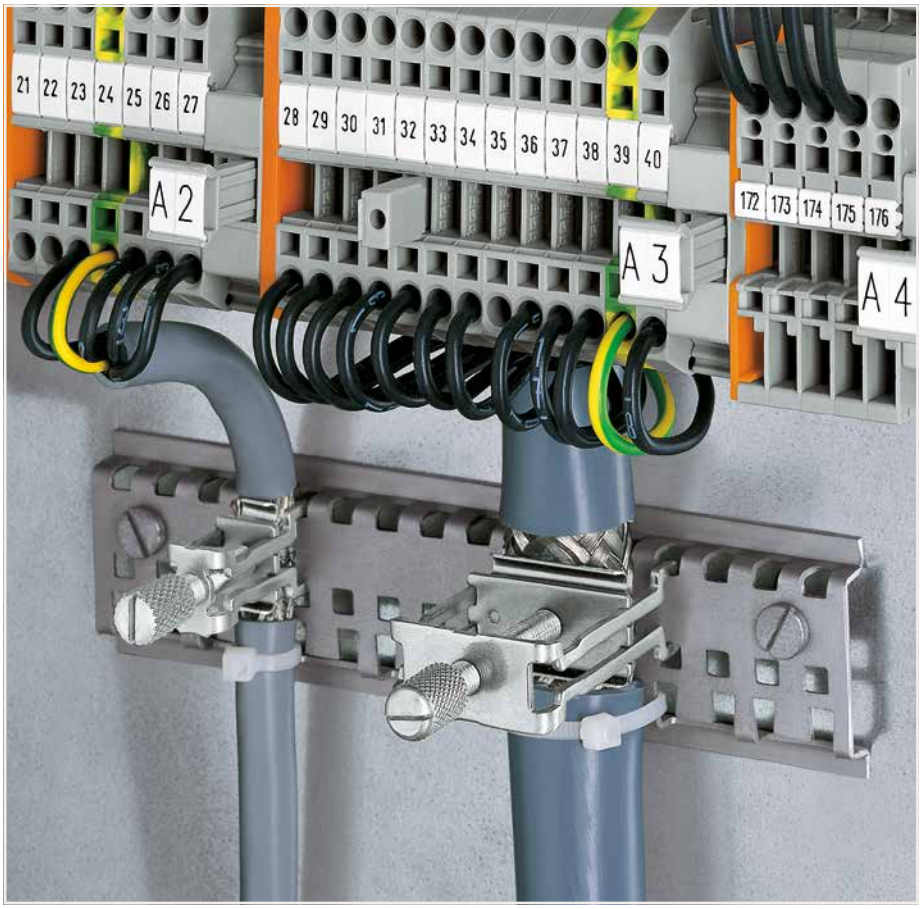
*for all shield clamping saddle sizes



Securing a spacer sleeve to a specialty slotted DIN-rail.



Securing an additional shield clamping saddle.





Tightening/removing a shield clamping saddle.

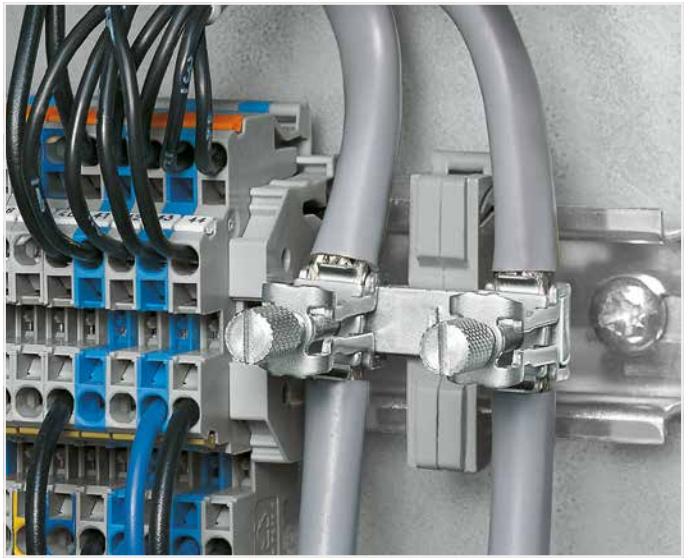


After connection, tighten the knurled screw to complete the installation.
Recommended tightening torque: 0.5 Nm



To remove the clamping saddle, unscrew until ratcheted mechanism is released, then slightly tip saddle and remove the clamping saddle.

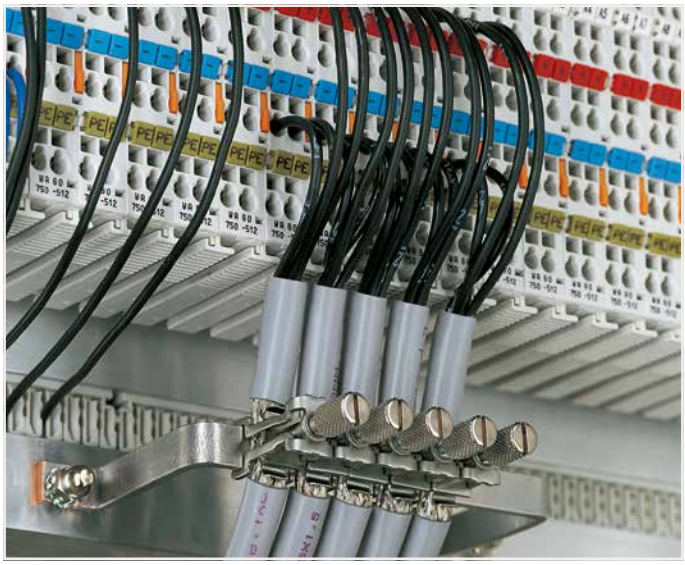
Shield Connection System
790 Series
Installation



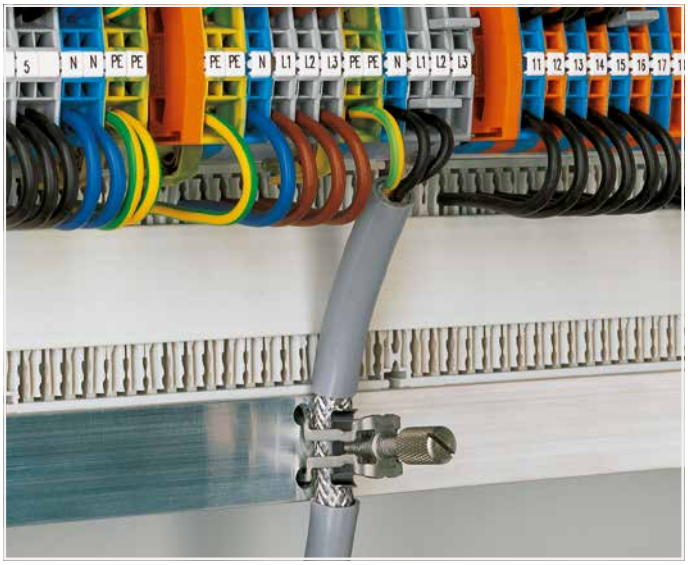
Carrier with grounding foot – busbar parallel to the rail



Insulated mounting carriers for a common shield reference potential, independent of housing potential

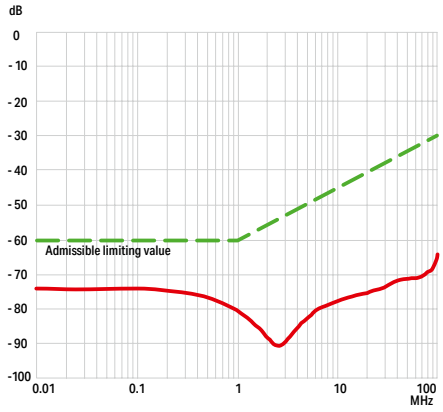


U-shaped (10 x 3) mm copper busbar



Snap shield clamping saddles into any metal plate (max. thickness: 3 mm).

Negative Shield Attenuation

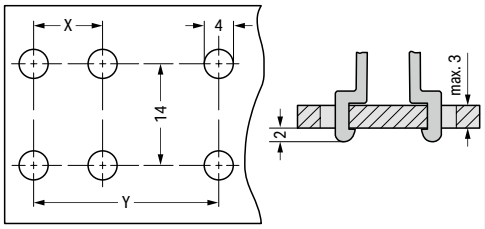


The shield connection system is highly effective because the clamping unit can be brought very close to the unshielded part of the cable.

Hole Dimensions for Panel Mounting

Shield (screen) clamping saddle size

Distance	X
11 mm	9.5 mm
Distance	Y
19 mm	17.5 mm
27 mm	25.5 mm
43 mm	41.5 mm



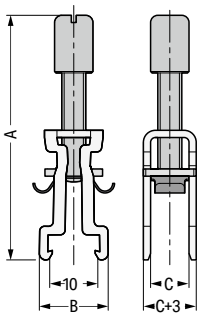
Additionally, the spring material is part of the clamping saddle, providing a good electrical connection (the system also acts as a partial strain relief). The spring element integrated in the shield clamping saddle compensates for deformation and settling that results from a connected shield.

Shield Clamping Saddles
790 Series

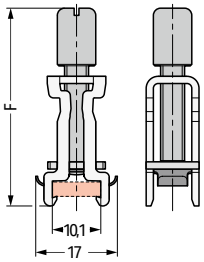




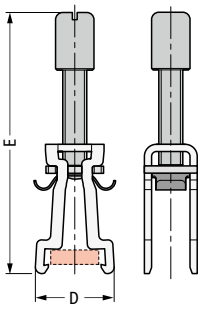
Installation position (delivery state)



Closed position



Removal position



Dimensions in mm

Item No.	A	B	C	D	E	F
790-108	51	15	8	16	55	42
790-116	53	15	16	16	57	45
790-124	78	15	24	16	83	58
790-140	97	15	40	16	100	73

Shield clamping saddle; 11 mm wide; Connectable shield diameter: 3 … 8 mm
Note: Cannot be used for connecting ground conductors!

Item No.	Pack. Unit
790-108	50 (10)

Shield clamping saddle; 19 mm wide; Connectable shield diameter: 7 … 16 mm
Note: Cannot be used for connecting ground conductors!

Item No.	Pack. Unit
790-116	50 (10)

Shield clamping saddle; 27 mm wide; Connectable shield diameter: 6 … 24 mm
Note: Cannot be used for connecting ground conductors!

Item No.	Pack. Unit
790-124	50 (10)

Accessories; for Shield Clamping Saddles

Carrier with grounding foot; Busbar parallel to the rail; 15 mm long; Copper (10 x 3) mm; for shield clamping saddles (790-108)

790-110 25



Carrier with grounding foot; Busbar parallel to the rail; 25 mm long; Copper (10 x 3) mm; for shield clamping saddles (790-108; 790-116) and shield clamps (791-111; 791-117)

790-112 25



Carrier with grounding foot; Busbar 90° to the DIN-rail; 45 mm long; Copper (10 x 3) mm; for shield clamping saddles (790 Series)

790-113 25



Carrier with grounding foot; Busbar parallel to the DIN-rail; 45 mm long; Copper (10 x 3) mm; for shield clamping saddles (790 Series) and shield clamps (791 Series)

790-114 25



Carrier with two grounding feet; Busbar parallel to the DIN-rail; 125 mm long; Copper (10 x 3) mm

790-115 25



DIN-rail; specialty slotted; 1000 mm long; tin-plated

790-145



Spacer sleeve; steel; for DIN-rail; specialty slotted; for M5-size screw;

790-144 200 (100)



Insulated mounting foot; for busbar with M4 x 8 mm screw

790-100 50 (25)



Insulated mounting foot; for busbar with (3.5 x 9) mm sheet metal screw

790-101 50 (25)



Busbar; tin-plated; 1000 mm long; copper (10 x 3) mm

210-133 1



Busbar; tin-plated; 30 mm long; copper (10 x 3) mm

790-133 20



Busbar; tin-plated; 50 mm long; copper (10 x 3) mm

790-134 20



U-shaped busbar; Copper (10 x 3) mm; for 5 I/O; for 750 Series I/O Modules

790-190 25 (5)



U-shaped busbar; Copper (10 x 3) mm; for 8 I/O; for 750 Series I/O Modules

790-191 25



U-shaped busbar; Copper (10 x 3) mm; for 5 I/O; for 750 Series I/O Modules

790-192 25



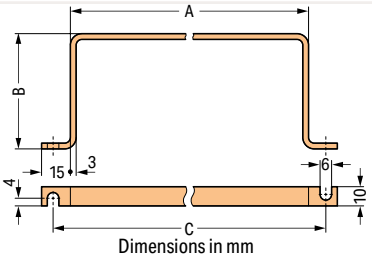
U-shaped busbar; Copper (10 x 3) mm; for 8 I/O; for 750 Series I/O Modules

790-193 25



11





Dimensions in mm

Item No.	A	B	C	Item No.	A	B	C
for I/O module series 750 (5 E/A)							
790-190	63	60	83	**790-192**	63	35	83
for I/O module series 750 (8 E/A)							
790-191	100	60	118	**790-193**	100	35	118

Shield clamping saddle; 43 mm wide; Connectable shield diameter: 22 … 40 mm
Note: Cannot be used for connecting ground conductors!

Item No.	Pack. Unit
790-140	50 (10)





Carrier with grounding foot* (790-114), 45 mm long, busbar parallel to the rail

*for all shield clamping saddle sizes



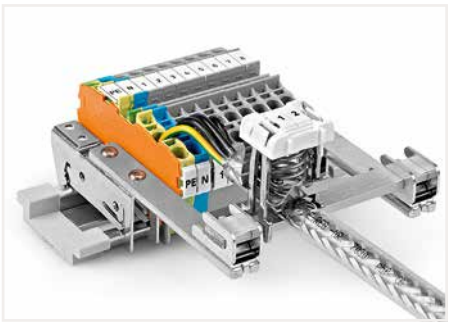
Carrier with grounding foot* (790-115), 125 mm long, busbar parallel to the rail

*for all shield clamping saddle sizes

Spring-Equipped Shield Clamping Saddles
790 Series
Installation



Shield clamping saddles are available in three different sizes for shield diameters ranging from 3 to 20 mm.



Application example



Compress the clamping saddle until fully engaged.



Mounting a clamping saddle on a specialty slotted DIN-rail (790-145).
When releasing the saddle, do not place your finger under the clamping spring!



Removing the shield clamping saddle.



Shield clamping saddle contacts shield conductor and specialty slotted DIN-rail (790-145).



Labeling using a marking strip.



Labelling using WMB markers.

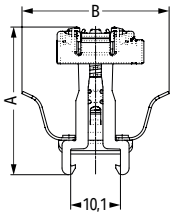
11

Spring-Equipped Shield Clamping Saddles
790 Series

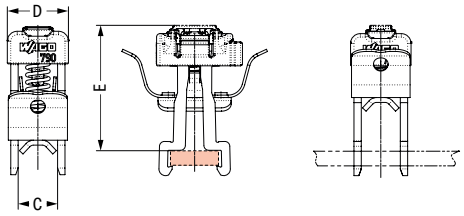




Delivery position



Mounting position



Dimensions in mm

Item No.	A	B	C	D	E*
790-208	30	29.9	8	12.4	25.8
790-216	34.6	28.3	16	21.8	30.2
790-220	45.6	28.3	24	30	41.2

*Height with WMB marker

Shield clamping saddle; 12.4 mm wide; Connectable shield diameter: 3 … 8 mm
Note: Cannot be used for connecting ground conductors and strain relief!

Item No.	Pack. Unit
790-208	50

Shield clamping saddle; 21.8 mm wide; Connectable shield diameter: 6 … 16 mm
Note: Cannot be used for connecting ground conductors and strain relief!

Item No.	Pack. Unit
790-216	25

Shield clamping saddle; 30 mm wide; Connectable shield diameter: 6 … 20 mm
Note: Cannot be used for connecting ground conductors and strain relief!

Item No.	Pack. Unit
790-220	25

Accessories; for Shield Clamping Saddles

Carrier with grounding foot; Busbar parallel to the rail; 15 mm long; Copper (10 x 3) mm; for shield clamping saddles (790-108)

790-110 25



Carrier with grounding foot; Busbar parallel to the rail; 25 mm long; Copper (10 x 3) mm; for shield clamping saddles (790-108; 790-116) and shield clamps (791-111; 791-117)

790-112 25



Carrier with grounding foot; Busbar 90° to the DIN-rail; 45 mm long; Copper (10 x 3) mm; for shield clamping saddles (790 Series)

790-113 25



Carrier with grounding foot; Busbar parallel to the DIN-rail; 45 mm long; Copper (10 x 3) mm; for shield clamping saddles (790 Series) and shield clamps (791 Series)

790-114 25



Carrier with two grounding feet; Busbar parallel to the DIN-rail; 125 mm long; Copper (10 x 3) mm

790-115 25



DIN-rail; specialty slotted; 1000 mm long; tin-plated

790-145



Spacer sleeve; steel; for DIN-rail; specialty slotted; for M5-size screw;

790-144 200 (100)



Busbar; tin-plated; 1000 mm long; copper (10 x 3) mm

210-133 1



Busbar; tin-plated; 30 mm long; copper (10 x 3) mm

790-133 20



Busbar; tin-plated; 50 mm long; copper (10 x 3) mm

790-134 20

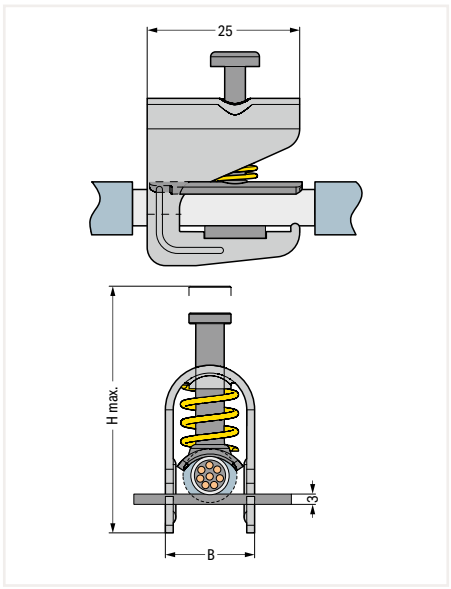


11

Shield Clamp and Shield Termination
791 and 709 Series



Dimensions in mm







Insert the shield termination into the female plug using the operating tool.



Fit the shield termination to the shield cable.



Secure both shield cable and shield termination to the strain relief plate using cable ties.



Shield termination connected to an X-COM® female plug

Shield clamp; Connectable shield diameter: 1.5 … 6.5 mm; Height (max.): 40 mm; 10 mm wide Note: Cannot be used for connecting ground conductors!		
	Item No.	Pack. Unit
	791-107	50

Shield clamp; Connectable shield diameter: 5 … 11 mm; Height (max.): 47 mm; 17 mm wide Note: Cannot be used for connecting ground conductors!		
	791-111	50

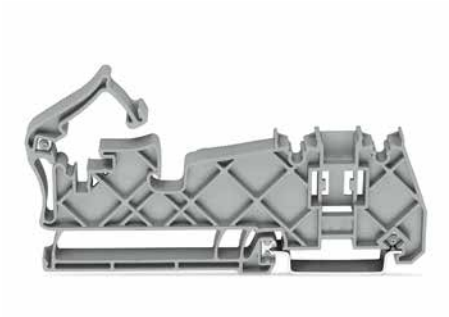
Shield clamp; Connectable shield diameter: 10 … 17 mm; Height (max.): 63 mm; 23 mm wide Note: Cannot be used for connecting ground conductors!		
	791-117	50

Shield clamp; Connectable shield diameter: 16 … 24 mm; Height (max.): 78 mm; 30 mm wide Note: Cannot be used for connecting ground conductors!		
	791-124	50

Shield termination; includes cable ties for 5 … 10 mm shield diameter; 60 mm long		
	Item No.	Pack. Unit
	709-350	100 (25)

Shield termination; includes cable ties for 5 … 10 mm shield diameter; 150 mm long		
	709-352	100 (25)

Busbar Carriers
790 Series



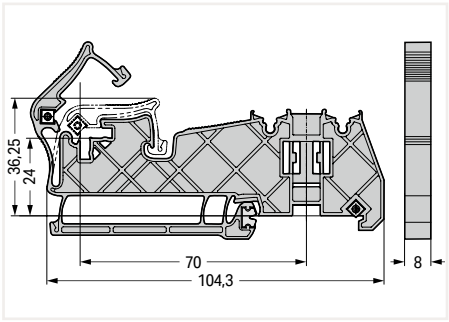
Dimensions in mm



Snapping the busbar carrier onto DIN-35 rail.



Vertical mounting position of the busbar



Busbar carrier; for (10 x 3) mm copper busbars; no contact to DIN-rail; insulated

	Item No.	Pack. Unit
	790-400	20



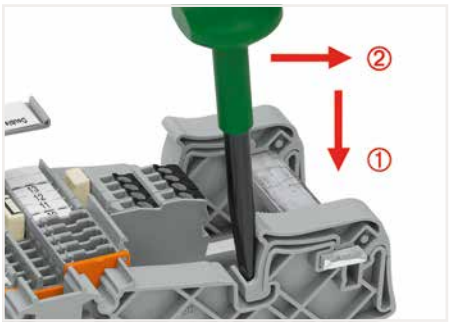
Place the busbar in the carrier holder.



Horizontal mounting position of the busbar



Snap the mounting bracket into position.

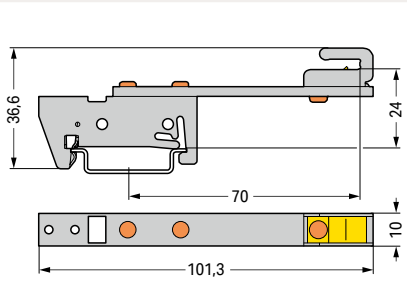


Release the mounting bracket by pushing the operating tool down ① and then forward ②.

Busbar Carriers
790 Series



Dimensions in mm

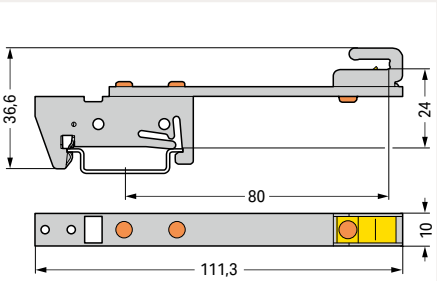


Busbar carrier; for (10 x 3) mm copper busbars; single side; straight; 70 mm between center of DIN-rail and busbar carrier

	Item No.	Pack. Unit
	790-300	10



Dimensions in mm

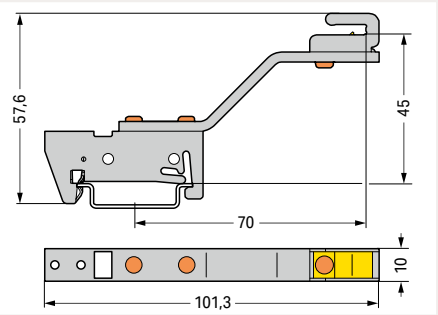


Busbar carrier; for (10 x 3) mm copper busbars; single side; straight; 80 mm between center of DIN-rail and busbar carrier

	Item No.	Pack. Unit
	790-302	10



Dimensions in mm

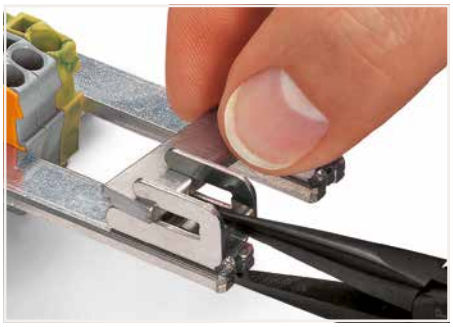


Busbar carrier; for (10 x 3) mm copper busbars; single side; angled; 70 mm between center of DIN-rail and busbar carrier

	Item No.	Pack. Unit
	790-301	10



Remove the busbar carrier using an operating tool (type 3, 5.5 x 0.8 mm blade).



To remove the busbar, compress the spring using pliers.

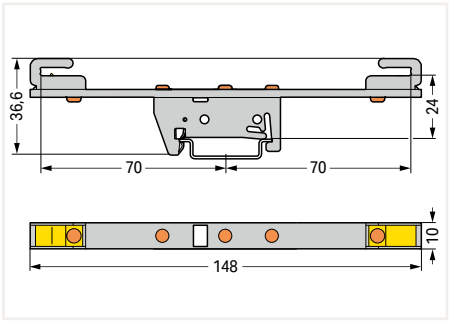


Place the busbar in the busbar carrier.

Busbar Carriers
790 Series



Dimensions in mm

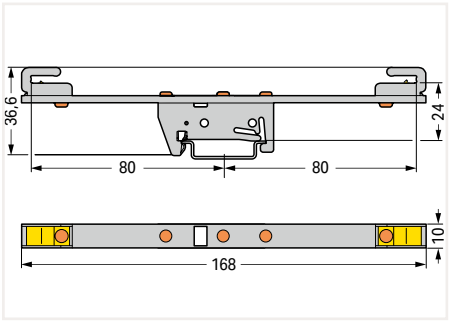


Busbar carrier; for (10 x 3) mm copper busbars; both sides; straight; 70 mm between center of DIN-rail and busbar carrier

	Item No.	Pack. Unit
	790-310	10



Dimensions in mm

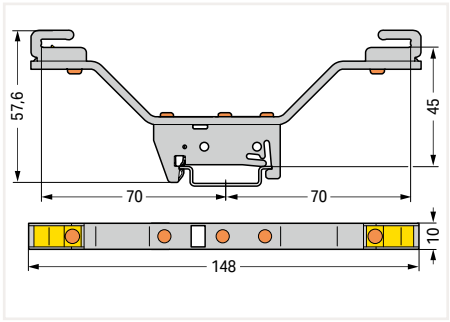


Busbar carrier; for (10 x 3) mm copper busbars; both sides; straight; 80 mm between center of DIN-rail and busbar carrier

	Item No.	Pack. Unit
	790-312	10

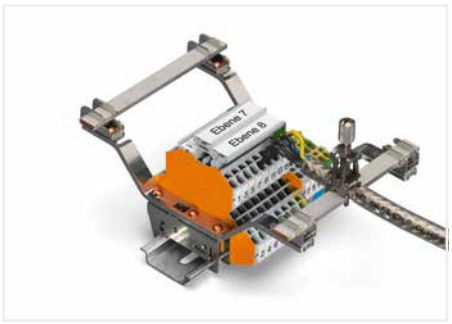


Dimensions in mm



Busbar carrier; for (10 x 3) mm copper busbars; both sides; angled; 70 mm between center of DIN-rail and busbar carrier

	Item No.	Pack. Unit
	790-311	10



Application example

Busbar Carrier with a T-Connector (Flexible) and T-Connector
790 Series



Dimensions in mm

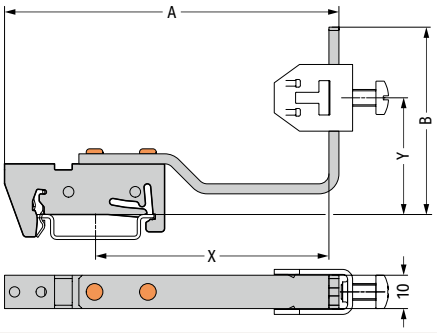


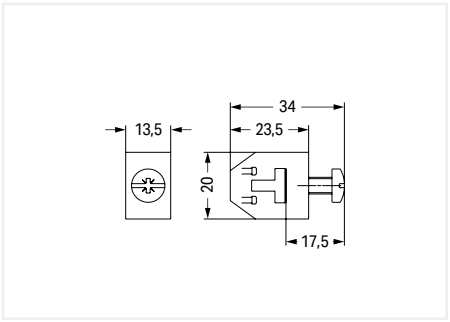
Dimensions in mm



Horizontal mounting position of the busbar

	A	B	X	Y
790-350/790-398	100	56	70	15 ... 52
790-352/790-398	100	99	70	15 ... 92
790-360/790-398	115	56	85	15 ... 52
790-362/790-398	115	99	85	15 ... 92







Vertical mounting position of the busbar

Busbar carrier with a T-connector; flexible; for (10 x 3) mm copper busbars; 70 mm between center of DIN-rail and busbar carrier; 56 mm high

Item No.	Pack. Unit
790-350/790-398	12

Busbar carrier with a T-connector; flexible; for (10 x 3) mm copper busbars; 70 mm between center of DIN-rail and busbar carrier; 99 mm high

790-352/790-398	12

Busbar carrier with a T-connector; flexible; for (10 x 3) mm copper busbars; 85 mm between center of DIN-rail and busbar carrier; 56 mm high

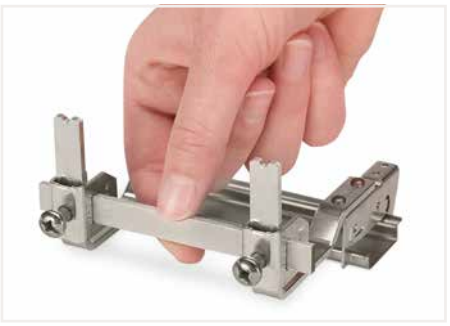
790-360/790-398	12

Busbar carrier with a T-connector; flexible; for (10 x 3) mm copper busbars; 85 mm between center of DIN-rail and busbar carrier; 99 mm high

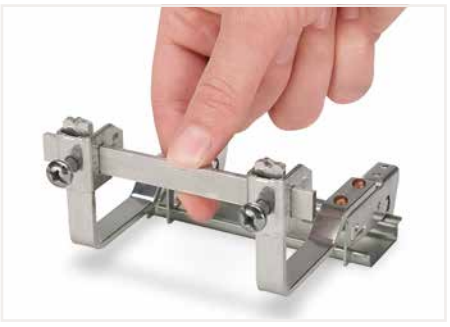
790-362/790-398	12

T-connector; connects two (10 x 3) mm copper busbars

Item No.	Pack. Unit
790-398	



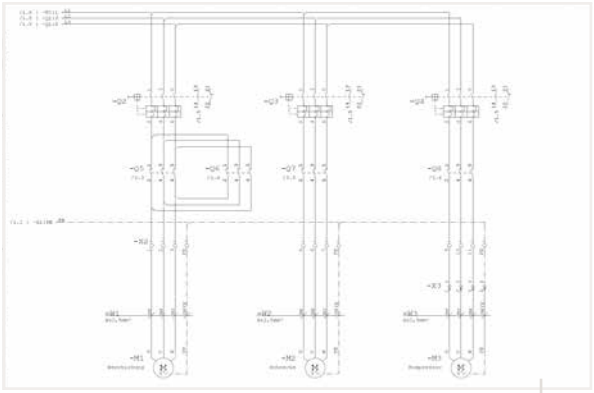
The height of the busbar can be adjusted.



Secure the busbar by tightening the screws at the required position.

Smart Data
Supports Workflow from Control Cabinet Planning to Installation

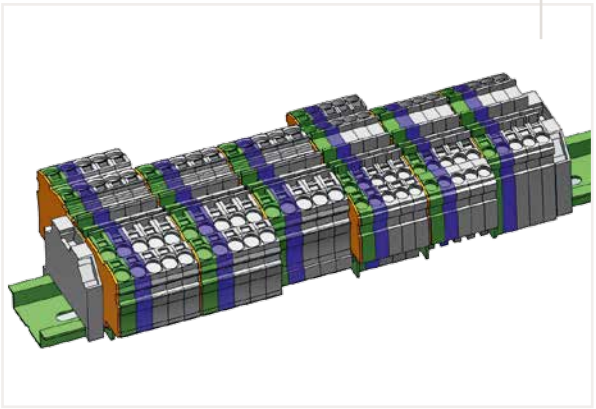
Electrical Planning
Directly import data from a CAE circuit diagram into the Smart Designer engineering software or output marking data on Smart Printer



Technical and Commercial Item Data
Classified by ETIM and eCl@ss – also in Advanced Format

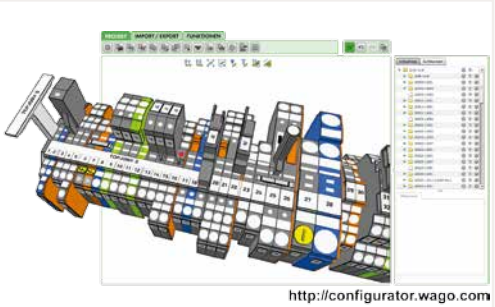


Mechanical Planning
CAD export into all standard CAD formats and in different granularities



11

Smart Designer
- Free online configuration and ordering software for all electrical interconnect and automation components
- No installation required
- Available worldwide – 24 hours a day
- Item data is always updated
- Auto-audit feature checks product compatibility via programed database
- Design in full 3-D





Smart Script
- XML-based software for all WAGO labeling materials
- Data import from CAE systems
- Font size check
- Material selection wizard



Configuration made easy – http://configurator.wago.com

Smart Printer

The Fastest Marking System

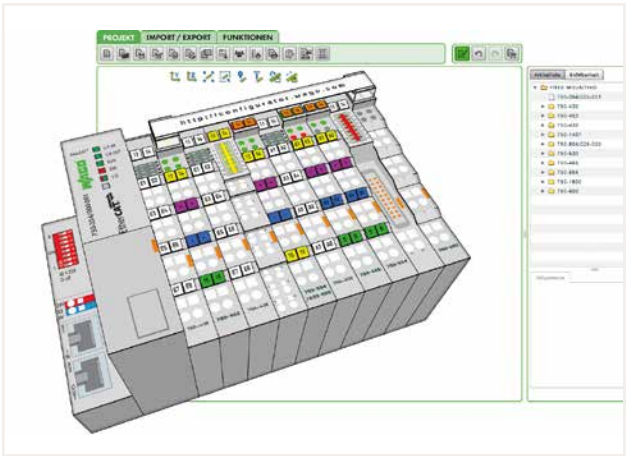


Smart Script



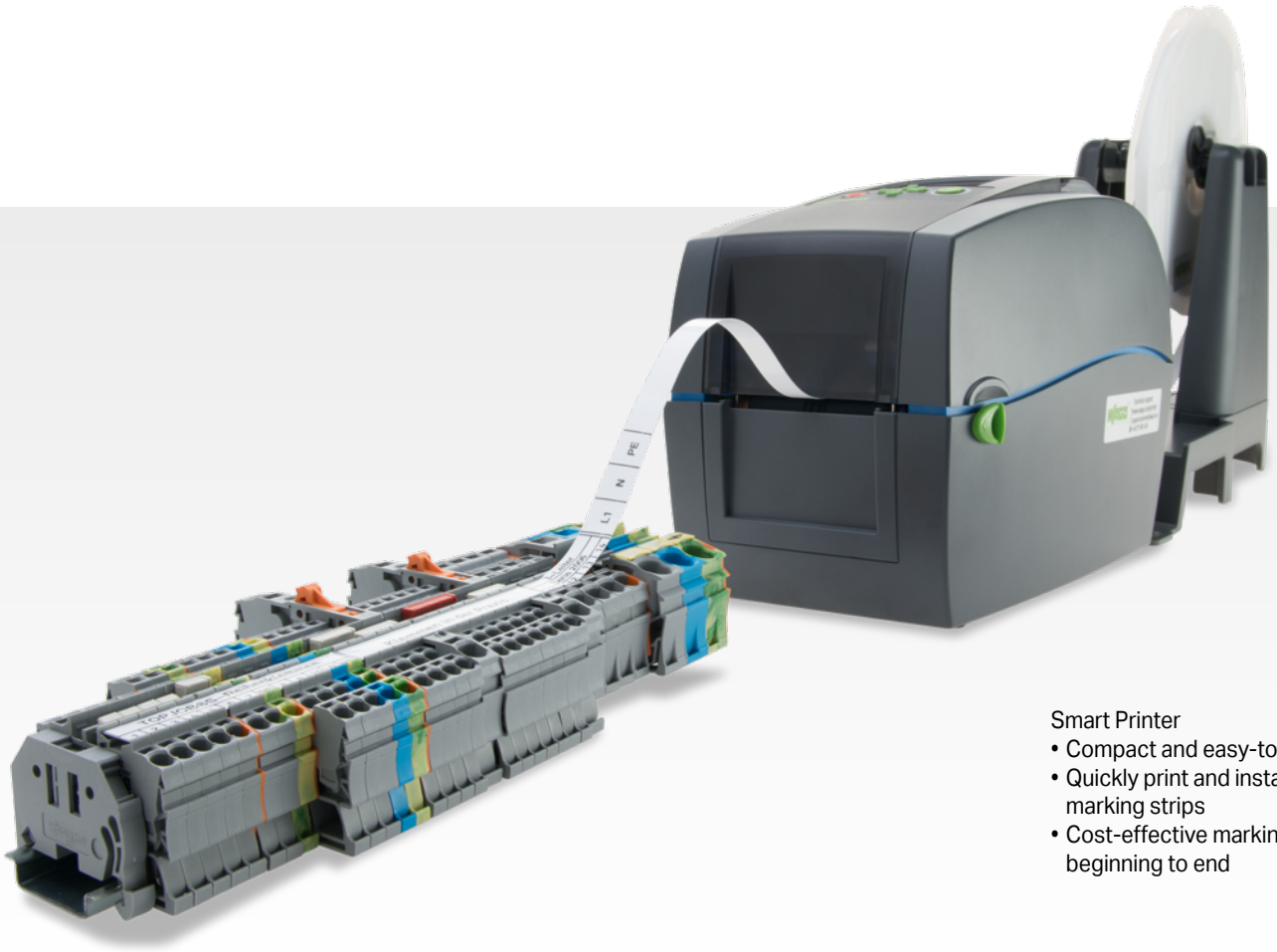
Smart Script
Import from CAE systems or create customized marking.

Smart Designer



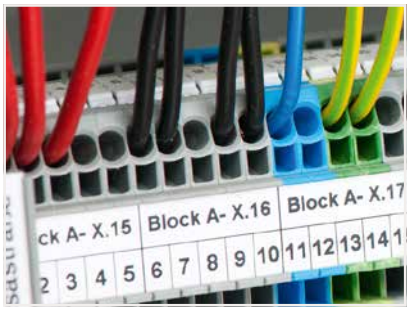
Smart Designer
After designing, print labeling materials directly from the project via Smart Printer

11



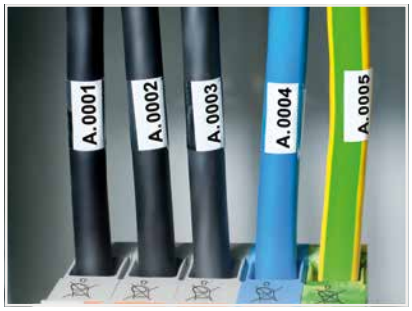
Smart Printer
- Compact and easy-to-use
- Quickly print and install marking strips
- Cost-effective marking from beginning to end

Terminal Block Marking



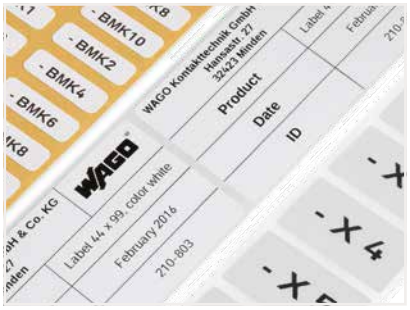
Multi-line marking strips for clear, detailed control cabinet labels
- WMB Inline markers on a reel are suitable for various terminal block sizes – just one marker size for all standard applications
- Same profile across all TOPJOB® S Rail-Mount Terminal Blocks ensures quick labeling

Cable and Conductor Marking



Different versions available:
- Marking sleeves, self-laminating labels, conductor markers for thread-on mounting or shrink tubes
- Large variety of marking surface sizes

Device Marking



Broad selection of label types (e.g., printable fabric), push-button markers and type plates optimizes marking for devices and control cabinets
- Labels and markers are available in a variety of colors and sizes

Thermal Transfer Printer
Smart Printer


Open the printer.


Printer – open


Accessories for unwinding material


Insert the ink ribbon.

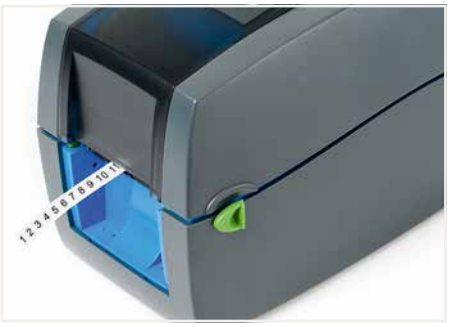

Prepare the marking material.




Insert and secure the appropriate roller into the printer.



Printer has several interfaces:
USB, ETHERNET, serial COM port


Fast, cost-effective and easy to use –
printing WMB Inline markers via Smart Printer

11

Thermal Transfer Printer and Cutter
Smart Printer



Smart Printer; WMB Inline markers; Marking strips; Conductor markers and labels; Resolution: 300 dpi

	Item No.	Pack. Unit
	258-5000	1

Smart Printer
includes:
- Power supply and cable
- USB cable
- 1 x marking strip reel (2009-110)
- 1 x WMB Inline marker reel (2009-115)
- 2 x roller (258-5006 + 258-5007)
- 1 x reel holder
- 1 x ink ribbon (258-5005)

Technical Data	
Printing method	Thermal transfer
Print head	Glass layer, spring-mounted
Print speed (max.)	127 mm/s (WAGO recommends 50.8 mm/s)
Print width (max.)	47 mm
Print length (max.)	762 mm
Print resolution	300 dpi (12 pixels/mm)
See-through/reflective sensor	Yes, centrally mounted
Operating display	Color TFT LCD with navigation button
Memory	8 MB Flash, 16 MB SDRAM
Interfaces	USB, RS-232, ETHERNET 10/100 Mbps, USB Host
Operating voltage	100 … 240 VAC, 50 … 60 Hz (automatic adjustment)
Dimensions (mm) W x H x D	135 x 175 x 245
Weight	2000 g (without printing material)
Operating temperature	5 … 40 °C (41 … 104 °F)
Storage temperature	−20 … 50 °C (−4 … 122 °F)
Safety approvals	CE (EMC)
Ink ribbon (see also Full Line Catalog, Volume 6, Marking)	External roll diameter: 40 mm; Internal core diameter: 12.7 mm (0.5 inch); Max. length: 110 m; Max. width: 58 mm





Cutter for Smart Printer; for marking strips only; not suitable for WMB Inline markers

	Item No.	Pack. Unit
	258-5030	1

Hardware requirements:
- Printer model: Smart Printer
- From manufacturing month/year: 0814 – August 2014
- Firmware version: 1.UW7i
- Printer driver: Version 7.4.2

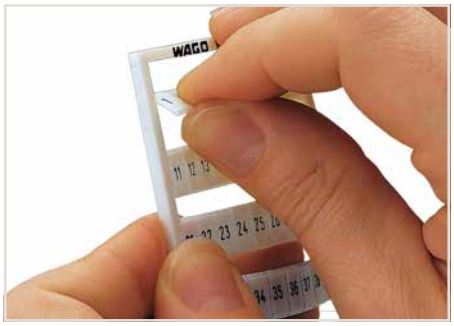
Software requirements:
- Smart Script: Version 3.88.9.0 or higher
- WAGO printer settings: Version 2.4.0.0 or higher

Approved print material to be cut:
- Marking strips: 2009-110, 709-177, 709-178, 757-901/000-005
- Self-adhesive marking strips: 210-702, 210-870 … -877
- Cable tie markers: 211-835 … -836, 211-836/000-002
- Self-laminating labels: 211-855 … -857
- Conductor markers for thread-on mounting: 211-861 … -863
- Type labels: 210-801 … -804, 210-812
- Continuous labels: 210-831 … -834
- Label for circuit identification: 210-813

Dimensions of printing materials:
- Width (max.): 46 mm
- Thickness (max.): 250 µm

Technical Data	
Width	60 mm
Height	107 mm
Depth	131 mm
Weight	1050 g

Marking Systems
Description and Installation



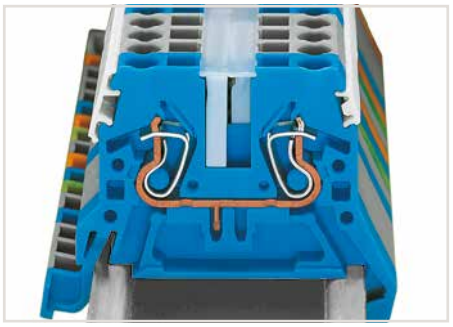
Separating a strip from the WMB or WMB marker card.

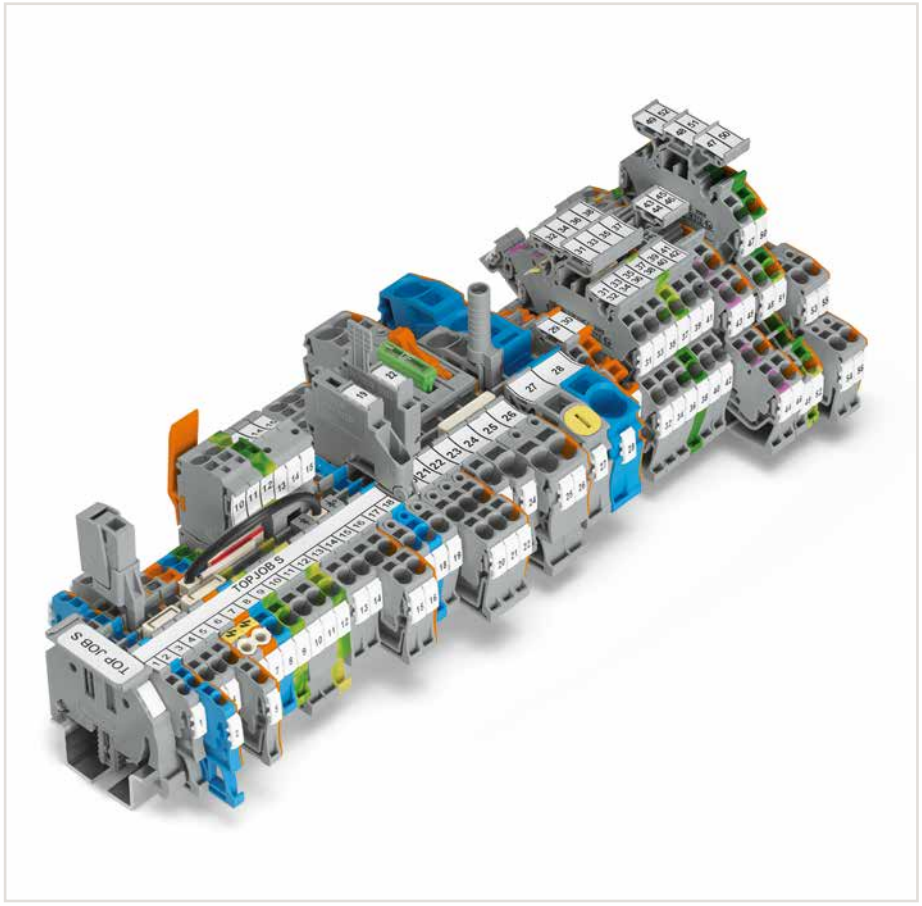

Stretching a WMB marker strip.


Separating an individual marker from the strip – for larger terminal blocks.

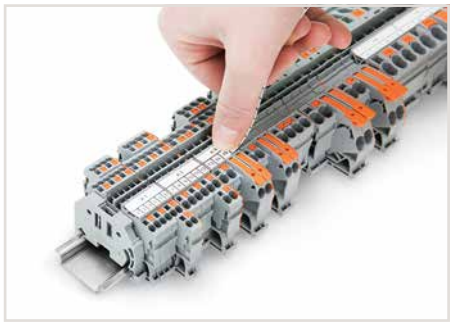


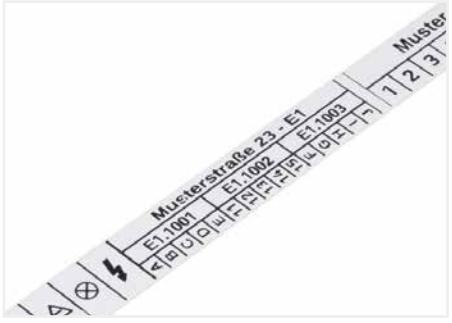
Marking via Mini-WSB Quick Marking System.


WMB markers in Mini-WSB marker slots
Translucent marking strip
Mini-WSB markers




Printing a marking strip (2009-110) via Smart Printer.


Snapping a marking strip into the marker slot.



Marking strip – multi-line printing

11



Snapping a marking strip into the marker slot.

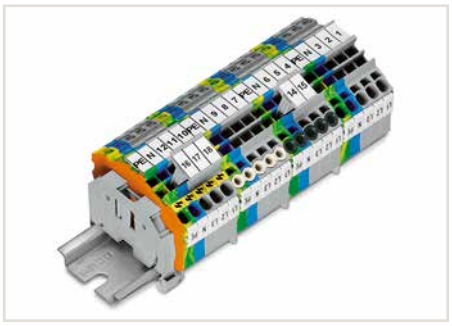


Snapping a WMB marker strip into the marker slot of the double marker carrier.



WMB “decade” marking





Group marker carriers for WAGO Rail-Mount Terminal Blocks
TOPJOB® S –
can be snapped into jumper slots.



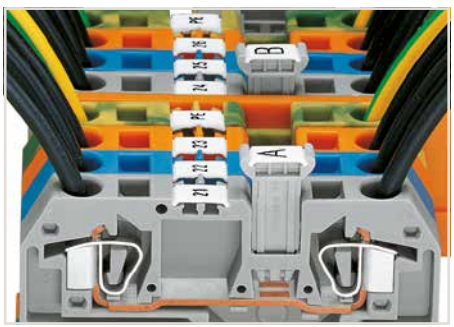
Double- and triple-deck marker carriers can be retrofitted into the jumper contact slot of double- and triple-deck terminal blocks.



Height-adjustable group marker carrier (249-116) for marking strips (2009-110)

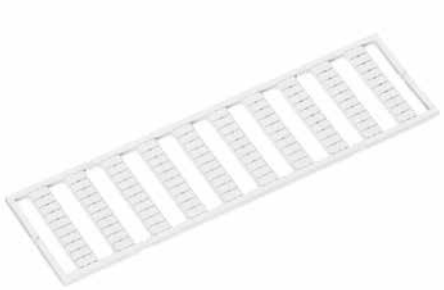


Height-adjustable group marker carrier



Additional group marking

Marking System
Terminal Block Width: 3.5 mm, 4 … 4.2 mm and from 5 mm



Use		
Marker width	Can be snapped onto the following terminal block series	
	for continuous marking	that will be separated
3.5 mm	2000, 2020	-
4 … 4.2 mm	279, 2001	-
5 … 5.2 mm	270, 280, 780, 869, 870, 880, 2002, 2003, 2022	Terminal blocks with spacing > 5 … 5.2 mm
5 … 17.5 mm	270, 280, 780, 869, 870, 880	281 … 285, 781 … 785, 2002, 2004, 2005, 2006, 2007, 2010, 2016, 2022

WMB marker card; plain; 10 strips with 10 markers/card					
Color	5 mm Item No.	5 … 5.2 mm Item No.	4 … 4.2 mm Item No.	3.5 mm Item No.	Pack. Unit
white	793-501	793-5501	793-4501	793-3501	5
yellow	793-501/000-002	793-5501/000-002	793-4501/000-002		5
red	793-501/000-005	793-5501/000-005	793-4501/000-005		5
blue	793-501/000-006	793-5501/000-006	793-4501/000-006		5
gray	793-501/000-007	793-5501/000-007	793-4501/000-007		5
orange	793-501/000-012	793-5501/000-012	793-4501/000-012		5
light green	793-501/000-017	793-5501/000-017	793-4501/000-017		5
green	793-501/000-023	793-5501/000-023	793-4501/000-023		5
violet	793-501/000-024	793-5501/000-024	793-4501/000-024		5



Use		
Marker width	Can be snapped onto the following terminal block series	
	for continuous marking	that will be separated
3.5 mm	2000, 2020	-
4 … 4.2 mm	279, 2001	-
5 … 5.2 mm	270, 280, 780, 869, 870, 880, 2002, 2003, 2022	Terminal blocks with spacing > 5 … 5.2 mm

WMB Inline; plain; 2,300 WMB markers (3.5 mm)/reel		
Color	3.5 mm Item No.	Pack. Unit
white	2009-113	1

WMB Inline; plain; 2,000 WMB markers (4 mm)/reel; stretchable 4 … 4.2 mm		
Color	4 … 4.2 mm Item No.	Pack. Unit
white	2009-114	1

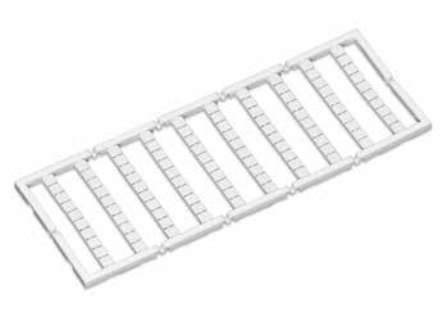
WMB Inline; plain; 1,500 WMB markers (5 mm)/reel; stretchable 5 … 5.2 mm		
Color	5 … 5.2 mm Item No.	Pack. Unit
white	2009-115	1



Use	
	Can be snapped onto the following terminal block series
	2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2010, 2016, 2020, 2022

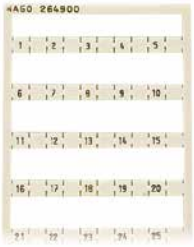
Marking strip; plain; 11 mm wide; 50 m reel		
Color	3.5 mm Item No.	Pack. Unit
white	2009-110	1

Mini-WSB Quick Marking System
Terminal Block Width: 5 mm



Use		
Marker width	Can be snapped onto the following terminal block series	
	for continuous marking	that will be separated
5 mm	264, 270, 869, 880, 769, 870, 218, 233 … 236, 243, 250, 252 … 257, 735 … 742, 745, 746, 804, 805, 806, 816, 831, 750, 753, 2002, 2003, 2022	745, 746, 2004, 2006, 2007, 2010, 2016

Mini-WSB marker card; plain; 10 strips with 10 markers/card		
Color	Item No.	Pack. Unit
white	248-501	5
yellow	248-501/000-002	5
red	248-501/000-005	5
blue	248-501/000-006	5
gray	248-501/000-007	5
orange	248-501/000-012	5
light green	248-501/000-017	5
green	248-501/000-023	5
violet	248-501/000-024	5



Mini-WSB marker card; with marking; not stretchable; horizontal marking; snap-on type		
Marking	Item No.	Pack. Unit
1, , 2, , 3, , 4, , 5, ; to 46, , 47, , 48, , 49, , 50, ; (each 1x)	264-900	5
U, , V, , W, , N, , GND, ; (10x)	264-901	5
L1, , L2, , L3, , N, , GND, ; (10x)	264-902	5
1, , 1, , 1, , 1, , 1, ; (10x)	264-903	5
2, , 2, , 2, , 2, , 2, ; (10x)	264-904	5
3, , 3, , 3, , 3, , 3, ; (10x)	264-905	5



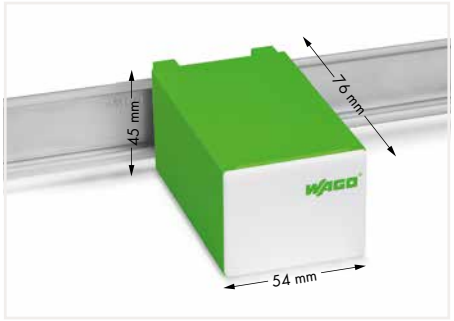
Use		
Marker width	Can be snapped onto the following terminal block series	
	for continuous marking	that will be separated
5 mm	264, 270, 869, 880, 769, 870, 218, 233 … 236, 243, 250, 252 … 257, 735 … 742, 745, 746, 804, 805, 806, 816, 831, 750, 753, 2002, 2003, 2022	745, 746, 2004, 2005, 2006, 2007, 2010, 2016

Mini-WSB Inline; plain; 1,700 markers (5 mm)/reel; stretchable 5 … 5.2 mm		
Color	3.5 mm Item No.	Pack. Unit
white	2009-145	1

11

Control Cabinet Outlet and Switch Cabinet Drawer
709 Series





Technical Data		
Ratings per	DIN VDE 0620-1	
Voltage type	AC	
Rated voltage	250 V	
Rated surge voltage	2 kV	
Rated current	16 A	

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Actuation type	Type 2 (3.5 x 0.5) mm blade
Actuation direction	Operation parallel to conductor entry
Connectable conductor materials	Copper
Solid conductor	0.2 … 2.5 mm / 24 … 14 AWG
Stranded conductor	0.2 … 2.5 mm / 24 … 14 AWG
Fine-stranded conductor	0.2 … 2.5 mm / 24 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inch
Number of poles	3

Mechanical Data	
Mounting type	DIN-35 rail
Protection type	IP20
Potential marking	L GND N

Material Data	
Material group	I
Insulation material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Sn

Environmental Requirements	
Continuous operating temperature from	–35 °C
Continuous operating temperature up to	85 °C

11

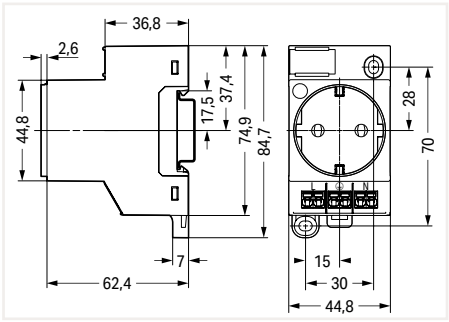
❶ The outlets are available in three colors to identify different circuits:
- 709-581 gray (standard)
- 709-582 yellow (permanently energized)
- 709-583 red (UPS)

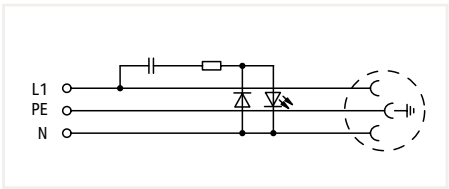
Approvals and corresponding ratings, visit www.wago.com

Control Cabinet Outlet and Switch Cabinet Drawer
709 Series



Dimensions in mm



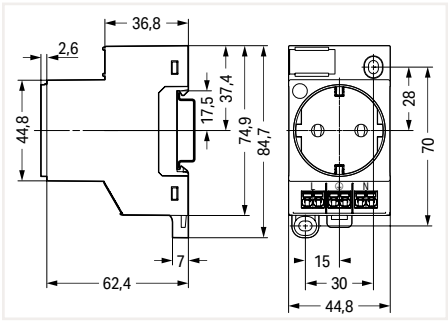


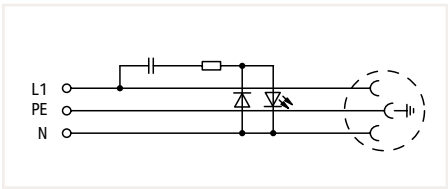
Control cabinet outlet; for DIN-35 rail and screw mounting; for plug Type F, CEE 7/4 (SCHUKO®); used in Germany, the Netherlands, Austria; with status LED; with Push-in CAGE CLAMP® double connection

Color	Item No.	Pack. Unit
light gray	709-581	1



Dimensions in mm



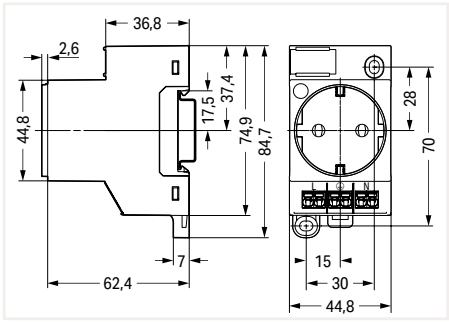


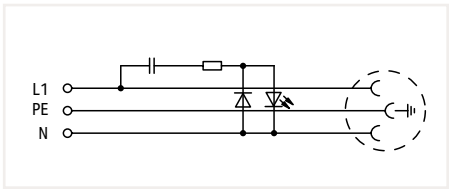
Control cabinet outlet; for DIN-35 rail and screw mounting; for plug Type F, CEE 7/4 (SCHUKO®); used in Germany, the Netherlands, Austria; with status LED; with Push-in CAGE CLAMP® double connection

Color	Item No.	Pack. Unit
yellow	709-582	1



Dimensions in mm



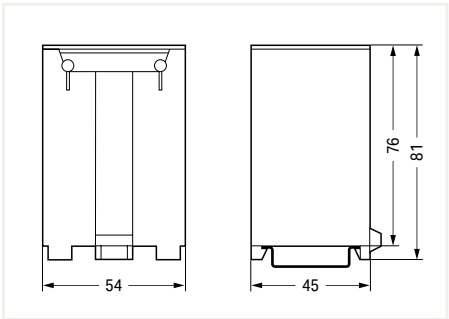


Control cabinet outlet; for DIN-35 rail and screw mounting; for plug Type F, CEE 7/4 (SCHUKO®); used in Germany, the Netherlands, Austria; with status LED; with Push-in CAGE CLAMP® double connection

Color	Item No.	Pack. Unit
red	709-583	1



Dimensions in mm



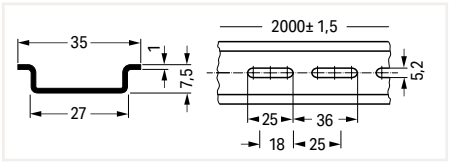
Switchgear cabinet drawer; DIN-35 rail-mount drawer

	Item No.	Pack. Unit
	709-591	1

DIN-Rail; Rail End Cap; Angled Support Bracket and Collective Jumper Carrier



Dimensions in mm



Steel DIN-rail; I_N 76 A (based on 1 m length); 35 x 7.5 mm; 1 mm thick; 2 m long; per EN 60715

	Item No.	Pack. Unit
unslotted	**210-113**	10 (1)

Hole width: 25 mm; Hole spacing: 36 mm

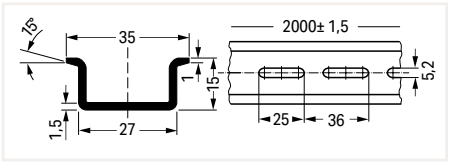
slotted	**210-112**	10 (1)

Hole width: 18 mm; Hole spacing: 25 mm

slotted	**210-115**	1



Dimensions in mm

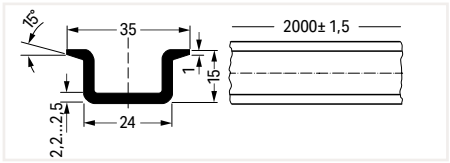


Steel DIN-rail; I_N 125 A (based on 1 m length); 35 x 15 mm; 1.5 mm thick; 2 m long; similar to EN 60715

	Item No.	Pack. Unit
unslotted	**210-114**	10 (1)
slotted	**210-197**	10 (1)



Dimensions in mm

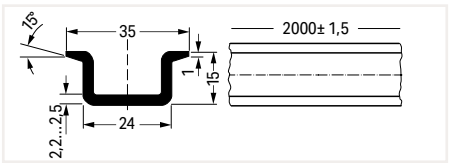


Steel DIN-rail; I_N 125 A (based on 1 m length); 35 x 15 mm; 2.3 mm thick; 2 m long; per EN 60715

	Item No.	Pack. Unit
unslotted	**210-118**	10 (1)



Dimensions in mm

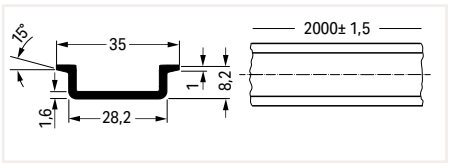


Copper DIN-rail; I_N 309 A (based on 1 m length); 35 x 15 mm; 2.3 mm thick; 2 m long; per EN 60715

	Item No.	Pack. Unit
unslotted	**210-198**	10 (1)



Dimensions in mm



Aluminum DIN-rail; I_N 76 A (based on 1 m length); 35 x 8.2 mm; 1.6 mm thick; 2 m long; similar to EN 60715

	Item No.	Pack. Unit
unslotted	**210-196**	20 (1)



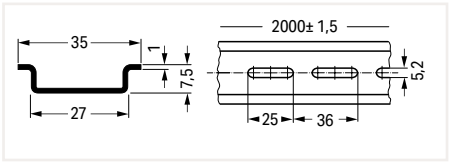
Rail end cap; for DIN-35 rail (7.5 mm high)

Color	Item No.	Pack. Unit
◯ gray	**209-109**	50 (25)

11



Dimensions in mm

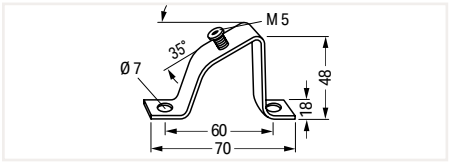


Steel DIN-rail; I_N 76 A (based on 1 m length); 35 x 7.5 mm; 1 mm thick; 2 m long; per EN 60715

	Item No.	Pack. Unit
unslotted	**210-505**	1
slotted	**210-504**	1



Dimensions in mm

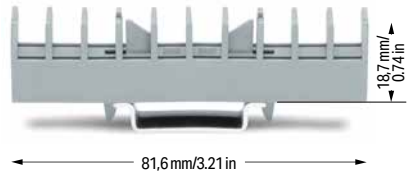


Angled support bracket; without screw

	Item No.	Pack. Unit
	210-148	10

Screw M5 x 8

	Item No.	Pack. Unit
	210-149	100 (20)

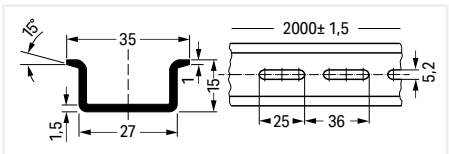


Collective jumper carrier; for DIN-35 rail; compatible with jumpers for transverse switching terminal block (282-811) and longitudinal switching disconnect terminal block (282-821)
The collective carrier can be snapped onto DIN-35 rails. It stores jumpers during maintenance.

Color	Item No.	Pack. Unit
gray	**282-369**	25

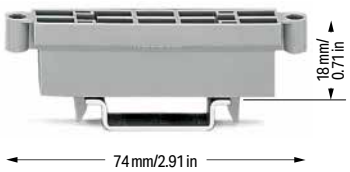


Dimensions in mm



Steel DIN-rail; I_N 125 A (based on 1 m length); 35 x 15 mm; 1.5 mm thick; 2 m long; per EN 60715

	Item No.	Pack. Unit
unslotted	**210-506**	1
slotted	**210-508**	1

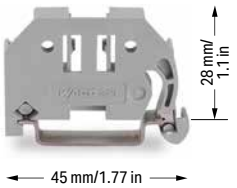


Collective carrier for adjacent jumpers; for DIN-35 rail; for adjacent jumpers (279 to 284 Series); for banana plugs (215 Series)
The collective carrier can be snapped onto DIN-35 rails. It stores adjacent jumpers and banana plugs during maintenance.

Color	Item No.	Pack. Unit
gray	**209-100**	50 (25)

11

Screwless End Stop; for DIN-35 Rail
249 Series

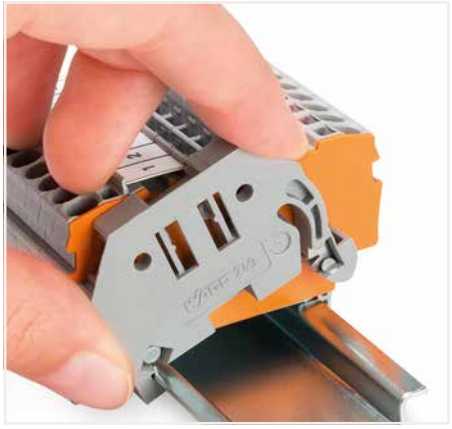


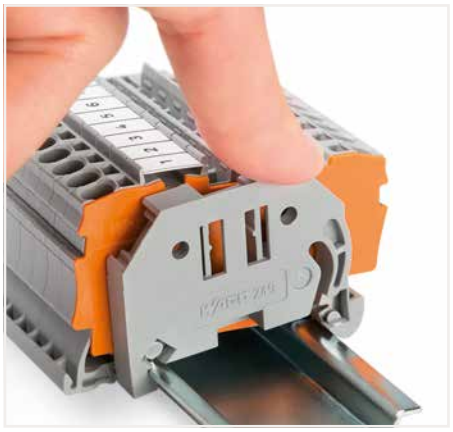
Screwless end stop; for DIN-35 rail; 6 mm wide		
Color	Item No.	Pack. Unit
◯ gray	**249-116**	100 (25)

Screwless end stop; for DIN-35 rail; 10 mm wide		
◯ gray	**249-117**	50 (25)



Screwless end stop; for DIN-35 rail; 14 mm wide		
Color	Item No.	Pack. Unit
◯ gray	**249-197**	10


Simply snap on – that's it!


Simply snap on – that's it!


Simply snap on – that's it!


Removing an end stop from the DIN-rail.

Snap on – that's it! Assembling the WAGO Screwless End Stop is as simple and quick as snapping a rail-mount terminal block onto the rail.

Tool free!

A tool-free design allows rail-mount terminal blocks to be safely and economically secured against any movement on all DIN-35 rails per DIN EN 60715 (35 x 7.5 mm; 35 x 15 mm).

Screwless!

The "secret" to a perfect fit lies in the two small clamping plates which keep the end stop in position, even if the rails are mounted vertically.

Simply snap on – that's it!

In addition, costs are significantly reduced when using large numbers of end stops.

Additional benefit: Three marker slots for all WAGO Rail-Mount Terminal Block Marking Systems and one snap-in hole for WAGO's adjustable height group marker carriers offer individual marking options.

Mounting Foot

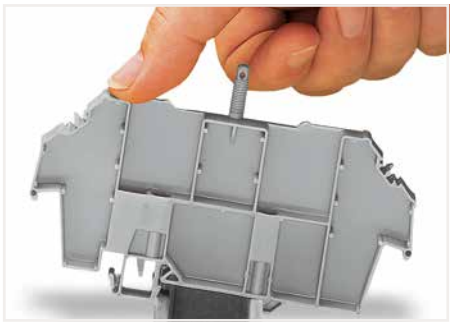


Mounting foot; for isolated DIN-35 rail mounting		
Color	Item No.	Pack. Unit
◯ gray	**209-106**	25



Double-deck terminal blocks:
A double-deck marker carrier (2000-121) can be retrofitted to double-deck terminal blocks without a marker carrier.

Sealable, Transparent Covers for Rail-Mount Terminal Blocks
709 Series
Description and Installation



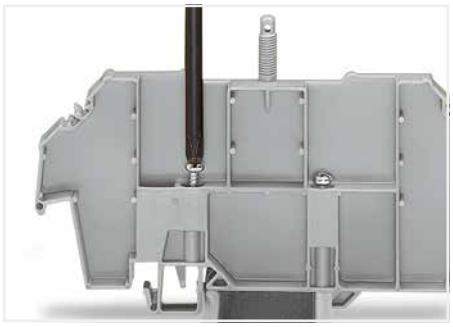
Snapping a cover carrier onto the DIN-rail.



Application example:
Cover (type 1) without safety warning



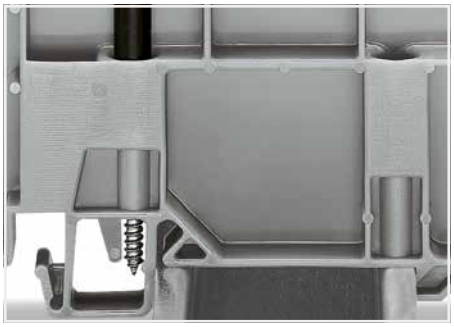
Application example:
Cover (type 1) with safety warning



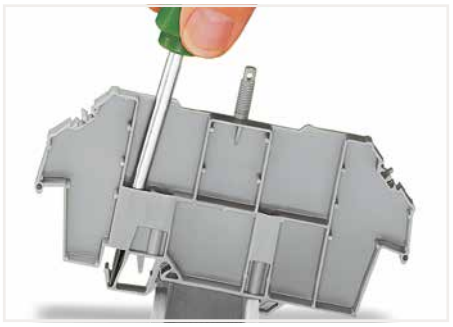
Tightening both securing screw (left) and mounting screw (right).



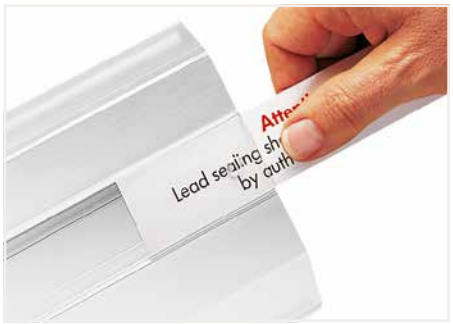
Application example:
Cover (type 2) with safety warning



Securing screw – prevents lifting off from the rail.
Mounting screw – prevents the cover carrier from being moved on the rail.



Removing a cover carrier from the DIN-rail.



Inserting a marking strip into the cover.



Cover with lead seals:
Using covers without lead seals,
the thread dome-head can be broken off.

Sealable, Transparent Cover; for Rail-Mount Terminal Blocks
709 Series



Cover; Type 1; for cover carrier (type 1); 1 m long

Color	Item No.	Pack. Unit
transparent	709-153	10



Cover; Type 2; for cover carrier (type 2); 1 m long

Color	Item No.	Pack. Unit
transparent	709-154	10



Cover carrier; Type 1; incl. mounting/securing screws and knurled nut; for rail-mount terminal blocks (279 to 282, 880 Series); for "Mini" rail-mount terminal blocks (264 Series); for sensor/actuator terminal blocks (270 Series)

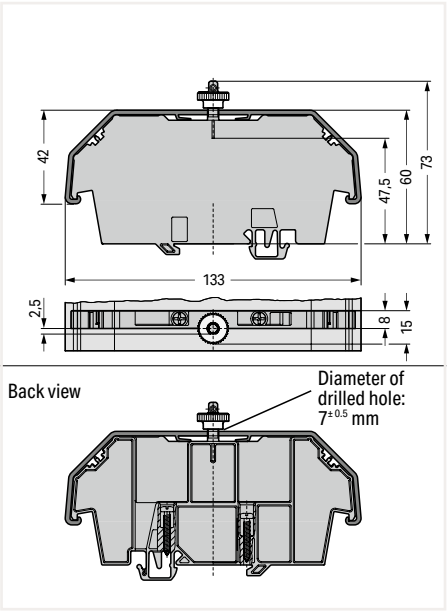
Color	Item No.	Pack. Unit
gray	709-167	10



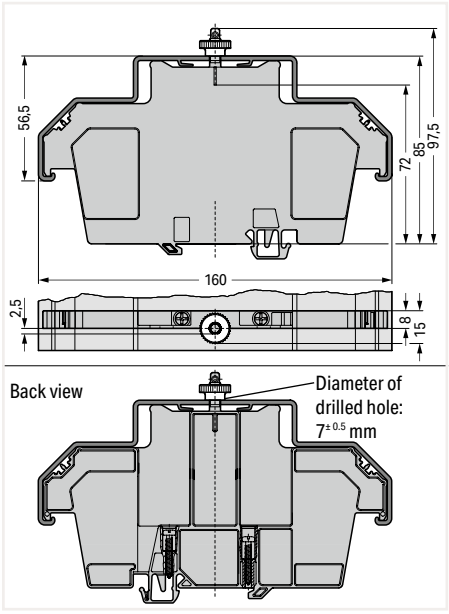
Cover carrier; Type 2; incl. mounting/securing screws and knurled nut; for rail-mount terminal blocks (283 to 285 Series); for double- and triple-deck terminal blocks (279 to 281 Series); for TOPJOB® rail-mount terminal blocks (780 to 785 and 775 Series); for sensor/actuator terminal blocks (280 Series); for disconnect/test terminal blocks for transformer circuits (282 Series)

Color	Item No.	Pack. Unit
gray	709-168	10

Dimensions in mm



Dimensions in mm



Accessories

Marking card; with 6 marking strips; for group marking or safety instructions

plain	709-183	1

Spare mounting/securing screw; for cover



209-196	200 (25)

Spare knurled nut; for cover



210-549	100 (25)

11

Sealable, Transparent Cover; for Rail-Mount Terminal Blocks
709 Series



Cover; Type 3; for cover carrier (type 3); 1 m long		
Color	Item No.	Pack. Unit
transparent	**709-156**	10



Cover carrier; Type 3; for rail-mount terminal blocks (2000 to 2016 Series, 2102 to 2116 Series, 2200 to 2216 Series); for transformer terminal blocks (2007 Series)		
Color	Item No.	Pack. Unit
gray	**709-169**	10

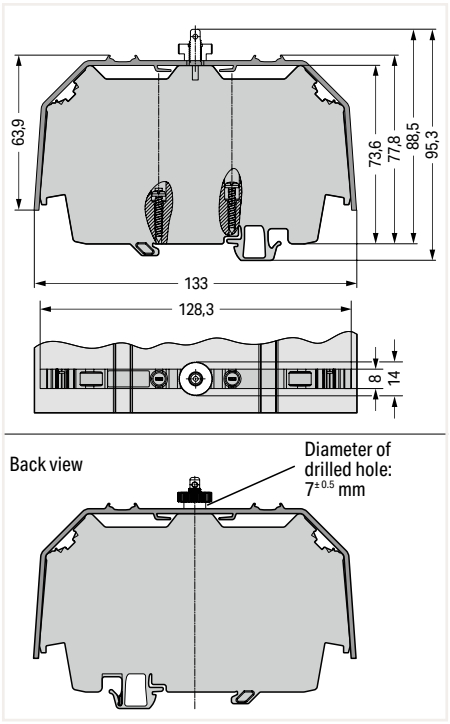
Accessories

Marking card; with 6 marking strips; for group marking or safety instructions			
	plain	**709-183**	1

Spare mounting/securing screw; for cover		
	**209-196**	200 (25)

Spare knurled nut; for cover		
	**210-549**	100 (25)

Dimensions in mm

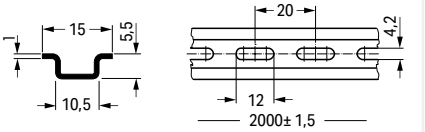


11

DIN-Rail and End Stop; for DIN-15 Rail



Dimensions in mm

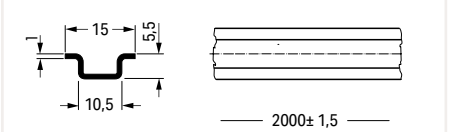


Steel DIN-rail; I_N 57 A (based on 1 m length); 15 x 5.5 mm; 1 mm thick; 2 m long; per EN 60715

	Item No.	Pack. Unit
slotted	**210-111**	10 (1)



Dimensions in mm



Aluminum DIN-rail; I_N 57 A (based on 1 m length); 15 x 5.5 mm; 1 mm thick; 2 m long; similar to EN 60715

	Item No.	Pack. Unit
unslotted	**210-296**	10 (1)

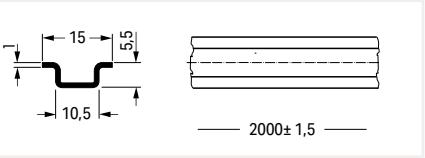


Screwless end stop; for DIN-15 rail; 6 mm wide; for WMB markers

Color	Item No.	Pack. Unit
gray	**249-101**	25



Dimensions in mm



Steel DIN-rail; I_N 57 A (based on 1 m length); 15 x 5.5 mm; 1 mm thick; 2 m long; per EN 60715

	Item No.	Pack. Unit
unslotted	**210-295**	1

Operating Tool



Operating tool with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade

Item No.	Pack. Unit
210-719	50 (1)

Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

210-720	50 (1)

Operating tool with a partially insulated shaft; Type 3; (5.5 x 0.8) mm blade

210-721	25 (1)

Set of operating tools with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade; Type 2; (3.5 x 0.5) mm blade; Type 3; (5.5 x 0.8) mm blade

210-722	1



Operating tool; Blades: 3.5 mm and 2.5 mm; for installation terminal blocks (TOPJOB® S)

Item No.	Pack. Unit
2009-309	1

Operating tool; Blades: 3.5 mm and 5.5 mm; for installation terminal blocks (TOPJOB® S)

2009-310	1



Operating tool with a partially insulated shaft; Type 1; (2.5 x 0.4) mm blade; short

Item No.	Pack. Unit
210-647	50 (1)

Operating tool with a partially insulated shaft; (2.5 x 0.4) mm blade; short; angled

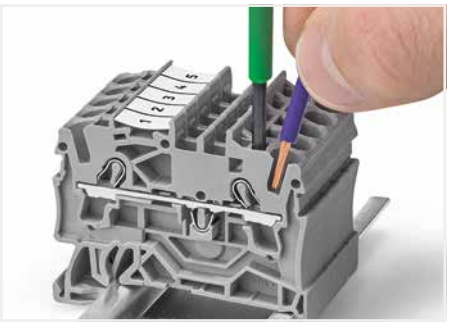
210-648	50 (1)

Operating tool with a partially insulated shaft; (3.5 x 0.5) mm blade; short

210-657	50 (1)

Operating tool with a partially insulated shaft; (3.5 x 0.5) mm blade; short; angled

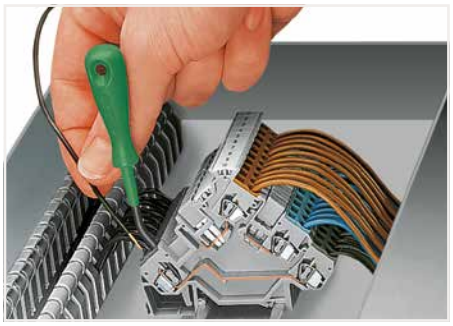
210-658	50 (1)



The blade of this operating tool with a partially insulated shaft is ideal for operating front-entry terminal blocks.



Open the clamping unit using an operating tool.



This operating tool with blade dimensions per DIN 5264 is ideal for front-entry sensor/actuator terminal blocks (280 Series).



Set of operating tools in a box (210-722)

Operating Tool



Operating tool; insulated; for 279 Series		
	Item No.	Pack. Unit
1-way	209-129	1
2-way	279-432	1
3-way	279-433	1
10-way	279-440	1

Operating tool; insulated; for 264 Series (1- and 2-way only), 280, 281 Series (up to 3-way only)		
1-way	209-130	1
2-way	280-432	1
3-way	280-433	1
4-way	280-434	1
5-way	280-435	1
6-way	280-436	1
7-way	280-437	1
8-way	280-438	1
9-way	280-439	1
10-way	280-440	1

Operating tool; insulated; for 281 Series		
5-way	281-440	1

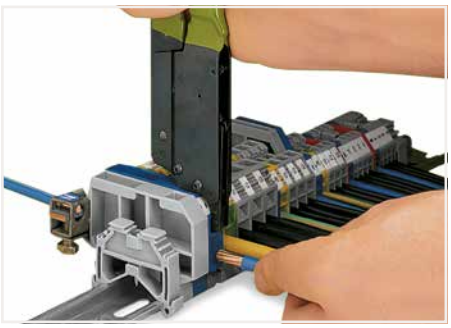


Commoning front-entry disconnect terminal blocks via comb-style jumper bar using a 10-pole operating tool.



Operating pliers; for side-entry rail-mount terminal blocks (281, 282, 283 and 284 Series)		
	Item No.	Pack. Unit
	210-141	1

Operating pliers; for side-entry rail-mount terminal blocks (279 and 280 Series)		
	210-143	1



When operating the handles beyond the locked position, the ratchet allows the tool to open and be removed from the terminal block.
The operating pliers are placed into the upper operating slot of the rail-mount terminal block and the clamp is hooked into the lateral operating slot. The contact is fully opened by pressing the handles together until they engage. This will allow both hands to be used for wiring the terminal blocks.



T-wrench with a partially insulated shaft		
	Item No.	Pack. Unit
	285-172	1

T-wrench with a partially insulated shaft and anti-rotation protection		
	285-173	1



T-wrench with a partially insulated shaft and anti-rotation protection (285-173)

Cable Stripper



Cable knife; for Ø 8 … 28 mm / 0.31 … 1.10 inch; with a unique, changeable cable bracket system; including cable bracket

Item No.	Pack. Unit
206-1403	1



Cable knife set; for Ø 4 … 70 mm / 0.16 … 2.75 inch; including all cable brackets in a Sortimo® Box

Item No.	Pack. Unit
206-1400	1

Never use this tool on or near live electrical circuits!



Accessories; item-specific

Cable bracket; for Ø 4 … 16 mm / 0.16 … 0.63 inch

206-1411 1

Cable bracket; for Ø 8 … 28 mm / 0.31 … 1.10 inch

206-1412 1

Cable bracket; for Ø 27 … 35 mm / 1.06 … 1.38 inch

206-1413 1

Cable bracket; for Ø 35 … 50 mm / 1.38 … 1.97 inch

206-1414 1

Cable bracket; for Ø 50 … 70 mm / 1.97 … 2.75 inch

206-1415 1

Accessories

Spare inside blade

206-1418 1

Spare hook blade

206-1419 1

11

Cable Stripper



In-socket cable stripper; for Ø 8 … 13 mm / 5/16 … 1/2 inch

	Item No.	Pack. Unit
	206-1441	1



Product features:
- Extra long design and improved force transmission simplifies stripping in deep device connection sockets
- Special four-blade design for an even more precise round cut
- No cutting depth adjustment required
- TiN-coated blades, TÜV/GS tested
- Ø 8 … 13 mm / 5/16 … 1/2 inch
- Strips all standard round cables, including NYM 3 x 1.5 mm² … 5 x 2.5 mm²



Universal cable stripper; for Ø 8 … 13 mm / 5/16 … 1/2 inch

	Item No.	Pack. Unit
	206-1442	1



Product features:
- Secure grip achieved with soft padding for non-slip grips
- Technically improved functionality
- New locking mechanism prevents the unwanted opening of the tool
- Absolutely straightforward, quick and easy longitudinal cuts – with innovative internal cable duct
- Redesigned blade layout and intake to stop cable waste from jamming the tool
- Durable and ergonomically designed pocket clip
- Ø 8 … 13 mm / 5/16 … 1/2 inch









Data cable stripper; for Ø 4.5 … 10 mm / 3/16 … 3/8 inch

	Item No.	Pack. Unit
	206-1451	1



Product features:
- Strip outer insulation and foil sheathing with one tool
- Ideal for stripping PVC-insulated data cables with thin insulation (e.g., Cat 5, Cat 6, Cat 7, twisted-pair cables)
- TiN-coated blades
- Ø 4.5 … 10 mm / 3/16 … 3/8 inch



Cable Stripper



Stripping pliers; for sensor cables		
	Item No.	Pack. Unit
	206-1481	1

Accessories; item-specific		
Replacement blade set; for Ø 3.2 … 4.4 mm / 0.13 … 0.17 inch	206-1491	1



Stripping pliers; for control cables		
	Item No.	Pack. Unit
	206-1482	1

Accessories; item-specific		
Replacement blade set; for Ø 4.4 … 7 mm / 0.17 … 0.27 inch	206-1492	1

Never use this tool on or near live electrical circuits!

The stripping pliers for sensor cables have a blade geometry specially designed for sensor cables with a smaller cross section and a working range from Ø 3.2 mm (for stranded cables and round cables with Ø 3.2 mm … 4.4 mm / 0.13 … 0.17 inch).

The stripping pliers for control cables are designed for stronger cables from Ø 4.4 mm (for stranded cables and round cables with Ø 4.4 mm … 7 mm / 0.17 … 0.27 inch).

These stripping pliers quickly and safely strip cables for connecting, e.g., sensor/actuator distribution boxes, bus couplers and pluggable connectors.

Suitable for:
- Halogen-free PUR sensor/actuator cables
- Highly flexible TPE-U cables
- Control cables
- PUR cables
- PUR/PVC cables
- PVC cables
- Multi-core cables
- Shielded and unshielded cables





Wire Stripper

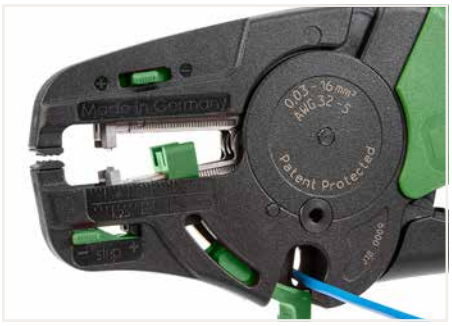


Wire stripper “Quickstrip Vario”; 0.03 … 16 mm² / 34 … 6 AWG		
	Item No.	Pack. Unit
	206-1125	1

Accessories		
Blade set; Standard; 0.03 … 16 mm² / 34 … 6 AWG		
	206-1126	1
Blade set; V-blade; 0.14 … 4 mm² / 24 … 12 AWG		
	206-1127	1
Blade set; Oval blade; 10 … 16 mm² / 8 … 6 AWG		
	206-1128	1
Spare stripping stop		
	206-1129	1
Spare cut protector		
	206-1131	1
Spare clamping jaws		
	206-1132	1



Cutting a conductor.



Partially stripping a conductor.

Wire Stripper:
- Automatically adjust to conductor size
- Stripping blades cause no damage to conductor strands
- Gripping pressure of jaws adjusts automatically to conductor insulation diameter
- Clamping jaws and stripping blades automatically open once the stripping process is completed – no splaying of the conductor strands
- Exact strip length may be set by sliding black setting stop
- Stripping blades can be replaced
- Self-sharpening, fully protected cutter (replaceable)
- Entire body made of glass-fiber-reinforced polyamide
- Cutting capacity of the wire cutter of fine-stranded conductors up to 16 mm² (6 AWG)

Crimping Tool; Cable Cutter



Crimping Tool "Variocrimp 4"; for insulated and uninsulated ferrules; Crimping range: 0.25 … 4 mm² (24 … 12 AWG)		
	Item No.	Pack. Unit
	206-1204	1

Spring clamp; large		
	206-1205	1

Spring clamp; small		
	206-1206	1

PUR spring set		
	206-1207	1



Crimping Tool "Variocrimp 16"; for insulated and uninsulated ferrules; Crimping range: 6 mm² (10 AWG), 10 mm² (8 AWG) and 16 mm² (6 AWG)		
	Item No.	Pack. Unit
	206-1216	1

Spring clamp; small		
	206-1206	1



Cable cutter; for copper and aluminum cables up to 35 mm² (2 AWG)		
	Item No.	Pack. Unit
	206-118	1



Insert the ferruled conductor into the crimping station.



Squeeze handles until ratchet mechanism is released.



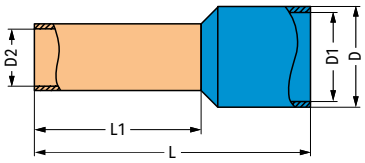
Cutting a cable.



Only for "Variocrimp 16":
Adjust conductor cross section with crimping tool in open position.

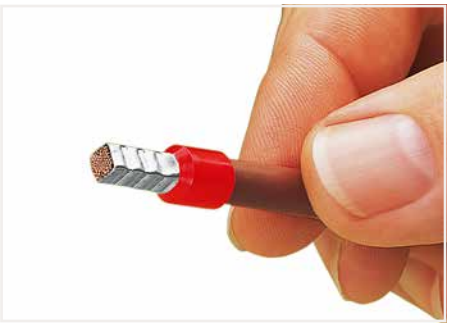
Insulated ferrule; for Rail-Mount Terminal Block TOPJOB® S



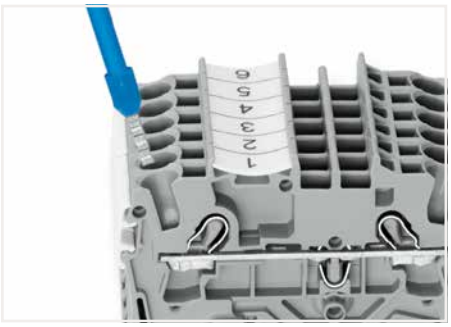


Ferrule; insulated; electro-tin-plated; electrolytic copper; gastight crimped; per DIN 46288 (Part 4/09.09)

Conductor Cross Section	Color	Strip Length	L	L 1	D	D 1	D 2	Item No.	Pack. Unit
0.5 mm² / 20 AWG	white	12 mm / 0.47 inch	16	10	3,1	2,6	1	216-241	1000
0.75 mm² / 18 AWG	gray	12 mm / 0.47 inch	16	10	3,3	2,8	1,2	216-242	1000
0.75 mm² / 18 AWG	gray	14 mm / 0.55 inch	18	12	3,3	2,8	1,2	216-262	1000
1 mm² / 18 AWG	red	12 mm / 0.47 inch	16	10	3,5	3	1,4	216-243	1000
1 mm² / 18 AWG	red	14 mm / 0.55 inch	18	12	3,5	3	1,4	216-263	1000
1.5 mm² / 16 AWG	black	12 mm / 0.47 inch	16	10	4	3,5	1,7	216-244	1000
1.5 mm² / 16 AWG	black	14 mm / 0.55 inch	18	12	4	3,5	1,7	216-264	1000
1.5 mm² / 16 AWG	black	20 mm / 0.79 inch	24	18	4	3,5	1,7	216-284	500
2.5 mm² / 14 AWG	blue	12 mm / 0.47 inch	17	10	4,7	4,2	2,2	216-246	1000
2.5 mm² / 14 AWG	blue	14 mm / 0.55 inch	19	12	4,7	4,2	2,2	216-266	1000
2.5 mm² / 14 AWG	blue	20 mm / 0.79 inch	25	18	4,7	4,2	2,2	216-286	500
4 mm² / 12 AWG	gray	14 mm / 0.55 inch	20	12	5,4	4,8	2,8	216-267	500
4 mm² / 12 AWG	gray	20 mm / 0.79 inch	26	18	5,4	4,8	2,8	216-287	100
6 mm² / 10 AWG	yellow	14 mm / 0.55 inch	20	12	6,9	6,3	3,5	216-208	100
6 mm² / 10 AWG	yellow	20 mm / 0.79 inch	26	18	6,9	6,3	3,5	216-288	100
10 mm² / 8 AWG	red	20 mm / 0.79 inch	28	18	8,4	7,6	4,5	216-289	100
16 mm² / 6 AWG	blue	23 mm / 0.91 inch	28	18	9,6	8,8	5,8	216-210	100



A perfect gas-tight crimp – both electrically and mechanically reliable



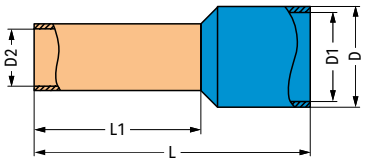
Fine-stranded conductors with ferrules from at least two sizes below the rated cross section up to the rated cross section can also be simply pushed in – without tools.

Application notes:

- The built-in crimping pressure control of "Variocrimp 4" automatically adjusts the crimping force to the conductor cross section. Select the wire gauge on "Variocrimp 16" before crimping.
- Only one crimping station is needed to handle the specified conductor range.
- Uniform, compact crimping on all four sides for high conductor retention.
- No need to center the ferrules into the terminal blocks.
- Crimping can be performed from either side (for left- or right-handed users).
- Built-in ratchet mechanism ensures gas-tight crimp connection.
- Crimping tools open automatically after crimping operation is complete.
- Ergonomically designed handles.

Insulated and Uninsulated Ferrules; for Chassis-Mount Terminal Strip

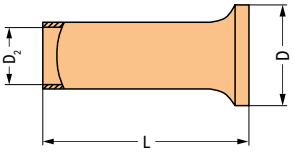




Ferrule; insulated; electro-tin-plated; electrolytic copper; gastight crimped; per DIN 46288 (Part 4/09.09)

Conductor Cross Section	Color	Strip Length	L	L 1	D	D 1	D 2	Item No.	Pack. Unit
0.5 mm² / 20 AWG	white	12 mm / 0.47 inch	16	10	3,1	2,6	1	216-241	1000
0.75 mm² / 18 AWG	gray	12 mm / 0.47 inch	16	10	3,3	2,8	1,2	216-242	1000
1 mm² / 18 AWG	red	12 mm / 0.47 inch	16	10	3,5	3	1,4	216-243	1000
1.5 mm² / 16 AWG	black	12 mm / 0.47 inch	16	10	4	3,5	1,7	216-244	1000



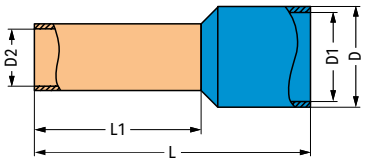


Ferrule; uninsulated; electro-tin-plated; electrolytic copper; gastight crimped; per DIN 46288 (Part 4/09.09)

Conductor Cross Section	Strip Length	L	D	D 2	Item No.	Pack. Unit
0.5 mm² / 20 AWG	10 mm / 0.39 inch	10	2,1	1	216-141	5000 (1000)
0.75 mm² / 18 AWG	10 mm / 0.39 inch	10	2,3	1,2	216-142	5000 (1000)
1 mm² / 18 AWG	10 mm / 0.39 inch	10	2,5	1,4	216-143	5000 (1000)
1.5 mm² / 16 AWG	10 mm / 0.39 inch	10	2,8	1,7	216-144	5000 (1000)

Insulated and Uninsulated Ferrules

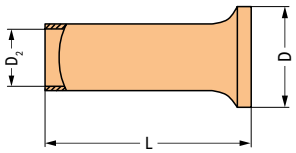




Ferrule; insulated; electro-tin-plated; electrolytic copper; gastight crimped; per DIN 46288 (Part 4/09.09)

Conductor Cross Section	Color	Strip Length	L	L 1	D	D 1	D 2	Item No.	Pack. Unit
0.25 mm² / 24 AWG	yellow	7 mm / 0.28 inch	10	6	2,3	1,8	0,85	216-321	1000
0.25 mm² / 24 AWG	yellow	9 mm / 0.35 inch	12	8	2,3	1,8	0,85	216-301	1000
0.34 mm² / 22 AWG	green	7 mm / 0.28 inch	10	6	2,5	2	0,85	216-322	1000
0.34 mm² / 22 AWG	green	9 mm / 0.35 inch	12	8	2,5	2	0,85	216-302	1000
0.5 mm² / 20 AWG	white	7 mm / 0.28 inch	12	6	3,1	2,6	1	216-221	1000
0.5 mm² / 20 AWG	white	9 mm / 0.35 inch	14	8	3,1	2,6	1	216-201	1000
0.75 mm² / 18 AWG	gray	8 mm / 0.31 inch	12	6	3,3	2,8	1,2	216-222	1000
0.75 mm² / 18 AWG	gray	10 mm / 0.39 inch	14	8	3,3	2,8	1,2	216-202	1000
1 mm² / 18 AWG	red	8 mm / 0.31 inch	12	6	3,5	3	1,4	216-223	1000
1 mm² / 18 AWG	red	10 mm / 0.39 inch	14	8	3,5	3	1,4	216-203	1000
1.5 mm² / 16 AWG	black	8 mm / 0.31 inch	12	6	4	3,5	1,7	216-224	1000
1.5 mm² / 16 AWG	black	10 mm / 0.39 inch	14	8	4	3,5	1,7	216-204	1000
2.08 mm² / 14 AWG	yellow	10 mm / 0.39 inch	15	8	4,8	4,2	2,05	216-205	1000
2.5 mm² / 14 AWG	blue	10 mm / 0.39 inch	15	8	4,7	4,2	2,2	216-206	1000
4 mm² / 12 AWG	gray	12 mm / 0.47 inch	18	10	5,4	4,8	2,8	216-207	500
6 mm² / 10 AWG	yellow	14 mm / 0.55 inch	20	12	6,9	6,3	3,5	216-208	100
10 mm² / 8 AWG	red	16 mm / 0.63 inch	22	12	8,4	7,6	4,6	216-209	100
16 mm² / 6 AWG	blue	23 mm / 0.91 inch	28	18	9,6	8,8	5,8	216-210	100





Ferrule; uninsulated; electro-tin-plated; electrolytic copper; gastight crimped; per DIN 46288 (Part 4/09.09)

Conductor Cross Section	Strip Length	L	D	D 2	Item No.	Pack. Unit
0.25 mm² / 24 AWG	5 mm / 0.2 inch	5	1,7	0,75	216-151	1000
0.25 mm² / 24 AWG	7 mm / 0.28 inch	7	1,7	0,75	216-131	1000
0.34 mm² / 22 AWG	5 mm / 0.2 inch	5	1,8	0,85	216-152	1000
0.34 mm² / 22 AWG	7 mm / 0.28 inch	7	1,8	0,85	216-132	1000
0.5 mm² / 20 AWG	6 mm / 0.24 inch	6	2,1	1	216-121	1000
0.5 mm² / 20 AWG	8 mm / 0.31 inch	8	2,1	1	216-101	1000
0.75 mm² / 18 AWG	6 mm / 0.24 inch	6	2,3	1,2	216-122	1000
0.75 mm² / 18 AWG	8 mm / 0.31 inch	8	2,3	1,2	216-102	1000
1 mm² / 18 AWG	6 mm / 0.24 inch	6	2,5	1,4	216-123	1000
1 mm² / 18 AWG	8 mm / 0.31 inch	8	2,5	1,4	216-103	1000
1.5 mm² / 16 AWG	6 mm / 0.24 inch	6	2,8	1,7	216-124	1000
1.5 mm² / 16 AWG	8 mm / 0.31 inch	8	2,8	1,7	216-104	1000
2.5 mm² / 14 AWG	10 mm / 0.39 inch	10	3,4	2,2	216-106	1000
4 mm² / 12 AWG	10 mm / 0.39 inch	10	4	2,8	216-107	1000
6 mm² / 10 AWG	12 mm / 0.47 inch	12	4,7	3,5	216-108	500
10 mm² / 8 AWG	12 mm / 0.47 inch	12	5,8	4,5	216-109	500
16 mm² / 6 AWG	15 mm / 0.59 inch	15	7,5	5,8	216-110	500

Crimping Tool



Crimping Tool 25; for insulated and uninsulated ferrules; crimping range: 10 mm² (8 AWG), 16 mm² (6 AWG) and 25 mm² (4 AWG)

Item No.	Pack. Unit
206-1225	1



Crimping Tool 50; for insulated and uninsulated ferrules; crimping range: 35 mm² (2 AWG) and 50 mm² (1/0 AWG)

Item No.	Pack. Unit
206-1250	1

Application notes:
- Improved crimping for higher conductor retention
- Crimping can be performed from either side (for left- or right-handed users).
- Built-in ratchet mechanism ensures gas-tight crimp connection.
- Crimping tools open automatically after crimping operation is complete.
- Ergonomically designed handles.



Insert the ferruled conductor into the crimping station.

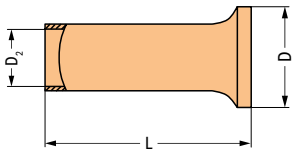


Squeeze handles until ratchet mechanism is released.

What is a "gas-tight" connection?
In a gas-tight connection, the conductor and the ferrule are compressed, eliminating all spaces. Under normal atmospheric conditions, neither a liquid nor gaseous medium can penetrate the crimped connection.
Oxidation between crimped single conductors is prevented, virtually eliminating the possibility of any increase in the crimped connection's resistance. In some exceptional cases, minute, isolated spaces may be present. However, these instances can be considered as closed off due to the twisted conductor.
Inadequate crimping can allow the conductor to be pulled out of the connection. Hollow spaces also remain, permitting oxidation formation and an increase in contact resistance.
Elevated resistance is detrimental for both signal transmission (signal flow is damped) and power transmission, resulting in power loss and contact heating (risk of fire).
Crimping tools with built-in ratchets are recommended (e.g., WAGO Crimping Tools). These tools open automatically after the crimping operation is complete. Space-saving crimping from all four sides is ideal for spring clamp termination.
Ferruled conductor cross sections specified for WAGO products are based on this crimping method.

Uninsulated Ferrule





Ferrule; uninsulated; electro-tin-plated; electrolytic copper; gastight crimped; per DIN 46288 (Part 4/09.09)

Conductor Cross Section	Strip Length	L	D	D 2	Item No.	Pack. Unit
25 mm² / 4 AWG	25 mm / 0.98 inch	25	9,5	7,3	**216-413**	50
35 mm² / 2 AWG	25 mm / 0.98 inch	25	11	8,3	**216-414**	50
35 mm² / 2 AWG	30 mm / 1.18 inch	30	11	8,3	**216-424**	50
50 mm² / 1/0 AWG	30 mm / 1.18 inch	30	13	10,3	**216-425**	50
50 mm² / 1/0 AWG	35 mm / 1.38 inch	35	13	10,3	**216-435**	50

Test and Measurement Devices
206 Series



Multi-Tester; digital multimeter with non-contact voltage tester		
	Item No.	Pack. Unit
	206-810	1



Clamp-Multi-Tester		
	Item No.	Pack. Unit
	206-816	1



Testboy; with integrated flashlight, non-contact voltage tester		
	Item No.	Pack. Unit
	206-804	1



Multi-Tester features:
- Contact-less voltage test AC >100 V (optical and acoustical)
- Resistance measurement up to 20 MΩ
- Acoustical continuity test
- Diode test
- Data hold function
- Auto power-off function
- LED torch lamp function
- CAT IV 600 V
- TÜV/GS tested and approved
- IEC/EN 61010-1 (DIN VDE 0411)



Voltage testing in control cabinet
Clamp-Multi-Tester features:
- DC and AC current up to 600 A
- True RMS and min./max. value measurement
- DC and AC voltage up to 600 V
- Manual or automatic measurement range selection
- Resistance up to 60 MΩ
- Capacitance measurement, acoustical continuity test
- Diode test, data hold function
- Large LCD with backlight
- LED measuring point lighting
- CAT III 600 V overvoltage protection
- IEC/EN 61010-1 (DIN VDE 0411)
- Includes batteries, measurement leads and carrying bag



A device that will reliably detect AC voltage in cables, sockets, fuses, switches, outlets and other installations.
Testboy can detect the following:
- Live conductors
- Cable breaks
- Blown fuses (in cartridges or holders)
- Defective switches
- Defective lamps in strings of lights



Current measurement in a control cabinet

Test and Measurement Devices
206 Series



Profi-LCD+; 2-pole voltage tester with LCD display; removable 4 mm Ø test probes

Item No.	Pack. Unit
206-707	1



Profi-LED+; 2-pole voltage tester with LED display; removable 4 mm Ø test probes

Item No.	Pack. Unit
206-706	1



Spare test probes; 4 mm Ø (2 pieces)

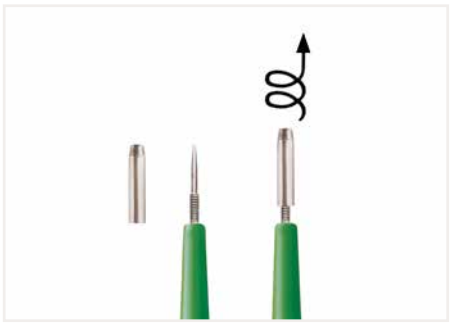
Item No.	Pack. Unit
206-808	25



Additional Profi-LCD+ features:
- Automatic measurement range selection
- Single-pole phase testing AC >100 V
- Two-pole sequence testing (R and L)
- Continuity testing
- RDC/RCD testing (30 mA) via buttons
- One-hand operation for SCHUKO® and CEE sockets
- LED torch lamp function
- Automatic backlight
- Auto power-off function
- CAT IV 1000 V
- TÜV/GS tested and approved
- IEC/EN 61243-3 (DIN VDE 0682-401)



Additional Profi-LED+ features:
- Automatic measurement range selection
- Single-pole phase testing AC >100 V
- Two-pole sequence testing (R and L)
- Continuity testing
- RDC/RCD testing (30 mA) via buttons
- One-hand operation for SCHUKO® and CEE sockets
- LED torch lamp function
- CAT IV 1000 V
- TÜV/GS tested and approved
- IEC/EN 61243-3 (DIN VDE 0682-401)



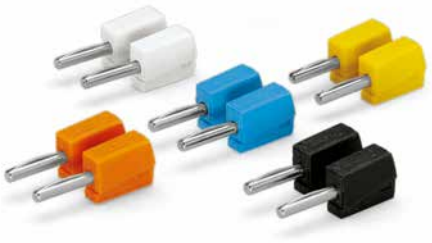
Profi-LED+:
- Improved socket contact via 4 mm Ø test probes
- Removable test probes for small test ports (suitable for all WAGO Terminal Blocks)

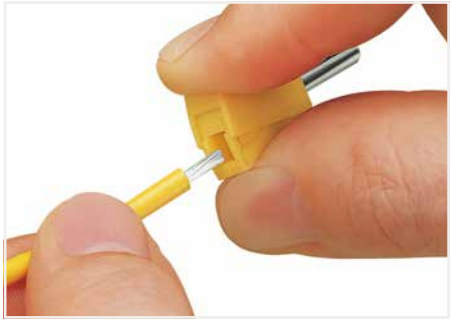




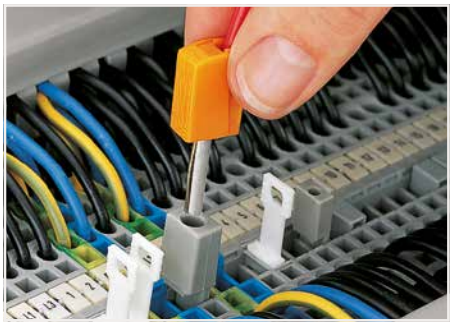
Banana Plug (Only for Safety Extra-Low Voltage)
215 Series

Technical Data	
0.08 … 2.5 mm²	28 … 14 AWG
max. 42 V	
Test current: 20 A	
Measuring range category: CAT I	
9 … 11 mm / 0.35 … 0.43 inch	





Conductor termination: Press button fully, insert stripped conductor into square entry and release.



Testing via banana plug.
Picture shows a test plug adapter (209-170).

Banana plug; for 4 mm socket diameter; color mixed; 10 x orange, white, black, blue, yellow		
	Item No.	Pack. Unit
	215-111	50

Banana plug; single

Banana plug; for 4 mm socket diameter			
	orange	215-211	50



Banana plug; for 4 mm socket diameter			
	red	215-212	50



Banana plug; for 4 mm socket diameter			
	black	215-311	50



Banana plug; for 4 mm socket diameter			
	green	215-411	50



Banana plug; for 4 mm socket diameter			
	yellow	215-511	50



Banana plug; for 4 mm socket diameter			
	white	215-611	50



Banana plug; for 4 mm socket diameter			
	blue	215-711	50

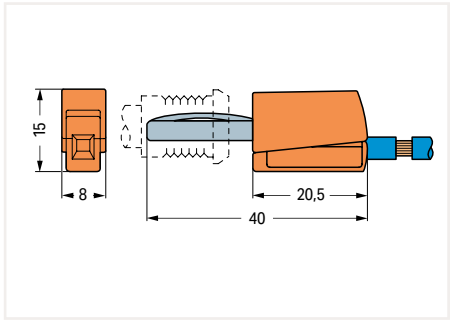


Banana plug; for 4 mm socket diameter			
	gray	215-811	50



Banana plug; for 4 mm socket diameter			
	green-yellow	215-911	50





Dimensions in mm

11

Test Plug
210 Series



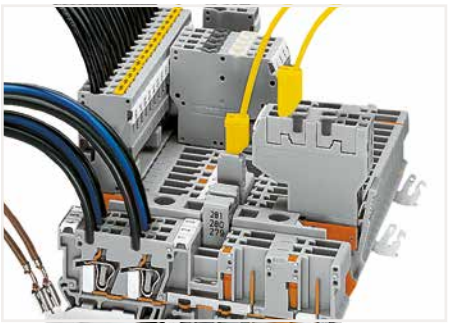
Test plug; with 500 mm cable; 2 mm Ø; max. 42 V		
Color	Item No.	Pack. Unit
red	210-136	50



Test plug; with 500 mm cable; 2.3 mm Ø; max. 42 V		
Color	Item No.	Pack. Unit
yellow	210-137	50



Testing via 2 mm Ø test plug.



Testing via 2 or 2.3 mm Ø test plugs.



Technical Section

Technical Section

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Signal Conditioners

857 Series



Housed in a 6 mm-wide package, the Signal Conditioners feature eight Push-in CAGE CLAMP® connections and a common profile. These features play a key role in forming the basis for a successful overall solution. Additional benefits include: "safe isolation," extended operating temperature range and calibrated, configurable signals. Combined with excellent technical specifications, these features lead to a line of advanced signal conditioning solutions that maximize panel space while reducing signal wiring and downtime.

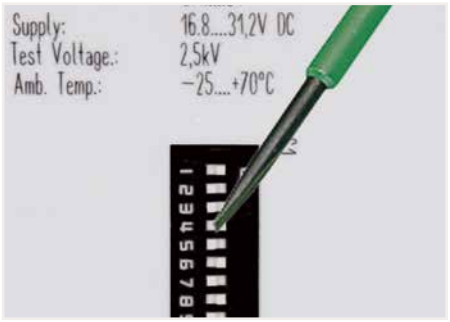
Directly Connect:
Simple, push-in termination of solid and ferruled conductors – no operating tool needed.

PUSH-IN CAGE CLAMP®

Highest Safety:
All devices provide "safe isolation" with 2.5 kV test voltage according to DIN EN 61010-1.



Configuration Options



Configuration via DIP switch



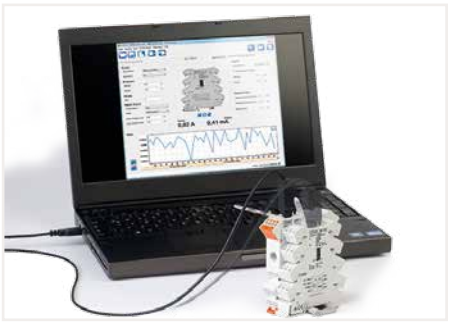
Industry's most compact –
"True" 6.0 mm (0.23 inch) width maximizes panel space.



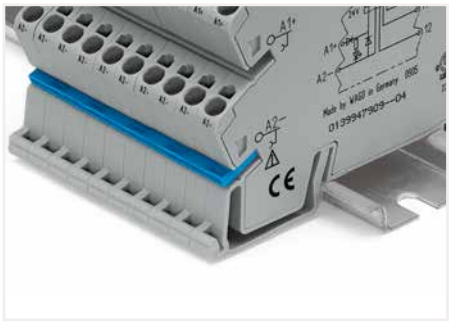
Configuration via *JUMPFLEX*®-ToGo Smartphone App



For extreme applications –
Extended temperature range of –25 °C to +70 °C to support more applications.



Configuration via PC software



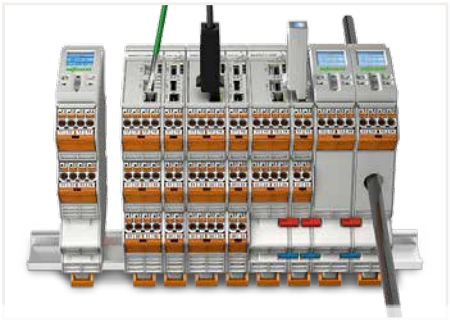
Commoning, not discrete wiring –
Same outline allows use of a single in-line, push-in jumper.



Configuration via push/slide switch

Signal Conditioners

2857 Series



The success of the 857 Series Signal Conditioners shaped the design of the new 2857 Series. Just like the 857 Series, usability and absolute reliability are at the core of the 2857 Series. However, the 2857 Series takes flexibility to new levels by providing several convenient configuration options. In addition to DIP switches, PC configuration software and a smartphone configuration app, there is also a touch panel display. Every aspect has been engineered for maximum flexibility – exactly what you'd expect from WAGO.

Directly Connect:
Simple, push-in termination of solid and ferruled conductors –no operating tool needed.

PUSH-IN CAGE CLAMP®

Highest Safety:
All devices provide "safe isolation" with 4 kV test voltage according to DIN EN 61010-1.



Configuration Options



Configuration via DIP switch



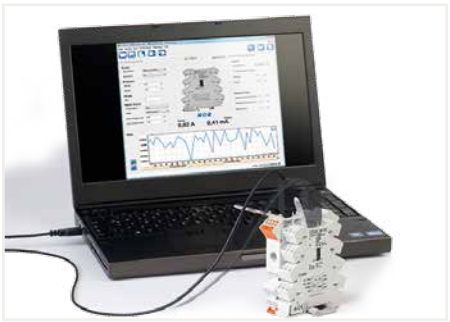
Commoning, not discrete wiring –
Same outline allows use of a single in-line, push-in jumper.



Configuration via *JUMPFLEX*®-ToGo Smartphone App



For extreme applications –
Extended temperature range of –40 °C to +70 °C to support more applications.



Configuration via PC software



Lock-out seal option



Configuration via touch panel – an innovative display



Pluggable connection technology

Isolation Amplifiers
with a Power Supply

Pre-Configured Isolation Amplifiers

Pre-configured isolation amplifiers convert, amplify, filter and electrically isolate analog standard signals (e.g., 0 … 10 V into 0 … 20 mA).

Configurable Isolation Amplifiers

For signal conditioners, and particularly two-wire signal conditioners, the measured signal is often in the 4 … 20 mA range as a current value. For the analog input card of a PLC, however, input voltages in the ranges of 0 … 10 V or 0 … 5 V are required.
Configurable isolation amplifiers support various standard signals at the input and output; the devices also convert, amplify, filter and electrically isolate analog standard signals. DIP switches accessible from the side can be used to configure the input and output signals. Measurement range configuration via DIP switch is calibrated.

Universal Isolation Amplifiers

In addition to the configurable isolation amplifiers, the universal isolation amplifiers can also be configured via PC configuration software or smartphone app. The configuration software also offers additional options, such as special input and output signal combinations with intermediate values or inversion of the analog output. An error message can be signaled via digital switching output.

Bipolar Isolation Amplifiers

Bipolar measurement signals often require processing, e.g., when motor currents are measured in both directions of rotation. Bipolar signals are also processed for recording distances or for better resolution of measurement signals.

Repeater Power Supplies

Repeater power supplies energize transmitters.
Two-wire transmitters regulate their own current consumption proportional to the measured value; the 4 … 20 mA connection provides auxiliary power for the transmitter and the magnitude of the current is the same as the output measured value.
Three-wire transmitters usually have an active current output for the measured value and additional connections for the supply voltage (auxiliary power).

Signal Splitters

Signal splitters divide a standard signal into two signals. The measured signal can be supplied to different downstream devices without interference.
Example: A signal conditioner supplies 4 … 20 mA input current. 20 mA.
Output 1 is configured to 4 … 20 mA and transmits the measured value to a controller.
Output 2 is configured to 0 … 20 mA and regulates a controller.

Isolation Amplifiers
without a Power Supply

Passive Isolators

Passive isolators draw their power from the input signal (4 … 20 mA) and require no additional wiring or auxiliary power.

Loop-Powered Isolation Amplifiers

Loop-powered isolation amplifiers draw their power from the output signal (4 … 20 mA) and require no additional wiring or auxiliary power.

Relay Modules







Relay Modules

Conveniently Interface Electronics and Peripheral Devices

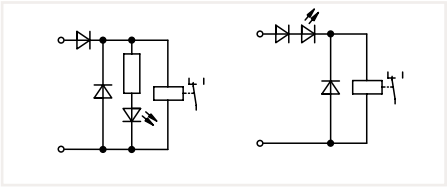
In modern automation systems, electromechanical relays safely connect process peripherals with electronic control, alarm and monitoring systems. For example, relays perform the following tasks:
Electrical isolation with high isolation levels between input and output circuits
Adjust different signal levels
Signal amplification and/or signal multiplication if varying potentials coexist
The comprehensive design of modern relays provides applications with the following benefits:
Immunity to electromagnetic interference and transient voltages
High, short-term overload capacity on both input and output sides
Minimal switching loss
A single module that switches both direct and alternating currents

WAGO offers a complete range of relay modules that perform these tasks for a wide range of applications. Depending on the task and application requirements, there is a choice of relay modules with differently rated voltages, contacts, contact materials, housings and designs. In addition to standard switching relays, other relay models are available including bistable, timer, latching and safety relays with force-guided contacts.

Definitions of Several Important Technical Terms

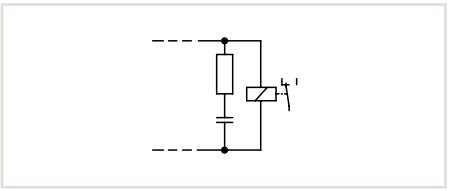
Coil-Side

The relays can be used within the stated temperature range with nominal voltage plus tolerance at 100% continuous rating. According to the type and application, the relays are triggered with a DC or AC signal. The DC versions (residual ripple ≤ 6%) are, unless otherwise stated, equipped with LED function indicators, a recovery diode and a reverse voltage protection diode. The functional details are shown in the wiring diagram.



Possible input circuits of relay modules

AC versions of select relays equipped with series connected rectifiers (refer to the wiring diagrams) can be triggered with AC and DC at the stated nominal voltage.
The free-wheel function is in this case actuated by the rectifier. The only input circuit on purely AC relays is the status display.
To guarantee safe operation, residual voltages (due to the cable capacitance of long connection lines or leakage currents of semi-conductor switches and their protective circuits) must be lower than the release voltage of the relays. For DC relays, the release voltage is specified with ≤ 5 % of the nominal voltage; for AC relays, it is 15 % of the nominal voltage (per EN 61810).
The relay may not reset if a high residual voltage exists. Depending on the reason for the residual voltage, changing the cable routing or a parallel connection of an RC element of R = 100 … 220 Ω and C = 220 … 470 nF could remedy this situation.



Optionally, modules specially developed for this application are available, e.g., sockets with a miniature switching relay and integrated base load module (857-358/006-000).

Relay Modules

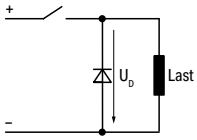
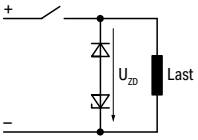
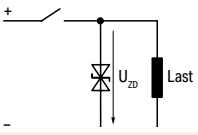
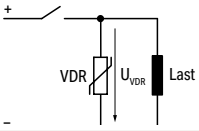
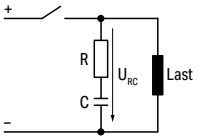
Contact Materials

For contact reliability, the contact resistance over the entire operating life of the relay should remain relatively low and constant. A variety of contact materials can be selected depending on the load type, switching current, switching voltage and the desired number of switching cycles. The accompanying table shows the materials, their properties and applications when used with WAGO relay modules.

Contact Material	Properties and Applications	Application Range
AgNi 0,15 + Au	Excellent corrosion resistance, low and constant contact resistances at extremely low switching power, for dry circuits	µV ... 30 V µA ... 0,2 A
AgNi 0,15	Good mechanical stability, low welding tendency and low contact resistance, universal use at moderate loads	≥ 12 V 5 mA ... 10 A
$AgSnO_2$	Low welding tendency, extremely high burn-off resistance at high switching power, suitable for circuits with high switch on/off loads, DC circuits	≥ 5 V / 100 mA ≥ 10 V / 10 mA ≥ 24 V / 1 mA

Contact Protective Circuit

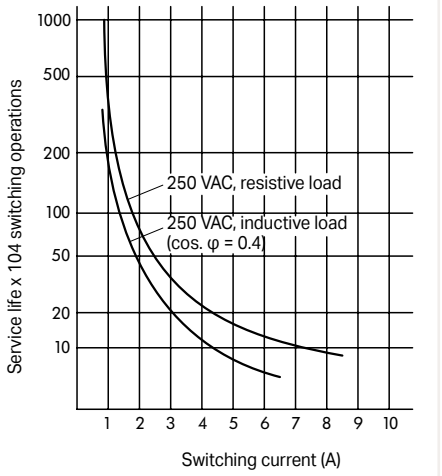
When switching off inductive loads, such as contactors and solenoid valves, transients occur with peak voltages up to several thousand volts. These transients often exceed the permissible EMC standard limits and must therefore be limited by external circuits. They also cause an electric arc at the switching contact, which can destroy the contact or can significantly diminish the relay's service life and reliability. The following protective circuits, which are outlined in the table, are connected directly to the source in parallel to the load and have proven to be successful.

Load Circuit	Additional Fall Delay	Defined Induction Voltage Limitation	Bipolar-Effective Attenuation		
Diode 	Large	Yes (U_D)	No	Advantages: Disadvantages	• Easy implementation • Cost-effective, reliable • Uncritical dimensioning • Small induction voltages • Attenuation only via load resistor
Diode/Zener Diode Series Circuit 	Medium to small	Yes (U_{ZD})	No	Advantages: Disadvantages	• Uncritical dimensioning • Attenuation only above U_{ZD}
Suppressor Diode 	Medium to small	Yes (U_{ZD})	Yes	Advantages: Disadvantages	• High energy absorption • Uncritical dimensioning • Suitable for AC voltage • Attenuation only above U_{VDR}
Varistor 	Medium to small	Yes (U_{VDR})	Yes	Advantages: Disadvantages	• High energy absorption • Uncritical dimensioning • Suitable for AC voltage • Attenuation only above U_{VDR}
R/C Combination 	Medium to small	No	Yes	Advantages: Disadvantages	• RF attenuation via power storage • Suitable for AC voltage • Level-independent attenuation • Accurate dimensioning required • High inrush current

Relay Modules

Service Life

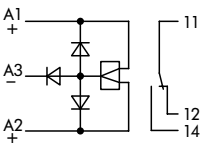
A distinction must be made between the mechanical life, which indicates the number of switching cycles without contact load, and the electrical service life at maximum load, which indicates the number of switching cycles with maximum switching power and resistive load. Reduced power increases the service life compared to the value of the maximum load. The following figure shows the typical curve between switching current and service life of a relay.



More details upon request

Description of Select Relays

Bistable Switching Relays



Bistable switching relays have three coil contacts. According to the wiring scheme, the relay is switched into "working condition" (contacts 11 ... 14 closed) by the common connection A3 and the connection A2 and into "rest position" (contacts 11 ... 14 opened) by the connection A1. After removing the control signal, the relay returns to its respective position and can only be switched over by a control signal circuit. The bistable switching relays are only available for direct voltage with positive or negative triggering.

Current Pulse Switching Relays

One current pulse is needed to change the relay from the rest position to the working position and vice versa. During the triggering process, one of two status indicators displays the actual contact position. The current pulse switching relay is available for direct and alternating voltage.

Safety Relays

Force-guided safety relays have become increasingly recommended and specified for self-regulated systems as they provide protection for personnel, machines and installations. Relays with force-guided contacts are an essential safety component for these circuits, particularly when defects occur. For these applications, WAGO offers specialty relay modules with force-guided contacts as based on EN 61810-3.

Optocouplers

Optocouplers – The Modern and Powerful Alternative

As a link between process peripherals and electronic control, alarm and monitoring systems, optocoupler modules boast the following advantages over electromechanical relays:

- Longer service life – no mechanical wear
- High switching frequency because of fast switching times
- Vibration resistance
- No contact bouncing
- "Noiseless" switching
- Low control power

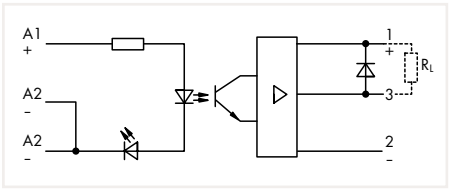
WAGO provides a full range of optocouplers for all interfaces between control and load circuits in applications where the following advantages are needed:

- Electrically isolate input and output circuits
- Adjust different signal levels
- Signal amplification

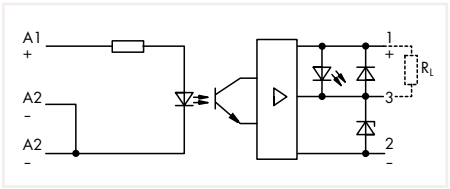


Input circuit

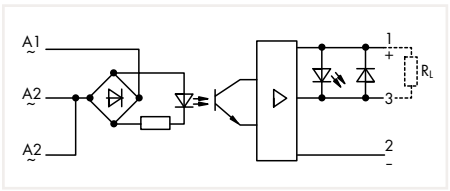
According to the type, triggering the optocoupler modules is performed via DC voltage (residual ripple RR <6%) or AC voltage (50 … 60 Hz).
In the DC type, a reverse voltage protection diode is always provided; in the AC type optocoupler element, a rectifier is included. The optocoupler modules are equipped with a LED function indication at either the input side or at the load side, as shown in the wiring diagram.



DC triggering with LED function indication in the triggering circuit



DC triggering with LED function indication in the load circuit



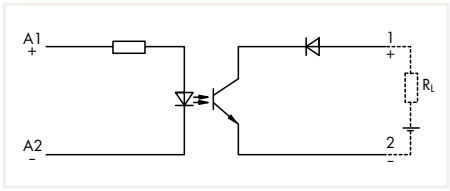
AC triggering with LED function indication in the load circuit

Due to the low threshold voltages, it must be ensured that interference and residual voltages (caused by the cable capacitance of long connection lines or leakage currents of semi-conductor switches and their protective circuits) do not cause any malfunctions.

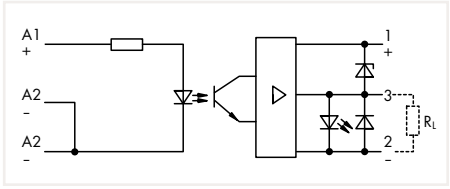
Output Circuit

Depending on the application, an optocoupler module for DC or AC voltage consumers can be selected on the load side. In the case of DC outputs, they can be:

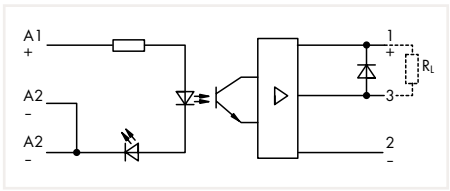
- 2-wire output
- 3-wire high-side switching output
- 3-wire low-side switching output



2-wire output

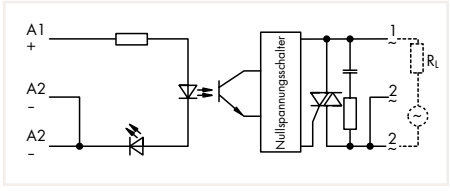


3-wire high-side switching output



3-wire low-side switching output

In addition to these different functional outputs, the output voltage range and the maximum switching current must be observed.
To ensure proper operation, the specified polarity must be observed.
In order to protect the output transistors, inductive loads must always be equipped with a protective circuit, e.g., a recovery diode. For other types of protective measures, the cut-off voltage peaks must be lower than the indicated cut-off voltage of the output transistors. For the AC outputs a Triac is used as the switching element.



In order to avoid high inrush currents, the AC output is equipped with a zero-voltage switch which turns on the load at the zero-voltage point. In the current zero-crossing, the Triac will cut off the load. Besides observing the maximum switching voltage and maximum switching current for inductive loads, ensure the provision of a protection circuit to cut-off peaks to a value below the reverse voltage.

Relay Modules and Optocouplers
Housings and Designs

Modern equipment design requires multiple components that can meet diverse challenges:
User- and maintenance-friendly, limited budgets, safety and availability, simplicity in design and usage.

WAGO offers relay and optocoupler modules in various designs to overcome any of the restraints posed by space requirements.

Sockets with a Miniature Switching Relay or a Solid-State Relay, 788 Series



Socket with a pluggable miniature switching relay

WAGO 788 Series Relay Sockets are an excellent platform for industrial and process automation switching relay applications. Featuring plug-and-play, miniature switching relays (1 or 2 changeover contacts), the 788 Series relays are ultra-compact, fitting where other relays won't.
A compact design (W x H x D: 15 x 53 x 86 mm) is just one of the 788 Series' unique and highly beneficial features.
A robust, easy-to-use lever lifts/ejects relays, simplifying replacement – even if relay modules are side-by-side.
For flexibility and the reduction of part numbers, the 788 Series can be ordered as: a fully equipped relay module, a relay and LED for switching status indication, or as individual components.

Relay and Optocoupler Modules, 857 Series



Relay module with plugged miniature switching relay

WAGO's 857 Series Relay and Optocoupler Modules are supplied in 6 mm-wide housing and share a common profile. The modules feature a single, flexible in-line jumper system, eliminating discrete wiring. The pluggable relays can simply be replaced from the top.



Relay and optocoupler modules

Relay Modules and Optocouplers
Housings and Designs

Pluggable Function Modules for Carrier Terminal Blocks, 286 Series



Pluggable function modules for carrier terminal blocks

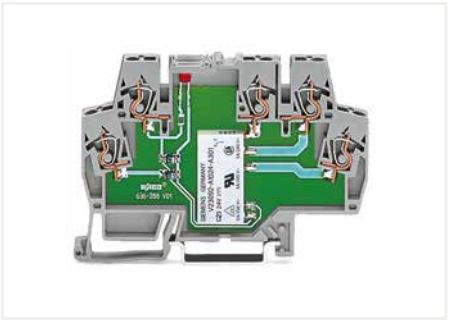
Pluggable modules for carrier terminal blocks maximize flexibility while simplifying maintenance.
The carrier terminal block is mounted on the DIN-rail and wired just like a standard terminal block.
For ease of maintenance, the modules are replaced in one step without altering the wiring. This intelligent design also saves space and reduces wiring costs.



Pluggable relay modules for carrier terminal blocks

A comprehensive range of function modules is available to complement these relay and optocoupler modules. The modules seamlessly integrate any required function into control cabinets via pluggable modules.

Rail-Mount Terminal Blocks with Relay and Optocoupler, 859 Series



Relay module

With a wide range of relays and optocouplers, the 859 Series will suit any industrial interface application.
The compact, 6 mm-wide housing is ideal for space-restricted control panels. Simple commoning at the control and load side streamlines looping through of common input and output potentials.

Sockets with an Industrial Relay, 858 Series



Socket with an industrial relay

A robust design and vibration-proof CAGE CLAMP® Spring Pressure Connection Technology ensure continuous and uninterrupted operation for any system. The right choice for applications requiring up to four changeover contacts. Dual conductor entries enable customized potential distribution.

Relay Modules in a DIN-Rail Mount Enclosure, 789 Series



Relay module in a DIN-rail-mount enclosure

WAGO 789 Series Switching Relays serve a wide variety of applications, from basic lighting control – homes, hotels and commercial structures – to comprehensive industrial control cabinets.
Just 17.5 mm wide, the compact DIN-rail-mount enclosure is ideal for distribution boards and meter cabinets.
The relay modules with manual operation allow simple emergency operation to be implemented.

Interface Modules

Safe and Maintenance-Free Connections

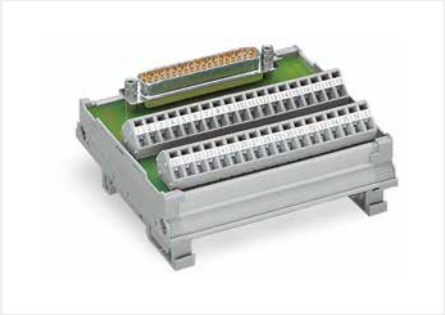
Interface modules connect electronics to electrical systems at the control level and perform:
- signal transmission between control and field level (system, machine), as well as
- signal distribution between control and field level

and vice versa. Here, the control signals from pre-assembled, plug-in connections are applied to terminal block connections.
WAGO offers a wide range of interface modules for commonly used connector types. Using these interface modules, the following benefits are provided for system wiring:
- Simple and time-saving planning and calculation
- Quick wiring, commissioning and troubleshooting thanks to clearly laid-out wiring and highly legible pole markings – decrease wiring errors
- Safe and maintenance-free connection of signal lines using CAGE CLAMP® terminal strips
- Space-saving, high-density wiring

The interface modules can be delivered as standard, in a universal DIN-rail mounting carrier for the following connectors:

D-Subminiature Connector per DIN 41652

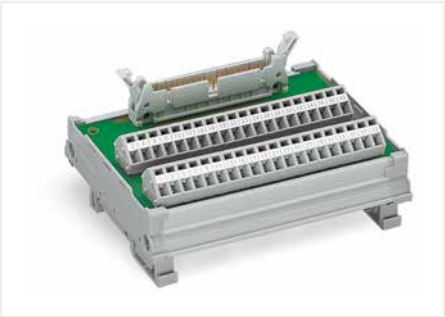
Interface modules for male and female connectors are available with 9, 15, 25, 37 or 50 contacts. Compared with the standard solder connection, the mating connector with IDC connection offers additional advantages.



Interface module with D-subminiature connector per DIN 41652

Pluggable Connector per DIN 41651

Interface modules with 10-, 14-, 16-, 20-, 26-, 34-, 40-, 50- and 64-pole pluggable connectors are available for ribbon cable connectors.



Interface module with pluggable connector per DIN 41651

RJ-45 Interface Modules

The RJ-45 interface modules are switchgear cabinet components for passive and structured network cabling. A range of DIN-rail-mount RJ-45 interface modules in different variants are available for the various applications:
- with shield clamping saddles
- as crossover
- with additional power contacts



RJ-45 Interface Modules

Power Supplies
Serie 787

Pro Power Supplies



Slimline, 1- and 3-phase, switched-mode power supplies feature a wide input voltage range, stabilized, adjustable 12, 24 or 48 VDC output voltage, output power up to 960 W and high efficiency. An integrated PowerBoost (up to 100% output power for 4 seconds or alternatively 150% for 8 s) allows reliable starting of heavy loads with high inrush currents, eliminating expensive oversizing of the power supply. The TopBoost function, which provides a much higher output current of up to 60 A for 50 ms, permits use of standard circuit breakers for protection on the secondary side. This enables safe tripping within the time limits required by the EN 60204 standard.



Select devices utilize the LineMonitor feature for current and voltage monitoring, fault memory and parameterization options via LCD display, on-unit function keys, or free monitoring software and available RS-232 interface from a PC and PLC. This allows the power supply to replace additional devices, such as phase failure and phase sequence monitoring devices or operational hour meters.
Power supplies without LineMonitor offer a DC OK contact for output voltage monitoring and a stand-by mode to switch off the device output via remote input, while minimizing power consumption. Foolproof, pluggable CAGE CLAMP® connectors permit efficient pre-wiring.

Classic Power Supplies



Single-phase, two-phase and three-phase, primary switch mode, industrial power supplies provide a wide input voltage range and robust metal housings. The Classic Power Supplies have a stabilized, adjustable output voltage and provide short-circuit and overload protection. The devices achieve high efficiency and the integrated LED status indicator conveniently provides operational status at a glance. Foolproof, pluggable CAGE CLAMP® connectors permit efficient pre-wiring.
The Classic Power Supplies are available in four nominal output voltages: 12, 24 or 48 VDC, as well as 30.5 VDC for AS-Interface networks.
Depending on the voltage, outputs of up to 960 W are available.
Classic Power Supplies with outputs of up to 120 W comply with the EN 60335-1 standard, making them suitable for use in devices and machines subject to EN 60335-2 (so-called household appliance standard).
Classic Power Supplies with outputs of 120 W and higher are provided with a TopBoost, enabling the use of conventional circuit breakers for secondary-side protection.
Virtually all devices of the Classic Power family are provided with DNV GL approval for use in shipbuilding or onshore/offshore applications.

Eco Power Supplies



Single-phase and three-phase, switched-mode power supplies in sturdy metal housing offer a wide input voltage range, without manual switching. The stabilized, front-panel adjustable 24 VDC output voltage is protected against open and short circuits, and constant current operation is provided in the overload range up to 180%. LEDs quickly provide operational status at a glance.
CAGE CLAMP® provides fast, vibration-proof and maintenance-free terminations, allowing DIN-rail mounting in several positions as well as screw mounting without a DIN-rail. These devices also have conformity with EN 60335-1, allowing use in appliance building.
Individual devices with ATEX, IEC Ex and ANSI/ISA 12.12.01 approval are available for use in Zone 2 hazardous areas.

Compact Power Supplies



Single-phase, DIN-rail-mount power supplies are used in meter boards, junction boxes, small and system distribution boxes or flat control panels in buildings and industrial applications. Devices with nominal output voltages of 5, 12, 18 or 24 VDC are protected from overloads and short circuits, are provided with an integrated status LED and offer outputs of up to 150 W.
Some devices come with a pluggable female connector with integrated Push-in connection technology, ensuring particularly rapid and convenient wiring.
This family also includes devices that comply with EN 60335-1 and are suitable for use in appliance building. Devices with DNV GL approval are also available for use in shipbuilding and onshore/offshore applications.

Electronic Circuit Breakers (ECBs)



Configurable protection via 2-, 4- or 8-channel ECBs, for shutting down faulty 12, 24 or 48 VDC current paths. Offering adjustable trip times, ECBs respond to short circuits/overloads quicker than traditional circuit breakers or fuses, or when unintended start-ups must be prevented in the event of a ground fault (see EN 60204). This is particularly advantageous when using long cables between a power supply and load where loop resistance may be very high. Due to their faster and more precise tripping characteristics, as well as the possibility to set at six times the nominal current, ECBs have clear benefits. The devices also come with integrated current and voltage monitoring, the possibility to charge high capacitive loads, a slim design, pluggable connection technology, as well as marking and sealing options. ECBs with active current limitation are also available as an option. These advanced features enable ECBs to reliably prevent voltage drops in the event of a short circuit.
A group message notifies whether channels have tripped. A remote reset is also possible. Furthermore, the digital signals provided enable the simple polling and switching of each individual channel. Voltage and current values can also be transferred.

Uninterruptible Power Supplies (UPS)



Uninterruptible power supplies (UPS) reliably compensate for long power outages. They consist of a charger and controller, as well as a connected battery of varying capacities. In battery operation, 24 VDC can be provided for several hours depending on the load current and battery capacity. The charger and controller are supplied with 24 VDC from an external power supply – capacity must be matched to the load. Parameterization and diagnostics are simplified by an optionally integrated LCD with keypad, or free software using an RS-232 interface (for connection to a PC or PLC). The battery modules come with battery control technology. They have an integrated microcontroller with temperature sensor, allowing for temperature-controlled charging via charger and controller, which extends the battery's service life. The remaining battery life is determined, according to which the charger and controller can generate a signal for battery replacement.

Power Supplies
787 Series

Redundancy Modules



Redundancy modules have two integrated power diodes for parallel connection of power supplies, while improving power supply availability or increasing the total current for the 12, 24 or 48 VDC loads.
An optional signal contact reports the failure of one or both input voltages, which is also displayed via LED.

Capacitive Buffer Modules



Maintenance-free capacitive buffer modules ensure smooth operation and protect data during shorter 24 VDC power interruptions. Depending on the output current and buffer capacity, buffer times up to several seconds can be achieved. While control units are particularly sensitive to short power interruptions, an integrated signal contact reports buffer operation, offering the control unit sufficient time for preventive measures (e.g., saving valuable production data or program parameters).

DC/DC Converters



Available in a 6 mm wide housing or DIN-rail-mount enclosure, DC/DC converters are ideal for applications where it is not necessary to use a separate power supply with special voltage due to low power requirements (e.g., when supplying sensors, actuators or DALI bus devices).

DIN-Rail-Mount Modules – Power Supplies



Standard transformer power supplies with bridge rectifier, smoothing capacitors and stabilized output voltage via longitudinal voltage regulator are ideal for supplying small loads with nominal output voltages of 24, 12, ±12 and ±15 VDC. Their low residual ripple makes them particularly well suited for applications using analog technology.
The DIN-rail-mount modules feature CAGE CLAMP® technology for fast, vibration-proof and maintenance-free connections.

DIN-Rail-Mount Modules – Constant Voltage Sources



Constant voltage sources provide stabilized 24 VDC voltage via integrated longitudinal voltage regulator. The DIN-rail-mount modules feature CAGE CLAMP® technology for fast, vibration-proof and maintenance-free connections.

Communication Cables



The communication cables connect the RS-232 interface of the following devices to a PC or PLC RS-232 interface: power supplies with integrated LineMonitor (787-85x), ECBs (787-86x), UPS charger and controller (787-87x), power supply with integrated UPS charger and controller (787-1675). When combined with free software, users can easily set device parameters and perform diagnostics.

Overvoltage Protection

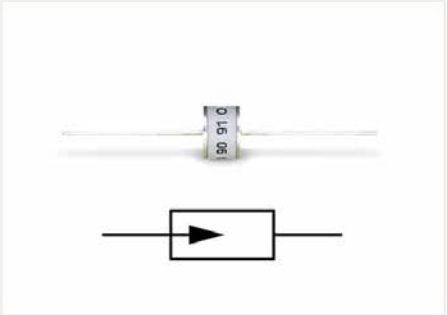
Overvoltage protection for increased safety and longer on-line operation

On-the-line overvoltages cause most operating failures for measuring, control, data and power lines. Failure of electronic and semiconductor components due to surges can cause operating interruptions. The overvoltage (also called transients) can be generated by switching electrical equipment on or off or by lighting discharges. Depending on the application, protective measures for systems and devices can be broken down into:

- Coarse protection
- Medium protection
- Fine protection

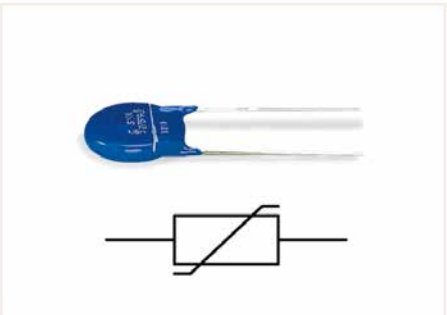
The boundaries between these levels of protection may not be sharply defined. To implement the appropriate protection measures, various components are used for discharging transient overvoltage, depending on the protection type. The following components have proven performance in these applications:

Gas-filled surge arrester



The gas filled surge arrester is comprised of two electrodes in a ceramic or glass tube filled with a pressurized inert gas.
Once the ignition voltage is reached, resistance drops due to ionization and current begins to flow. The resistance of the device drops from high to low as it conducts. The voltage across the device after the arc is struck is typically 10 ... 30 V. Therefore, the current will continue to flow until the voltage drops below this level. As this is not a guaranteed occurrence in typical power situations, a fuse must precede the device to ensure disconnection from the supply. This is always the case if the nominal voltage of the protected network is greater than 12 VDC and the nominal voltage of the power supply and the protected circuit is greater than 100 mA.

Varistor



A varistor is a voltage-dependent resistor, in which the resistance becomes low after their "nominal voltage" is exceeded and for the voltage range above it, and can thus cut off any overvoltages through high discharge currents. Varistors can age with continued surge conduction, resulting in lower impedance even in the lower voltage range. However, this normally only occurs when a varistor frequently discharges transients. In this case, they must be replaced and specific time intervals.

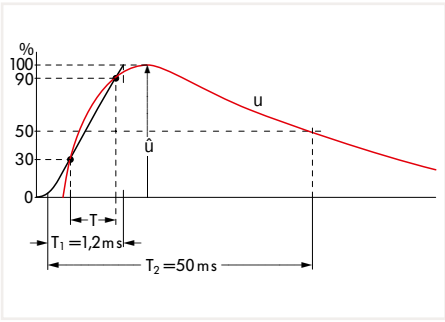
Suppressor Diode



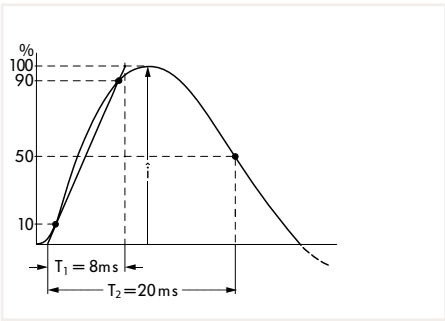
Suppressor diodes have electrical characteristics similar to Zener diodes, but are rated for surge currents.
Once the rated breakdown voltage is exceeded (in the non-conductive direction), the diode becomes a conductor. The suppressor diode differs from a Zener in its higher current carrying capability and faster response time (in the picosecond range).

Test Impulse

Surge arresters are subject to standardized test pulses in order to classify capabilities; the effectiveness of protection measures with reference to dissipation capacity and voltage arresting. The form and level of the test pulses are defined by IEC 60060-1 and EN 62475:2010. Preference is given to voltage pulses of 1.2/50 and current pulses of 8/20.



Voltage pulses 1.2/50 per IEC 60060-1



Current pulses 8/20 per EN 62475:2010

Application Recommendations

The advantages of gas-filled surge arresters lie in their high current carrying capacity, making them ideal for coarse protection. One disadvantage, particularly in the medium protection range, is the relatively long response time, as well as the power follow current.
Varistors have a considerably shorter response time; however they also have lower leakage currents. This makes them more suitable for medium protection as they offer limited applications for coarse protection.
If the connection lines of electronic equipment are already "fine" protected, general coarse and medium protection measures are sufficient. If this is not the case, suppressor diodes with a very short response time may be employed as fine protection. WAGO offers a complete range of modular terminal blocks with integrated surge arresters for coarse, medium and fine protection.
Depending on the application, one can choose the appropriate type from the previously mentioned surge arresters. These are electrically connected in the modular terminal blocks between the connection point and mounting rail. Snapping the terminal block onto the grounded (earthed) mounting rail automatically ensures the required overvoltage protection.



Double-deck terminal block, with varistor direct connection to DIN-35 rail

Frequently, only one surge arrester is fitted for cost reasons. However, due to the fact that one surge arrester alone cannot optimally ensure several protection functions, combinations are recommended. Care must be taken to ensure that the single-stage protection devices are decoupled sufficiently by inductors or resistors.

Overvoltage Protection

Interference suppression modules are a special category here.
In addition to overvoltage protection, a high frequency interference filter can be added to the circuitry. This filter cannot only protect the equipment from high frequency energy transmitted by connecting wires, but also prevents a transmission of disturbances to the supply lines. The main component of a filter is an LC network, which produces a mismatch between the filter impedance and the impedance of the disturbance path. This reflects any disturbance back to its source.

Definition of Several Important Technical Terms

Nominal Operating Voltage (U_{BN})

The nominal operating voltage corresponds to the voltage which may be permanently connected to the appropriate connection terminals of the overvoltage protection module. Alternating voltages are quoted as effective values.

Max. Operating Voltage (U_{Bmax})

The maximum operating voltage corresponds to the voltage which may be permanently connected to the appropriate connection terminals without the operating properties changing or activating the individual module's protection elements.

Nominal Current (I_N)

The nominal current corresponds to the current which may permanently flow through the connection terminals of the overvoltage protection device.

Nominal Discharge Current (I_{SN})

The nominal discharge current is the maximum value of a current having the 8/20 µs waveform, which can flow through the surge arrester five times within a time period of 30 seconds (VDE) without destroying it.

Max. Surge Current (I_{Smax})

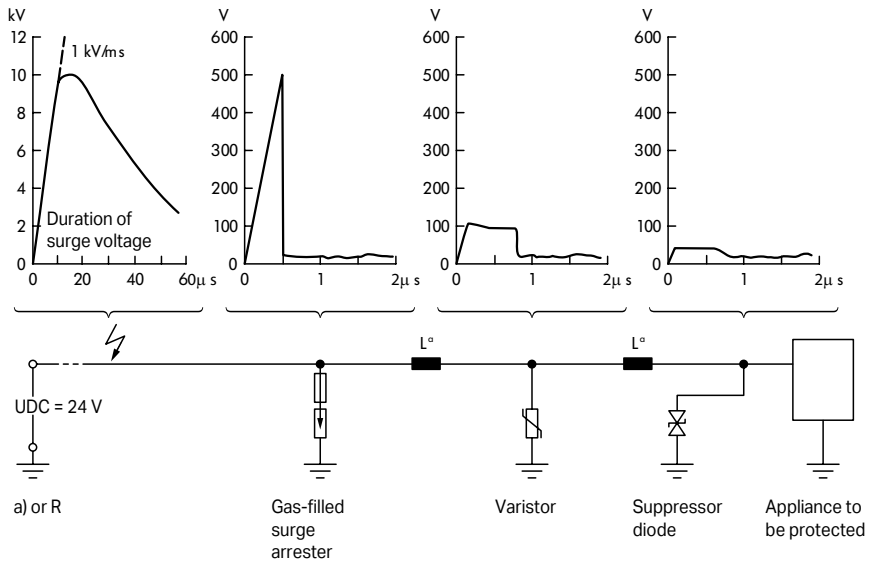
The maximum surge current ISmax defines the maximum value of a current having the 8/20 µs waveform, which can flow through the surge arrester once without destroying it.

Protection Level (U_P)

The protection level is the value of the residual voltage occurring on the "protected" side of the surge arrester when applying the rated discharge current.

Response Time (t_{resp})

The response time is primarily based on the physical properties of the surge arresters and is dependent upon the wave front duration of the surge voltage. WAGO's data refers to a voltage rise 1kV/µs.



Function diagram of a multi-stage surge voltage protection module

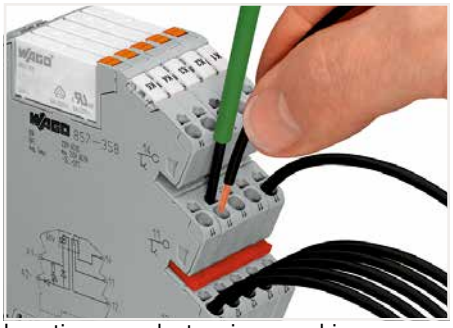
Installation Notes

Relay and Optocoupler Modules, 859 Series



Inserting a conductor via screwdriver.

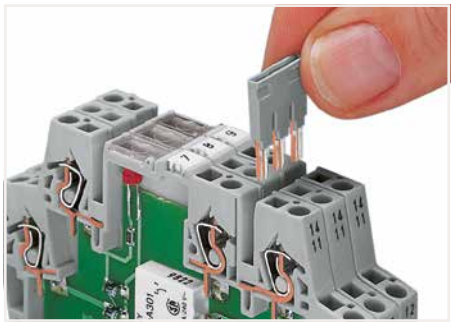
Relay and Optocoupler Modules, 857 Series



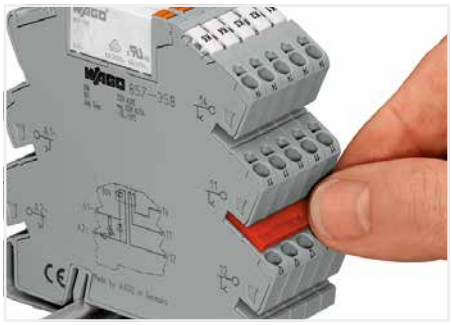
Inserting a conductor via screwdriver.



Removing a relay via ejector.



Easy commoning using adjacent jumpers.



Easy commoning using adjacent jumpers.



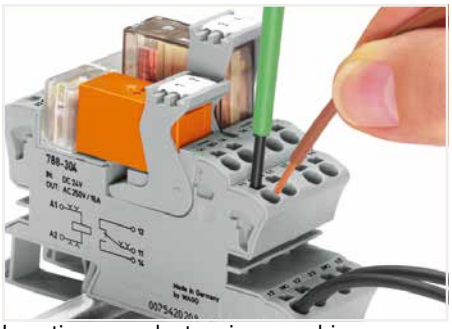
Marking via Mini-WSB Quick Marking System.



Marking via WMB Multi Marking System.

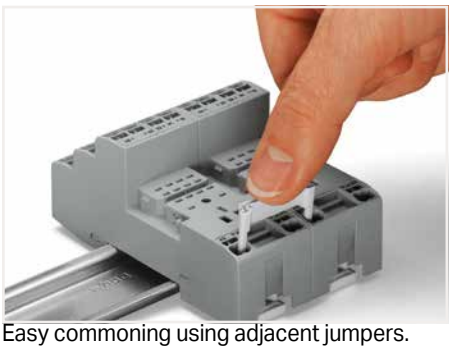
Installation Notes

Sockets with a Miniature Switching Relay, 788 Series

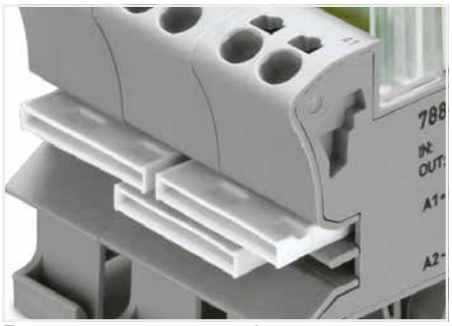


Inserting a conductor via screwdriver.

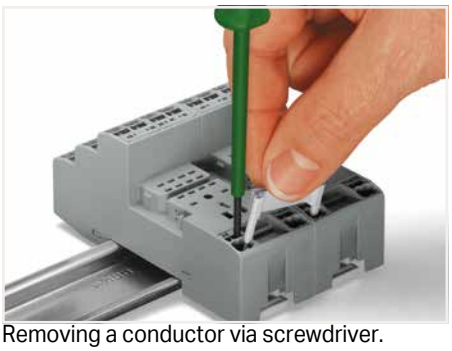
Sockets with an Industrial Relay, 858 Series



Easy commoning using adjacent jumpers.



Easy commoning using adjacent jumpers.



Removing a conductor via screwdriver.



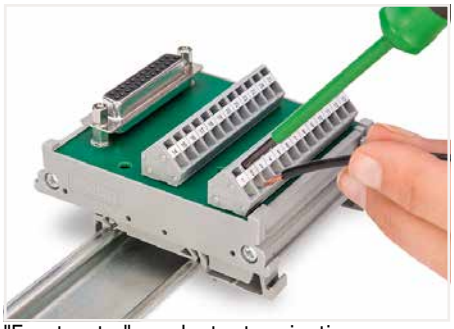
Marking using WMB Multi markers and group marker carriers.



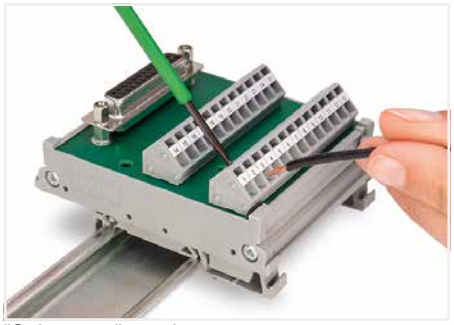
Marking using WMB Multi markers and group marker carriers.

Installation Notes

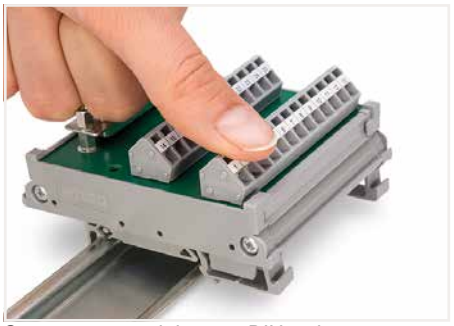
DIN-Rail-Mounted Interface Modules, 289 Series



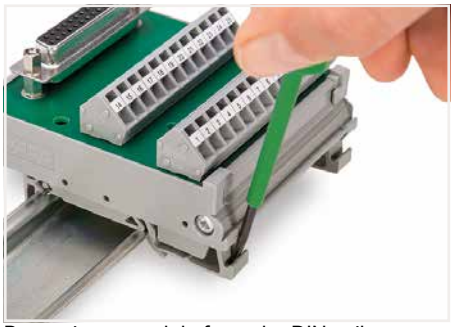
"Front-entry" conductor termination



"Side-entry" conductor termination

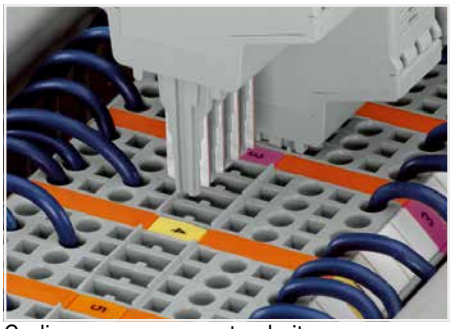


Snapping a module onto DIN-rail.



Removing a module from the DIN-rail.

Pluggable Function Modules for Carrier Terminal Blocks, 286 Series



Coding ensures correct polarity.



Pluggable electronic modules on 2- or 4-conductor carrier terminal blocks

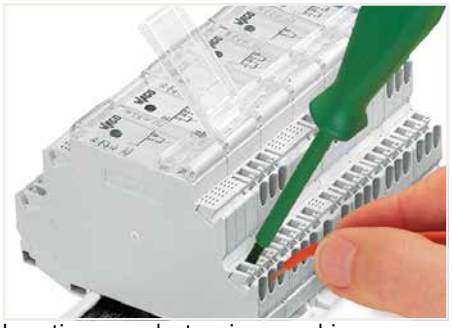


Marking via WMB Multi Marking System.

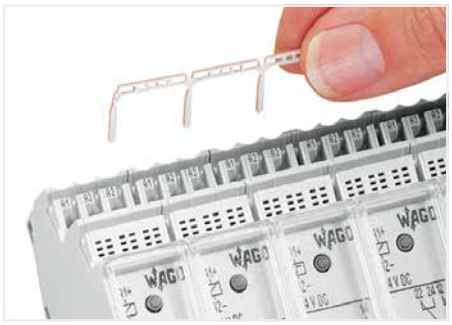


Function testing via touch-proof test slots.

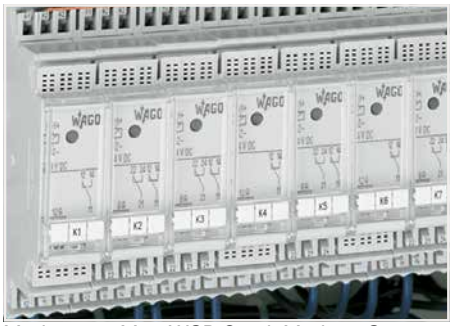
Relay Modules in a DIN-Rail Mount Enclosure, 789 Series



Inserting a conductor via screwdriver.



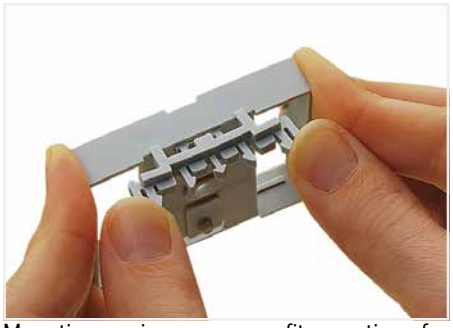
Easy commoning via adjacent jumpers.



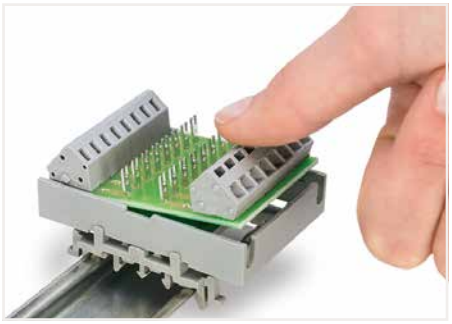
Marking via Mini-WSB Quick Marking System.

Installation Notes

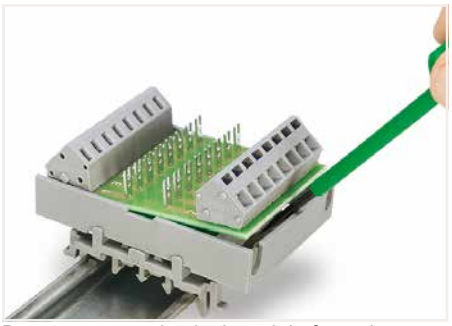
Interface Modules, 289 Series



Mounting carrier, gray, snap-fit mounting of universal mounting feet

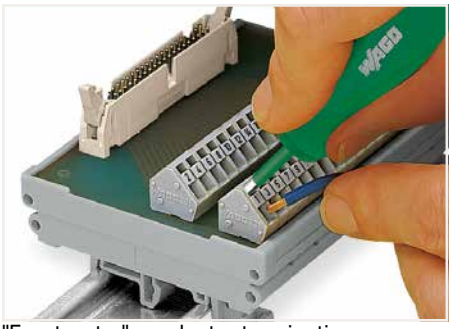


Fitting an individual module to the mounting carrier.

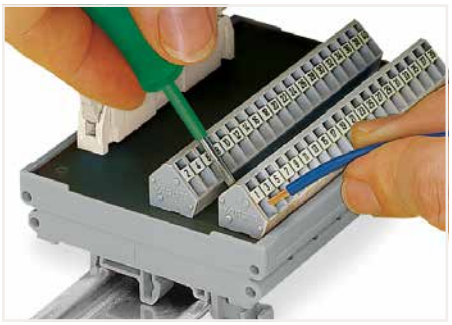


Removing an individual module from the mounting carrier.

Interface Modules, 289 Series



"Front-entry" conductor termination

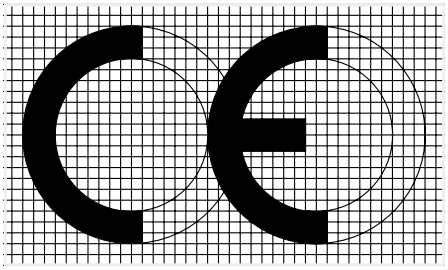


"Side-entry" conductor termination

CE Marking and EC Directives

CE Conformity Marking:

The CE conformity marking consists of the characters "CE" with the following script:



Communauté Européenne
(European Community)

The CE conformity marking must be applied to all electrical equipment; should on-unit marking not be possible, mark the smallest packing unit. With this marking, manufacturers attest conformity of their products to relevant directives.

In addition to the CE marking, manufacturers provide an EC "Declaration of Conformity" for their products. This declaration of conformity must be retained and submitted to a national surveillance authority upon request.

EC directives are legally binding specifications for the European Union. Their goal is aligning legal and administrative specifications in the various EU member countries, in order to prevent trading hindrances arising from different national specifications.

In order to launch a product on the market, it must comply with the relevant directives. Several directives may apply for one single product, for example, EMC and low voltage directives.

Low Voltage Directive (LVD)
The safety of electrical equipment is guaranteed by the Low Voltage Directive. The LVD covers all electrical equipment operating with a voltage between 50 and 1000 VAC and between 75 and 1500 VDC. Products falling within the scope of the LVD that are designed in such a way that they can be used in other electrical devices and whose safety, for the most part, is dependent on how these components were built into the end product and what features the end product has are defined as basic components in accordance with the LVD. The LVD doesn't apply to basic components.

EMC Directive
The EMC Directive implies that a product must meet the limits of the radiated electromagnetic disturbance and also requires that a product must be immune to electromagnetic interference. Electromagnetic passive components or components with no direct function, like resistors, diodes, capacitors, switching relays or cables (in the form of passive printed circuit boards) are not considered as apparatus within the meaning of the EMC Directive.

Machinery Directive
The Machinery Directive does not apply to WAGO products.

Explosive Atmospheres Directive (ATEX)
Directive for devices and protective systems intended for use in hazardous locations.

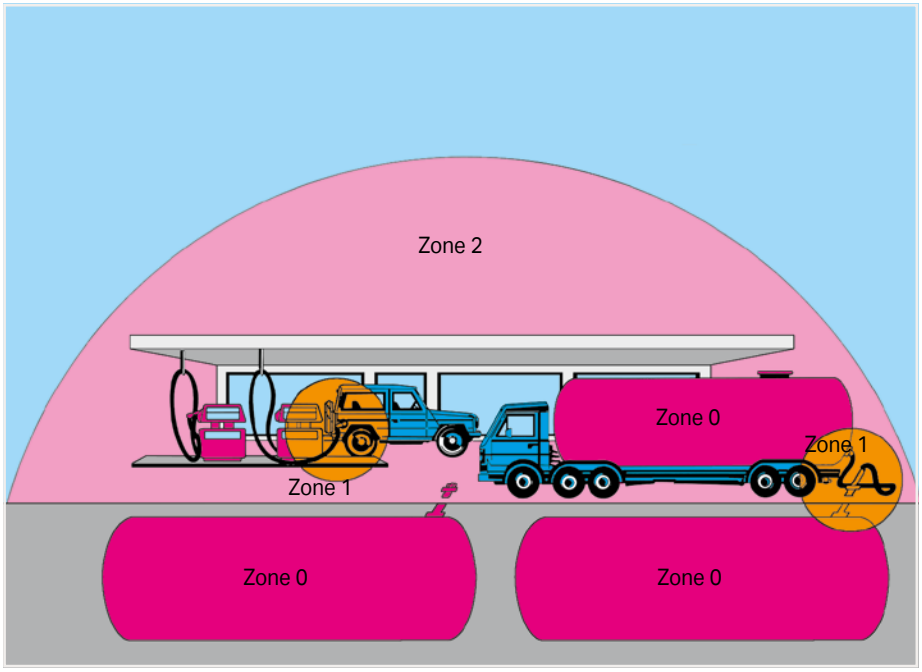
Radio Equipment Directive
A device or relevant component thereof, capable of communication by emitting and/or receiving radio waves utilizing the spectrum allocated to terrestrial/space radio communication, falls within the scope of the Radio Equipment Directive. As such, these devices and components are tested and labeled accordingly. This label implicitly includes both Low Voltage and EMC Directives, since the Radio Equipment Directive also encompasses the safety targets for both of these directives.

General Technical Informationfor Electrical Equipment Used in Hazardous Areas

Hazardous Areas

Hazardous environments are areas in which the atmosphere may become explosive. An explosive atmosphere is a mixture of flammable substances in the form of gases, vapors or mixtures with air under atmospheric conditions in critically mixed ratios such that excessive high temperature, arcs or sparks may cause an explosion.

DIN EN 1127-1 and all other related standards that are commonly known divide up hazardous areas according to the likelihood of the occurrence of an explosive atmosphere into the following zones:



❶ Hazardous areas due to explosive gases, vapors and mists

Zone 0

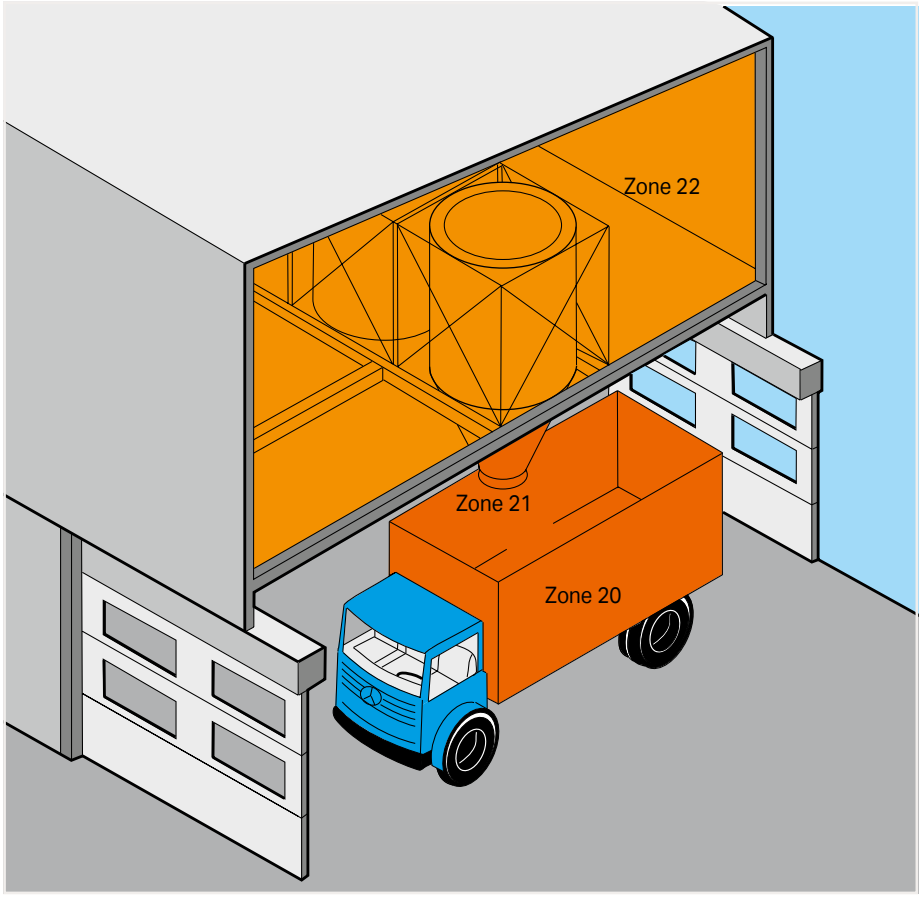
Areas in which an explosive atmosphere is present continuously, for long periods or frequently.

Zone 1

Areas in which an explosive atmosphere is likely to occur occasionally during normal operation.

Zone 2

Areas in which an explosive atmosphere is likely to occur rarely or only for a short period during normal operation.



❷ Hazardous areas due to explosive dust/air mixtures

Zone 20

Areas in which an explosive atmosphere due to dust/air mixtures is present continuously, for long periods or frequently and in which dust deposits of known or excessive thickness may form. Dust deposits alone do not constitute a Zone 20.

Zone 21

Areas in which the occurrence of an explosive atmosphere due to dust/air mixtures is to be expected occasionally and in which deposits or layers of combustible dust can generally be present.

Zone 22

Areas in which an explosive atmosphere due to dust/air mixtures is not likely to occur during normal operation and, if it occurs, will only exist for a short period, or in which accumulations or layers of combustible dust are present.

Electromagnetic Compatibility and Mechanical Strength (Industrial and Residential Areas)

Immunity to Interference for Industrial Areas per EN 61000-6-2

Test Specification		Test Values	Evaluation Criteria *)
EN 61000-4-2	ESD	4 kV/8 kV (contact/air)	B
EN 61000-4-3	Electromagnetic fields	10 V/m: 80 MHz … 1 GHz	A
		3V/m: 1.4 … 2.0 GHz	A
		1V/m: 2.0 … 2.7 GHz	A
EN 61000-4-4	Burst	1 kV/2 kV (data/supply)	B
EN 61000-4-5	Surge	Data: - / 1 kV (line : line – line : ground)	B
		DC supply: 0.5 kV / 0.5 kV (line : line – line : ground)	B
		AC supply: 1 kV / 2 kV (line : line – line : ground)	B
EN 61000-4-6	RF disturbances	10 V/m, 80 % AM (0.15 … 80 MHz)	A
EN 61000-4-8	Magnetic field	30 A/m, 50/60Hz	A

*) Criteria A: The device must work in accordance with the regulations during and after the test.
Criteria B: The device must work in accordance with the regulations after the test.

Emission of Interference for Residential Areas per EN 61000-6-3

Test Specification		Limit Values Quasi Peak	Frequency Range	Distance
EN 55016-2-1	AC supply, conducted	66 … 56 dB(µV)	150 … 500 kHz	
		56 dB(µV)	500 kHz … 5 MHz	
		60 dB(µV)	5 … 30 MHz	
EN 55016-2-1	DC supply/data line	79 dB(µV)	150 … 500 kHz	
	conducted	73 dB(µV)	500 kHz … 30 MHz	
EN 55016-2-3	radiated	30 dB(µV/m)	30 … 230 MHz	10 m
		37 dB(µV/m)	230 MHz … 1 GHz	10 m
EN 55022	Telecommunications/	84 … 74 dB(µV)	150 … 500 kHz	
	Mains connection, conducted	74 dB(µV)	500 kHz … 30 MHz	

Emission of Interference for Industrial Areas per EN 61000-6-4

Test Specification		Limit Values Quasi Peak	Frequency Range	Distance
EN 55016-2-1	AC supply, conducted	79 dB(µV)	150 … 500 kHz	
		73 dB(µV)	500 kHz … 30 MHz	
EN 55016-2-3	radiated	40 dB(µV/m)	30 … 230 MHz	10 m
		47 dB(µV/m)	230 MHz … 1 GHz	10 m
EN 55022	Telecommunications/	97 … 87 dB(µV)	150 … 500 kHz	
	Mains connection, conducted	87 dB(µV)	500 kHz … 30 MHz	

Mechanical Strength per EN 61131-2

Test Specification		Frequency Range	Limit Values
IEC 60068-2-6	Vibration	5 Hz ≤ f < 9 Hz	1.75 mm amplitude (permanently)
			3.5 mm amplitude (short term)
		9 Hz ≤ f < 150 Hz	0.5 g (permanent)
			1 g (short term)
		Note on vibration test: a) Frequency change: max. 1 octave/minute b) Vibration direction: 3 axes	
IEC 60068-2-27	Shock		15 g
		Note on shock test: a) Type of shock: half sine b) Shock duration: 11 ms c) Shock direction: 3x in positive and 3x in negative direction for each of the three mutually perpendicular axes of the test specimen	

Electromagnetic Compatibility and Mechanical Strength (marine applications)

Immunity to Interference in the Shipping Industry per Germanischer Lloyd

Test Specification		Test Values	Evaluation Criteria *)
IEC 61000-4-2	ESD	6 kV / 8 kV (contact – air)	B
IEC 61000-4-3	Electromagnetic fields	10 V/m 80 MHz ... 2 GHz	A
IEC 61000-4-4	Burst	1 kV / 2 kV (data – supply)	A
IEC 61000-4-5	Surge	0.5 kV / 1 kV (line : line – line : ground)	A
IEC 61000-4-6	RF disturbances	10 V, 80 % AM (0.15 ... 80 MHz)	A
Type Test	AF disturbances (harmonics)	3 V, 2 W	A
Type Test	High voltage	755 VDC	-
		1500 VAC	-

*) Criteria A: The device must work in accordance with the regulations during and after the test.
Criteria B: The device must work in accordance with the regulations after the test.

Immunity to Interference in the Shipping Industry per Germanischer Lloyd

Test Specification		Limit Values Quasi Peak	Frequency Range	Distance
Type Test	EMC 1, conducted (allows for ship bridge control applications)	96 ... 50 dB(µV)	10 ... 150 kHz	
		60 ... 50 dB(µV)	150 ... 350 kHz	
		50 dB(µV)	350 kHz ... 30 MHz	
Type Test	EMC 1, radiated (allows for ship bridge control applications)	80 ... 52 dB(µV/m)	150 ... 300 kHz	3 m
		52 ... 34 dB(µV/m)	300 kHz ... 30 MHz	3 m
		54 dB(µV/m)	30 MHz ... 2 GHz	3 m
	except for:	24 dB(µV/m)	156 ... 165 MHz	3 m
Type Test	EMC 2, conducted (allows for machine room applications)	120 ... 69 dB(µV)	10 ... 150 kHz	
		79 dB(µV)	150 ... 500 kHz	
		73 dB(µV)	500 kHz ... 30 MHz	
Type Test	EMC 2, radiated (allows for machine room applications)	80 ... 50 dB(µV/m)	150 kHz ... 30 MHz	3 m
		60 ... 54 dB(µV/m)	30 ... 100 MHz	3 m
		54 dB(µV/m)	100 MHz ... 2 GHz	3 m
	except for:	24 dB(µV/m)	156 ... 165 MHz	3 m

Mechanical Strength per Germanischer Lloyd

Test Specification		Frequency Range	Limit Values
IEC 60068-2-6	Vibration (category A, C)	2 Hz ≤ f < 13.2 Hz	±1.0 mm amplitude (permanent)
		13.2 Hz ≤ f < 100 Hz	0.7 g (permanent)
		Note on vibration test: a) Frequency change: max. 1 octave/minute b) Vibration direction: 3 axes	
IEC 60068-2-6	Vibration (category A-D)	2 Hz ≤ f < 25 Hz	±1.6 mm amplitude (permanent)
		25 Hz ≤ f < 100 Hz	4 g (permanent)
		Note on vibration test: a) Frequency change: max. 1 octave/minute b) Vibration direction: 3 axes	

Specifications and Test Results

The following standards apply to the design and application of the electrical components contained in this catalog:

DIN VDE 0100
Construction of high current installations with nominal voltages up to 1000 V

EN 50110-1
VDE 0105-1
Operation of electrical installations

IEC 61140
EN 61140
VDE 0140-1
Protection against electric shock – Common aspects for installation and equipment

IEC 60664-1
EN 60664-1
VDE 0110-1
Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests

IEC 60204-1
EN 60204-1
VDE 0113-1
Safety of machinery – Electrical equipment of machines – Part 1: General requirements

EN 50178
VDE 0160
Electronic equipment for use in power installations

IEC 62305-1
EN 62305-1
VDE 0185-305-1
Protection against lightning – Part 1: General principles

IEC 60060-1
HD 588.1 S1
VDE 0432-1
High voltage test techniques – Part 1: General specifications and test requirements

IEC 60085
EN 60085
VDE 0301-1
Electrical insulation – Thermal evaluation and designation

IEC 60529
EN 60529
VDE 0470-1
Degrees of protection provided by enclosures (IP code)

IEC 60603-1
EN 60603-1
Connectors for frequencies below 3 MHz for use with printed boards – Part 1: Generic specification: General requirements and guide for the preparation of detail specifications, with assessed quality

IEC 61984
EN 61984
VDE 0627
Connectors – Safety requirements and tests

IEC 60999-1
EN 60999-1
VDE 0609-1
Connecting devices – Electrical copper conductors; Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors 0.2 mm2 up to 35 mm2

IEC 60617-2
EN 60617-2
Graphical symbols for diagrams – Part 2: Symbol elements, qualifying symbols and other symbols having general application

IEC 61558-1
EN 61558-1
VDE 0570-1
Safety of power transformers, power supplies, reactors and similar products – Part 1: General requirements and tests

IEC 60669-2-1
EN 60669-2-1
VDE 0632-2-1
Switches for household and similar fixed electrical installations – Part 2-1: Particular requirements – Electronic switches

IEC 60947-7-1
EN 60947-7-1
VDE 0611-1
Low-voltage switchgear and controlgear – Part 7-1: Ancillary equipment – Terminal blocks for copper conductors

IEC 60998-2-2
EN 60998-2-2
VDE 0613-2-2
Connecting devices for low-voltage circuits for household and similar purposes – Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units

IEC 60947-1
EN 60947-1
VDE 0660-100
Low-voltage switchgear and controlgear – Part 1: General rules

IEC 60947-5-6
EN 60947-5-6
VDE 0660-212
Low-voltage switchgear and controlgear – Part 5-6: Control circuit devices and switching elements, DC interface for proximity sensors and switching amplifiers (NAMUR)

IEC 60439-1
EN 60439-1
VDE 0660-500
Low-voltage switchgear and controlgear assemblies – Part 1: Type-tested and partially type-tested assemblies

IEC 60555-1
EN 60555 Part 1
VDE 0838-1
Disturbances in supply systems caused by household appliances and similar electrical equipment; Part 1: definitions

IEC 60715
EN 60715
Dimensions of low-voltage switchgear and controlgear – Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations

IEC 60950-1
EN 60950-1
VDE 0805-1
Information technology equipment – Safety Part 1: General requirements

IEC 60127-6
EN 60127-6
VDE 0820-6
Miniature fuses – Part 6: Fuse-holders for miniature fuse-links

EN 50155
VDE 0115-200
Railway applications – Electronic equipment used on rolling stock

EN 50090-2-2
VDE 0829-2-2
Home and Building Electronic Systems (HBES) – Part 2-2: System overview – General technical requirements; German version

IEC 60099-1
EN 60099-1
VDE 0675-1
Surge arresters – Part 1: Non-linear resistor type gapped surge arresters for a.c. systems

IEC 61643-1
EN 61643-11
VDE 0675-6-11
Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and tests

IEC 61643-21
EN 61643-21
VDE 0845-3-1
Low voltage surge protective devices – Part 21: Surge protective devices connected to telecommunications and signalling networks; Performance requirements and testing methods

IEC 61508-1
EN 61508-1
VDE 0803-1
Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 1: General requirements

IEC 62061
EN 62061
VDE 0113-50
Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems

Interfaces – Fieldbuses

DIN 66259-1
Electrical characteristics for unbalanced double-current interchange circuits

EN 50325-1
Industrial communications subsystem based ISO 11898 (CAN) for controller-device interfaces – Part 1: General requirements

IEC 61784-1
EN 61784-1
Industrial communication networks – Profiles – Part 1: Fieldbus profiles

IEC 61158-2
EN 61158-2
Industrial communication networks – Fieldbus specifications – Part 2: Physical layer specification and service definition

IEC 61158-6-x
EN 61158-6-x
DIN EN 61158-6-x
Industrial communication networks – Fieldbus specifications – Part 6-x

Explosion Protection

IEC 60079-0
EN 60079-0
VDE 0170-1
Electrical apparatus for explosive gas atmospheres – Part 0: General requirements

IEC 60079-7
EN 60079-7
VDE 0170-6
Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

IEC 60079-11
EN 60079-11
VDE 0170-7
Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i"

IEC 60079-14
EN 60079-14
VDE 0165-1
Explosive atmospheres – Part 14: Electrical installations design, selection and erection

IEC 60079-15
EN 60079-15
VDE 0170-16
Electrical apparatus for explosive gas atmospheres – Part 15: Construction, test and marking of type of protection "n" electrical apparatus

IEC 61241-0
EN 61241-0
VDE 0170-15-0
Electrical apparatus for use in the presence of combustible dust – Part 0: General requirements

IEC 61241-1
EN 61241-1
VDE 0170-15-1
Electrical apparatus for use in the presence of combustible dust – Part 1: Protection by enclosures "tD"

IEC 61241-11
EN 61241-11
VDE 0170-15-11
Electrical apparatus for use in the presence of combustible dust – Part 11: Protection by intrinsic safety "iD"

Specifications and Test Results
(continued)

Environmental Testing

IEC 60068-2-6
EN 60068-2-6
VDE 0468-2-6
Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)

IEC 60068-2-27
EN 60068-2-27
Basic environmental testing procedures – Part 2: Tests
– Test Ea and guidance: Shock

IEC 60068-2-42
EN 60068-2-42
Environmental testing – Part 2-42: Tests – Test Kc: Sulphur dioxide test for contacts and connections

IEC 60068-2-43
EN 60068-2-43
Environmental testing – Part 2-43: Tests – Test Kd: Hydrogen sulphide test for contacts and connections

EMC Requirements

IEC 61000-6-1
EN 61000-6-1
VDE 0839-6-1
Electromagnetic compatibility (EMC) – Part 6-1: Generic standards
– Immunity for residential, commercial and light-industrial environments

IEC 61000-6-2
EN 61000-6-2
VDE 0839-6-2
Electromagnetic compatibility (EMC) – Part 6-2: Generic standards
– Immunity for industrial environments

IEC 61000-6-3
EN 61000-6-3
VDE 0839-6-3
Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments

IEC 61000-6-4
EN 61000-6-4
VDE 0839-6-4
Electromagnetic compatibility (EMC) – Part 6-4: Generic standards
– Emission standard for industrial environments

IEC 61000-3-2
EN 61000-3-2
VDE 0838-2
Electromagnetic compatibility (EMC) – Part 3-2: Limits
– Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)

IEC/CISPR 11
EN 55011
VDE 0875-11
Industrial scientific and medical (ISM) radio-frequency equipment
– Electromagnetic disturbance characteristics
– Limits and methods of measurement

IEC/CISPR 22
EN 55022
VDE 0878-22
Information technology equipment
– Radio disturbance characteristics
– Limits and methods of measurement

IEC/CISPR 24
EN 55024
VDE 0878-24
Information technology equipment
– Immunity characteristics
– Limits and methods of measurement

IEC 61326-3-1
EN 61326-3-1
VDE 0843-20-3-1
Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) – General industrial applications

PLC

IEC 61131-1
EN 61131-1
Programmable controllers – Part 1: General information

IEC 61131-2
EN 61131-2
VDE 0411-500
Programmable controllers – Part 2: Equipment requirements and tests

IEC 61131-3
EN 61131-3
Programmable controllers – Part 3: Programming languages

Relay

IEC 61810-1
EN 61810-1
VDE 0435-201
Electromechanical elementary relays – Part 1: General requirements

IEC 61810-2
EN 61810-2
VDE 0435-120
Electromechanical elementary relays – Part 2: Reliability

IEC 61810-5
EN 50205
VDE 0435-2022
Electromechanical non-specified time all-or-nothing relays – Part 5: Insulation coordination

IEC 60255-5
EN 60255-5
VDE 0435-130
Electrical relays – Part 5: Insulation coordination for measuring relays and protection equipment – Requirements and tests

UL Directives

UL 1059; ANSI 1059
Terminal blocks

UL 486E
Equipment wiring terminals for use with aluminum and/or copper conductors

UL 508
Industrial control equipment

ANSI/ISA12.12.01
Nonincendive electrical equipment for use in Class I and Class II, Division 2 and Class III, Divisions 1 and 2 hazardous (classified) locations

Ship Classifications

ABS (American Bureau of Shipping)
Steel Vessels
Part 4: Vessel Systems and Machinery

BV (Bureau Veritas)
Rules for the classification of steel ships and offshore units

DNV (Det Norsk Veritas)
Det Norsk Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norsk Veritas' Offshore Standards: 2007

GL (Germanischer Lloyd)
Rules for Classification and Construction
VI Additional Rules and Guidelines
7 Guidelines for the Performance of Type Test
2 Test Requirements for Electrical/Electronic Devices and Systems

LR (Lloyds Register)
Type Approval System
Test Specification Number1

RINA (Registro Italiano Navale)
Rules for the classification of ships
Part C – Machinery, systems and fire protection Ch.3, Sect.6, Table1

BSH (Federal Maritime and Hydrographic Agency)
Certificate on measurement of safe distance to the standard magnetic and steering magnetic compass in accordance with ISO R 695 and DIN EN 60945 Section 11.2

KR (Korean Register of Shipping)
List of approved Manufacturers And Type Approval Equipment; Pt.6, Ch.1, Sec.3 of the Rules for Classification, Steel Ships

NKK (Nippon Kaiji Kyokai)
Guidance for the approval and type approval of materials and equipment for marine use

PRS (Polski Rejestr Statkow)
Publication No.11/P
Enviromental Tests on Marine Equipment

Electrical Engineering Laboratory
Product Safety for Our Customers

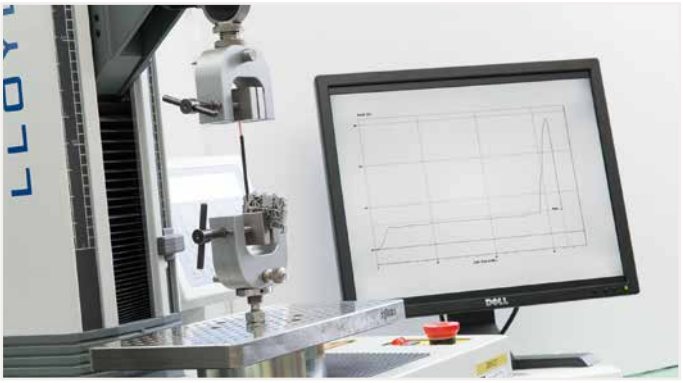
To use terminal blocks globally, they must satisfy certain standards and obtain test certificates. These requirements apply to every manufacturer. WAGO also conducts its own tests to increase standards and offer greater reliability with its products. Products undergo a full range of mechanical, electrical and climatic testing, and we'll share a few of those processes with you.

WAGO Test Lab

This means that WAGO's products can be used safely and reliably both in Europe and anywhere globally for a wide variety of applications. We heavily emphasize the importance of global acceptance during development. As a result, we can present documentation that verifies our high levels of product safety and reliability while ensuring the fulfillment and accuracy of technical data, which are the highest priorities for our customers and users worldwide.
On December 22, 2009, our test lab was accredited by the German Accreditation Association (Deutsche Gesellschaft für Akkreditierung GmbH) in accordance with DIN EN ISO/IEC 17025.

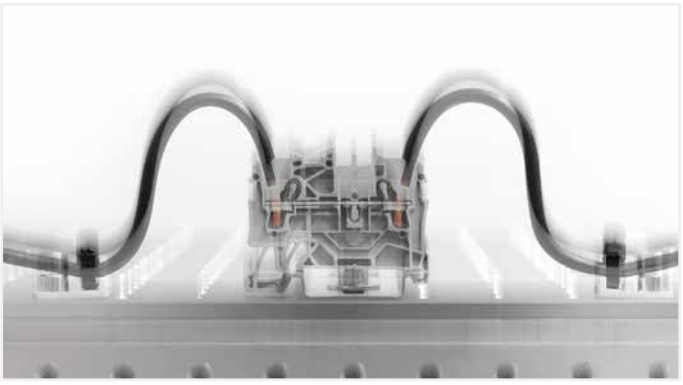
Pull-Out Test (per EN 60947-7-1, EN 60998-2-2)

During the pull-out force test, a conductor is pulled on until it is removed from the clamping unit. The design of the terminals means that extraction only occurs after the standard pull-out force has been exceeded many times over.



Vibration Test (per IEC/EN 60068-2-6)

Depending on the application, such as railway (per EN 61373) or marine (per GL, LR, DNV), there are various testing requirements to determine if the long-term effects of vibrations degrade electrical connections. The test specimen is subjected to different loads on three axes in an electrodynamic vibration system. The amplitude, the acceleration, and particularly the frequency of the vibration vary during the test. The test values are increased many times over the standard values to meet special customer requirements.



Shock Test (per IEC/EN 60068-2-27)

The shock test is very similar to the vibration test except that, instead of continuous vibrations, single shocks are applied to the test specimen. Shock tests are usually performed, for example, at an acceleration of 20g over a period of 11 ms. Tests for special requirements often call for much higher values and are also conducted in our laboratory. Single-deck TOPJOB® S Rail-Mount Terminal Blocks, for example, pass shock tests up to 500g.



Voltage Drop Test under Bending Stress (per EN 60947-7-1, EN 60999-1)

The voltage drop test under bending stress simulates mechanical stress on the clamping unit. In everyday use, this stress can occur during installation, for example, when an electrician shoves connected conductors to the side in order to access a specific component. The quality of the clamping unit when moving a connected conductor can be validated by the constantly stable measured value of the voltage drop.



DAkkS
Deutsche
Akkreditierungsstelle

Deutsche Akkreditierungsstelle GmbH

Beliehene gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV
Unterzeichnerin der Multilateralen Abkommen
von EA, ILAC und IAF zur gegenseitigen Anerkennung

Akkreditierung

Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass das Prüflaboratorium

WAGO Kontakttechnik GmbH & Co. KG
Hansastraße 27, 32423 Minden

die Kompetenz nach DIN EN ISO/IEC 17025:2005 besitzt, Prüfungen in folgenden Bereichen durchzuführen:

Elektrische und mechanische Prüfungen an Klemmen und Steckverbinder sowie Umweltsimulation

Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 18.12.2014 mit der Akkreditierungsnummer D-PL-19704-01 und ist gültig bis 17.12.2019. Sie besteht aus diesem Deckblatt, der Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 5 Seiten.

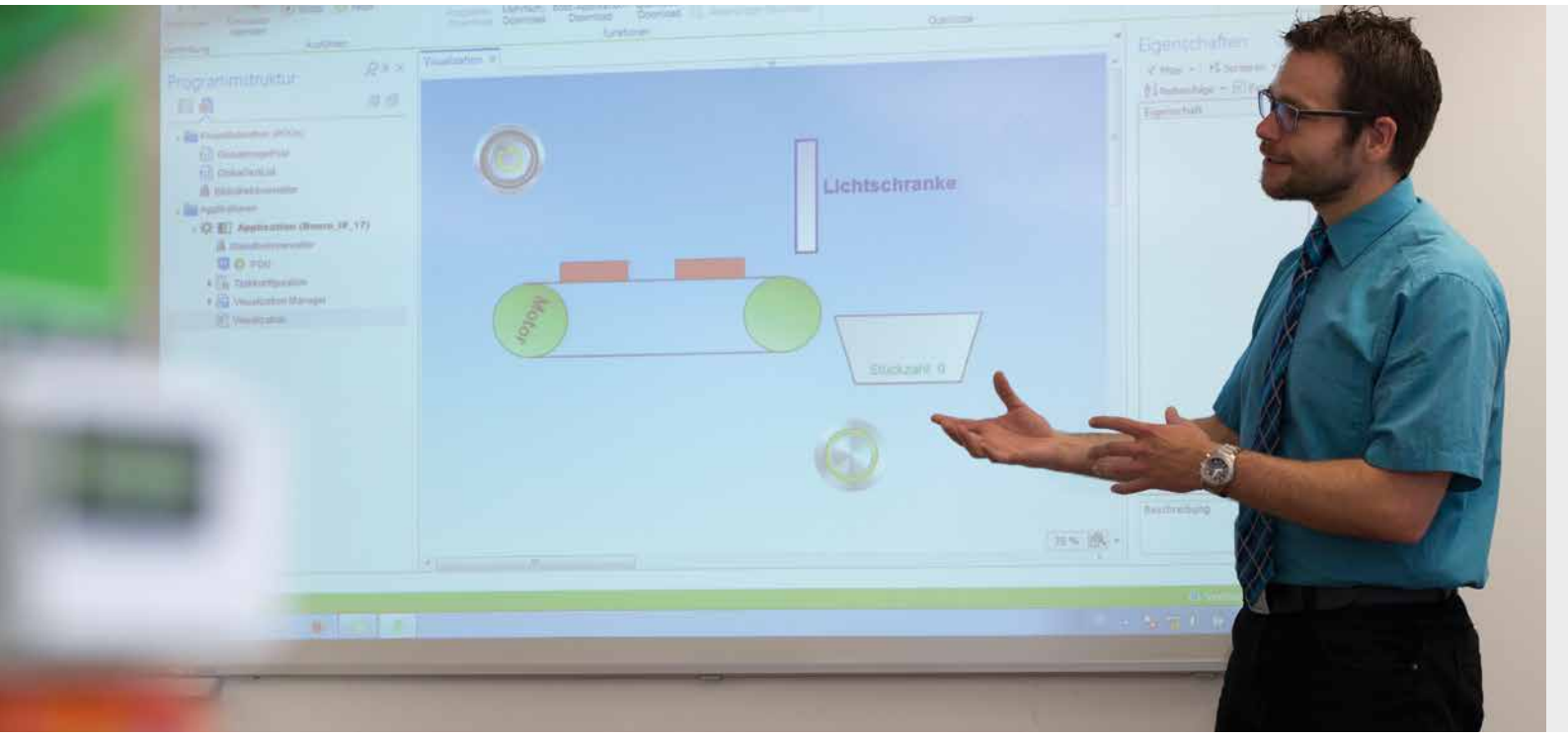
Registrierungsnummer der Urkunde: **D-PL-19704-01-00**

Frankfurt am Main, 18.12.2014

Im Auftrag Dipl.-Ing. (FH) Ralf Egner
Abteilungsleiter

Siehe Hinweise auf der Rückseite

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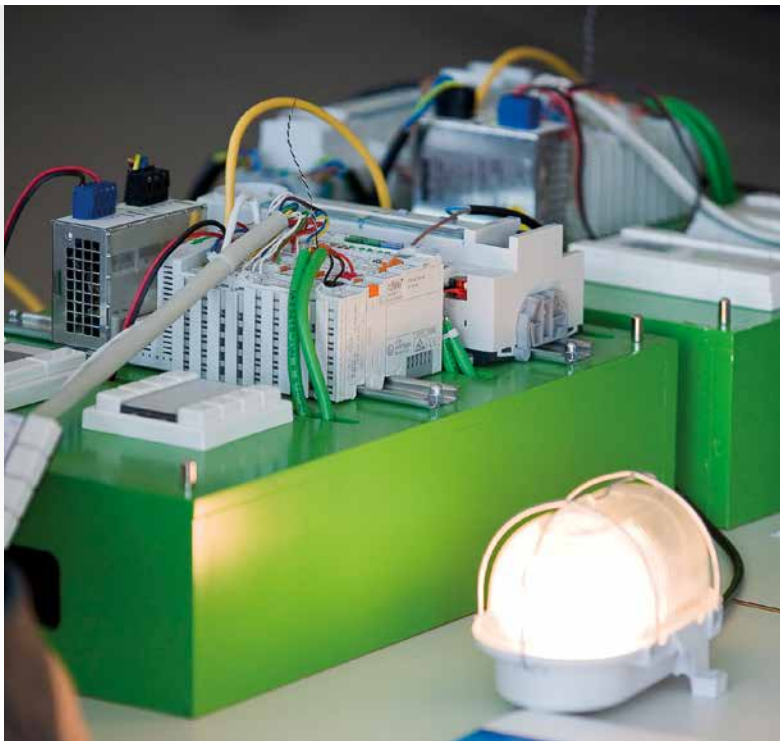
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Special Corporate Seminars



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Indexes and Adresses

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