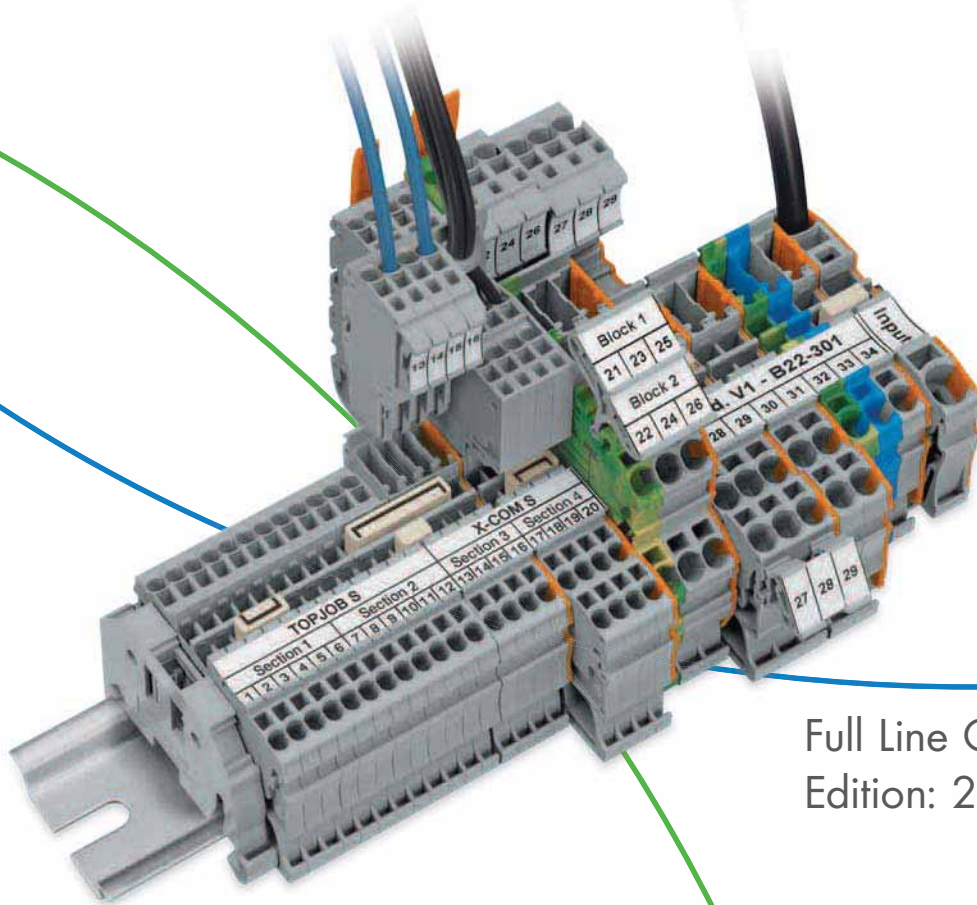


# Rail-Mounted Terminal Block Systems



Full Line Catalog, Volume 1  
Edition: 2012/2013

# WAGO-Warenzeichen



CAGE CLAMP®

CAGE CLAMP® **S**

POWER CAGE CLAMP

FIT CLAMP®

PUSH WIRE®

TOPJOB®

TOPJOB® **S**

WINSTA®

WAGO®

X-COM®

X-COM® **S**

JUMPFLEX®

TO-PASS®

ProServe®

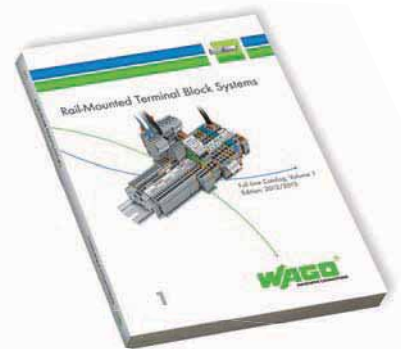
EPSITRON®

picoMAX®

# WAGO Full Line Catalogs

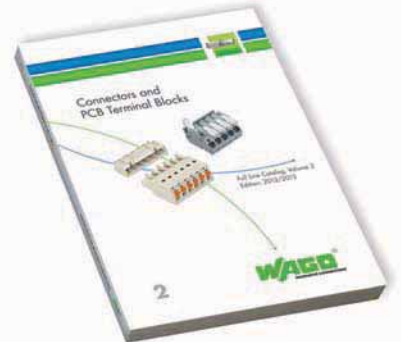
## Volume 1, Rail-Mounted Terminal Block Systems

- Rail-Mounted Terminal Blocks
- Modular Connectors (X-COM®-SYSTEM and X-COM®-SYSTEM)
- Patchboard Systems
- Terminal Strips
- PUSH WIRE® Connectors for Junction Boxes
- Lighting Connectors
- Shield Connecting System



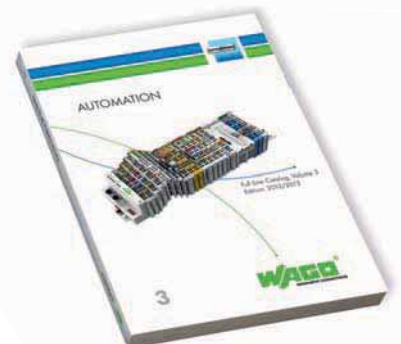
## Volume 2, Connectors and PCB Terminal Blocks

- PCB Terminal Blocks
- Feedthrough Terminal Blocks
- MULTI CONNECTION SYSTEM
- Pluggable PCB Connectors
- Specialty Connectors



## Volume 3, AUTOMATION

- IP20 Modular I/O-SYSTEM
- Wireless Technology, TO-PASS® Telecontrol Technology
- Industrial Switches, PERSPECTO®
- IP67 Modular I/O-SYSTEM, IP67 Block I/O-SYSTEM
- IP67 Sensor/Actuator Boxes, IP67 Cables and Connectors
- Power Supplies



## Volume 4, INTERFACE ELECTRONIC

- Relays - Optocouplers - Special Functions
- Interface Modules
- Transducers
- Power Supplies
- Overvoltage Protection
- Wireless Technology
- Empty Housings and Mounting Carriers



## Volume 5, WINSTA® - The Connection System

- WINSTA® MINI - Connectors
- WINSTA® MINI special - Connectors
- WINSTA® MIDI - Connectors
- WINSTA® MIDI special - Connectors
- WINSTA® MAXI - Connectors
- WINSTA® RD - Cable Assemblies
- WINSTA® KNX - Connectors
- WINSTA® IDC - Flat Cables



# Operation of WAGO Connection Technologies\*

## The universal connection with "SPECIAL"

Handling:

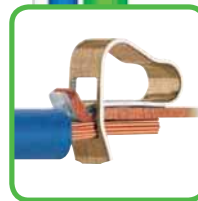
- Open clamping unit
- Insert the conductor
- Release clamp - done!
- Terminate both solid and ferruled conductors by simply pushing them in - no operating tool needed.



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

Handling:

- Open clamping unit
- Insert the conductor
- Release the clamp - done!



## The universal connection for conductors larger than 6 AWG (16 mm<sup>2</sup>)

Handling:

- Open clamping unit by turning appropriate hex wrench, or operating tool, counter-clockwise.
- Press integrated latch to open clamping unit for hands-free wiring.
- Insert conductor until it hits backstop.
- A small, counter-clockwise rotation closes the clamp, securing conductor.



## Insulation Displacement Connection (IDC)

Handling:

- Insert unstripped conductor into the clamping unit.
- Press on the IDC contact using a screwdriver until fully engaged.



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


Handling:

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



\* Please follow applicable product instructions for product-specific handling.

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**Through Terminal Blocks, 2000/2001/2002/2004 Series** 



2-conductor terminal block				
mm <sup>2</sup>	1 (1.5)	1.5 (2.5)	2.5 (4)	4 (6)
Page	54	56	58	62



3-conductor terminal block				
mm <sup>2</sup>	1 (1.5)	1.5 (2.5)	2.5 (4)	4 (6)
Page	54	56	58	62



4-conductor terminal block				
mm <sup>2</sup>	1 (1.5)	1.5 (2.5)	2.5 (4)	4 (6)
Page	54	56	58	62

**Ex i Through Terminal Blocks, 2000/2001/2002/2004 Series** 




2-conductor terminal block				
mm <sup>2</sup>	1 (1.5)	1.5 (2.5)	2.5 (4)	4 (6)
Page	54	56	58	62



3-conductor terminal block				
mm <sup>2</sup>	1 (1.5)	1.5 (2.5)	2.5 (4)	4 (6)
Page	54	56	58	62



4-conductor terminal block				
mm <sup>2</sup>	1 (1.5)	1.5 (2.5)	2.5 (4)	4 (6)
Page	54	56	58	62

**Ground Conductor Terminal Blocks, 2000/2001/2002/2004 Series** 



2-conductor terminal block				
mm <sup>2</sup>	1 (1.5)	1.5 (2.5)	2.5 (4)	4 (6)
Page	54	56	58	62



3-conductor terminal block			
mm <sup>2</sup>	1.5 (2.5)	2.5 (4)	4 (6)
Page	56	58	62



4-conductor terminal block			
mm <sup>2</sup>	1.5 (2.5)	2.5 (4)	4 (6)
Page	56	58	62

**Shield Terminal Blocks, 2001/2002/2004 Series**



1.5 (2.5) mm<sup>2</sup>/AWG 14  
 Page 56

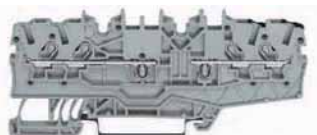


2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 58



4 (6) mm<sup>2</sup>/AWG 8  
 Page 62

**Double Potential Terminal Blocks, 2000/2001/2002 Series**



1 (1.5) mm<sup>2</sup>/AWG 16  
 Page 55



1.5 (2.5) mm<sup>2</sup>/AWG 14  
 Page 57



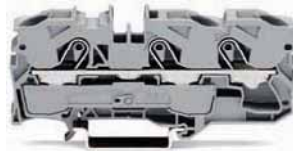
2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 59

**Through Terminal Blocks,  
 2006/2010/2016 Series** 



**2-conductor terminal block**  

mm <sup>2</sup>	6 (10)	10 (16)	16 (25 "f-st")
Page	64	65	66



**3-conductor terminal block**  

mm <sup>2</sup>	6 (10)	10 (16)	16 (25 "f-st")
Page	64	65	66

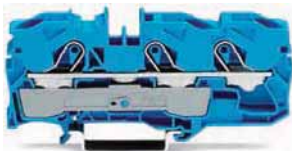
**Ex i Through Terminal Blocks,  
 2006/2010/2016 Series** 



**2-conductor terminal block**  


mm <sup>2</sup>	6 (10)	10 (16)	16 (25 "f-st")
Page	64	65	66

**Ex i Through Terminal Blocks,  
 2006/2010/2016 Series** 



**3-conductor terminal block**  

mm <sup>2</sup>	6 (10)	10 (16)	16 (25 "f-st")
Page	64	65	66

**Ground Conductor Terminal Blocks,  
 2006/2010/2016 Series** 



**2-conductor terminal block**  

mm <sup>2</sup>	6 (10)	10 (16)	16 (25 "f-st")
Page	64	65	66



**3-conductor terminal block**  

mm <sup>2</sup>	6 (10)	10 (16)	16 (25 "f-st")
Page	64	65	66

**Through Terminal Blocks, 2002 Series** 



**3-conductor terminal block**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 60



**4-conductor terminal block**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 61

**Ex i Through Terminal Blocks,  
 2002 Series** 



**3-conductor terminal block**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 60

**Ex i Through Terminal Blocks,  
 2002 Series** 



**4-conductor terminal block**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 61

**Ground Conductor Terminal Blocks, 2002 Series** 



**3-conductor terminal block**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 60



**4-conductor terminal block**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 61

**Double-Deck Terminal Blocks (Selection), 2002 Series** 



**Through/through connection**  

mm <sup>2</sup>	1 (1.5)	2.5 (4)
Page	68	72



**Ex i Through/through connection**  

mm <sup>2</sup>	1 (1.5)	2.5 (4)
Page	68	72



**4-conductor ground conductor terminal block**  

mm <sup>2</sup>	1 (1.5)	2.5 (4)
Page	68	72

**Double-Deck Terminal Blocks for 800 V (Selection), 2002 Series**



**Through/through connection**  

mm <sup>2</sup>	1 (1.5)	2.5 (4)
Page	70	74




**Ex i Through/through connection**  

mm <sup>2</sup>	1 (1.5)	2.5 (4)
Page	70	74



**4-conductor ground conductor terminal block**  

mm <sup>2</sup>	1 (1.5)	2.5 (4)
Page	70	74

**Triple-Deck Terminal Blocks (Selection), 2002 Series** 



**Through/through/through connection**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 78



**Ex i Through/through/through connection**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 78



**6-conductor ground conductor terminal block**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 78

**4-Conductor, Double-Deck Terminal Blocks (Selection), 2002 Series**



**Through/through connection**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 76



**Ground/through connection**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 76



**8-conductor ground conductor terminal block**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 76

**Quadruple-Deck, Rail-Mounted Terminal Blocks, 2002 Series**



**Rail-mounted terminal block for wiring of electric motors**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 80



**Multilevel Installation Terminal Blocks 2.5 (4) mm<sup>2</sup>/AWG 12, 2003 Series**



with N-disconnect slide link  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 84



L/L  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 84



N/L/PE  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 84

**Multilevel Installation Terminal Blocks 4 (6) mm<sup>2</sup>/AWG 10, 2005 Series**



with N-disconnect slide link  
 4 (6) mm<sup>2</sup>/AWG 10  
 Page 86



L/L  
 4 (6) mm<sup>2</sup>/AWG 10  
 Page 86



N/L/PE  
 4 (6) mm<sup>2</sup>/AWG 10  
 Page 86

**N-Conductor Disconnect Terminal Blocks, 2002/2006/2016 Series**



1- und 2-conductor terminal block  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 88



1-conductor terminal block  
 6 (10) mm<sup>2</sup>/AWG 8  
 Page 88



1-conductor terminal block  
 16 (25 "f-st") mm<sup>2</sup>/AWG 4  
 Page 88

**Power Distribution Disconnect Terminal Blocks, 2002/2006/2016 Series**



1- und 2-conductor terminal block  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 88



1-conductor terminal block  
 6 (10) mm<sup>2</sup>/AWG 8  
 Page 88



1-conductor terminal block  
 16 (25 "f-st") mm<sup>2</sup>/AWG 4  
 Page 88

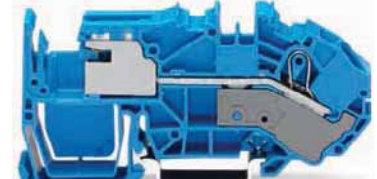
**Supply Terminal Blocks for Distribution Boxes, 2016 Series**



2-conductor supply t. block for distribution boxes  
 16 (25 "f-st") mm<sup>2</sup>/AWG 4  
 Page 90



2-conductor ground conductor terminal block  
 16 (25 "f-st") mm<sup>2</sup>/AWG 4  
 Page 90



1-conductor N-disconnect terminal block  
 16 (25 "f-st") mm<sup>2</sup>/AWG 4  
 Page 90

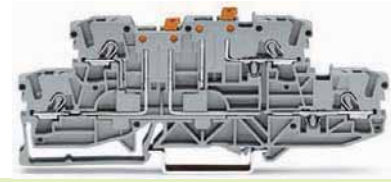
**Disconnect Terminal Blocks for Test and Measurement, 2002 Series**



2-conductor disc. t. block for test and measurement  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 94

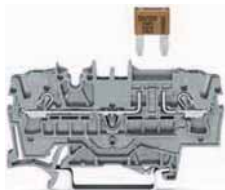


4-conductor disc. t. block for test and measurement  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 96



Double-deck, double disconnect terminal block  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 92

**Fuse Terminal Blocks for Blade-Style Fuses, 2002 Series**



2-conductor fuse terminal block  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 98

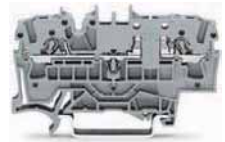


4-conductor fuse terminal block  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 98



2- and 4-conductor through terminal block  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 94

**Carrier Terminal Blocks for Fuse Plugs, 2002 Series**



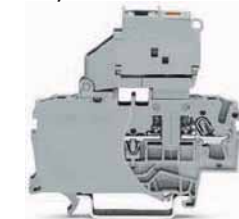
2- and 4-conductor terminal block  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 114

**Fuse Plugs, 2002 Series**



Page 114

**Fuse Terminal Blocks with Pivoting Fuse Holder, 2002 Series**



2- and 4-conductor terminal block  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 100

**Disconnect Terminal Blocks for Test and Measurement, 2002 Series**



2-conductor disc. t. block for test and measurement  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 102



with mechanical interlock  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 102

**Fuse Terminal Blocks for Blade-Style Fuses, 2002 Series**



with blown fuse indication  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 105



without blown fuse indication  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 105

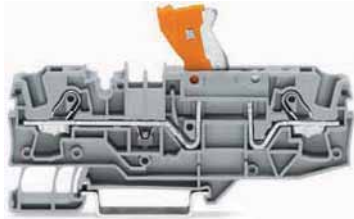
**Fuse Terminal Blocks with Movable Fuse Holder, 2002 Series**



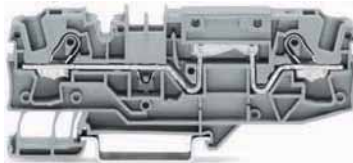
2-conductor terminal block  
2.5 (4) mm<sup>2</sup>/AWG 12  
Page 106

**Disconnect and Fuse Terminal Blocks  
Pluggable Diode and LED Modules**

**Disconnect and Ground Conductor Disconnect Terminal Blocks, 2006 Series**



**2-conductor disconnect terminal block**  
6 (10) mm<sup>2</sup>/AWG 8  
Page 108



**2-conductor through terminal block**  
6 (10) mm<sup>2</sup>/AWG 8  
Page 108

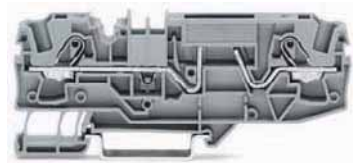


**Ground conductor disconnect terminal block**  
6 (10) mm<sup>2</sup>/AWG 8  
Page 108

**Fuse Terminal Blocks for Mini-Automotive Fuses, 2006 Series**

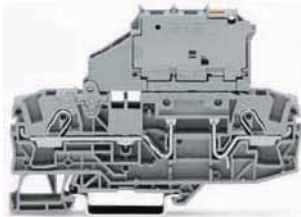


**with blown fuse indication**  
6 (10) mm<sup>2</sup>/AWG 8  
Page 110

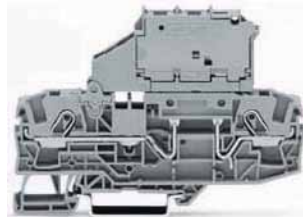


**without blown fuse indication**  
6 (10) mm<sup>2</sup>/AWG 8  
Page 111

**Fuse Terminal Blocks with Pivoting Fuse Holder, 2006 Series**



**with blown fuse indication**  
6 (10) mm<sup>2</sup>/AWG 8  
Page 112



**ohne Defektanzeige**  
6 (10) mm<sup>2</sup>  
Page 112



**with end plate**  
6 (10) mm<sup>2</sup>/AWG 8  
Page 112

**Carrier Terminal Blocks for Fuse Plugs, Fuse Plugs, 2006 Series**

**2006 Series**



**2-conductor terminal block**  
6 (10) mm<sup>2</sup>/AWG 8  
Page 116



Page 116



Page 116

**Pluggable Diode and LED Modules and empty component plug housings, 2002 Series**



**Pluggable diode module**  
Page 128



**Pluggable LED module**  
Page 130



**Empty component plug housing**  
Page 132

**Diode Terminal Blocks, 2001/2002 Series**



**2-conductor terminal block**  

mm <sup>2</sup>	1.5 (2.5)	2.5 (4)
Page	118	120



**3-conductor terminal block**  

mm <sup>2</sup>	1.5 (2.5)	2.5 (4)
Page	118	120



**4-conductor terminal block**  

mm <sup>2</sup>	1.5 (2.5)	2.5 (4)
Page	118	120

**LED Terminal Blocks, 2001/2002 Series**



**3-conductor terminal block**  

mm <sup>2</sup>	1.5 (2.5)	2.5 (4)
Page	118	120



**4-conductor terminal block**  

mm <sup>2</sup>	1.5 (2.5)	2.5 (4)
Page	118	120

**Double-Deck Diode Terminal Blocks and LED Terminal Blocks, 2002 Series**



**with diode 1N4007**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 124



**with 2 diodes 1N4007**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 124



**with red LED**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 124

**Triple-Deck Diode Terminal Blocks and LED Terminal Blocks, 2002 Series**



**with diode 1N4007**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 126



**with 3 diodes 1N4007**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 126



**with red LED**  
 2.5 (4) mm<sup>2</sup>/AWG 12  
 Page 126

**Accessories (Selection)**



**TOPJOB® S connector,**  
 2001/2002/2004 Series  
 Page 134



**Test plug adapter**  
 for test plug 4 mm Ø  
 Page 54



**Testing tap**  
 for max. 2.5 mm<sup>2</sup>/AWG 14  
 Page 54

 <p><b>2-pole</b> Page 152</p>	 <p><b>2-pole</b> Page 152</p>	<p>Ex</p>  <p><b>2-pole, black and white</b> Page 152</p>
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 <p><b>3-pole</b> Page 153</p>	 <p><b>3-pole</b> Page 153</p>	<p>Ex</p>  <p><b>3-pole, black and white</b> Page 153</p>
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 <p><b>5-pole</b> Page 155</p>	 <p><b>5-pole</b> Page 155</p>	<p>Ex</p>  <p><b>5-pole, black and white</b> Page 155</p>
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## Accessories (Selection)

 <p><b>Comb-style jumper bar</b> Page 152</p>	 <p><b>Test plug 2 mm Ø</b> Page 152</p>	 <p><b>Operating tool</b> Page 576</p>
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## Through Terminal Blocks, 279 – 285 Series



2-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4	6	10	16	35
Page	162	164	170	172	173	174	176



3-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4	6	10	16
Page	162	164	170	172	173	175



4-conductor terminal block

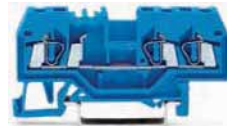
mm <sup>2</sup>	1.5	2.5	4
Page	162	164	170

## Ex i Through Terminal Blocks, 279 – 282 Series



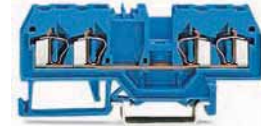
2-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4	6
Page	162	164	170	172



3-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4	6
Page	162	164	170	172



4-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4
Page	162	164	170

## ⊗ Through Terminal Blocks for Hazardous Environments, 279 – 285 Series



2-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4	6	10	16	35
Page	162	164	170	172	173	174	176



3-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4	6	10	16
Page	162	164	170	172	173	175



4-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4
Page	162	164	170

## Ground Conductor Terminal Blocks, 279 – 285 Series



2-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4	6	10	16	35
Page	162	164	170	172	173	174	176



3-conductor terminal block

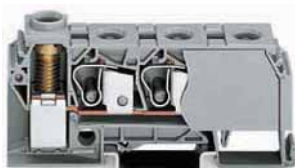
mm <sup>2</sup>	1.5	2.5	4	6	10	16
Page	162	164	170	172	173	175



4-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4
Page	162	164	170

## Distribution Terminal Blocks, 284 Series



1 x 35 mm<sup>2</sup>/AWG 2 connection  
3 x 10 mm<sup>2</sup>/AWG 8 connections

Page 177

## Double-Potential Terminal Blocks, 279/280 Series



mm <sup>2</sup>	1.5	2.5
Page	163	163

## Shield Terminal Blocks, 279 – 281 Series



4-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4
Page	162	164	170

## Through Terminal Blocks with/without Shield Contact, 5 mm Wide, 880 Series



2-conductor terminal block  
4 mm<sup>2</sup>/AWG 12  
Page 168



3-conductor terminal block  
4 mm<sup>2</sup>/AWG 12  
Page 168



4-conductor terminal block  
4 mm<sup>2</sup>/AWG 12  
Page 168

## Ground Conductor Terminal Blocks, 5 mm Wide, 880 Series



2-conductor terminal block  
4 mm<sup>2</sup>/AWG 12  
Page 168



3-conductor terminal block  
4 mm<sup>2</sup>/AWG 12  
Page 168



4-conductor terminal block  
4 mm<sup>2</sup>/AWG 12  
Page 168

## Through Terminal Blocks, Angled Type, 280/281 Series



3-conductor terminal block  
mm<sup>2</sup> | 2.5 | 4  
Page | 166 | 171



4-conductor terminal block  
mm<sup>2</sup> | 2.5  
Page | 167

## Ex i Through Terminal Blocks, 280/281 Series



3-conductor terminal block  
mm<sup>2</sup> | 2.5 | 4  
Page | 166 | 171

## Ex i Through Terminal Blocks, 280/281 Series



4-conductor terminal block  
mm<sup>2</sup> | 2.5  
Page | 167

## Ex Through Terminal Blocks for Hazardous Environments, 280/281 Series



3-conductor terminal block  
mm<sup>2</sup> | 2.5 | 4  
Page | 166 | 171



4-conductor terminal block  
mm<sup>2</sup> | 2.5  
Page | 167

## Shield Terminal Blocks, 280 Series



3-conductor terminal block  
mm<sup>2</sup> | 2.5  
Page | 166

## Ground Conductor Terminal Blocks, 280/281 Series



3-conductor terminal block  
mm<sup>2</sup> | 2.5 | 4  
Page | 166 | 171

## Ground Conductor Terminal Block / Supply Terminal Block, 283 Series



Supply terminal block 0.2 – 16 mm<sup>2</sup>/AWG 24 – 6  
Item No. 283-609  
End plate (283-320)

## Double-Deck Terminal Blocks (Selection), 279/280/281 Series



Through/through connection  

mm <sup>2</sup>	1.5	2.5	4
Page	180	184	188



Through/carrier connection  

mm <sup>2</sup>	2.5
Page	186



4-conductor ground conductor terminal block  

mm <sup>2</sup>	1.5	2.5
Page	180	184

## Ex i Double-Deck Terminal Blocks, 279/280/281 Series



Through/through connection  

mm <sup>2</sup>	1.5	2.5	4
Page	180	184	188

## Ex i Double-Deck Terminal Blocks, 279 Series



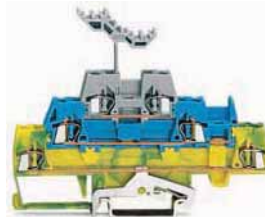
4-conductor through terminal block  

mm <sup>2</sup>	1.5
Page	180

## Triple-Deck Terminal Blocks (Selection), 280 Series



Through/through/through connection  
 2.5 mm<sup>2</sup>/AWG 12  
 Page 190



Ground/through/through connection  
 2.5 mm<sup>2</sup>/AWG 12  
 Page 190



6-conductor ground conductor terminal block  
 2.5 mm<sup>2</sup>/AWG 12  
 Page 190

## Triple-Deck Terminal Blocks, 280 Series



Ground/through/carrier connection  
 2.5 mm<sup>2</sup>/AWG 12  
 Page 187

## Quadruple-Deck Terminal Blocks, 280 Series



Rail-mounted t. block for electric motor wiring  
 4 mm<sup>2</sup>/AWG 12  
 Page 192

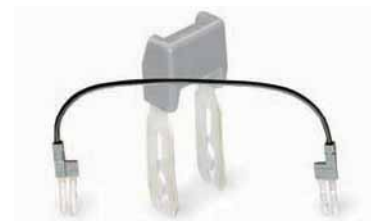
## Accessories (Selection)



Various test plug modules  
 Page 194



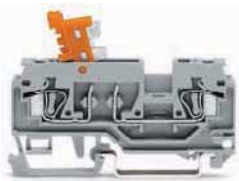
Insulation stop  
 1.5 mm<sup>2</sup> / 2.5 mm<sup>2</sup> / 4 mm<sup>2</sup>  
 Page 199



Staggered jumper and wire jumper  
 Page 201



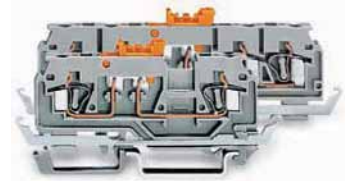
## Disconnect Terminal Blocks for Test and Measurement, with Movable Knife Disconnect and Integrated Test Slot, 280 Series



2-conductor terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 204



4-conductor terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 205



2- and 4-conductor t. block with shield contact  
2.5 mm<sup>2</sup>/AWG 12  
Page 204

## Disconnect Terminal Blocks with Disconnect Tab, 280/281 Series



2-conductor terminal block  
mm<sup>2</sup> | 2.5 | 4  
Page | 206 | 208



3-conductor terminal block  
mm<sup>2</sup> | 2.5 | 4  
Page | 206 | 208



4-conductor terminal block  
mm<sup>2</sup> | 2.5 | 4  
Page | 206 | 208

## Disconnect Terminal Blocks for Test and Measurement, with Disconnect Tab, 280/281 Series



2-conductor terminal block  
mm<sup>2</sup> | 2.5 | 4  
Page | 206 | 208

## Disconnect Terminal Blocks for Test and Measurement, Through Terminal Blocks, 282 Series



Current transformer circuits  
6 mm<sup>2</sup>/AWG 10  
Page 214



Current transformer circuits  
6 mm<sup>2</sup>/AWG 10  
Page 214

## Disconnect Terminal Blocks for Test and Measurement, Through and Ground Conductor Terminal Blocks, 282 Series



Voltage transformer circuits  
6 mm<sup>2</sup>/AWG 10  
Page 214



Voltage transformer circuits  
6 mm<sup>2</sup>/AWG 10  
Page 215

## Transverse Switching Terminal Blocks, 282 Series



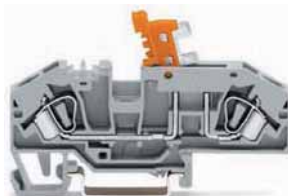
2-conductor terminal block  
6 mm<sup>2</sup>/AWG 10  
Page 218

## Longitudinal Switching Disconnect Terminal Blocks, Through Terminal Blocks, 282 Series



2-conductor terminal block  
6 mm<sup>2</sup>/AWG 10  
Page 218

## Disconnect Terminal Blocks, 282 Series



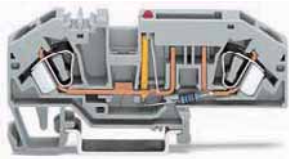
2-conductor terminal block  
6 mm<sup>2</sup>/AWG 10  
Page 220

## Ground Conductor Disconnect Terminal Blocks, 282 Series



2-conductor terminal block  
6 mm<sup>2</sup>/AWG 10  
Page 220

## Terminal Blocks for Mini-Automotive, Blade-Style Fuses, 282 Series



with blown fuse indication  
6 mm<sup>2</sup>/AWG 10  
Page 222



without blown fuse indication  
6 mm<sup>2</sup>/AWG 10  
Page 222

## Fuse Disconnect Terminal Blocks with Pivoting Fuse Holder, 281 Series



without blown fuse indication  
4 mm<sup>2</sup>/AWG 12  
Page 226



with blown fuse indication  
4 mm<sup>2</sup>/AWG 12  
Page 228



Disconnect terminal block with pivoting disconnect  
slide link 4 mm<sup>2</sup>/AWG 12  
Page 227

## Fuse Plugs and Carrier Terminal Blocks, 280/281 Series



Fuse plug  
5 mm/0.197 in wide  
Page 232



Fuse plug with LED  
6 mm/0.236 in wide  
Page 230



2-/3-/4-conductor carrier terminal block

mm <sup>2</sup>	2.5	4
Page	232	230

## Fuse Modules on Terminal Blocks for Pluggable Modules, 286 Series



see "Interface Modules" catalog



Terminal block for pluggable module  
with 2-conductor terminal blocks



Terminal block for pluggable module  
with 4-conductor terminal blocks

## Sensor Terminal Blocks (Selection), 280 Series



for 3-conductor sensors  
2.5 mm<sup>2</sup>/AWG 12

Page 240



for 3-cond. sensors with ground connection  
2.5 mm<sup>2</sup>/AWG 12

Page 242



for 4-conductor sensors  
2.5 mm<sup>2</sup>/AWG 12

Page 244

## Actuator Terminal Blocks (Selection), 280 Series



e.g., magnetic valves  
2.5 mm<sup>2</sup>/AWG 12

Page 248



e.g., pressure switches  
2.5 mm<sup>2</sup>/AWG 12

Page 247



e.g., thermocouples  
2.5 mm<sup>2</sup>/AWG 12

Page 253

## Diode Terminal Blocks, 279/280/281 Series



2-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4
Page	254	256	258



3-conductor terminal block

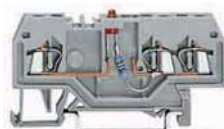
mm <sup>2</sup>	1.5	2.5	4
Page	254	256	258



4-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4
Page	254	256	258

## LED Terminal Blocks, 279/280 Series



3-conductor terminal block

mm <sup>2</sup>	1.5
Page	254



4-conductor terminal block

mm <sup>2</sup>	1.5	2.5
Page	254	256

## Double-Deck Diode Terminal Blocks, 280/281 Series



mm <sup>2</sup>	2.5	4
Page	260	262

## Double-Deck Diode Terminal Blocks, 280/281 Series



mm <sup>2</sup>	2.5	4
Page	260	262

## Pluggable Modules - Diode, LED and Neon Indicators, 280 Series



for carrier terminal block  
2.5 mm<sup>2</sup>/AWG 14

Page 264



for through terminal block  
2.5 mm<sup>2</sup>/AWG 14

Page 265

# Miniature Rail-Mounted Terminal Blocks 264 Series

CAGE CLAMP®

18

## Through Terminal Blocks for DIN 35 Rail



2- and 4-conductor terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 272



2- and 4-conductor terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 272



4-conductor terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 272

## Ex i Through Terminal Blocks for DIN 35 Rail



2- and 4-conductor terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 272

## Ex Through Terminal Blocks for DIN 35 Rail



2- and 4-conductor terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 272

## Through Terminal Blocks for DIN 15 Rail



2- and 4-conductor terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 273



2- and 4-conductor terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 273

## Ground Conductor Terminal Blocks for DIN 15 Rail



4-conductor terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 273

## Ex i Through Terminal Blocks for DIN 15 Rail



2- and 4-conductor terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 273

## Ex Through Terminal Blocks for DIN 15 Rail



2- and 4-conductor terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 273

## Accessories (Selection)



Comb-style jumper bar  
Page 272



Test plug module  
Page 456



Miniature WSB Quick marking system  
Page 557

## Through Terminal Blocks for DIN 35 Rail



2-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 276



3-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 276



4-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 276

## Ex i Through Terminal Blocks for DIN 35 Rail



2-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 276



3-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 276



4-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 276

## ⊕ Through Terminal Blocks for DIN 35 Rail



2-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 276

## Double-Potential Terminal Blocks for DIN 35 Rail



2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 277

## ⊕ Through Terminal Blocks for DIN 15 Rail



2-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 277

## Ground Conductor Terminal Blocks for DIN 35 Rail



2-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 276



3-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 276



4-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 276

## Through Terminal Blocks for DIN 15 Rail



2-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 277

## Ex i Through Terminal Blocks for DIN 15 Rail



2-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 277

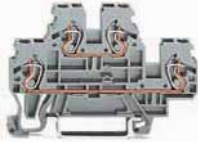
## Ground Conductor Terminal Blocks for DIN 15 Rail



2-conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 277

## Double-Deck Terminal Blocks (Selection)



Through/through connection  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 278



Ground/through connection  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 278



4-conductor ground conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 278

## 3-Conductor, Double-Deck Terminal Blocks (Selection)



Through/through connection  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 279



Ground/through connection  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 279



6-conductor ground conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

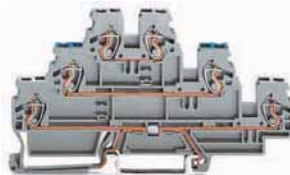
Page 279

## Triple-Deck Terminal Blocks (Selection)



Through/through/through connection  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 280



Shield/through/through connection  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 280



6-conductor ground conductor terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 280

## Ex i Double-Deck Terminal Blocks (Selection)



Double-deck terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 278



3-conductor double-deck terminal block  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 279

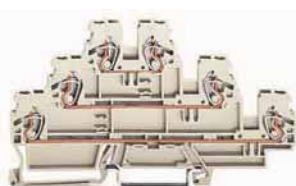
## Ex Double-Deck Terminal Blocks



Through/through connection  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 278

## Ex Triple-Deck Terminal Blocks



Through/through/through connection  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12

Page 280

## Accessories (Selection)



Tap-off module  
2.5 mm<sup>2</sup>/AWG 14

Page 283



Group marker carrier

Page 281

## Sensor Terminal Blocks, 270 Series



3- and 4-conductor sensor terminal block  
with/without LED ground/shield connection  
Page 286

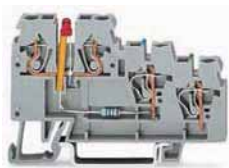


Page 285



Sensor supply terminal block  
with/without LED  
Page 285

## Actuator Terminal Blocks, 270 Series



3-conductor actuator terminal block  
with/without LED ground/shield connection  
Page 287



Page 287



Actuator supply terminal block  
Page 287

## Double-Deck Diode Terminal Blocks and LED Terminal Blocks, 870 Series



2.5 (4 "f-st") mm²/AWG 12  
Page 288



2.5 (4 "f-st") mm²/AWG 12  
Page 288



2.5 (4 "f-st") mm²/AWG 12  
Page 288

## Triple-Deck Diode Terminal Blocks and LED Terminal Blocks, 870 Series



2.5 (4 "f-st") mm²/AWG 12  
Page 290



2.5 (4 "f-st") mm²/AWG 12  
Page 290



2.5 (4 "f-st") mm²/AWG 12  
Page 291

Through Terminal Blocks, 780 – 785 Series



2-conductor terminal block

mm <sup>2</sup>	2.5	4	6	10/16	16	35
Page	295	296	297	297	298	298



3-conductor terminal block

mm <sup>2</sup>	2.5	4
Page	295	296

Ex Through Terminal Blocks, 780 – 784 Series



2-conductor terminal block

mm <sup>2</sup>	2.5	4	6	10/16	16
Page	295	296	297	297	298

Ex i Through Terminal Blocks, 780 – 785 Series



2-conductor terminal block

mm <sup>2</sup>	2.5	4	6	10/16	16	35
Page	295	296	297	297	298	298



3-conductor terminal block

mm <sup>2</sup>	2.5	4
Page	295	296

Ex Through Terminal Blocks, 780/781 Series



3-conductor terminal block

mm <sup>2</sup>	2.5	4
Page	295	296

Ground Conductor Terminal Blocks, 780 – 785 Series



2-conductor terminal block

mm <sup>2</sup>	2.5	4	6	10/16	16	35
Page	295	296	297	297	298	298



3-conductor terminal block

mm <sup>2</sup>	2.5	4
Page	295	296

Shield Terminal Blocks, 780 Series



3-conductor terminal block

mm <sup>2</sup>	2.5
Page	295

N-Conductor Disconnect Terminal Blocks, 780 – 785 Series



1-conductor terminal block

mm <sup>2</sup>	2.5	4	6	10/16	16	35
Page	299	299	300	300	300	301



2-conductor terminal block

mm <sup>2</sup>	4
Page	299

Power Distribution Disconnect Terminal Blocks, 781 – 785 Series



1-conductor terminal block

mm <sup>2</sup>	4	6	10/16	16	35
Page	299	300	300	300	301

Power Distribution Disconnect Terminal Blocks, 781 Series



2-conductor terminal block

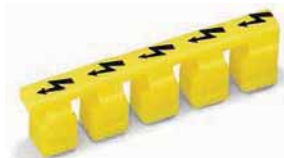
mm <sup>2</sup>	4
Page	299

Accessories (Selection)



Adjacent jumper

Page 295



Protective warning marker

Page 295



## Through Terminal Blocks, 279 – 284 Series



2-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4	6	10	16
Page	306	306	306	307	308	308

## Ex i Through Terminal Blocks, 279 – 282 Series



2-conductor terminal block

mm <sup>2</sup>	1.5	2.5	4	6
Page	306	306	306	307

## Ground Conductor Terminal Blocks, 280 – 284 Series



2-conductor terminal block

mm <sup>2</sup>	2.5	4	6	10	16
Page	306	306	307	308	308

## Disconnect Terminal Blocks for Test and Measurement, 282 Series



with test sockets  
6 mm<sup>2</sup>/AWG 10  
Page 310



without test sockets  
6 mm<sup>2</sup>/AWG 10  
Page 310

## Ground Conductor Disconnect Terminal Block, 282 Series



6 mm<sup>2</sup>/AWG 10  
Page 311

## Fuse Terminal Blocks, 282 Series



without indicator  
6 mm<sup>2</sup>/AWG 10  
Page 312



with indicator  
6 mm<sup>2</sup>/AWG 10  
Page 312



with red LED  
6 mm<sup>2</sup>/AWG 10  
Page 313

## Accessories (Selection)



Adjacent jumper  
Page 306



Alternate jumper  
Page 306



Protective warning marker  
Page 306



Insulation stop  
Page 199



Step-down jumper  
Page 309

**1-Conductor/1-Pin Carrier Terminal Blocks**



without/with shield contact

Page 322



without shield contact

Page 322



Ground conductor terminal block

Page 322

**2-Pin Carrier Terminal Blocks**



without/with shield contact

Page 324



Ground conductor terminal block

Page 324

**2-Conductor/2-Pin Carrier Terminal Blocks**



without/with shield contact

Page 326



without shield contact

Page 326



Ground conductor terminal block

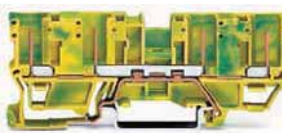
Page 326

**4-Pin Carrier Terminal Blocks**



without/with shield contact

Page 328



Ground conductor terminal block

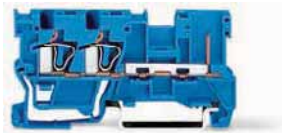
Page 328

**2-Conductor/1-Pin Carrier Terminal Blocks**



without/with shield contact

Page 330






without shield contact

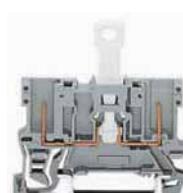

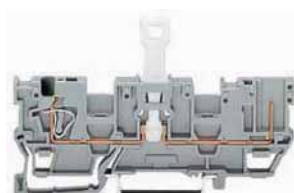
Page 330


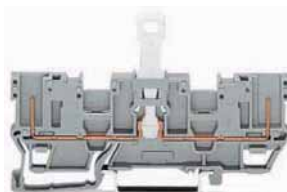






Ground conductor terminal block

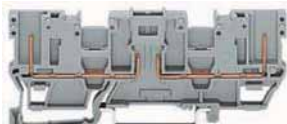
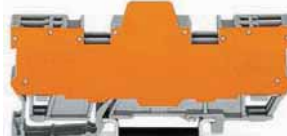

Page 330

<p><b>1-Conductor/1-Pin Carrier Terminal Blocks with 3 Jumper Positions</b></p>  <p>Page 332</p>	<p><b>1-Conductor/1-Pin Carrier Terminal Blocks</b></p>  <p>Disconnect carrier terminal block without/with shield contact Page 334</p>  <p>Diode and LED Page 336</p>	
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<p><b>2-Pin Carrier Terminal Blocks</b></p>  <p>Disconnect carrier terminal block without/with shield contact Page 334</p>	 <p>LED and diode Page 338</p>	<p><b>1-Conductor/1-Pin Carrier Terminal Blocks with 2 Jumper Positions</b></p>  <p>Disconnect carrier terminal block without/with shield contact Page 335</p>
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<p><b>1-Conductor/1-Pin Carrier Terminal Blocks with 2 Jumper Positions</b></p>  <p>Diode and LED Page 337</p>	<p><b>2-Pin Carrier Terminal Blocks with 2 Jumper Positions</b></p>  <p>Disconnect carrier terminal block without/with shield contact Page 335</p>  <p>LED and diode Page 339</p>	
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<p><b>1-Conductor/1-Conductor Carrier Terminal Blocks with 2 Jumper Positions</b></p>  <p>Disconnect carrier terminal block without/with shield contact Page 342</p>	<p><b>1-Conductor/1-Pin Carrier Terminal Blocks with 2 Jumper Positions for Pluggable Modules</b></p>  <p>for 5 mm/0.197 in wide pluggable module Page 344</p>  <p>for 10 mm/0.39 in; 15 mm/0.59 in; 20 mm/0.79 in; 25 mm/0.98 in wide pluggable module Page 344</p>	
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<p><b>2-Pin Carrier Terminal Blocks with 2 Jumper Positions for Pluggable Modules</b></p>  <p>for 5 mm/0.197 in wide pluggable module Page 346</p>	<p><b>2-Conductor Carrier Terminal Blocks with 2 Jumper Positions for Pluggable Modules</b></p>  <p>for 10 mm/0.39 in; 15 mm/0.59 in; 20 mm/0.79 in; 25 mm/0.98 in wide pluggable module Page 346</p>  <p>for 10 mm/0.39 in; 15 mm/0.59 in; 20 mm/0.79 in; 25 mm/0.98 in wide pluggable module Page 348</p>	
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**1-Conductor/1-Pin, Double-Deck Carrier Terminal Blocks**



Page 352



internal commoning

Page 352



internal commoning

Page 352

**Double-Deck Carrier Terminal Blocks**



2-pin

Page 354



internal commoning

Page 354



2-conductor/2-pin

Page 356

**Male Connectors with CAGE CLAMP®**



Page 360



with snap-in mounting feet

Page 360



with fixing flanges

Page 360

**Male Connectors with CAGE CLAMP®**



with feedthrough flanges

Page 361



with snap-in flanges

Page 362

**Male Headers with Solder Pins**



straight and angled

Page 364



straight and angled  
with fixing flanges

Page 365



straight and angled  
with feedthrough flanges

Page 366

# X-COM®-SYSTEM

## Female Plugs

### 769 Series

#### 1-Conductor Female Plugs, 769 Series



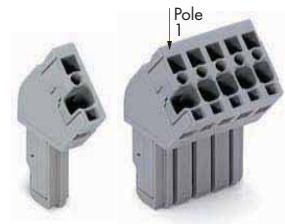
straight

Page 368



straight

Page



angled

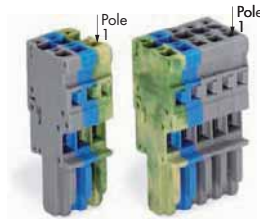
Page 371

#### 1-Conductor Female Plugs, 769 Series



with locking levers

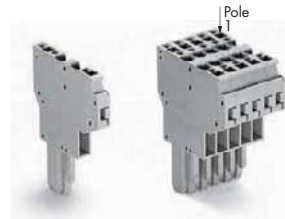
Page 369



3- and 5-pole

Page 374

#### 2-Conductor Female Plugs, 769 Series



Page 370

#### Female Plugs for Self-Assembly, 769 Series



1-conductor, straight

Page 372



2-conductor, straight

Page 372



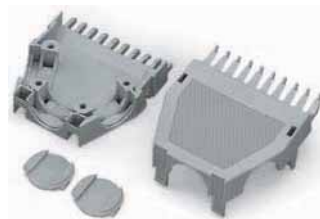
1-conductor, angled

Page 372

#### Strain Relief Housings, 769 Series



Page 375



Page 375

#### Operating tool



Page 361

**X-COM® S-SYSTEM-MINI**  
**Carrier Terminal Blocks and Female Plugs**  
**2020 Series**

**1-Conductor/1-Pin Carrier Terminal Blocks**



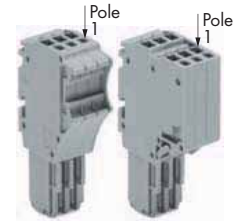
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**2-Conductor/2-Pin Carrier Terminal Blocks**



Page 381

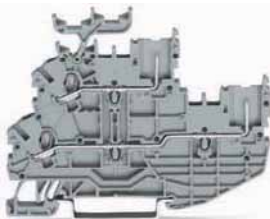
**Female Plugs**



1-conductor and 2-conductor

Page 384

**1-Conductor/1-Pin Double-Deck Carrier Terminal Blocks**



Page 382



Page 382



internal commoning

Page 382

**Pre-Assembled Female Plugs**



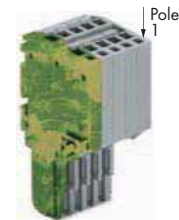
2-conductor

Page 388



2-conductor

Page 388



2-conductor

Page 388

**Pre-Assembled Female Plugs**



2-conductor

Page 389

**Female Plugs for Self-Assembly**



1-conductor

Page 386



2-conductor

Page 386

**Female Plugs with Locking Levers and Strain Relief Plates**



1-conductor and 2-conductor with locking lever

Page 390



2-conductor and 1-conductor with strain relief plate

Page 392



1-conductor and 2-conductor with locking lever and strain relief plate

Page 390

# X-COM® S-SYSTEM

## Carrier Terminal Blocks and Female Plugs

### 2022 Series

#### 1-Conductor/1-Pin Carrier Terminal Blocks



Page 394

#### 1-Conductor/1-Pin Ground Carrier Terminal Blocks



Page 394

#### Female Plugs



1-conductor

Page 400

#### 2-Conductor/1-Pin Carrier Terminal Blocks



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#### 2-Conductor/2-Pin Carrier Terminal Blocks



Page 396

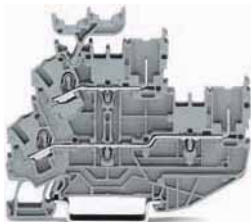
#### Female Plugs for Self-Assembly



1-conductor

Page 402

#### 1-Conductor/1-Pin Double-Deck Carrier Terminal Blocks



Page 398



Page 398



internal commoning

Page 398

#### Pre-Assembled Female Plugs



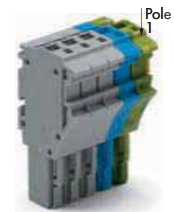
1-conductor

Page 401



1-conductor

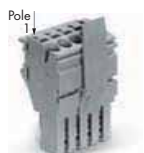
Page 401



1-conductor

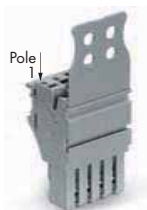
Page 401

#### Female Plugs with Locking Levers and Strain Relief Plates



1-conductor  
with locking lever

Page 404



1-conductor  
with strain relief plate

Page 404



1-conductor  
with locking lever and strain relief plate

Page 404

Matrix Patchboards, 726 Series



Side 1 3 x 0.08 - 1.5 mm<sup>2</sup>/AWG 28 - 16  
Side 2 3 x 0.08 - 1.5 mm<sup>2</sup>/AWG 28 - 16  
32, 48 and 80-pole



or  
Page 410



Side 1 3 x 0.08 - 1.5 mm<sup>2</sup>/AWG 28 - 16  
Side 2 2 x 0.08 - 2.5 mm<sup>2</sup>/AWG 28 - 14  
32, 48 and 80-pole

Ex i Matrix Patchboards, 726 Series



Side 1 3 x 0.08 - 1.5 mm<sup>2</sup>/AWG 28 - 16  
Side 2 3 x 0.08 - 1.5 mm<sup>2</sup>/AWG 28 - 16  
32, 48 and 80-pole



or  
Page 410



Side 1 3 x 0.08 - 1.5 mm<sup>2</sup>/AWG 28 - 16  
Side 2 2 x 0.08 - 2.5 mm<sup>2</sup>/AWG 28 - 14  
32, 48 and 80-pole

Matrix Patchboards, Slimline Version, 726 Series



Side 1 2 x 0.08 - 1.5 mm<sup>2</sup>/AWG 28 - 16  
Side 2 2 x 0.08 - 1.5 mm<sup>2</sup>/AWG 28 - 16  
Page 413



Mounted upside down  
Page 413

Ex i Matrix Patchboards, Slimline Version, 726 Series



Side 1 2 x 0.08 - 1.5 mm<sup>2</sup>/AWG 28 - 16  
Side 2 2 x 0.08 - 1.5 mm<sup>2</sup>/AWG 28 - 16  
Page 413

Accessories



Decade marker carrier  
Page 416



Additional module  
Page 416



Insulation stop  
Page 417

Common Potential Matrix Patchboards, 726 Series



Side 1 24 x 0.08 - 2.5 mm<sup>2</sup>/AWG 28 - 14  
Side 2 1/2 x 0.2 - 16 mm<sup>2</sup>/AWG 24 - 6  
Page 414



or



Side 1 1/2 x 0.2 - 2.5 mm<sup>2</sup>/AWG 24 - 6  
Side 2 24 x 0.08 - 2.5 mm<sup>2</sup>/AWG 28 - 14  
Page 415



Terminal Blocks for Matrix Patching and Common Potential Terminal Blocks, 727 Series



4-level terminal block  
 1.5 mm<sup>2</sup>/AWG 16  
 Page 420



8-level terminal block  
 1.5 mm<sup>2</sup>/AWG 16  
 Page 422

Ex i Terminal Blocks for Matrix Patching, 727 Series



4-level terminal block  
 1.5 mm<sup>2</sup>/AWG 16  
 Page 420



8-level terminal block  
 1.5 mm<sup>2</sup>/AWG 16  
 Page 422

3-Conductor, Double-Potential Terminal Blocks/Terminal Blocks for Matrix Patching, 280 Series



2.5 mm<sup>2</sup>/AWG 12  
 Page 425



Pin module  
 Page 425



Wire harness support  
 Page 425

Busbar Terminal Blocks, 812 Series



N/L  
 4 mm<sup>2</sup>/AWG 12  
 Page 427



N/L  
 16 mm<sup>2</sup>/AWG 6  
 Page 427

Insulated Busbar Carrier



Page 427

Ground Busbar Terminal Blocks, 812 Series



4 mm<sup>2</sup>/AWG 12  
 Page 427



16 mm<sup>2</sup>/AWG 6  
 Page 427

Ground Busbar Carrier



Page 427

## Modular Terminal Blocks and Compact Terminal Strips, 869 Series



2.5 (4 "f-st") mm<sup>2</sup>/AWG 12  
Page 432



with fixing flanges  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12  
Page 431



with snap-in mounting feet  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12  
Page 431

## Ex i Modular Terminal Blocks and Compact Terminal Strips, 869 Series



2.5 (4 "f-st") mm<sup>2</sup>/AWG 12  
Page 432



with fixing flanges  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12  
Page 431



with snap-in mounting feet  
2.5 (4 "f-st") mm<sup>2</sup>/AWG 12  
Page 431

## Modular Terminal Blocks and Terminal Strips, 264 Series



2- and 4-conductor modular terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 436



with fixing flanges  
2.5 mm<sup>2</sup>/AWG 12  
Page 438



with snap-in mounting feet  
2.5 mm<sup>2</sup>/AWG 12  
Page 438

## Ex i Modular Terminal Blocks and Terminal Strips, 264 Series



2- and 4-conductor modular terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 436



with fixing flanges  
2.5 mm<sup>2</sup>/AWG 12  
Page 438



with snap-in mounting feet  
2.5 mm<sup>2</sup>/AWG 12  
Page 438

## Ex i Modular Terminal Blocks and Terminal Strips, 264 Series



2- and 4-conductor modular terminal block  
2.5 mm<sup>2</sup>/AWG 12  
Page 436



with fixing flanges  
2.5 mm<sup>2</sup>/AWG 12  
Page 438



with snap-in mounting feet  
2.5 mm<sup>2</sup>/AWG 12  
Page 439

# Modular Terminal Blocks and Terminal Strips 260, 261 and 262 Series

## Modular Terminal Blocks and Terminal Strips with Fixing Flanges or Snap-In Mounting Feet, 260 to 262 Series



2-cond. modular terminal block and terminal strip  

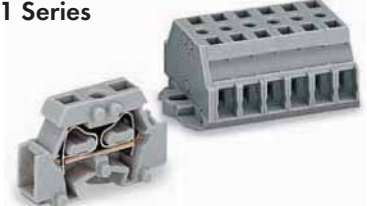
mm <sup>2</sup>	1.5	2.5	4
Page	442	444	452



4-cond. modular terminal block and terminal strip  

mm <sup>2</sup>	1.5	2.5	4
Page	442	444	452

## ... with Fixing Flanges and Miniature WSB Marker Slot, 261 Series



2-cond. modular terminal block and terminal strip  
2.5 mm<sup>2</sup>/AWG 14  
Page 450

## Modular Terminal Blocks and Terminal Strips with Fixing Flanges or Snap-In Mounting Feet, with Push-Buttons on One Side, 261 Series

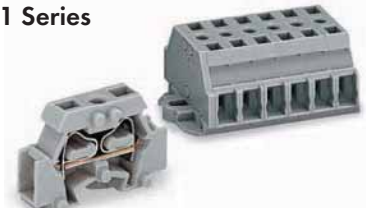


2-cond. modular terminal block and terminal strip  
2.5 mm<sup>2</sup>/AWG 14  
Page 446



4-cond. modular terminal block and terminal strip  
2.5 mm<sup>2</sup>/AWG 14  
Page 446

## ... with Fixing Flanges and Miniature WSB Marker Slot, 261 Series



2-cond. modular terminal block and terminal strip  
2.5 mm<sup>2</sup>/AWG 14  
Page 450

## Modular Terminal Blocks and Terminal Strips with Fixing Flanges or Snap-In Mounting Feet, with Push-Buttons on Both Sides, 261 Series

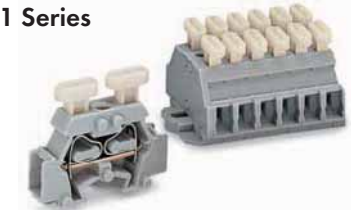


2-cond. modular terminal block and terminal strip  
2.5 mm<sup>2</sup>/AWG 14  
Page 448



4-cond. modular terminal block and terminal strip  
2.5 mm<sup>2</sup>/AWG 14  
Page 448

## ... with Fixing Flanges and Miniature WSB Marker Slot, 261 Series



2-cond. modular terminal block and terminal strip  
2.5 mm<sup>2</sup>/AWG 14  
Page 450

## Ex i Modular Terminal Blocks and Terminal Strips with Fixing Flanges or Snap-In Mounting Feet, 261/262 Series



2- and 4-conductor modular terminal block  

mm <sup>2</sup>	2.5	4
Page	444	452



2-conductor terminal strip  

mm <sup>2</sup>	2.5	4
Page	445	453



4-conductor terminal strip  

mm <sup>2</sup>	2.5	4
Page	445	453

## Ex i Modular Terminal Blocks and Terminal Strips with Fixing Flanges or Snap-In Mounting Feet, with Push-Buttons on One Side, 261 Series



2- and 4-conductor modular terminal block  
2.5 mm<sup>2</sup>/AWG 14  
Page 446



2-conductor terminal strip  
2.5 mm<sup>2</sup>/AWG 14  
Page 447



4-conductor terminal strip  
2.5 mm<sup>2</sup>/AWG 14  
Page 447

# Modular Terminal Blocks and Terminal Strips 261 and 262 Series, Accessories

## Ex i Modular Terminal Blocks and Terminal Strips with Fixing Flanges or Snap-In Mounting Feet, with Push-Buttons on Both Sides, 261 Series



2- and 4-conductor modular terminal block  
2.5 mm<sup>2</sup>/AWG 14  
Page 448



2-conductor terminal strip  
2.5 mm<sup>2</sup>/AWG 14  
Page 449



2-conductor terminal strip  
2.5 mm<sup>2</sup>/AWG 14  
Page 449

## Ex i Modular Terminal Blocks and Terminal Strips with Fixing Flanges or Snap-In Mounting Feet, 262 Series



2- and 4-conductor modular terminal block  
4 mm<sup>2</sup>/AWG 12  
Page 454



2-conductor terminal strip  
4 mm<sup>2</sup>/AWG 12  
Page 455



4-conductor terminal strip  
4 mm<sup>2</sup>/AWG 12  
Page 455

## Accessories for 869 Series (Selection)



Insulation stop  
Page 199



Push-in type jumper bar  
Page 432



Group marker carrier  
Page 281

## Accessories for 264 Series (Selection)



Comb-style jumper bar  
Page 436



Test plug module  
Page 456



T marker tag  
Page 556

## Accessories for 260 to 262 Series (Selection)



Comb-style jumper bar  
Page 442



Test plug module  
Page 456



Aluminum carrier rail  
Page 442

## Through Terminal Blocks, 285 Series



2-conductor terminal block  
35 mm<sup>2</sup>/AWG 2  
Page 462



2-conductor terminal block  
35 mm<sup>2</sup>/AWG 2  
Page 462

## Ground Conductor Terminal Blocks, 285 Series



2-conductor terminal block  
35 mm<sup>2</sup>/AWG 2  
Page 462

## Through Terminal Blocks, 285 Series



2-conductor terminal block  
50 mm<sup>2</sup>/AWG 1  
Page 463



2-conductor terminal block  
50 mm<sup>2</sup>/AWG 1  
Page 463

## Ground Conductor Terminal Blocks, 285 Series



2-conductor terminal block  
50 mm<sup>2</sup>/AWG 1  
Page 463

## Through Terminal Blocks, 285 Series



2-conductor terminal block  
95 mm<sup>2</sup>/AWG 4/0  
Page 466

## Through Terminal Blocks, 285 Series



2-conductor terminal block  
95 mm<sup>2</sup>/AWG 4/0  
Page 466

## Ground Conductor Terminal Blocks, 285 Series



2-conductor terminal block  
95 mm<sup>2</sup>/AWG 4/0  
Page 466

## Voltage Tap, 285 Series



for 35 mm<sup>2</sup>/AWG 2 terminal block  
Page 462



for 50 mm<sup>2</sup>/AWG 1 terminal block  
Page 463



for 95 mm<sup>2</sup>/AWG 4/0 terminal block  
Page 466

## Male and Female Connectors, Pin Spacing 17.5 mm, 834 Series



Male connector  
35 mm<sup>2</sup>/AWG 2  
Page 469



Female connector  
35 mm<sup>2</sup>/AWG 2  
Page 469



Mounting adapter  
for DIN 35 rail  
Page 469

# Rail-Mounted Terminal Blocks mit FIT CLAMP®-Connection 290 Series

FIT CLAMP®

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## Through Terminal Blocks 0.31 - 1 mm<sup>2</sup> (AWG 22 - 18) "s" / 0.34 - 1.5 mm<sup>2</sup> (AWG 22 - 16) "f-st"



2-conductor terminal block  
1 x FIT CLAMP® / 1 x FIT CLAMP®  
Page 474



3-conductor terminal block  
1 x FIT CLAMP® / 2 x FIT CLAMP®  
Page 474



4-conductor terminal block  
2 x FIT CLAMP® / 2 x FIT CLAMP®  
Page 474

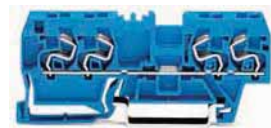
## Ex i Through Terminal Blocks 0.31 - 1 mm<sup>2</sup> (AWG 22 - 18) "s" / 0.34 - 1.5 mm<sup>2</sup> (AWG 22 - 16) "f-st"



2-conductor terminal block  
1 x FIT CLAMP® / 1 x FIT CLAMP®  
Page 474



3-conductor terminal block  
1 x FIT CLAMP® / 2 x FIT CLAMP®  
Page 474

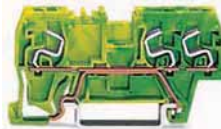


4-conductor terminal block  
2 x FIT CLAMP® / 2 x FIT CLAMP®  
Page 474

## Ground Conductor Terminal Blocks 0.31 - 1 mm<sup>2</sup> (AWG 22 - 18) "s" / 0.34 - 1.5 mm<sup>2</sup> (AWG 22 - 16) "f-st"



2-conductor terminal block  
1 x FIT CLAMP® / 1 x FIT CLAMP®  
Page 474



3-conductor terminal block  
1 x FIT CLAMP® / 2 x FIT CLAMP®  
Page 474



4-conductor terminal block  
2 x FIT CLAMP® / 2 x FIT CLAMP®  
Page 474

## Accessories (Selection)



Adjacent jumper  
Page 474



Alternate jumper  
Page 474



Staggered jumper  
Page 201

## Accessories (Selection)



Wire jumper  
Page 201



Test plug module  
Page 196



Comb-style jumper bar  
Page 200

# Rail-Mounted Terminal Blocks with CAGE CLAMP®-Connection and FIT CLAMP®-Connection, 290 Series

CAGE CLAMP®

FIT CLAMP®

Through Terminal Blocks 0.08 - 2.5 mm<sup>2</sup> (AWG 28 - 12) CAGE CLAMP® and 0.31 - 1 mm<sup>2</sup> (AWG 22 - 18) "s" / 0.34 - 1.5 mm<sup>2</sup> (AWG 22 - 16) "f-st" FIT CLAMP®



2-conductor terminal block  
1 x CAGE CLAMP® / 1 x FIT CLAMP®  
Page 476



3-conductor terminal block  
1 x CAGE CLAMP® / 2 x FIT CLAMP®  
Page 476

Ex i Through Terminal Blocks 0.08 - 2.5 mm<sup>2</sup> (AWG 28 - 12) CAGE CLAMP® and 0.31 - 1 mm<sup>2</sup> (AWG 22 - 18) "s" / 0.34 - 1.5 mm<sup>2</sup> (AWG 22 - 16) "f-st" FIT CLAMP®



2-conductor terminal block  
1 x CAGE CLAMP® / 1 x FIT CLAMP®  
Page 476



3-conductor terminal block  
1 x CAGE CLAMP® / 2 x FIT CLAMP®  
Page 476

Ground Conductor Terminal Blocks 0.08 - 2.5 mm<sup>2</sup> (AWG 28 - 12) CAGE CLAMP® and 0.31 - 1 mm<sup>2</sup> (AWG 22 - 18) "s" / 0.34 - 1.5 mm<sup>2</sup> (AWG 22 - 16) "f-st" FIT CLAMP®



2-conductor terminal block  
1 x CAGE CLAMP® / 1 x FIT CLAMP®  
Page 476



3-conductor terminal block  
1 x CAGE CLAMP® / 2 x FIT CLAMP®  
Page 476

## Accessories for CAGE CLAMP®



Protective warning marker  
Page 476



Insulation stop  
Page 199



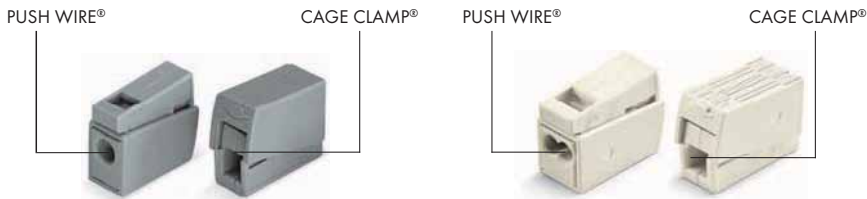
L-type test plug module  
Page 194

## Accessories for CAGE CLAMP®



Comb-style jumper bar  
Page 200

**Lighting Connectors, 224 Series**



Page 481

2-wire connector

Page 481

**Luminaire Disconnect Connectors, 873 Series**



4 mm<sup>2</sup>/AWG 12  
 Page 482

**MICRO PUSH WIRE® Connectors for Junction Boxes, 243 Series**



4-wire connector

Page 504



4-wire connector

Page 504



4-wire connector

Page 505

**MICRO PUSH WIRE® Connectors for Junction Boxes, 243 Series**



8-wire connector

Page 504



8-wire connector

Page 504

**Mounting Carriers, 243 Series**



Page 505

**Compact Connectors with CAGE CLAMP®, 222 Series**



2- and 3-wire connector

Page 519



5-wire connector

Page 519

**Mounting Carrier, 222 Series**



Page 521

**COMPACT PUSH WIRE® Connectors for Junction Boxes, 2273 Series**



2-, 3-, 4- and 5-wire connector

Page 507



8-wire connector

Page 507

**Mounting Carrier, 2273 Series**



Page 507



**PUSH WIRE® Connectors for Junction Boxes, 773 Series**



**3-wire connector**  
1.5 mm<sup>2</sup>/AWG 16  
Page 510



**5-wire connector**  
1.5 mm<sup>2</sup>/AWG 16  
Page 510



**8-wire connector**  
1.5 mm<sup>2</sup>/AWG 16  
Page 510

**PUSH WIRE® Connectors for Junction Boxes, 773 Series**



**2-wire connector**  
2.5 mm<sup>2</sup>/AWG 12  
Page 510



**3-wire connector**  
2.5 mm<sup>2</sup>/AWG 12  
Page 510



**4-wire connector**  
2.5 mm<sup>2</sup>/AWG 12  
Page 511

**PUSH WIRE® Connectors for Junction Boxes, 773 Series**



**5-wire connector**  
2.5 mm<sup>2</sup>/AWG 12  
Page 511



**3-wire connector**  
4 mm<sup>2</sup>/AWG 10  
Page 511

**Mounting Carrier, 273 Series**



Page 512

**PUSH WIRE® Connectors for Junction Boxes, 773 Series**



**8-wire connector**  
2.5 mm<sup>2</sup>/AWG 12  
Page 514



**3-wire connector**  
6 mm<sup>2</sup>/AWG 10  
Page 514

**Mounting Carrier, 773 Series**



Page 515

**Ex PUSH WIRE® Connectors for Junction Boxes, 773 Series**



**2- and 4-wire connector**  
2.5 mm<sup>2</sup>/AWG 14  
Page 516



**6- and 8-wire connector**  
2.5 mm<sup>2</sup>/AWG 14  
Page 516

**Ex Mounting Carrier for PUSH WIRE® Connectors for Junction Boxes, 773 Series**



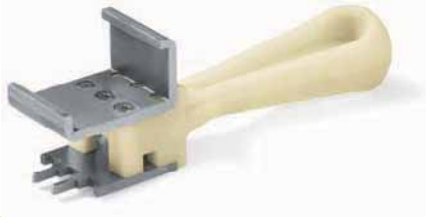
Page 517

**2-pole**



Page 489

**Assembly Tool**



Page 497

**Disconnection Tool**



Page 497

**3-pole**



with/without snap-in mounting feet  
with/without plain  
Page 490



with screw-type ground contact  
Page 490



with angled snap-in ground contact  
Page 491

**4-pole**



with/without snap-in mounting feet  
with/without plain  
Page 492



with direct ground contact  
Page 493



with snap-in ground contact  
Page 493

**5-pole**



with/without snap-in mounting feet  
with/without plain  
Page 494



with screw-type ground contact  
Page 494



with snap-in ground contact  
Page 495



**6-pole**  
Page 496



**7-pole**  
Page 496



**Strain Relief Plates**

Page 497

## Shield Clamping Saddles, 790 Series



diameter of compatible conductor  
up to 8 mm (0.315 in)

Page 526



diameter of compatible conductor  
7 to 16 mm (0.276 - 0.63 in)

Page 526



diameter of compatible conductor  
6 to 24 mm (0.236 - 0.944 in)

Page 526

## Shield Clamping Saddle, 790 Series



diameter of compatible conductor  
22 to 40 mm (0.866 - 1.575 in)

Page 527

## Carriers with Grounding Feet, 790 Series



Page 526



Page 526

## Carrier Rail



with special perforations

Page 526

## Spacer sleeves



for specially perforated carrier rail

Page 526

## Straight Busbars



for insulated mounting foot

Page 526

## Insulated Mounting Feet, 790 Series



Page 527

## Busbar Carriers, 790 Series



Page 530

## U-Shaped Busbars, 790 Series



Cu 10 mm x 3 mm (0.394 in x 0.118 in)

Page 527

## Shield Clamps, 791 Series



diameter of compatible conductor  
1.5 to 24 mm (0.059 - 0.944 in)

Page 528



## Shield Termination, 709 Series



includes cable tie

Page 528

# ProServe Designing, Assembling and Marking

42

## ProServe Software



see Section 13

## Thermal Transfer Printers, 258 Series



TP 343+

Page 568



TP 298+

Page 568

## Mobile Printer



DYMO 3M PL300

Page 538

## Engraver, 258 Series



EG 450

Page 542

## Plotter, 258 Series



IP 350, A3 or A4

Page 542



IP 200

Page 541

## Accessories for Thermal Transfer Printers (Selection)



Ink ribbon

Page 540



External coil mounting system

Page 540



Cutter

Page 540

## Accessories for Plotters (Selection)



Plotter pen

Page 544



Service kit

Page 544



Carrier plate  
interchangeable locating device

Page 545

## WMB Multi Marking System 3.5 mm Wide; 4 - 4.2 mm Wide; 5 mm Wide and 5 - 5.2 mm Wide



plain WMB card

Page 557



printed WMB card with horizontal or vertical marking

Page 548



colored WMB card

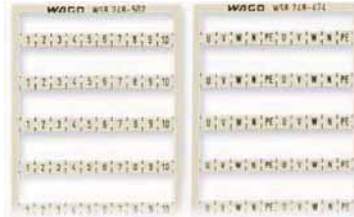
Page 557

## Miniature WSB Quick Marking System



plain miniature WSB card

Page 557



printed miniature WSB card with horizontal or vertical marking

Page 556



colored miniature WSB card

Page 557

## WMB Inline Markers



4 mm (0.157 in) wide marker  
5 mm (0.197 in) wide marker

Page 144

## Marking Strips



Page 144

## Marker Carriers



Double marker carrier

Page 562

## Group Marker Carriers



vertically or height-adjustable

Page 559



height-adjustable

Page 559



for 282 Series terminal block

Page 562

## Group Marker Carriers



for jumper contact slots of rail-mounted terminal block

Page 560



Page 560



pivoting

Page 145

# Marking Accessories

## WFB Continuous Marking System



Page 561

## Marker Cards



plain

Page 565

## Marker Cards with Self-Adhesive Marking Strips



for 260 Series

Page 564



for 261 Series

Page 564



for 262 Series

Page 564

## Wire Marking



Marking sleeve

Page 568



Labels on card

Page 569



Labels on roll

Page 569

## Wire Marking



Marker

Page 568



Marker

Page 568

## End Stops



for DIN 35 rail

Page 558



for DIN 15 rail

Page 575

## Mounting Carrier



Page 561

## Carrier Rails



DIN 35 rail, steel

Page 570



DIN 35 rail, aluminum

Page 570



DIN 35 rail, copper

Page 570

## Carrier Rails



DIN 15 rail, steel

Page 575



DIN 15 rail, aluminum

Page 575

## Angled Support Bracket



Page 571

## Collective Carriers for Jumpers



for adjacent jumpers

Page 571



for jumpers of 282-811 and 282-821 terminal blocks

Page 571

## Cover Carrier, Type 1



Page 573

## Cover, Type 1



Page 573

## Cover Carrier, Type 2



Page 574

## Cover, Type 2



Page 574

## Operating Tools



Operating tools with partially insulated shaft

Page 576



Set

Page 576



Page 577

## Operating Tools



**TOPJOB®S**  
3.5 mm (0.137 in) and 2.5 mm (0.098 in) blades  
Page 85



**TOPJOB®S**  
3.5 mm (0.137 in) and 5.5 mm (0.216 in) blades  
Page 85

## Insulated Operating Tools



for 279, 280, 281  
and 264 Series  
Page 577



for 281 Series  
Page 577



Plunger,  
for terminal block, side-entry  
Page 577

## Cable Strippers



for round cables with an outer Ø from 2.5 mm to  
11 mm  
Page 578



for round cables with an outer Ø from 4.5 mm to  
45 mm  
Page 578

## Stripping Tools



"Microstrip"  
Page 579



"Quickstrip 10"  
Page 579



"Quickstrip 16"  
Page 579



<p><b>Crimping Tools</b></p>  <p><b>"Variocrimp 4"</b></p> <p>Page 580</p>	<p><b>Ferrules</b></p>  <p>insulated</p> <p>Page 580</p>  <p>uninsulated</p> <p>Page 582</p>
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<p><b>Crimping Tools 25</b></p>  <p>Crimping range: 10 mm<sup>2</sup>, 16 mm<sup>2</sup> and 25 mm<sup>2</sup></p> <p>Page 584</p>	<p><b>Crimping Tools 50</b></p>  <p>Crimping range: 35 mm<sup>2</sup> and 50 mm<sup>2</sup></p> <p>Page 584</p>	<p><b>Ferrules</b></p>  <p>uninsulated</p> <p>Page 585</p>
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<p><b>Test and Measurement Tools</b></p>	
 <p><b>Profi LCD+</b></p> <p>Page 586</p>	 <p><b>ProfiLED+</b></p> <p>Page 586</p>

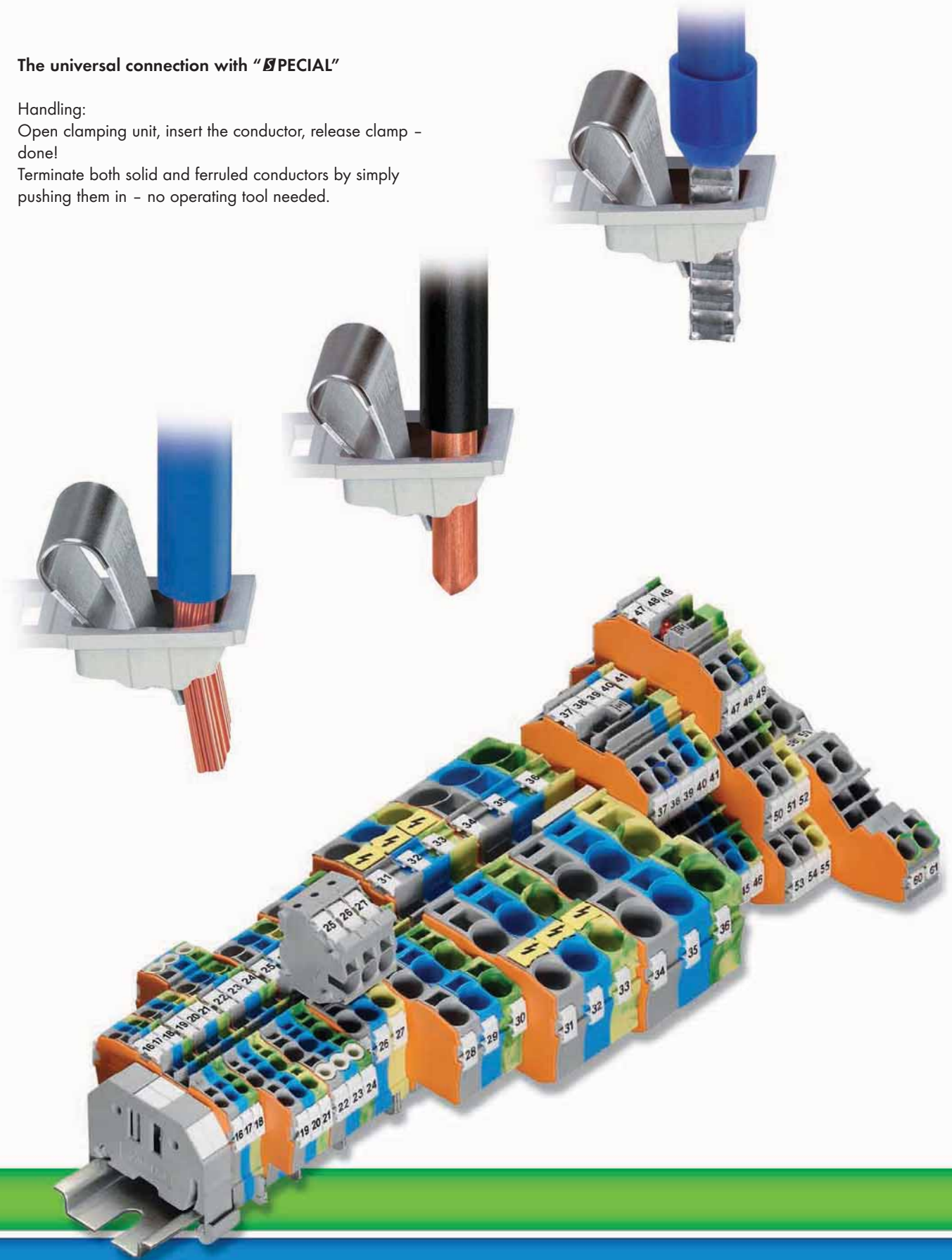
<p><b>Test and Measurement Tools</b></p>	
 <p><b>Multi Tester</b></p> <p>Page 587</p>	 <p><b>Amp Tester</b></p> <p>Page 587</p>

<p><b>Voltage Tester</b></p>  <p><b>Testboy</b></p> <p>Page 587</p>	<p><b>Wire Cutter</b></p>  <p>Page 585</p>	<p><b>"Alu-Plus" Contact Paste</b></p>  <p>Page 617</p>
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# CAGE CLAMP<sup>®</sup>S

The universal connection with "SPECIAL"

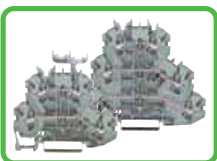
Handling:  
Open clamping unit, insert the conductor, release clamp - done!  
Terminate both solid and ferruled conductors by simply pushing them in - no operating tool needed.



# Rail-Mounted Terminal Blocks, Multilevel Terminal Blocks and Function Terminal Blocks, Front-Entry



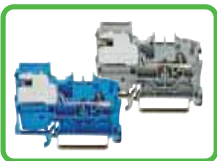
<b>Through Terminal Blocks, ground conductor and Ex Terminal Blocks</b>		
<b>Horizontal Type</b>		
0.14 mm <sup>2</sup> to 16 mm <sup>2</sup> (AWG 24 - 6)	2000 - 2016 Series	54 – 66
<b>Angled Type</b>		
0.25 mm <sup>2</sup> to 2.5 (4) mm <sup>2</sup> (AWG 22 - 12)	2002 Series	60 – 61



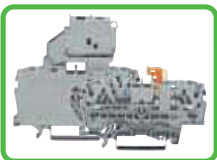
<b>Multilevel Rail-Mounted Terminal Blocks</b>		
<b>4-Conductor, Double-Deck Terminal Blocks</b>		
2.5 (4) mm <sup>2</sup> (AWG 12)	2002 Series	76
<b>Double-Deck Terminal Blocks</b>		
1 (1.5) mm <sup>2</sup> (AWG 16)/2.5 (4) mm <sup>2</sup> (AWG 12)	2000/2002 Series	68 – 73
<b>Triple-Deck Terminal Blocks</b> 2.5 (4) mm <sup>2</sup> (AWG 12)	2002 Series	78
<b>Quadruple-Deck Terminal Blocks</b> 2.5 (4) mm <sup>2</sup> (AWG 12)	2002 Series	80



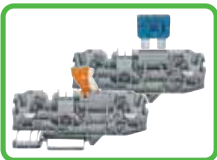
<b>Multilevel Installation Terminal Blocks</b>		
0.25 mm <sup>2</sup> to 2.5 (4) mm <sup>2</sup> (AWG 22 - 12)	2003 Series	84
0.5 mm <sup>2</sup> to 4 (6) mm <sup>2</sup> (AWG 20 - 10)	2005 Series	86
<b>Supply Terminal Block for Distribution Boxes</b>		
0.5 mm <sup>2</sup> to 16 (25 "f-st") mm <sup>2</sup> (AWG 20 - 4)	2016 Series	90



<b>N-Conductor Disconnect Terminal Blocks and Power Distribution Disconnect Terminal Blocks</b>		
0.25 mm <sup>2</sup> to 2.5 (4) mm <sup>2</sup> (AWG 22 - 12)	2002 Series	88
0.5 mm <sup>2</sup> to 6 (10) mm <sup>2</sup> (AWG 20 - 8)	2006 Series	88
0.5 mm <sup>2</sup> to 16 (25 "f-st") mm <sup>2</sup> (AWG 20 - 4)	2016 Series	88



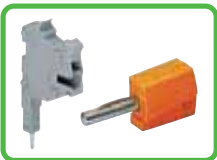
<b>Disconnect, Measurement and Fuse Terminal Blocks, and Through Terminal Blocks of Same Profile</b>		
0.25 mm <sup>2</sup> to 2.5 (4) mm <sup>2</sup> (AWG 22 - 12)	2002 Series	94 – 105
<b>Fuse Disconnect Terminal Blocks</b>		
0.25 mm <sup>2</sup> bis 2.5 (4) mm <sup>2</sup> (AWG 22 - 12)	2002 Series	100 – 106



<b>Disconnect, Ground Conductor Disconnect Terminal Blocks and Fuse Terminal Blocks</b>		
Fuse Plugs, Carrier Terminal Blocks	2006 Series	108 – 113
	2004/2002/2006 Series	114 – 117



<b>Diode and LED Terminal Blocks</b>		
<b>Single-Deck Terminal Blocks</b>		
1.5 (2.5)/2.5 (4)/4 (6) mm <sup>2</sup> (AWG 14/12/8)	2001/2002/2004 Series	118 – 123
<b>Double-Deck Terminal Blocks</b> 2.5 (4) mm <sup>2</sup> / AWG 12	2002 Series	124
<b>Triple-Deck Terminal Blocks</b> 2.5 (4) mm <sup>2</sup> / AWG 12	2002 Series	126
<b>Diode and LED Modules and</b>		
<b>Empty Component Plug Housings</b>	2002 Series	128 – 132



<b>Accessories for TOPJOB®S Rail-Mounted Terminal Blocks</b>		
- Banana Plugs		198
- Marking Accessories		144 – 145
- Push-In Type Wire, Staggered and Star Point Jumpers		139 – 141
- Step-Down Jumpers for Through Terminal Blocks		67
- Connectors and Connector Strips	2001 - 2016 Series	134 – 137

# 1 CAGE CLAMP® S Rail-Mounted Terminal Blocks 2000 to 2016 Series

50

## Simply push-in



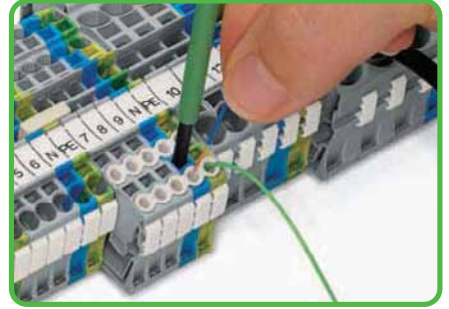
Directly insert solid and ferruled conductors.

## Conductor termination



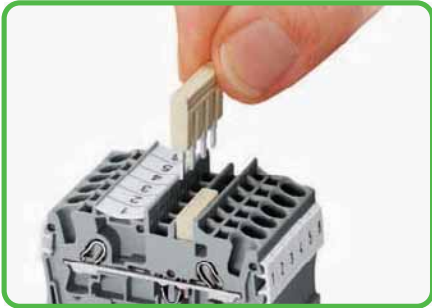
Terminating fine-stranded conductors using an operating tool.

## Insulation stop



Conductor termination - Insulation stop.

## Simply jumpered



Insert push-in type jumper bar and push down firmly until it hits the backstop.

## Customizable push-in type jumper bars



Breaking off jumper contacts (up to 4 mm<sup>2</sup>/AWG 12)

## Customizable push-in type jumper bars



Marking with a felt-tip pen.

## CAGE CLAMP®S for all conductor types



## Commoning with step-down jumpers



Commoning with step-down jumpers.

## Star point jumpers



Star point jumpers designed for 'Y' configuration



CAGE CLAMP®S clamps the following copper conductors:\*

solid



stranded



fine-stranded, also with tinned single strands

\* For aluminum conductors, see notes in Section 14.

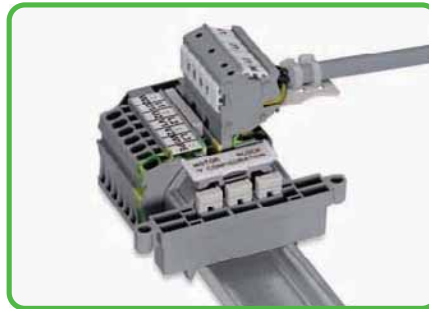
## - Description and Handling -

### Simply smaller



Up to 30% more compact. Advantage: More wiring space or smaller switch cabinets/junction boxes.

### TOPJOB®S connectors



The 2001, 2002 and 2004 Series terminal blocks are equipped with a test socket for 2 mm Ø or 2.3 mm Ø test plugs.

### Testing tap



Testing tap suited for 2001 to 2016 Series terminal blocks. Tool-free connections for individual test wires up to 2.5 mm<sup>2</sup>/AWG 12.



### Test plug adapter



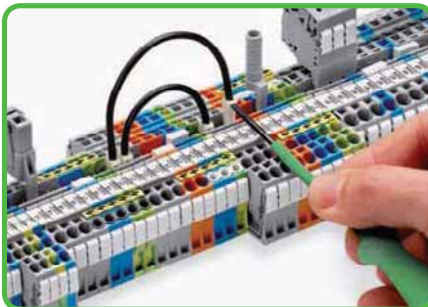
The test plug adapter for 4 mm Ø plugs is suited for 2001 to 2016 Series terminal blocks.

### Simply marked



Marker strips for center marking

### Wire jumpers



Push down the wire jumper until fully inserted. Lift the jumper with an operating tool for rewiring.

### Marking



WMB Inline  
WMB markers on roll

### Marking



TOPJOB®S group marker carrier, snap-on type for jumper slot



fine-stranded,  
tip-bonded



fine-stranded,  
with ferrule,  
(gastight crimped)

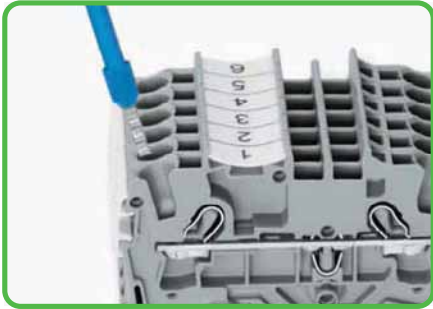


fine-stranded,  
with pin terminal  
(gastight crimped)

# - Simply Push-In - Conductor Termination/Removal Handling Ex e/Ex i Separators



**Tool-Free Terminations**  
Stripped solid, ferruled or ultrasonically "bonded" conductors are easily terminated by simply pushing them into a contact. This advantage significantly reduces costs for conductors rated 0.5 mm<sup>2</sup> to 16 mm<sup>2</sup> (AWG 20-4) in applications such as electrical installations or factory wiring.



**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.



**Conductor termination - Push-in connection**  
**Solid conductors** with cross sections from either one size above, or up to two sizes below, the rated cross section can be inserted directly - without tools.



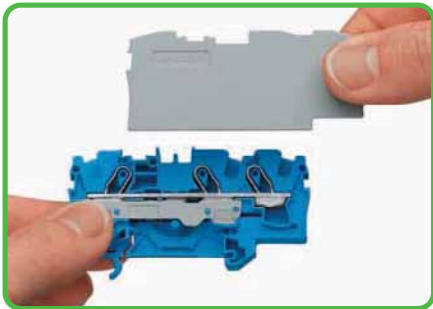
All conductor types at a glance



**Conductor termination with operating tool**  
Connecting fine-stranded conductors without ferrules, or small cross-sectional conductors that cannot be pushed in, is performed similarly to the original CAGE CLAMP® - just use an operating tool.  
**The smart feature:**  
To open the clamp, the operating tool is inserted vertically. The conductor entry is less than 15 degrees resulting in easier wiring.



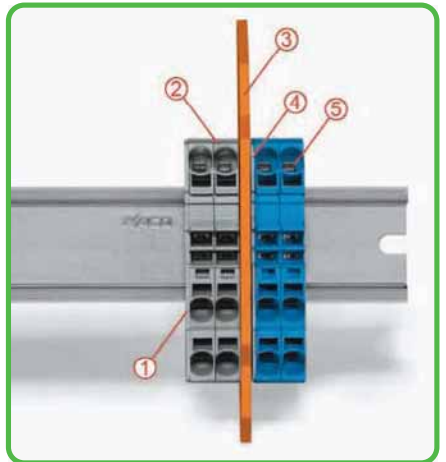
**Conductor removal**  
Like the original CAGE CLAMP® an operating tool is used for conductor removal with CAGE CLAMP®S.



**Separator for Ex e/Ex i applications**  
An end plate must be applied to the terminal block located directly behind an Ex e/Ex i separator plate.



**Ex e II/Ex i terminal strip**  
**Notice:**  
The movable feet of terminal blocks and separator plates must face the same direction.



Separator located between Ex e II and Ex i terminal strip  
① End plate  
② Ex e II terminal blocks  
③ Ex e/Ex i separator plate  
④ End plate  
⑤ Ex i terminal blocks

# - Simply Jumpered - Handling Push-In Type Jumper Bars Angle-Type Rail-Mounted Terminal Blocks



The push-in type jumper system is based on the common plug and socket principle. Each terminal block is spring-loaded with a double socket and a resilient CrNi steel spring. Therefore the jumpers, which consist of cathode copper, can be produced with particularly small dimensions. This does not impair their load carrying capacity in accordance with the terminal block rated current. Ground terminal blocks can also be commoned using the same jumper system. Custom jumpers are created by breaking and removing jumper contacts (4 mm<sup>2</sup>/AWG 12).




**The smart feature:**  
Jumper slots can also be used for:

- push-in type jumper bars and step-down jumpers
- test plug adapters and testing taps
- preharnessed plugs for subassembly connections.



**Push-in type jumper bars**  
800 V  
600 V   
550 V 



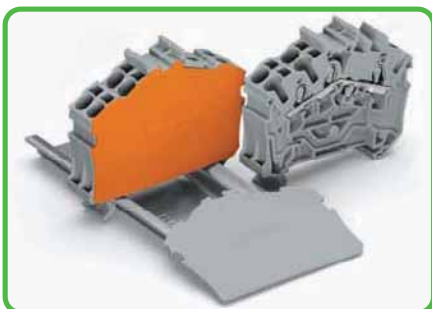
**Push-in type jumper bar 1 2 - 4**  
Breaking off jumper contacts  
500 V  
300 V 



**Push-in type jumper bar 1 2 - 4**  
Marking with a felt-tip pen.

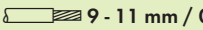
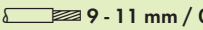
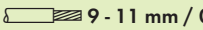


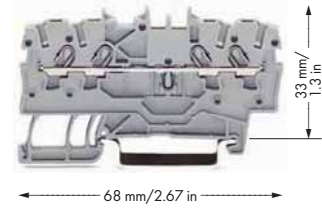
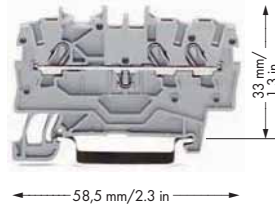
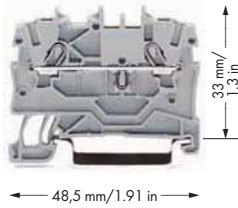
**Removal of push-in type jumper bar**  
Insert the operating tool between the jumper and the partition wall of the dual jumper slots. Place the operating tool in the center of jumpers up to 5 contacts (see above), or alternately on both sides for jumpers with more than 5 contacts.



With continuous terminal strips an end plate must be used when changing from 3- to 4-conductor terminal blocks.

# Through/Ground Conductor/Ex and Double-Potential Terminal Blocks 1 (1.5) mm<sup>2</sup>, 2000 Series

0.14 - 1 (1.5) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 13.5 A (18 A)	AWG 24 - 16 600 V, 10 A ③ 600 V, 10 A ④	0.14 - 1 (1.5) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 13.5 A (18 A)	AWG 24 - 16 600 V, 10 A ③ 600 V, 10 A ④	0.14 - 1 (1.5) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 13.5 A (18 A)	AWG 24 - 16 600 V, 10 A ③ 600 V, 10 A ④
Terminal block width 3.5 mm / 0.138 in  9 - 11 mm / 0.39 in ⑤		Terminal block width 3.5 mm / 0.138 in  9 - 11 mm / 0.39 in ⑤		Terminal block width 3.5 mm / 0.138 in  9 - 11 mm / 0.39 in ⑤	



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>		<b>3-conductor through terminal block</b>		<b>4-conductor through terminal block</b>	
gray ⑤	2000-1201 ⑤ 100	gray ⑤	2000-1301 ⑤ 100	gray ⑤	2000-1401 ⑤ 100
blue ⑤	2000-1204 ④ ⑤ 100	blue ⑤	2000-1304 ④ ⑤ 100	blue ⑤	2000-1404 ④ ⑤ 100
orange ⑤	2000-1202 ⑤ 100	orange ⑤	2000-1302 ⑤ 100	orange ⑤	2000-1402 ⑤ 100
red ⑤	2000-1203 ⑤ 100	red ⑤	2000-1303 ⑤ 100	red ⑤	2000-1403 ⑤ 100
black ⑤	2000-1205 ⑤ 100	black ⑤	2000-1305 ⑤ 100	black ⑤	2000-1405 ⑤ 100
yellow ⑤	2000-1206 ⑤ 100	yellow ⑤	2000-1306 ⑤ 100	yellow ⑤	2000-1406 ⑤ 100
<b>2-conductor ground terminal block</b>		<b>3-conductor ground terminal block</b>		<b>4-conductor ground terminal block</b>	
green-yellow ⑤	2000-1207 ⑤ 100	green-yellow ⑤	2000-1307 ⑤ 100	green-yellow ⑤	2000-1407 ⑤ 100
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 0.7 mm thick</b>		<b>End and intermediate plate, 0.7 mm thick</b>		<b>End and intermediate plate, 0.7 mm thick</b>	
orange	2000-1292 100 (4x25)	orange	2000-1392 100 (4x25)	orange	2000-1492 100 (4x25)
gray	2000-1291 100 (4x25)	gray	2000-1391 100 (4x25)	gray	2000-1491 100 (4x25)

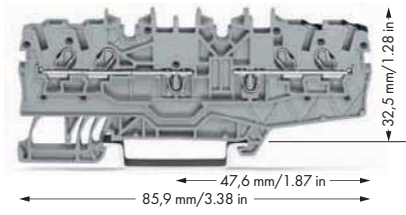
**2000 Series Accessories**

Appropriate marking systems: WMB/Marking strips  
(see Section 13)

<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 14 A, light gray 2-way 2000-402 200 (8x25) 3-way 2000-403 200 (8x25) 4-way 2000-404 200 (8x25) 5-way 2000-405 100 (4x25) 6-way 2000-406 100 (4x25) 7-way 2000-407 100 (4x25) 8-way 2000-408 100 (4x25) 9-way 2000-409 100 (4x25) 10-way 2000-410 100 (4x25)	<b>Delta jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block, light gray 1-2 3-4 5-6 2000-406/020-000 100 (4x25) <b>Star point jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block, light gray 1-3-5 2000-405/011-000 100 (4x25) <b>Test plug adapter,</b> for test plug 4 mm Ø gray 2009-174 100 (4x25)	<b>Marking strip, plain,</b> 11 mm wide, 50 m roll white 2009-110 1 <b>WMB Multi marking system,</b> 10 strips with 10 markers per card, for 3.5 mm terminal block width plain 793-3501 5
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 14 A, light gray from 1 to 3 2000-433 200 (8x25) from 1 to 4 2000-434 200 (8x25) from 1 to 5 2000-435 100 (4x25) from 1 to 6 2000-436 100 (4x25) from 1 to 7 2000-437 100 (4x25) from 1 to 8 2000-438 100 (4x25) from 1 to 9 2000-439 100 (4x25) from 1 to 10 2000-440 100 (4x25)	<b>Banana plug,</b> for socket 4 mm Ø, color mixed 215-111 50 <b>Testing tap,</b> for max. 2.5 mm <sup>2</sup> gray 2009-182 100 (4x25) <b>Test plug,</b> with 500 mm cable, 2 mm Ø red 210-136 50	
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow 2000-115 100 (4x25)	<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow 210-137 50	

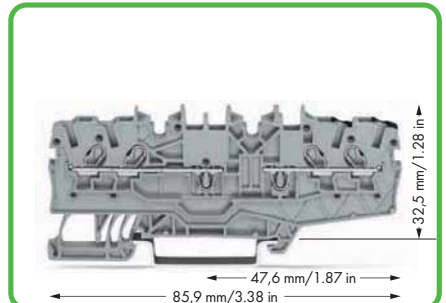


0.14 - 1 (1.5) mm<sup>2</sup> ① AWG 24 - 16  
 800 V/8 kV/3 ②  
 I<sub>N</sub> 13.5 A (18 A)  
 Terminal block width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ③



- ① Conductor sizes: 0.14 mm<sup>2</sup> - 1.5 mm<sup>2</sup> "s + f-st";  
 Push-in conductor sizes: 0.5 mm<sup>2</sup> - 1.5 mm<sup>2</sup> "s"  
 and 0.5 mm<sup>2</sup> - 0.75 mm<sup>2</sup>  
 "insulated ferrule, 10 mm"
- ② 800 V = rated voltage  
 8 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
 550 V, 13 A  
 Jumper 12 A  
 (also see Section 14)
- ⑥ See application notes for:  
 Star point jumper, page 140  
 Delta jumper, page 140  
 Banana plug, page 198

Item No.	Pack. Unit
<b>Double-potential terminal block,</b> both potentials can be commoned	
○ gray	2000-2141 50



**TOPJOB®S group marker carrier**  
 equipped with WMB Multi marking system.  
 Suitable for all 2000 to 2016 Series TOPJOB®S rail-mount terminal blocks  
 Do not use on an end plate!

Double-potential terminal blocks are space savers. Two independent feedthrough circuits are placed in one insulated housing on one level in just 3.5 mm/0.138 in. This achieves a width of just 1.75 mm/0.069 in versus standard through terminal blocks. Input and output contacts of one circuit are placed on the same side of the terminal block. Both circuits can be individually marked according to input and output.

**Item-Specific Accessories**

End and intermediate plate, 0.7 mm thick			
orange	2000-2196	100 (4x25)	
gray	2000-2195	100 (4x25)	

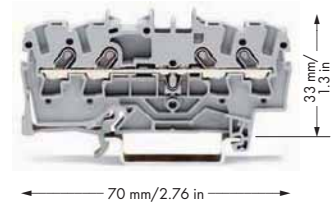
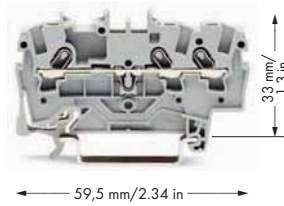
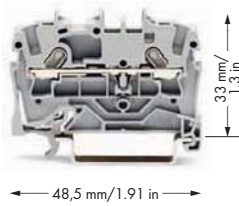


**Standard and quick marking options:**  
 Three marker slots are available for both individual markers and marking strips.

**Standard and fast marking options:**  
 Four marker slots (double-potential terminal blocks) are available for both individual markers and marking strips.

**Through/Ground Conductor/Shield and Ex Terminal Blocks 1.5 (2.5) mm<sup>2</sup> 2001 Series**

0.25 - 1.5 (2.5) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 18 A (24 A)	AWG 22 - 14 600 V, 15 A <sup>VA</sup> 600 V, 15 A <sup>®</sup>	0.25 - 1.5 (2.5) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 18 A (24 A)	AWG 22 - 14 600 V, 15 A <sup>VA</sup> 600 V, 15 A <sup>®</sup>	0.25 - 1.5 (2.5) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 18 A (24 A)	AWG 22 - 14 600 V, 15 A <sup>VA</sup> 600 V, 15 A <sup>®</sup>
Terminal block width 4.2 mm / 0.165 in 9 - 11 mm / 0.39 in ③		Terminal block width 4.2 mm / 0.165 in 9 - 11 mm / 0.39 in ③		Terminal block width 4.2 mm / 0.165 in 9 - 11 mm / 0.39 in ③	



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>		<b>3-conductor through terminal block</b>		<b>4-conductor through terminal block</b>	
gray ⑤ 2001-1201 ⑤	100	gray ⑤ 2001-1301 ⑤	100	gray ⑤ 2001-1401 ⑤	100
blue ⑤ 2001-1204 ④ ⑤	100	blue ⑤ 2001-1304 ④ ⑤	100	blue ⑤ 2001-1404 ④ ⑤	100
orange ⑤ 2001-1202 ⑤	100	orange ⑤ 2001-1302 ⑤	100	orange ⑤ 2001-1402 ⑤	100
red ⑤ 2001-1203 ⑤	100	red ⑤ 2001-1303 ⑤	100	red ⑤ 2001-1403 ⑤	100
black ⑤ 2001-1205 ⑤	100	black ⑤ 2001-1305 ⑤	100	black ⑤ 2001-1405 ⑤	100
yellow ⑤ 2001-1206 ⑤	100	yellow ⑤ 2001-1306 ⑤	100	yellow ⑤ 2001-1406 ⑤	100
<b>2-conductor ground terminal block</b>		<b>3-conductor ground terminal block</b>		<b>4-conductor ground terminal block</b>	
green-yellow ⑤ 2001-1207 ⑤	100	green-yellow ⑤ 2001-1307 ⑤	100	green-yellow ⑤ 2001-1407 ⑤	100
				<b>4-conductor shield terminal block</b>	
				white ⑤ 2001-1408	100
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>	
Diode 2001-1211/1000-411	Page 118	Diode 2001-1311/1000-411	Page 118	Diode 2001-1411/1000-411	Page 118
		LED 2001-1321/1000-434	Page 118	LED 2001-1421/1000-434	Page 118
				Double-potential 2001-1441	Page 57
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 0.8 mm thick</b>		<b>End and intermediate plate, 0.8 mm thick</b>		<b>End and intermediate plate, 0.8 mm thick</b>	
orange 2002-1292	100 (4x25)	orange 2002-1392	100 (4x25)	orange 2002-1492	100 (4x25)
gray 2002-1291	100 (4x25)	gray 2002-1391	100 (4x25)	gray 2002-1491	100 (4x25)
<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>	
orange 2002-1294	100 (4x25)	orange 2002-1394	100 (4x25)	orange 2002-1494	100 (4x25)
gray 2002-1293	100 (4x25)	gray 2002-1393	100 (4x25)	gray 2002-1493	100 (4x25)
<b>Ex e/Ex i separator, orange, 3 mm thick</b>		<b>Ex e/Ex i separator, orange, 3 mm thick</b>		<b>Ex e/Ex i separator, orange, 3 mm thick</b>	
90 mm 209-190	50 (2x25)	120 mm 209-191	50 (2x25)	120 mm 209-191	50 (2x25)
120 mm 209-191	50 (2x25)				

**2001 Series Accessories**

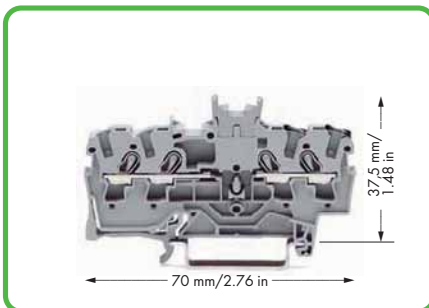
Appropriate marking systems: WMB/Marking strips (see Section 13)

Insulation stop,	Push-in type jumper bar, insulated,	Push-in type jumper bar, insulated,
5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 2001-171	I <sub>N</sub> 18 A, light gray 2-way 2001-402	I <sub>N</sub> 18 A, light gray from 1 to 3 2001-433
200 (8x25)	200 (8x25)	200 (8x25)
<b>Step-down jumper, insulated,</b>	3-way 2001-403	from 1 to 4 2001-434
I <sub>N</sub> 32 A light gray 2006-499	200 (8x25)	200 (8x25)
50 (2x25)	4-way 2001-404	from 1 to 5 2001-435
	200 (8x25)	100 (4x25)
	5-way 2001-405	from 1 to 6 2001-436
	100 (4x25)	100 (4x25)
	6-way 2001-406	from 1 to 7 2001-437
	100 (4x25)	100 (4x25)
	7-way 2001-407	from 1 to 8 2001-438
	100 (4x25)	100 (4x25)
	8-way 2001-408	from 1 to 9 2001-439
	100 (4x25)	100 (4x25)
	9-way 2001-409	from 1 to 10 2001-440
	100 (4x25)	100 (4x25)
	10-way 2001-410	
	100 (4x25)	

For list of approvals and user guide, see pages 634 to 637.

# Double-Potential Terminal Blocks 1.5 (2.5) mm<sup>2</sup> 2001 Series

- ① Conductor sizes: 0.25 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.5 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> - 1.5 mm<sup>2</sup>  
"insulated ferrule, 12 mm"
- ② 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
550 V, 17 A  
Jumper 16 A  
(also see Section 14)
- ⑥ See application notes for:  
Ex e/Ex i separator plate, page 52  
Step-down jumper, page 67  
Star point jumper, page 140  
Delta jumper, page 140  
Push-in type wire jumper, page 140  
Banana plug, page 198  
TOPJOB®S connector, page 134



Double-potential terminal block with double marker slot centered on terminal block  
gray 2001-1441  
Packing unit: 100 pcs


















**Notice: This double-potential terminal block cannot be commoned with push-in type jumper bars!**

Double-potential terminal blocks are space savers. Two independent feedthrough circuits are placed in one insulated housing on one level in just 4.2 mm/0.165 in. This achieves a width of just 2.1 mm/0.083 in versus standard through terminal blocks. Input and output contacts of one circuit are placed on the same side of the terminal block. Both circuits can be individually marked according to input and output.

For technical data and accessories, see [www.wagocatalog.com](http://www.wagocatalog.com)

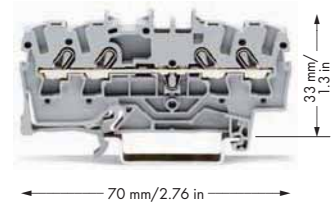
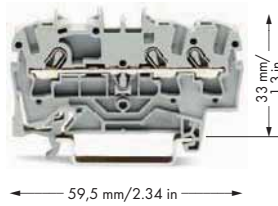
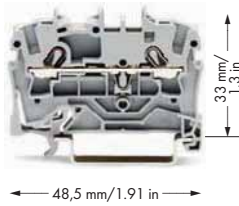
## 2001 Series Accessories

Appropriate marking systems: WMB/Marking strips  
(see Section 13)

<b>Delta jumper, insulated,</b>  ⑥ I <sub>N</sub> = I <sub>N</sub> terminal block, light gray 1-2 3-4 5-6 <b>2001-406/020-000</b> 100 (4x25)	<b>WMB Inline, plain,</b>  stretchable 4 - 4.2 mm, 2,000 WMB markers, 4 mm, on roll white <b>2009-114</b> 1
<b>Star point jumper, insulated,</b>  ⑥ I <sub>N</sub> = I <sub>N</sub> terminal block, light gray 1-3-5 <b>2001-405/011-000</b> 100 (4x25)	<b>WMB Multi marking system,</b>  10 strips with 10 markers per card, stretchable 4 - 4.2 mm plain <b>793-4501</b> 5
<b>Push-in type wire jumper,</b>  ⑥ insulated, I <sub>N</sub> 16 A, wire size 1.5 mm <sup>2</sup> L = 60 mm <b>2009-412</b> 100 (10x10) L = 110 mm <b>2009-414</b> 100 (10x10) L = 250 mm <b>2009-416</b> 100 (10x10)	<b>WMB Multi marking system, plain,</b>  10 strips with 10 markers per card, stretchable 4 - 4.2 mm yellow <b>793-4501/000-002</b> red <b>793-4501/000-005</b> blue <b>793-4501/000-006</b> gray <b>793-4501/000-007</b> orange <b>793-4501/000-012</b> light green <b>793-4501/000-017</b> green <b>793-4501/000-023</b> violet <b>793-4501/000-024</b> 5
<b>Modular TOPJOB®S connector,</b>  ⑥ can be snapped together, for jumper contact slot gray <b>2001-511</b> 100 (4x25)	
<b>Spacer module, can be snapped together,</b>  e.g., for bridging commoned terminal blocks gray <b>2001-549</b> 100 (4x25)	<b>Marking strip, plain,</b>  11 mm wide, 50 m roll white <b>2009-110</b> 1
<b>End plate,</b>  for modular TOPJOB®S connectors, 1.5 mm thick gray <b>2002-541</b> 100 (4x25)	<b>Screwless end stop,</b>  for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
<b>Test plug adapter,</b>  for test plug 4 mm Ø gray <b>2009-174</b> 100 (4x25)	<b>Screwless end stop,</b>  for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)
<b>Banana plug,</b>  ⑥ for socket 4 mm Ø, color mixed <b>215-111</b> 50	
<b>Testing tap,</b>  for max. 2.5 mm <sup>2</sup> gray <b>2009-182</b> 100 (4x25)	
<b>Test plug,</b>  with 500 mm cable, 2 mm Ø red <b>210-136</b> 50	
<b>Test plug,</b>  with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50	

**Through/Ground Conductor/Shield and Ex Terminal Blocks 2.5 (4) mm<sup>2</sup>  
2002 Series**

0.25 - 2.5 (4) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 24 A (32 A)	AWG 22 - 12 600 V, 20 A ③ 600 V, 20 A ④	0.25 - 2.5 (4) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 24 A (32 A)	AWG 22 - 12 600 V, 20 A ③ 600 V, 20 A ④	0.25 - 2.5 (4) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 24 A (32 A)	AWG 22 - 12 600 V, 20 A ③ 600 V, 20 A ④
Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ⑤		Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ⑤		Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ⑤	



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>		<b>3-conductor through terminal block</b>		<b>4-conductor through terminal block</b>	
gray ⑤ 2002-1201 ⑤	100	gray ⑤ 2002-1301 ⑤	100	gray ⑤ 2002-1401 ⑤	100
blue ⑤ 2002-1204 ④ ⑤	100	blue ⑤ 2002-1304 ④ ⑤	100	blue ⑤ 2002-1404 ④ ⑤	100
orange ⑤ 2002-1202 ⑤	100	orange ⑤ 2002-1302 ⑤	100	orange ⑤ 2002-1402 ⑤	100
red ⑤ 2002-1203 ⑤	100	red ⑤ 2002-1303 ⑤	100	red ⑤ 2002-1403 ⑤	100
black ⑤ 2002-1205 ⑤	100	black ⑤ 2002-1305 ⑤	100	black ⑤ 2002-1405 ⑤	100
yellow ⑤ 2002-1206 ⑤	100	yellow ⑤ 2002-1306 ⑤	100	yellow ⑤ 2002-1406 ⑤	100
<b>2-conductor ground terminal block</b>		<b>3-conductor ground terminal block</b>		<b>4-conductor ground terminal block</b>	
green-yellow ⑤ 2002-1207 ⑤	100	green-yellow ⑤ 2002-1307 ⑤	100	green-yellow ⑤ 2002-1407 ⑤	100
				<b>4-conductor shield terminal block</b>	
				white ⑤ 2002-1408	100
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>	
Diode 2002-1211/1000-411	Page 120	Diode 2002-1311/1000-411	Page 120	Diode 2002-1411/1000-411	Page 120
		LED 2002-1321/1000-434	Page 120	LED 2002-1421/1000-434	Page 120
				Double-potential 2002-1441	Page 59
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 0.8 mm thick</b>		<b>End and intermediate plate, 0.8 mm thick</b>		<b>End and intermediate plate, 0.8 mm thick</b>	
orange 2002-1292	100 (4x25)	orange 2002-1392	100 (4x25)	orange 2002-1492	100 (4x25)
gray 2002-1291	100 (4x25)	gray 2002-1391	100 (4x25)	gray 2002-1491	100 (4x25)
<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>	
orange 2002-1294	100 (4x25)	orange 2002-1394	100 (4x25)	orange 2002-1494	100 (4x25)
gray 2002-1293	100 (4x25)	gray 2002-1393	100 (4x25)	gray 2002-1493	100 (4x25)
<b>Ex e/Ex i separator, orange, 3 mm thick</b>		<b>Ex e/Ex i separator, orange, 3 mm thick</b>		<b>Ex e/Ex i separator, orange, 3 mm thick</b>	
90 mm 209-190	50 (2x25)	120 mm 209-191	50 (2x25)	120 mm 209-191	50 (2x25)
120 mm 209-191	50 (2x25)				

**2002 Series Accessories**

Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)

Insulation stop,	Push-in type jumper bar, insulated,	Push-in type jumper bar, insulated,
5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 2002-171	I <sub>N</sub> 25 A, light gray 2-way 2002-402	I <sub>N</sub> 25 A, light gray from 1 to 3 2002-433
200 (8x25)	200 (8x25)	200 (8x25)
5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray 2002-172	3-way 2002-403	from 1 to 4 2002-434
200 (8x25)	200 (8x25)	200 (8x25)
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow 2002-115	4-way 2002-404	from 1 to 5 2002-435
	200 (8x25)	100 (4x25)
	5-way 2002-405	from 1 to 6 2002-436
	100 (4x25)	100 (4x25)
	6-way 2002-406	from 1 to 7 2002-437
	100 (4x25)	100 (4x25)
	7-way 2002-407	from 1 to 8 2002-438
	100 (4x25)	100 (4x25)
	8-way 2002-408	from 1 to 9 2002-439
	100 (4x25)	100 (4x25)
	9-way 2002-409	from 1 to 10 2002-440
	100 (4x25)	100 (4x25)
	10-way 2002-410	
	100 (4x25)	

For list of approvals and user guide, see pages 634 to 637.

# Double-Potential Terminal Blocks 2.5 (4) mm<sup>2</sup> 2002 Series Accessories for Rail-Mounted Terminal Blocks

**CAGE CLAMP® S**



- ① Conductor sizes: 0.25 mm<sup>2</sup> – 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> – 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> – 2.5 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
550 V, 22 A  
Jumper 20 A  
(also see Section 14)
- ⑥ See application notes for:  
Ex e/Ex i separator plate, page 52  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Delta jumper, page 140  
Star point jumper, page 140  
Step-down jumper, page 67  
Adjacent jumper for continuous commoning, page 139  
Push-in type wire jumper, page 140  
TOPJOB®S connector, page 134  
TOPJOB®S L-type test plug module, page 136  
Marker carrier, page 145



**Double-potential terminal block** with double marker slot centered on terminal block  
gray 2002-1441  
Packing unit: 100 pcs



















**Notice: This double-potential terminal block cannot be commoned with push-in type jumper bars!**

Double-potential terminal blocks are space savers. Two independent feedthrough circuits are placed in one insulated housing on one level in just 5.2 mm/0.205 in. This achieves a width of just 2.6 mm/0.103 in versus standard through terminal blocks. Input and output contacts of one circuit are placed on the same side of the terminal block. Both circuits can be individually marked according to input and output.

For technical data and accessories, see [www.wagocatalog.com](http://www.wagocatalog.com)


## 2002 Series Accessories

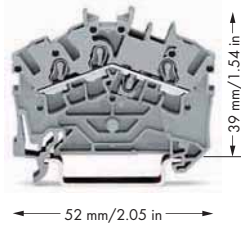
Appropriate marking systems: WMB/Marking strips/WMB Inline  
(see Section 13)

<b>Staggered jumper,</b>  insulated, $I_N$ 25 A, light gray 2-way <b>2002-472</b> 100 (4x25) 3-way <b>2002-473</b> 100 (4x25) 4-way <b>2002-474</b> 100 (4x25) 5-way <b>2002-475</b> 50 (2x25) 6-way <b>2002-476</b> 50 (2x25) 7-way <b>2002-477</b> 50 (2x25) 8-way <b>2002-478</b> 50 (2x25) 9-way <b>2002-479</b> 50 (2x25) 10-way <b>2002-480</b> 50 (2x25) 11-way <b>2002-481</b> 50 (2x25) 12-way <b>2002-482</b> 50 (2x25)	<b>Push-in type wire jumper,</b>  insulated, $I_N$ 16 A, wire size 1.5 mm <sup>2</sup> L = 60 mm <b>2009-412</b> 100 (10x10) L = 110 mm <b>2009-414</b> 100 (10x10) L = 250 mm <b>2009-416</b> 100 (10x10)
<b>Customized staggered jumper,</b>  insulated, $I_N$ 25 A, light gray 1-3 <b>2002-473/011-000</b> 100 (4x25) 1-3-5 <b>2002-475/011-000</b> 100 (4x25) 1-3-5-7 <b>2002-477/011-000</b> 100 (4x25) 1-3-5-7-9 <b>2002-479/011-000</b> 100 (4x25) 1-3-5-7-9-11 <b>2002-481/011-000</b> 50 (2x25)	<b>Modular TOPJOB®S connector,</b>  can be snapped together, for jumper contact slot gray <b>2002-511</b> 100 (4x25)
<b>Delta jumper, insulated,</b>  $I_N = I_N$ terminal block, light gray 1-2 3-4 5-6 <b>2002-406/020-000</b> 100 (4x25)	<b>Spacer module,</b> can be snapped together,  e.g., for bridging commoned terminal blocks gray <b>2002-549</b> 100 (4x25)
<b>Star point jumper, insulated,</b>  $I_N = I_N$ terminal block, light gray 1-3-5 <b>2002-405/011-000</b> 100 (4x25)	<b>End plate,</b>  for modular TOPJOB®S connectors, 1.5 mm thick gray <b>2002-541</b> 100 (4x25)
<b>Step-down jumper, insulated,</b>  $I_N$ 32 A light gray <b>2006-499</b> 50 (2x25)	<b>Test plug adapter,</b>  for test plug 4 mm Ø gray <b>2009-174</b> 100 (4x25)
<b>Adjacent jumper for continuous commoning,</b>  insulated, $I_N$ 25 A, light gray 2-way <b>2002-400</b> 100 (4x25)	<b>Testing tap,</b>  for max. 2.5 mm <sup>2</sup> gray <b>2009-182</b> 100 (4x25)
<b>WMB Inline, plain,</b>  stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white <b>2009-115</b> 1	<b>TOPJOB®S test plug module,</b>  can be snapped together gray <b>2002-611</b> 100 (4x25)
	<b>TOPJOB®S spacer,</b> can be snapped together,  e.g., for bridging commoned terminal blocks gray <b>2002-649</b> 100 (4x25)
	<b>End plate, for modular TOPJOB®S test plugs,</b>  1.5 mm thick gray <b>2002-641</b> 100 (4x25)
	<b>Marker carrier,</b>  for jumper slots 2002 Series, 5 mm wide gray <b>2002-161</b> 100 (4x25)
	<b>WMB Multi marking system,</b>  10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5





















# Through/Ground Conductor/Shield and Ex Terminal Blocks

## 2.5 (4) mm<sup>2</sup>, 2002 Series

0.25 - 2.5 (4) mm <sup>2</sup> ①	AWG 22 - 12
800 V/8 kV/3 ②	600 V, 20 A <sup>III</sup>
I <sub>N</sub> 24 A (32 A)	600 V, 20 A <sup>III</sup>
Terminal block width 5.2 mm / 0.205 in	
 10 - 12 mm / 0.43 in ③	

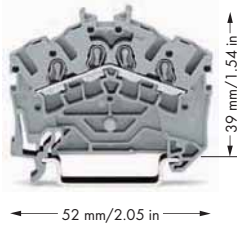


- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup>  
"insulated ferrule, 12 mm"
- ② 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
550 V, 22 A  
Jumper 20 A  
(also see Section 14)
- ⑥ See application notes for:  
Ex e/Ex i separator plate, page 52  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Delta jumper, page 140  
Star point jumper, page 140  
Adjacent jumper for continuous commoning,  
page 139  
Push-in type wire jumper, page 140  
TOPJOB®S connector, page 134  
TOPJOB®S L-type test plug module, page 136  
Marker carrier, page 145

Item No.	Pack. Unit	2002 Series Accessories	
<b>3-conductor through terminal block</b>		Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)	
gray ⑥	2002-6301 ⑤ 100	<b>Push-in type jumper bar, insulated,</b>  I <sub>N</sub> 25 A, light gray from 1 to 3 <b>2002-433</b> 200 (8x25) from 1 to 4 <b>2002-434</b> 200 (8x25) from 1 to 5 <b>2002-435</b> 100 (4x25) from 1 to 6 <b>2002-436</b> 100 (4x25) from 1 to 7 <b>2002-437</b> 100 (4x25) from 1 to 8 <b>2002-438</b> 100 (4x25) from 1 to 9 <b>2002-439</b> 100 (4x25) from 1 to 10 <b>2002-440</b> 100 (4x25)	<b>Push-in type wire jumper,</b>  ⑥ insulated, I <sub>N</sub> 16 A, wire size 1.5 mm <sup>2</sup> L = 60 mm <b>2009-412</b> 100 (10x10) L = 110 mm <b>2009-414</b> 100 (10x10) L = 250 mm <b>2009-416</b> 100 (10x10)
blue ⑥	2002-6304 ④ ⑤ 100		
orange ⑥	2002-6302 ⑤ 100		
red ⑥	2002-6303 ⑤ 100		
black ⑥	2002-6305 ⑤ 100		
yellow ⑥	2002-6306 ⑤ 100		
<b>3-conductor ground terminal block</b>			
green-yellow ⑥	2002-6307 ⑤ 100		
<b>3-conductor shield terminal block</b>			
white	2002-6308 100		
<b>2002 Series Accessories</b>		<b>Delta jumper, insulated,</b> ⑥  I <sub>N</sub> = I <sub>N</sub> terminal block, light gray 1-2 3-4 5-6 <b>2002-406/020-000</b> 100 (4x25)	<b>Modular TOPJOB®S connector,</b> ⑥  can be snapped together, for jumper contact slot gray <b>2002-511</b> 100 (4x25)
<b>End and intermediate plate, 0.8 mm thick</b>		<b>Star point jumper, insulated,</b> ⑥  I <sub>N</sub> = I <sub>N</sub> terminal block, light gray 1-3-5 <b>2002-405/011-000</b> 100 (4x25)	<b>TOPJOB®S L-test plug module,</b> ⑥  can be snapped together gray <b>2002-611</b> 100 (4x25)
<b>Ex e/Ex i separator, orange,</b> ⑥  3 mm thick 120 mm <b>209-191</b> 50 (2x25)		<b>Staggered jumper,</b> ⑥  insulated, I <sub>N</sub> 25 A, light gray 2-way <b>2002-472</b> 100 (4x25) 3-way <b>2002-473</b> 100 (4x25) 4-way <b>2002-474</b> 100 (4x25) 5-way <b>2002-475</b> 50 (2x25) 6-way <b>2002-476</b> 50 (2x25) 7-way <b>2002-477</b> 50 (2x25) 8-way <b>2002-478</b> 50 (2x25) 9-way <b>2002-479</b> 50 (2x25) 10-way <b>2002-480</b> 50 (2x25) 11-way <b>2002-481</b> 50 (2x25) 12-way <b>2002-482</b> 50 (2x25)	<b>Test plug adapter,</b>  for test plug 4 mm Ø gray <b>2009-174</b> 100 (4x25)
<b>Insulation stop,</b>  5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>2002-171</b> 200 (8x25)			<b>Testing tap,</b>  for max. 2.5 mm <sup>2</sup> gray <b>2009-182</b> 100 (4x25)
<b>Insulation stop,</b>  5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>2002-172</b> 200 (8x25)			<b>WMB Inline, plain,</b>  stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white <b>2009-115</b> 1
<b>Push-in type jumper bar, insulated,</b> ⑥  I <sub>N</sub> 25 A, light gray 2-way <b>2002-402</b> 200 (8x25) 3-way <b>2002-403</b> 200 (8x25) 4-way <b>2002-404</b> 200 (8x25) 5-way <b>2002-405</b> 100 (4x25) 6-way <b>2002-406</b> 100 (4x25) 7-way <b>2002-407</b> 100 (4x25) 8-way <b>2002-408</b> 100 (4x25) 9-way <b>2002-409</b> 100 (4x25) 10-way <b>2002-410</b> 100 (4x25)		<b>WMB Multi marking system,</b>  10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5	
<b>Adjacent jumper for continuous commoning,</b> ⑥  insulated, I <sub>N</sub> 25 A, light gray 2-way <b>2002-400</b> 100 (4x25)		<b>Customized staggered jumper,</b>  insulated, I <sub>N</sub> 25 A, light gray 1-3 <b>2002-473/011-000</b> 100 (4x25) 1-3-5 <b>2002-475/011-000</b> 1-3-5-7 <b>2002-477/011-000</b> 1-3-5-7-9 <b>2002-479/011-000</b> 1-3-5-7-9-11 <b>2002-481/011-000</b> 50 (2x25)	<b>Marking strip, plain,</b>  11 mm wide, 50 m roll white <b>2009-110</b> 1
			<b>TOPJOB®S group marker carrier,</b>  snap-on type for jumper slot, 5 mm wide gray <b>2009-191</b> 50 (2x25)
			<b>Marker carrier,</b> ⑥  for jumper slots 2002 Series, 5 mm wide gray <b>2002-161</b> 100 (4x25)

For list of approvals and user guide, see pages 634 to 637.

0.25 - 2.5 (4) mm <sup>2</sup> ①	AWG 22 - 12
800 V/8 kV/3 ②	600 V, 20 A ③
I <sub>N</sub> 24 A (32 A)	600 V, 20 A ④
Terminal block width 5.2 mm / 0.205 in	
⑤ 10 - 12 mm / 0.43 in ⑥	

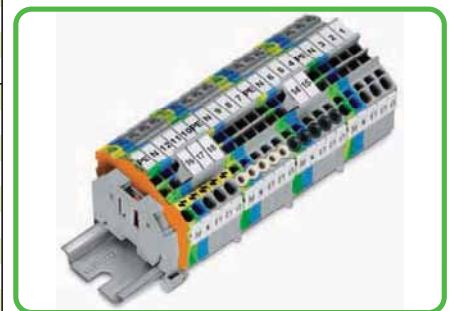


- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
550 V, 22 A  
Jumper 20 A  
(also see Section 14)
- ⑥ See application notes for:  
Ex e/Ex i separator plate, page 52

Item No.	Pack. Unit	
<b>4-conductor through terminal block</b>		
gray ⑤	2002-6401 ⑤	100
blue ⑤	2002-6404 ④ ⑤	100
orange ⑤	2002-6402 ⑤	100
red ⑤	2002-6403 ⑤	100
black ⑤	2002-6405 ⑤	100
yellow ⑤	2002-6406 ⑤	100
<b>4-conductor ground terminal block</b>		
green-yellow ⑤	2002-6407 ⑤	100
<b>Notice:</b> These terminal blocks cannot be commoned with push-in type jumper bars.		
<b>2002 Series Accessories</b> Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)		
<b>End and intermediate plate, 0.8 mm thick</b>		<b>WMB Multi marking system,</b>
orange	2002-6392 100 (4x25)	10 strips with 10 markers per card, stretchable 5 - 5.2 mm
gray	2002-6391 100 (4x25)	plain 793-5501 5
<b>Ex e/Ex i separator, orange,</b>		<b>WMB Multi marking system, plain,</b>
⑥ 3 mm thick		10 strips with 10 markers per card, stretchable 5 - 5.2 mm
120 mm	209-191 50 (2x25)	yellow 793-5501/000-002
<b>Insulation stop,</b>		red 793-5501/000-005
5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>		blue 793-5501/000-006
light gray	2002-171 200 (8x25)	gray 793-5501/000-007
<b>Insulation stop,</b>		orange 793-5501/000-012
5 pcs/strip, 0.75 - 1 mm <sup>2</sup>		light green 793-5501/000-017
dark gray	2002-172 200 (8x25)	green 793-5501/000-023
<b>Protective warning marker,</b>		violet 793-5501/000-024
with high-voltage symbol, black, for 5 terminal blocks		<b>Screwless end stop,</b>
yellow	2002-115 100 (4x25)	for DIN 35 rail, 6 mm wide
<b>WMB Inline, plain,</b>		gray 249-116 100 (4x25)
stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll		<b>Screwless end stop,</b>
white	2009-115 1	for DIN 35 rail, 10 mm wide
<b>Marking strip, plain,</b>		gray 249-117 50 (2x25)
11 mm wide, 50 m roll		
white	2009-110 1	



**3- and 4-conductor terminal blocks of angled type**  
The TOPJOB®S rail-mounted terminal blocks have a 35-degree conductor entry angle permitting a very small bend radius and an extremely short wiring distance to the cable duct. For applications in switchgear and control cabinets using the LSC wiring system from Lütze, e.g., these terminal blocks are a space- and cost-saving solution. This allows the cable duct to be placed very close to the terminal blocks, keeping its height relatively low.

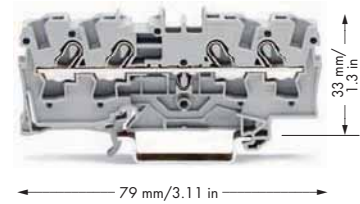
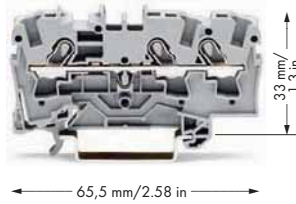
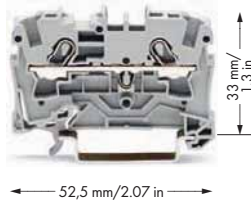


- Product features:**
- CAGE CLAMP®S connection for all conductor types, with the additional benefit of stripped solid wires and fine-stranded ferruled wires being simply pushed in
  - Vibration-proof, fast, maintenance-free terminations
  - 3-conductor through and ground conductor terminal blocks equipped with a dual jumper slot
  - 4-conductor terminal blocks permit potential multiplication - no additional jumpers or terminal blocks needed
  - 3- and 4-conductor terminal blocks have the same dimensions

An end plate must be applied when changing from a 3-conductor terminal block to a 4-conductor terminal block and vice versa.  
Also see page 53.

**Through/Ground Conductor/Shield and Ex Terminal Blocks 4 (6) mm<sup>2</sup>  
2004 Series**

<p>0.5 - 4 (6) mm<sup>2</sup> ① 800 V/8 kV/3 ② I<sub>N</sub> 32 A (41 A)</p> <p>Terminal block width 6.2 mm / 0.244 in 11 - 13 mm / 0.47 in ③</p>	<p>AWG 20 - 10 600 V, 30 A ④ 600 V, 30 A ⑤</p>	<p>0.5 - 4 (6) mm<sup>2</sup> ① 800 V/8 kV/3 ② I<sub>N</sub> 32 A (41 A)</p> <p>Terminal block width 6.2 mm / 0.244 in 11 - 13 mm / 0.47 in ③</p>	<p>AWG 20 - 10 600 V, 30 A ④ 600 V, 30 A ⑤</p>	<p>0.5 - 4 (6) mm<sup>2</sup> ① 800 V/8 kV/3 ② I<sub>N</sub> 32 A (41 A)</p> <p>Terminal block width 6.2 mm / 0.244 in 11 - 13 mm / 0.47 in ③</p>	<p>AWG 20 - 10 600 V, 30 A ④ 600 V, 30 A ⑤</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>		<b>3-conductor through terminal block</b>		<b>4-conductor through terminal block</b>	
gray ⑤ 2004-1201 ⑤	50	gray ⑤ 2004-1301 ⑤	50	gray ⑤ 2004-1401 ⑤	50
blue ⑤ 2004-1204 ④ ⑤	50	blue ⑤ 2004-1304 ④ ⑤	50	blue ⑤ 2004-1404 ④ ⑤	50
orange ⑤ 2004-1202 ⑤	50	orange ⑤ 2004-1302 ⑤	50	orange ⑤ 2004-1402 ⑤	50
red ⑤ 2004-1203 ⑤	50	red ⑤ 2004-1303 ⑤	50	red ⑤ 2004-1403 ⑤	50
black ⑤ 2004-1205 ⑤	50	black ⑤ 2004-1305 ⑤	50	black ⑤ 2004-1405 ⑤	50
yellow ⑤ 2004-1206 ⑤	50	yellow ⑤ 2004-1306 ⑤	50	yellow ⑤ 2004-1406 ⑤	50
<b>2-conductor ground terminal block</b>		<b>3-conductor ground terminal block</b>		<b>4-conductor ground terminal block</b>	
green-yellow ⑤ 2004-1207 ⑤	50	green-yellow ⑤ 2004-1307 ⑤	50	green-yellow ⑤ 2004-1407 ⑤	50
				<b>4-conductor shield terminal block</b>	
				white ⑤ 2004-1408	50
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>	
Diode 2004-1211/1000-401	Page 122	Diode 2004-1311/1000-401	Page 122	Diode 2004-1411/1000-401	Page 122
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 1 mm thick</b>		<b>End and intermediate plate, 1 mm thick</b>		<b>End and intermediate plate, 1 mm thick</b>	
orange 2004-1292	100 (4x25)	orange 2004-1392	100 (4x25)	orange 2004-1492	100 (4x25)
gray 2004-1291	100 (4x25)	gray 2004-1391	100 (4x25)	gray 2004-1491	100 (4x25)
<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>	
orange 2004-1294	100 (4x25)	orange 2004-1394	100 (4x25)	orange 2004-1494	100 (4x25)
gray 2004-1293	100 (4x25)	gray 2004-1393	100 (4x25)	gray 2004-1493	100 (4x25)
<b>Ex e/Ex i separator, orange, 3 mm thick</b>		<b>Ex e/Ex i separator, orange, 3 mm thick</b>		<b>Ex e/Ex i separator, orange, 3 mm thick</b>	
90 mm 209-190	50 (2x25)	120 mm 209-191	50 (2x25)	120 mm 209-191	50 (2x25)
120 mm 209-191	50 (2x25)				

**2004 Series Accessories**

Appropriate marking systems: WMB/Marking strips  
(see Section 13)

<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 2004-171 200 (8x25)	<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray 2004-172 200 (8x25)	<b>Delta jumper, insulated,</b> ⑥ I <sub>N</sub> = I <sub>N</sub> terminal block, light gray 1-2 3-4 5-6 2004-406/020-000 100 (4x25)
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 32 A, light gray 2-way 2004-402 200 (8x25) 3-way 2004-403 200 (8x25) 4-way 2004-404 100 (4x25) 5-way 2004-405 100 (4x25) 6-way 2004-406 100 (4x25) 7-way 2004-407 100 (4x25) 8-way 2004-408 100 (4x25) 9-way 2004-409 100 (4x25) 10-way 2004-410 100 (4x25)	<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 32 A, light gray from 1 to 3 2004-433 200 (8x25) from 1 to 4 2004-434 200 (8x25) from 1 to 5 2004-435 100 (4x25) from 1 to 6 2004-436 100 (4x25) from 1 to 7 2004-437 100 (4x25) from 1 to 8 2004-438 100 (4x25) from 1 to 9 2004-439 100 (4x25) from 1 to 10 2004-440 100 (4x25)	<b>Star point jumper, insulated,</b> ⑥ I <sub>N</sub> = I <sub>N</sub> terminal block, light gray 1-3-5 2004-405/011-000 100 (4x25)
		<b>Step-down jumper, insulated,</b> ⑥ I <sub>N</sub> 32 A light gray 2006-499 50 (2x25)
		<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow 2004-115 100 (4x25)



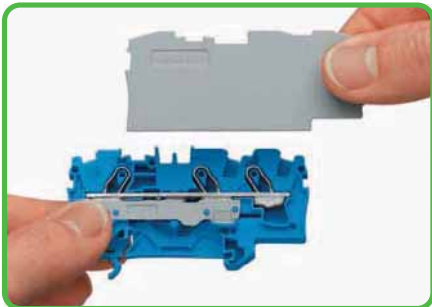


Through terminal blocks with blue insulated housing are suitable for Ex i applications.

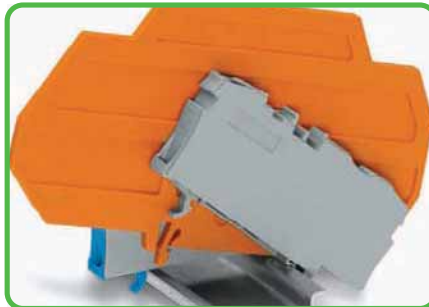


All through and ground conductor terminal blocks are suitable for Ex e II applications.

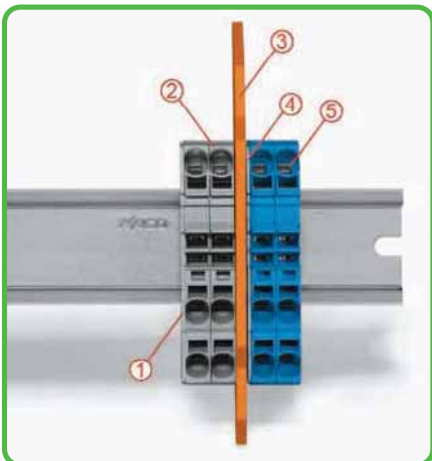
- 1 Conductor sizes: 0.5 mm<sup>2</sup> – 6 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 1 mm<sup>2</sup> – 6 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> – 4 mm<sup>2</sup>  
"insulated ferrule, 12 mm"
- 2 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- 3 Strip length, see packaging or instructions.
- 4 Suitable for Ex i applications
- 5 Suitable for Ex e II applications  
550 V, 30 A  
(also see Section 14)
- 6 See application notes for:  
Ex e/Ex i separator plate, page 52  
Step-down jumper, page 67  
Star point jumper, page 140  
Delta jumper, page 140  
Banana plug, page 198  
TOPJOB®S connector, page 134



**Separator for Ex e/Ex i applications**  
An end plate must be applied to the terminal block located directly behind an Ex e/Ex i separator plate.

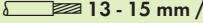
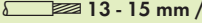


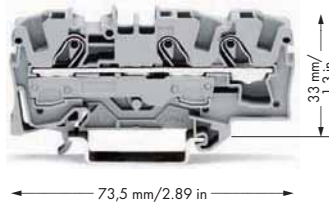
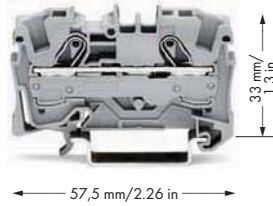
**Ex e II/Ex i terminal strip**  
**Notice:**  
The movable feet of terminal blocks and separator plate must face the same direction.











Separator located between Ex e II and Ex i terminal strip  
1 End plate  
2 Ex e II terminal blocks  
3 Ex e/Ex i separator plate  
4 End plate  
5 Ex i terminal blocks

2004 Series Accessories			
<b>Modular TOPJOB®S connector,</b>			
6	can be snapped together, for jumper contact slot gray	<b>2004-511</b>	100 (4x25)
<b>Spacer module,</b> can be snapped together, e.g., for bridging commoned terminal blocks			
	gray	<b>2004-549</b>	100 (4x25)
<b>End plate,</b>			
	for modular TOPJOB®S connectors, 1.5 mm thick	<b>2004-541</b>	100 (4x25)
<b>Test plug adapter,</b>			
	for test plug 4 mm Ø	<b>2009-174</b>	100 (4x25)
<b>Banana plug,</b>			
6	for socket 4 mm Ø, color mixed	<b>215-111</b>	50
<b>Testing tap,</b>			
	for max. 2.5 mm <sup>2</sup>	<b>2009-182</b>	100 (4x25)
<b>Test plug,</b>			
	with 500 mm cable, 2 mm Ø	<b>210-136</b>	50
<b>Test plug,</b>			
	with 500 mm cable, 2.3 mm Ø	<b>210-137</b>	50
<b>WMB Multi marking system,</b>			
	10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain	<b>793-5501</b>	5
<b>Marking strip, plain,</b>			
	11 mm wide, 50 m roll white	<b>2009-110</b>	1
<b>TOPJOB®S group marker carrier,</b>			
	snap-on type for jumper slot, 5 mm wide	<b>2009-191</b>	50 (2x25)
<b>Screwless end stop,</b>			
	for DIN 35 rail, 6 mm wide	<b>249-116</b>	100 (4x25)

0.5 - 6 (10) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 41 A (57 A)	AWG 20 - 8 600 V, 50 A <sup>III</sup> 600 V, 50 A <sup>II</sup>	0.5 - 6 (10) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 41 A (57 A)	AWG 20 - 8 600 V, 50 A <sup>III</sup> 600 V, 50 A <sup>II</sup>
Terminal block width 7.5 mm / 0.295 in  13 - 15 mm / 0.55 in ③		Terminal block width 7.5 mm / 0.295 in  13 - 15 mm / 0.55 in ③	











- ① Conductor sizes: 0.5 mm<sup>2</sup> - 10 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 1 mm<sup>2</sup> - 10 mm<sup>2</sup> "s" and 1.5 mm<sup>2</sup> - 6 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
550 V, 38 A for 2-conductor terminal blocks  
550 V, 36 A for 3-conductor terminal blocks  
Jumper 33 A  
(also see Section 14)
- ⑥ See application notes for:  
Ex e/Ex i separator plate, page 52  
Step-down jumper, page 67  
Star point jumper, page 140  
Banana plug, page 198  
TOPJOB®S connector, page 136

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>			
 gray ⑤	2006-1201 ⑤ 50	 gray ⑤	2006-1301 ⑤ 25
 blue ⑤	2006-1204 ④ ⑤ 50	 blue ⑤	2006-1304 ④ ⑤ 25
 orange ⑤	2006-1202 ⑤ 50	 orange ⑤	2006-1302 ⑤ 25
<b>2-conductor ground terminal block</b>			
 green-yellow ⑤	2006-1207 ⑤ 50	 green-yellow ⑤	2006-1307 ⑤ 25















Lockout cap for covering unused clamping units of 2006 Series TOPJOB®S terminal blocks.

Item-Specific Accessories				Item-Specific Accessories			
<b>End and intermediate plate, 1 mm thick</b>				<b>End and intermediate plate, 1 mm thick</b>			
	orange	2006-1292	100 (4x25)		orange	2006-1392	100 (4x25)
	gray	2006-1291	100 (4x25)		gray	2006-1391	100 (4x25)
<b>Separator, oversized, 2 mm thick</b>				<b>Separator, oversized, 2 mm thick</b>			
	orange	2006-1294	100 (4x25)		orange	2006-1394	100 (4x25)
	gray	2006-1293	100 (4x25)		gray	2006-1393	100 (4x25)

**2006 Series Accessories**

Appropriate marking systems: WMB/Marking strips  
(see Section 13)

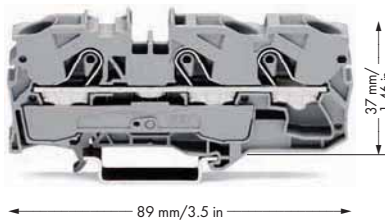
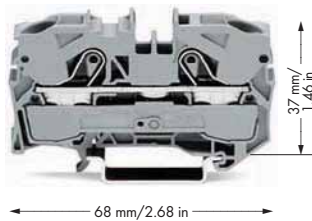
 Ex e/Ex i separator, orange, 3 mm thick 120 mm 209-191 50 (2x25)	 Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks yellow 2006-115 100 (4x25)
 Push-in type jumper bar, insulated, I <sub>N</sub> 41 A, light gray 2-way 2006-402 50 (2x25) 3-way 2006-403 50 (2x25) 4-way 2006-404 50 (2x25) 5-way 2006-405 50 (2x25)	 Lockout cap, for conductor entry hole and operating slot gray 2006-191 25
 Modular TOPJOB®S connector, can be snapped together, for jumper contact slot gray 2006-511 50 (2x25)	 Test plug adapter, for test plug 4 mm Ø gray 2009-174 100 (4x25)
 Push-in type jumper bar, insulated, I <sub>N</sub> 41 A, light gray from 1 to 3 2006-433 50 (2x25) from 1 to 4 2006-434 50 (2x25) from 1 to 5 2006-435 50 (2x25)	 Testing tap, for max. 2.5 mm <sup>2</sup> gray 2009-182 100 (4x25)
 Star point jumper, insulated, I <sub>N</sub> = I <sub>N</sub> terminal block, light gray 1-3-5 2006-405/011-000 50 (2x25)	 Banana plug, for socket 4 mm Ø, color mixed 215-111 50
 Step-down jumper, insulated, I <sub>N</sub> 32 A, light gray 2006-499 50 (2x25)	 WMB Multi marking system, 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain 793-5501 5



**Commoning with step-down jumpers**  
An end plate must be inserted between the terminal blocks to be jumpered. Step-down jumper 2006-499 commons 6/4 mm<sup>2</sup> (AWG 10/12) terminal blocks with 4/2.5/1.5 mm<sup>2</sup> (AWG 12/14/16) terminal blocks. Step-down jumpers are simply pushed down for full insertion, similar to other push-in type jumper bars.

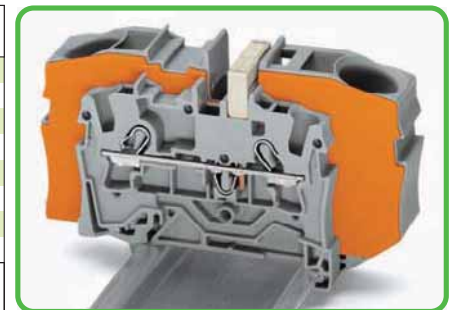
Note:  
The total current flowing shall not exceed the rating of the step-down jumper/push-in type jumper bar.

0.5 - 10 (16) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 57 A (76 A)	AWG 20 - 6 600 V, 65 A ④ 600 V, 65 A ⑤	0.5 - 10 (16) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 57 A (76 A)	AWG 20 - 6 600 V, 65 A ④ 600 V, 65 A ⑤
Terminal block width 10 mm / 0.394 in 17 - 19 mm / 0.71 in ③		Terminal block width 10 mm / 0.394 in 17 - 19 mm / 0.71 in ③	

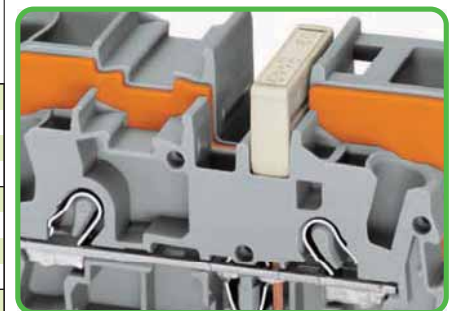


- ① Conductor sizes: 0.5 mm<sup>2</sup> - 16 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 2.5 mm<sup>2</sup> - 16 mm<sup>2</sup> "s" and 2.5 mm<sup>2</sup> - 10 mm<sup>2</sup> "insulated ferrule, 18 mm"
- ② 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
550 V, 51 A for 2-conductor terminal blocks  
550 V, 50 A for 3-conductor terminal blocks  
(also see Section 14)
- ⑥ See application notes for:  
Ex e/Ex i separator plate, page 52  
Step-down jumper, page 67  
Star point jumper, page 140  
Banana plug, page 198  
TOPJOB®S connector, page 136

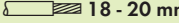
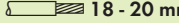
Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>		<b>3-conductor through terminal block</b>	
gray ④	2010-1201 ⑤ 25	gray ④	2010-1301 ⑤ 25
blue ④	2010-1204 ④ ⑤ 25	blue ④	2010-1304 ④ ⑤ 25
orange ④	2010-1202 ⑤ 25	orange ④	2010-1302 ⑤ 25
<b>2-conductor ground terminal block</b>		<b>3-conductor ground terminal block</b>	
green-yellow ④	2010-1207 ⑤ 25	green-yellow ④	2010-1307 ⑤ 25
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 1 mm thick</b>		<b>End and intermediate plate, 1 mm thick</b>	
orange	2010-1292 100 (4x25)	orange	2010-1392 100 (4x25)
gray	2010-1291 100 (4x25)	gray	2010-1391 100 (4x25)
<b>Ex e/Ex i separator, orange,</b>			
⑥ 3 mm thick			
120 mm	209-191 50 (2x25)		
<b>2010 Series Accessories</b>			
Appropriate marking systems: WMB/Marking strips (see Section 13)			
<b>Push-in type jumper bar, insulated,</b>		<b>Finger guard,</b>	
I <sub>N</sub> 57 A, light gray		touchproof cover protects unused conductor entries	
2-way	2010-402 50 (2x25)	yellow	2010-100 100 (4x25)
3-way	2010-403 50 (2x25)	<b>Modular TOPJOB®S connector,</b>	
4-way	2010-404 50 (2x25)	⑥ can be snapped together, for jumper contact slot	
5-way	2010-405 50 (2x25)	gray	2010-511 50 (2x25)
<b>Push-in type jumper bar, insulated,</b>		<b>Test plug adapter,</b>	
I <sub>N</sub> 57 A, light gray		for test plug 4 mm Ø	
from 1 to 3	2010-433 50 (2x25)	gray	2009-174 100 (4x25)
from 1 to 4	2010-434 50 (2x25)	<b>Testing tap,</b>	
from 1 to 5	2010-435 50 (2x25)	for max. 2.5 mm <sup>2</sup>	
		gray	2009-182 100 (4x25)
<b>Star point jumper, insulated,</b>		<b>Banana plug,</b>	
⑥ I <sub>N</sub> = I <sub>N</sub> terminal block, light gray		⑥ for socket 4 mm Ø, color mixed	
1-3-5	2010-405/011-000 50 (2x25)		215-111 50
<b>Step-down jumper, insulated,</b>		<b>WMB Multi marking system,</b>	
⑥ I <sub>N</sub> 57 A, light gray	2016-499 50 (2x25)	10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain	793-5501 5
<b>Protective warning marker,</b>		<b>Marking strip, plain,</b>	
with high-voltage symbol, black, for 5 terminal blocks		11 mm wide,	
yellow	2010-115 50 (2x25)	50 m roll	
		white	2009-110 1

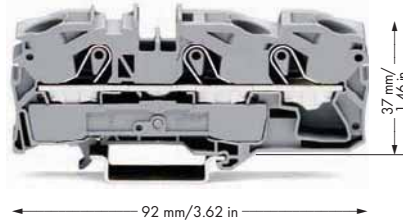
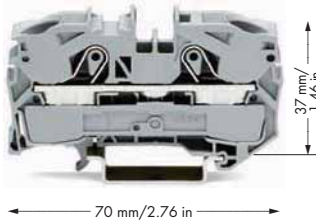


**Commoning with step-down jumpers**  
An end plate must be inserted between the terminal blocks to be jumpered. Step-down jumper 2016-499 commons 16/10 mm<sup>2</sup> (AWG 16/8) terminal blocks with 10/6/4/2.5 mm<sup>2</sup> (AWG 8/10/12/14) terminal blocks. Step-down jumpers are simply pushed down for full insertion, similar to other push-in type jumper bars.



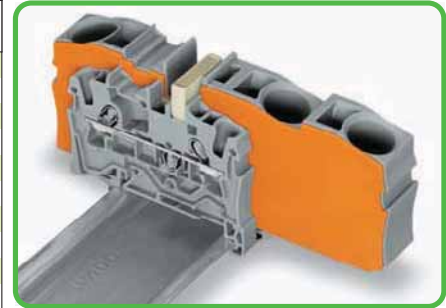
Note:  
The total current flowing shall not exceed the rating of the step-down jumper/push-in type jumper bar.

<b>0.5 - 16 (25" f-st") mm<sup>2</sup> ①</b> <b>800 V/8 kV/3 ②</b> <b>I<sub>N</sub> 76 A (90 A)</b>  <b>Terminal block width 12 mm / 0.472 in</b>  <b>18 - 20 mm / 0.75 in ③</b>	<b>AWG 20 - 4</b> <b>600 V, 85 A<sup>AWG</sup></b> <b>600 V, 85 A<sup>CE</sup></b>	<b>0.5 - 16 (25" f-st") mm<sup>2</sup> ①</b> <b>800 V/8 kV/3 ②</b> <b>I<sub>N</sub> 76 A (90 A)</b>  <b>Terminal block width 12 mm / 0.472 in</b>  <b>18 - 20 mm / 0.75 in ③</b>	<b>AWG 20 - 4</b> <b>600 V, 85 A<sup>AWG</sup></b> <b>600 V, 85 A<sup>CE</sup></b>
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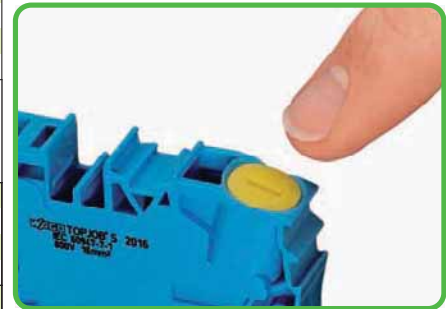


- ① Conductor sizes: 0.5 mm<sup>2</sup> - 16 mm<sup>2</sup> "s + f-st", 25 mm<sup>2</sup> "f-st"; Push-in conductor sizes: 2.5 mm<sup>2</sup> - 16 mm<sup>2</sup> "s" and 2.5 mm<sup>2</sup> - 16 mm<sup>2</sup> "insulated ferrule, 18 mm"
- ② 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
550 V, 70 A for 2-conductor terminal blocks  
550 V, 67 A for 3-conductor terminal blocks  
Jumper 65 A  
(also see Section 14)
- ⑥ See application notes for:  
Ex e/Ex i separator plate, page 52  
Step-down jumper, page 67  
Star point jumper, page 140  
TOPJOB®S connector, page 136

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>		<b>3-conductor through terminal block</b>	
gray ⑤	2016-1201 ⑤ 20	gray ⑤	2016-1301 ⑤ 20
blue ④ ⑤	2016-1204 ④ ⑤ 20	blue ④ ⑤	2016-1304 ④ ⑤ 20
orange ⑤	2016-1202 ⑤ 20	orange ⑤	2016-1302 ⑤ 20
<b>2-conductor ground terminal block,</b> 15mm-high DIN 35 rails shall be used for a current load higher than 76A!		<b>3-conductor ground terminal block,</b> 15mm-high DIN 35 rails shall be used for a current load higher than 76A!	
green-yellow ⑤	2016-1207 ⑤ 20	green-yellow ⑤	2016-1307 ⑤ 20
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 1 mm thick</b>		<b>End and intermediate plate, 1 mm thick</b>	
orange	2016-1292 100 (4x25)	orange	2016-1392 100 (4x25)
gray	2016-1291 100 (4x25)	gray	2016-1391 100 (4x25)
<b>Ex e/Ex i separator, orange,</b> ⑥ 3 mm thick			
	120 mm 209-191 50 (2x25)		
<b>2016 Series Accessories</b> Appropriate marking systems: WMB/Marking strips (see Section 13)			
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 76 A, light gray		<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks	
2-way	2016-402 50 (2x25)	yellow	2016-115 50 (2x25)
3-way	2016-403 50 (2x25)	<b>Modular TOPJOB®S connector,</b> ⑥ can be snapped together, for jumper contact slot	
4-way	2016-404 50 (2x25)	gray	2016-511 50 (2x25)
5-way	2016-405 50 (2x25)	<b>Finger guard,</b> touchproof cover protects unused conductor entries	
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 76 A, light gray		yellow	2016-100 100 (4x25)
from 1 to 3	2016-433 50 (2x25)	<b>Test plug adapter,</b> for test plug 4 mm Ø	
from 1 to 4	2016-434 50 (2x25)	gray	2009-174 100 (4x25)
from 1 to 5	2016-435 50 (2x25)	<b>Testing tap,</b> for max. 2.5 mm <sup>2</sup>	
<b>Star point jumper, insulated,</b> ⑥ I <sub>N</sub> = I <sub>N</sub> terminal block, light gray		gray	2009-182 100 (4x25)
1-3-5	2016-405/011-000 50 (2x25)	<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm	
<b>Step-down jumper, insulated,</b> ⑥ I <sub>N</sub> 57 A		plain	793-5501 5
light gray	2016-499 50 (2x25)		



**Commoning with step-down jumpers**  
An end plate must be inserted between the terminal blocks to be jumpered. Step-down jumper 2016-499 commons 16/10 mm<sup>2</sup> (AWG 16/8) terminal blocks with 10/6/4/2.5 mm<sup>2</sup> (AWG 8/10/12/14) terminal blocks. Step-down jumpers are simply pushed down for full insertion, similar to other push-in type jumper bars.



Inserting a finger guard seals unused conductor entries.

## - Simply Jumpered - Commoning via Step-Down Jumpers and Push-In Type Jumper Bars

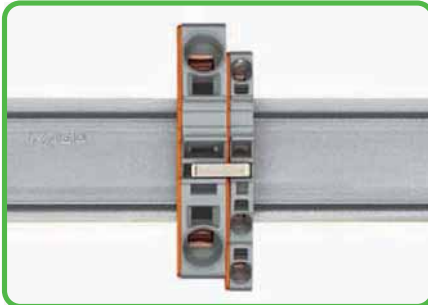


Commoning from 35 mm<sup>2</sup>/AWG 2  
POWER CAGE CLAMP terminal blocks  
to 10/16 mm<sup>2</sup> (AWG 8/10) TOPJOB'S terminal blocks

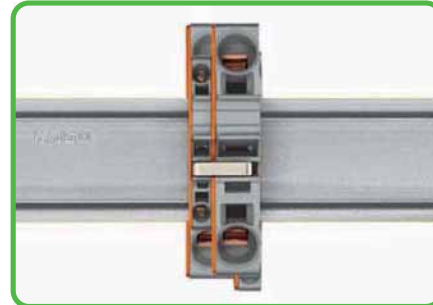
Step-down jumpers may common terminal blocks of different sizes, without losing a conductor clamping point. This can be beneficial on long conductor runs where voltage drop can be a problem. A large conductor can be easily connected to smaller conductors at the distribution point.

Step-down jumpers are simply pushed down for full insertion, in the same way as all other push-in jumpers. Commoning may be made in either direction using the special thin end plate to cover the open side. Further terminal blocks of the smaller cross section may be commoned using standard push-in type jumper bars.

In this case, pay attention that:  
The total current flowing does not exceed the rating of the step-down jumper.



Using step-down jumpers, an end plate must be inserted between the terminal blocks to be commoned.



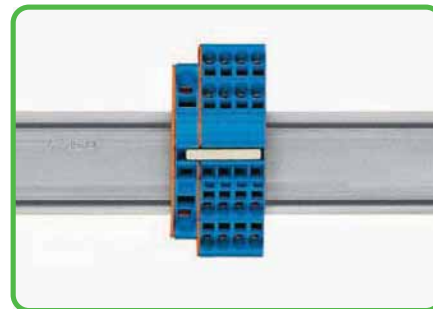
Step-down jumper 2016-499 commons 16/10 mm<sup>2</sup> (AWG 16/8) terminal blocks with 10/6/4/2.5 mm<sup>2</sup> (AWG 8/10/12/14) terminal blocks.  
Step-down jumper 2006-499 commons 6/4 mm<sup>2</sup> (AWG 10/12) terminal blocks with 4/2.5/1.5 mm<sup>2</sup> (AWG 12/14/16) terminal blocks.



**Commoning with step-down jumpers**  
An end plate must be inserted between the terminal blocks to be jumpered. Step-down jumper 2006-499 commons 16/10 mm<sup>2</sup> (AWG 16/8) terminal blocks with 10/6/4/2.5 mm<sup>2</sup> (AWG 8/10/12/14) terminal blocks. Step-down jumpers are simply pushed down for full insertion, similar to other push-in type jumper bars.



**Commoning with push-in type jumper bars**  
Commoning via open terminal side with end plate allows jumpering over two cross section sizes for 16 mm<sup>2</sup>/AWG 6 and 10 mm<sup>2</sup>/AWG 8 and one cross section size for 6/4/2.5 mm<sup>2</sup> (AWG 10/12/14); e.g., from 16 mm<sup>2</sup>/AWG 6 to 6 mm<sup>2</sup>/AWG 10 (see illustration above) or from 10 mm<sup>2</sup>/AWG 8 to 4 mm<sup>2</sup>/AWG 12.



**Commoning with push-in type jumper bars**  
Commoning via closed terminal side with end plate allows jumpering over two cross section sizes; e.g., from 16 mm<sup>2</sup>/AWG 6 to 6 mm<sup>2</sup>/AWG 10 or from 6 mm<sup>2</sup>/AWG 10 to 2.5 mm<sup>2</sup>/AWG 14 (see illustration above).



Note:  
**The total current flowing shall not exceed the rating of the step-down jumper/push-in type jumper bar.**

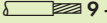
# 1 TOPJOB® S

## Double-Deck Terminal Blocks 1 (1.5) mm<sup>2</sup>

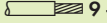
### 2000 Series

68


0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A (18 A)

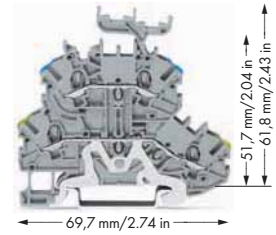
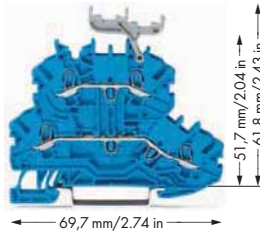
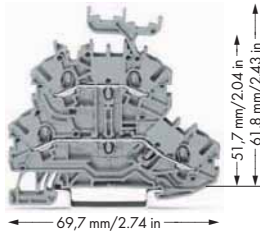
Terminal block width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ③

0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A (18 A)

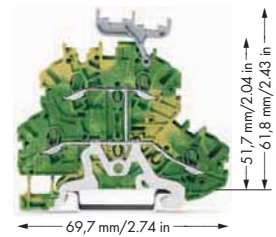
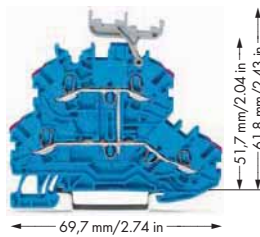
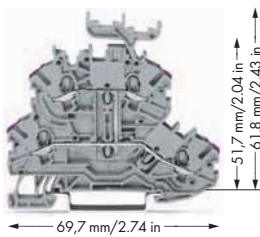
Terminal block width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ③

0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A (18 A)

Terminal block width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ③



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/through terminal block, with marker carrier, gray housing</b>		<b>Through/through terminal block, with marker carrier, blue housing</b>		<b>Ground conductor/through terminal block, with marker carrier, gray housing</b>	
○ L/L	2000-2231 50	○ N/N	2000-2234 50	○ PE/N	2000-2247 50
○ N/L	2000-2232 50			○ PE/L	2000-2257 50
○ L/N	2000-2233 50				
<b>Through/through terminal block, without marker carrier, gray housing</b>		<b>Through/through terminal block, without marker carrier, blue housing</b>		<b>Ground conductor/through terminal block, without marker carrier, gray housing</b>	
○ L/L	2000-2201 50	○ N/N	2000-2204 50	○ PE/N	2000-2217 50
○ N/L	2000-2202 50			○ PE/L	2000-2227 50
○ L/N	2000-2203 50				















Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>4-conductor through terminal block, with marker carrier, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>4-conductor through terminal block, with marker carrier, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>4-conductor ground terminal block, with marker carrier, internal commoning, green-yellow housing</b>	
○ L	2000-2238 50	○ N	2000-2239 50	○ PE	2000-2237 50
<b>4-conductor through terminal block, without marker carrier, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>4-conductor through terminal block, without marker carrier, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>4-conductor ground terminal block, without marker carrier, internal commoning, green-yellow housing</b>	
○ L	2000-2208 50	○ N	2000-2209 50	○ PE	2000-2207 50

- ① Conductor sizes: 0.14 mm<sup>2</sup> – 1.5 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.5 mm<sup>2</sup> – 1.5 mm<sup>2</sup> "s"  
and 0.5 mm<sup>2</sup> – 0.75 mm<sup>2</sup>  
"insulated ferrule, 10 mm"
- ② 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ③ Strip length, see packaging or instructions.



**Double-deck terminal block assembly**  
A double-deck marker carrier can be fitted retrospectively to double-deck terminal blocks without marker carrier.

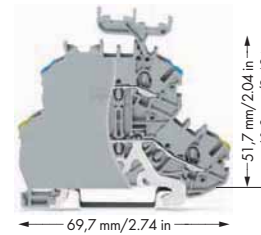
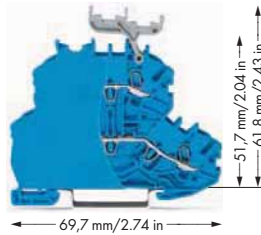
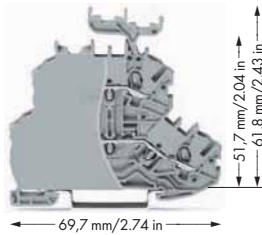
2000 Series Accessories			
Appropriate marking systems: WMB/Marking strips (see Section 13)			
<b>End and intermediate plate, 0.7 mm thick</b>		<b>Test plug adapter,</b>	
	orange <b>2000-2292</b> 25		for test plug 4 mm Ø
	gray <b>2000-2291</b> 25		gray <b>2009-174</b> 100 (4x25)
<b>Push-in type jumper bar, insulated,</b>		<b>Banana plug,</b>	
	In 14 A, light gray		for socket 4 mm Ø, color mixed
	2-way <b>2000-402</b> 200 (8x25)		<b>215-111</b> 50
	3-way <b>2000-403</b> 200 (8x25)	<b>Testing tap,</b>	
	4-way <b>2000-404</b> 200 (8x25)		for max. 2.5 mm <sup>2</sup>
	5-way <b>2000-405</b> 100 (4x25)		gray <b>2009-182</b> 100 (4x25)
	6-way <b>2000-406</b> 100 (4x25)	<b>Test plug,</b>	
	7-way <b>2000-407</b> 100 (4x25)		with 500 mm cable, 2 mm Ø
	8-way <b>2000-408</b> 100 (4x25)		red <b>210-136</b> 50
	9-way <b>2000-409</b> 100 (4x25)	<b>Test plug,</b>	
	10-way <b>2000-410</b> 100 (4x25)		with 500 mm cable, 2.3 mm Ø
<b>Push-in type jumper bar, insulated,</b>			yellow <b>210-137</b> 50
	In 14 A, light gray		
	from 1 to 3 <b>2000-433</b> 200 (8x25)		
	from 1 to 4 <b>2000-434</b> 200 (8x25)		
	from 1 to 5 <b>2000-435</b> 100 (4x25)		
	from 1 to 6 <b>2000-436</b> 100 (4x25)		
	from 1 to 7 <b>2000-437</b> 100 (4x25)		
	from 1 to 8 <b>2000-438</b> 100 (4x25)		
	from 1 to 9 <b>2000-439</b> 100 (4x25)		
	from 1 to 10 <b>2000-440</b> 100 (4x25)		
<b>Protective warning marker,</b>			
	with high-voltage symbol, black, for 5 terminal blocks		
	yellow <b>2000-115</b> 100 (4x25)		
<b>Double-deck marker carrier,</b>			
	pivoting gray <b>2000-121</b> 50 (2x25)		
<b>WMB Multi marking system,</b>			
	10 strips with 10 markers per card, for 3.5 mm terminal block width		
	plain <b>793-3501</b> 5		
<b>Marking strip, plain,</b>			
	11 mm wide, 50 m roll white <b>2009-110</b> 1		

# TOPJOB® Double-Deck Terminal Blocks 1 (1.5) mm<sup>2</sup> 2000 Series

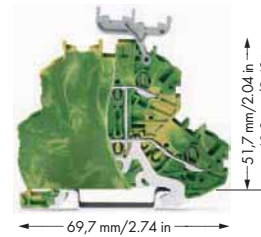
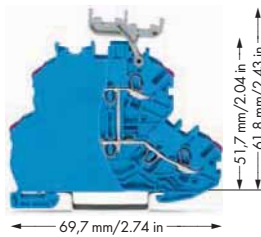
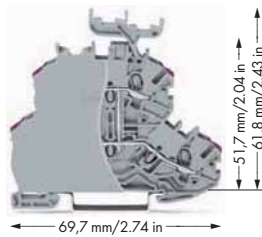
0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
800 V/8 kV/3 ②  
I<sub>N</sub> 13.5 A (18 A)  
Terminal block width 4.2 mm / 0.165 in  
9 - 11 mm / 0.39 in ③

0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
800 V/8 kV/3 ②  
I<sub>N</sub> 13.5 A (18 A)  
Terminal block width 4.2 mm / 0.165 in  
9 - 11 mm / 0.39 in ③

0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
800 V/8 kV/3 ②  
I<sub>N</sub> 13.5 A (18 A)  
Terminal block width 4.2 mm / 0.165 in  
9 - 11 mm / 0.39 in ③



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/through terminal block, with end plate, with marker carrier, gray housing</b>		<b>Through/through terminal block, with end plate, with marker carrier, blue housing</b>		<b>Ground conductor/through terminal block, with end plate, with marker carrier, gray housing</b>	
○ L/L	2000-2231/099-000	50	● N/N	2000-2234/099-000	50
○ N/L	2000-2232/099-000	50			
○ L/N	2000-2233/099-000	50			
<b>Through/through terminal block, with end plate, without marker carrier, gray housing</b>		<b>Through/through terminal block, with end plate, without marker carrier, blue housing</b>		<b>Ground conductor/through terminal block, with end plate, without marker carrier, gray housing</b>	
○ L/L	2000-2201/099-000	50	● N/N	2000-2204/099-000	50
○ N/L	2000-2202/099-000	50			
○ L/N	2000-2203/099-000	50			
				○ PE/N	2000-2247/099-000
				○ PE/L	2000-2257/099-000
				○ PE/N	2000-2217/099-000
				○ PE/L	2000-2227/099-000

















Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>4-conductor through terminal block, with end plate, with marker carrier, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>4-conductor through terminal block, with end plate, with marker carrier, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>4-conductor ground terminal block, with end plate, with marker carrier, internal commoning, green-yellow housing</b>	
○ L	2000-2238/099-000	50	● N	2000-2239/099-000	50
<b>4-conductor through terminal block, with end plate, without marker carrier, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>4-conductor through terminal block, with end plate, without marker carrier, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>4-conductor ground terminal block, with end plate, without marker carrier, internal commoning, green-yellow housing</b>	
○ L	2000-2208/099-000	50	● N	2000-2209/099-000	50
				● PE	2000-2237/099-000
				● PE	2000-2207/099-000



- ① Conductor sizes: 0.14 mm<sup>2</sup> – 1.5 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.5 mm<sup>2</sup> – 1.5 mm<sup>2</sup> "s"  
and 0.5 mm<sup>2</sup> – 0.75 mm<sup>2</sup>  
"insulated ferrule, 10 mm"
- ② 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ③ Strip length, see packaging or instructions.



**Double-deck terminal block assembly**  
A double-deck marker carrier can be fitted retrospectively to double-deck terminal blocks without marker carrier.

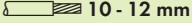
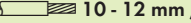
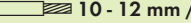
2000 Series Accessories			
Appropriate marking systems: WMB/Marking strips (see Section 13)			
<b>End and intermediate plate, 0.7 mm thick</b>		<b>Test plug adapter,</b>	
	orange <b>2000-2292</b> 25		for test plug 4 mm Ø
	gray <b>2000-2291</b> 25		gray <b>2009-174</b> 100 (4x25)
<b>Push-in type jumper bar, insulated,</b>		<b>Testing tap,</b>	
	In 18 A, light gray		for max. 2.5 mm <sup>2</sup>
	2-way <b>2001-402</b> 200 (8x25)		gray <b>2009-182</b> 100 (4x25)
	3-way <b>2001-403</b> 200 (8x25)	<b>Banana plug,</b>	
	4-way <b>2001-404</b> 200 (8x25)		for socket 4 mm Ø, color mixed
	5-way <b>2001-405</b> 100 (4x25)		<b>215-111</b> 50
	6-way <b>2001-406</b> 100 (4x25)	<b>Test plug,</b>	
	7-way <b>2001-407</b> 100 (4x25)		with 500 mm cable, 2 mm Ø
	8-way <b>2001-408</b> 100 (4x25)		red <b>210-136</b> 50
	9-way <b>2001-409</b> 100 (4x25)	<b>Test plug,</b>	
	10-way <b>2001-410</b> 100 (4x25)		with 500 mm cable, 2.3 mm Ø
<b>Push-in type jumper bar, insulated,</b>			yellow <b>210-137</b> 50
	In 18 A, light gray	<b>WMB Inline, plain,</b>	
	from 1 to 3 <b>2001-433</b> 200 (8x25)		stretchable 4 - 4.2 mm, 2,000 WMB markers, 4 mm, on roll
	from 1 to 4 <b>2001-434</b> 200 (8x25)		white <b>2009-114</b> 1
	from 1 to 5 <b>2001-435</b> 100 (4x25)	<b>WMB Multi marking system,</b>	
	from 1 to 6 <b>2001-436</b> 100 (4x25)		10 strips with 10 markers per card, stretchable 4 - 4.2 mm
	from 1 to 7 <b>2001-437</b> 100 (4x25)		plain <b>793-4501</b> 5
	from 1 to 8 <b>2001-438</b> 100 (4x25)	<b>WMB Multi marking system, plain,</b>	
	from 1 to 9 <b>2001-439</b> 100 (4x25)		10 strips with 10 markers per card, stretchable 4 - 4.2 mm
	from 1 to 10 <b>2001-440</b> 100 (4x25)		yellow <b>793-4501/000-002</b>
<b>Protective warning marker,</b>			red <b>793-4501/000-005</b>
	with high-voltage symbol, black, for 5 terminal blocks		blue <b>793-4501/000-006</b>
	yellow <b>2001-115</b> 100 (4x25)		gray <b>793-4501/000-007</b>
<b>Double-deck marker carrier,</b>			orange <b>793-4501/000-012</b>
	pivoting		light green <b>793-4501/000-017</b>
	gray <b>2000-121</b> 50 (2x25)		green <b>793-4501/000-023</b>
<b>Marking strip, plain,</b>			violet <b>793-4501/000-024</b>
	11 mm wide, 50 m roll		
	white <b>2009-110</b> 1		

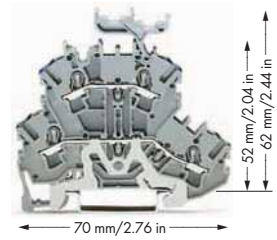
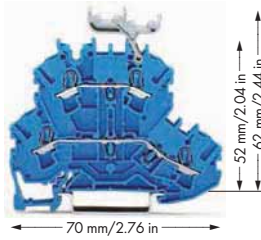
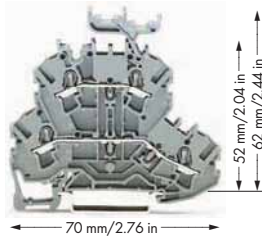
# 1 TOPJOB® S

## Double-Deck Terminal Blocks 2.5 (4) mm<sup>2</sup>

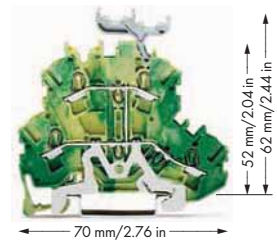
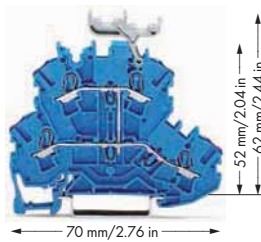
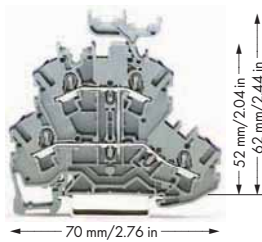
### 2002 Series

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<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b> <b>500 V/6 kV/3 ②</b> <b>I<sub>N</sub> 24 A (28 A)</b> <b>AWG 22 - 12</b> <b>300 V, 20 A ③</b> <b>600 V, 20 A ④</b> Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ⑤	<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b> <b>500 V/6 kV/3 ②</b> <b>I<sub>N</sub> 24 A (28 A)</b> <b>AWG 22 - 12</b> <b>300 V, 20 A ③</b> <b>600 V, 20 A ④</b> Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ⑤	<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b> <b>500 V/6 kV/3 ②</b> <b>I<sub>N</sub> 24 A (28 A)</b> <b>AWG 22 - 12</b> <b>300 V, 20 A ③</b> <b>600 V, 20 A ④</b> Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ⑤
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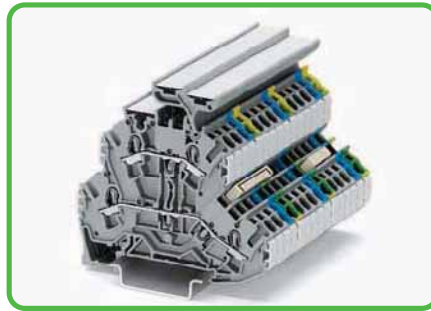
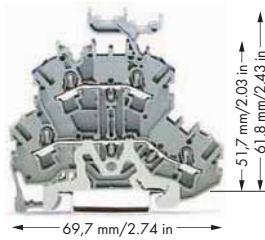


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/through terminal block, with marker carrier, gray housing</b>		<b>Through/through terminal block, with marker carrier, blue housing</b>		<b>Ground conductor/through terminal block, with marker carrier, gray housing</b>	
○ L/L ⑤	2002-2231 ⑤ 50	● N/N ⑤	2002-2234 ④ ⑤ 50	○ PE/N ⑤	2002-2247 ⑤ 50
○ N/L ⑤	2002-2232 ⑤ 50			○ PE/L ⑤	2002-2257 ⑤ 50
○ L/N ⑤	2002-2233 ⑤ 50				
<b>Through/through terminal block, without marker carrier, gray housing</b>		<b>Through/through terminal block, without marker carrier, blue housing</b>		<b>Ground conductor/through terminal block, without marker carrier, gray housing</b>	
○ L/L ⑤	2002-2201 ⑤ 50	● N/N ⑤	2002-2204 ④ ⑤ 50	○ PE/N ⑤	2002-2217 ⑤ 50
○ N/L ⑤	2002-2202 ⑤ 50			○ PE/L ⑤	2002-2227 ⑤ 50
○ L/N ⑤	2002-2203 ⑤ 50				
<b>Other terminal blocks with the same profile:</b>					
Diode	2002-2211/1000-410	Page 124			
LED	2002-2221/1000-434	Page 124			



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>4-conductor through terminal block, with marker carrier, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>4-conductor through terminal block, with marker carrier, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>4-conductor ground terminal block, with marker carrier, internal commoning, green-yellow housing</b>	
○ L ⑤	2002-2238 ⑤ 50	● N ⑤	2002-2239 ④ ⑤ 50	● PE ⑤	2002-2237 ⑤ 50
<b>4-conductor through terminal block, without marker carrier, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>4-conductor through terminal block, without marker carrier, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>4-conductor ground terminal block, without marker carrier, internal commoning, green-yellow housing</b>	
○ L ⑤	2002-2208 ⑤ 50	● N ⑤	2002-2209 ④ ⑤ 50	● PE ⑤	2002-2207 ⑤ 50

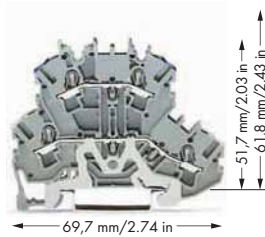
0.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12  
 500 V/6 kV/3 ②  
 I<sub>N</sub> 24 A (28 A)  
 Terminal block width 5.2 mm / 0.205 in  
 ③ 10 - 12 mm / 0.43 in ④



Double-deck terminal block assembly

- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
440 V, 20 A  
Jumper 18 A  
(also see Section 14)
- ⑥ See application notes for:  
Ex e/Ex i separator plate, page 52  
Colored push-in type jumper bars, page 139  
Vertical jumper, page 142

Item No.	Pack. Unit
<b>Shield conductor/through terminal block, with marker carrier, gray housing</b>	
○ Shield/N 2002-2248	50
○ Shield/L 2002-2258	50












The ground conductor or shield terminal blocks have a contact foot in the bottom level, automatically establishing direct contact to the carrier rail.  
 The flexible double-deck marker carrier, which is placed above the wiring levels, can be pushed aside during the wiring or commoning operation. The marker carrier has two levels for two different WMB markers relating to the two decks of the terminal blocks.  
 With a terminal block width of only 5.2mm an effective width of only 2.6mm for terminal blocks of same or different potentials can be realized for conductor sizes from 0.25 mm<sup>2</sup> to 4 mm<sup>2</sup> (22-12 AWG).  
 For protection against external interfering signals, an increasing number of shielded control cables are being used.  
 Shield terminal blocks for front-entry are suitable for connecting the cable braid. Like ground conductor terminal blocks for front-entry, they are equipped with a grounding foot for direct electrical connection to the rail, however they differ significantly by their white insulated housing. Shield terminal blocks can be directly mounted beside signal-conductor terminal blocks and provide excellent deflection of interfering signals.

Item No.	Pack. Unit
<b>Shield conductor/through terminal block, without marker carrier, gray housing</b>	
○ Shield/N 2002-2218	50
○ Shield/L 2002-2228	50

**2002 Series Accessories**

Appropriate marking system (see Section 13)




<b>End and intermediate plate, 0.8 mm thick</b>			
	orange	2002-2292	100 (4x25)
	gray	2002-2291	100 (4x25)
<b>Ex e/Ex i separator, orange,</b>			
⑥ 	3 mm thick		
	125.5 mm	209-192	50 (2x25)
<b>Double-deck marker carrier,</b>			
	pivoting		
	gray	2002-121	50 (2x25)
<b>Insulation stop,</b>			
	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>		
	light gray	2002-171	200 (8x25)
	5 pcs/strip, 0.75 - 1 mm <sup>2</sup>		
	dark gray	2002-172	200 (8x25)
<b>Push-in type jumper bar, insulated,</b>			
⑥ 	I <sub>N</sub> 25 A, light gray		
	2-way	2002-402	200 (8x25)
	3-way	2002-403	200 (8x25)
	4-way	2002-404	200 (8x25)
	5-way	2002-405	100 (4x25)
	6-way	2002-406	100 (4x25)
	7-way	2002-407	100 (4x25)
	8-way	2002-408	100 (4x25)
	9-way	2002-409	100 (4x25)
	10-way	2002-410	100 (4x25)
<b>Push-in type jumper bar, insulated,</b>			
	I <sub>N</sub> 25 A, light gray		
	from 1 to 3	2002-433	200 (8x25)
	from 1 to 4	2002-434	200 (8x25)
	from 1 to 5	2002-435	100 (4x25)
	from 1 to 6	2002-436	100 (4x25)
	from 1 to 7	2002-437	100 (4x25)
	from 1 to 8	2002-438	100 (4x25)
	from 1 to 9	2002-439	100 (4x25)
	from 1 to 10	2002-440	100 (4x25)
<b>Double-deck vertical jumper, insulated,</b>			
⑥ 	I <sub>N</sub> 24 A, light gray	2002-492	100 (4x25)

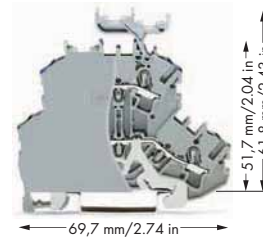
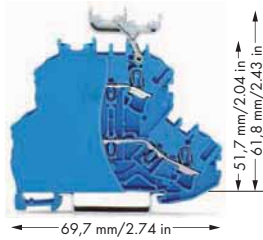
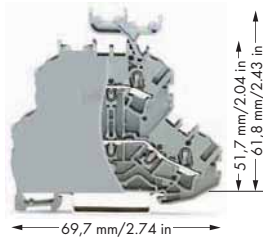
# 1 TOPJOB® S

## Double-Deck Terminal Blocks 2.5 (4) mm<sup>2</sup>

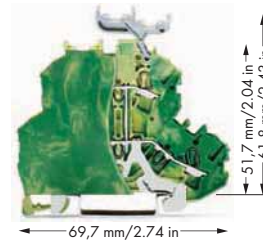
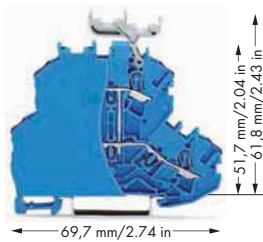
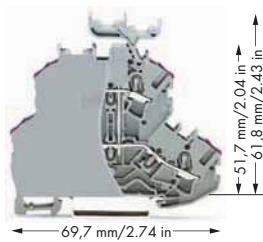
### 2002 Series

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
<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b>   AWG 22 - 12 <b>800 V/8 kV/3 ②</b> <b>I<sub>N</sub> 24 A</b> Terminal block width 6.2 mm / 0.244 in  10 - 12 mm / 0.43 in ③	<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b>   AWG 22 - 12 <b>800 V/8 kV/3 ②</b> <b>I<sub>N</sub> 24 A</b> Terminal block width 6.2 mm / 0.244 in  10 - 12 mm / 0.43 in ③	<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b>   AWG 22 - 12 <b>800 V/8 kV/3 ②</b> <b>I<sub>N</sub> 24 A</b> Terminal block width 6.2 mm / 0.244 in  10 - 12 mm / 0.43 in ③
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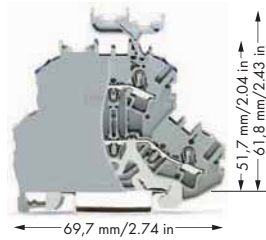


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/through terminal block, with end plate, with marker carrier, gray housing</b>		<b>Through/through terminal block, with end plate, with marker carrier, blue housing</b>		<b>Ground conductor/through terminal block, with end plate, with marker carrier, gray housing</b>	
○ L/L	2002-2231/099-000	50	● N/N	2002-2234/099-000 ④	50
○ N/L	2002-2232/099-000	50			
○ L/N	2002-2233/099-000	50			
<b>Through/through terminal block, with end plate, without marker carrier, gray housing</b>		<b>Through/through terminal block, with end plate, without marker carrier, blue housing</b>		<b>Ground conductor/through terminal block, with end plate, without marker carrier, gray housing</b>	
○ L/L	2002-2201/099-000	50	● N/N	2002-2204/099-000 ④	50
○ N/L	2002-2202/099-000	50			
○ L/N	2002-2203/099-000	50			
<b>Other terminal blocks with the same profile:</b>					
Diode	2002-2211/1000-410	Page 124			
LED	2002-2221/1000-434	Page 124			



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>4-conductor through terminal block, with end plate, with marker carrier, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>4-conductor through terminal block, with end plate, with marker carrier, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>4-conductor ground terminal block, with end plate, with marker carrier, internal commoning, green-yellow housing</b>	
○ L	2002-2238/099-000	50	● N	2002-2239/099-000 ④	50
<b>4-conductor through terminal block, with end plate, without marker carrier, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>4-conductor through terminal block, with end plate, without marker carrier, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>4-conductor ground terminal block, with end plate, without marker carrier, internal commoning, green-yellow housing</b>	
○ L	2002-2208/099-000	50	● N	2002-2209/099-000 ④	50

0.25 - 2.5 [4] mm<sup>2</sup> ① AWG 22 - 12  
 800 V/8 kV/3 ②  
 I<sub>N</sub> 24 A  
 Terminal block width 6.2 mm / 0.244 in  
 10 - 12 mm / 0.43 in ③



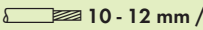
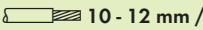
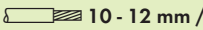
Protective warning marker and insulation stop must be applied individually. Due to the 6.2 mm/0.244 in width of double-deck terminal blocks with end plate, 2004 Series jumpers must be used.

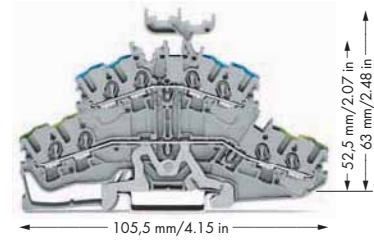
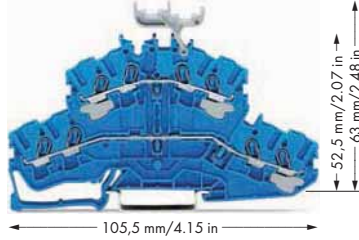
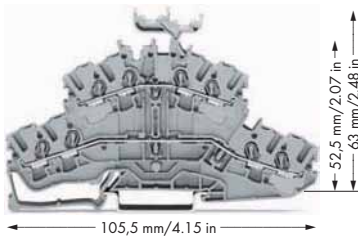
- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ See application notes for: Vertical jumper, page 142

Item No.	Pack. Unit	2002 Series Accessories	
Shield conductor/through terminal block, with end plate, with marker carrier, gray housing		Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)	
Shield/N	2002-2248/099-000 50	<b>End and intermediate plate, 0.8 mm thick</b>	<b>Test plug adapter,</b>
Shield/L	2002-2258/099-000 50	orange 2002-2292 100 (4x25)	for test plug 4 mm Ø
		gray 2002-2291 100 (4x25)	gray 2009-174 100 (4x25)
Shield conductor/through terminal block, with end plate, without marker carrier, gray housing		<b>Double-deck marker carrier,</b>	<b>Banana plug,</b>
Shield/N	2002-2218/099-000 50	pivoting	for socket 4 mm Ø,
Shield/L	2002-2228/099-000 50	gray 2002-121 50 (2x25)	color mixed
			215-111 50
		<b>Insulation stop,</b>	<b>Test plug,</b>
		5 pcs/strip,	with 500 mm cable,
		0.25 - 0.5 mm <sup>2</sup>	2 mm Ø
		light gray 2002-171 200 (8x25)	red 210-136 50
		<b>Insulation stop,</b>	<b>Test plug,</b>
		5 pcs/strip,	with 500 mm cable,
		0.75 - 1 mm <sup>2</sup>	2.3 mm Ø
		dark gray 2002-172 200 (8x25)	yellow 210-137 50
		<b>Push-in type jumper bar, insulated,</b>	<b>WMB Multi marking system,</b>
		I <sub>N</sub> 32 A,	10 strips with 10 markers per card,
		light gray	stretchable 5 - 5.2 mm
		2-way 2004-402 200 (8x25)	plain 793-5501 5
		3-way 2004-403 200 (8x25)	<b>WMB Multi marking system, plain,</b>
		4-way 2004-404 100 (4x25)	10 strips with 10 markers per card,
		5-way 2004-405 100 (4x25)	stretchable 5 - 5.2 mm
		6-way 2004-406 100 (4x25)	yellow 793-5501/000-002
		7-way 2004-407 100 (4x25)	red 793-5501/000-005
		8-way 2004-408 100 (4x25)	blue 793-5501/000-006
		9-way 2004-409 100 (4x25)	gray 793-5501/000-007
		10-way 2004-410 100 (4x25)	orange 793-5501/000-012
		<b>Push-in type jumper bar, insulated,</b>	light green 793-5501/000-017
		I <sub>N</sub> 32 A,	green 793-5501/000-023
		light gray	violet 793-5501/000-024
		from 1 to 3 2004-433 200 (8x25)	
		from 1 to 4 2004-434 200 (8x25)	<b>Marking strip, plain,</b>
		from 1 to 5 2004-435 100 (4x25)	11 mm wide,
		from 1 to 6 2004-436 100 (4x25)	50 m roll
		from 1 to 7 2004-437 100 (4x25)	white 2009-110 1
		from 1 to 8 2004-438 100 (4x25)	
		from 1 to 9 2004-439 100 (4x25)	
		from 1 to 10 2004-440 100 (4x25)	
		<b>Double-deck vertical jumper, insulated,</b>	
		I <sub>N</sub> 24 A	
		light gray 2002-492 100 (4x25)	
		<b>Protective warning marker,</b>	
		with high-voltage symbol, black,	
		for 5 terminal blocks	
		yellow 2002-115 100 (4x25)	

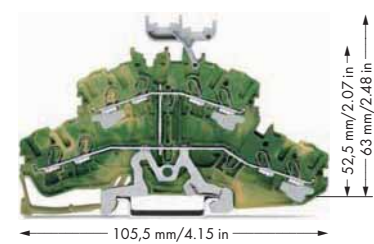
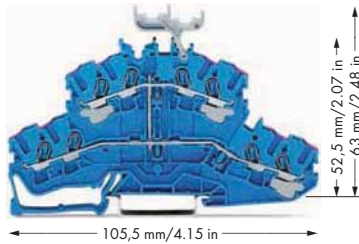
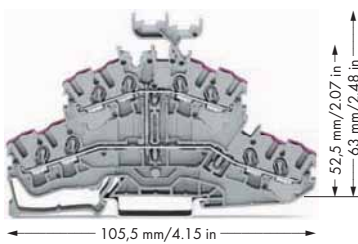
# TOPJOB®

## 4-Conductor, Double-Deck Terminal Blocks 2.5 (4) mm<sup>2</sup> 2002 Series

0.25 - 2.5 (4) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 24 A (28 A)	AWG 22 - 12 600 V, 20 A ③ 600 V, 20 A ④	0.25 - 2.5 (4) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 24 A (28 A)	AWG 22 - 12 600 V, 20 A ③ 600 V, 20 A ④	0.25 - 2.5 (4) mm <sup>2</sup> ① 800 V/8 kV/3 ② I <sub>N</sub> 24 A (28 A)	AWG 22 - 12 600 V, 20 A ③ 600 V, 20 A ④
Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ⑤		Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ⑤		Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ⑤	



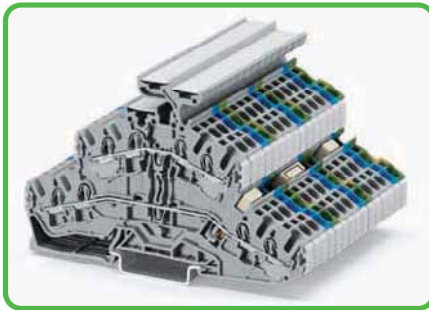
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/through terminal block, with marker carrier, gray housing</b>		<b>Through/through terminal block, with marker carrier, blue housing</b>		<b>Ground conductor/through terminal block, with marker carrier, gray housing</b>	
○ L/L	2002-2431	50	● N/N	2002-2434 ④	50
○ N/L	2002-2432	50			
○ L/N	2002-2433	50			
<b>Through/through terminal block, without marker carrier, gray housing</b>		<b>Through/through terminal block, without marker carrier, blue housing</b>		<b>Ground conductor/through terminal block, without marker carrier, gray housing</b>	
○ L/L	2002-2401	50	● N/N	2002-2404 ④	50
○ N/L	2002-2402	50			
○ L/N	2002-2403	50			
⑤ Approvals are pending					




















Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>8-conductor through terminal block, with marker carrier, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>8-conductor through terminal block, with marker carrier, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>8-conductor ground terminal block, with marker carrier, internal commoning, green-yellow housing</b>	
○ L	2002-2438	50	● N	2002-2439 ④	50
<b>8-conductor through terminal block, without marker carrier, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>8-conductor through terminal block, without marker carrier, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>8-conductor ground terminal block, without marker carrier, internal commoning, green-yellow housing</b>	
○ L	2002-2408	50	● N	2002-2409 ④	50
				● PE	2002-2437
				● PE	2002-2407

For list of approvals and user guide, see pages 634 to 637.

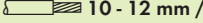
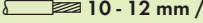
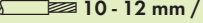
- ❶ Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup>  
"insulated ferrule, 12 mm"
- ❷ 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ❸ Strip length, see packaging or instructions.
- ❹ Suitable for Ex i applications
- ❺ See application notes for:  
Colored push-in type jumper bars, page 139  
Vertical jumper, page 142

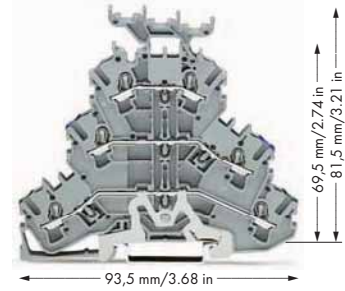
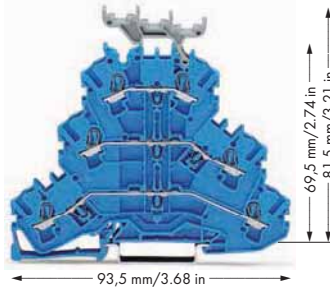
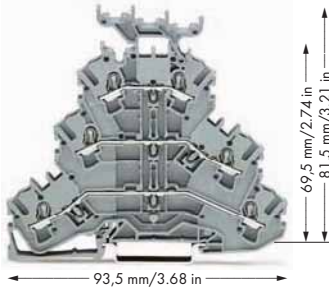


Double-deck terminal block assembly

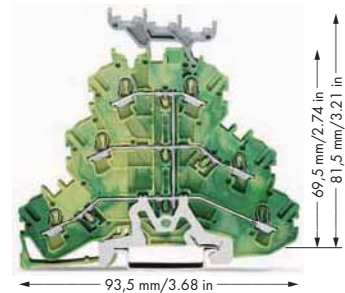
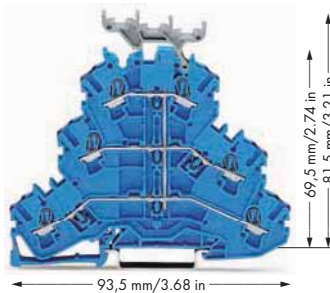
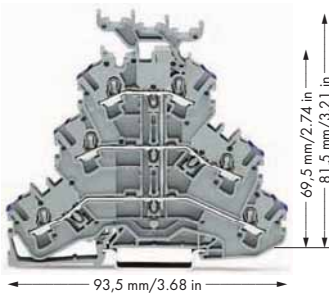
2002 Series Accessories		Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)	
<b>End and intermediate plate, 0.8 mm thick</b>  orange <b>2002-2492</b> 100 (4x25) gray <b>2002-2491</b> 100 (4x25)		<b>Test plug adapter,</b> for test plug 4 mm Ø  gray <b>2009-174</b> 100 (4x25)	
<b>Double-deck marker carrier,</b> pivoting  gray <b>2002-121</b> 50 (2x25)		<b>Banana plug,</b> for socket 4 mm Ø, color mixed  <b>215-111</b> 50	
<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>  light gray <b>2002-171</b> 200 (8x25)		<b>Testing tap,</b> for max. 2.5 mm <sup>2</sup>  gray <b>2009-182</b> 100 (4x25)	
<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup>  dark gray <b>2002-172</b> 200 (8x25)		<b>Test plug,</b> with 500 mm cable, 2 mm Ø  red <b>210-136</b> 50	
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 25 A, light gray  2-way <b>2002-402</b> 200 (8x25) 3-way <b>2002-403</b> 200 (8x25) 4-way <b>2002-404</b> 200 (8x25) 5-way <b>2002-405</b> 100 (4x25) 6-way <b>2002-406</b> 100 (4x25) 7-way <b>2002-407</b> 100 (4x25) 8-way <b>2002-408</b> 100 (4x25) 9-way <b>2002-409</b> 100 (4x25) 10-way <b>2002-410</b> 100 (4x25)		<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø  yellow <b>210-137</b> 50	
		<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm  plain <b>793-5501</b> 5	
		<b>WMB Multi marking system, plain,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm  yellow <b>793-5501/000-002</b> red <b>793-5501/000-005</b> blue <b>793-5501/000-006</b> gray <b>793-5501/000-007</b> orange <b>793-5501/000-012</b> light green <b>793-5501/000-017</b> green <b>793-5501/000-023</b> violet <b>793-5501/000-024</b> 5	
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 25 A, light gray  from 1 to 3 <b>2002-433</b> 200 (8x25) from 1 to 4 <b>2002-434</b> 200 (8x25) from 1 to 5 <b>2002-435</b> 100 (4x25) from 1 to 6 <b>2002-436</b> 100 (4x25) from 1 to 7 <b>2002-437</b> 100 (4x25) from 1 to 8 <b>2002-438</b> 100 (4x25) from 1 to 9 <b>2002-439</b> 100 (4x25) from 1 to 10 <b>2002-440</b> 100 (4x25)			
<b>Double-deck vertical jumper, insulated,</b> I <sub>N</sub> 24 A  light gray <b>2002-492</b> 100 (4x25)		<b>Marking strip, plain,</b> 11 mm wide, 50 m roll  white <b>2009-110</b> 1	
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks  yellow <b>2002-115</b> 100 (4x25)		<b>TOPJOB®S group marker carrier,</b> snap-on type for jumper slot, 5 mm wide  gray <b>2009-191</b> 50 (2x25)	

# TOPJOB® Triple-Deck Terminal Blocks 2.5 (4) mm<sup>2</sup> 2002 Series

<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b> AWG 22 - 12 <b>500 V/6 kV/3 ②</b> I <sub>N</sub> 24 A (28 A)   300 V, 20 A Ⓜ 600 V, 20 A Ⓜ Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ③	<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b> AWG 22 - 12 <b>500 V/6 kV/3 ②</b> I <sub>N</sub> 24 A (28 A)   600 V, 20 A Ⓜ Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ③	<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b> AWG 22 - 12 <b>500 V/6 kV/3 ②</b> I <sub>N</sub> 24 A (28 A) Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ③
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/through/through terminal block, with marker carrier, gray housing</b>		<b>Through/through/through terminal block, with marker carrier, blue housing</b>		<b>Ground conductor/through/through terminal block, with marker carrier, gray housing</b>	
⊙ L/L/L Ⓜ 2002-3231 ⑤	50	⊙ N/N/N Ⓜ 2002-3234 ④ ⑤	50	⊙ PE/N/L Ⓜ 2002-3247 ⑤	50
⊙ L/L/N Ⓜ 2002-3233 ⑤	50			⊙ PE/L/L Ⓜ 2002-3257 ⑤	50
<b>Through/through/through terminal block, without marker carrier, gray housing</b>		<b>Through/through/through terminal block, without marker carrier, blue housing</b>		<b>Ground conductor/through/through terminal block, without marker carrier, gray housing</b>	
⊙ L/L/L Ⓜ 2002-3201 ⑤	50	⊙ N/N/N Ⓜ 2002-3204 ④ ⑤	50	⊙ PE/N/L Ⓜ 2002-3217 ⑤	50
⊙ L/L/N Ⓜ 2002-3203 ⑤	50			⊙ PE/L/L Ⓜ 2002-3227 ⑤	50
<b>Other terminal blocks with the same profile:</b>					
Diode 2002-3211/1000-410 Page 126					
LED 2002-3221/1000-434 Page 126					

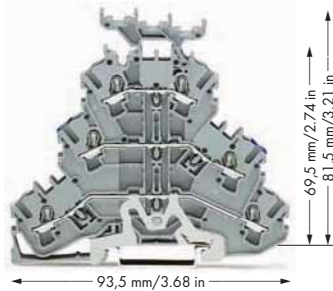


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>6-conductor through terminal block, with marker carrier, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>6-conductor through terminal block, with marker carrier, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>6-conductor ground terminal block, with marker carrier, internal commoning, green-yellow housing</b>	
⊙ L Ⓜ 2002-3238 ⑤	50	⊙ N Ⓜ 2002-3239 ④ ⑤	50	⊙ PE Ⓜ 2002-3237 ⑤	50
<b>6-conductor through terminal block, without marker carrier, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>6-conductor through terminal block, without marker carrier, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>6-conductor ground terminal block, without marker carrier, internal commoning, green-yellow housing</b>	
⊙ L Ⓜ 2002-3208 ⑤	50	⊙ N Ⓜ 2002-3209 ④ ⑤	50	⊙ PE Ⓜ 2002-3207 ⑤	50



0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12  
500 V/6 kV/3 ② 300 V, 20 A<sup>Ⓝ</sup>  
I<sub>N</sub> 24 A (28 A) 600 V, 20 A<sup>Ⓒ</sup>

Terminal block width 5.2 mm / 0.205 in  
8  10 - 12 mm / 0.43 in ③



Item No.	Pack.	Unit
<b>Shield/through/through terminal block, with marker carrier, gray housing</b>		
● Shield/N/L 2002-3248	50	
● Shield/L/L 2002-3258	50	
<b>Shield/through/through terminal block, without marker carrier, gray housing</b>		
● Shield/N/L 2002-3218	50	
● Shield/L/L 2002-3228	50	



Triple-deck terminal block assembly





Combination of multilevel terminal blocks

- ① Conductor sizes: 0.25 mm<sup>2</sup> – 4 mm<sup>2</sup> “s + f-st”; Push-in conductor sizes: 0.75 mm<sup>2</sup> – 4 mm<sup>2</sup> “s” and 0.75 mm<sup>2</sup> – 2.5 mm<sup>2</sup> “insulated ferrules, 12 mm”
- ② 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
440 V, 19 A  
Jumper 17 A  
(also see Section 14)
- ⑥ See application notes for:  
Colored push-in type jumper bars, page 139  
Vertical jumper, page 142



**2002 Series Accessories**

Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)


**End and intermediate plate, 0.8 mm thick**

 orange	<b>2002-3292</b>	100 (4x25)
 gray	<b>2002-3291</b>	100 (4x25)


**Triple-deck marker carrier,**

 pivoting		
 gray	<b>2002-131</b>	50 (2x25)


**Insulation stop,**

 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray	<b>2002-171</b>	200 (8x25)
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**Insulation stop,**

 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray	<b>2002-172</b>	200 (8x25)
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**Push-in type jumper bar, insulated,**

⑥  I <sub>N</sub> 25 A, light gray		
2-way	<b>2002-402</b>	200 (8x25)
3-way	<b>2002-403</b>	200 (8x25)
4-way	<b>2002-404</b>	200 (8x25)
5-way	<b>2002-405</b>	100 (4x25)
6-way	<b>2002-406</b>	100 (4x25)
7-way	<b>2002-407</b>	100 (4x25)
8-way	<b>2002-408</b>	100 (4x25)
9-way	<b>2002-409</b>	100 (4x25)
10-way	<b>2002-410</b>	100 (4x25)


**Push-in type jumper bar, insulated,**

 I <sub>N</sub> 25 A, light gray		
from 1 to 3	<b>2002-433</b>	200 (8x25)
from 1 to 4	<b>2002-434</b>	200 (8x25)
from 1 to 5	<b>2002-435</b>	100 (4x25)
from 1 to 6	<b>2002-436</b>	100 (4x25)
from 1 to 7	<b>2002-437</b>	100 (4x25)
from 1 to 8	<b>2002-438</b>	100 (4x25)
from 1 to 9	<b>2002-439</b>	100 (4x25)
from 1 to 10	<b>2002-440</b>	100 (4x25)

**Triple-deck vertical jumper, insulated,**

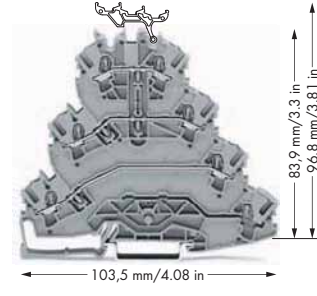
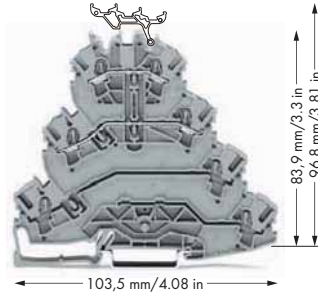
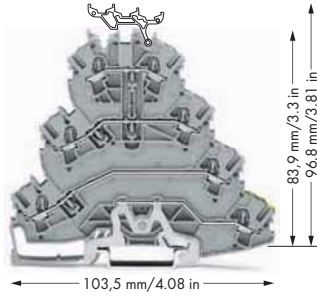
⑥  I <sub>N</sub> 24 A, light gray	<b>2002-493</b>	100 (4x25)
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**Double-deck vertical jumper, insulated,**

⑥  I <sub>N</sub> 24 A, light gray	<b>2002-492</b>	100 (4x25)
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# Quadruple-Deck, Rail-Mounted Terminal Blocks or Rail-Mounted Terminal Blocks for Wiring of Electric Motors, 2002 Series

<p>0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12 800 V/8 kV/3 ② I<sub>N</sub> 20 A (25 A)</p> <p>Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ③</p>	<p>0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12 800 V/8 kV/3 ② I<sub>N</sub> 20 A (25 A)</p> <p>Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ③</p>	<p>0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12 800 V/8 kV/3 ② I<sub>N</sub> 20 A (25 A)</p> <p>Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ③</p>
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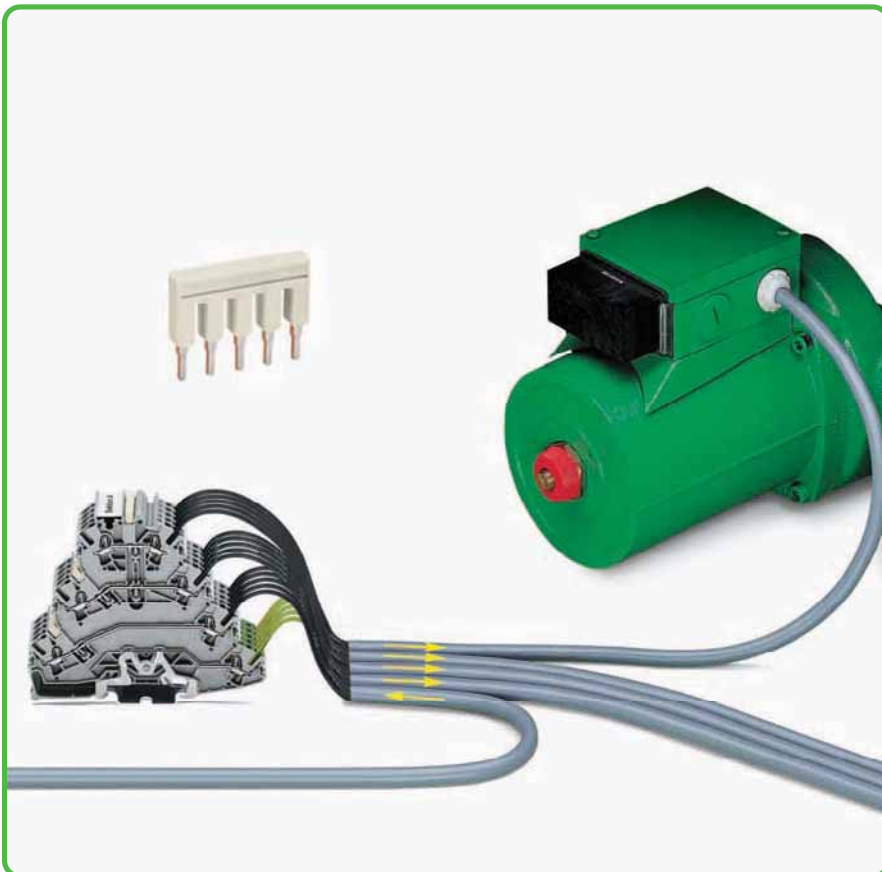


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Quadruple-deck, rail-mounted terminal block or Rail-mounted terminal block for wiring of electric motors, without marker carrier, gray ● L1 - L2 - L3 - PE 2002-4127 25		Quadruple-deck, rail-mounted terminal block or Rail-mounted terminal block for wiring of electric motors, without marker carrier, gray ● L1 - L2 2002-4111 25		Quadruple-deck, rail-mounted terminal block or Rail-mounted terminal block for wiring of electric motors, without marker carrier, gray ● L1 - L2 - L3 2002-4101 25	
Quadruple-deck, rail-mounted terminal block or Rail-mounted terminal block for wiring of electric motors, with marker carrier, gray ● L1 - L2 - L3 - PE 2002-4157 25		Quadruple-deck, rail-mounted terminal block or Rail-mounted terminal block for wiring of electric motors, with marker carrier, gray ● L1 - L2 2002-4141 25		Quadruple-deck, rail-mounted terminal block or Rail-mounted terminal block for wiring of electric motors, with marker carrier, gray ● L1 - L2 - L3 2002-4131 25	

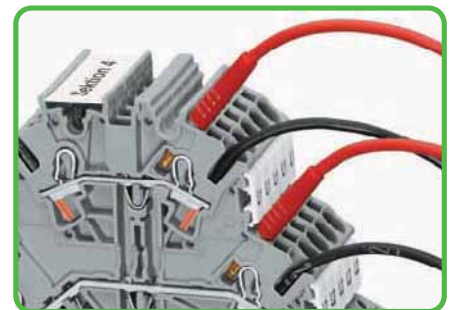
**2002 Series Accessories**

Appropriate marking systems: WMB/Marking strips/WMB Inline  
(see Section 13)

<p><b>End and intermediate plate</b>, 1 mm thick orange 2002-4192 100 (4x25) gray 2002-4191 100 (4x25)</p>	<p><b>Protective warning marker</b>, with high-voltage symbol, black, for 5 terminal blocks yellow 2002-115 100 (4x25)</p>	<p><b>Staggered jumper</b>, ④ insulated, I<sub>N</sub> 25 A, light gray 2-way 2002-472 100 (4x25) 3-way 2002-473 100 (4x25) 4-way 2002-474 100 (4x25) 5-way 2002-475 50 (2x25) 6-way 2002-476 50 (2x25) 7-way 2002-477 50 (2x25) 8-way 2002-478 50 (2x25) 9-way 2002-479 50 (2x25) 10-way 2002-480 50 (2x25) 11-way 2002-481 50 (2x25) 12-way 2002-482 50 (2x25)</p>
<p><b>Insulation stop</b>, 5 pcs/strip, 0.25 - 0.5 mm<sup>2</sup> light gray 2002-171 200 (8x25)</p>	<p><b>Lockout cap</b>, for conductor entry hole and operating slot orange 2002-192 25 gray 2002-191 25 blue 2002-194 25</p>	<p><b>Push-in type wire jumper</b>, ④ insulated, I<sub>N</sub> 16 A, wire size 1.5 mm<sup>2</sup> L = 60 mm 2009-412 100 (10x10) L = 110 mm 2009-414 100 (10x10) L = 250 mm 2009-416 100 (10x10)</p>
<p><b>Insulation stop</b>, 5 pcs/strip, 0.75 - 1 mm<sup>2</sup> dark gray 2002-172 200 (8x25)</p>	<p><b>Push-in type jumper bar</b>, insulated, I<sub>N</sub> 25 A, light gray from 1 to 3 2002-433 200 (8x25) from 1 to 4 2002-434 200 (8x25) from 1 to 5 2002-435 100 (4x25) from 1 to 6 2002-436 100 (4x25) from 1 to 7 2002-437 100 (4x25) from 1 to 8 2002-438 100 (4x25) from 1 to 9 2002-439 100 (4x25) from 1 to 10 2002-440 100 (4x25)</p>	<p><b>WMB Inline</b>, plain, stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white 2009-115 1</p>
<p><b>Star point jumper</b>, insulated, ④ I<sub>N</sub> = I<sub>N</sub> terminal block, light gray 1-3-5 2002-405/011-000 100 (4x25)</p>	<p><b>Adjacent jumper for continuous commoning</b>, ④ insulated, I<sub>N</sub> 25 A, light gray 2-way 2002-400 100 (4x25)</p>	<p><b>Marking strip</b>, plain, 11 mm wide, 50 m roll white 2009-110 1</p>
<p><b>Delta jumper</b>, insulated, ④ I<sub>N</sub> = I<sub>N</sub> terminal block, light gray 1-2 3-4 5-6 2002-406/020-000 100 (4x25)</p>	<p><b>Triple-deck marker carrier</b>, pivoting gray 2002-131 50 (2x25)</p>	



- ❶ Conductor sizes: 0.25 mm<sup>2</sup> – 4 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> – 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> – 2.5 mm<sup>2</sup>  
"insulated ferrule, 12 mm"
- ❷ 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ❸ Strip length, see packaging or instructions.
- ❹ See application notes for:  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Delta jumper, page 140  
Star point jumper, page 140  
Adjacent jumper for continuous commoning,  
page 139  
Push-in type wire jumper, page 140  
TOPJOB®S connector, page 134  
TOPJOB®S L-type test plug module, page 136  
Marker carrier, page 145



Testing with test plug 2 mm Ø.

In addition to rail-mounted terminal blocks for electric motor wiring, new versions are now available.

- Terminal block **without** ground contact and only 2 potentials.

Especially for additional functions such as engine brakes or temperature probes. Having the same shape, this type can be put next to the appropriate terminal block for electric motor wiring without using intermediate plates.

That makes the rail assembly clearer and wiring is easier. This also prevents wiring errors as no conductor entry is unused.

- Terminal block **without** ground contact and with only 3 potentials.

Clearly designated clamping units is the primary advantage to this terminal block design. When using devices with protective insulation for example, there are no open ground clamping units that could create confusion.



Lockout cap for conductor entry hole and operating slot

Locking out conductor entry holes and operating slots to create spacer housings for rail-mounted terminal blocks for electric motor wiring.



Compact design:

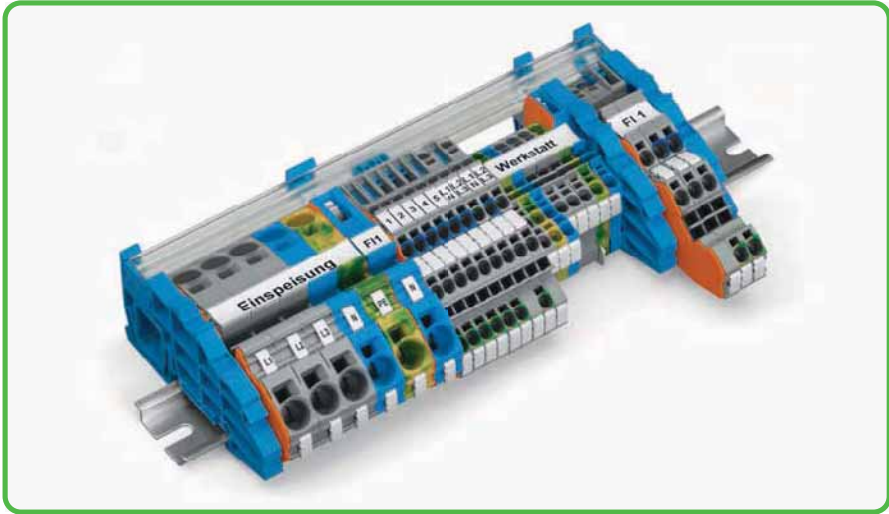
3 phases and ground conductor in one terminal block.



Marking clamping units with WMB Multi marking system (see Section 13).

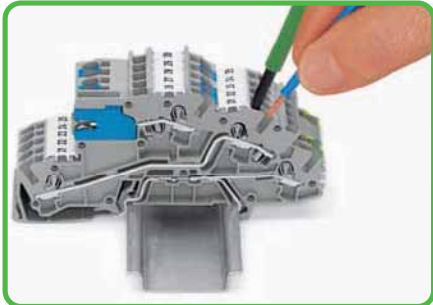
Group marking with marking strips.

# 1 - Handling - Multilevel Installation Terminal Blocks, N-Disconnect Slide Link and Busbar Carrier

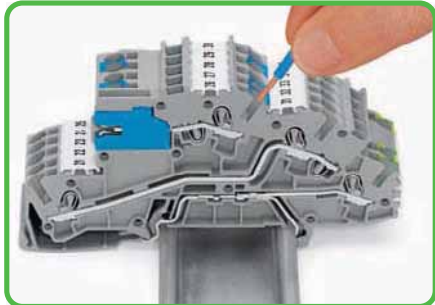


**TOPJOB®S: Terminal blocks for every application.**

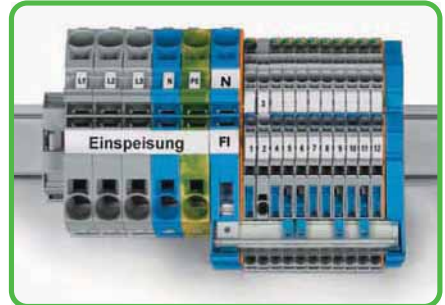
- Push-in connection of solid conductors in small distribution boxes saves time and money.
- Operating errors can be prevented as all TOPJOB®S terminal blocks for building installation are equipped with push-in connection technology.
- Terminal blocks for building installation expand circuit design possibilities.
- The use of standard accessories reduces order-processing and stock-holding costs.
- Accessories, shared with all terminal blocks, enhance safety by reducing the amount of components and install techniques required.
- The position of the busbars is the same, making the new installation terminal blocks compatible with standard TOPJOB® installation terminal blocks.



**Conductor termination**  
Fine-stranded conductors are inserted using an operating tool.



**Conductor termination**  
Solid conductors are simply pushed in.



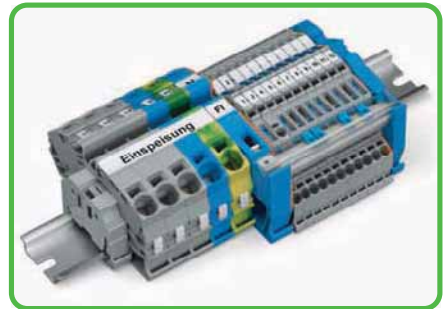
**Environmentally friendly** - TOPJOB®S rail-mounted terminal blocks are 100% lead-free.



Testing with test plug 2 mm Ø



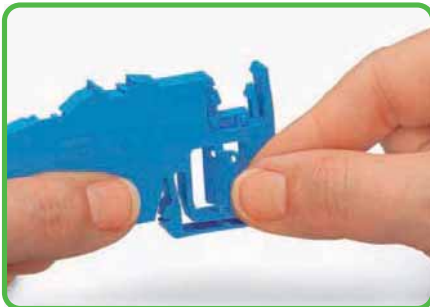
Tool-operated N-disconnect slide link



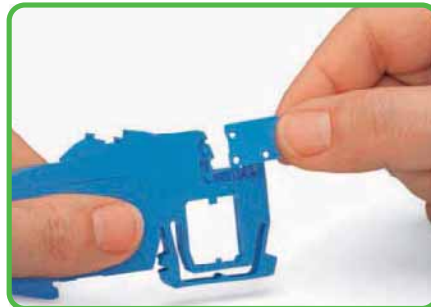
Each connection point features an individual marker slot for WMB markers. Additionally, the upper marker slot is suitable for marker strips that can be marked manually using a felt-tip pen or automatically via thermal transfer printer.



The busbar carrier integrated into the N-disconnect terminal block of the supply terminal blocks for distribution boxes makes any separate busbar carrier unnecessary, saving space and costs.



Removing the separator plate from the busbar carrier.



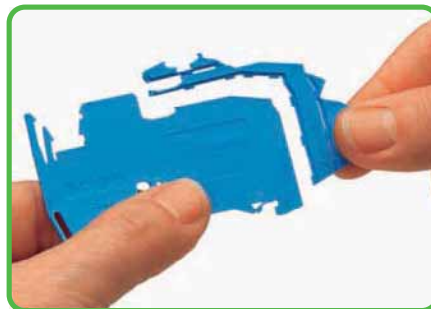
Inserting the separator plate to protect the N-busbar against accidental contact.



The optional busbar transparent cover (777-303) protects the busbar against accidental contact and makes it easy to see which terminal blocks are connected to the busbar.



The compact busbar carrier, which is placed every 200 mm/7.87 in, provides additional busbar support for longer assemblies.

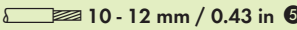
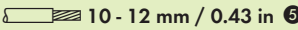


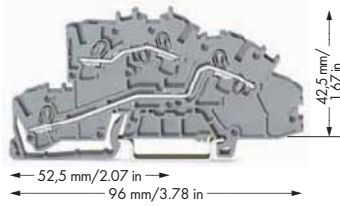
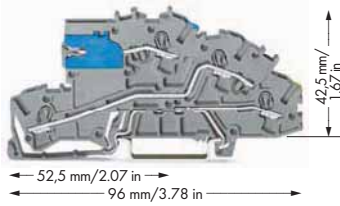
Perforations make it possible to fit the carrier to all TOPJOB®S installation terminal blocks using a single part.



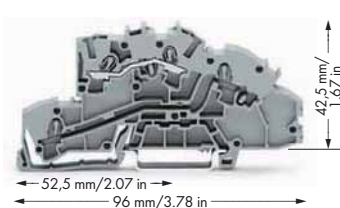
Conductor entries on multilevel installation terminal blocks are color marked, providing a clear arrangement of the terminals.

# TOPJOB® Multilevel Installation Terminal Blocks 2.5 (4) mm<sup>2</sup> 2003 Series

<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b> AWG 22 - 12 250 V/4 kV/3; 32 A (32 A) ② ③ 400 V/6 kV/3; 32 A (32 A) ② ④ Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ⑤	<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b> AWG 22 - 12 400 V/6 kV/3 ② I <sub>N</sub> 32 A Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ⑤
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Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>Multilevel installation terminal block,</b> with N-disconnect slide link, gray ○ NT/L/PE <b>2003-7641</b> 50		<b>Multilevel installation terminal block,</b> gray ○ L/L <b>2003-7642</b> 50 ○ N/L <b>2003-7649</b> 50		<b>Straight busbar,</b> Cu with tin plating, 10 x 3 mm, 1000 mm long I <sub>N</sub> 140 A <b>210-133</b> 1



Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>Multilevel installation terminal block,</b> with N-disconnect slide link, gray ○ NT/L <b>2003-7640</b> 50 ○ LT/L <b>2003-7659</b> 50		<b>Multilevel installation terminal block,</b> gray ○ L <b>2003-7650</b> 50 ○ N <b>2003-7651</b> 50		<b>N-supply terminal block,</b> I <sub>N</sub> 76 A, 16 mm <sup>2</sup> , 12 mm wide blue <b>2016-7714</b> 20 green-yellow <b>2016-7607</b> 20
<b>Multilevel installation terminal block,</b> gray ○ N/L/PE <b>2003-7646</b> 50 ○ L/L/PE <b>2003-7645</b> 50				











2003 Series Accessories				
Appropriate marking systems: WMB/Marking strips (see Section 13)				
<b>Busbar carrier,</b> not suitable as end stop, for DIN 35 rail, 1.5 mm thick blue <b>2009-304</b> 100 (4x25)		<b>Busbar carrier,</b> can replace end bracket, with detachable separator plate, for DIN 35 rail, 7.5 mm thick blue <b>2009-305</b> 25		<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50
<b>End and intermediate plate,</b> 0.8 mm thick orange <b>2003-7692</b> 100 (4x25)		<b>Cover for N-busbar,</b> transparent, 1000 mm long <b>777-303</b> 1		<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50

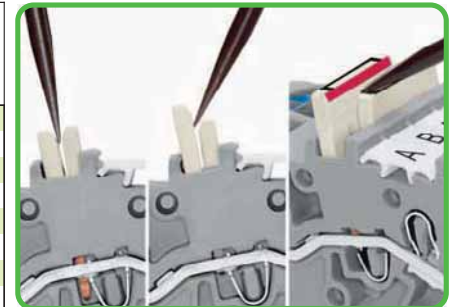
For list of approvals and user guide, see pages 634 to 637.

- 1 Conductor sizes: 0.25 mm<sup>2</sup> – 4 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> – 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> – 2.5 mm<sup>2</sup>  
"insulated ferrules, 12 mm"
- 2 250 V/  
400 V = rated voltage  
4 kV/  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- 3 250 V/4 kV potential-ground
- 4 400 V/6 kV potential-potential
- 5 Strip length, see packaging or instructions.
- 6 See application notes for:  
Colored push-in type jumper bars, page 139  
Star point jumper, page 140  
Delta jumper, page 140  
Staggered jumper, page 141  
Adjacent jumper for continuous commoning,  
page 139  
Push-in type wire jumper, page 140  
TOPJOB®S connector, page 134  
TOPJOB®S L-type test plug module, page 136

## Accessories Multilevel Installation Terminal Block

Push-in type jumper bars and staggered jumpers, see 2002 Series

Push-in type jumper bar, insulated,		Staggered jumper,			
 I <sub>N</sub> 25 A, light gray 2-way <b>2002-402</b> 200 (8x25) 3-way <b>2002-403</b> 200 (8x25) 4-way <b>2002-404</b> 200 (8x25) 5-way <b>2002-405</b> 100 (4x25) 6-way <b>2002-406</b> 100 (4x25) 7-way <b>2002-407</b> 100 (4x25) 8-way <b>2002-408</b> 100 (4x25) 9-way <b>2002-409</b> 100 (4x25) 10-way <b>2002-410</b> 100 (4x25)			 I <sub>N</sub> 25 A, light gray 2-way <b>2002-472</b> 100 (4x25) 3-way <b>2002-473</b> 100 (4x25) 4-way <b>2002-474</b> 100 (4x25) 5-way <b>2002-475</b> 50 (2x25) 6-way <b>2002-476</b> 50 (2x25) 7-way <b>2002-477</b> 50 (2x25) 8-way <b>2002-478</b> 50 (2x25) 9-way <b>2002-479</b> 50 (2x25) 10-way <b>2002-480</b> 50 (2x25) 11-way <b>2002-481</b> 50 (2x25) 12-way <b>2002-482</b> 50 (2x25)		
	<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 25 A, light gray from 1 to 3 <b>2002-433</b> 200 (8x25) from 1 to 4 <b>2002-434</b> 200 (8x25) from 1 to 5 <b>2002-435</b> 100 (4x25) from 1 to 6 <b>2002-436</b> 100 (4x25) from 1 to 7 <b>2002-437</b> 100 (4x25) from 1 to 8 <b>2002-438</b> 100 (4x25) from 1 to 9 <b>2002-439</b> 100 (4x25) from 1 to 10 <b>2002-440</b> 100 (4x25)			<b>Customized staggered jumper,</b> insulated, I <sub>N</sub> 25 A, light gray 1-3 <b>2002-473/011-000</b> 100 (4x25) 1-3-5 <b>2002-475/011-000</b> 1-3-5-7 <b>2002-477/011-000</b> 1-3-5-7-9 <b>2002-479/011-000</b> 1-3-5-7-9-11 <b>2002-481/011-000</b> 50 (2x25)	
	<b>Push-in type wire jumper,</b> insulated, I <sub>N</sub> 16 A, wire size 1.5 mm <sup>2</sup> L = 60 mm <b>2009-412</b> 100 (10x10) L = 110 mm <b>2009-414</b> 100 (10x10) L = 250 mm <b>2009-416</b> 100 (10x10)			<b>Adjacent jumper for continuous commoning,</b>  insulated, I <sub>N</sub> 25 A, light gray 2-way <b>2002-400</b> 100 (4x25)	
	<b>Test plug adapter,</b> for test plug 4 mm Ø gray <b>2009-174</b> 100 (4x25)			<b>WMB Multi marking system,</b>  10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5	
	<b>Banana plug,</b> for socket 4 mm Ø, color mixed <b>215-111</b> 50			<b>WMB Inline, plain,</b>  stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white <b>2009-115</b> 1	
	<b>Testing tap,</b> for max. 2.5 mm <sup>2</sup> gray <b>2009-182</b> 100 (4x25)			<b>Marking strip, plain,</b>  11 mm wide, 50 m roll white <b>2009-110</b> 1	
	<b>Operating tool,</b>  3.5 mm and 5.5 mm blade, for TOPJOB®S installation terminal blocks <b>2009-310</b> 50			<b>Operating tool,</b>  3.5 mm and 2.5 mm blade, for TOPJOB®S installation terminal blocks <b>2009-309</b> 50	



Commoning performed via new staggered jumper system in one single jumper slot. The 2003 Series multilevel installation terminal blocks are ideal for use in very confined spaces.

### Staggered jumper removal

Insert the operating tool between the jumpers and lift up the jumper.  
For additional application notes, see page 141.

### Application note:

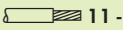
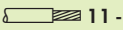
N-disconnect slide links, used in installation terminal blocks, consist of switch contacts that are opened and then closed again as part of the regular circuit testing. To guarantee a reliable connection, a corrosion-resistant contact area is required on the N-busbar.

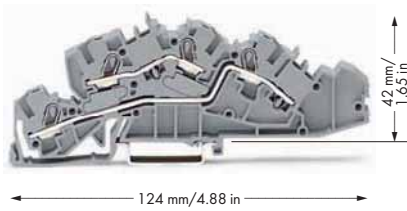
Historically, uninsulated copper busbars, that have been cleaned/stripped of any possible corrosion prior to install, can be used in dry, pollution-free locations.


According to DIN VDE 0100-520 (VDE 0100 Part 520), installation equipment exposed to contamination or corrosive substances (e.g., water) that promote corrosion or deterioration, must be protected or be made of a corrosion- or wear-resistant material. In these cases, tinned copper busbars guarantee a reliable connection.

WAGO only offers tinned copper busbars.



# TOPJOB® Multilevel Installation Terminal Blocks 4 (6) mm<sup>2</sup> 2005 Series

0.5 - 4 (6) mm <sup>2</sup> ① 250 V/4 kV/3; 36 A (36 A) ② ③ 400 V/6 kV/3; 36 A (36 A) ② ④ Terminal block width 6.2 mm / 0.244 in  11 - 13 mm / 0.47 in ⑤	AWG 20 - 10 0.5 - 4 (6) mm <sup>2</sup> ① AWG 20 - 10 400 V/6 kV/3 ② I <sub>N</sub> 36 A Terminal block width 6.2 mm / 0.244 in  11 - 13 mm / 0.47 in ⑤
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Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>Multilevel installation terminal block, with N-disconnect slide link, gray</b> ○ NT/L/PE <b>2005-7641</b> 50		<b>Multilevel installation terminal block, gray</b> ○ L/L <b>2005-7642</b> 50 ○ N/L <b>2005-7649</b> 50		<b>N-supply terminal block, I<sub>N</sub> 76 A,</b> 16 mm <sup>2</sup> , 12 mm wide blue <b>2016-7714</b> 20 



<b>Multilevel installation terminal block, gray</b> ○ N/L/PE <b>2005-7646</b> 50		<b>Connector,</b> for N-busbar, with blue cover, 2.5 - 16 mm <sup>2</sup> blue <b>210-281</b> 100 (2x50) 	
<b>Multilevel installation terminal block, gray</b> ○ L/L/PE <b>2005-7645</b> 50		<b>Connector,</b> for N-busbar, 2.5 - 35 mm <sup>2</sup> unplated <b>209-105</b> 50 	

### 2005 Series Accessories










Appropriate marking systems: WMB/Marking strips  
(see Section 13)

<b>End and intermediate plate, 1 mm thick</b> orange <b>2005-7692</b> 100 (4x25) 		<b>Busbar carrier,</b> not suitable as end stop, for DIN 35 rail, 1.5 mm thick blue <b>2009-304</b> 100 (4x25) 		<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>2004-171</b> 200 (8x25) 	
<b>Straight busbar, Cu with tin plating,</b> 10 x 3 mm, 1000 mm long I <sub>N</sub> 140 A <b>210-133</b> 1 		<b>Busbar carrier,</b> can replace end bracket, with detachable separator plate, for DIN 35 rail, 7.5 mm thick blue <b>2009-305</b> 25 		<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>2004-172</b> 200 (8x25) 	
<b>Cover for N-busbar,</b> transparent, 1000 mm long <b>777-303</b> 1 				<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 32 A, light gray 2-way <b>2004-402</b> 200 (8x25) 3-way <b>2004-403</b> 200 (8x25) 4-way <b>2004-404</b> 100 (4x25) 5-way <b>2004-405</b> 100 (4x25) 6-way <b>2004-406</b> 100 (4x25) 7-way <b>2004-407</b> 100 (4x25) 8-way <b>2004-408</b> 100 (4x25) 9-way <b>2004-409</b> 100 (4x25) 10-way <b>2004-410</b> 100 (4x25) 	





- ❶ Conductor sizes: 0.5 mm<sup>2</sup> - 6 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 1 mm<sup>2</sup> - 6 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup>  
"insulated ferrules, 12 mm"
- ❷ 250 V/  
400 V = rated voltage  
4 kV/  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ❸ 250 V/4 kV potential-ground
- ❹ 400 V/6 kV potential-potential
- ❺ Strip length, see packaging or instructions.

Accessories		Appropriate marking systems: WMB/Marking strips (see Section 13)			
 <p><b>Push-in type jumper bar, insulated,</b> I<sub>N</sub> 32 A, light gray from 1 to 3 <b>2004-433</b> 200 (8x25) from 1 to 4 <b>2004-434</b> 200 (8x25) from 1 to 5 <b>2004-435</b> 100 (4x25) from 1 to 6 <b>2004-436</b> 100 (4x25) from 1 to 7 <b>2004-437</b> 100 (4x25) from 1 to 8 <b>2004-438</b> 100 (4x25) from 1 to 9 <b>2004-439</b> 100 (4x25) from 1 to 10 <b>2004-440</b> 100 (4x25)</p>	<p><b>TOPJOB®S group marker carrier,</b> snap-on type for jumper slot, 5 mm wide gray <b>2009-191</b> 50 (2x25)</p>				
			<p><b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)</p>		
			<p><b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)</p>		
	 <p><b>Push-in type wire jumper,</b> insulated, I<sub>N</sub> 16 A, wire size 1.5 mm<sup>2</sup> L = 60 mm <b>2009-412</b> 100 (10x10) L = 110 mm <b>2009-414</b> 100 (10x10) L = 250 mm <b>2009-416</b> 100 (10x10)</p>	<p><b>Operating tool,</b> 3.5 mm and 5.5 mm blade, for TOPJOB®S installation terminal blocks <b>2009-310</b> 50</p>			
				<p><b>Operating tool,</b> 3.5 mm and 2.5 mm blade, for TOPJOB®S installation terminal blocks <b>2009-309</b> 50</p>	
 <p><b>Test plug adapter,</b> for test plug 4 mm Ø gray <b>2009-174</b> 100 (4x25)</p>					
 <p><b>Banana plug,</b> for socket 4 mm Ø, color mixed <b>215-111</b> 50</p>					
 <p><b>Testing tap,</b> for max. 2.5 mm<sup>2</sup> gray <b>2009-182</b> 100 (4x25)</p>					
 <p><b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50</p>					
 <p><b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50</p>					
 <p><b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5</p>					
 <p><b>Marking strip, plain,</b> 11 mm wide, 50 m roll white <b>2009-110</b> 1</p>					

**Application note:**

N-disconnect slide links, used in installation terminal blocks, consist of switch contacts that are opened and then closed again as part of the regular circuit testing. To guarantee a reliable connection, a corrosion-resistant contact area is required on the N-busbar.

Historically, uninsulated copper busbars, that have been cleaned/stripped of any possible corrosion prior to install, can be used in dry, pollution-free locations.

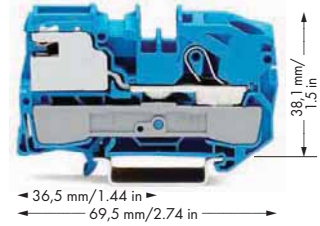
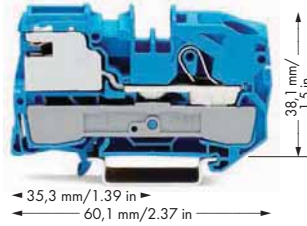
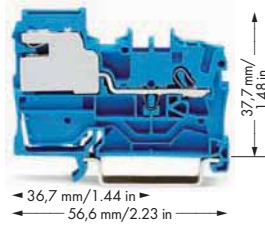
According to DIN VDE 0100-520 (VDE 0100 Part 520), installation equipment exposed to contamination or corrosive substances (e.g., water) that promote corrosion or deterioration, must be protected or made of a corrosion- or wear-resistant material. In these cases, tinned copper busbars guarantee a reliable connection.

WAGO only offers tinned copper busbars.

# N-Conductor Disconnect and Power Distribution Disconnect Terminal Blocks

## 2002 / 2006 / 2016 Series

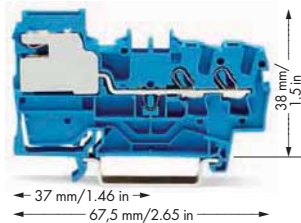
<p>0.25 - 2.5 (4) mm<sup>2</sup> ①   AWG 22 - 12 250 V/4 kV/3 ④ I<sub>N</sub> 32 A</p> <p>Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ⑤</p>	<p>0.5 - 6 (10) mm<sup>2</sup> ②   AWG 20 - 8 250 V/4 kV/3 ④ I<sub>N</sub> 51 A</p> <p>Terminal block width 7.5 mm / 0.295 in 13 - 15 mm / 0.55 in ⑤</p>	<p>0.5 - 16 (25" f-st") mm<sup>2</sup> ③   AWG 20 - 4 250 V/4 kV/3 ④ I<sub>N</sub> 76 A</p> <p>Terminal block width 12 mm / 0.472 in 18 - 20 mm / 0.75 in ⑤</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>1-conductor N-disconnect terminal block</b> ● blue	<b>2002-7114</b> ⑥ 50	<b>1-conductor N-disconnect terminal block</b> ● blue	<b>2006-7114</b> ⑥ 50	<b>1-conductor N-disconnect terminal block</b> ● blue	<b>2016-7114</b> ⑥ 25
<b>1-conductor power distribution disconnect terminal block</b> ● gray	<b>2002-7111</b> ⑦ 50	<b>1-conductor power distribution disconnect terminal block</b> ● gray	<b>2006-7111</b> ⑦ 50	<b>1-conductor power distribution disconnect terminal block</b> ● gray	<b>2016-7111</b> ⑦ 25
Appropriate through and ground conductor terminal blocks, see page 58		Appropriate through and ground conductor terminal blocks, see page 64		Appropriate through and ground conductor terminal blocks, see page 66	
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
End and intermediate plate, 0.8 mm thick orange		End and intermediate plate, 1 mm thick orange		End and intermediate plate, 1 mm thick orange	
2002-7192 100 (4x25)		2006-7192 100 (4x25)		2016-7192 100 (4x25)	
Lock-out, snap-on type, prevents reclosing of slide link orange		Lock-out, snap-on type, prevents reclosing of slide link orange		Lock-out, snap-on type, prevents reclosing of slide link orange	
2005-7300 100 (4x25)		2006-7300 100 (4x25)		2006-7300 100 (4x25)	

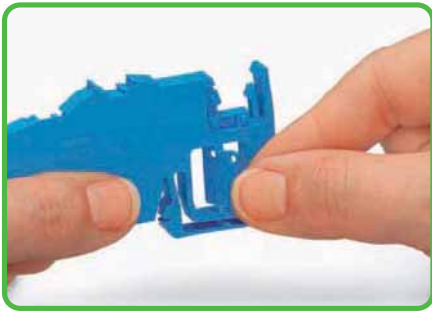
### Accessories for N-Conductor and Power Distribution Disconnect Terminal Blocks

Appropriate marking systems: WMB/Marking strips  
(see Section 13)

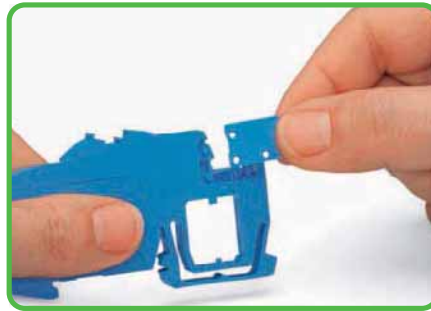


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor N-disconnect terminal block</b> ● blue	<b>2002-7214</b> ⑥ 50	<b>Busbar carrier,</b> not suitable as end stop, for DIN 35 rail, 1.5 mm thick blue	<b>2009-304</b> 100 (4x25)	<b>Connector,</b> for N-busbar, 2.5 - 35 mm <sup>2</sup> unplated	<b>209-105</b> 50
<b>2-conductor power distribution disconnect terminal block</b> ● gray	<b>2002-7211</b> ⑦ 50	<b>Busbar carrier,</b> can replace end bracket, with detachable separator plate, for DIN 35 rail, 7.5 mm thick blue	<b>2009-305</b> 25	<b>Connector,</b> for N-busbar, with blue cover, 2.5 - 16 mm <sup>2</sup> blue	<b>210-281</b> 100 (2x50)
<b>Item-Specific Accessories</b>		<b>Straight busbar,</b> Cu with tin plating, 10 x 3 mm, 1000 mm long I <sub>N</sub> 140 A	<b>210-133</b> 1	<b>Test plug,</b> with 500 mm cable, 2 mm Ø red	<b>210-136</b> 50
End and intermediate plate, 0.8 mm thick orange		<b>Cover for N-busbar,</b> transparent, 1000 mm long	<b>777-303</b> 1	<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow	<b>210-137</b> 50
2002-7292 100 (4x25)				<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain	<b>793-5501</b> 5

## - Handling - N-Disconnect Slide Link and Busbar Carrier



Removing the separator plate from the busbar carrier.



Inserting the separator plate to protect the N-busbar against accidental contact.

- ❶ Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup>  
"insulated ferrule, 12 mm"
- ❷ Conductor sizes: 0.5 mm<sup>2</sup> - 10 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 1.5 mm<sup>2</sup> - 10 mm<sup>2</sup> "s"  
and 1.5 mm<sup>2</sup> - 6 mm<sup>2</sup>  
"insulated ferrule, 12 mm"
- ❸ Conductor sizes: 0.5 mm<sup>2</sup> - 16 mm<sup>2</sup> "s + f-st",  
25 mm<sup>2</sup> "f-st";  
Push-in conductor sizes: 2.5 mm<sup>2</sup> - 16 mm<sup>2</sup> "s"  
and 2.5 mm<sup>2</sup> - 16 mm<sup>2</sup>  
"insulated ferrule, 18 mm"
- ❹ 250 V = rated voltage  
4 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ❺ Strip length, see packaging or instructions.
- ❻ See column 4
- ❼ See column 5



Inserting the separator plate.



Separator plate is inserted.



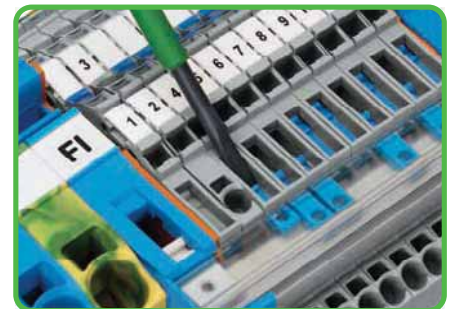
Testing with test plug 2 mm Ø

❻ For the construction and operation of power installations in fire hazardous locations or public buildings – such as conference centers, stores, hospitals, schools, theaters, hotels. – the DIN VDE 0100-710 or DIN VDE 0100-718 standards shall be observed. DIN VDE 0100-482 shall be observed for fire hazardous locations. These VDE mandate determine that every neutral conductor must be provided with a disconnection device so, e.g., insulation testing is possible for every circuit without disconnecting the N-conductor.

WAGO N-disconnect terminal blocks meet this requirement.

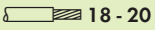
❼ According to DIN VDE 0100-710 "Requirements for operating facilities, rooms and special installations – medical facilities", equipotential bonding conductors shall be run on a potential equalization busbar. The potential equalization busbar and the protective ground conductor busbar must be accommodated in a common housing and be connected by means of a disconnectable connection using a copper conductor with a minimum cross section of 16 mm<sup>2</sup>/AWG 6. Furthermore, all equipotential bonding conductors must be connected to the potential equalization busbar and clearly arranged so they can be disconnected individually and accessed at any time. Depending on their function, they must be provided with captive marking.

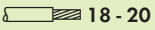
WAGO power distribution disconnect terminal blocks meet these requirements.

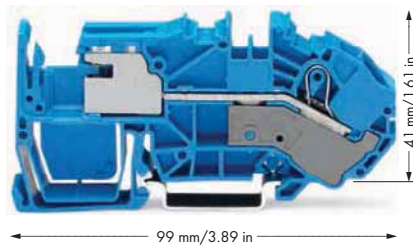
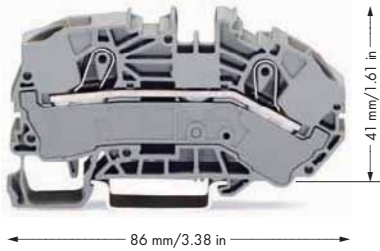


Tool-operated N-disconnect slide link

# Supply Terminal Blocks for Distribution Boxes, N-Conductor Disconnect and Power Distribution Disconnect Terminal Blocks 16 (25 "f-st") mm<sup>2</sup>, 2016 Series

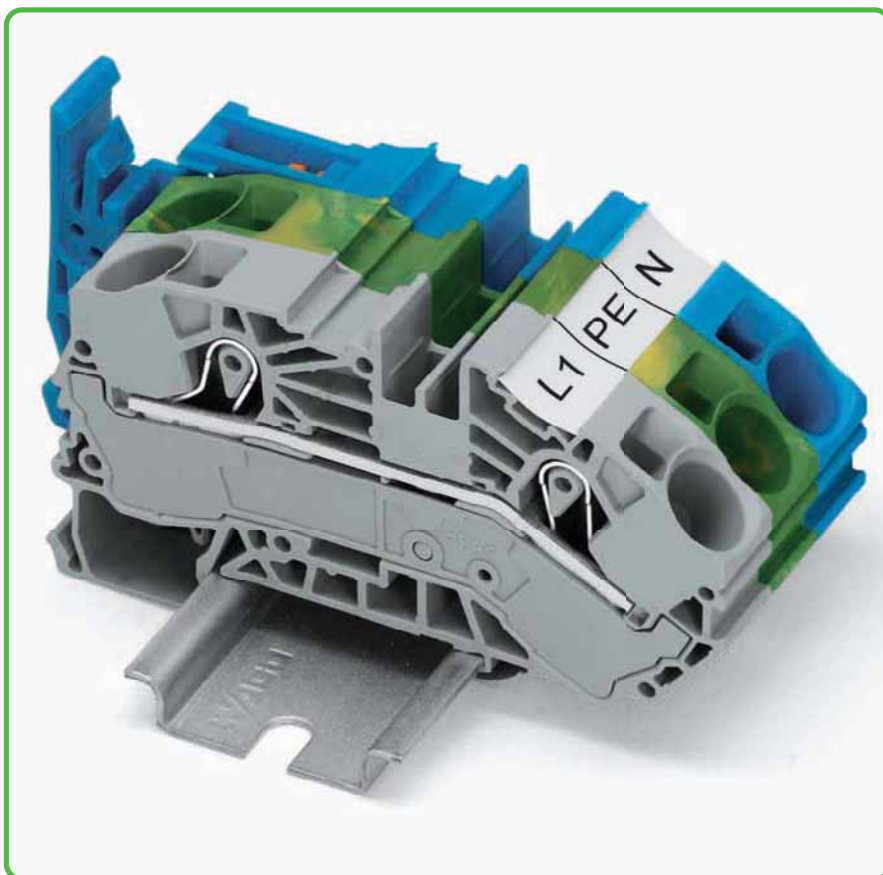
0.5 - 16 (25" f-st") mm<sup>2</sup> ① AWG 20 - 4  
 800 V/8 kV/3 ②  
 I<sub>N</sub> 76 A  
 Terminal block width 12 mm / 0.472 in  
 18 - 20 mm / 0.75 in ④

0.5 - 16 (25" f-st") mm<sup>2</sup> ① AWG 20 - 4  
 250 V/4 kV/3 ③  
 I<sub>N</sub> 76 A  
 Terminal block width 12 mm / 0.472 in  
 18 - 20 mm / 0.75 in ④



- ① Conductor sizes: 0.5 mm<sup>2</sup> - 16 mm<sup>2</sup> "s + f-st", 25 mm<sup>2</sup> "f-st"; Push-in conductor sizes: 2.5 mm<sup>2</sup> - 16 mm<sup>2</sup> "s" and 0.25 mm<sup>2</sup> - 16 mm<sup>2</sup> "insulated ferrule, 18 mm"
- ② 800 V = rated voltage  
 8 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)
- ③ 250 V = rated voltage  
 4 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)
- ④ Strip length, see packaging or instructions.

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>2-conductor supply terminal blocks for distribution boxes</b>		<b>1-conductor N-disconnect terminal block</b>		
gray	2016-7601 20	blue	2016-7714 20	<b>Banana plug,</b> for socket 4 mm Ø, color mixed <b>215-111 50</b>
blue	2016-7604 20			<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501 5</b>
<b>2-conductor ground conductor terminal block,</b> 15mm-high DIN 35 rails shall be used for a current load higher than 76A!		<b>1-conductor power distribution disconnect terminal block</b>		<b>Marking strip, plain,</b> 11 mm wide, 50 m roll white <b>2009-110 1</b>
green-yellow	2016-7607 20	gray	2016-7711 20	
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		
<b>End and intermediate plate, 1 mm thick</b>		<b>End and intermediate plate, 1 mm thick</b>		
orange	2016-7692 100 (4x25)	orange	2016-7792 100 (4x25)	
		<b>Lock-out, snap-on type,</b> prevents reclosing of slide link orange <b>2006-7300 100 (4x25)</b>		
<b>2016 Series Accessories</b> Appropriate marking systems: WMB/Marking strips (see Section 13)				
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 76 A, light gray		<b>Straight busbar, Cu with tin plating,</b> 10 x 3 mm, 1000 mm long I <sub>N</sub> 140 A <b>210-133 1</b>		
2-way	2016-402 50 (2x25)	<b>Cover for N-busbar,</b> transparent, 1000 mm long <b>777-303 1</b>		
3-way	2016-403 50 (2x25)	<b>Testing tap,</b> for max. 2.5 mm <sup>2</sup> gray <b>2009-182 100 (4x25)</b>		
4-way	2016-404 50 (2x25)	<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136 50</b>		
5-way	2016-405 50 (2x25)	<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137 50</b>		
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 76 A, light gray		<b>Test plug adapter,</b> for test plug 4 mm Ø gray <b>2009-174 100 (4x25)</b>		
from 1 to 3	2016-433 50 (2x25)			
from 1 to 4	2016-434 50 (2x25)			
from 1 to 5	2016-435 50 (2x25)			
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>2016-115 50 (2x25)</b>				
<b>Finger guard,</b> touchproof cover protects unused conductor entries yellow <b>2016-100 100 (4x25)</b>				

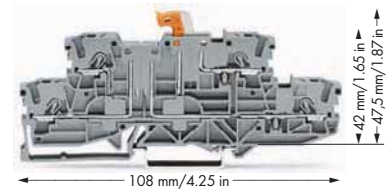
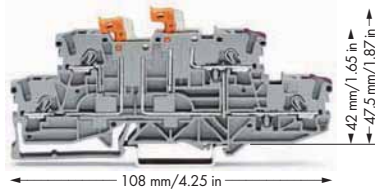
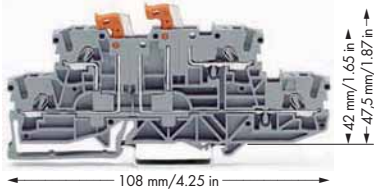


With an angled conductor entry, the 2016 Series supply terminal blocks simplify the wiring of solid conductors in distribution boxes. Solid conductors of the largest cross section can be connected easily, enabling the cover of the distribution box to fit without interfering with the conductors.

# Double-Deck Disconnect Terminal Blocks for Test and Measurement

## 2.5 (4) mm<sup>2</sup>, 2002 Series

0.25 - 2.5 (4) mm <sup>2</sup> ① 400 V/6 kV/3 ② I <sub>N</sub> 16 A Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ③	AWG 22 - 12 300 V, 15 A ④ 300 V, 15 A ④	0.25 - 2.5 (4) mm <sup>2</sup> ① 400 V/6 kV/3 ② I <sub>N</sub> 16 A Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ③	AWG 22 - 12 300 V, 15 A ④ 300 V, 15 A ④	0.25 - 2.5 (4) mm <sup>2</sup> ① 400 V/6 kV/3 ② I <sub>N</sub> 16 A Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ③	AWG 22 - 12 300 V, 15 A ④ 300 V, 15 A ④
-----------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------



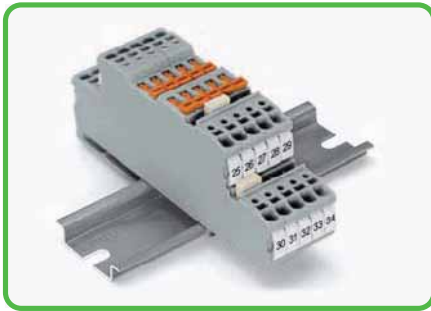
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Double-deck, double-disconnect terminal block, with 2 movable knife disconnects, gray housing</b>		<b>Double-deck, double-disconnect terminal block, with 2 movable knife disconnects, lower and upper decks internally commoned on right side and with violet marking, gray housing</b>		<b>Double-deck disconnect terminal block, with movable knife disconnect, same profile as double-deck, double-disconnect terminal block, gray housing</b>	
⊖ L/L	2002-2951 50	⊖ L/L	2002-2958 50	⊖ L/L	2002-2971 50
⊖ N/L	2002-2952 50			⊖ N/L	2002-2972 50
<b>Double-deck, double-disconnect terminal block, with 2 movable knife disconnects, blue housing</b>		<b>Double-deck, double-disconnect terminal block, with 2 movable knife disconnects, lower and upper decks internally commoned on right side and with violet marking, blue housing</b>		<b>Double-deck disconnect terminal block, with movable knife disconnect, same profile as double-deck, double-disconnect terminal block, blue housing</b>	
● N/N	2002-2954 50	● N/N	2002-2959 50	● N/N	2002-2974 50

**2002 Series Accessories**

Appropriate marking systems: WMB/Marking strips (see Section 13)

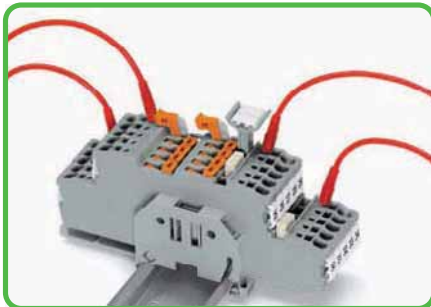
<b>End and intermediate plate, 1 mm thick</b> orange 2002-2992 100 (4x25) gray 2002-2991 100 (4x25)	<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 25 A, light gray from 1 to 3 2002-433 200 (8x25) from 1 to 4 2002-434 200 (8x25) from 1 to 5 2002-435 100 (4x25) from 1 to 6 2002-436 100 (4x25) from 1 to 7 2002-437 100 (4x25) from 1 to 8 2002-438 100 (4x25) from 1 to 9 2002-439 100 (4x25) from 1 to 10 2002-440 100 (4x25)	<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow 2002-115 100 (4x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 2002-171 200 (8x25)		<b>Modular TOPJOB®S connector,</b> ④ can be snapped together, for jumper contact slot gray 2002-511 100 (4x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray 2002-172 200 (8x25)		<b>Spacer module,</b> can be snapped together, e.g., for bridging commoned terminal blocks gray 2002-549 100 (4x25)
<b>Push-in type jumper bar, insulated,</b> ④ I <sub>N</sub> 25 A, light gray 2-way 2002-402 200 (8x25) 3-way 2002-403 200 (8x25) 4-way 2002-404 200 (8x25) 5-way 2002-405 100 (4x25) 6-way 2002-406 100 (4x25) 7-way 2002-407 100 (4x25) 8-way 2002-408 100 (4x25) 9-way 2002-409 100 (4x25) 10-way 2002-410 100 (4x25)	<b>Staggered jumper,</b> ④ insulated, I <sub>N</sub> 25 A, light gray 2-way 2002-472 100 (4x25) 3-way 2002-473 100 (4x25) 4-way 2002-474 100 (4x25) 5-way 2002-475 50 (2x25) 6-way 2002-476 50 (2x25) 7-way 2002-477 50 (2x25) 8-way 2002-478 50 (2x25) 9-way 2002-479 50 (2x25) 10-way 2002-480 50 (2x25) 11-way 2002-481 50 (2x25) 12-way 2002-482 50 (2x25)	<b>End plate,</b> for modular TOPJOB®S connectors, 1.5 mm thick gray 2002-541 100 (4x25)
<b>Push-in type wire jumper,</b> ④ insulated, I <sub>N</sub> 16 A, wire size 1.5 mm <sup>2</sup> L = 60 mm 2009-412 100 (10x10) L = 110 mm 2009-414 100 (10x10) L = 250 mm 2009-416 100 (10x10)	<b>Adjacent jumper for continuous commoning,</b> ④ insulated, I <sub>N</sub> 25 A, light gray 2-way 2002-400 100 (4x25)	<b>Test plug,</b> with 500 mm cable, 2 mm Ø red 210-136 50
		<b>Test plug adapter,</b> for test plug 4 mm Ø gray 2009-174 100 (4x25)
		<b>Testing tap,</b> for max. 2.5 mm <sup>2</sup> gray 2009-182 100 (4x25)
		<b>Banana plug,</b> for socket 4 mm Ø, color mixed 215-111 50

# Double-Deck Disconnect Terminal Blocks with Movable Knife Disconnect

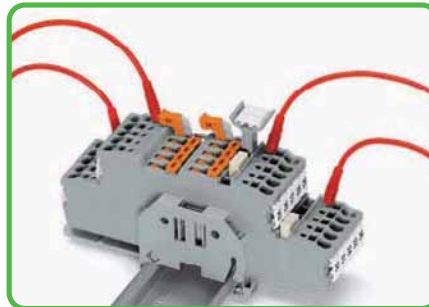


Terminal block assembly

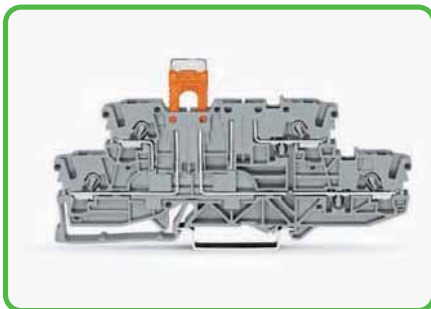
- 1 Conductor sizes: 0.25 mm<sup>2</sup> – 4 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> – 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> – 2.5 mm<sup>2</sup>  
"insulated ferrules, 12 mm"
- 2 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- 3 Strip length, see packaging or instructions.
- 4 See application notes for:  
Colored push-in type jumper bars, page 139  
Star point jumper, page 140  
Delta jumper, page 140  
Staggered jumper, page 141  
Adjacent jumper for continuous commoning,  
page 139  
Push-in type wire jumper, page 140  
TOPJOB®S connector, page 134  
TOPJOB®S L-type test plug module, page 136



Testing with test plug 2 mm Ø.



Group marker carrier accommodated in jumper contact slot.



Carrier terminal block 2002-2961 with disconnect plug 2002-401 in parked position.



Carrier terminal block 2002-2961 with disconnect plug 2002-401 in operating position.

## Accessories

### WMB Multi marking system,

10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain	<b>793-5501</b>	5
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### WMB Multi marking system, plain,

10 strips with 10 markers per card, stretchable 5 - 5.2 mm		
yellow	<b>793-5501/000-002</b>	
red	<b>793-5501/000-005</b>	
blue	<b>793-5501/000-006</b>	
gray	<b>793-5501/000-007</b>	
orange	<b>793-5501/000-012</b>	
light green	<b>793-5501/000-017</b>	
green	<b>793-5501/000-023</b>	
violet	<b>793-5501/000-024</b>	5

### WMB Inline, plain,

stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white	<b>2009-115</b>	1
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### TOPJOB®S group marker carrier,

snap-on type for jumper slot, 5 mm wide		
gray	<b>2009-191</b>	50 (2x25)

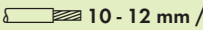
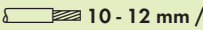
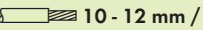
### Screwless end stop,

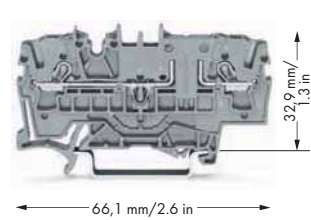
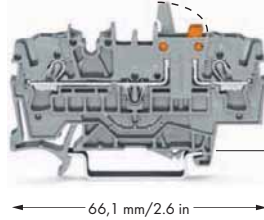
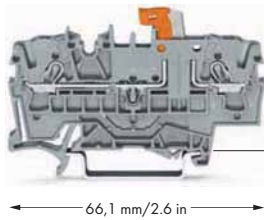
for DIN 35 rail, 6 mm wide		
gray	<b>249-116</b>	100 (4x25)

### Screwless end stop,

for DIN 35 rail, 10 mm wide		
gray	<b>249-117</b>	50 (2x25)

# Disconnect Terminal Blocks for Test and Measurement, Through Terminal Blocks of Same Profile 2.5 (4) mm<sup>2</sup>, 2002 Series

0.25 - 2.5 (4) mm <sup>2</sup> ① 400 V/6 kV/3 ② I <sub>N</sub> 16 A  Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ③	AWG 22 - 12 300 V, 15 A ④ 300 V, 10 A ⑤	0.25 - 2.5 (4) mm <sup>2</sup> ①   AWG 22 - 12 400 V/6 kV/3 ② I <sub>N</sub> 16 A  Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ③	0.25 - 2.5 (4) mm <sup>2</sup> ①   AWG 22 - 12 400 V/6 kV/3 ② I <sub>N</sub> 16 A  Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ③
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor disconnect terminal block for test and measurement, with test point, orange disconnect link</b>		<b>2-conductor disconnect terminal block for test and measurement with mechanical interlock, with test point, orange disconnect link</b>		<b>2-conductor through terminal block, with test point, same profile as 2-conductor disconnect terminal block</b>	
gray 2002-1671	50	gray 2002-1671/401-000	50	gray 2002-1601	50
blue 2002-1674	50	blue 2002-1674/401-000	50	blue 2002-1604	50
orange 2002-1672	50	orange 2002-1672/401-000	50	orange 2002-1602	50
<b>Other terminal blocks with the same profile:</b>					
Carrier				2002-1661	Page 114
Fuse				2002-1681	Page 98

**2002 Series Accessories**

Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)

<b>End and intermediate plate, 1 mm thick</b> orange 2002-1692 100 (4x25) gray 2002-1691 100 (4x25)	<b>Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks</b> yellow 2002-115 100 (4x25)	<b>Customized staggered jumper, insulated, I<sub>N</sub> 25 A, light gray</b> 1-3 2002-473/011-000 100 (4x25) 1-3-5 2002-475/011-000 1-3-5-7 2002-477/011-000 1-3-5-7-9 2002-479/011-000 1-3-5-7-9-11 2002-481/011-000 50 (2x25)
<b>Insulation stop, 5 pcs/strip, 0.25 - 0.5 mm<sup>2</sup></b> light gray 2002-171 200 (8x25)	<b>Push-in type jumper bar, insulated, I<sub>N</sub> 25 A, light gray</b> from 1 to 3 2002-433 200 (8x25) from 1 to 4 2002-434 200 (8x25) from 1 to 5 2002-435 100 (4x25) from 1 to 6 2002-436 100 (4x25) from 1 to 7 2002-437 100 (4x25) from 1 to 8 2002-438 100 (4x25) from 1 to 9 2002-439 100 (4x25) from 1 to 10 2002-440 100 (4x25)	<b>Adjacent jumper for continuous commoning, insulated, I<sub>N</sub> 25 A, light gray</b> 2-way 2002-400 100 (4x25)
<b>Insulation stop, 5 pcs/strip, 0.75 - 1 mm<sup>2</sup></b> dark gray 2002-172 200 (8x25)	<b>Staggered jumper, insulated, I<sub>N</sub> 25 A, light gray</b> 2-way 2002-472 100 (4x25) 3-way 2002-473 100 (4x25) 4-way 2002-474 100 (4x25) 5-way 2002-475 50 (2x25) 6-way 2002-476 50 (2x25) 7-way 2002-477 50 (2x25) 8-way 2002-478 50 (2x25) 9-way 2002-479 50 (2x25) 10-way 2002-480 50 (2x25) 11-way 2002-481 50 (2x25) 12-way 2002-482 50 (2x25)	<b>Modular TOPJOB®S connector, can be snapped together, for jumper contact slot</b> gray 2002-511 100 (4x25)
<b>Push-in type jumper bar, insulated, I<sub>N</sub> 25 A, light gray</b> 2-way 2002-402 200 (8x25) 3-way 2002-403 200 (8x25) 4-way 2002-404 200 (8x25) 5-way 2002-405 100 (4x25) 6-way 2002-406 100 (4x25) 7-way 2002-407 100 (4x25) 8-way 2002-408 100 (4x25) 9-way 2002-409 100 (4x25) 10-way 2002-410 100 (4x25)	<b>Spacer module, can be snapped together, e.g., for bridging commoned terminal blocks</b> gray 2002-549 100 (4x25)	<b>End plate, for modular TOPJOB®S connectors, 1.5 mm thick</b> gray 2002-541 100 (4x25)
<b>Push-in type wire jumper, insulated, I<sub>N</sub> 16 A, wire size 1.5 mm<sup>2</sup></b> L = 60 mm 2009-412 100 (10x10) L = 110 mm 2009-414 100 (10x10) L = 250 mm 2009-416 100 (10x10)	<b>TOPJOB®S test plug module, can be snapped together</b> gray 2002-611 100 (4x25)	





One center and two side marker slots for WMB markers or marking strips. Dual jumper slots, in the same position as the 2002 Series terminal blocks. Commoning options in front of or behind the knife disconnect, depending on the power supply direction.

- 1 Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrules, 12 mm"
- 2 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- 3 Strip length, see packaging or instructions.
- 4 See application notes for:  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Adjacent jumper for continuous commoning, page 139  
Push-in type wire jumper, page 140  
TOPJOB®S connector, page 134  
TOPJOB®S L-type test plug module, page 136

**Accessories**

**Test plug adapter,**



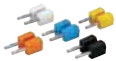
for test plug 4 mm Ø  
gray 2009-174 100 (4x25)

**Testing tap,**



for max. 2.5 mm<sup>2</sup>  
gray 2009-182 100 (4x25)

**Banana plug,**



for socket 4 mm Ø,  
color mixed  
215-111 50

**Double-deck marker carrier,**



pivoting  
gray 2002-121 50 (2x25)

**WMB Multi marking system,**



10 strips with 10 markers per card,  
stretchable 5 - 5.2 mm  
plain 793-5501 5

**WMB Inline, plain,**

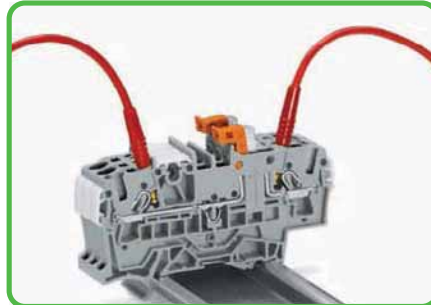


stretchable 5 - 5.2 mm,  
1,500 WMB markers, 5 mm, on roll  
white 2009-115 1

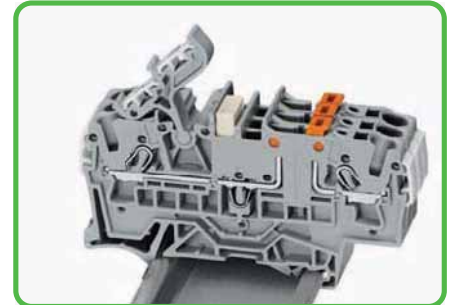
**Marking strip, plain,**



11 mm wide,  
50 m roll  
white 2009-110 1



Testing with test plug 2 mm Ø



Additional marking option via pivoting marking adapter



2- and 4-conductor disconnect terminal blocks for test and measurement  
Opening the knife disconnect.



2- and 4-conductor disconnect terminal blocks for test and measurement  
Closing the knife disconnect.

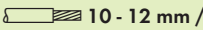
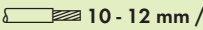
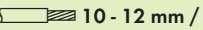


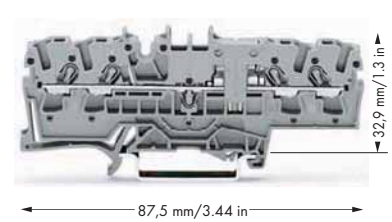
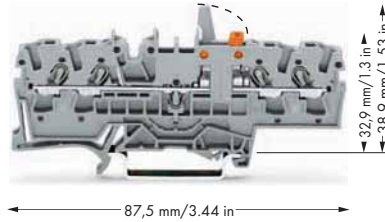
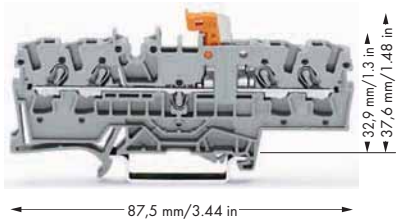
Carrier terminal block with disconnect plug in operating position.



Carrier terminal block with disconnect plug in parked position.

**Disconnect Terminal Blocks for Test and Measurement, Through Terminal Blocks of Same Profile 2.5 (4) mm<sup>2</sup>, 2002 Series**

<p>0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12                  400 V/6 kV/3 ②                  I<sub>N</sub> 16 A</p> <p>Terminal block width 5.2 mm / 0.205 in   10 - 12 mm / 0.43 in ③</p>	<p>0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12                  400 V/6 kV/3 ②                  I<sub>N</sub> 16 A</p> <p>Terminal block width 5.2 mm / 0.205 in   10 - 12 mm / 0.43 in ③</p>	<p>0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12                  400 V/6 kV/3 ②                  I<sub>N</sub> 16 A</p> <p>Terminal block width 5.2 mm / 0.205 in   10 - 12 mm / 0.43 in ③</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>4-conductor disconnect terminal block for test and measurement, with test point, orange disconnect link</b>		<b>4-conductor disconnect terminal block for test and measurement with mechanical interlock, with test point, orange disconnect link</b>		<b>4-conductor through terminal block, with test point, same profile as 4-conductor disconnect terminal block</b>	
○ gray	<b>2002-1871</b> 50	○ gray	<b>2002-1871/401-000</b> 50	○ gray	<b>2002-1801</b> 50
● blue	<b>2002-1874</b> 50	● blue	<b>2002-1874/401-000</b> 50	● blue	<b>2002-1804</b> 50
● orange	<b>2002-1872</b> 50	● orange	<b>2002-1872/401-000</b> 50	● orange	<b>2002-1802</b> 50
<b>Other terminal blocks with the same profile:</b>					
		Carrier		<b>2002-1861</b> Page 114	
		Fuse		<b>2002-1881</b> Page 98	

**2002 Series Accessories**

Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)

<p><b>End and intermediate plate, 1 mm thick</b></p> <p>orange <b>2002-1892</b> 100 (4x25)                  gray <b>2002-1891</b> 100 (4x25)</p>	<p><b>Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks</b></p> <p>yellow <b>2002-115</b> 100 (4x25)</p>	<p><b>Customized staggered jumper, insulated, I<sub>N</sub> 25 A, light gray</b></p> <p>1-3 <b>2002-473/011-000</b> 100 (4x25)                  1-3-5 <b>2002-475/011-000</b>                  1-3-5-7 <b>2002-477/011-000</b>                  1-3-5-7-9 <b>2002-479/011-000</b>                  1-3-5-7-9-11 <b>2002-481/011-000</b> 50 (2x25)</p>
<p><b>Insulation stop, 5 pcs/strip, 0.25 - 0.5 mm<sup>2</sup></b></p> <p>light gray <b>2002-171</b> 200 (8x25)</p>	<p><b>Push-in type jumper bar, insulated, I<sub>N</sub> 25 A, light gray</b></p> <p>from 1 to 3 <b>2002-433</b> 200 (8x25)                  from 1 to 4 <b>2002-434</b> 200 (8x25)                  from 1 to 5 <b>2002-435</b> 100 (4x25)                  from 1 to 6 <b>2002-436</b> 100 (4x25)                  from 1 to 7 <b>2002-437</b> 100 (4x25)                  from 1 to 8 <b>2002-438</b> 100 (4x25)                  from 1 to 9 <b>2002-439</b> 100 (4x25)                  from 1 to 10 <b>2002-440</b> 100 (4x25)</p>	<p><b>Adjacent jumper for continuous commoning, insulated, I<sub>N</sub> 25 A, light gray</b></p> <p>2-way <b>2002-400</b> 100 (4x25)</p>
<p><b>Insulation stop, 5 pcs/strip, 0.75 - 1 mm<sup>2</sup></b></p> <p>dark gray <b>2002-172</b> 200 (8x25)</p>	<p><b>Staggered jumper, insulated, I<sub>N</sub> 25 A, light gray</b></p> <p>2-way <b>2002-472</b> 100 (4x25)                  3-way <b>2002-473</b> 100 (4x25)                  4-way <b>2002-474</b> 100 (4x25)                  5-way <b>2002-475</b> 50 (2x25)                  6-way <b>2002-476</b> 50 (2x25)                  7-way <b>2002-477</b> 50 (2x25)                  8-way <b>2002-478</b> 50 (2x25)                  9-way <b>2002-479</b> 50 (2x25)                  10-way <b>2002-480</b> 50 (2x25)                  11-way <b>2002-481</b> 50 (2x25)                  12-way <b>2002-482</b> 50 (2x25)</p>	<p><b>Modular TOPJOB®S connector, can be snapped together, for jumper contact slot gray</b></p> <p><b>2002-511</b> 100 (4x25)</p>
<p><b>Push-in type jumper bar, insulated, I<sub>N</sub> 25 A, light gray</b></p> <p>2-way <b>2002-402</b> 200 (8x25)                  3-way <b>2002-403</b> 200 (8x25)                  4-way <b>2002-404</b> 200 (8x25)                  5-way <b>2002-405</b> 100 (4x25)                  6-way <b>2002-406</b> 100 (4x25)                  7-way <b>2002-407</b> 100 (4x25)                  8-way <b>2002-408</b> 100 (4x25)                  9-way <b>2002-409</b> 100 (4x25)                  10-way <b>2002-410</b> 100 (4x25)</p>	<p><b>Spacer module, can be snapped together, e.g., for bridging commoned terminal blocks gray</b></p> <p><b>2002-549</b> 100 (4x25)</p>	<p><b>End plate, for modular TOPJOB®S connectors, 1.5 mm thick gray</b></p> <p><b>2002-541</b> 100 (4x25)</p>
<p><b>Push-in type wire jumper, insulated, I<sub>N</sub> 16 A, wire size 1.5 mm<sup>2</sup></b></p> <p>L = 60 mm <b>2009-412</b> 100 (10x10)                  L = 110 mm <b>2009-414</b> 100 (10x10)                  L = 250 mm <b>2009-416</b> 100 (10x10)</p>	<p><b>TOPJOB®S test plug module, can be snapped together gray</b></p> <p><b>2002-611</b> 100 (4x25)</p>	










Carrier terminal block with disconnect plug in operating position.  
Application example showing a 2-conductor carrier terminal block 2002-1661 with disconnect plug

- ① Conductor sizes: 0.25 mm<sup>2</sup> – 4 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> – 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> – 2.5 mm<sup>2</sup>  
"insulated ferrules, 12 mm"
- ② 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Adjacent jumper for continuous commoning, page 139  
Push-in type wire jumper, page 140  
TOPJOB®S connector, page 134  
TOPJOB®S L-type test plug module, page 136

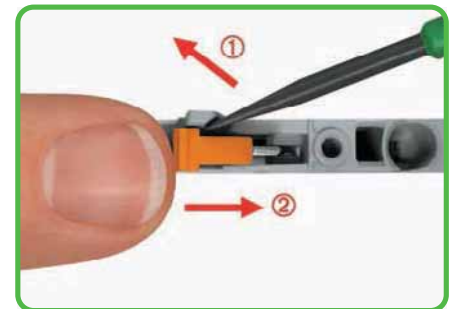



2-conductor disconnect terminal block for test and measurement, with knife disconnect and mechanical interlock  
Open position

<b>Test plug adapter,</b>			
	for test plug 4 mm Ø		
	gray	<b>2009-174</b>	100 (4x25)
<b>Testing tap,</b>			
	for max. 2.5 mm <sup>2</sup>		
	gray	<b>2009-182</b>	100 (4x25)
<b>Banana plug,</b>			
	for socket 4 mm Ø,		
	color mixed	<b>215-111</b>	50
<b>Double-deck marker carrier,</b>			
	pivoting		
	gray	<b>2002-121</b>	50 (2x25)
<b>WMB Multi marking system,</b>			
	10 strips with 10 markers per card,		
	stretchable 5 - 5.2 mm		
	plain	<b>793-5501</b>	5
<b>Marking strip, plain,</b>			
	11 mm wide,		
	50 m roll		
	white	<b>2009-110</b>	1
<b>WMB Inline, plain,</b>			
	stretchable 5 - 5.2 mm,		
	1,500 WMB markers, 5 mm, on roll		
	white	<b>2009-115</b>	1



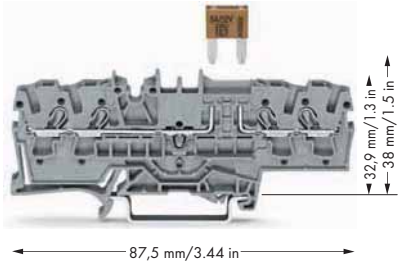
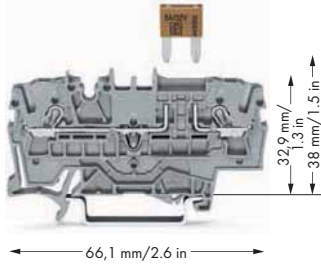
2-conductor disconnect terminal block for test and measurement, with knife disconnect and mechanical interlock  
Top view



2-conductor disconnect terminal block for test and measurement, with knife disconnect and mechanical interlock  
Closing of knife disconnect

# TOPJOB® Fuse Terminal Blocks 2.5 (4) mm<sup>2</sup> 2002 Series

0.25 - 2.5 (4) mm <sup>2</sup> ① 400 V/6 kV/3 ② I <sub>N</sub> 10 A ③	AWG 22 - 12 300 V, 10 A ④ 300 V, 10 A ⑤	0.25 - 2.5 (4) mm <sup>2</sup> ① 400 V/6 kV/3 ② I <sub>N</sub> 10 A ③	AWG 22 - 12 300 V, 10 A ④ 300 V, 10 A ⑤
Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ④		Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ④	



Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>2-conductor fuse terminal block,</b> with test point, for blade-style fuses acc. to DIN 72581-3f, ISO 8820-3		<b>4-conductor fuse terminal block,</b> with test point, for blade-style fuses acc. to DIN 72581-3f, ISO 8820-3		
○ gray	<b>2002-1681</b> 50	○ gray	<b>2002-1881</b> 50	<b>Staggered jumper,</b> ⑤ insulated, I <sub>N</sub> 25 A, light gray
Blade-style fuses are not offered by WAGO		Blade-style fuses are not offered by WAGO		2-way <b>2002-472</b> 100 (4x25)
Other terminal blocks with the same profile: Through <b>2002-1601</b> Page 94		Other terminal blocks with the same profile: Through <b>2002-1801</b> Page 96		3-way <b>2002-473</b> 100 (4x25)
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		4-way <b>2002-474</b> 100 (4x25)
<b>End and intermediate plate,</b> 1 mm thick		<b>End and intermediate plate,</b> 1 mm thick		5-way <b>2002-475</b> 50 (2x25)
orange	<b>2002-1692</b> 100 (4x25)	orange	<b>2002-1892</b> 100 (4x25)	6-way <b>2002-476</b> 50 (2x25)
gray	<b>2002-1691</b> 100 (4x25)	gray	<b>2002-1891</b> 100 (4x25)	7-way <b>2002-477</b> 50 (2x25)
<b>2002 Series Accessories</b> Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)				8-way <b>2002-478</b> 50 (2x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>2002-171</b> 200 (8x25)		<b>Push-in type jumper bar,</b> insulated, I <sub>N</sub> 25 A, light gray from 1 to 3 <b>2002-433</b> 200 (8x25)		9-way <b>2002-479</b> 50 (2x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>2002-172</b> 200 (8x25)		from 1 to 4 <b>2002-434</b> 200 (8x25)		10-way <b>2002-480</b> 50 (2x25)
<b>Push-in type jumper bar,</b> insulated, ⑤ I <sub>N</sub> 25 A, light gray 2-way <b>2002-402</b> 200 (8x25)		from 1 to 5 <b>2002-435</b> 100 (4x25)		11-way <b>2002-481</b> 50 (2x25)
3-way <b>2002-403</b> 200 (8x25)		from 1 to 6 <b>2002-436</b> 100 (4x25)		12-way <b>2002-482</b> 50 (2x25)
4-way <b>2002-404</b> 200 (8x25)		from 1 to 7 <b>2002-437</b> 100 (4x25)		
5-way <b>2002-405</b> 100 (4x25)		from 1 to 8 <b>2002-438</b> 100 (4x25)		<b>Adjacent jumper for continuous commoning,</b> ⑤ insulated, I <sub>N</sub> 25 A, light gray 2-way <b>2002-400</b> 100 (4x25)
6-way <b>2002-406</b> 100 (4x25)		from 1 to 9 <b>2002-439</b> 100 (4x25)		<b>Modular TOPJOB®S connector,</b> ⑤ can be snapped together, for jumper contact slot gray <b>2002-511</b> 100 (4x25)
7-way <b>2002-407</b> 100 (4x25)		from 1 to 10 <b>2002-440</b> 100 (4x25)		<b>Spacer module,</b> can be snapped together, e.g., for bridging commoned terminal blocks gray <b>2002-549</b> 100 (4x25)
8-way <b>2002-408</b> 100 (4x25)		<b>Push-in type wire jumper,</b> ⑤ insulated, I <sub>N</sub> 16 A, wire size 1.5 mm <sup>2</sup> L = 60 mm <b>2009-412</b> 100 (10x10)		<b>End plate,</b> for modular TOPJOB®S connectors, 1.5 mm thick gray <b>2002-541</b> 100 (4x25)
9-way <b>2002-409</b> 100 (4x25)		L = 110 mm <b>2009-414</b> 100 (10x10)		<b>TOPJOB®S L-test plug module,</b> ⑤ can be snapped together gray <b>2002-611</b> 100 (4x25)
10-way <b>2002-410</b> 100 (4x25)		L = 250 mm <b>2009-416</b> 100 (10x10)		<b>Test plug adapter,</b> for test plug 4 mm Ø gray <b>2009-174</b> 100 (4x25)
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>2002-115</b> 100 (4x25)		<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50		<b>Testing tap,</b> for max. 2.5 mm <sup>2</sup> gray <b>2009-182</b> 100 (4x25)
<b>Double-deck marker carrier,</b> pivoting gray <b>2002-121</b> 50 (2x25)		<b>Banana plug,</b> for socket 4 mm Ø, color mixed <b>215-111</b> 50		<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5

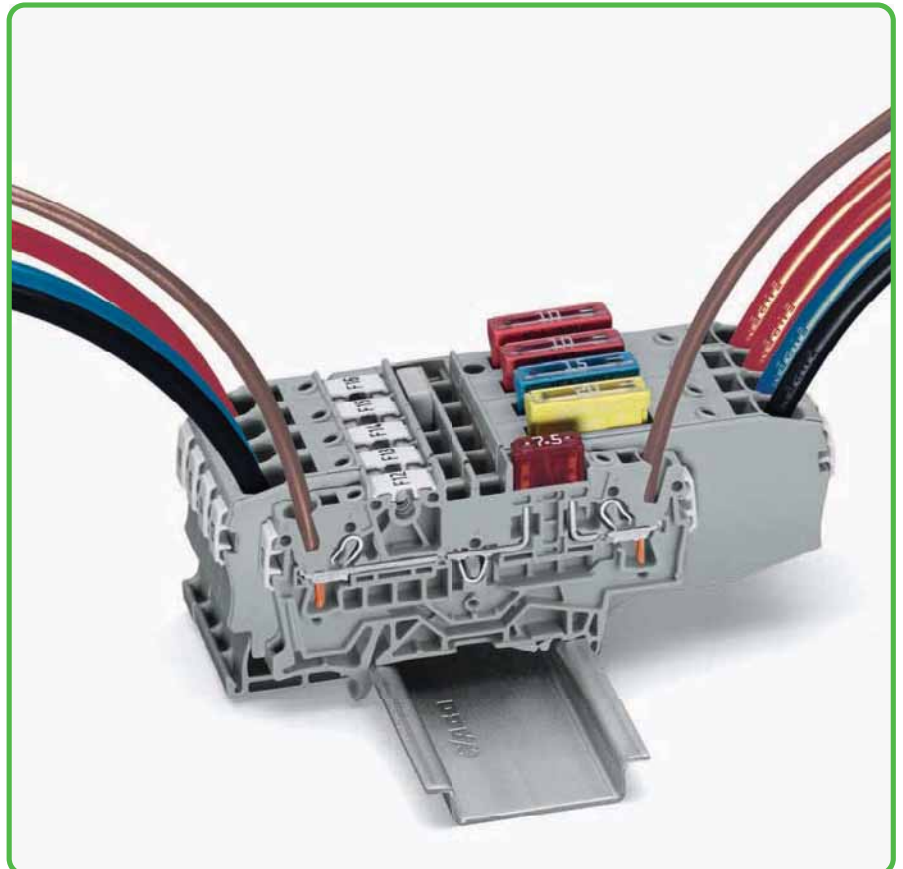
- ❶ Conductor sizes: 0.25 mm<sup>2</sup> – 4 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> – 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> – 2.5 mm<sup>2</sup>  
"insulated ferrules, 12 mm"
- ❷ 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ❸ - Individual arrangement: 10 A  
- Block arrangement: 5 A  
Protection against direct contact must be observed for  
42 V and higher voltages
- ❹ Strip length, see packaging or instructions.
- ❺ See application notes for:  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Adjacent jumper for continuous commoning,  
page 139  
Push-in type wire jumper, page 140  
TOPJOB®S connector, page 134  
TOPJOB®S L-type test plug module, page 136

Selecting the correct fuse cartridge is important for product safety within applications, as well as for fuse cartridge service life and reliability. Fuse cartridges can operate perfectly as protection (break-off point) if they are properly selected and used according to manufacturer specifications.

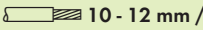
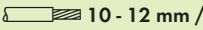
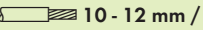
The rated currents of the fuse cartridges are defined differently in international standards.

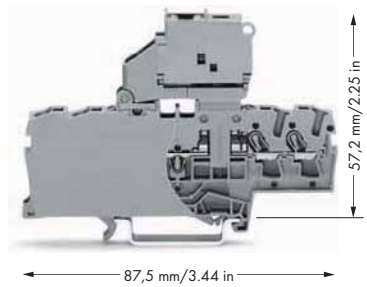
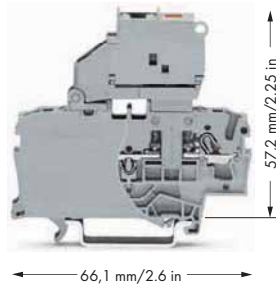
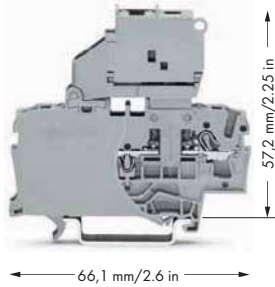
Due to different current rating definitions, the recommended current-carrying permanent capacity of the fuses is max. 80% of their rated current according to DIN 72581 part 3 (for an ambient operating temperature of 23 °C).

Regarding product safety, it is generally necessary to test fuse cartridges under normal conditions and operational failures within your application.



# Fuse Disconnect Terminal Blocks with Pivoting Fuse Holder 2.5 (4) mm<sup>2</sup> for Miniature Metric Fuses 5 x 20 mm, 2002 Series

<p>0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12                  250 V/6 kV/3 ②                  I<sub>N</sub> 6.3 A</p> <p>Terminal block width 6.2 mm / 0.244 in   10 - 12 mm / 0.43 in ③</p>	<p>0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12                  250 V/6 kV/3 ②                  I<sub>N</sub> 6.3 A</p> <p>Terminal block width 6.2 mm / 0.244 in   10 - 12 mm / 0.43 in ③</p>	<p>0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12                  250 V/6 kV/3 ②                  I<sub>N</sub> 6.3 A</p> <p>Terminal block width 6.2 mm / 0.244 in   10 - 12 mm / 0.43 in ③</p>
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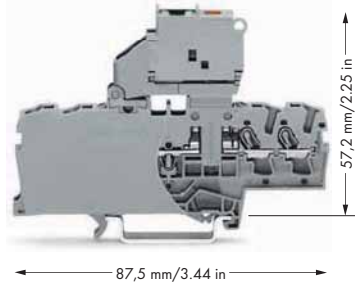
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 20 mm, without blown fuse indication Nominal voltage and current are given by the fuse.		<b>2-conductor fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 20 mm, with blown fuse indication by LED, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 2 mA		<b>4-conductor fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 20 mm, without blown fuse indication Nominal voltage and current are given by the fuse.	
● gray	<b>2002-1611</b> 50	● 12 - 30 V	<b>2002-1611/1000-541</b> 50	● gray	<b>2002-1811</b> 50
		● 30 - 65 V	<b>2002-1611/1000-542</b> 50		
		● 230 V	<b>2002-1611/1000-836</b> 50		
		● 120 V	<b>2002-1611/1000-867</b> 50		

**Accessories**

Appropriate marking systems: WMB/Marking strips (see Section 13)

<p><b>End plate for fuse terminal blocks,</b>                  2 mm thick                  orange <b>2002-992</b> 100 (4x25)                  gray <b>2002-991</b> 100 (4x25)</p>	<p><b>Push-in type jumper bar, insulated,</b>                  I<sub>N</sub> 32 A,                  light gray</p> <p>2-way <b>2004-402</b> 200 (8x25)                  3-way <b>2004-403</b> 200 (8x25)                  4-way <b>2004-404</b> 100 (4x25)                  5-way <b>2004-405</b> 100 (4x25)                  6-way <b>2004-406</b> 100 (4x25)                  7-way <b>2004-407</b> 100 (4x25)                  8-way <b>2004-408</b> 100 (4x25)                  9-way <b>2004-409</b> 100 (4x25)                  10-way <b>2004-410</b> 100 (4x25)</p>	<p><b>Push-in type jumper bar, insulated,</b>                  I<sub>N</sub> 32 A,                  light gray</p> <p>from 1 to 3 <b>2004-433</b> 200 (8x25)                  from 1 to 4 <b>2004-434</b> 200 (8x25)                  from 1 to 5 <b>2004-435</b> 100 (4x25)                  from 1 to 6 <b>2004-436</b> 100 (4x25)                  from 1 to 7 <b>2004-437</b> 100 (4x25)                  from 1 to 8 <b>2004-438</b> 100 (4x25)                  from 1 to 9 <b>2004-439</b> 100 (4x25)                  from 1 to 10 <b>2004-440</b> 100 (4x25)</p>
<p><b>Insulation stop,</b>                  5 pcs/strip,                  0.25 - 0.5 mm<sup>2</sup>                  light gray <b>2002-171</b> 200 (8x25)</p>		
<p><b>Insulation stop,</b>                  5 pcs/strip,                  0.75 - 1 mm<sup>2</sup>                  dark gray <b>2002-172</b> 200 (8x25)</p>		
<p><b>Push-in type wire jumper,</b>                  ④ insulated,                  I<sub>N</sub> 16 A,                  wire size 1.5 mm<sup>2</sup>                  L = 60 mm <b>2009-412</b> 100 (10x10)                  L = 110 mm <b>2009-414</b> 100 (10x10)                  L = 250 mm <b>2009-416</b> 100 (10x10)</p>	<p><b>Protective warning marker,</b>                  with high-voltage symbol, black,                  for 5 terminal blocks                  yellow <b>2002-115</b> 100 (4x25)</p>	

**0.25 - 2.5 (4) mm<sup>2</sup> ①** AWG 22 - 12  
**250 V/6 kV/3 ②**  
**I<sub>N</sub> 6.3 A**  
**Terminal block width 6.2 mm / 0.244 in**  
 ⚡ **10 - 12 mm / 0.43 in ③**



Fuse terminal blocks with a width of 6.2 mm/0.244 in can be assembled adjacently. If there is **no** adjacent fuse terminal block at the end of the assembly, an end plate must be used.

- ① Conductor sizes: 0.25 mm<sup>2</sup> – 4 mm<sup>2</sup> “s + f-st”; Push-in conductor sizes: 0.75 mm<sup>2</sup> – 4 mm<sup>2</sup> “s” and 0.75 mm<sup>2</sup> – 2.5 mm<sup>2</sup> “insulated ferrule, 12 mm”
- ② 250 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
 Push-in type wire jumper, page 140

Item No.	Pack. Unit
<b>4-conductor fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 20 mm, with blown fuse indication by LED, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 2 mA	
○ 12 - 30 V <b>2002-1811/1000-541</b>	50
○ 30 - 65 V <b>2002-1811/1000-542</b>	50
○ 230 V <b>2002-1811/1000-836</b>	50
○ 120 V <b>2002-1811/1000-867</b>	50



Pivoting the fuse holder in the locked open position.

When selecting miniature metric fuses, the maximum power loss listed below should not be exceeded. The power loss is determined according to IEC or EN 60947-7-3/VDE 0611-6 at 23 °C. The temperature rise of the terminal blocks must be checked according to their application and mounting. Higher ambient temperatures place additional strain on fuse cartridges. Therefore, in such applications, the rated current must be reduced if necessary. More details available from the manufacturer.



Exchanging fuse.

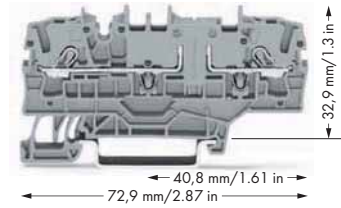
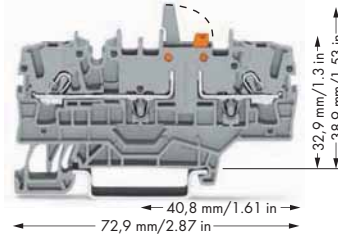
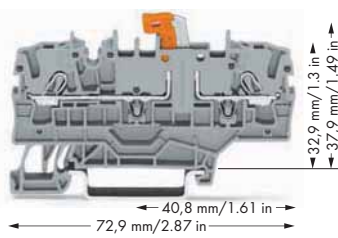
### Miniature metric fuses 5 x 20

Series Item No.	Overload and short circuit protection		Short circuit protection only	
	Individual argmt.	Group argmt.	Individual argmt.	Group argmt.
Fuse terminal blocks				
<b>2002-1611</b>	1.6 W	1.6 W	2.5 W	2.5 W
<b>2002-1811</b>				
<b>2002-1611/.....</b>	1.6 W	1.6 W	2.5 W	2.5 W
<b>2002-1811/.....</b>				

Protective warning marker and insulation stop must be applied individually. Due to the 6.2 mm/0.244 in width of the fuse terminal blocks with pivoting fuse holder, 2004 Series jumpers must be used.

# Disconnect Terminal Blocks for Test and Measurement without and with Mechanical Interlock with Additional Jumper Position 2.5 (4) mm<sup>2</sup>, 2002 Series

<p>0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12 400 V/6 kV/3 ② I<sub>N</sub> 16 A</p> <p>Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ③</p>	<p>0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12 400 V/6 kV/3 ② I<sub>N</sub> 16 A</p> <p>Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ③</p>	<p>0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12 400 V/6 kV/3 ② I<sub>N</sub> 16 A</p> <p>Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ③</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor disconnect terminal block for test and measurement,</b> with test point, orange disconnect link, with additional jumper position		<b>2-conductor disconnect terminal block for test and measurement with mechanical interlock,</b> with test point, orange disconnect link, with additional jumper position		<b>2-conductor through terminal block,</b> with test point, with additional jumper position, same profile as 2-conductor disconnect terminal block	
gray 2002-1971 50		gray 2002-1971/401-000 50		gray 2002-1901 50	
blue 2002-1974 50		orange 2002-1972/401-000 50		blue 2002-1904 50	
orange 2002-1972 50		blue 2002-1974/401-000 50		orange 2002-1902 50	
				<b>2-conductor ground terminal block</b>	
				green-yellow 2002-1907 50	
				<b>Other terminal blocks with the same profile:</b>	
				Carrier 2002-1961 Page 114	
				Fuse 2002-1981 Page 105	

**2002 Series Accessories**

Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)

<p><b>End and intermediate plate,</b> 1 mm thick</p> <p>orange 2002-1992 100 (4x25)</p> <p>gray 2002-1991 100 (4x25)</p>	<p><b>Push-in type jumper bar,</b> insulated,</p> <p>I<sub>N</sub> 25 A, light gray</p> <p>from 1 to 3 2002-433 200 (8x25)</p> <p>from 1 to 4 2002-434 200 (8x25)</p> <p>from 1 to 5 2002-435 100 (4x25)</p> <p>from 1 to 6 2002-436 100 (4x25)</p> <p>from 1 to 7 2002-437 100 (4x25)</p> <p>from 1 to 8 2002-438 100 (4x25)</p> <p>from 1 to 9 2002-439 100 (4x25)</p> <p>from 1 to 10 2002-440 100 (4x25)</p>	<p><b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks</p> <p>yellow 2002-115 100 (4x25)</p>
<p><b>Insulation stop,</b></p> <p>5 pcs/strip, 0.25 - 0.5 mm<sup>2</sup></p> <p>light gray 2002-171 200 (8x25)</p>		<p><b>Test plug adapter,</b> for test plug 4 mm Ø</p> <p>gray 2009-174 100 (4x25)</p>
<p><b>Insulation stop,</b></p> <p>5 pcs/strip, 0.75 - 1 mm<sup>2</sup></p> <p>dark gray 2002-172 200 (8x25)</p>		<p><b>Testing tap,</b> for max. 2.5 mm<sup>2</sup></p> <p>gray 2009-182 100 (4x25)</p>
<p><b>Push-in type jumper bar,</b> insulated,</p> <p>I<sub>N</sub> 25 A, light gray</p> <p>2-way 2002-402 200 (8x25)</p> <p>3-way 2002-403 200 (8x25)</p> <p>4-way 2002-404 200 (8x25)</p> <p>5-way 2002-405 100 (4x25)</p> <p>6-way 2002-406 100 (4x25)</p> <p>7-way 2002-407 100 (4x25)</p> <p>8-way 2002-408 100 (4x25)</p> <p>9-way 2002-409 100 (4x25)</p> <p>10-way 2002-410 100 (4x25)</p>	<p><b>Staggered jumper,</b></p> <p>④ insulated, I<sub>N</sub> 25 A, light gray</p> <p>2-way 2002-472 100 (4x25)</p> <p>3-way 2002-473 100 (4x25)</p> <p>4-way 2002-474 100 (4x25)</p> <p>5-way 2002-475 50 (2x25)</p> <p>6-way 2002-476 50 (2x25)</p> <p>7-way 2002-477 50 (2x25)</p> <p>8-way 2002-478 50 (2x25)</p> <p>9-way 2002-479 50 (2x25)</p> <p>10-way 2002-480 50 (2x25)</p> <p>11-way 2002-481 50 (2x25)</p> <p>12-way 2002-482 50 (2x25)</p>	<p><b>Modular TOPJOB®S connector,</b></p> <p>④ can be snapped together, for jumper contact slot</p> <p>gray 2002-511 100 (4x25)</p>
<p><b>Push-in type wire jumper,</b></p> <p>④ insulated, I<sub>N</sub> 16 A, wire size 1.5 mm<sup>2</sup></p> <p>L = 60 mm 2009-412 100 (10x10)</p> <p>L = 110 mm 2009-414 100 (10x10)</p> <p>L = 250 mm 2009-416 100 (10x10)</p>	<p><b>Adjacent jumper for continuous commoning,</b></p> <p>④ insulated, I<sub>N</sub> 25 A, light gray</p> <p>2-way 2002-400 100 (4x25)</p>	<p><b>Spacer module,</b> can be snapped together, e.g., for bridging commoned terminal blocks</p> <p>gray 2002-549 100 (4x25)</p>
		<p><b>End plate,</b> for modular TOPJOB®S connectors, 1.5 mm thick</p> <p>gray 2002-541 100 (4x25)</p>
		<p><b>TOPJOB®S test plug module,</b></p> <p>④ can be snapped together</p> <p>gray 2002-611 100 (4x25)</p>
		<p><b>Test plug,</b> with 500 mm cable, 2 mm Ø</p> <p>red 210-136 50</p>

For list of approvals and user guide, see pages 634 to 637.



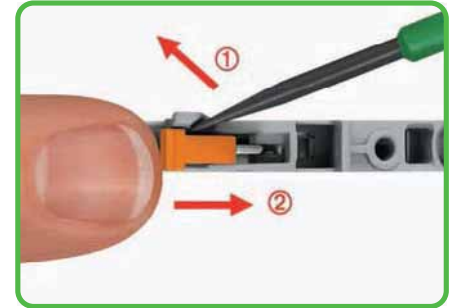


**2-conductor disconnect terminal block for test and measurement, with knife disconnect and mechanical interlock**  
Open position

- ❶ Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrules, 12 mm"
- ❷ 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ❸ Strip length, see packaging or instructions.
- ❹ See application notes for:  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Adjacent jumper for continuous commoning, page 139  
Push-in type wire jumper, page 140  
TOPJOB®S connector, page 134  
TOPJOB®S L-type test plug module, page 136







**2-conductor disconnect terminal block for test and measurement, with knife disconnect and mechanical interlock**  
Top view



**2-conductor disconnect terminal block for test and measurement, with knife disconnect and mechanical interlock**  
Closing of knife disconnect



Three jumper slots available

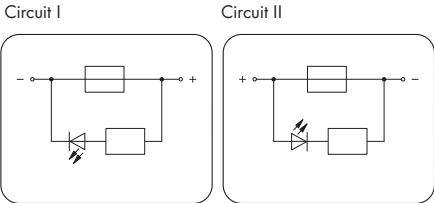
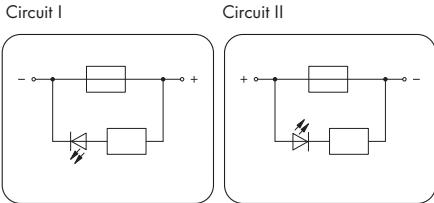
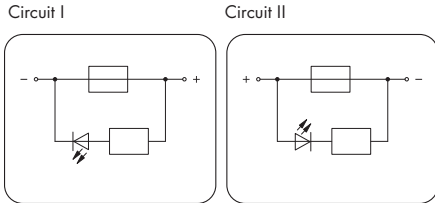
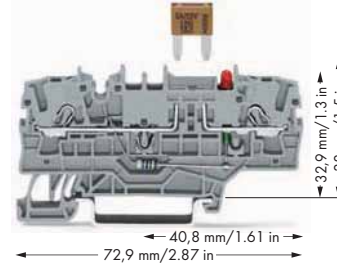
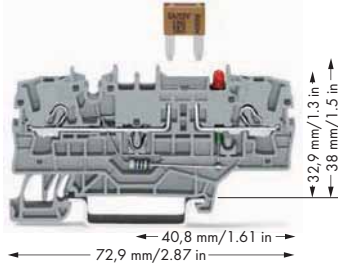
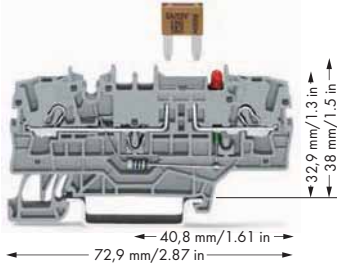
<b>Double-deck marker carrier,</b>			
	pivoting gray	<b>2002-121</b>	50 (2x25)
<b>WMB Multi marking system,</b>			
10 strips with 10 markers per card, stretchable 5 - 5.2 mm			
	plain	<b>793-5501</b>	5
<b>WMB Inline, plain,</b>			
stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll			
	white	<b>2009-115</b>	1
<b>Marking strip, plain,</b>			
11 mm wide, 50 m roll			
	white	<b>2009-110</b>	1

# TOPJOB® Fuse Terminal Blocks 2.5 (4) mm<sup>2</sup> 2002 Series

0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12  
400 V/6 kV/3 ②  
I<sub>N</sub> 10 A  
Terminal block width 5.2 mm / 0.205 in  
10 - 12 mm / 0.43 in ③

0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12  
400 V/6 kV/3 ②  
I<sub>N</sub> 10 A  
Terminal block width 5.2 mm / 0.205 in  
10 - 12 mm / 0.43 in ③

0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12  
400 V/6 kV/3 ②  
I<sub>N</sub> 10 A  
Terminal block width 5.2 mm / 0.205 in  
10 - 12 mm / 0.43 in ③




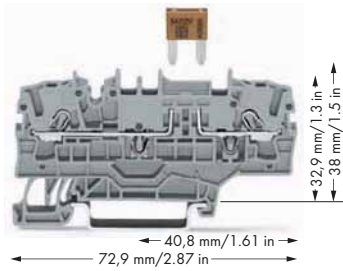
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor fuse terminal block for mini-automotive blade-style fuses,</b> 12V, with test point, with blown fuse indication by LED, LED power consumption: 4.8 mA, gray Nominal voltage and current are given by the LED or fuse. Blade-style fuses, please note touchproof protection for 42V and higher.		<b>2-conductor fuse terminal block for mini-automotive blade-style fuses,</b> 24 V, with test point, with blown fuse indication by LED, LED power consumption: 4.8 mA, gray Nominal voltage and current are given by the LED or fuse. Blade-style fuses, please note touchproof protection for 42V and higher.		<b>2-conductor fuse terminal block for mini-automotive blade-style fuses,</b> 48 V, with test point, with blown fuse indication by LED, LED power consumption: 4.8 mA, gray Nominal voltage and current are given by the LED or fuse. Blade-style fuses, please note touchproof protection for 42V and higher.	
○ Circuit I	<b>2002-1981/1000-429</b>	50	○ Circuit I	<b>2002-1981/1000-413</b>	50
○ Circuit II	<b>2002-1981/1000-449</b>	50	○ Circuit II	<b>2002-1981/1000-434</b>	50
<b>Other terminal blocks with the same profile:</b> Through <b>2002-1901</b> Page 102					

## 2002 Series Accessories

Appropriate marking systems: WMB/Marking strips/WMB Inline  
(see Section 13)

<b>End and intermediate plate, 1 mm thick</b> orange <b>2002-1992</b> 100 (4x25) gray <b>2002-1991</b> 100 (4x25)	<b>Push-in type wire jumper,</b> ④ insulated, I <sub>N</sub> 16 A, wire size 1.5 mm <sup>2</sup> L = 60 mm <b>2009-412</b> 100 (10x10) L = 110 mm <b>2009-414</b> 100 (10x10) L = 250 mm <b>2009-416</b> 100 (10x10)	<b>Staggered jumper,</b> ④ insulated, I <sub>N</sub> 25 A, light gray 2-way <b>2002-472</b> 100 (4x25) 3-way <b>2002-473</b> 100 (4x25) 4-way <b>2002-474</b> 100 (4x25) 5-way <b>2002-475</b> 50 (2x25) 6-way <b>2002-476</b> 50 (2x25) 7-way <b>2002-477</b> 50 (2x25) 8-way <b>2002-478</b> 50 (2x25) 9-way <b>2002-479</b> 50 (2x25) 10-way <b>2002-480</b> 50 (2x25) 11-way <b>2002-481</b> 50 (2x25) 12-way <b>2002-482</b> 50 (2x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>2002-171</b> 200 (8x25)	<b>Adjacent jumper for continuous commoning,</b> ④ insulated, I <sub>N</sub> 25 A, light gray 2-way <b>2002-400</b> 100 (4x25)	
<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>2002-172</b> 200 (8x25)	<b>Push-in type jumper bar, insulated,</b> ④ I <sub>N</sub> 25 A, light gray 2-way <b>2002-402</b> 200 (8x25) 3-way <b>2002-403</b> 200 (8x25) 4-way <b>2002-404</b> 200 (8x25) 5-way <b>2002-405</b> 100 (4x25) 6-way <b>2002-406</b> 100 (4x25) 7-way <b>2002-407</b> 100 (4x25) 8-way <b>2002-408</b> 100 (4x25) 9-way <b>2002-409</b> 100 (4x25) 10-way <b>2002-410</b> 100 (4x25)	<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>2002-115</b> 100 (4x25)



0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12  
 400 V/6 kV/3 ②  
 I<sub>N</sub> 10 A  
 Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ③

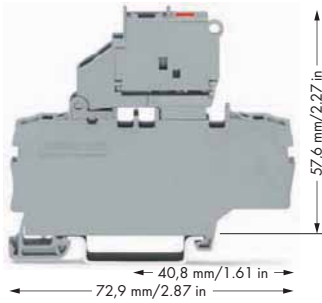
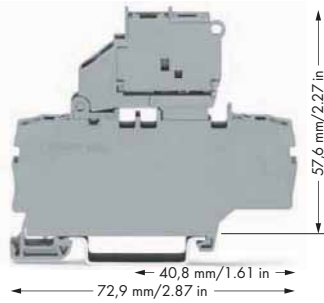


- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrules, 12 mm"
- ② 400 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
 Colored push-in type jumper bars, page 139  
 Staggered jumper, page 141  
 Adjacent jumper for continuous commoning, page 139  
 Push-in type wire jumper, page 140  
 TOPJOB®S connector, page 134  
 TOPJOB®S L-type test plug module, page 136

Item No.	Pack. Unit
<b>2-conductor fuse terminal block for mini-automotive blade-style fuses,</b>	
with test point, with additional jumper position, without blown fuse indication	
Nominal voltage and current are given by the fuse. Blade-style fuses, please note touchproof protection for 42V and higher.	
● gray	2002-1981 50
<b>Blade-style fuses are not offered by WAGO</b>	
<b>WMB Inline, plain,</b>	
stretchable 5 - 5.2 mm,	
1,500 WMB markers, 5 mm, on roll	
white	2009-115 1
<b>WMB Multi marking system,</b>	
10 strips with 10 markers per card,	
stretchable 5 - 5.2 mm	
plain	793-5501 5
<b>Double-deck marker carrier,</b>	
pivoting	
gray	2002-121 50 (2x25)

# Fuse Disconnect Terminal Blocks with Pivoting Fuse Holder and Additional Jumper Position for Miniature Metric Fuses 5 x 20 mm, 2002 Series

0.25 - 2.5 (4) mm <sup>2</sup> ①   AWG 22 - 12 250 V/6 kV/3 ② I <sub>N</sub> 6.3 A  Terminal block width 6.2 mm / 0.244 in  10 - 12 mm / 0.43 in ③	0.25 - 2.5 (4) mm <sup>2</sup> ①   AWG 22 - 12 250 V/6 kV/3 ② I <sub>N</sub> 6.3 A  Terminal block width 6.2 mm / 0.244 in  10 - 12 mm / 0.43 in ③
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- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 250 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for: Push-in type wire jumper, page 140

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor fuse disconnect terminal block with pivoting fuse holder, with additional jumper position, for miniature metric fuses 5 x 20 mm, without blown fuse indication</b> Nominal voltage and current are given by the fuse.		<b>2-conductor fuse disconnect terminal block with pivoting fuse holder, with additional jumper position, with blown fuse indication by LED, gray</b> Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 2 mA	
● gray	<b>2002-1911</b> 50	● 12 - 30 V	<b>2002-1911/1000-541</b> 50
		● 30 - 65 V	<b>2002-1911/1000-542</b> 50
		● 120 V	<b>2002-1911/1000-867</b>
		● 230 V	<b>2002-1911/1000-836</b> 50

Series Item No.	Overload and short circuit protection		Short circuit protection only	
	Individual argmt.	Group argmt.	Individual argmt.	Group argmt.
Fuse terminal blocks				
<b>2002-1911</b>	1.6 W	1.6 W	2.5 W	2.5 W
<b>2002-1911/.....</b>	1.6 W	1.6 W	2.5 W	2.5 W

Protective warning marker and insulation stop must be applied individually. Due to the 6.2 mm/0.244 in width of the fuse terminal blocks with pivoting fuse holder, 2004 Series jumpers must be used.

### 2002 Series Accessories

Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)

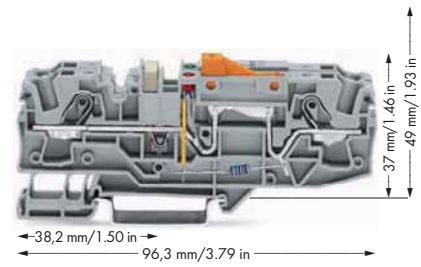
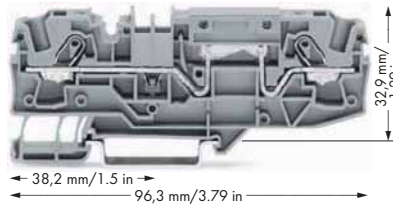
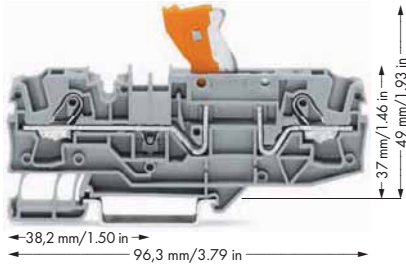
<b>End plate for fuse terminal blocks,</b> 2 mm thick orange <b>2002-992</b> 100 (4x25) gray <b>2002-991</b> 100 (4x25)	<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 32 A, light gray from 1 to 3 <b>2004-433</b> 200 (8x25) from 1 to 4 <b>2004-434</b> 200 (8x25) from 1 to 5 <b>2004-435</b> 100 (4x25) from 1 to 6 <b>2004-436</b> 100 (4x25) from 1 to 7 <b>2004-437</b> 100 (4x25) from 1 to 8 <b>2004-438</b> 100 (4x25) from 1 to 9 <b>2004-439</b> 100 (4x25) from 1 to 10 <b>2004-440</b> 100 (4x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>2002-171</b> 200 (8x25)	<b>Push-in type wire jumper,</b> ④ insulated, I <sub>N</sub> 16 A, wire size 1.5 mm <sup>2</sup> L = 60 mm <b>2009-412</b> 100 (10x10) L = 110 mm <b>2009-414</b> 100 (10x10) L = 250 mm <b>2009-416</b> 100 (10x10)
<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>2002-172</b> 200 (8x25)	<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>2002-115</b> 100 (4x25)
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 32 A, light gray 2-way <b>2004-402</b> 200 (8x25) 3-way <b>2004-403</b> 200 (8x25) 4-way <b>2004-404</b> 100 (4x25) 5-way <b>2004-405</b> 100 (4x25) 6-way <b>2004-406</b> 100 (4x25) 7-way <b>2004-407</b> 100 (4x25) 8-way <b>2004-408</b> 100 (4x25) 9-way <b>2004-409</b> 100 (4x25) 10-way <b>2004-410</b> 100 (4x25)	<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50

When selecting miniature metric fuses, the maximum power loss listed below should not be exceeded. The power loss is determined according to IEC or EN 60947-7-3/VDE 0611-6 at 23 °C. The temperature rise of the terminal blocks must be checked according to their application and mounting. Higher ambient temperatures are an additional burden on fuse cartridges. Therefore, in such applications the rated current must be reduced if necessary. More details available from the manufacturer.



# Disconnect and Ground Conductor Disconnect Terminal Blocks 6 (10) mm<sup>2</sup> / 30 A and Through Terminal Blocks of Same Profile, 2006 Series

<p>0.5 - 6 (10) mm<sup>2</sup> ① AWG 20 - 8 800 V/8 kV/3 ② I<sub>N</sub> 30 A</p> <p>Terminal block width 7.5 mm / 0.295 in 13 - 15 mm / 0.55 in ③</p>	<p>0.5 - 6 (10) mm<sup>2</sup> ① AWG 20 - 8 800 V/8 kV/3 ② I<sub>N</sub> 30 A</p> <p>Terminal block width 7.5 mm / 0.295 in 13 - 15 mm / 0.55 in ③</p>	<p>0.5 - 6 (10) mm<sup>2</sup> ① AWG 20 - 8</p> <p>Terminal block width 15 mm / 0.591 in 13 - 15 mm / 0.55 in ③</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor disconnect terminal block, with test point, orange disconnect link</b>		<b>2-conductor through terminal block, with test point, same profile as 2-conductor disconnect terminal block</b>		<b>Ground conductor disconnect terminal block, with test point, orange disconnect link, gray</b>	
● gray	2006-1671 25	● gray	2006-1601 25	● 24 V	2006-1671/1000-848 12
● blue	2006-1674 25	● blue	2006-1604 25	● 48 V	2006-1671/1000-849 12
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>	
Through	2006-1601 Page 108	Carrier	2006-1661 Page 116	Through	2006-1601 Page 108
		Fuse	2006-1681 Page 111		

Item-Specific Accessories		Item-Specific Accessories		Item-Specific Accessories	
<b>Push-in type jumper bar, insulated, I<sub>N</sub> 41 A, light gray</b>		<b>Push-in type jumper bar, insulated, I<sub>N</sub> 41 A, light gray</b>		<b>Push-in type jumper bar, insulated, I<sub>N</sub> 41 A, light gray</b>	
2-way	2006-402 50 (2x25)	2-way	2006-402 50 (2x25)	2-way	2006-402 50 (2x25)
3-way	2006-403 50 (2x25)	3-way	2006-403 50 (2x25)		
4-way	2006-404 50 (2x25)	4-way	2006-404 50 (2x25)		
5-way	2006-405 50 (2x25)	5-way	2006-405 50 (2x25)		
<b>Push-in type jumper bar, insulated, I<sub>N</sub> 41 A, light gray</b>		<b>Push-in type jumper bar, insulated, I<sub>N</sub> 41 A, light gray</b>		<b>Push-in type jumper bar, insulated, I<sub>N</sub> 41 A, light gray</b>	
from 1 to 3	2006-433 50 (2x25)	from 1 to 3	2006-433 50 (2x25)		
from 1 to 4	2006-434 50 (2x25)	from 1 to 4	2006-434 50 (2x25)		
from 1 to 5	2006-435 50 (2x25)	from 1 to 5	2006-435 50 (2x25)		
<b>Star point jumper, insulated, I<sub>N</sub> = I<sub>N</sub> terminal block, light gray</b>		<b>Star point jumper, insulated, I<sub>N</sub> = I<sub>N</sub> terminal block, light gray</b>		<b>Star point jumper, insulated, I<sub>N</sub> = I<sub>N</sub> terminal block, light gray</b>	
1-3-5	2006-405/011-000 50 (2x25)	1-3-5	2006-405/011-000 50 (2x25)		

**2006 Series Accessories**

Appropriate marking systems: WMB/Marking strips (see Section 13)

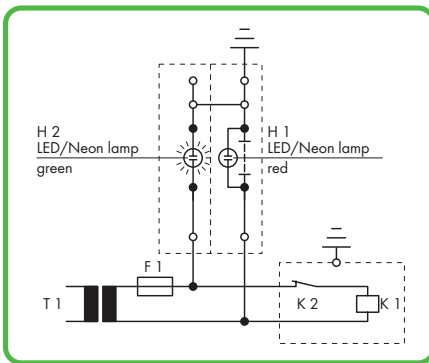
<b>End and intermediate plate, 1 mm thick</b>	<b>Double-deck marker carrier,</b>	<b>Screwless end stop,</b>
orange 2006-1692 100 (4x25)	pivoting	for DIN 35 rail,
gray 2006-1691 100 (4x25)	gray 2002-121 50 (2x25)	6 mm wide
		gray 249-116 100 (4x25)
<b>Protective warning marker,</b>	<b>WMB Multi marking system,</b>	<b>Screwless end stop,</b>
with high-voltage symbol, black,	10 strips with 10 markers per card,	for DIN 35 rail,
for 5 terminal blocks	stretchable 5 - 5.2 mm	10 mm wide
yellow 2006-115 100 (4x25)	plain 793-5501 5	gray 249-117 50 (2x25)
	<b>Marking strip, plain,</b>	
	11 mm wide,	
	50 m roll	
	white 2009-110 1	

# Disconnect and Ground Conductor Disconnect Terminal Blocks

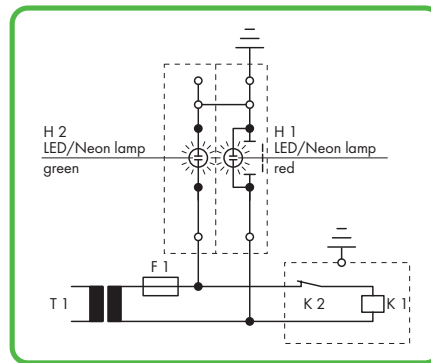


Ground conductor disconnect terminal block – top view

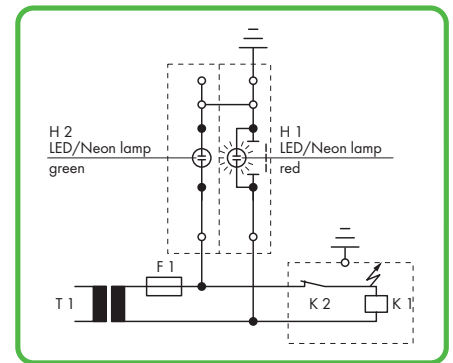
- 1 Conductor sizes: 0.5 mm<sup>2</sup> – 10 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 1 mm<sup>2</sup> – 10 mm<sup>2</sup> "s"  
and 1.5 mm<sup>2</sup> – 6 mm<sup>2</sup>  
"insulated ferrule, 12 mm"
- 2 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- 3 Strip length, see packaging or instructions.



**Operating condition**  
Slide link closed, auxiliary circuit grounded,  
green lamp illuminates.



**Test condition – no grounding**  
Slide link open, auxiliary circuit not grounded.



**Test condition – grounding**  
Slide link open, auxiliary circuit not grounded,  
red lamp illuminates.



**Terminal block assembly including:**  
Through terminal blocks  
N-conductor disconnect terminal blocks  
Fuse terminal blocks for mini-automotive fuses

IEC 60204/DIN VDE 0113 "Electrical equipment of industrial machines, part 1: General requirements" 9.4.3.1:

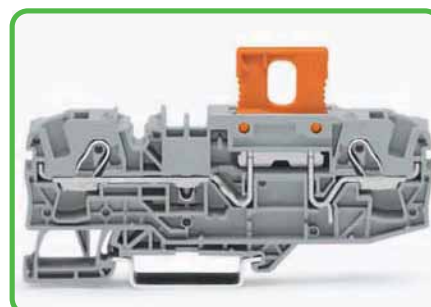
Ground faults on control circuits shall not cause unintentional starting, hazardous movements or prevent stopping the machine.

In order to fulfill this requirement, bonding to the protective bonding circuit shall be provided in accordance with 8.2 and the devices shall be connected as described in 9.1.4. Control circuits fed from a transformer and not connected to the protective bonding circuit shall be provided with an insulation monitoring device (e.g., residual current device), which either indicates an ground fault or interrupts the circuit automatically after an ground fault.

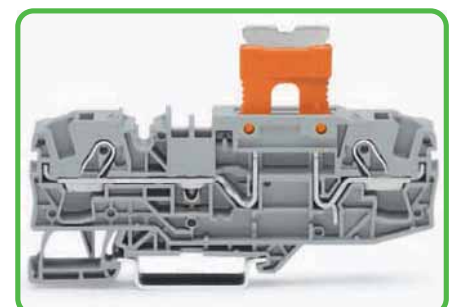
In the case of electronic circuits, the connection of one side of the control circuit to the protective bonding circuit in accordance with 9.1.4 can prevent unintentional operation. When this does not help, or if due to other reasons electronic circuits cannot be connected to the protective bonding circuit, other measures shall be taken to achieve the same level of safety.

Multipole control switches which interrupt all live conductors shall be used where the control circuit is directly connected between the phase conductors of the supply or between a phase conductor and a neutral conductor, which is either not grounded or grounded through a high impedance.

This is required for starting or stopping those machine functions, which can cause a hazardous situation including: damaging the machine or halting the work in progress, in the event of unintentional starting or failure to stop.



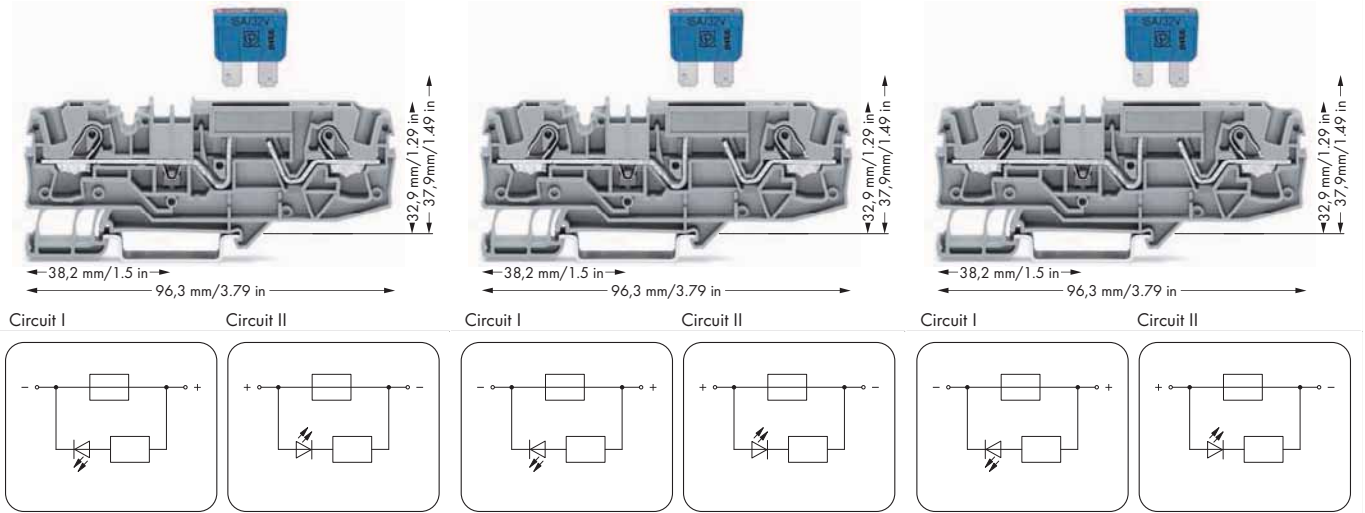
Carrier terminal block with disconnect plug in operating position.



Carrier terminal block with disconnect plug in parked position.

# Fuse Terminal Blocks for Mini-Automotive Blade-Style Fuses 6 (10) mm<sup>2</sup> 2006 Series

<p>0.5 - 6 (10) mm<sup>2</sup> ① AWG 20 - 8                  500 V/8 kV/3 ②                  I<sub>N</sub> 25 A (30 A) ③</p> <p>Terminal block width 7.5 mm / 0.295 in                  13 - 15 mm / 0.55 in ④</p>	<p>0.5 - 6 (10) mm<sup>2</sup> ① AWG 20 - 8                  500 V/8 kV/3 ②                  I<sub>N</sub> 25 A (30 A) ③</p> <p>Terminal block width 7.5 mm / 0.295 in                  13 - 15 mm / 0.55 in ④</p>	<p>0.5 - 6 (10) mm<sup>2</sup> ① AWG 20 - 8                  500 V/8 kV/3 ②                  I<sub>N</sub> 25 A (30 A) ③</p> <p>Terminal block width 7.5 mm / 0.295 in                  13 - 15 mm / 0.55 in ④</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor fuse terminal block for mini-automotive blade-style fuses,</b> 12V, with test point, with blown fuse indication by LED, LED power consumption: 4.8 mA, gray Nominal voltage and current are given by the LED or fuse. Blade-style fuses, please note touchproof protection for 42V and higher.		<b>2-conductor fuse terminal block for mini-automotive blade-style fuses,</b> 24V, with test point, with blown fuse indication by LED, LED power consumption: 4.8 mA, gray Nominal voltage and current are given by the LED or fuse. Blade-style fuses, please note touchproof protection for 42V and higher.		<b>2-conductor fuse terminal block for mini-automotive blade-style fuses,</b> 48V, with test point, with blown fuse indication by LED, LED power consumption: 4.8 mA, gray Nominal voltage and current are given by the LED or fuse. Blade-style fuses, please note touchproof protection for 42V and higher.	
● Circuit I <b>2006-1681/1000-429</b> 25 ● Circuit II <b>2006-1681/1000-449</b> 25		● Circuit I <b>2006-1681/1000-413</b> 25 ● Circuit II <b>2006-1681/1000-434</b> 25		● Circuit I <b>2006-1681/1000-414</b> 25 ● Circuit II <b>2006-1681/1000-435</b> 25	
<b>Other terminal blocks with the same profile:</b> Through <b>2006-1601</b> Page 108					

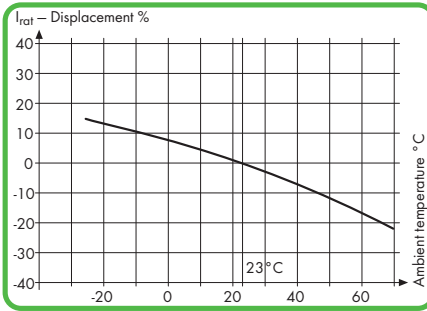
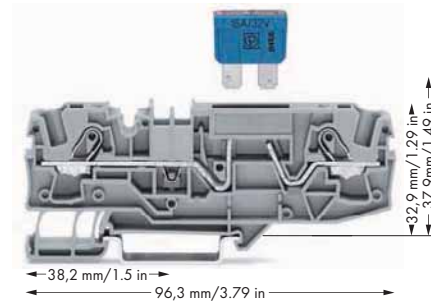
**2006 Series Accessories**

Appropriate marking systems: WMB/Marking strips (see Section 13)

<p><b>End and intermediate plate, 1 mm thick</b></p> <p>orange      <b>2006-1692</b>    100 (4x25)                      gray        <b>2006-1691</b>    100 (4x25)</p>	<p><b>Protective warning marker,</b>                      with high-voltage symbol, black,                      for 5 terminal blocks                      yellow      <b>2006-115</b>    100 (4x25)</p>
<p><b>Push-in type jumper bar, insulated,</b>                      I<sub>N</sub> 41 A,                      light gray</p> <p>2-way      <b>2006-402</b>    50 (2x25)                      3-way      <b>2006-403</b>    50 (2x25)                      4-way      <b>2006-404</b>    50 (2x25)                      5-way      <b>2006-405</b>    50 (2x25)</p>	<p><b>WMB Multi marking system,</b>                      10 strips with 10 markers per card,                      stretchable 5 - 5.2 mm                      plain        <b>793-5501</b>    5</p>
<p><b>Push-in type jumper bar, insulated,</b>                      I<sub>N</sub> 41 A,                      light gray</p> <p>from 1 to 3   <b>2006-433</b>    50 (2x25)                      from 1 to 4   <b>2006-434</b>    50 (2x25)                      from 1 to 5   <b>2006-435</b>    50 (2x25)</p>	<p><b>Marking strip, plain,</b>                      11 mm wide,                      50 m roll                      white        <b>2009-110</b>    1</p>
	<p><b>Double-deck marker carrier,</b>                      pivoting                      gray        <b>2002-121</b>    50 (2x25)</p>



0.5 - 6 (10) mm<sup>2</sup> ① AWG 20 - 8  
 500 V/8 kV/3 ②  
 I<sub>N</sub> 25 A (30 A) ③  
 Terminal block width 7.5 mm / 0.295 in  
 ④ 13 - 15 mm / 0.55 in



- ① Conductor sizes: 0.5 mm<sup>2</sup> - 10 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 1 mm<sup>2</sup> - 10 mm<sup>2</sup> "s" and 1.5 mm<sup>2</sup> - 6 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 500 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ LED power consumption: 4.8 mA
- ④ Strip length, see packaging or instructions.

Item No.	Pack. Unit
2-conductor fuse terminal block for mini-automotive blade-style fuses, with test point, without blown fuse indication	
Nominal voltage and current are given by the fuse. Blade-style fuses, please note touchproof protection for 42V and higher.	
gray	2006-1681 25

Blade-style fuses (not offered by WAGO)

Excess-current circuit-breaker, thermal (not offered by WAGO)

Recommended excess-current circuit-breakers from ETA

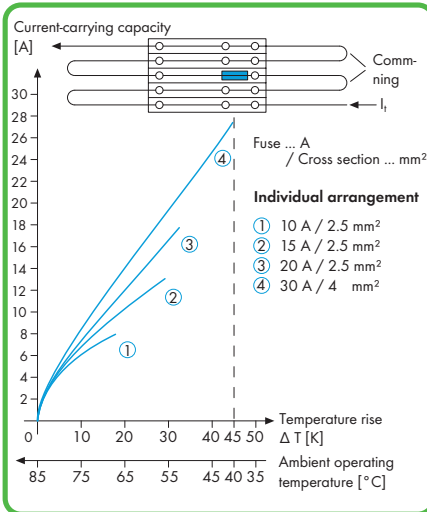


Diagram: Individual arrangement  
 The rated currents of the fuse cartridges are defined differently in international standards. Due to the different current rating definitions, the recommended current-carrying permanent capacity of the fuses is max. 80% of their rated current according to DIN 72581 part 3 (for an ambient operating temperature of 23 °C).  
 Selecting the correct fuse cartridge is important for product safety within applications, as well as for fuse cartridge service life and reliability. Fuse cartridges may be used as protection (break-off point) if they are properly selected and used according to manufacturer specifications.

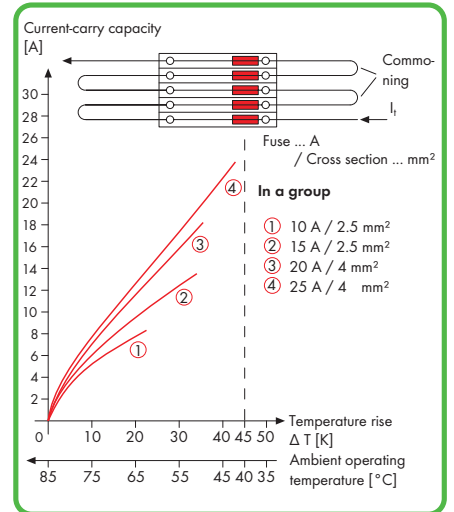


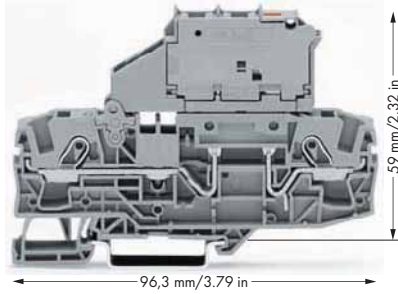
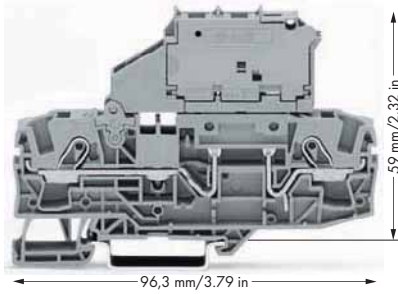
Diagram: Block arrangement  
**Information from the mini-automotive blade-type fuse manufacturers**

Derating T <sub>amb</sub> / °C	%	F <sub>T</sub>
- 25	14	0.877
- 20	13	0.885
- 15	12	0.893
- 10	11	0.901
- 5	10	0.909
0	9	0.917
5	8	0.926
10	6	0.943
15	4	0.962
20	2	0.980
23	0	1.000
30	- 2	1.020
35	- 4	1.042
40	- 6	1.064
45	- 8	1.087
50	- 10	1.111
55	- 13	1.149
60	- 16	1.190
65	- 19	1.235
70	- 22	1.282

Regarding product safety, it is in generally necessary to test fuse cartridges under normal conditions and operational failures within your application.

# Fuse Disconnect Terminal Blocks with Pivoting Fuse Holder for Miniature Metric Fuses 5 x 20 mm, 5 x 30 mm, 1/4" x 1 1/4", 2006 Series

0.5 - 6 (10) mm <sup>2</sup> ① AWG 20 - 8 800 V/8 kV/3 ②   600 V, 15 A <sub>IN</sub> I <sub>N</sub> 10 A Terminal block width 7.5 mm / 0.295 in ③ 13 - 15 mm / 0.55 in	0.5 - 6 (10) mm <sup>2</sup> ① AWG 20 - 8 800 V/8 kV/3 ② I <sub>N</sub> 10 A Terminal block width 7.5 mm / 0.295 in ③ 13 - 15 mm / 0.55 in
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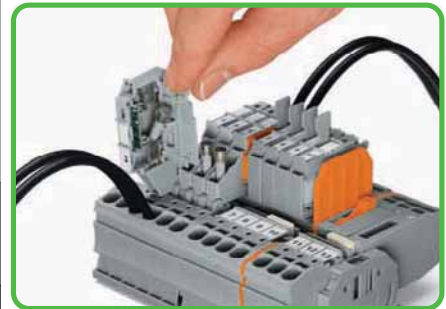


- ① Conductor sizes: 0.5 mm<sup>2</sup> - 10 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 1 mm<sup>2</sup> - 10 mm<sup>2</sup> "s" and 1.5 mm<sup>2</sup> - 6 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for: Star point jumper, page 140

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor fuse disconnect terminal block with pivoting fuse holder, without blown fuse indication</b> Nominal voltage and current are given by the fuse. for miniature metric fuses 5 x 20 mm		<b>2-conductor fuse disconnect terminal block with pivoting fuse holder, gray, with blown fuse indication by LED</b> Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 2 mA, for miniature metric fuses 5 x 20 mm	
gray	2006-1611 25	12 - 30 V	2006-1611/1000-541 25
		30 - 65 V	2006-1611/1000-542 25
		120 V	2006-1611/1000-867 25
		230 V	2006-1611/1000-836 25
for miniature metric fuses 5 x 30 mm		for miniature metric fuses 5 x 30 mm	
gray	2006-1621 25	12 - 30 V	2006-1621/1000-541 25
		30 - 65 V	2006-1621/1000-542 25
		120 V	2006-1621/1000-867 25
		230 V	2006-1621/1000-836 25
		380 - 500 V	2006-1621/1000-859 25
for miniature metric fuses 1/4" x 1 1/4"		for miniature metric fuses 1/4" x 1 1/4"	
gray	2006-1631 25	12 - 30 V	2006-1631/1000-541 25
		30 - 65 V	2006-1631/1000-542 25
		120 V	2006-1631/1000-867 25
		230 V	2006-1631/1000-836 25
		380 - 500 V	2006-1631/1000-859 25



Pivoting the fuse holder in the locked open position.



Opening the cover to replace the fuse.

## 2006 Series Accessories

Appropriate marking systems: WMB/Marking strips (see Section 13)

<b>End and intermediate plate, 1 mm thick</b> orange 2006-1692 100 (4x25) gray 2006-1691 100 (4x25)	<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 41 A, light gray from 1 to 3 2006-433 50 (2x25) from 1 to 4 2006-434 50 (2x25) from 1 to 5 2006-435 50 (2x25)
<b>End plate for fuse terminal blocks,</b> 2 mm thick orange 2006-992 100 (4x25) gray 2006-991 100 (4x25)	<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow 2006-115 100 (4x25)
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 41 A, light gray 2-way 2006-402 50 (2x25) 3-way 2006-403 50 (2x25) 4-way 2006-404 50 (2x25) 5-way 2006-405 50 (2x25)	<b>Test plug,</b> with 500 mm cable, 2 mm Ø red 210-136 50
<b>Star point jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block, light gray 1-3-5 2006-405/011-000 50 (2x25)	<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain 793-5501 5

# Fuse Disconnect Terminal Blocks with Pivoting Fuse Holder for Miniature Metric Fuses 1/4" x 1 1/4", 2006 Series

0.5 - 6 (10) mm <sup>2</sup> ① AWG 20 - 8 800 V/8 kV/3 ② I <sub>N</sub> 10 A  Terminal block width 10.4 mm / 0.409 in ③ 13 - 15 mm / 0.55 in	0.5 - 6 (10) mm <sup>2</sup> ① AWG 20 - 8 800 V/8 kV/3 ② I <sub>N</sub> 10 A  Terminal block width 10.4 mm / 0.409 in ③ 13 - 15 mm / 0.55 in
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- ① Conductor sizes: 0.5 mm<sup>2</sup> - 10 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 1 mm<sup>2</sup> - 10 mm<sup>2</sup> "s" and 1.5 mm<sup>2</sup> - 6 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for: Star point jumper, page 140

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Fuse disconnect terminal block with pivoting fuse holder and end plate, without blown fuse indication</b> Nominal voltage and current are given by the fuse. for miniature metric fuses 1/4" x 1 1/4"		<b>Fuse disconnect terminal block with pivoting fuse holder and end plate, gray, with blown fuse indication by LED</b> Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 2 mA, for miniature metric fuses 1/4" x 1 1/4"	
gray	2006-1631/099-000 25	12 - 30 V	2006-1631/1099-541 25
		30 - 65 V	2006-1631/1099-542 25
		120 V	2006-1631/1099-867 25
		230 V	2006-1631/1099-836 25
		380 - 500 V	2006-1631/1099-859 25



Pivoting fuse holder with spare fuse holders

Protective warning markers must be applied individually. Due to the 10.4 mm/0.409 in width of the fuse terminal blocks with pivoting fuse holder, 2002 Series jumpers must be used.

## 2006 Series Accessories

Appropriate marking systems: WMB/Marking strips (see Section 13)

<b>End plate for fuse terminal blocks,</b> 2 mm thick orange 2006-992 100 (4x25) gray 2006-991 100 (4x25)	<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray 249-116 100 (4x25)
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 25 A, light gray from 1 to 3 2002-433 200 (8x25) from 1 to 5 2002-435 100 (4x25) from 1 to 7 2002-437 100 (4x25) from 1 to 9 2002-439 100 (4x25)	<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray 249-117 50 (2x25)
<b>Star point jumper, insulated,</b> ④ I <sub>N</sub> = I <sub>N</sub> terminal block, light gray 1-3-5 2002-405/011-000 100 (4x25)	
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow 2006-115 100 (4x25)	
<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain 793-5501 5	
<b>Test plug,</b> with 500 mm cable, 2 mm Ø red 210-136 50	

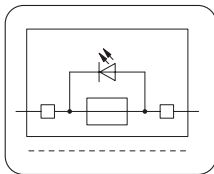
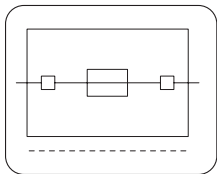
## Miniature metric fuses

Series Item No.	Overload and short circuit protection		Short circuit protection only	
	Individual argmt.	Group argmt.	Individual argmt.	Group argmt.
Fused disconnect terminal blocks				
2006-1611	7.5	1.6 W	1.6 W	2.5 W
2006-1621	7.5	1.6 W	1.6 W	2.5 W
2006-1631	7.5	1.6 W	1.6 W	2.5 W
2006-1631 /099...	10.4	2.5 W	2.5 W	2.5 W
2006-1631 /1099...	10.4	2.5 W	2.5 W	2.5 W

When selecting miniature metric fuses, the maximum power loss listed below should not be exceeded. The power loss is determined according to IEC or EN 60947-7-3/VDE 0611-6 at 23 °C. The temperature rise of the terminal blocks must be checked according to their application and mounting. Higher ambient temperatures represent an additional impact on miniature metric fuses. Therefore, in such applications the rated current must be reduced if necessary. More details are available from the fuse manufacturer.

# TOPJOB® 2004 Series Fuse Plugs on 2002 Series Carrier Terminal Blocks

<p><b>Fuse plug with pull-tab</b> for miniature metric fuses 5 x 20 mm 250 V / I<sub>N</sub> 6.3 A Plug width 6.1 mm / 0.24 in</p>	<p><b>Fuse plug with pull-tab</b> for miniature metric fuses 5 x 20 mm 250 V / I<sub>N</sub> 6.3 A Plug width 6.1 mm / 0.24 in</p>
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### Accessories

<b>WMB Multi marking system,</b>	
	10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5
<b>WMB Multi marking system, plain,</b>	
	10 strips with 10 markers per card, stretchable 5 - 5.2 mm
	yellow <b>793-5501/000-002</b>
	red <b>793-5501/000-005</b>
	blue <b>793-5501/000-006</b>
	gray <b>793-5501/000-007</b>
	orange <b>793-5501/000-012</b>
	light green <b>793-5501/000-017</b>
	green <b>793-5501/000-023</b>
	violet <b>793-5501/000-024</b> 5

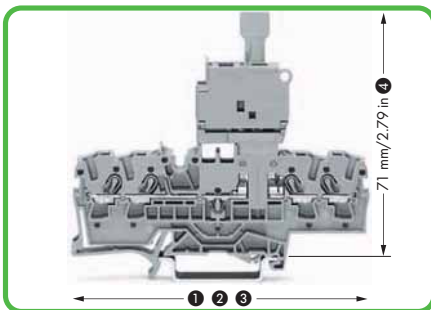
Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Fuse plug with pull-tab,</b> for miniature metric fuses 5 x 20 mm Nominal voltage and current are given by the fuse.		<b>Fuse plug with pull-tab,</b> for miniature metric fuses 5 x 20 mm, with indicator lamp, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 2 mA	
● gray	<b>2004-911</b> 50	● 12 - 30 V	<b>2004-911/1000-541</b> 50
		● 30 - 65 V	<b>2004-911/1000-542</b> 50
		● 120 V	<b>2004-911/1000-867</b> 50
		● 230 V	<b>2004-911/1000-836</b> 50

### Accessories

Appropriate marking systems: WMB/Marking strips (see Section 13)

<p><b>2-conductor carrier terminal block,</b> ① 0.25 - 2.5 (4) mm<sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray <b>2002-1661</b> 50</p>	<p><b>Double-deck carrier terminal block,</b> 0.25 - 2.5 (4) mm<sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in L/L <b>2002-2961</b> 50</p>
<p><b>End and intermediate plate, 1 mm thick</b> orange <b>2002-1692</b> 100 (4x25) gray <b>2002-1691</b> 100 (4x25)</p>	<p><b>Double-deck carrier terminal block,</b> 0.25 - 2.5 (4) mm<sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in L/N <b>2002-2963</b> 50</p>
<p><b>4-conductor carrier terminal block,</b> ② 0.25 - 2.5 (4) mm<sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray <b>2002-1861</b> 50</p>	<p><b>End and intermediate plate, 1 mm thick</b> orange <b>2002-2992</b> 100 (4x25) gray <b>2002-2991</b> 100 (4x25)</p>
<p><b>End and intermediate plate, 1 mm thick</b> orange <b>2002-1892</b> 100 (4x25) gray <b>2002-1891</b> 100 (4x25)</p>	<p><b>End plate for fuse terminal blocks,</b> 2 mm thick orange <b>2002-992</b> 100 (4x25) gray <b>2002-991</b> 100 (4x25)</p>
<p><b>2-conductor carrier terminal block,</b> ③ 0.25 - 2.5 (4) mm<sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray <b>2002-1961</b> 50</p>	<p><b>Shorting link, 5 x 20 mm,</b> if the fuse plug is used as disconnect plug I<sub>N</sub> 6.3 A <b>281-503</b> 250 (10x25)</p>
<p><b>End and intermediate plate, 1 mm thick</b> orange <b>2002-1992</b> 100 (4x25) gray <b>2002-1991</b> 100 (4x25)</p>	

For list of approvals and user guide, see pages 634 to 637.



**Fuse plug dimensions:**

- ① 66.5 mm/2.62 in for 2002-1661
- ② 87.5 mm/3.45 in for 2002-1861
- ③ 72.9 mm/2.87 in for 2002-1961
- ④ with inserted fuse plug

Using pluggable fuse holders with rail-mount terminal blocks for control circuit protection is highly advantageous for the user since the function and the wiring are accomplished by two separate parts:

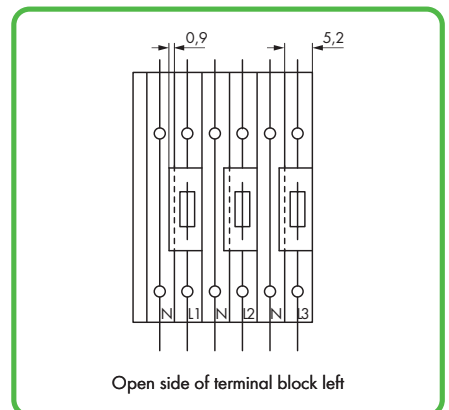
- No additional cost for assembly and wiring
- No risk of accidental contact with live parts during disconnection of fuse plug
- If exchanging a defective fuse, the fuse plug is completely separated from the carrier terminal block. This provides safe fuse changeout away from current carrying parts.
- The fuse plug can be removed by service personnel, avoiding unintentional reclosing of the circuit by another person.
- Quick replacement a fuse by using a prepared "stand-by plug."

The following fuse plug features provide quick and safe handling:

- Optional LED indicates blown fuse
- Marking slot on the fuse plug for clear coordination to the correct carrier terminal block
- Two touch-proof test slots
- High density with only 6.1 mm/0.24 in width of terminal block/fuse plug
- Instead of a fuse, a shorting link may be used as a disconnect plug.

**Miniature metric fuses 5 x 20**

Series Item No.	Overload and short circuit protection		Short circuit protection only	
	Individual argmt.	Group argmt.	Individual argmt.	Group argmt.
Fuse terminal blocks				
2004-911				
2004-911/.....	1.6 W	1.6 W	2.5 W	2.5 W



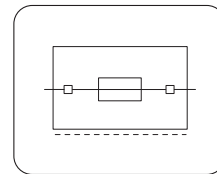
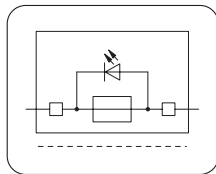
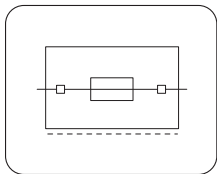
**Please note:**

The extra width of the plug (6.1 mm/0.24 in compared to 5.2 mm/0.2 in for carrier terminal blocks) must be compensated for by intermediate plates (1 mm/0.039 in) when building an assembly of carrier terminal blocks equipped with fuse plugs.

# TOPJOB®

## Fuse Plugs on Carrier Terminal Blocks 6 (10) mm<sup>2</sup> 2006 Series

<b>Fuse plug with pull-tab</b>  800 V / I <sub>N</sub> 10 A Plug width 7.4 mm / 0.291 in	<b>Fuse plug with pull-tab</b>  800 V / I <sub>N</sub> 10 A Plug width 7.4 mm / 0.291 in	<b>Fuse plug with pull-tab</b>  800 V / I <sub>N</sub> 10 A Plug width 10.4 mm / 0.409 in
---------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Fuse plug with pull-tab</b> Nominal voltage and current are given by the fuse. for miniature metric fuses 5 x 20 mm		<b>Fuse plug with pull-tab, gray,</b> with indicator lamp Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 2 mA, for miniature metric fuses 5 x 20 mm		<b>Fuse plug with pull-tab</b> Nominal voltage and current are given by the fuse. for miniature metric fuses 1/4" x 11/4"	
○ gray	<b>2006-911</b> 25	○ 12 - 30 V	<b>2006-911/1000-541</b> 25	○ gray	<b>2006-931/099-000</b> 25
		○ 30 - 65 V	<b>2006-911/1000-542</b> 25		
		○ 120 V	<b>2006-911/1000-867</b> 25		
		○ 230 V	<b>2006-911/1000-836</b> 25		
for miniature metric fuses 5 x 30 mm		for miniature metric fuses 5 x 30 mm			
○ gray	<b>2006-921</b> 25	○ 12 - 30 V	<b>2006-921/1000-541</b> 25		
		○ 30 - 65 V	<b>2006-921/1000-542</b> 25		
		○ 120 V	<b>2006-921/1000-867</b> 25		
		○ 230 V	<b>2006-921/1000-836</b> 25		
		○ 380 - 500 V	<b>2006-921/1000-859</b> 25		
for miniature metric fuses 1/4" x 11/4"		for miniature metric fuses 1/4" x 11/4"			
○ gray	<b>2006-931</b> 25	○ 12 - 30 V	<b>2006-931/1000-541</b> 25		
		○ 30 - 65 V	<b>2006-931/1000-542</b> 25		
		○ 120 V	<b>2006-931/1000-867</b> 25		
		○ 230 V	<b>2006-931/1000-836</b> 25		
		○ 380 - 500 V	<b>2006-931/1000-859</b> 25		
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 1 mm thick</b>		<b>End and intermediate plate, 1 mm thick</b>		<b>Intermediate plate, 2.9 mm thick</b>	
orange	<b>2006-1692</b> 100 (4x25)	orange	<b>2006-1692</b> 100 (4x25)	orange	<b>2006-1696</b> 100 (4x25)
gray	<b>2006-1691</b> 100 (4x25)	gray	<b>2006-1691</b> 100 (4x25)	gray	<b>2006-1695</b> 100 (4x25)

### Accessories fuse plugs

Appropriate marking systems: WMB/Marking strips  
(see Section 13)

<b>End plate for fuse terminal blocks,</b> 2 mm thick orange <b>2006-992</b> 100 (4x25) gray <b>2006-991</b> 100 (4x25)	<b>Shorting link, 5 x 20 mm,</b> if the fuse plug is used as disconnect plug I <sub>N</sub> 6.3 A <b>281-503</b> 250 (10x25)	<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
<b>2-conductor carrier terminal block,</b> 0.5 - 6 (10) mm <sup>2</sup> / AWG 20 - 8 Terminal block width 7.5 mm / 0.295 in gray <b>2006-1661</b> 25	<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5	<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)

**Fuse plug with pull-tab**

800 V / I<sub>N</sub> 10 A

Plug width 10.4 mm / 0.409 in

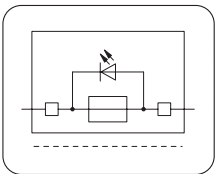


Using pluggable fuse holders with rail-mounted terminal blocks for control circuit protection is highly advantageous for the user, as the function and the wiring are accomplished by two separate parts:

- No additional cost for assembly and wiring
- No risk of accidental contact with live parts during disconnection of fuse plug
- If exchanging a defective fuse, the fuse plug is completely separated from the carrier terminal block. This provides changeout away from current carrying parts.
- The fuse plug can be removed by service personnel, avoiding unintentional reclosing of the circuit by another person
- Quick replacement a fuse by using a prepared "stand-by plug."

The following features of the fuse plug ensure quick and safe use:

- Optional LED indicates blown fuse
- Markable fuse plug for clear coordination to the correct carrier terminal block
- Two touch-proof test slots
- High density with only 7.5 mm/0.295 in width of terminal block and fuse plug width 7.4 (10.4) mm
- Instead of a fuse, a shorting link may be used as a disconnect plug

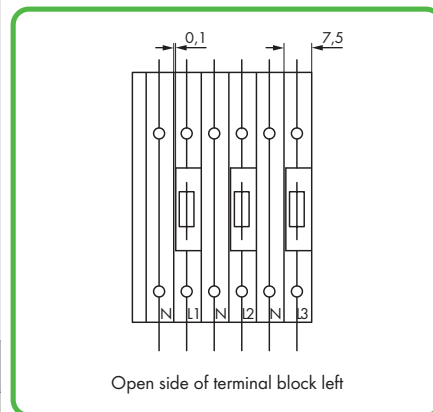


Fuse plug dimensions

**Miniature metric fuse**

Series Item No.	Overload and short circuit protection		Short circuit protection only	
	Individual argmt.	Group argmt.	Individual argmt.	Group argmt.
Fused disconnect terminal blocks				
2006-911	7.5	1.6 W	1.6 W	2.5 W
2006-921	7.5	1.6 W	1.6 W	2.5 W
2006-931	7.5	1.6 W	1.6 W	2.5 W
Fused disconnect terminal blocks				
2006-931 /099...	10.4	2.5 W	2.5 W	2.5 W
2006-931 /1099...	10.4	2.5 W	2.5 W	2.5 W

Item No.	Pack. Unit
<b>Fuse plug with pull-tab, gray, with indicator lamp</b>	
Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 2 mA, for miniature metric fuses 1/4" x 1 1/4"	
○ 12 - 30 V	2006-931/1099-541 25
○ 30 - 65 V	2006-931/1099-542 25
○ 120 V	2006-931/1099-867 25
○ 230 V	2006-931/1099-836 25
○ 380 - 500 V	2006-931/1099-859 25



**Item-Specific Accessories**

Intermediate plate, 2.9 mm thick

orange	2006-1696	100 (4x25)
gray	2006-1695	100 (4x25)

**When using the 10.4 mm/0.409 in wide plug, please note:**

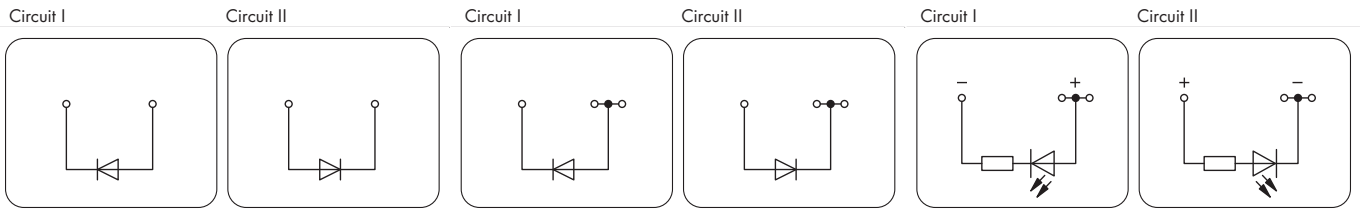
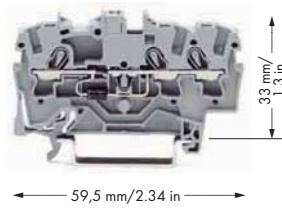
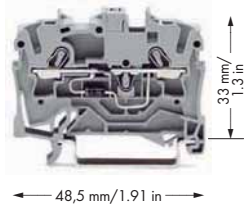
The extra width of the plug (10.4 mm/0.409 in compared to 7.5 mm/0.295 in for carrier terminal blocks) must be compensated for by intermediate plates (2.9 mm) when building an assembly of carrier terminal blocks equipped with fuse plugs.

# Diode Terminal Blocks and LED Terminal Blocks 1.5 (2.5) mm<sup>2</sup> 2001 Series

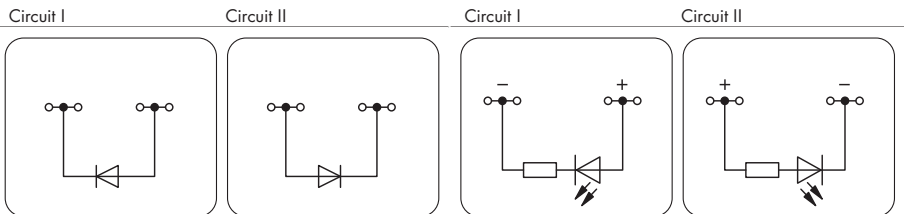
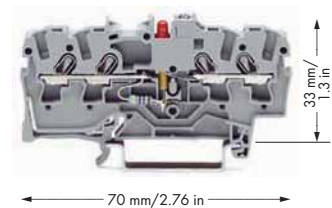
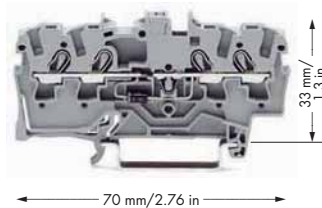
0.25 - 1.5 (2.5) mm<sup>2</sup> ① AWG 22 - 14  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N4007 - 0.5 A continuous current  
 Terminal block width 4.2 mm / 0.165 in  
 ② 9 - 11 mm / 0.39 in

0.25 - 1.5 (2.5) mm<sup>2</sup> ① AWG 22 - 14  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N4007 - 0.5 A continuous current  
 Terminal block width 4.2 mm / 0.165 in  
 ② 9 - 11 mm / 0.39 in

0.25 - 1.5 (2.5) mm<sup>2</sup> ① AWG 22 - 14  
 24 VDC  
 I<sub>F</sub> 0.025 A max.  
 Terminal block width 4.2 mm / 0.165 in  
 ② 9 - 11 mm / 0.39 in



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor diode terminal block with 1N4007 diode, gray</b>		<b>3-conductor diode terminal block with 1N4007 diode, gray</b>		<b>3-conductor LED terminal block with red LED, 24 VDC, gray</b> Notice: This LED terminal block cannot be commoned with push-in type jumper bars.	
○ Circuit I	2001-1211/1000-411 100	○ Circuit I	2001-1311/1000-411 100	○ Circuit I	2001-1321/1000-413 100
● Circuit II	2001-1211/1000-410 100	● Circuit II	2001-1311/1000-410 100	● Circuit II	2001-1321/1000-434 100

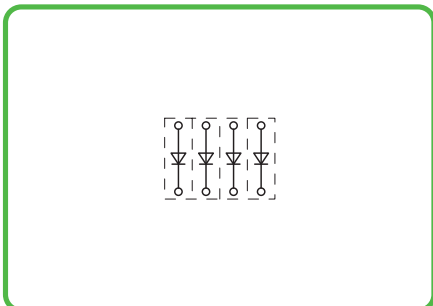


	Item No.	Pack. Unit	Item No.	Pack. Unit
Through terminal blocks with same profile, see page 56	<b>4-conductor diode terminal block with 1N4007 diode, gray</b>		<b>4-conductor LED terminal block with red LED, 24 VDC, gray</b> Notice: This LED terminal block cannot be commoned with push-in type jumper bars.	
	○ Circuit I	2001-1411/1000-411 100	○ Circuit II	2001-1421/1000-413 100
	● Circuit II	2001-1411/1000-410 100	● Circuit I	2001-1421/1000-434 100



# Circuit Configuration Examples

## Diode Terminal Blocks and LED Terminal Blocks

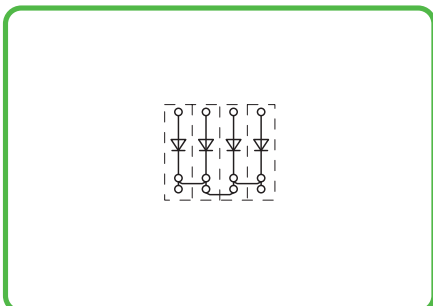


Open diode gates can be created using the following terminal blocks:  
2001-1211/1000-410 or  
2001-1211/1000-411

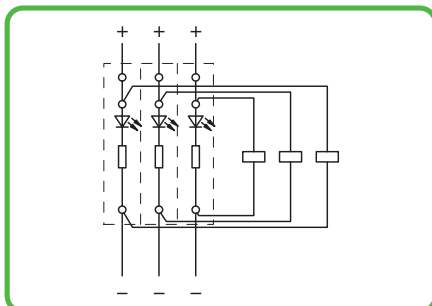


These diode terminal blocks have been specially developed for custom diode circuits, such as lamp test and collective fault signal circuits. Using LED terminal blocks, monitoring units can be designed, e.g., for control and operating circuits.

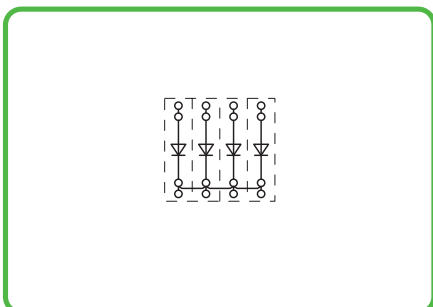
- ① Conductor sizes: 0.25 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.5 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> - 1.5 mm<sup>2</sup>  
"insulated ferrules, 12 mm"
- ② Strip length, see packaging or instructions.



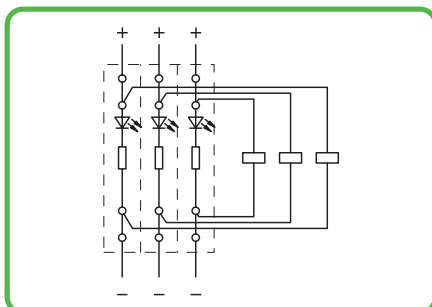
Polarized diode gates with common cathode can be created using the following terminal blocks:  
2001-1311/1000-410 or  
2001-1311/1000-411



Circuit-related voltage indications can be created using the following terminal blocks:  
2001-1321/1000-434 or  
2001-1321/1000-413






Polarized diode gates with common cathode can be created using the following terminal blocks:  
2001-1411/1000-410 or  
2001-1411/1000-411




Circuit-related voltage indications can be created using the following terminal blocks:  
2001-1421/1000-434 or  
2001-1421/1000-413


### 2001 Series Accessories


<b>Insulation stop,</b>			
	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray	<b>2001-171</b>	200 (8x25)
<b>Push-in type jumper bar, insulated,</b>			
	I <sub>N</sub> 18 A, light gray		
	2-way	<b>2001-402</b>	200 (8x25)
	3-way	<b>2001-403</b>	200 (8x25)
	4-way	<b>2001-404</b>	200 (8x25)
	5-way	<b>2001-405</b>	100 (4x25)
	6-way	<b>2001-406</b>	100 (4x25)
	7-way	<b>2001-407</b>	100 (4x25)
	8-way	<b>2001-408</b>	100 (4x25)
	9-way	<b>2001-409</b>	100 (4x25)
	10-way	<b>2001-410</b>	100 (4x25)
<b>Push-in type jumper bar, insulated,</b>			
	I <sub>N</sub> 18 A, light gray		
	from 1 to 3	<b>2001-433</b>	200 (8x25)
	from 1 to 4	<b>2001-434</b>	200 (8x25)
	from 1 to 5	<b>2001-435</b>	100 (4x25)
	from 1 to 6	<b>2001-436</b>	100 (4x25)
	from 1 to 7	<b>2001-437</b>	100 (4x25)
	from 1 to 8	<b>2001-438</b>	100 (4x25)
	from 1 to 9	<b>2001-439</b>	100 (4x25)
	from 1 to 10	<b>2001-440</b>	100 (4x25)

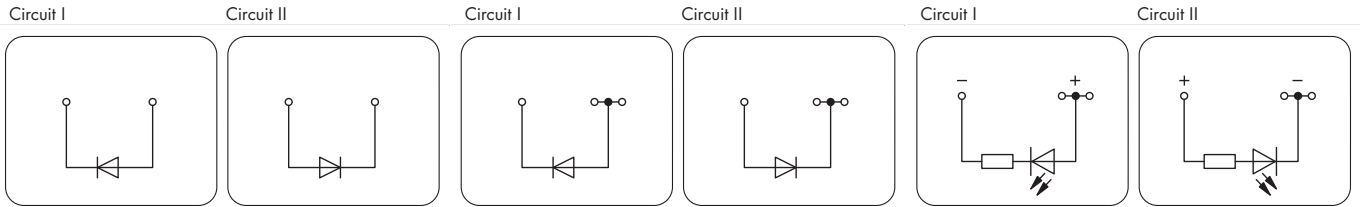
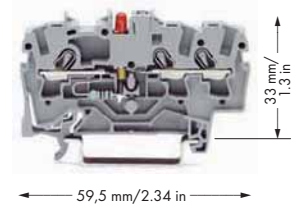
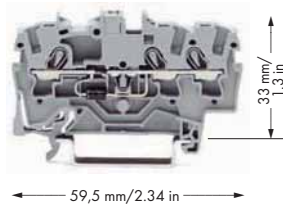
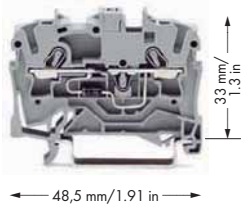
# TOPJOB®

## Diode Terminal Blocks and LED Terminal Blocks 2.5 (4) mm<sup>2</sup> 2002 Series

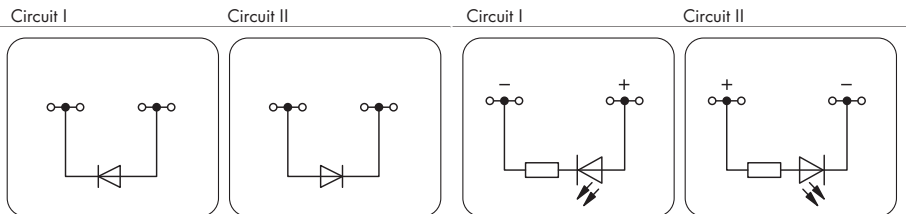
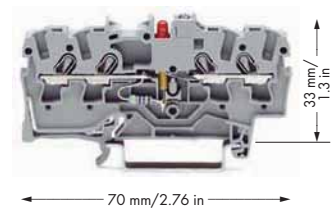
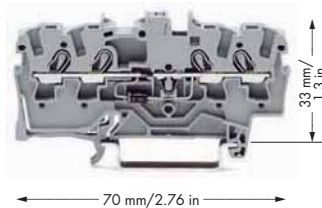
0.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N4007 - 0.5 A continuous current  
 Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ②

0.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N4007 - 0.5 A continuous current  
 Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ②

0.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12  
 24 VDC  
 I<sub>F</sub> 0.025 A max.  
 Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ②



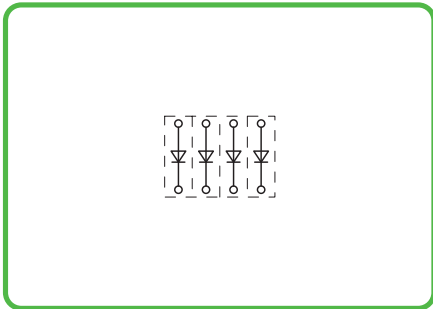
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor diode terminal block with 1N4007 diode, gray</b>		<b>3-conductor diode terminal block with 1N4007 diode, gray</b>		<b>3-conductor LED terminal block with red LED, 24 VDC, gray</b> Notice: This LED terminal block cannot be commoned with push-in type jumper bars.	
○ Circuit I	<b>2002-1211/1000-411</b> 100	○ Circuit I	<b>2002-1311/1000-411</b> 100	○ Circuit II	<b>2002-1321/1000-413</b> 100
● Circuit II	<b>2002-1211/1000-410</b> 100	● Circuit II	<b>2002-1311/1000-410</b> 100	○ Circuit I	<b>2002-1321/1000-434</b> 100



	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through terminal blocks with same profile, see page 58</b>	<b>4-conductor diode terminal block with 1N4007 diode, gray</b>		<b>4-conductor LED terminal block with red LED, 24 VDC, gray</b> Notice: This LED terminal block cannot be commoned with push-in type jumper bars.	
	○ Circuit I	<b>2002-1411/1000-411</b> 100	○ Circuit II	<b>2002-1421/1000-413</b> 100
	● Circuit II	<b>2002-1411/1000-410</b> 100	○ Circuit I	<b>2002-1421/1000-434</b> 100

# Circuit Configuration Examples

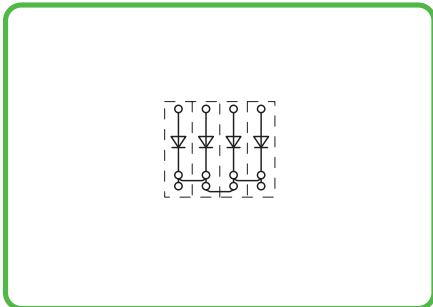
## Diode Terminal Blocks and LED Terminal Blocks



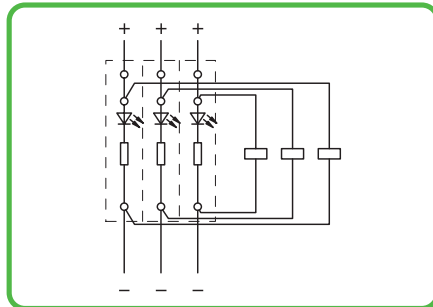
Open diode gates can be created using the following terminal blocks:  
2002-1211/1000-410 or  
2002-1211/1000-411



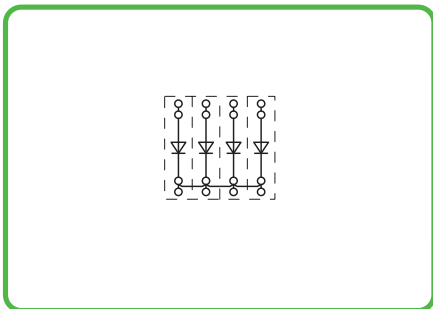
These diode terminal blocks have been specially developed for custom diode circuits, such as lamp test and collective fault signal circuits.



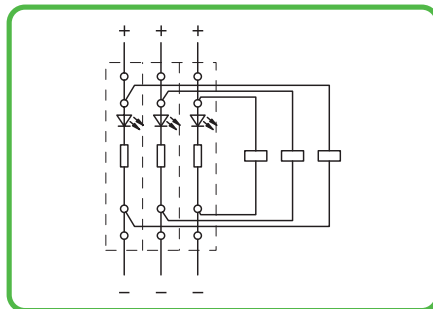
Polarized diode gates with common cathode can be created using the following terminal blocks:  
2002-1311/1000-410 or  
2002-1311/1000-411



Circuit-related voltage indications can be created using the following terminal blocks:  
2002-1321/1000-434 or  
2002-1321/1000-413



Polarized diode gates with common cathode can be created using the following terminal blocks:  
2002-1411/1000-410 or  
2002-1411/1000-411



Circuit-related voltage indications can be created using the following terminal blocks:  
2002-1421/1000-434 or  
2002-1421/1000-413

- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup>  
"insulated ferrules, 12 mm"
- ② Strip length, see packaging or instructions.

2002 Series Accessories			
<b>Insulation stop,</b>			
	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray	<b>2002-171</b>	200 (8x25)
<b>Insulation stop,</b>			
	5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray	<b>2002-172</b>	200 (8x25)
<b>Push-in type jumper bar, insulated,</b>			
	I <sub>N</sub> 25 A, light gray	<b>2002-402</b>	200 (8x25)
	2-way	<b>2002-402</b>	200 (8x25)
	3-way	<b>2002-403</b>	200 (8x25)
	4-way	<b>2002-404</b>	200 (8x25)
	5-way	<b>2002-405</b>	100 (4x25)
	6-way	<b>2002-406</b>	100 (4x25)
	7-way	<b>2002-407</b>	100 (4x25)
	8-way	<b>2002-408</b>	100 (4x25)
	9-way	<b>2002-409</b>	100 (4x25)
	10-way	<b>2002-410</b>	100 (4x25)
<b>Push-in type jumper bar, insulated,</b>			
	I <sub>N</sub> 25 A, light gray	<b>2002-433</b>	200 (8x25)
	from 1 to 3	<b>2002-433</b>	200 (8x25)
	from 1 to 4	<b>2002-434</b>	200 (8x25)
	from 1 to 5	<b>2002-435</b>	100 (4x25)
	from 1 to 6	<b>2002-436</b>	100 (4x25)
	from 1 to 7	<b>2002-437</b>	100 (4x25)
	from 1 to 8	<b>2002-438</b>	100 (4x25)
	from 1 to 9	<b>2002-439</b>	100 (4x25)
	from 1 to 10	<b>2002-440</b>	100 (4x25)

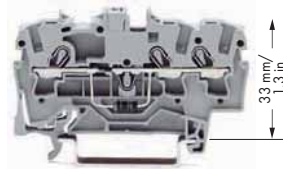
# TOPJOB® Diode Terminal Blocks 4 (6) mm<sup>2</sup> 2004 Series

0.5 - 4 (6) mm<sup>2</sup> ① | AWG 20 - 10  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N5408 - 1.5 A continuous current  
 Terminal block width 6.2 mm / 0.244 in  
 11 - 13 mm / 0.47 in ②

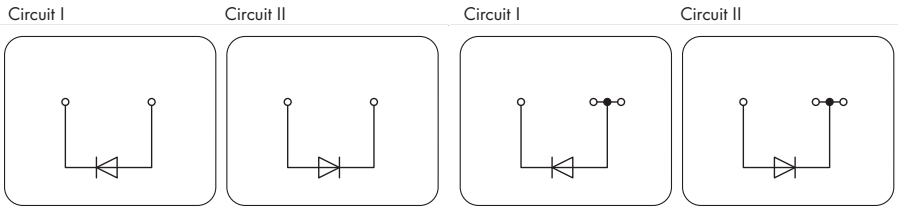
0.5 - 4 (6) mm<sup>2</sup> ① | AWG 20 - 10  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N5408 - 1.5 A continuous current  
 Terminal block width 6.2 mm / 0.244 in  
 11 - 13 mm / 0.47 in ②



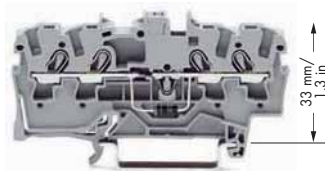
← 52,5 mm / 2.07 in →



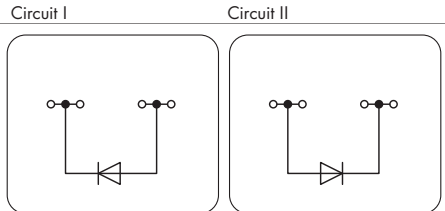
← 65,5 mm / 2.58 in →



Item No.	Pack. Unit	Item No.	Pack. Unit		
<b>2-conductor diode terminal block with 1N5408 diode, gray</b>		<b>3-conductor diode terminal block with 1N5408 diode, gray</b>			
● Circuit I	<b>2004-1211/1000-401</b>	50	● Circuit I	<b>2004-1311/1000-401</b>	50
● Circuit II	<b>2004-1211/1000-400</b>	50	● Circuit II	<b>2004-1311/1000-400</b>	50



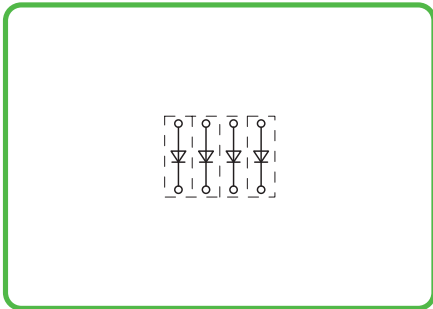
← 79 mm / 3.11 in →



	Item No.	Pack. Unit
<b>Through terminal blocks with same profile, see page 62</b>	<b>4-conductor diode terminal block with 1N5408 diode, gray</b>	
	● Circuit I	<b>2004-1411/1000-401</b> 50
	● Circuit II	<b>2004-1411/1000-400</b> 50

For list of approvals and user guide, see pages 634 to 637.

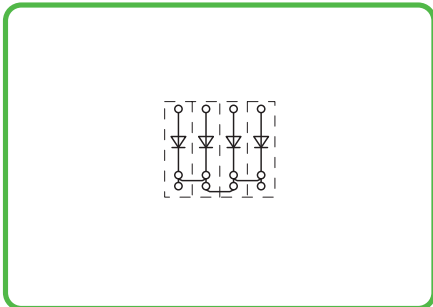
# Circuit Configuration Examples Diode Terminal Blocks



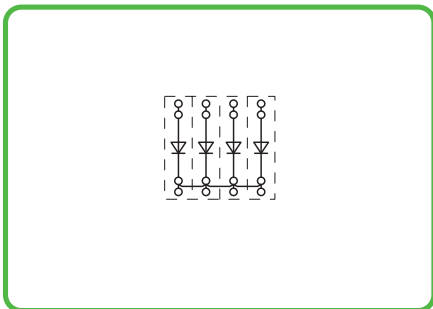
Open diode gates can be created using the following terminal blocks:  
2004-1211/1000-400 or  
2004-1211/1000-401



These diode terminal blocks have been specially developed for custom diode circuits, such as lamp test and collective fault signal circuits.









Polarized diode gates with common cathode can be created using the following terminal blocks:  
2004-1311/1000-400 or  
2004-1311/1000-401



Polarized diode gates with common cathode can be created using the following terminal blocks:  
2004-1411/1000-400 or  
2004-1411/1000-401

- ① Conductor sizes: 0.5 mm<sup>2</sup> - 6 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 1 mm<sup>2</sup> - 6 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup>  
"insulated ferrule, 12 mm"
- ② Strip length, see packaging or instructions.

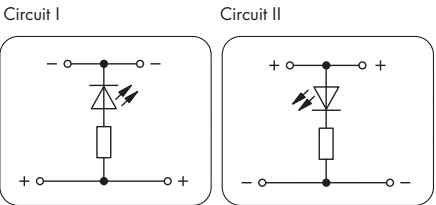
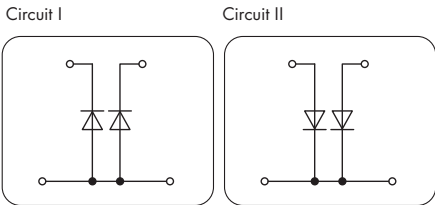
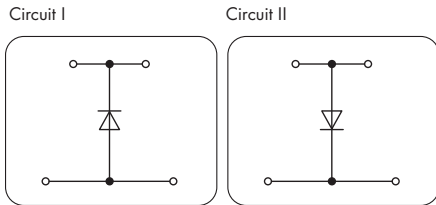
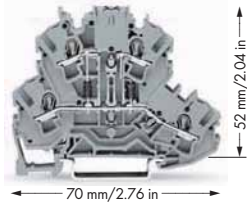
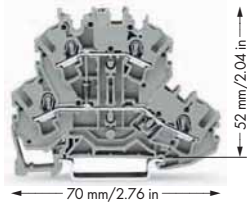
2004 Series Accessories			
<b>Insulation stop,</b>			
	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray	<b>2004-171</b>	200 (8x25)
<b>Insulation stop,</b>			
	5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray	<b>2004-172</b>	200 (8x25)
<b>Push-in type jumper bar, insulated,</b>			
	I <sub>N</sub> 32 A, light gray		
	2-way	<b>2004-402</b>	200 (8x25)
	3-way	<b>2004-403</b>	200 (8x25)
	4-way	<b>2004-404</b>	100 (4x25)
	5-way	<b>2004-405</b>	100 (4x25)
	6-way	<b>2004-406</b>	100 (4x25)
	7-way	<b>2004-407</b>	100 (4x25)
	8-way	<b>2004-408</b>	100 (4x25)
	9-way	<b>2004-409</b>	100 (4x25)
	10-way	<b>2004-410</b>	100 (4x25)
<b>Push-in type jumper bar, insulated,</b>			
	I <sub>N</sub> 32 A, light gray		
	from 1 to 3	<b>2004-433</b>	200 (8x25)
	from 1 to 4	<b>2004-434</b>	200 (8x25)
	from 1 to 5	<b>2004-435</b>	100 (4x25)
	from 1 to 6	<b>2004-436</b>	100 (4x25)
	from 1 to 7	<b>2004-437</b>	100 (4x25)
	from 1 to 8	<b>2004-438</b>	100 (4x25)
	from 1 to 9	<b>2004-439</b>	100 (4x25)
	from 1 to 10	<b>2004-440</b>	100 (4x25)
<b>Wire commoning chain, 50 connections,</b>			
	insulated, I <sub>N</sub> 8 A black	<b>210-103</b>	1
<b>Wire commoning chain, 50 connections,</b>			
	insulated, I <sub>N</sub> 8 A blue	<b>210-123</b>	1

# TOPJOB® Double-Deck Diode Terminal Blocks and LED Terminal Blocks 2.5 (4) mm<sup>2</sup> 2002 Series

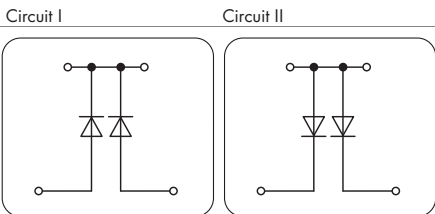
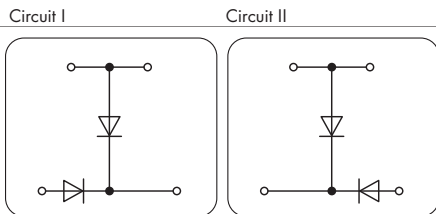
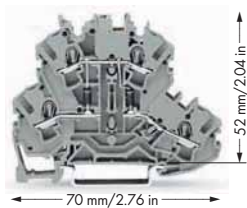
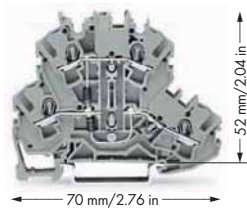
0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N4007 - 0.5 A continuous current  
 Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ②

0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N4007 - 0.5 A continuous current  
 Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ②

0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12  
 24 VDC  
 I<sub>F</sub> 0.025 A max.  
 Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ②



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Double-deck diode terminal block with 1N4007 diode, gray</b>		<b>Double-deck diode terminal block with 2 diodes 1N4007, gray</b>		<b>Double-deck LED terminal block with red LED, 24 VDC, gray</b>	
● Circuit I <b>2002-2211/1000-410</b>	50	● Circuit I <b>2002-2213/1000-487</b>	50	● Circuit I <b>2002-2221/1000-434</b>	50
● Circuit II <b>2002-2211/1000-411</b>	50	● Circuit II <b>2002-2213/1000-488</b>	50	● Circuit II <b>2002-2221/1000-413</b>	50

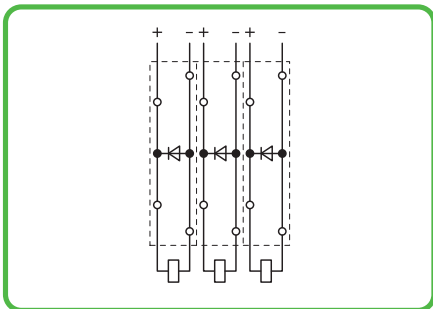


Item No.	Pack. Unit	Item No.	Pack. Unit	
<b>Double-deck diode terminal block with 2 diodes 1N4007, gray</b>		<b>Double-deck diode terminal block with 2 diodes 1N4007, gray</b>		<b>Through terminal blocks with same profile, see page 72</b>
● Circuit I <b>2002-2214/1000-492</b>	50	● Circuit I <b>2002-2214/1000-489</b>	50	
● Circuit II <b>2002-2214/1000-491</b>	50	● Circuit II <b>2002-2214/1000-490</b>	50	

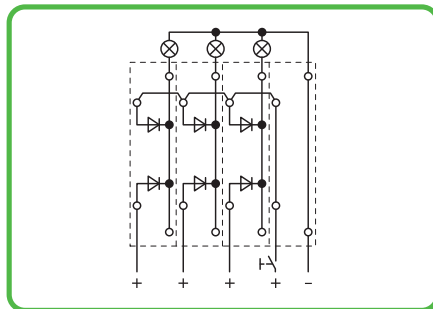
For list of approvals and user guide, see pages 634 to 637.

# Circuit Configuration Examples

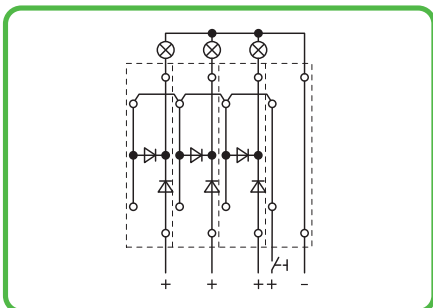
## Double-Deck Diode and LED Terminal Blocks



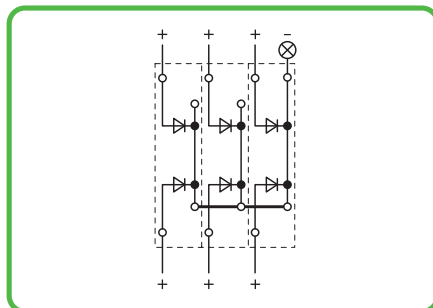
Recovery diodes can be created using the following terminal blocks:  
2002-2211/1000-410 or  
2002-2211/1000-411



Lamp test circuits can be created using the following terminal blocks:  
2002-2213/1000-487 or  
2002-2213/1000-488



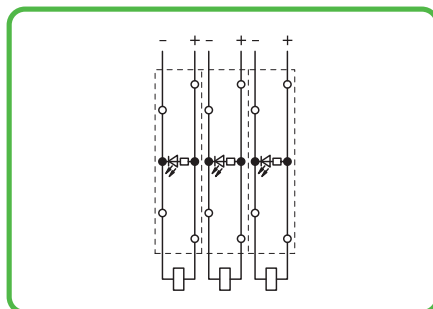
Lamp test circuits can be created using the following terminal blocks:  
2002-2214/1000-492 or  
2002-2214/1000-491



Collective fault signals can be created using the following terminal blocks:  
2002-2214/1000-489 or  
2002-2214/1000-490



Double-deck diode terminal blocks have been specially developed for custom diode circuits, such as lamp test and collective fault signal circuits. Using LED terminal blocks, monitoring units can be designed, e.g., for control and operating circuits. The terminal blocks provide high-density wiring, while maintaining a width of only 5 mm/0.197 in. Push-in type jumper bars provide additional options for custom circuit design.



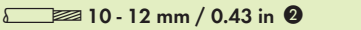
Circuit-related voltage indications can be created using the following terminal blocks:  
2002-2221/1000-434 or  
2002-2221/1000-413

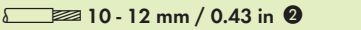
- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup>  
"insulated ferrules, 12 mm"
- ② Strip length, see packaging or instructions.

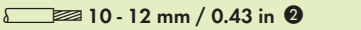
### 2002 Series Accessories

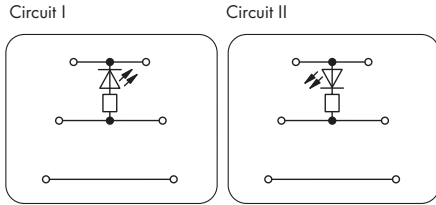
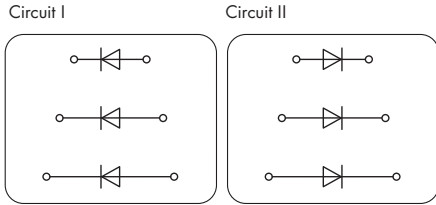
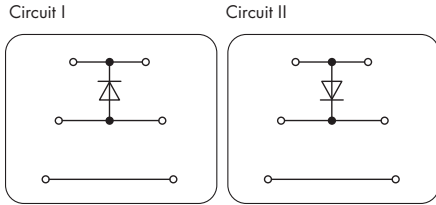
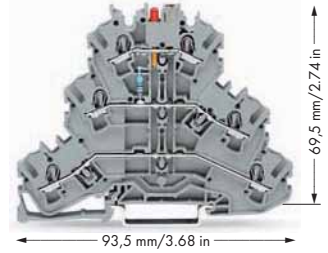
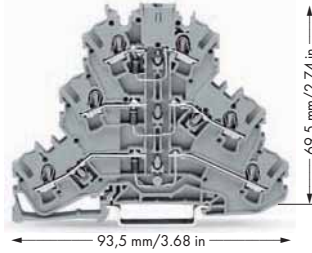
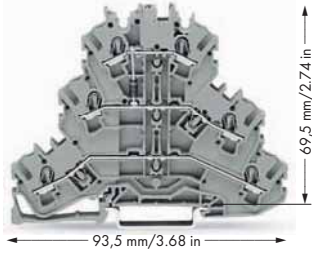
<b>End and intermediate plate, 0.8 mm thick</b>	
orange	2002-2292 100 (4x25)
gray	2002-2291 100 (4x25)
<b>Double-deck marker carrier,</b>	
pivoting	
gray	2002-121 50 (2x25)
<b>Insulation stop,</b>	
5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>	
light gray	2002-171 200 (8x25)
<b>Insulation stop,</b>	
5 pcs/strip, 0.75 - 1 mm <sup>2</sup>	
dark gray	2002-172 200 (8x25)
<b>Push-in type jumper bar, insulated,</b>	
I <sub>N</sub> 25 A, light gray	
2-way	2002-402 200 (8x25)
3-way	2002-403 200 (8x25)
4-way	2002-404 200 (8x25)
5-way	2002-405 100 (4x25)
6-way	2002-406 100 (4x25)
7-way	2002-407 100 (4x25)
8-way	2002-408 100 (4x25)
9-way	2002-409 100 (4x25)
10-way	2002-410 100 (4x25)
<b>Push-in type jumper bar, insulated,</b>	
I <sub>N</sub> 25 A, light gray	
from 1 to 3	2002-433 200 (8x25)
from 1 to 4	2002-434 200 (8x25)
from 1 to 5	2002-435 100 (4x25)
from 1 to 6	2002-436 100 (4x25)
from 1 to 7	2002-437 100 (4x25)
from 1 to 8	2002-438 100 (4x25)
from 1 to 9	2002-439 100 (4x25)
from 1 to 10	2002-440 100 (4x25)

# TOPJOB® Triple-Deck Diode Terminal Blocks and LED Terminal Blocks 2.5 (4) mm<sup>2</sup> 2002 Series

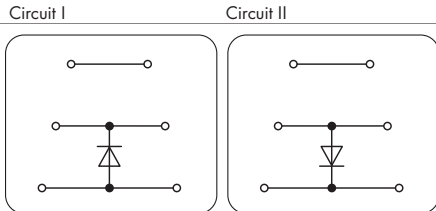
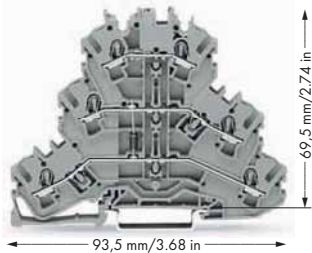
0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N4007 - 0.5 A continuous current  
 Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ②

0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N4007 - 0.5 A continuous current  
 Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ②

0.25 - 2.5 (4) mm<sup>2</sup> ① AWG 22 - 12  
 24 VDC  
 I<sub>F</sub> 0.025 A max.  
 Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ②



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Triple-deck diode terminal block with 1N4007 diode, gray</b>		<b>Triple-deck diode terminal block with 3 diodes 1N4007, gray</b>		<b>Triple-deck LED terminal block with red LED, 24 VDC, gray</b>	
● Circuit I <b>2002-3211/1000-410</b>	50	● Circuit I <b>2002-3212/1000-673</b>	50	● Circuit I <b>2002-3221/1000-434</b>	50
● Circuit II <b>2002-3211/1000-411</b>	50	● Circuit II <b>2002-3212/1000-674</b>	50	● Circuit II <b>2002-3221/1000-413</b>	50



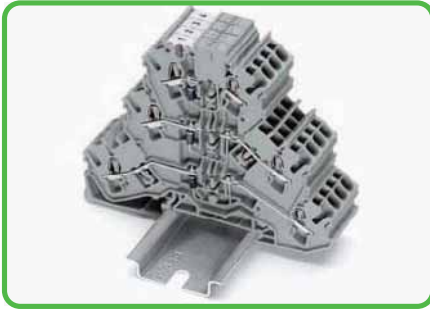
Item No.	Pack. Unit		
<b>Triple-deck diode terminal block with 1N4007 diode, gray</b>		<b>Through terminal blocks with same profile, see page 78</b>	
● Circuit I <b>2002-3211/1000-675</b>	50		
● Circuit II <b>2002-3211/1000-676</b>	50		

For list of approvals and user guide, see pages 634 to 637.



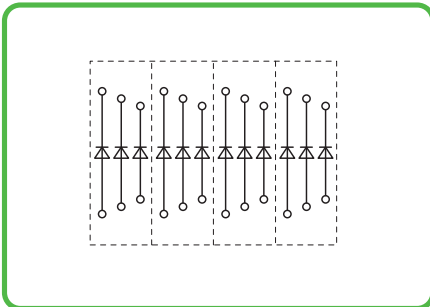
# Circuit Configuration Example

## Triple-Deck Diode Terminal Blocks



**Triple-deck diode terminal blocks** have been specially developed for custom diode circuits, such as lamp test and collective fault signal circuits. Using LED terminal blocks, monitoring units can be designed, e.g., for control and operating circuits. The terminal blocks provide high-density wiring, while maintaining a width of only 5.2 mm/0.205 in. Push-in type jumper bars provide additional options for custom circuit design.

- ❶ Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrules, 12 mm"
- ❷ Strip length, see packaging or instructions.




Open diode gates can be created, which can be connected individually using the following terminal blocks:  
**2002-3212/1000-763 or 2002-3212/1000-674**  
 Using push-in type jumper bars, individual levels can be turned into polarized diode gates.



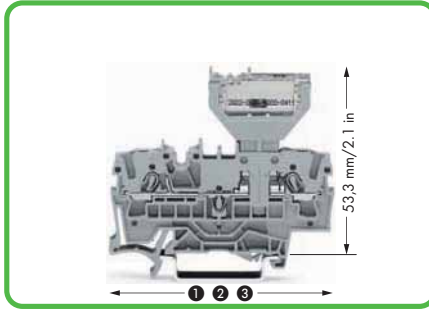
Double-deck and triple-deck LED terminal blocks

### 2002 Series Accessories

Appropriate marking systems: WMB/WMB Inline/Marking strips  
 (see Section 13)

<b>End and intermediate plate, 0.8 mm thick</b>  orange <b>2002-3292</b> 100 (4x25) gray <b>2002-3291</b> 100 (4x25)		<b>End plate,</b> for modular TOPJOB®S connectors, 1.5 mm thick gray <b>2002-541</b> 100 (4x25)	
<b>Triple-deck marker carrier,</b> pivoting gray <b>2002-131</b> 50 (2x25)		<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50	
<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>2002-171</b> 200 (8x25)		<b>Test plug adapter,</b> for test plug 4 mm Ø gray <b>2009-174</b> 100 (4x25)	
<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>2002-172</b> 200 (8x25)		<b>Testing tap,</b> for max. 2.5 mm <sup>2</sup> gray <b>2009-182</b> 100 (4x25)	
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 25 A, light gray 2-way <b>2002-402</b> 200 (8x25) 3-way <b>2002-403</b> 200 (8x25) 4-way <b>2002-404</b> 200 (8x25) 5-way <b>2002-405</b> 100 (4x25) 6-way <b>2002-406</b> 100 (4x25) 7-way <b>2002-407</b> 100 (4x25) 8-way <b>2002-408</b> 100 (4x25) 9-way <b>2002-409</b> 100 (4x25) 10-way <b>2002-410</b> 100 (4x25)		<b>Banana plug,</b> for socket 4 mm Ø, color mixed <b>215-111</b> 50	
		<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5	
		<b>WMB Inline, plain,</b> stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white <b>2009-115</b> 1	
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 25 A, light gray from 1 to 3 <b>2002-433</b> 200 (8x25) from 1 to 4 <b>2002-434</b> 200 (8x25) from 1 to 5 <b>2002-435</b> 100 (4x25) from 1 to 6 <b>2002-436</b> 100 (4x25) from 1 to 7 <b>2002-437</b> 100 (4x25) from 1 to 8 <b>2002-438</b> 100 (4x25) from 1 to 9 <b>2002-439</b> 100 (4x25) from 1 to 10 <b>2002-440</b> 100 (4x25)		<b>Marking strip, plain,</b> 11 mm wide, 50 m roll white <b>2009-110</b> 1	
		<b>TOPJOB®S group marker carrier,</b> snap-on type for jumper slot, 5 mm wide gray <b>2009-191</b> 50 (2x25)	
		<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)	
<b>Modular TOPJOB®S connector,</b> can be snapped together, for jumper contact slot gray <b>2002-511</b> 100 (4x25)		<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)	
<b>Spacer module,</b> can be snapped together, e.g., for bridging commoned terminal blocks gray <b>2002-549</b> 100 (4x25)			

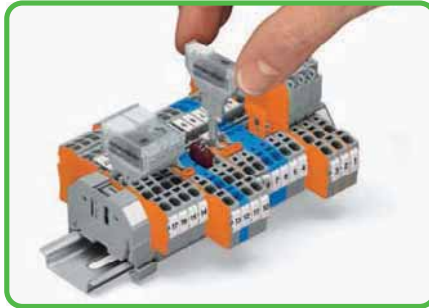
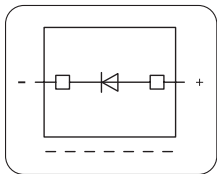
Diode module  
with 1N4007 diode  
U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
I<sub>N</sub> 1 A  
Plug width 5.2 mm / 0.205 in



These diode have been designed for use in lamp test circuits or collective fault indicating systems, and offer the following advantages:

- Separation into functional and wiring level
- Polarized direction of switching
- Quick and easy exchange of modules
- High density with only 5.2 mm/0.205 in width of terminal block and module

- ① Length of 2002-1661: 66.5 mm / 2.62 in 2-conductor carrier terminal block
- ② Length of 2002-1861: 87.5 mm / 3.45 in 4-conductor carrier terminal block
- ③ Length of 2002-1961: 72.9 mm / 2.87 in 2-conductor carrier terminal block with additional jumper position
- ④ See application notes for:  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Push-in type wire jumper, page 140



Accessories

Push-in type wire jumper,

④	insulated, I <sub>N</sub> 16 A, wire size 1.5 mm <sup>2</sup>
	L = 60 mm <b>2009-412</b> 100 (10x10)
	L = 110 mm <b>2009-414</b> 100 (10x10)
	L = 250 mm <b>2009-416</b> 100 (10x10)

Push-in type jumper bar, insulated,

④	I <sub>N</sub> 25 A, light gray
	2-way <b>2002-402</b> 200 (8x25)
	3-way <b>2002-403</b> 200 (8x25)
	4-way <b>2002-404</b> 200 (8x25)
	5-way <b>2002-405</b> 100 (4x25)
	6-way <b>2002-406</b> 100 (4x25)
	7-way <b>2002-407</b> 100 (4x25)
	8-way <b>2002-408</b> 100 (4x25)
	9-way <b>2002-409</b> 100 (4x25)
	10-way <b>2002-410</b> 100 (4x25)

Push-in type jumper bar, insulated,

	I <sub>N</sub> 25 A, light gray
	from 1 to 3 <b>2002-433</b> 200 (8x25)
	from 1 to 4 <b>2002-434</b> 200 (8x25)
	from 1 to 5 <b>2002-435</b> 100 (4x25)
	from 1 to 6 <b>2002-436</b> 100 (4x25)
	from 1 to 7 <b>2002-437</b> 100 (4x25)
	from 1 to 8 <b>2002-438</b> 100 (4x25)
	from 1 to 9 <b>2002-439</b> 100 (4x25)
	from 1 to 10 <b>2002-440</b> 100 (4x25)

Staggered jumper,

④	insulated, I <sub>N</sub> 25 A, light gray
	2-way <b>2002-472</b> 100 (4x25)
	3-way <b>2002-473</b> 100 (4x25)
	4-way <b>2002-474</b> 100 (4x25)
	5-way <b>2002-475</b> 50 (2x25)
	6-way <b>2002-476</b> 50 (2x25)
	7-way <b>2002-477</b> 50 (2x25)
	8-way <b>2002-478</b> 50 (2x25)
	9-way <b>2002-479</b> 50 (2x25)
	10-way <b>2002-480</b> 50 (2x25)
	11-way <b>2002-481</b> 50 (2x25)
	12-way <b>2002-482</b> 50 (2x25)

Item No.	Pack. Unit
<b>Diode module,</b> with 1N4007 diode, max. operating temperature: 85 °C, 5.2 mm wide ● gray <b>2002-800/1000-411</b>	100

**Carrier Term. Blocks and Accessories**  
Appropriate marking system:  
WMB/Marking strips

<b>2-conductor carrier terminal block,</b> ① 0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray <b>2002-1661</b>	50
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<b>End and intermediate plate, 1 mm thick</b> orange <b>2002-1692</b> 100 (4x25) gray <b>2002-1691</b> 100 (4x25)	
-------------------------------------------------------------------------------------------------------------------------	--

<b>4-conductor carrier terminal block,</b> ② 0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray <b>2002-1861</b>	50
-----------------------------------------------------------------------------------------------------------------------------------------------------------------	----

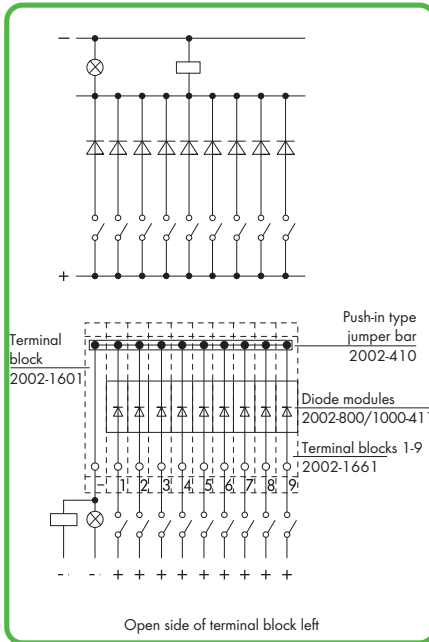
<b>End and intermediate plate, 1 mm thick</b> orange <b>2002-1892</b> 100 (4x25) gray <b>2002-1891</b> 100 (4x25)	
-------------------------------------------------------------------------------------------------------------------------	--

<b>2-conductor carrier terminal block,</b> ③ 0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray <b>2002-1961</b>	50
-----------------------------------------------------------------------------------------------------------------------------------------------------------------	----

<b>End and intermediate plate, 1 mm thick</b> orange <b>2002-1992</b> 100 (4x25) gray <b>2002-1991</b> 100 (4x25)	
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<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>2002-171</b>	200 (8x25)
-----------------------------------------------------------------------------------------------------	------------

<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>2002-172</b>	200 (8x25)
--------------------------------------------------------------------------------------------------	------------



Diode gate for collective fault indication

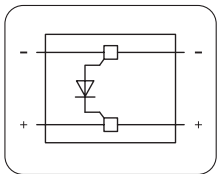
**Diode module**  
with 1N4007 diode as free-wheeling diode  
U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
I<sub>N</sub> 1 A  
Plug width 10.4 mm / 0.409 in



Similar to a push-in jumper, these diode modules are simply pushed into the contact slots of the current bars for two adjacent through terminal blocks.

- This offers the following advantages:
- These modules are suitable for **all 2001 to 2006** Series through terminal blocks equipped with jumper slots (please note the module's width).
  - Easily retrofit terminal blocks with diode modules.

- ① Length of 2002-1201: 48.5 mm / 1.91 in 2-conductor carrier terminal block
- ② Length of 2002-1301: 59.5 mm / 2.34 in 3-conductor carrier terminal block
- ③ Length of 2002-1401: 70 mm / 2.76 in 4-conductor carrier terminal block
- ④ See application notes for:  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Push-in type wire jumper, page 140



Plugging a diode module into a through terminal block.

- Additional advantages:
- Separation into functional and wiring level
  - Modules can be replaced quickly by other types of modules
  - Solder-free assembly of diodes, resistors, etc.



Opening the cover via operating tool (blade width 2.5 mm).

Item No.	Pack. Unit
<b>Diode module,</b> with 1N4007 diode as free-wheeling diode, max. operating temperature: 85 °C, 10.4 mm wide ○ gray	<b>2002-880/1000-411</b> 50
<b>Empty component plug housing type 4,</b> 2-pole, 10.4 mm wide ○ gray	<b>2002-880</b> 50
<b>Through Term. Blocks and Accessories</b> Appropriate marking system: WMB/Marking strips	
<b>2-conductor through terminal block,</b> ① 0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray	<b>2002-1201</b> 100
<b>End and intermediate plate, 0.8 mm thick</b> orange gray	<b>2002-1292</b> 100 (4x25) <b>2002-1291</b> 100 (4x25)
<b>3-conductor through terminal block,</b> ② 0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray	<b>2002-1301</b> 100
<b>End and intermediate plate, 0.8 mm thick</b> orange gray	<b>2002-1392</b> 100 (4x25) <b>2002-1391</b> 100 (4x25)
<b>4-conductor through terminal block,</b> ③ 0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray	<b>2002-1401</b> 100
<b>End and intermediate plate, 0.8 mm thick</b> orange gray	<b>2002-1492</b> 100 (4x25) <b>2002-1491</b> 100 (4x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray	<b>2002-171</b> 200 (8x25)

**Accessories**

**Insulation stop,**  
5 pcs/strip,  
0.75 - 1 mm<sup>2</sup>  
dark gray **2002-172** 200 (8x25)

**Protective warning marker,**  
with high-voltage symbol, black,  
for 5 terminal blocks  
yellow **2002-115** 100 (4x25)

**Push-in type wire jumper,**  
④ insulated,  
I<sub>N</sub> 16 A,  
wire size 1.5 mm<sup>2</sup>  
L = 60 mm **2009-412** 100 (10x10)  
L = 110 mm **2009-414** 100 (10x10)  
L = 250 mm **2009-416** 100 (10x10)

**Push-in type jumper bar, insulated,**  
④ I<sub>N</sub> 25 A,  
light gray  
2-way **2002-402** 200 (8x25)  
3-way **2002-403** 200 (8x25)  
4-way **2002-404** 200 (8x25)  
5-way **2002-405** 100 (4x25)  
6-way **2002-406** 100 (4x25)  
7-way **2002-407** 100 (4x25)  
8-way **2002-408** 100 (4x25)  
9-way **2002-409** 100 (4x25)  
10-way **2002-410** 100 (4x25)

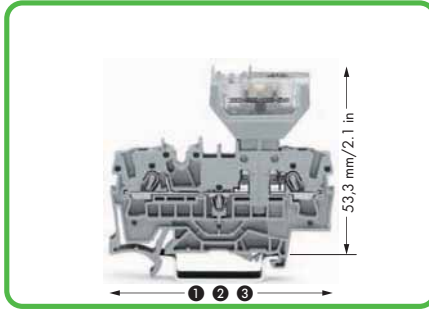
**Push-in type jumper bar, insulated,**  
④ I<sub>N</sub> 25 A,  
light gray  
from 1 to 3 **2002-433** 200 (8x25)  
from 1 to 4 **2002-434** 200 (8x25)  
from 1 to 5 **2002-435** 100 (4x25)  
from 1 to 6 **2002-436** 100 (4x25)  
from 1 to 7 **2002-437** 100 (4x25)  
from 1 to 8 **2002-438** 100 (4x25)  
from 1 to 9 **2002-439** 100 (4x25)  
from 1 to 10 **2002-440** 100 (4x25)

**Staggered jumper,**  
④ insulated,  
I<sub>N</sub> 25 A,  
light gray  
2-way **2002-472** 100 (4x25)  
3-way **2002-473** 100 (4x25)  
4-way **2002-474** 100 (4x25)  
5-way **2002-475** 50 (2x25)

For list of approvals and user guide, see pages 634 to 637.

LED module  
I<sub>N</sub> ≤ 3 mA

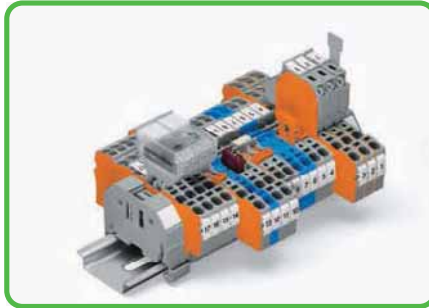
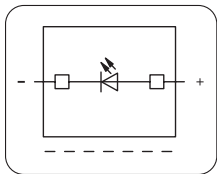
Plug width 5.2 mm / 0.205 in



The monitoring of control and operating current circuits with LED modules on rail-mounted terminal blocks provides several advantages to the user:

- No additional cost for assembly and wiring
- Separation into functional and wiring level
- Modules can be replaced quickly and easily by other types of modules

- 1 Length of 2002-1661: 66.5 mm / 2.62 in  
2-conductor carrier terminal block
- 2 Length of 2002-1861: 87.5 mm / 3.45 in  
4-conductor carrier terminal block
- 3 Length of 2002-1961: 72.9 mm / 2.87 in  
2-conductor carrier terminal block with additional jumper position
- 4 See application notes for:  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Push-in type wire jumper, page 140



Additional advantages:

- Polarized direction of switching
- High density with only 5.2 mm/0.205 in width of terminal block and module

Accessories

Push-in type wire jumper,

4	insulated, I <sub>N</sub> 16 A, wire size 1.5 mm <sup>2</sup>
	L = 60 mm <b>2009-412</b> 100 (10x10)
	L = 110 mm <b>2009-414</b> 100 (10x10)
	L = 250 mm <b>2009-416</b> 100 (10x10)

Push-in type jumper bar, insulated,

4	I <sub>N</sub> 25 A, light gray
	2-way <b>2002-402</b> 200 (8x25)
	3-way <b>2002-403</b> 200 (8x25)
	4-way <b>2002-404</b> 200 (8x25)
	5-way <b>2002-405</b> 100 (4x25)
	6-way <b>2002-406</b> 100 (4x25)
	7-way <b>2002-407</b> 100 (4x25)
	8-way <b>2002-408</b> 100 (4x25)
	9-way <b>2002-409</b> 100 (4x25)
	10-way <b>2002-410</b> 100 (4x25)

Push-in type jumper bar, insulated,

	I <sub>N</sub> 25 A, light gray
	from 1 to 3 <b>2002-433</b> 200 (8x25)
	from 1 to 4 <b>2002-434</b> 200 (8x25)
	from 1 to 5 <b>2002-435</b> 100 (4x25)
	from 1 to 6 <b>2002-436</b> 100 (4x25)
	from 1 to 7 <b>2002-437</b> 100 (4x25)
	from 1 to 8 <b>2002-438</b> 100 (4x25)
	from 1 to 9 <b>2002-439</b> 100 (4x25)
	from 1 to 10 <b>2002-440</b> 100 (4x25)

Staggered jumper,

4	insulated, I <sub>N</sub> 25 A, light gray
	2-way <b>2002-472</b> 100 (4x25)
	3-way <b>2002-473</b> 100 (4x25)
	4-way <b>2002-474</b> 100 (4x25)
	5-way <b>2002-475</b> 50 (2x25)
	6-way <b>2002-476</b> 50 (2x25)
	7-way <b>2002-477</b> 50 (2x25)
	8-way <b>2002-478</b> 50 (2x25)
	9-way <b>2002-479</b> 50 (2x25)
	10-way <b>2002-480</b> 50 (2x25)
	11-way <b>2002-481</b> 50 (2x25)
	12-way <b>2002-482</b> 50 (2x25)

Item No.	Pack. Unit
<b>LED module,</b> with red LED, max. operating temperature: 85 °C, 5.2 mm wide	
12 - 30 V <b>2002-800/1000-541</b>	100
30 - 65 V <b>2002-800/1000-542</b>	100
230 V <b>2002-800/1000-836</b>	100

Carrier Term. Blocks and Accessories  
Appropriate marking system:  
WMB/Marking strips

<b>2-conductor carrier terminal block,</b> 1	0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray <b>2002-1661</b>	50
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<b>End and intermediate plate, 1 mm thick</b>	orange <b>2002-1692</b> 100 (4x25)	
	gray <b>2002-1691</b> 100 (4x25)	

<b>4-conductor carrier terminal block,</b> 2	0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray <b>2002-1861</b>	50
-------------------------------------------------	-----------------------------------------------------------------------------------------------------------------	----

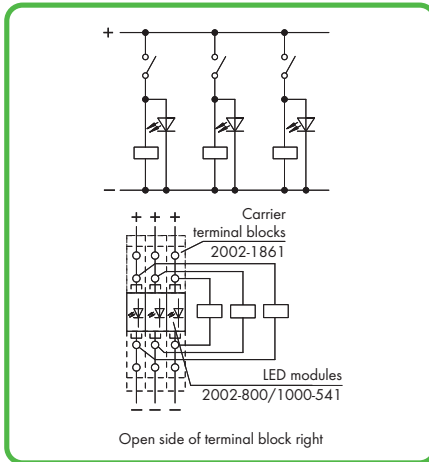
<b>End and intermediate plate, 1 mm thick</b>	orange <b>2002-1892</b> 100 (4x25)	
	gray <b>2002-1891</b> 100 (4x25)	

<b>2-conductor carrier terminal block,</b> 3	0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray <b>2002-1961</b>	50
-------------------------------------------------	-----------------------------------------------------------------------------------------------------------------	----

<b>End and intermediate plate, 1 mm thick</b>	orange <b>2002-1992</b> 100 (4x25)	
	gray <b>2002-1991</b> 100 (4x25)	

<b>Insulation stop,</b>	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>2002-171</b>	200 (8x25)
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<b>Insulation stop,</b>	5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>2002-172</b>	200 (8x25)
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Voltage control refers to current circuits

LED module  
I<sub>N</sub> ≤ 3 mA

Plug width 10.4 mm / 0.409 in

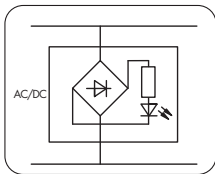


Similar to a push-in jumper, these LED modules are inserted into the current bar contact slots of two adjacent through terminal blocks.

These modules are suitable for all 2001 to 2006 Series through terminal blocks equipped with jumper slots (please note the module's width).

- Easily retrofit terminal blocks with diode modules.

- 1 Length of 2002-1201: 48.5 mm / 1.91 in  
2-conductor carrier terminal block
- 2 Length of 2002-1301: 59.5 mm / 2.34 in  
3-conductor carrier terminal block
- 3 Length of 2002-1401: 70 mm / 2.76 in  
4-conductor carrier terminal block



Marking using WMB Multi markers and marker strips.



Testing can also be performed using 2-pole test plugs.

- Additional advantages:
- Separation into functional and wiring level
  - Modules can be replaced quickly by other types of modules

Item No.	Pack. Unit
<b>LED module,</b> with red LED, max. operating temperature: 85 °C, 10.4 mm wide	
12 - 30 V      2002-880/1000-541	50
30 - 65 V      2002-880/1000-542	50
230 V          2002-880/1000-836	50

**Through Term. Blocks and Accessories**  
Appropriate marking system:  
WMB/Marking strips

2-conductor through terminal block,	
1	0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray      2002-1201      100

End and intermediate plate, 0.8 mm thick	
orange	2002-1292      100 (4x25)
gray	2002-1291      100 (4x25)

3-conductor through terminal block,	
2	0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray      2002-1301      100

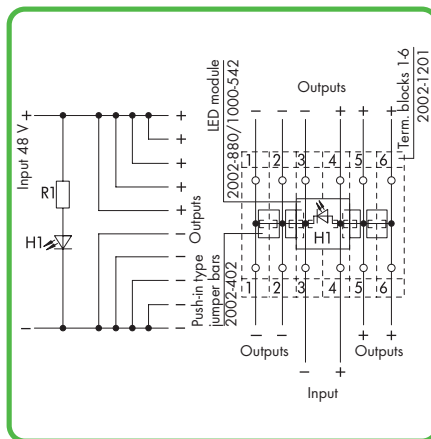
End and intermediate plate, 0.8 mm thick	
orange	2002-1392      100 (4x25)
gray	2002-1391      100 (4x25)

4-conductor through terminal block,	
3	0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray      2002-1401      100

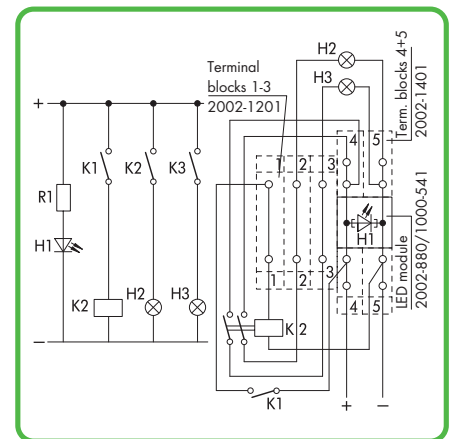
End and intermediate plate, 0.8 mm thick	
orange	2002-1492      100 (4x25)
gray	2002-1491      100 (4x25)

Insulation stop,	
5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>	
light gray	2002-171      200 (8x25)

Insulation stop,	
5 pcs/strip, 0.75 - 1 mm <sup>2</sup>	
dark gray	2002-172      200 (8x25)



Multiple outputs with indicator lamp



Control unit

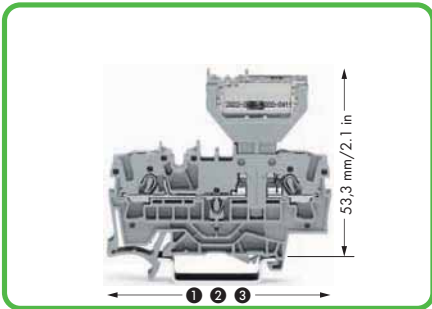
For list of approvals and user guide, see pages 634 to 637.

Empty component plug housing  Plug width 5.2 mm / 0.205 in	Empty component plug housing  Plug width 10.4 mm / 0.409 in
------------------------------------------------------------------	-------------------------------------------------------------------



- ① Length of 2002-1661: 66.5 mm / 2.62 in  
2-conductor carrier terminal block
- ② Length of 2002-1861: 87.5 mm / 3.45 in  
4-conductor carrier terminal block
- ③ Length of 2002-1961: 72.9 mm / 2.87 in  
2-conductor carrier terminal block with additional jumper position
- ④ See application notes for:  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Push-in type wire jumper, page 140

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>Empty component plug housing type 1,</b> 2-pole, 5.2 mm wide ● gray	<b>2002-800</b> 100	<b>Empty component plug housing type 2,</b> 2-pole, 10.4 mm wide ● gray	<b>2002-810</b> 50	<b>Staggered jumper,</b> ④ insulated, I <sub>N</sub> 25 A, light gray 2-way <b>2002-472</b> 100 (4x25) 3-way <b>2002-473</b> 100 (4x25) 4-way <b>2002-474</b> 100 (4x25) 5-way <b>2002-475</b> 50 (2x25) 6-way <b>2002-476</b> 50 (2x25) 7-way <b>2002-477</b> 50 (2x25) 8-way <b>2002-478</b> 50 (2x25) 9-way <b>2002-479</b> 50 (2x25) 10-way <b>2002-480</b> 50 (2x25) 11-way <b>2002-481</b> 50 (2x25) 12-way <b>2002-482</b> 50 (2x25)
		<b>Empty component plug housing type 3,</b> 4-pole, 10.4 mm wide ● gray	<b>2002-820</b> 50	
<b>Carrier Term. Blocks and Accessories</b> Appropriate marking system: WMB/Marking strips				
<b>2-conductor carrier terminal block,</b> ① 0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray	<b>2002-1661</b> 50	<b>Push-in type wire jumper,</b> ④ insulated, I <sub>N</sub> 16 A, wire size 1.5 mm <sup>2</sup> L = 60 mm	<b>2009-412</b> 100 (10x10)	<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5
<b>End and intermediate plate, 1 mm thick</b> orange	<b>2002-1692</b> 100 (4x25)	L = 110 mm	<b>2009-414</b> 100 (10x10)	
gray	<b>2002-1691</b> 100 (4x25)	L = 250 mm	<b>2009-416</b> 100 (10x10)	<b>WMB Multi marking system, plain,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm yellow <b>793-5501/000-002</b> red <b>793-5501/000-005</b> blue <b>793-5501/000-006</b> gray <b>793-5501/000-007</b> orange <b>793-5501/000-012</b> light green <b>793-5501/000-017</b> green <b>793-5501/000-023</b> violet <b>793-5501/000-024</b> 5
<b>4-conductor carrier terminal block,</b> ② 0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray	<b>2002-1861</b> 50	<b>Push-in type jumper bar, insulated,</b> ④ I <sub>N</sub> 25 A, light gray 2-way	<b>2002-402</b> 200 (8x25)	
<b>End and intermediate plate, 1 mm thick</b> orange	<b>2002-1892</b> 100 (4x25)	3-way	<b>2002-403</b> 200 (8x25)	
gray	<b>2002-1891</b> 100 (4x25)	4-way	<b>2002-404</b> 200 (8x25)	
<b>2-conductor carrier terminal block,</b> ③ 0.25 - 2.5 (4) mm <sup>2</sup> / AWG 22 - 12 Terminal block width 5.2 mm / 0.205 in gray	<b>2002-1961</b> 50	5-way	<b>2002-405</b> 100 (4x25)	
<b>End and intermediate plate, 1 mm thick</b> orange	<b>2002-1992</b> 100 (4x25)	6-way	<b>2002-406</b> 100 (4x25)	
gray	<b>2002-1991</b> 100 (4x25)	7-way	<b>2002-407</b> 100 (4x25)	
<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray	<b>2002-171</b> 200 (8x25)	8-way	<b>2002-408</b> 100 (4x25)	
<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray	<b>2002-172</b> 200 (8x25)	9-way	<b>2002-409</b> 100 (4x25)	
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow	<b>2002-115</b> 100 (4x25)	10-way	<b>2002-410</b> 100 (4x25)	
		<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 25 A, light gray from 1 to 3	<b>2002-433</b> 200 (8x25)	
		from 1 to 4	<b>2002-434</b> 200 (8x25)	
		from 1 to 5	<b>2002-435</b> 100 (4x25)	
		from 1 to 6	<b>2002-436</b> 100 (4x25)	
		from 1 to 7	<b>2002-437</b> 100 (4x25)	
		from 1 to 8	<b>2002-438</b> 100 (4x25)	
		from 1 to 9	<b>2002-439</b> 100 (4x25)	
		from 1 to 10	<b>2002-440</b> 100 (4x25)	
		<b>Multi-purpose operating tool,</b> for component plugs	<b>2002-116</b> 5	



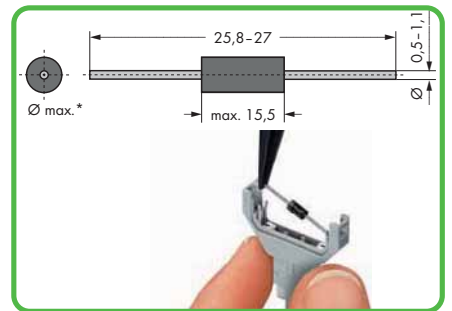
Application example showing a pluggable diode module.



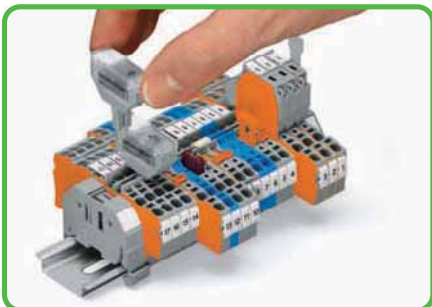
Opening the cover via multi-purpose operating tool for component plugs.



When closing the cover, please insert cover as shown in the illustration.



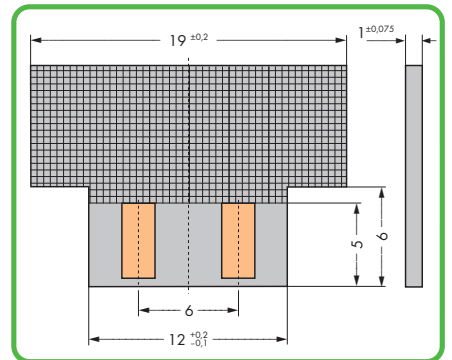
\* Ø max. 3.4 mm at 5.2 mm module width and  
 \* Ø max. 5.4 mm at 10.4 mm/0.409 in module width  
**Notice:** Reconnection only possible with similar or larger wire diameter. Smaller wire diameters must be soldered. Component plugs for building custom circuits. Solder-free assembly of diodes, resistors, etc. Picture shows 1N4007 diode.



Plugging a diode module into a through terminal block.



Diode module inserted in a through terminal block.



**Dimensions of self-assembled PCBs**  
 Module height 2 mm at 5.2 mm module width and  
 module height 3.3 mm at 10.4 mm module width



Cutting component to the proper length.



Pressing component into plug contact via operating tool.

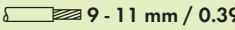
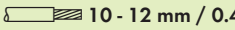


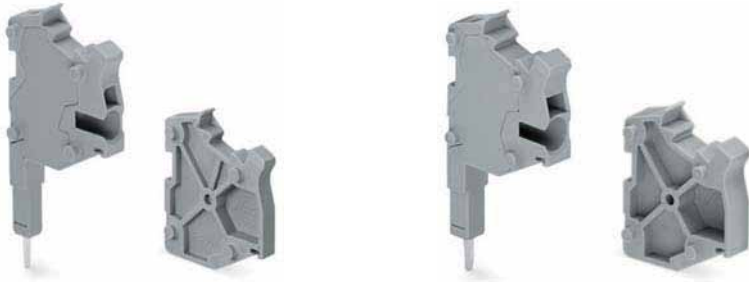
Pushing PCB into plug contact via operating tool.

# TOPJOB® S

## Connectors and Connector Strips

### 2001/2002 Series

<b>0.25 - 1.5 (2.5) mm<sup>2</sup> ①</b> AWG 22 - 14 500 V/6 kV/3 ③ I <sub>N</sub> 18 A  Terminal block width 4.2 mm / 0.165 in  9 - 11 mm / 0.39 in ④	<b>0.25 - 2.5 (4) mm<sup>2</sup> ②</b> AWG 22 - 12 500 V/6 kV/3 ③ I <sub>N</sub> 24 A  Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ④
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

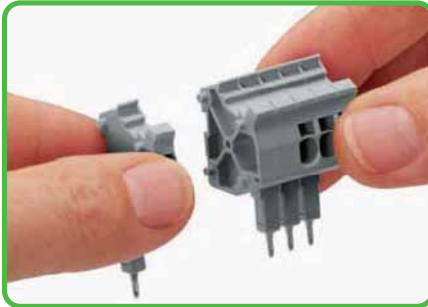


Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>Modular TOPJOB®S connector,</b> for jumper contact slot, can be snapped together, gray ○ 1-pole <b>2001-511</b> 100 (4x25)		<b>Modular TOPJOB®S connector,</b> for jumper contact slot, can be snapped together, gray ○ 1-pole <b>2002-511</b> 100 (4x25)		<b>Accessories</b> Appropriate marking systems (see Section 13)  <b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
<b>Spacer module,</b> can be snapped together, e.g., for bridging commoned terminal blocks ○ gray <b>2001-549</b> 100 (4x25)		<b>Spacer module,</b> can be snapped together, e.g., for bridging commoned terminal blocks ○ gray <b>2002-549</b> 100 (4x25)		
<b>TOPJOB®S connector strip,</b> for jumper contact slot, gray ○ 2-pole <b>2001-552</b> 25 ○ 3-pole <b>2001-553</b> 25 ○ 4-pole <b>2001-554</b> 25 ○ 5-pole <b>2001-555</b> 10 ○ 6-pole <b>2001-556</b> 10 ○ 7-pole <b>2001-557</b> 10 ○ 8-pole <b>2001-558</b> 10 ○ 9-pole <b>2001-559</b> 10 ○ 10-pole <b>2001-560</b> 10		<b>TOPJOB®S connector strip,</b> for jumper contact slot, gray ○ 2-pole <b>2002-552</b> 25 ○ 3-pole <b>2002-553</b> 25 ○ 4-pole <b>2002-554</b> 25 ○ 5-pole <b>2002-555</b> 10 ○ 6-pole <b>2002-556</b> 10 ○ 7-pole <b>2002-557</b> 10 ○ 8-pole <b>2002-558</b> 10 ○ 9-pole <b>2002-559</b> 10 ○ 10-pole <b>2002-560</b> 10		<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Strain relief plate,</b> gray 35 mm width <b>734-326</b> 100 (4x25) 6 mm wide <b>734-327</b> 100 (4x25) 12.5 mm width <b>734-328</b> 100 (4x25) 25 mm wide <b>734-329</b> 100 (4x25)
<b>End plate,</b> for modular TOPJOB®S connectors, 1.5 mm thick gray <b>2002-541</b> 100 (4x25)		<b>End plate,</b> for modular TOPJOB®S connectors, 1.5 mm thick gray <b>2002-541</b> 100 (4x25)		<b>Marking strip,</b> plain, 11 mm wide, 50 m roll white <b>2009-110</b> 1
<b>WMB Inline,</b> plain, stretchable 4 - 4.2 mm, 2,000 WMB markers, 4 mm, on roll white <b>2009-114</b> 1		<b>WMB Inline,</b> plain, stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white <b>2009-115</b> 1		
<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 4 - 4.2 mm plain <b>793-4501</b> 5		<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5		
<b>WMB Multi marking system,</b> plain, 10 strips with 10 markers per card, stretchable 4 - 4.2 mm yellow <b>793-4501/000-002</b> red <b>793-4501/000-005</b> blue <b>793-4501/000-006</b> gray <b>793-4501/000-007</b> orange <b>793-4501/000-012</b> light green <b>793-4501/000-017</b> green <b>793-4501/000-023</b> violet <b>793-4501/000-024</b> 5		<b>WMB Multi marking system,</b> plain, 10 strips with 10 markers per card, stretchable 5 - 5.2 mm yellow <b>793-5501/000-002</b> red <b>793-5501/000-005</b> blue <b>793-5501/000-006</b> gray <b>793-5501/000-007</b> orange <b>793-5501/000-012</b> light green <b>793-5501/000-017</b> green <b>793-5501/000-023</b> violet <b>793-5501/000-024</b> 5		
		<b>Miniature WSB Quick marking system,</b> 10 strips with 10 markers per card, 5 mm wide markers plain <b>248-501</b> 5		

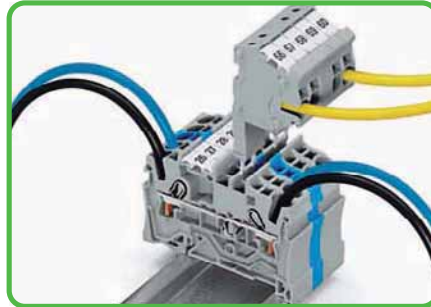
For list of approvals and user guide, see pages 634 to 637.



## - Handling - TOPJOB® S Connectors



Snapping connectors and spacer modules together to assemble a multipole connector.

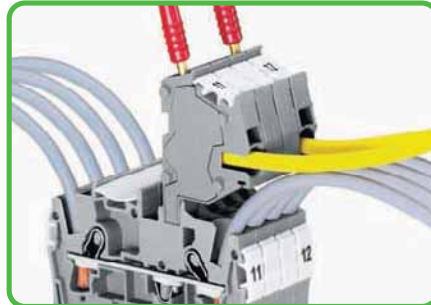


These modular connectors provide an additional connection option for conductors of the same cross section range as the terminal blocks being used.

- ❶ Conductor sizes: 0.25 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.5 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> - 1.5 mm<sup>2</sup>  
"insulated ferrule, 12 mm"
- ❷ Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup>  
"insulated ferrule, 12 mm"
- ❸ 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ❹ Strip length, see packaging or instructions.



Conductor termination:  
- Using an operating tool for unferruled, fine-stranded conductors  
- Push-in connection of solid conductors



The connectors have a test socket for 2 mm Ø or 2.3 mm Ø test plugs.



Snapping on a strain relief plate.

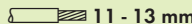
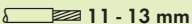
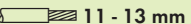


Rail-mounted terminal block assembly for electric motor wiring.







# TOPJOB® S

## Connectors 4 (6) mm<sup>2</sup>

### 2004/2006/2010/2016 Series

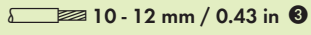
<p>0.5 - 4 (6) mm<sup>2</sup> ① AWG 20 - 10                  500 V/6 kV/3 ② 300 V, 30 A ③                  I<sub>N</sub> 32 A</p> <p>Terminal block width 6.2 mm / 0.244 in   11 - 13 mm / 0.47 in ③</p>	<p>0.5 - 4 (6) mm<sup>2</sup> ① AWG 20 - 10                  500 V/6 kV/3 ②                  I<sub>N</sub> 32 A</p> <p>Terminal block width 7.5 mm / 0.295 in   11 - 13 mm / 0.47 in ③</p>	<p>0.5 - 4 (6) mm<sup>2</sup> ① AWG 20 - 10                  500 V/6 kV/3 ②                  I<sub>N</sub> 32 A</p> <p>Terminal block width 10 mm / 0.394 in   11 - 13 mm / 0.47 in ③</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Modular TOPJOB®S connector,</b> for jumper contact slot, can be snapped together, gray ● 1-pole <b>2004-511</b> 100 (4x25)		<b>Modular TOPJOB®S connector,</b> for jumper contact slot, can be snapped together, gray ● 1-pole <b>2006-511</b> 50 (2x25)		<b>Modular TOPJOB®S connector,</b> for jumper contact slot, can be snapped together, gray ● 1-pole <b>2010-511</b> 50 (2x25)	
<b>Spacer module,</b> can be snapped together, e.g., for bridging commoned terminal blocks ● gray <b>2004-549</b> 100 (4x25)		<b>Spacer module,</b> can be snapped together, e.g., for bridging commoned terminal blocks ● gray <b>2006-549</b> 50 (2x25)		<b>Spacer module,</b> can be snapped together, e.g., for bridging commoned terminal blocks ● gray <b>2010-549</b> 50 (2x25)	
<b>TOPJOB®S connector strip,</b> for jumper contact slot, gray ● 2-pole <b>2004-552</b> 25 ● 3-pole <b>2004-553</b> 25 ● 4-pole <b>2004-554</b> 25 ● 5-pole <b>2004-555</b> 10					
<b>Item-Specific Accessories</b>					
<b>Test plug,</b>  with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50					
<b>Accessories Connector Strips</b>					
<b>End plate,</b>  for modular TOPJOB®S connectors, 1.5 mm thick gray <b>2004-541</b> 100 (4x25)		<b>Strain relief plate,</b> gray  35 mm width <b>734-326</b> 100 (4x25) 6 mm wide <b>734-327</b> 100 (4x25) 12.5 mm width <b>734-328</b> 100 (4x25) 25 mm wide <b>734-329</b> 100 (4x25)		<b>Marking strip,</b> plain,  11 mm wide, 50 m roll white <b>2009-110</b> 1	
<b>Test plug,</b>  with 500 mm cable, 2 mm Ø red <b>210-136</b> 50				<b>WMB Multi marking system,</b>  10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5	



**L-Type Test Plug Modules for Testing Rail-Mounted Terminal Blocks**  
**Terminal Block Width 5.2 mm via Conductor Wire Opening, 2002 Series**







0.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12  
 500 V/6 kV/3 ②  
 I<sub>N</sub> 18 A  
 Terminal block width 5.2 mm / 0.205 in  




TOPJOB® S L-type test plug assembly consisting of: L-test plug modules and spacer modules

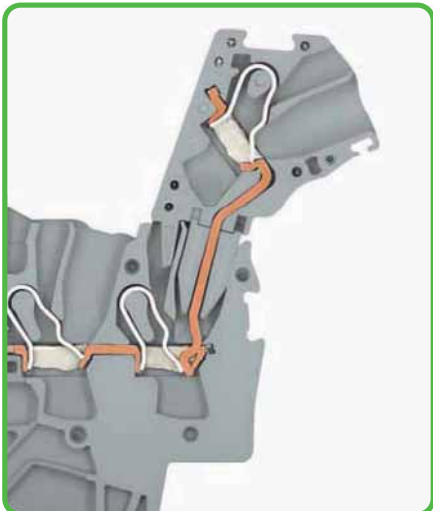


- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (see Section 14)
- ③ Strip length, see packaging or instructions.

Item No.	Pack. Unit
<b>TOPJOB® S L-test plug module</b> , can be snapped together, gray	
According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.	
○ 1-pole	<b>2002-611</b> 100 (4x25)
<b>TOPJOB® S L-type spacer module</b> , can be snapped together, e.g., for bridging commoned terminal blocks	
○ gray	<b>2002-649</b> 100 (4x25)
<b>Accessories L-Type Test Plug Modules</b> Appropriate marking systems: WMB/Marking strips/WMB Inline	
<b>End plate</b> , for modular TOPJOB® S test plugs, 1.5 mm thick	
	gray <b>2002-641</b> 100 (4x25)
<b>Test plug</b> , with 500 mm cable, 2 mm Ø	
	red <b>210-136</b> 50
<b>Test plug</b> , with 500 mm cable, 2.3 mm Ø	
	yellow <b>210-137</b> 50
<b>Strain relief plate</b> , gray	
	35 mm width <b>734-326</b> 100 (4x25)
	6 mm wide <b>734-327</b> 100 (4x25)
	12.5 mm width <b>734-328</b> 100 (4x25)
	25 mm wide <b>734-329</b> 100 (4x25)
<b>WMB Inline</b> , plain, stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll	
	white <b>2009-115</b> 1
<b>WMB Multi marking system</b> , 10 strips with 10 markers per card, stretchable 5 - 5.2 mm	
	plain <b>793-5501</b> 5



L-type test plug modules fitted in a triple-deck terminal block

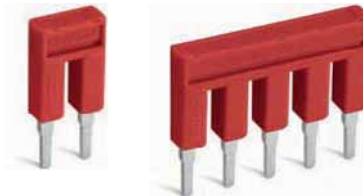


L-type test plug module, cross-sectional view of contact

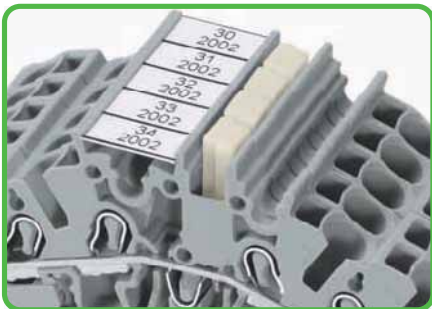


# Adjacent Jumpers for Continuous Commoning and Colored Push-In Type Jumper Bars, 2002 Series

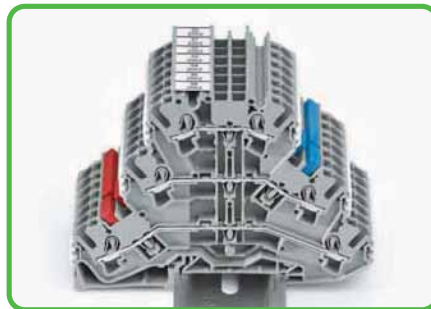
Adjacent jumper for continuous commoning	Push-in type jumper bar	Push-in type jumper bar
------------------------------------------	-------------------------	-------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Adjacent jumper for continuous commoning, insulated, I <sub>N</sub> 25 A, light gray		Push-in type jumper bar, insulated, I <sub>N</sub> 25 A, red		Push-in type jumper bar, insulated, I <sub>N</sub> 25 A, blue	
○ 2-way	2002-400	100 (4x25)	● 2-way	2002-402/000-005	● 2-way
			● 3-way	2002-403/000-005	● 3-way
			● 4-way	2002-404/000-005	● 4-way
				200 (8x25)	200 (8x25)
			● 5-way	2002-405/000-005	● 5-way
			● 6-way	2002-406/000-005	● 6-way
			● 7-way	2002-407/000-005	● 7-way
			● 8-way	2002-408/000-005	● 8-way
			● 9-way	2002-409/000-005	● 9-way
			● 10-way	2002-410/000-005	● 10-way
				100 (4x25)	100 (4x25)



Adjacent jumpers for continuous commoning



Colored push-in type jumper bars are used with sensor terminal blocks.

# TOPJOB® Push-In Type Wire Jumpers Star Point Jumpers and Delta Jumpers

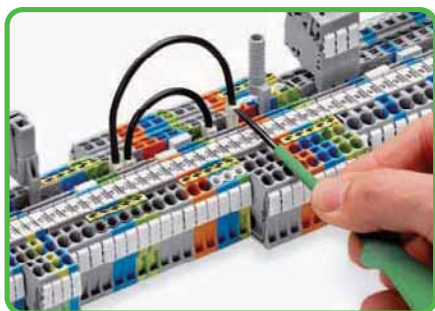
**Push-in type wire jumper**  
 $I_N$  16 A  
Conductor size 1.5 mm<sup>2</sup>

**Star point jumper**  
800 V/8 kV/3  
 $I_N = I_N$  terminal block

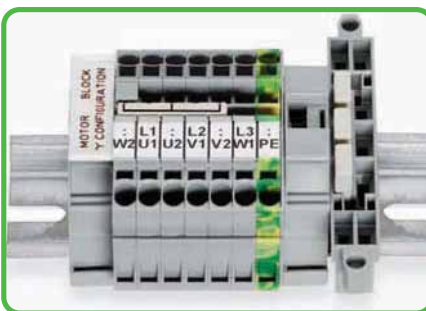
**Delta jumper**  
800 V/8 kV/3  
 $I_N = I_N$  terminal block



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Push-in type wire jumper</b> , insulated, conductor cross section 1.5 mm <sup>2</sup> , suitable for 2001, 2002 and 2003 Series rail-mounted terminal blocks		<b>Star point jumper</b> , insulated, 1-3-5, light gray		<b>Delta jumper</b> , insulated, 1-2 3-4 5-6, light gray	
L = 60 mm	<b>2009-412</b> 100 (10x10)	○	<b>2000-405/011-000</b>	○	<b>2000-406/020-000</b>
L = 110 mm	<b>2009-414</b> 100 (10x10)	○	<b>2001-405/011-000</b>	○	<b>2001-406/020-000</b>
L = 250 mm	<b>2009-416</b> 100 (10x10)	○	<b>2002-405/011-000</b>	○	<b>2002-406/020-000</b>
		○	<b>2004-405/011-000</b>	○	<b>2004-406/020-000</b>
			100 (4x25)		100 (4x25)
		○	<b>2006-405/011-000</b>		
		○	<b>2010-405/011-000</b>		
		○	<b>2016-405/011-000</b>		
			50 (2x25)		



Push down the wire jumper until fully inserted. Lift the jumper with an operating tool for rewiring.



This jumper has been specially developed to create a "star point" and is used on motor terminal boards equipped with TOPJOB®S rail-mount terminal blocks.



This jumper has been specially developed to create a "delta" configuration and is used on motor terminal boards equipped with TOPJOB®S rail-mounted terminal blocks.

# TOPJOB®

## Staggered Jumpers

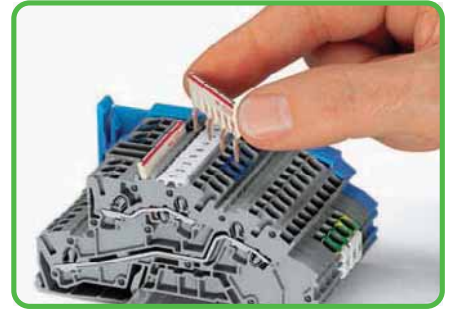
### 2002 Series

Staggered jumper  
400 V/6 kV/3  
I<sub>N</sub> 25 A



#### Staggered jumper with 7 contacts

Breaking off contact lugs - Individual jumper contacts can be broken off by bending them. The remaining piece of insulation will meet requirements for clearances and creepage distances.



#### Insert staggered jumper

Push staggered jumper down until fully inserted.

Item No.	Pack. Unit
<b>Staggered jumper, insulated,</b> suitable for 2002 and 2003 Series rail-mounted terminal blocks, light gray	
○ 2-way	<b>2002-472</b> 100 (4x25)
○ 3-way	<b>2002-473</b> 100 (4x25)
○ 4-way	<b>2002-474</b> 100 (4x25)
○ 5-way	<b>2002-475</b> 50 (2x25)
○ 6-way	<b>2002-476</b> 50 (2x25)
○ 7-way	<b>2002-477</b> 50 (2x25)
○ 8-way	<b>2002-478</b> 50 (2x25)
○ 9-way	<b>2002-479</b> 50 (2x25)
○ 10-way	<b>2002-480</b> 50 (2x25)
○ 11-way	<b>2002-481</b> 50 (2x25)
○ 12-way	<b>2002-482</b> 50 (2x25)

#### Commoning using staggered jumpers

Individual jumper contacts can be broken off by bending them. The remaining piece of insulation will meet the requirements for clearances and creepage distances.

This makes it possible to create custom staggered jumpers, e.g. for bridging over a terminal block with a different potential. When creating the jumpers, ensure only one contact lug is in contact with the terminal block.

The contact lugs of the customized staggered jumpers contact the terminal blocks via the gaps created in the second jumper. Insert and press jumper into the jumper slot until it hits the backstop.



#### Staggered jumper 1 - 3 - 5 - 7

Marking with a felt-tip pen.

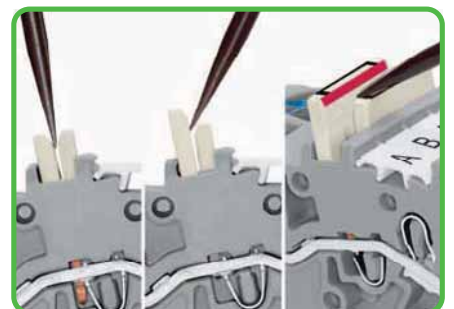


Locate red stripes of the staggered jumpers on the inside



#### Jumpers staggered in a jumper slot

Custom staggered jumpers can be created, e.g., for bridging over a terminal block with a different potential. Make sure only one contact lug is in contact with the terminal block.




#### Staggered jumper removal

Insert the operating tool between the jumpers and lift up the jumper.



Staggered jumpers for sophisticated circuit requirements.

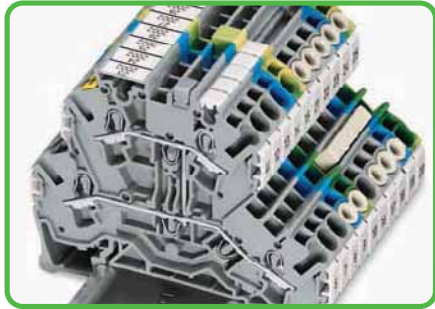
That way, staggered jumpers are created with contact lugs that will make contact to the terminal block in the gaps of the second jumper. Insert the ready-made jumper assembly into the jumper slot until it hits the stop.

**1** TOPJOB®   
**Vertical Jumpers**  
142 **2002 Series**

Double-deck vertical jumper 500 V/6 kV/3 I <sub>N</sub> 24 A	Triple-deck vertical jumper 500 V/6 kV/3 I <sub>N</sub> 24 A
--------------------------------------------------------------------	--------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit
Double-deck vertical jumper, insulated <input type="radio"/> light gray	2002-492 100 (4x25)	Triple-deck vertical jumper, insulated <input type="radio"/> light gray	2002-493 100 (4x25)



Double-deck vertical jumper, inserted.



# TOPJOB® S

## Disconnect Plugs for Carrier Terminal Blocks and Lockout Caps



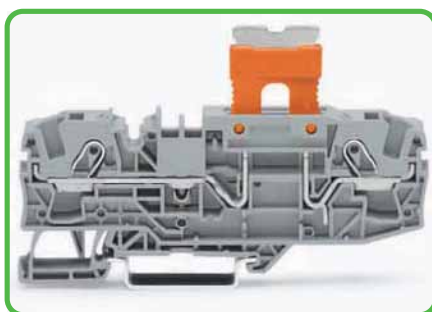
<p>Disconnect plug for carrier terminal blocks 400 V/6 kV/3 I<sub>N</sub> 10 A</p>	<p>Disconnect plug for carrier terminal blocks 800 V/8 kV/3 I<sub>N</sub> 30 A</p>	<p>Lockout cap</p>
--------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------	--------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Disconnect plug for carrier terminal blocks, suited when using a carrier terminal block as disconnect terminal block		Disconnect plug for carrier terminal blocks, suited when using a carrier terminal block as disconnect terminal block		Lockout cap, for conductor entry hole and operating slot	
● orange	2002-401	100 (4x25)	● orange	2006-401	100 (4x25)
● gray	2006-191	25			



Carrier terminal block with disconnect plug in operating position.



Carrier terminal block with disconnect plug in parked position.



Lockout cap for covering unused clamping units of 2006 Series TOPJOB®S terminal blocks.

# TOPJOB® WMB Inline and Marking Strips

WMB Inline	WMB Inline	Marking strip
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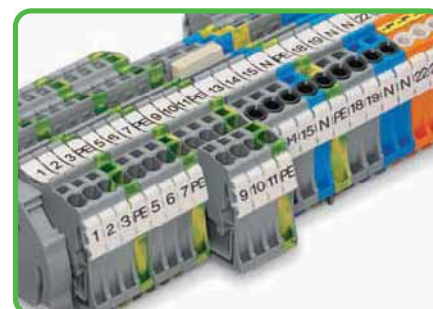
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>WMB Inline, plain, stretchable 4 - 4.2 mm, 2,000 WMB markers, 4 mm, on roll</b> <input type="radio"/> white <b>2009-114</b> 1		<b>WMB Inline, plain, stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll</b> <input type="radio"/> white <b>2009-115</b> 1		<b>Marking strip, plain, 11 mm wide, white</b> <input type="radio"/> 50 m roll <b>2009-110</b> 1	
<b>WMB Inline, plain, stretchable 5 - 5.2 mm, 8,000 WMB markers on roll</b> <input type="radio"/> white <b>2009-135</b> 1					



**WMB Inline**  
2009-115 cards for 5 - 5.2 mm wide terminal blocks compared to 2009-114 cards for 4 - 4.2 mm wide terminal blocks



WMB Inline  
WMB markers on roll

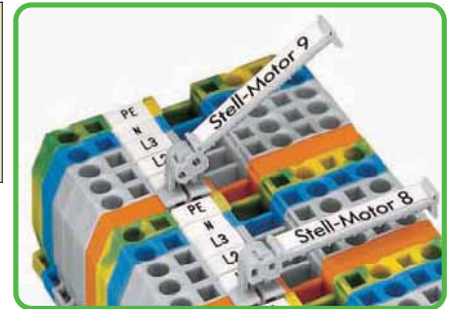


Marker strips for center marking

# TOPJOB® S

## Group Marker Carriers and Marker Carriers

Group marker carrier	Marker carrier
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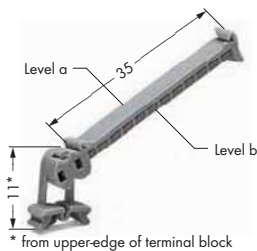
This pivoting group marker carrier has been developed for group marking of rail-mount terminal blocks to satisfy several customer requirements:

- Can be used in all multiprofile marker slots for rail-mount terminal blocks from 5 mm/0.197 in on or in spacer housings as shown above.
- Improves marking visibility due to difficult mounting conditions by pivoting into one of seven stable positions.

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>TOPJOB®S group marker carrier,</b> snap-on type for jumper slot, gray		<b>Marker carrier,</b> for jumper slots 2002 Series, 5 mm wide	
○ 5 mm wide	<b>2009-191</b> 50 (2x25)	○ gray	<b>2002-161</b> 100 (4x25)
○ 10 mm wide	<b>2009-192</b> 50 (2x25)		
○ 15 mm wide	<b>2009-193</b> 50 (2x25)		
<b>TOPJOB®S group marker carrier,</b> snap-on type for jumper slot, gray			
○ 10 mm wide	<b>2009-196</b> 50 (2x25)		



**Marking strip carriers**  
for use in jumper slots



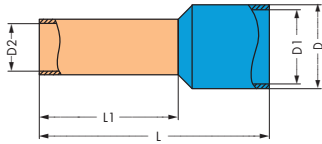
Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Pivoting group marker carrier</b>		<b>Marker carrier,</b> for lateral marker receptacle, 5 mm wide	
○ gray	<b>249-105</b> 50 (2x25)	○ gray	<b>2009-198</b> 200 (8x25)
<b>Marker card, 4 x 30 markers per sheet</b>			
○ white	<b>209-183</b> 1		
<b>Protection cover</b>			
transparent	<b>209-184</b> 50		



**Marking strip carriers**  
for use in lateral marker slots

# TOPJOB® Ferrules for Rail-Mounted Terminal Blocks and Crimping Tools










Ferrule, insulated, tin-plated, electrolytic copper, gastight crimped	Variocrimp 4 crimping tool for insulated and uninsulated ferrules 0.25 mm <sup>2</sup> - 4 mm <sup>2</sup> /AWG 24 - 12	Variocrimp 16 crimping tool for insulated and uninsulated ferrules 6 mm <sup>2</sup> - 16 mm <sup>2</sup> /AWG 10 - 6
-----------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Ferrule, insulated,</b> according to DIN 46228, part 4/09.90		<b>Variocrimp 4 crimping tool,</b> 0.25 mm <sup>2</sup> - 4 mm <sup>2</sup> /AWG 24 - 12		<b>Variocrimp 16 crimping tool,</b> 6 mm <sup>2</sup> - 16 mm <sup>2</sup> /AWG 10 - 6	
○ white	216-241 1000	206-204	1	206-216	1
○ gray	216-242 1000				
○ gray	216-262 1000				
● red	216-243 1000				
● red	216-263 1000				
● black	216-244 1000				
● black	216-264 1000				
● black	216-284 1000				
● blue	216-246 1000				
● blue	216-266 1000				
● blue	216-286 1000				
○ gray	216-267 1000				
○ gray	216-287 500				
● yellow	216-208 100				
● yellow	216-288 500				
● blue	216-289 500				
● blue	216-210 100				

## Ferrules

### Technical Data

<b>Ferrule, insulated,</b>  sleeve for 0.5 mm <sup>2</sup> /AWG 22, 12 mm strip length, L: 16 mm, L1: 10 mm, D: 3.1 mm, D1: 2.6 mm, D2: 1 mm white <b>216-241</b> 1000	<b>Ferrule, insulated,</b>  sleeve for 1 mm <sup>2</sup> /AWG 18, 12 mm strip length, L: 16 mm, L1: 10 mm, D: 3.5 mm, D1: 3 mm, D2: 1.4 mm red <b>216-243</b> 1000	<b>Ferrule, insulated,</b>  sleeve for 1.5 mm <sup>2</sup> /AWG 16, 14 mm strip length, L: 18 mm, L1: 12 mm, D: 4 mm, D1: 3.5 mm, D2: 1.7 mm black <b>216-264</b> 1000
<b>Ferrule, insulated,</b>  sleeve for 0.75 mm <sup>2</sup> /AWG 20, 12 mm strip length, L: 16 mm, L1: 10 mm, D: 3.3 mm, D1: 2.8 mm, D2: 1.2 mm gray <b>216-242</b> 1000	<b>Ferrule, insulated,</b>  sleeve for 1 mm <sup>2</sup> /AWG 18, 14 mm strip length, L: 18 mm, L1: 12 mm, D: 3.5 mm, D1: 3 mm, D2: 1.4 mm red <b>216-263</b> 1000	<b>Ferrule, insulated,</b>  sleeve for 1.5 mm <sup>2</sup> /AWG 16, 20 mm strip length, L: 24 mm, L1: 18 mm, D: 4 mm, D1: 3.5 mm, D2: 1.7 mm black <b>216-284</b> 1000
<b>Ferrule, insulated,</b>  sleeve for 0.75 mm <sup>2</sup> /AWG 20, 14 mm strip length, L: 18 mm, L1: 12 mm, D: 3.3 mm, D1: 2.8 mm, D2: 1.2 mm gray <b>216-262</b> 1000	<b>Ferrule, insulated,</b>  sleeve for 1.5 mm <sup>2</sup> /AWG 16, 12 mm strip length, L: 16 mm, L1: 10 mm, D: 4 mm, D1: 3.5 mm, D2: 1.7 mm black <b>216-244</b> 1000	<b>Ferrule, insulated,</b>  sleeve for 2.5 mm <sup>2</sup> /AWG 14, 12 mm strip length, L: 17 mm, L1: 10 mm, D: 4.7 mm, D1: 4.2 mm, D2: 2.2 mm blue <b>216-246</b> 1000











Insert ferruled conductor into crimping station.

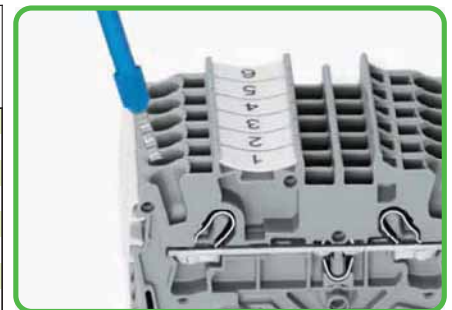


Squeeze handles until ratchet mechanism is released.

**Application notes:**

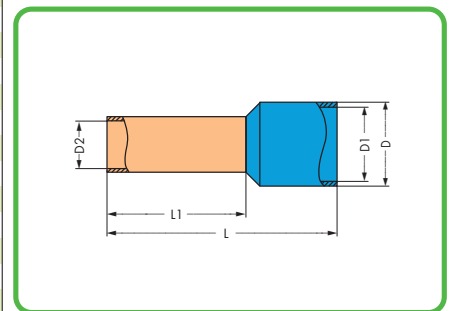
- With "Variocrimp 4," the built-in crimping pressure control automatically adjusts force to the conductor cross section used. With "Variocrimp 16," it is necessary to select the wire gauge on the tool before crimping.
- Only one crimping station is needed to handle the specified conductor size range.
- Uniform compact crimping from all four sides for high conductor retention.
- No need to center the conductor into the ferrule.
- Conductor and ferrule insertion possible from both sides (for left- and right-handers).
- Built-in ratchet mechanism ensures gastight crimp connection.
- Crimping tools open automatically after crimping operation is complete.
- Comfortable handles for operator.

Technical Data	
<b>Ferrule, insulated,</b>  sleeve for 2.5 mm <sup>2</sup> /AWG 14, 14 mm strip length, L: 19 mm, L1: 12 mm, D: 4.7 mm, D1: 4.2 mm, D2: 2.2 mm blue <b>216-266</b> 1000	<b>Ferrule, insulated,</b>  sleeve for 10 mm <sup>2</sup> /AWG 8, 20 mm strip length, L: 28 mm, L1: 18 mm, D: 8.4 mm, D1: 7.6 mm, D2: 4.5 mm blue <b>216-289</b> 500
<b>Ferrule, insulated,</b>  sleeve for 2.5 mm <sup>2</sup> /AWG 14, 20 mm strip length, L: 25 mm, L1: 18 mm, D: 4.7 mm, D1: 4.2 mm, D2: 2.2 mm blue <b>216-286</b> 1000	<b>Ferrule, insulated,</b>  sleeve for 16 mm <sup>2</sup> /AWG 6, 23 mm strip length, L: 29 mm, L1: 18 mm, D: 9.6 mm, D1: 8.8 mm, D2: 5.8 mm blue <b>216-210</b> 100
<b>Ferrule, insulated,</b>  sleeve for 4 mm <sup>2</sup> /AWG 12, 14 mm strip length, L: 20 mm, L1: 12 mm, D: 5.4 mm, D1: 4.8 mm, D2: 2.8 mm gray <b>216-267</b> 1000	
<b>Ferrule, insulated,</b>  sleeve for 4 mm <sup>2</sup> /AWG 12, 20 mm strip length, L: 26 mm, L1: 18 mm, D: 5.4 mm, D1: 4.8 mm, D2: 2.8 mm gray <b>216-287</b> 500	
<b>Ferrule, insulated,</b>  sleeve for 6 mm <sup>2</sup> /AWG 10, 14 mm strip length, L: 20 mm, L1: 12 mm, D: 6.8 mm, D1: 6.2 mm, D2: 3.5 mm yellow <b>216-208</b> 100	
<b>Ferrule, insulated,</b>  sleeve for 6 mm <sup>2</sup> /AWG 10, 20 mm strip length, L: 26 mm, L1: 18 mm, D: 6.9 mm, D1: 6.3 mm, D2: 3.5 mm yellow <b>216-288</b> 500	



**Stranded conductors with ferrules**

from at least two sizes below the rated cross section up to the rated cross section can be simply pushed in - without tools.



For dimensions of insulated ferrules, see technical data.

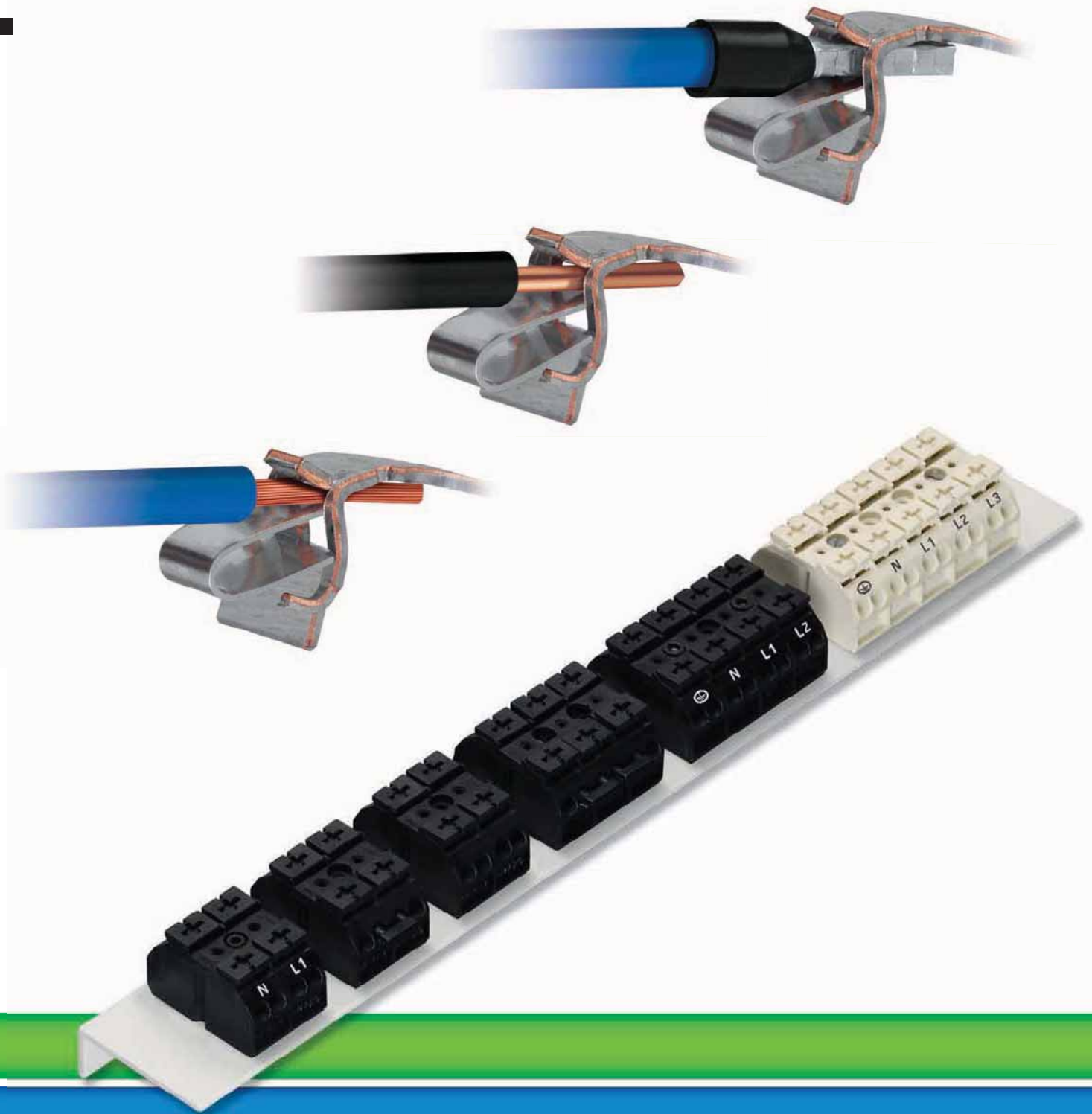
# CAGE CLAMP<sup>®</sup>S

The universal connection with "SPECIAL"

Handling:

Open clamping unit, insert the conductor, release clamp - done!

Terminate both solid and ferruled conductors by simply pushing them in - no operating tool needed.



# Terminal Strips

## 4-Conductor, Chassis-Mount Terminal Strips

2

2



4-Conductor, Chassis-Mount Terminal Strips  
0.5 mm<sup>2</sup> to 4 mm<sup>2</sup> (AWG 20 - 12)

862 Series

152 – 155



⊗ 4-Conductor, Chassis-Mount Terminal Strips  
0.5 mm<sup>2</sup> to 4 mm<sup>2</sup> (AWG 20 - 12)

862 Series

152 – 155



Accessories  
– Ferrules, insulated or uninsulated

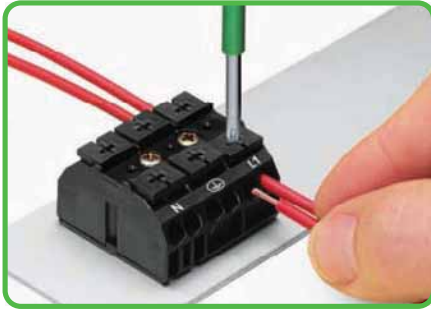
216 Series

156

## 4-Conductor, Chassis-Mount Terminal Strips, 862 Series – Description and Handling –

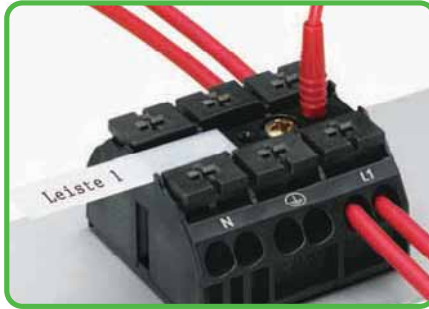
CAGE CLAMP®S

### Conductor termination



Four conductors per pole for solid and fine-stranded conductors

### Marking



Marking by direct, one-side printing and/or marker strips

### Testing



Testing with test plug 2 mm Ø.

### Ground contact (PE contact)

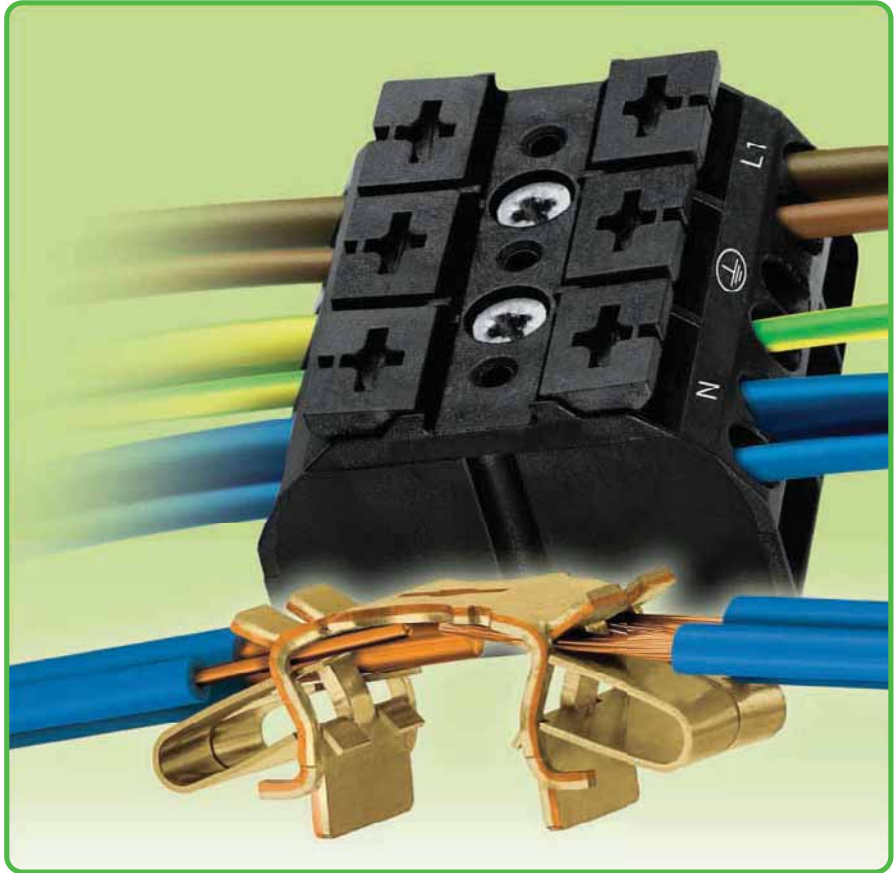


Makes an automatic contact to the mounting plate. The varnish coating is penetrated automatically.

### Commoning



Commoning with comb-style jumper bar



### Cost-effective features:

The 862 Series chassis-mount terminal strips were developed specifically to minimize wiring costs, while accommodating requirements for easy mounting, multiple connection points, marking and handling:

- The 862 Series equipped with CAGE CLAMP®S connects up to four conductors sized 0.5 mm<sup>2</sup> to 4 mm<sup>2</sup> (AWG 20 - 12). Due to multiple connection points per pole, different conductor sizes can be used within the same terminal block position.
- CAGE CLAMP®S termination technology allows solid conductors, fine-stranded conductors with ferrules or ultrasonically bonded conductors from 0.5 mm<sup>2</sup> to 4 mm<sup>2</sup> (AWG 20 - 12) to be connected by simply pushing the conductor into contact. (Length of bonded wire end min. 10 mm/0.39 in).

- Convenient automatic grounding contact available as an option.
- Snap-in mounting feet for fast assembly.
- Push-buttons for easy handling with an operating tool or by hand.
- Built-in test points simplify testing with test plug 2 mm Ø.
- Flexible marking options with standard marking (pre-marked), marker strip or custom marked for large quantity orders.

### CAGE CLAMP®S clamps the following copper conductors:\*

solid

stranded

fine-stranded, also with tinned single strands

fine-stranded, tip-bonded

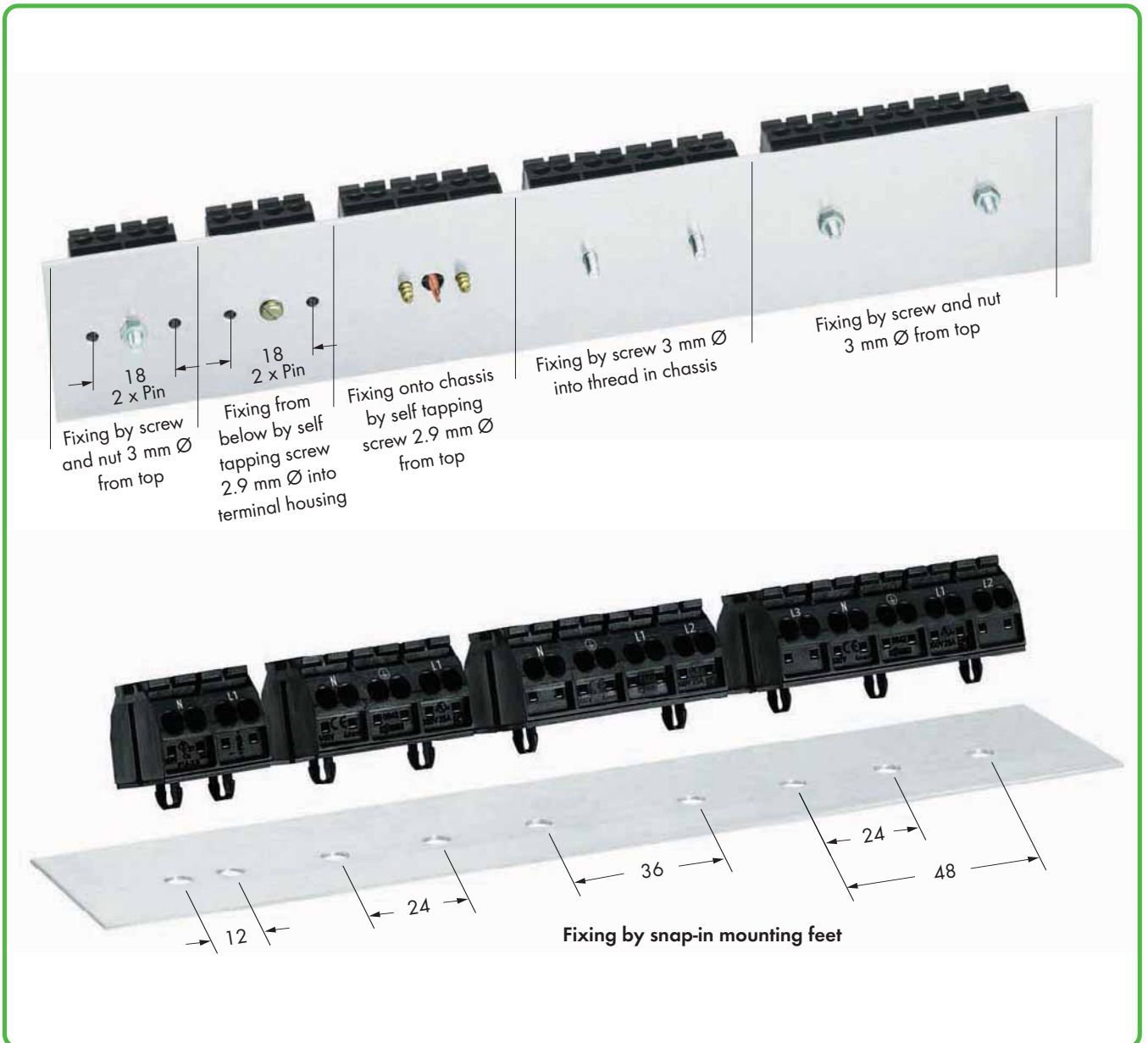
fine-stranded, with ferrule ① (gastight crimped)

fine-stranded, with pin terminal (gastight crimped)

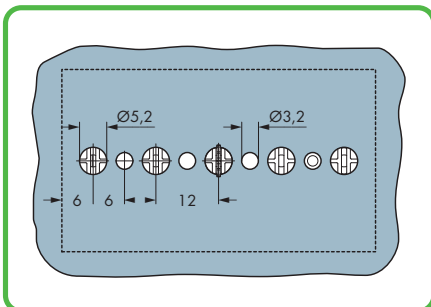
\* For aluminum conductors, see notes in Section 14.

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

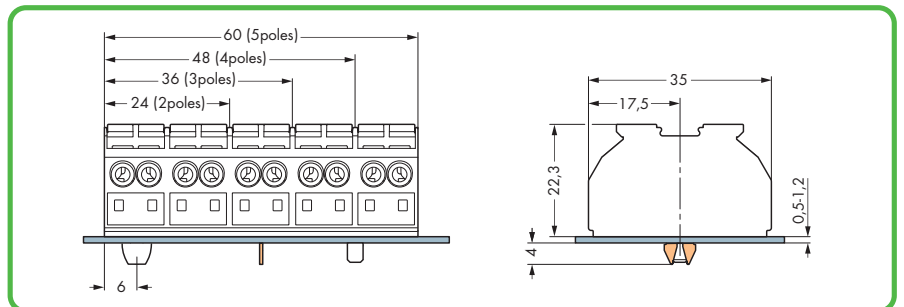




Dimensions in mm



Dimensions in mm for ground contact and snap-in mounting foot 5.2 mm Ø.



Dimensions in mm for chassis-mount terminal strips

# 4-Conductor, Chassis-Mount Terminal Strips, 2-Pole, 4 mm<sup>2</sup>, 862 Series



0.5 - 4 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 32 A	AWG 20 - 12 300 V, 20 A ② 300 V, 20 A ③	0.5 - 4 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 32 A	AWG 20 - 12 300 V, 20 A ② 300 V, 20 A ③
10 - 11 mm / 0.41 in ②		10 - 11 mm / 0.41 in ②	



- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex e II applications  
440 V, 28 A  
(also see Section 14)

Item No.	Pack. Unit	Item No.	Pack. Unit	862 Series Accessories
<b>for mounting via screw and nut 3 mm Ø or for self-tapping screw 2.9 mm Ø from top, with 2x pin, 2-pole, black</b>		<b>for mounting via screw and nut 3 mm Ø or for self-tapping screw 2.9 mm Ø from top, with 2x pin, 2-pole, white</b>		<b>Comb-style jumper bar,</b> simply push into the conductor entry hole I <sub>N</sub> 32 A <b>862-482</b> 5
● N-L1 <b>862-2552</b> 500		○ N-L1 <b>862-2652</b> 500		
● L1-N <b>862-1552</b> 500		○ L1-N <b>862-1652</b> 500		<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50
● L1-N ③ <b>862-1552/999-950</b> 500		○ L1-N ③ <b>862-1652/999-950</b> 500		
● plain <b>862-552</b> 500		○ plain <b>862-652</b> 500		<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
<b>for self-tapping screw 2.9 mm Ø from below, with 2x pin, 2-pole, black</b>		<b>for self-tapping screw 2.9 mm Ø from below, with 2x pin, 2-pole, white</b>		
● N-L1 <b>862-2562</b> 500		○ N-L1 <b>862-2662</b> 500		<b>Marking strip, plain,</b> 7.5 mm wide, 50 m roll white <b>709-178</b> 1
● L1-N <b>862-1562</b> 500		○ L1-N <b>862-1662</b> 500		
● L1-N ③ <b>862-1562/999-950</b> 500		○ L1-N ③ <b>862-1662/999-950</b> 500		<b>Operating tool with partially insulated shaft,</b> type 2, (3.5 x 0.5) mm blade <b>210-720</b> 1
● plain <b>862-562</b> 500		○ plain <b>862-662</b> 500		
<b>via 1 snap-in foot per pole, 2-pole, black</b>		<b>via 1 snap-in foot per pole, 2-pole, white</b>		
● N-L1 <b>862-2532</b> 500		○ N-L1 <b>862-2632</b> 500		
● L1-N <b>862-1532</b> 500		○ L1-N <b>862-1632</b> 500		
● L1-N ③ <b>862-1532/999-950</b> 500		○ L1-N ③ <b>862-1632/999-950</b> 500		
● plain <b>862-532</b> 500		○ plain <b>862-632</b> 500		

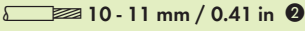
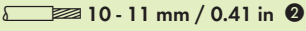
# 4-Conductor, Chassis-Mount Terminal Strips, 3-Pole, 4 mm<sup>2</sup>, 862 Series

0.5 - 4 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 32 A	AWG 20 - 12 300 V, 20 A <sup>Ⓜ</sup> 300 V, 20 A <sup>Ⓢ</sup>	0.5 - 4 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 32 A	AWG 20 - 12 300 V, 20 A <sup>Ⓜ</sup> 300 V, 20 A <sup>Ⓢ</sup>
10 - 11 mm / 0.41 in ②		10 - 11 mm / 0.41 in ②	







- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex e II applications  
440 V, 28 A  
(also see Section 14)

Item No.	Pack. Unit	Item No.	Pack. Unit	862 Series Accessories
<b>for mounting via screw and nut 3 mm Ø or for self-tapping screw 2.9 mm Ø from top,</b>		<b>for mounting via screw and nut 3 mm Ø or for self-tapping screw 2.9 mm Ø from top,</b>		
3-pole, black		3-pole, white		<b>Comb-style jumper bar,</b> simply push into the conductor entry hole I <sub>N</sub> 32 A <b>862-482</b> 5
● N-PE-L1, without PE contact	<b>862-2503</b> 250	○ N-PE-L1, without PE contact	<b>862-2603</b> 250	<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50
● PE-N-L1, without PE contact	<b>862-1503</b> 250	○ PE-N-L1, without PE contact	<b>862-1603</b> 250	<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
● PE-N-L1 ⊕, without PE contact	<b>862-1503/999-950</b> ③ 250	○ PE-N-L1 ⊕, without PE contact	<b>862-1603/999-950</b> ③ 250	<b>Marking strip, plain,</b> 7.5 mm wide, 50 m roll white <b>709-178</b> 1
● plain, without PE contact	<b>862-503</b> 250	○ plain, without PE contact	<b>862-603</b> 250	<b>Operating tool with partially insulated shaft,</b> type 2, (3.5 x 0.5) mm blade <b>210-720</b> 1
● N-PE-L1, with PE contact	<b>862-8503</b> 250	○ N-PE-L1, with PE contact	<b>862-8603</b> 250	
● PE-N-L1, with PE contact	<b>862-9503</b> 250	○ PE-N-L1, with PE contact	<b>862-9603</b> 250	
<b>via 1 snap-in foot per pole,</b>		<b>via 1 snap-in foot per pole,</b>		
3-pole, black		3-pole, white		
● N-PE-L1, without PE contact	<b>862-2533</b> 250	○ N-PE-L1, without PE contact	<b>862-2633</b> 250	
● PE-N-L1, without PE contact	<b>862-1533</b> 250	○ PE-N-L1, without PE contact	<b>862-1633</b> 250	
● PE-N-L1 ⊕, without PE contact	<b>862-1533/999-950</b> ③ 250	○ PE-N-L1 ⊕, without PE contact	<b>862-1633/999-950</b> ③ 250	
● plain, without PE contact	<b>862-533</b> 250	○ plain, without PE contact	<b>862-633</b> 250	
● N-PE-L1, with PE contact	<b>862-8533</b> 250	○ N-PE-L1, with PE contact	<b>862-8633</b> 250	
● PE-N-L1, with PE contact	<b>862-9533</b> 250	○ PE-N-L1, with PE contact	<b>862-9633</b> 250	
<b>snap-in feet at pos. 1+3,</b>		<b>snap-in feet at pos. 1+3,</b>		
3-pole, black		3-pole, white		
● N-PE-L1, without PE contact	<b>862-2593</b> 250	○ N-PE-L1, without PE contact	<b>862-2693</b> 250	
● PE-N-L1, without PE contact	<b>862-1593</b> 250	○ PE-N-L1, without PE contact	<b>862-1693</b> 250	
● PE-N-L1 ⊕, without PE contact	<b>862-1593/999-950</b> ③ 250	○ PE-N-L1 ⊕, without PE contact	<b>862-1693/999-950</b> ③ 250	
● plain, without PE contact	<b>862-593</b> 250	○ plain, without PE contact	<b>862-693</b> 250	
● N-PE-L1, with PE contact	<b>862-8593</b> 250	○ N-PE-L1, with PE contact	<b>862-8693</b> 250	
● PE-N-L1, with PE contact	<b>862-9593</b> 250	○ PE-N-L1, with PE contact	<b>862-9693</b> 250	



0.5 - 4 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 32 A	AWG 20 - 12 300 V, 20 A ② 300 V, 20 A ③	0.5 - 4 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 32 A	AWG 20 - 12 300 V, 20 A ② 300 V, 20 A ③
 10 - 11 mm / 0.41 in ②		 10 - 11 mm / 0.41 in ②	



- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex e II applications  
440 V, 28 A  
(also see Section 14)





Item No.	Pack. Unit	Item No.	Pack. Unit	862 Series Accessories
<b>for mounting via screw and nut 3 mm Ø or for self-tapping screw 2.9 mm Ø from top,</b>		<b>for mounting via screw and nut 3 mm Ø or for self-tapping screw 2.9 mm Ø from top,</b>		
4-pole, black		4-pole, white		<b>Comb-style jumper bar,</b> simply push into the conductor entry hole I <sub>N</sub> 32 A <b>862-482</b> 5
● N-PE-L1-L2, without PE contact	<b>862-2504</b> 200	○ N-PE-L1-L2, without PE contact	<b>862-2604</b> 200	<b>Test plug,</b>  with 500 mm cable, 2 mm Ø red <b>210-136</b> 50
● PE-N-L1-L2, without PE contact	<b>862-1504</b> 200	○ PE-N-L1-L2, without PE contact	<b>862-1604</b> 200	<b>Test plug,</b>  with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
● PE-N-L1-L2 ③, without PE contact	<b>862-1504/999-950</b> ③ 200	○ PE-N-L1-L2 ③, without PE contact	<b>862-1604/999-950</b> ③ 200	<b>Marking strip, plain,</b>  7.5 mm wide, 50 m roll white <b>709-178</b> 1
● plain, without PE contact	<b>862-504</b> 200	○ plain, without PE contact	<b>862-604</b> 200	<b>Operating tool with partially insulated shaft,</b>  type 2, (3.5 x 0.5) mm blade <b>210-720</b> 1
● N-PE-L1-L2, with PE contact	<b>862-8504</b> 200	○ N-PE-L1-L2, with PE contact	<b>862-8604</b> 200	
● PE-N-L1-L2, with PE contact	<b>862-9504</b> 200	○ PE-N-L1-L2, with PE contact	<b>862-9604</b> 200	
<b>via 1 snap-in foot per pole,</b>		<b>via 1 snap-in foot per pole,</b>		
4-pole, black		4-pole, white		
● N-PE-L1-L2, without PE contact	<b>862-2534</b> 200	○ N-PE-L1-L2, without PE contact	<b>862-2634</b> 200	
● PE-N-L1-L2, without PE contact	<b>862-1534</b> 200	○ PE-N-L1-L2, without PE contact	<b>862-1634</b> 200	
● PE-N-L1-L2 ③, without PE contact	<b>862-1534/999-950</b> ③ 200	○ PE-N-L1-L2 ③, without PE contact	<b>862-1634/999-950</b> ③ 200	
● plain, without PE contact	<b>862-534</b> 200	○ plain, without PE contact	<b>862-634</b> 200	
● N-PE-L1-L2, with PE contact	<b>862-8534</b> 200	○ N-PE-L1-L2, with PE contact	<b>862-8634</b> 200	
● PE-N-L1-L2, with PE contact	<b>862-9534</b> 200	○ PE-N-L1-L2, with PE contact	<b>862-9634</b> 200	
<b>snap-in feet at pos. 1+4,</b>		<b>snap-in feet at pos. 1+4,</b>		
4-pole, black		4-pole, white		
● N-PE-L1-L2, without PE contact	<b>862-2594</b> 200	○ N-PE-L1-L2, without PE contact	<b>862-2694</b> 200	
● PE-N-L1-L2, without PE contact	<b>862-1594</b> 200	○ PE-N-L1-L2, without PE contact	<b>862-1694</b> 200	
● PE-N-L1-L2 ③, without PE contact	<b>862-1594/999-950</b> ③ 200	○ PE-N-L1-L2 ③, without PE contact	<b>862-1694/999-950</b> ③ 200	
● plain, without PE contact	<b>862-594</b> 200	○ plain, without PE contact	<b>862-694</b> 200	
● N-PE-L1-L2, with PE contact	<b>862-8594</b> 200	○ N-PE-L1-L2, with PE contact	<b>862-8694</b> 200	
● PE-N-L1-L2, with PE contact	<b>862-9594</b> 200	○ PE-N-L1-L2, with PE contact	<b>862-9694</b> 200	

# 4-Conductor, Chassis-Mount Terminal Strips, 5-Pole, 4 mm<sup>2</sup>, 862 Series

<b>0.5 - 4 mm<sup>2</sup></b> <b>500 V/6 kV/3 ①</b> <b>I<sub>N</sub> 32 A</b>	<b>AWG 20 - 12</b> <b>300 V, 20 A<sup>②</sup></b> <b>300 V, 20 A<sup>③</sup></b>	<b>0.5 - 4 mm<sup>2</sup></b> <b>500 V/6 kV/3 ①</b> <b>I<sub>N</sub> 32 A</b>	<b>AWG 20 - 12</b> <b>300 V, 20 A<sup>②</sup></b> <b>300 V, 20 A<sup>③</sup></b>
 <b>10 - 11 mm / 0.41 in ②</b>		 <b>10 - 11 mm / 0.41 in ②</b>	

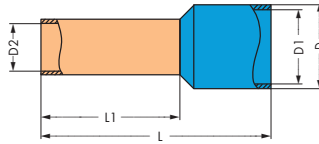
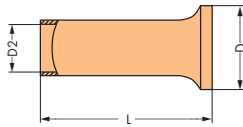


- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex e II applications  
440 V, 28 A  
(also see Section 14)

Item No.	Pack. Unit	Item No.	Pack. Unit	862 Series Accessories
<b>for mounting via screw and nut 3 mm Ø or for self-tapping screw 2.9 mm Ø from top,</b>		<b>for mounting via screw and nut 3 mm Ø or for self-tapping screw 2.9 mm Ø from top,</b>		
5-pole, black		5-pole, white		<b>Comb-style jumper bar,</b> simply push into the conductor entry hole  I <sub>N</sub> 32 A <b>862-482</b> 5
● L3-N-PE-L1-L2, without PE contact	<b>862-2505</b> 200	○ L3-N-PE-L1-L2, without PE contact	<b>862-2605</b> 200	<b>Test plug,</b> with 500 mm cable, 2 mm Ø  red <b>210-136</b> 50
● PE-N-L1-L2-L3, without PE contact	<b>862-1505</b> 200	○ PE-N-L1-L2-L3, without PE contact	<b>862-1605</b> 200	<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø  yellow <b>210-137</b> 50
● PE-N-L1-L2-L3 ③, without PE contact	<b>862-1505/999-950 ③</b> 200	○ PE-N-L1-L2-L3 ③, without PE contact	<b>862-1605/999-950 ③</b> 200	<b>Marking strip, plain,</b> 7.5 mm wide, 50 m roll white <b>709-178</b> 1
● plain, without PE contact	<b>862-505</b> 200	○ plain, without PE contact	<b>862-605</b> 200	<b>Operating tool with partially insulated shaft,</b> type 2, (3.5 x 0.5) mm blade  <b>210-720</b> 1
● L3-N-PE-L1-L2, with PE contact	<b>862-8505</b> 200	○ L3-N-PE-L1-L2, with PE contact	<b>862-8605</b> 200	
● PE-N-L1-L2-L3, with PE contact	<b>862-9505</b> 200	○ PE-N-L1-L2-L3, with PE contact	<b>862-9605</b> 200	
<b>1 snap-in foot at pos. 2+4,</b>		<b>1 snap-in foot at pos. 2+4,</b>		
5-pole, black		5-pole, white		
● L3-N-PE-L1-L2, without PE contact	<b>862-2525</b> 200	○ L3-N-PE-L1-L2, without PE contact	<b>862-2625</b> 200	
● PE-N-L1-L2-L3, without PE contact	<b>862-1525</b> 200	○ PE-N-L1-L2-L3, without PE contact	<b>862-1625</b> 200	
● PE-N-L1-L2-L3 ③, without PE contact	<b>862-1525/999-950 ③</b> 200	○ PE-N-L1-L2-L3 ③, without PE contact	<b>862-1625/999-950 ③</b> 200	
● plain, without PE contact	<b>862-525</b> 200	○ plain, without PE contact	<b>862-625</b> 200	
● L3-N-PE-L1-L2, with PE contact	<b>862-8525</b> 200	○ L3-N-PE-L1-L2, with PE contact	<b>862-8625</b> 200	
● PE-N-L1-L2-L3, with PE contact	<b>862-9525</b> 200	○ PE-N-L1-L2-L3, with PE contact	<b>862-9625</b> 200	
<b>snap-in feet at pos. 1+3+5,</b>		<b>snap-in feet at pos. 1+3+5,</b>		
5-pole, black		5-pole, white		
● L3-N-PE-L1-L2, without PE contact	<b>862-2515</b> 200	○ L3-N-PE-L1-L2, without PE contact	<b>862-2615</b> 200	
● PE-N-L1-L2-L3, without PE contact	<b>862-1515</b> 200	○ PE-N-L1-L2-L3, without PE contact	<b>862-1615</b> 200	
● PE-N-L1-L2-L3 ③, without PE contact	<b>862-1515/999-950 ③</b> 200	○ PE-N-L1-L2-L3 ③, without PE contact	<b>862-1615/999-950 ③</b> 200	
● plain, without PE contact	<b>862-515</b> 200	○ plain, without PE contact	<b>862-615</b> 200	
● L3-N-PE-L1-L2, with PE contact	<b>862-8515</b> 200	○ L3-N-PE-L1-L2, with PE contact	<b>862-8615</b> 200	
● PE-N-L1-L2-L3, with PE contact	<b>862-9515</b> 200	○ PE-N-L1-L2-L3, with PE contact	<b>862-9615</b> 200	

For list of approvals and user guide, see pages 634 to 637.









Ferrule, uninsulated, tin-plated, electrolytic copper, gastight crimped	Ferrule, insulated, tin-plated, electrolytic copper, gastight crimped	Variocrimp 4 crimping tool for insulated and uninsulated ferrules 0.25 mm <sup>2</sup> - 4 mm <sup>2</sup> /AWG 24 - 12
-------------------------------------------------------------------------	-----------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Ferrule, uninsulated,</b> according to DIN 46228, part 1/08.92		<b>Ferrule, insulated,</b> according to DIN 46228, part 4/09.90		<b>Variocrimp 4 crimping tool,</b> 0.25 mm <sup>2</sup> - 4 mm <sup>2</sup> /AWG 24 - 12	
216-141	5000 (5x1000)	○ white	216-241	1000	206-204
216-142	5000 (5x1000)	● gray	216-242	1000	1
216-143	5000 (5x1000)	● red	216-243	1000	
216-144	5000 (5x1000)	● black	216-244	1000	

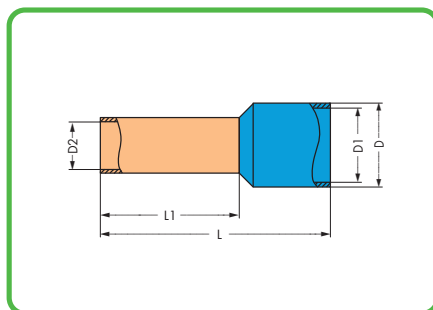
**Ferrules**

Technical Data

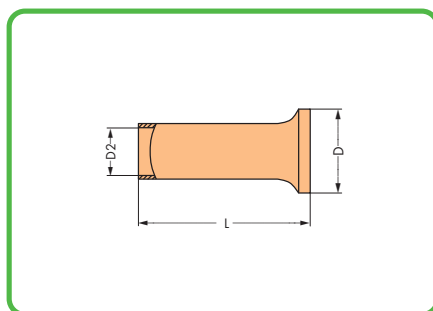
Ferrule, uninsulated,	Ferrule, insulated,
 sleeve for 0.5 mm <sup>2</sup> /AWG 22, 10 mm strip length, L: 10 mm, D: 2.1 mm, D2: 1 mm <b>216-141</b> 5000 (5x1000)	 sleeve for 0.5 mm <sup>2</sup> /AWG 22, 12 mm strip length, L: 16 mm, L1: 10 mm, D: 3.1 mm, D1: 2.6 mm, D2: 1 mm white <b>216-241</b> 1000
 sleeve for 0.75 mm <sup>2</sup> /AWG 20, 10 mm strip length, L: 10 mm, D: 2.3 mm, D2: 1.2 mm <b>216-142</b> 5000 (5x1000)	 sleeve for 0.75 mm <sup>2</sup> /AWG 20, 12 mm strip length, L: 16 mm, L1: 10 mm, D: 3.3 mm, D1: 2.8 mm, D2: 1.2 mm gray <b>216-242</b> 1000
 sleeve for 1 mm <sup>2</sup> /AWG 18, 10 mm strip length, L: 10 mm, D: 2.5 mm, D2: 1.4 mm <b>216-143</b> 5000 (5x1000)	 sleeve for 1 mm <sup>2</sup> /AWG 18, 12 mm strip length, L: 16 mm, L1: 10 mm, D: 3.5 mm, D1: 3 mm, D2: 1.4 mm red <b>216-243</b> 1000
 sleeve for 1.5 mm <sup>2</sup> /AWG 16, 10 mm strip length, L: 10 mm, D: 2.8 mm, D2: 1.7 mm <b>216-144</b> 5000 (5x1000)	 sleeve for 1.5 mm <sup>2</sup> /AWG 16, 12 mm strip length, L: 16 mm, L1: 10 mm, D: 4 mm, D1: 3.5 mm, D2: 1.7 mm black <b>216-244</b> 1000

**Application notes:**

- With "Variocrimp 4," the built-in crimping pressure control automatically adjusts force to the conductor cross section used. With "Variocrimp 16," it is necessary to select the wire gauge on the tool before crimping.
- Only one crimping station is needed to handle the specified conductor size range.
- Uniform compact crimping from all four sides for high conductor retention.
- No need to center the conductor into the ferrule.
- Conductor and ferrule insertion possible from both sides (for left- and right-handers).
- Built-in ratchet mechanism ensures gastight crimp connection.
- Crimping tools open automatically after crimping operation is complete.
- Comfortable handles for operator.



For dimensions of insulated ferrules, see technical data.



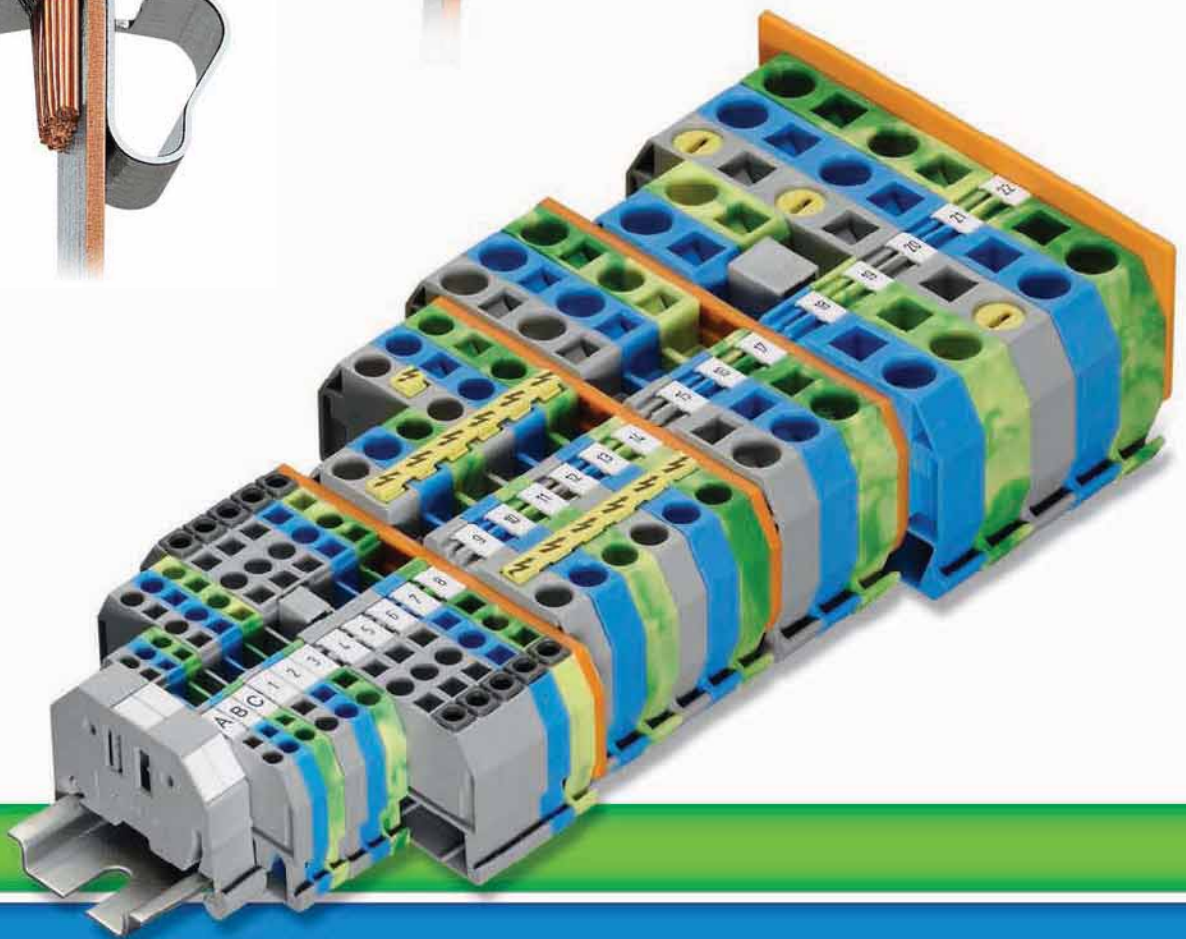
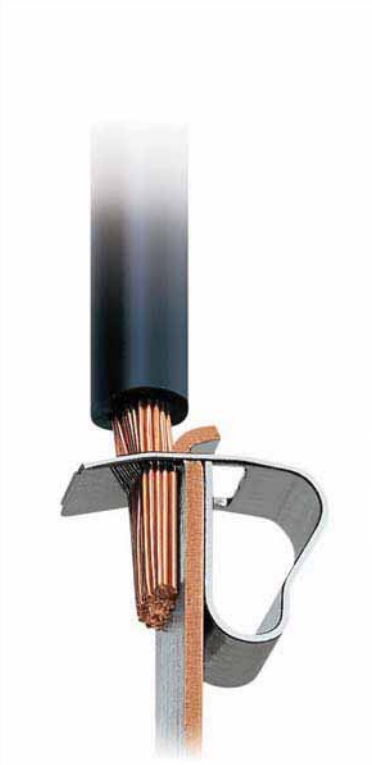
For dimensions of uninsulated ferrules, see technical data.

# CAGE CLAMP®

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

Handling:

Open clamping unit,  
insert the conductor,  
release clamp - done!





# 3



**Through, Ground Conductor and Ex Terminal Blocks**  
 0.08 mm<sup>2</sup> to 35 mm<sup>2</sup> (AWG 28 - 2)  
**Distribution Terminal Blocks**  
 10 mm<sup>2</sup> / 35 mm<sup>2</sup> (AWG 8 / AWG 2)

279 - 285 and 880 Series 162 – 176  
 284 Series 177



**Multilevel Rail-Mounted Terminal Blocks**  
**Double-Deck Terminal Blocks**  
 1.5/2.5/4 mm<sup>2</sup> (AWG 16/12)  
**Triple-Deck Terminal Blocks** 2.5 mm<sup>2</sup>/AWG 12  
**Quadruple-Deck Terminal Blocks** 4 mm<sup>2</sup>/AWG 12

279/280/281 Series 180 – 188  
 280 Series 190  
 281 Series 192



**Disconnect Terminal Blocks for Test and Measurement**  
 - with knife disconnect  
 - with disconnect tab  
 - for transformer circuits  
**Ground Conductor Disconnect Terminal Blocks**

280 Series 204 – 205  
 280/281 Series 206 – 209  
 282 Series 214 – 219  
 282 Series 220



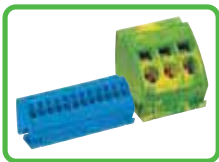
**Fuse Terminal Blocks**  
 - with pivoting fuse holder  
 - for mini-automotive blade-style fuses  
**Fuse Plugs for Carrier Terminal Blocks**  
**Technical Information on Fuse Terminal Blocks and Fuse Plugs**

281 Series 226 – 229  
 282 Series 222  
 280/281 Series 230 – 233  
 234 – 235



**Sensor and Actuator Terminal Blocks**  
**Diode and LED Terminal Blocks**  
**Double-Deck Diode and LED Terminal Blocks**  
**Pluggable Modules - Diodes, LED and Neon Indicators**

280 Series 238 – 253  
 279/280/281 Series 254 – 259  
 280/281 Series 260 – 263  
 280 Series 264 – 267



**Accessories for Rail-Mounted Terminal Blocks**  
 - Busbar Terminal Blocks

427



- Banana Plugs  
 - Insulation Stops  
 - Comb-Style Jumper Bars

198  
 199  
 200



- Push-In Type Wire Jumpers  
 - Staggered Jumpers  
 - Test Plug Modules  
 - Step-Down Jumpers for Through Terminal Blocks

201  
 201  
 194 – 197  
 178 – 179

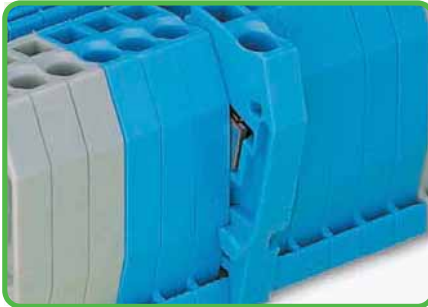
# Rail-Mounted Terminal Blocks 279 to 285 Series and 880 Series

## Assembly



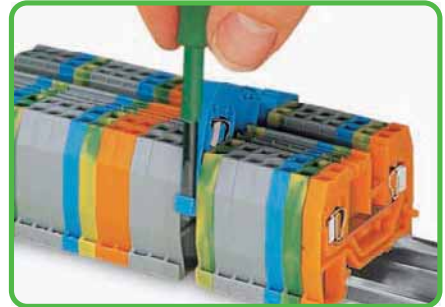
By snapping a ground conductor terminal block onto the carrier rail, a direct electrical connection is automatically made to the rail.

## Assembly



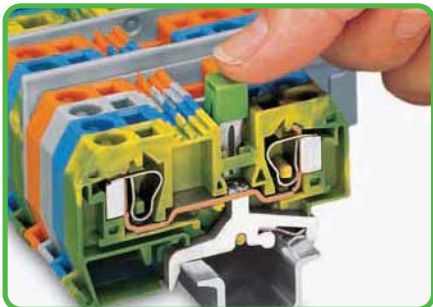
Quick assembly keys prevent reverse mounting.

## Removal



Removing a terminal block from the assembly.

## Commoning



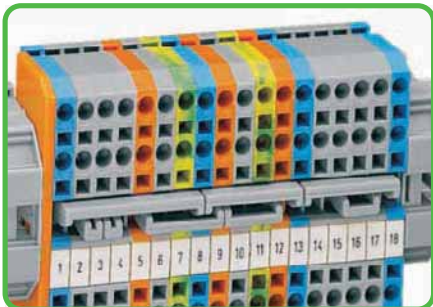
Commoning ground conductor terminal blocks with through terminal blocks is possible in one direction only (via rear side of terminal block) using adjacent jumpers. In addition to the required marking of these blocks, use yellow-green adjacent jumpers.

## Commoning with step-down jumpers



Commoning terminal blocks of different sizes - step down.  
For application notes, see page 178.

## Commoning

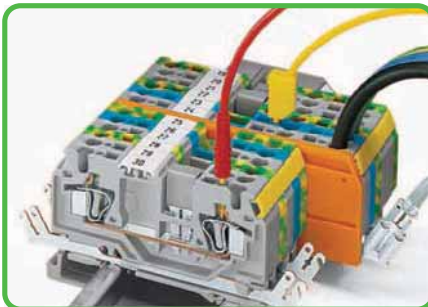


Staggered jumpers for sophisticated circuit requirements. Push jumpers down firmly until fully inserted. For additional notes, see page 201.



**CAGE CLAMP®** clamps the following copper conductors:<sup>\*</sup>  
solid

## Testing - 880 Series



880 Series terminal blocks have an additional test slot for 2 mm Ø or 2.3 mm Ø test plugs.



stranded

## Protective warning marker



Protective warning markers inserted into the operating slots.



fine-stranded, also with tinned single strands

According to EN 60947-7-2 (VDE 0611, part 3), steel carrier rails shall not be used for PEN applications



\* For aluminum conductors, see notes in Section 14.

- Description and Handling -

CAGE CLAMP® connection



Conductor termination

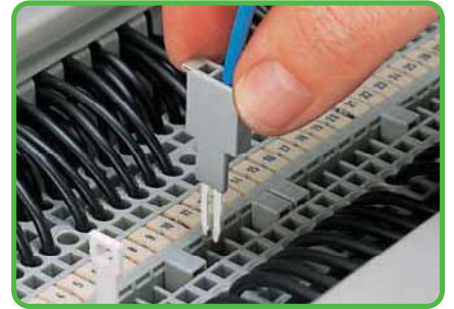
CAGE CLAMP® connection



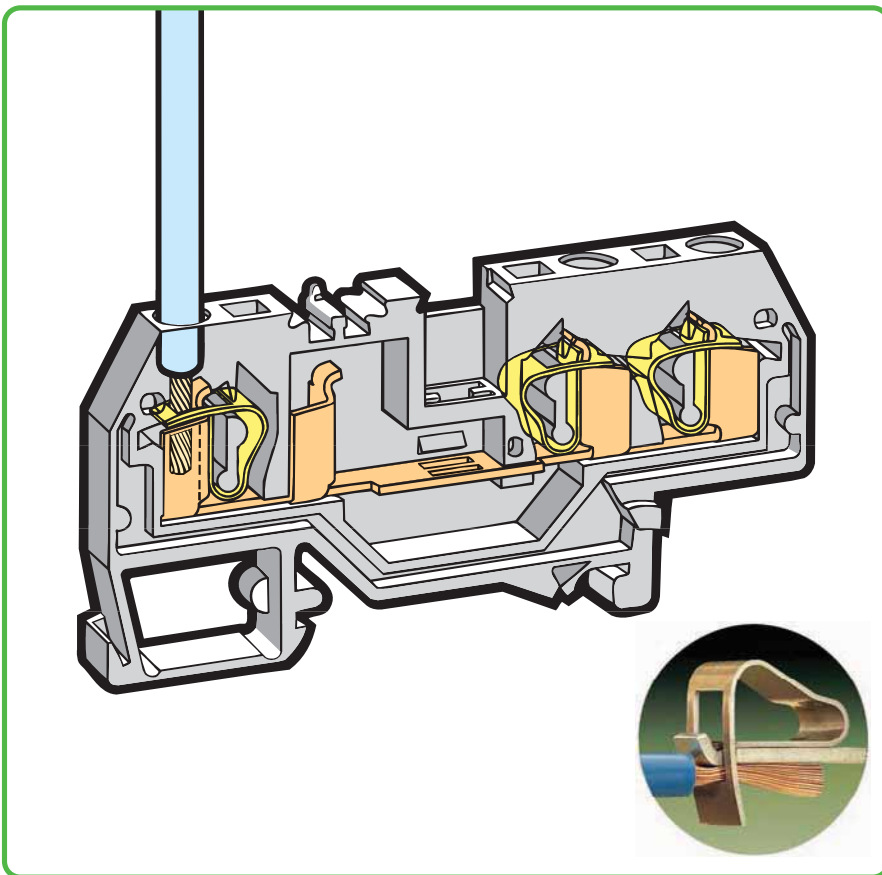
Conductor termination

❶ When using ferruled conductors, it is necessary to use a terminal block one size larger than the nominal cross section of the wire.

Testing



Testing with test plug.  
Test plug fitted with CAGE CLAMP®.

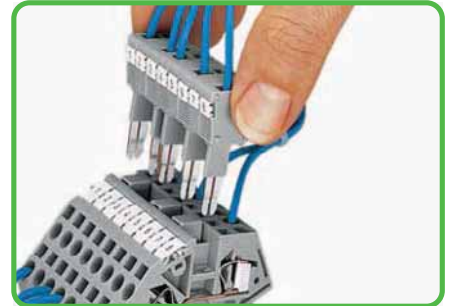


Testing



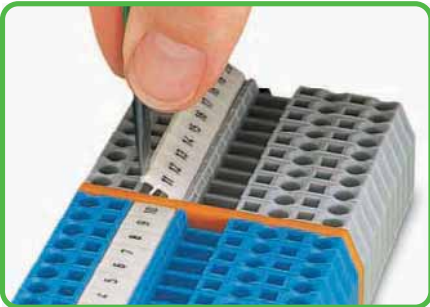
L-type test plug modules fitted with CAGE CLAMP®.  
For application notes, see page 194.

Testing



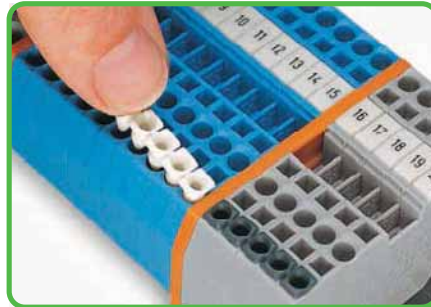
B-type test plug modules fitted with CAGE CLAMP®.  
For application notes, see page 195.

Marking



Marking with WMB Multi marking system.  
For additional systems, see Section 13.

Insulation stop



Insertion of insulation stop.  
For application notes, see page 199.

Testing



Testing with test plug.  
Using 209-170 test plug adapter.



fine-stranded,  
tip-bonded



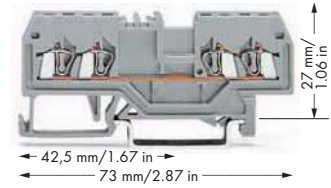
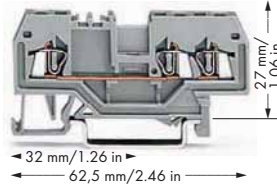
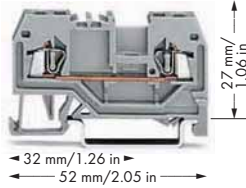
fine-stranded,  
with ferrule ❶  
(gastight crimped)



fine-stranded,  
with pin terminal  
(gastight crimped)

# Through/Ground Conductor/Shield and Ex Terminal Blocks 1.5 mm<sup>2</sup> 279 Series

<p>0.08 - 1.5 mm<sup>2</sup> 800 V/8 kV/3 ① I<sub>N</sub> 18 A</p> <p>Terminal block width 4 mm / 0.157 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 16 600 V, 10 A ⑤ 600 V, 10 A ⑥</p>	<p>0.08 - 1.5 mm<sup>2</sup> 800 V/8 kV/3 ① I<sub>N</sub> 18 A</p> <p>Terminal block width 4 mm / 0.157 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 16 600 V, 10 A ⑤ 600 V, 10 A ⑥</p>	<p>0.08 - 1.5 mm<sup>2</sup> 800 V/8 kV/3 ① I<sub>N</sub> 18 A</p> <p>Terminal block width 4 mm / 0.157 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 16 600 V, 10 A ⑤ 600 V, 10 A ⑥</p>
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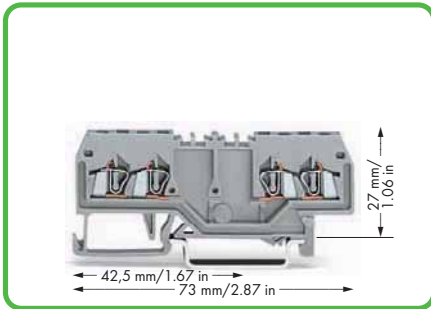
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>					
gray 279-901	100	gray 279-681	100	gray 279-831	100
blue 279-904 ③	100	blue 279-684 ③	100	blue 279-834 ③	100
orange 279-902	100	orange 279-682	100	orange 279-832	100
red 279-903	100	red 279-683	100	red 279-833	100
black 279-905	100	black 279-685	100	black 279-835	100
yellow 279-906	100	yellow 279-686	100	yellow 279-836	100
light gray ⑤ 279-992 ④	100	light gray ⑤ 279-993 ④	100	light gray ⑤ 279-994 ④	100
<b>2-conductor ground terminal block</b>					
green-yellow 279-907	100	green-yellow 279-687	100	green-yellow 279-837	100
green-yellow ⑤ 279-907/999-950 ④	100	green-yellow ⑤ 279-687/999-950 ④	100	green-yellow ⑤ 279-837/999-950 ④	100
<b>3-conductor through terminal block</b>					
<b>4-conductor through terminal block</b>					
<b>4-conductor ground terminal block</b>					
<b>4-conductor shield terminal block</b>					
white 279-838 100					
<b>Other terminal blocks with the same profile:</b>					
Diode 279-915/281-410 Page 254		Diode 279-673/281-410 Page 254		Diode 279-815/281-410 Page 254	
		LED 279-674/281-434 Page 254		LED 279-809/281-434 Page 254	
				Double-potential 279-826 Page 163	
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2 mm thick</b>		<b>End and intermediate plate, 2 mm thick</b>		<b>End and intermediate plate, 2 mm thick</b>	
orange 279-328	100 (4x25)	orange 279-339	100 (4x25)	orange 279-346	100 (4x25)
gray 279-325	100 (4x25)	gray 279-308	100 (4x25)	gray 279-344	100 (4x25)
light gray 279-330	100 (4x25)	light gray 279-341	100 (4x25)	light gray 279-348	100 (4x25)
<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>	
orange 279-329	100 (4x25)	orange 279-340	100 (4x25)	orange 279-347	100 (4x25)
gray 279-326	100 (4x25)	gray 279-309	100 (4x25)	gray 279-345	100 (4x25)
light gray 279-331	100 (4x25)	light gray 279-342	100 (4x25)	light gray 279-349	100 (4x25)
<b>Ex e/Ex i separator, orange, 3 mm thick</b>		<b>Ex e/Ex i separator, orange, 3 mm thick</b>		<b>Ex e/Ex i separator, orange, 3 mm thick</b>	
90 mm 209-190	50 (2x25)	120 mm 209-191	50 (2x25)	120 mm 209-191	50 (2x25)
120 mm 209-191	50 (2x25)				
<b>Cover plate, 1 mm thick</b>					
				gray 284-336	100
				orange 284-346	100

## 279 Series Accessories

Appropriate marking systems: WMB/WFB (see Section 13)

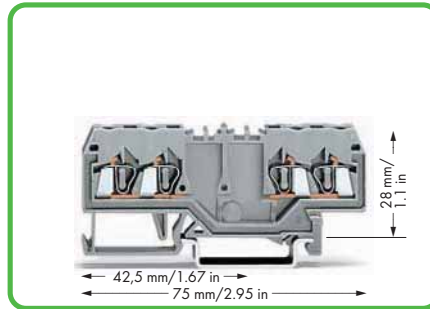
<p><b>Insulation stop,</b> ⑤</p> <p>5 pcs/strip, 0.08 - 0.2 mm<sup>2</sup> "s" (0.14 mm<sup>2</sup> "f-st") white 279-470 200 (8x25)</p>	<p><b>Adjacent jumper, insulated,</b></p> <p>I<sub>N</sub> 15 A gray 279-402 200 (8x25) yellow-green 279-422 200 (8x25)</p>	<p><b>Push-in type wire jumper,</b> ⑤</p> <p>insulated, I<sub>N</sub> 9 A, wire size 0.75 mm<sup>2</sup></p> <p>L = 60 mm 249-125 10 L = 110 mm 249-126 10 L = 250 mm 249-127 10</p>
<p><b>Insulation stop,</b> ⑤</p> <p>5 pcs/strip, 0.25 mm<sup>2</sup> dark gray 279-471 200 (8x25)</p>	<p><b>Alternate jumper, insulated,</b></p> <p>I<sub>N</sub> 15 A gray 279-409 100 (4x25)</p>	

For list of approvals and user guide, see pages 634 to 637.



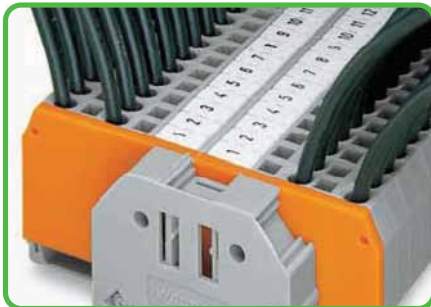
**Double-potential terminal blocks**  
with double marker slot centered on terminal block  
gray 279-826  
light gray 279-995  
Packing unit: 100 pcs

**Notice: These double-potential terminal blocks cannot be commoned with adjacent jumpers!**  
For technical data and accessories, see [www.wagocatalog.com](http://www.wagocatalog.com)

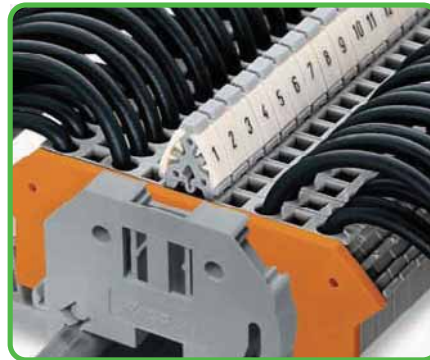


**Double-potential terminal blocks**  
with double marker slot centered on terminal block  
gray 280-826  
light gray 280-995  
Packing unit: 100 pcs

**Notice: These double-potential terminal blocks cannot be commoned with adjacent jumpers!**  
For technical data and accessories, see [www.wagocatalog.com](http://www.wagocatalog.com)



WMB markers provide marking directly on terminal block. For WMB Multi marking system, see Section 13.



Terminal block marking with double marker carriers  
Item No. 209-128  
For terminal blocks with side marking, see online catalog at [www.wagocatalog.com](http://www.wagocatalog.com)



**Separator for Ex e/Ex i applications**  
According to EN 50020, a minimum distance of 50 mm must be kept between live parts of Ex e and Ex i circuits. The use of Ex e/Ex i separators is a space-saving solution when Ex e and Ex i terminal blocks are mounted on a common carrier rail.  
Suitable for 279 to 282 Series terminal blocks.  
209-190 for 2-conductor terminal blocks.  
209-191 for 2-, 3-, 4-conductor terminal blocks.



**End and intermediate plate**  
In order to meet creepage and clearance requirements for Ex e applications, it is necessary to insert an end or intermediate plate between a through and a ground conductor terminal block.

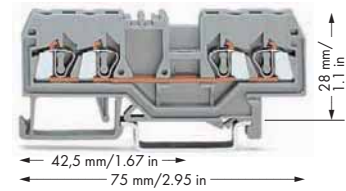
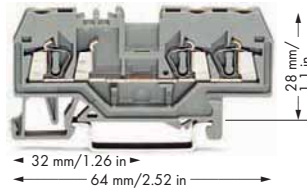
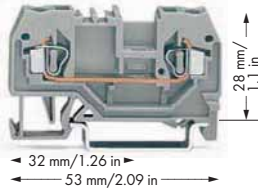
- 1 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- 2 Strip length, see packaging or instructions.
- 3 Suitable for Ex i applications
- 4 Suitable for Ex e II applications  
0.2 mm<sup>2</sup> - 1.5 mm<sup>2</sup>/AWG 24 - 16  
550 V, 15 A  
(also see Section 14)
- 5 See application notes for:  
Insulation stop, page 199  
Push-in type wire jumper, page 201  
Step-down jumper, pages 178 - 179  
Banana plug, page 198  
Comb-style jumper bar, page 200  
Operating tool, page 200

### 279 Series Accessories

<b>Step-down jumper, insulated,</b>			
5	$I_N$ 15 A		
	gray	284-414	50 (2x25)
<b>Cover plate,</b>			
	1 mm thick		
	gray	284-334	100
	orange	284-344	100
<b>Protective warning marker,</b>			
	with high-voltage symbol, black, for 5 terminal blocks		
	yellow	279-415	100 (4x25)
<b>Test plug adapter, 8.3 mm wide,</b>			
	for terminal blocks 1.5 - 10 mm <sup>2</sup> , for test plug 4 mm Ø		
	gray	209-170	50 (2x25)
<b>Banana plug,</b>			
5	for socket 4 mm Ø, color mixed		
		215-111	50
<b>Test plug adapter, 5 mm wide,</b>			
	for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø		
	gray	280-404	100 (4x25)
<b>Test plug,</b>			
	with 500 mm cable, 2.3 mm Ø		
	yellow	210-137	50
<b>Comb-style jumper bar, insulated,</b>			
5	$I_N = I_N$ terminal block		
	2-way	279-482	200 (8x25)
	3-way	279-483	200 (8x25)
<b>Comb-style jumper bar, insulated,</b>			
	$I_N = I_N$ terminal block		
	10-way	279-490	50 (2x25)
<b>Alternate comb-style jumper bar,</b>			
	insulated, $I_N = I_N$ terminal block		
	2-way	279-492	200 (8x25)
<b>Operating tool, of insulating material</b>			
	2-way	279-432	1
	3-way	279-433	1
<b>Operating tool, of insulating material</b>			
	10-way	279-440	1

# Through/Ground Conductor/Shield and Ex Terminal Blocks 2.5 mm<sup>2</sup> 280 Series































<p>0.08 - 2.5 mm<sup>2</sup> 800 V/8 kV/3 ① I<sub>N</sub> 24 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 * 600 V, 20 A ⑤ 600 V, 25 A ⑥</p>	<p>0.08 - 2.5 mm<sup>2</sup> 800 V/8 kV/3 ① I<sub>N</sub> 24 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 * 600 V, 20 A ⑤ 600 V, 15 A ⑥</p>	<p>0.08 - 2.5 mm<sup>2</sup> 800 V/8 kV/3 ① I<sub>N</sub> 20 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 * 600 V, 20 A ⑤ 600 V, 25 A ⑥</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>		<b>3-conductor through terminal block</b>		<b>4-conductor through terminal block</b>	
gray 280-901	100	gray 280-681	100	gray 280-833	100
blue 280-904 ③	100	blue 280-684 ③	100	blue 280-834 ③	100
orange 280-902	100	orange 280-650	100	orange 280-835	100
red 280-903	100	red 280-653	100	red 280-830	100
black 280-905	100	black 280-671	100	black 280-831	100
yellow 280-906	100	yellow 280-672	100	yellow 280-832	100
light gray ④	280-992 ④	100	light gray ④	280-993 ④	100
<b>2-conductor ground terminal block</b>		<b>3-conductor ground terminal block</b>		<b>4-conductor ground terminal block</b>	
green-yellow 280-907	100	green-yellow 280-687	100	green-yellow 280-837	100
green-yellow ④	280-907/999-950 ④	100	green-yellow ④	280-687/999-950 ④	100
				<b>4-conductor shield terminal block</b>	
				white 280-838	100
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>	
Diode 280-915/281-410	Page 256	Diode 280-673/281-410	Page 256	Diode 280-815/281-410	Page 256
Disconnect 280-912	Page 206	Disconnect 280-683	Page 206	LED 280-809/281-434	Page 256
Carrier 280-916	Page 232	Carrier 280-610	Page 232	Disconnect 280-836	Page 206
				Disc., test & meas. 280-829	Page 206
				Carrier 280-816	Page 232
				Double-potential 280-826	Page 163
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>	
orange 280-309	100 (4x25)	orange 280-326	100 (4x25)	orange 280-315	100 (4x25)
gray 280-308	100 (4x25)	gray 280-324	100 (4x25)	gray 280-314	100 (4x25)
light gray 280-356	100 (4x25)	light gray 280-358	100 (4x25)	light gray 280-352	100 (4x25)
<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>	
orange 280-311	100 (4x25)	orange 280-346	100 (4x25)	orange 280-335	100 (4x25)
gray 280-310	100 (4x25)	gray 280-344	100 (4x25)	gray 280-334	100 (4x25)
light gray 280-357	100 (4x25)	light gray 280-359	100 (4x25)	light gray 280-353	100 (4x25)
<b>Ex e/Ex i separator, orange, 3 mm thick</b>		<b>Ex e/Ex i separator, orange, 3 mm thick</b>		<b>Ex e/Ex i separator, orange, 3 mm thick</b>	
90 mm 209-190	50 (2x25)	120 mm 209-191	50 (2x25)	120 mm 209-191	50 (2x25)
120 mm 209-191	50 (2x25)				
<b>Spacer of same shape, 5 mm thick</b>		<b>Spacer of same shape, 5 mm thick</b>		<b>Spacer of same shape, 5 mm thick</b>	
orange 280-902/056-000	100 (4x25)	orange 280-650/056-000	100	orange 280-835/056-000	100 (4x25)
				<b>Cover plate, 1 mm thick</b>	
				gray 284-336	100
				orange 284-346	100

For list of approvals and user guide, see pages 634 to 637.

- \* AWG 12: THHN, THWN
- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ Suitable for Ex e II applications  
0.2 mm<sup>2</sup> - 2.5 mm<sup>2</sup>/AWG 24 - 12\*  
550 V  
23 A for 2-conductor terminal blocks  
22 A for 3-conductor terminal blocks  
20 A for 4-conductor terminal blocks  
(also see Section 14)  
Using staggered jumpers reduces the maximum rated voltage to 275 V.
- ⑤ See application notes for:  
Test plug modules, pages 194 - 196  
Banana plug, page 198  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200  
Staggered jumper, page 201  
Push-in type wire jumper, page 201  
Step-down jumper, pages 178 - 179

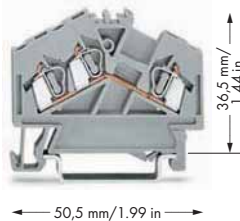
280 Series Accessories			Appropriate marking systems: WMB/WMB Inline/WFB (see Section 13)		
<b>Insulation stop,</b>  5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>280-470</b> 200 (8x25)	<b>Alternate comb-style jumper bar,</b>  insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way <b>280-492</b> 200 (8x25)	<b>Banana plug,</b>  for socket 4 mm Ø, color mixed <b>215-111</b> 50			
<b>Insulation stop,</b>  5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>280-471</b> 200 (8x25)	<b>Operating tool,</b> of insulating material  2-way <b>280-432</b> 1 3-way <b>280-433</b> 1	<b>Test plug adapter,</b> 6 mm wide,  with CAGE CLAMP®, for 0.08 - 2.5 mm <sup>2</sup> I <sub>N</sub> 24 A <b>281-407</b> 100 (4x25)			
<b>Insulation stop,</b>  5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>280-472</b> 200 (8x25)	<b>Operating tool,</b> of insulating material  10-way <b>280-440</b> 1	<b>WMB Inline,</b> plain,  stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white <b>2009-115</b> 1			
<b>Adjacent jumper,</b> insulated,  I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b> 200 (8x25) yellow-green <b>280-422</b> 200 (8x25)	<b>Step-down jumper,</b> insulated,  I <sub>N</sub> 15 A gray <b>284-414</b> 50 (2x25)	<b>WMB Multi marking system,</b>  10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5			
<b>Alternate jumper,</b> insulated,  I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-409</b> 100 (4x25)	<b>Cover plate,</b>  1 mm thick gray <b>284-334</b> 100 orange <b>284-344</b> 100	<b>WMB Multi marking system,</b> plain,  10 strips with 10 markers per card, stretchable 5 - 5.2 mm yellow <b>793-5501/000-002</b> red <b>793-5501/000-005</b> blue <b>793-5501/000-006</b> gray <b>793-5501/000-007</b> orange <b>793-5501/000-012</b> light green <b>793-5501/000-017</b> green <b>793-5501/000-023</b> violet <b>793-5501/000-024</b> 5			
<b>Staggered jumper,</b>  ⑤ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A from 1 to 2 <b>780-452</b> 100 (4x25) from 1 to 3 <b>780-453</b> 100 (4x25) from 1 to 4 <b>780-454</b> 100 (4x25) from 1 to 5 <b>780-455</b> 50 (2x25) from 1 to 6 <b>780-456</b> 50 (2x25) from 1 to 7 <b>780-457</b> 50 (2x25) from 1 to 8 <b>780-458</b> 50 (2x25)	<b>Protective warning marker,</b>  with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)	<b>Test plug module,</b>  ⑤ can be snapped together, 5 mm wide gray <b>280-418</b> 100 (4x25)			
<b>Push-in type wire jumper,</b>  ⑤ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm <b>249-125</b> 10 L = 110 mm <b>249-126</b> 10 L = 250 mm <b>249-127</b> 10	<b>Spacer module,</b>  can be snapped together, 5 mm wide gray <b>280-419</b> 100 (4x25)	<b>Screwless end stop,</b>  for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)			
<b>Comb-style jumper bar,</b> insulated,  ⑤ I <sub>N</sub> = I <sub>N</sub> terminal block 2-way <b>280-482</b> 200 (8x25) 3-way <b>280-483</b> 200 (8x25)	<b>Test plug,</b>  with 500 mm cable, 2 mm Ø red <b>210-136</b> 50	<b>Screwless end stop,</b>  for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)			
<b>Comb-style jumper bar,</b> insulated,  I <sub>N</sub> = I <sub>N</sub> terminal block 10-way <b>280-490</b> 50 (2x25)	<b>Test plug,</b>  with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50				
<b>Comb-style jumper bar,</b> insulated,  I <sub>N</sub> = I <sub>N</sub> terminal block 2-way <b>280-482</b> 200 (8x25) 3-way <b>280-483</b> 200 (8x25)	<b>Test plug adapter,</b> 5 mm wide,  for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø gray <b>280-404</b> 100 (4x25)				
<b>Comb-style jumper bar,</b> insulated,  I <sub>N</sub> = I <sub>N</sub> terminal block 10-way <b>280-490</b> 50 (2x25)	<b>Test plug adapter,</b> 8.3 mm wide,  for terminal blocks 1.5 - 10 mm <sup>2</sup> , for test plug 4 mm Ø gray <b>209-170</b> 50 (2x25)				

# Through/Ground Conductor/Shield and Ex Terminal Blocks 2.5 mm<sup>2</sup> 280 Series

**CAGE CLAMP®**

0.08 - 2.5 mm<sup>2</sup> AWG 28 - 12 \*  
800 V/8 kV/3 ① 600 V, 20 A ②  
I<sub>N</sub> 24 A

Terminal block width 5 mm / 0.197 in  
8 - 9 mm / 0.33 in ②



\* AWG 12: THHN, THWN

- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ Suitable for Ex e II applications  
0.2 mm<sup>2</sup> - 2.5 mm<sup>2</sup>/AWG 24 - 12\*  
550 V, 23 A  
(also see Section 14)  
Using staggered jumpers reduces the maximum rated voltage to 275 V.
- ⑤ See application notes for:  
Test plug modules, pages 194 - 196  
Banana plug, page 198  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200  
Staggered jumper, page 201  
Push-in type wire jumper, page 201

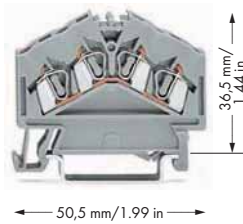
Item No.	Pack. Unit	280 Series Accessories	
Appropriate marking systems: WMB/WMB Inline/WFB (see Section 13)			
<b>3-conductor through terminal block</b>		<b>Alternate jumper, insulated,</b>	
gray 280-641	100	I <sub>N</sub> = I <sub>N</sub> terminal block	<b>Test plug,</b>
blue 280-651 ③	100	gray 280-409 100 (4x25)	with 500 mm cable, 2 mm Ø red 210-136 50
orange 280-654	100		
light gray ④	100		
<b>3-conductor ground terminal block</b>		<b>Staggered jumper,</b>	
green-yellow 280-637	100	⑤ insulated,	<b>Test plug,</b>
green-yellow ④ 280-637/999-950 ④	100	width 5 mm/0.197 in, I <sub>N</sub> 24 A	with 500 mm cable, 2.3 mm Ø yellow 210-137 50
<b>3-conductor shield terminal block</b>		from 1 to 2 780-452 100 (4x25)	
white 280-640	100	from 1 to 3 780-453 100 (4x25)	<b>Test plug adapter, 5 mm wide,</b>
		from 1 to 4 780-454 100 (4x25)	for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø
		from 1 to 5 780-455 50 (2x25)	gray 280-404 100 (4x25)
<b>280 Series Accessories</b>		from 1 to 6 780-456 50 (2x25)	<b>Test plug adapter, 8.3 mm wide,</b>
		from 1 to 7 780-457 50 (2x25)	for terminal blocks 1.5 - 10 mm <sup>2</sup> , for test plug 4 mm Ø
		from 1 to 8 780-458 50 (2x25)	gray 209-170 50 (2x25)
<b>End and intermediate plate, 2.5 mm thick</b>		<b>Push-in type wire jumper,</b>	
orange 280-313	100 (4x25)	⑤ insulated,	<b>Banana plug,</b>
gray 280-312	100 (4x25)	I <sub>N</sub> 9 A,	⑤ for socket 4 mm Ø, color mixed
light gray 280-354	100 (4x25)	wire size 0.75 mm <sup>2</sup>	215-111 50
<b>Separator, oversized, 2.5 mm thick</b>		L = 60 mm 249-125 10	<b>Test plug adapter, 6 mm wide,</b>
orange 280-318	100 (4x25)	L = 110 mm 249-126 10	with CAGE CLAMP®, for 0.08 - 2.5 mm <sup>2</sup>
gray 280-348	100 (4x25)	L = 250 mm 249-127 10	I <sub>N</sub> 24 A 281-407 100 (4x25)
light gray 280-355	100 (4x25)		
<b>Ex e/Ex i separator, orange,</b>		<b>Comb-style jumper bar, insulated,</b>	
3 mm thick		⑤ I <sub>N</sub> = I <sub>N</sub> terminal block	<b>WMB Multi marking system,</b>
120 mm 209-191 50 (2x25)		2-way 280-482 200 (8x25)	10 strips with 10 markers per card, stretchable 5 - 5.2 mm
		3-way 280-483 200 (8x25)	plain 793-5501 5
<b>Spacer of same shape,</b>		<b>Alternate comb-style jumper bar,</b>	
5 mm thick		insulated,	<b>WMB Multi marking system, plain,</b>
orange 280-654/056-000	100 (4x25)	I <sub>N</sub> = I <sub>N</sub> terminal block	10 strips with 10 markers per card, stretchable 5 - 5.2 mm
		2-way 280-492 200 (8x25)	yellow 793-5501/000-002
			red 793-5501/000-005
			blue 793-5501/000-006
			gray 793-5501/000-007
			orange 793-5501/000-012
			light green 793-5501/000-017
			green 793-5501/000-023
			violet 793-5501/000-024
			5
<b>Insulation stop,</b>		<b>Operating tool, of insulating material</b>	
⑤ 5 pcs/strip,		2-way 280-432 1	
0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")		3-way 280-433 1	
white 280-470 200 (8x25)			
<b>Insulation stop,</b>		<b>Protective warning marker,</b>	
⑤ 5 pcs/strip,		with high-voltage symbol, black,	
0.25 - 0.5 mm <sup>2</sup>		for 5 terminal blocks	
light gray 280-471 200 (8x25)		yellow 280-415 100 (4x25)	
<b>Insulation stop,</b>		<b>Test plug module,</b>	
⑤ 5 pcs/strip,		⑤ can be snapped together,	<b>Screwless end stop,</b>
0.75 - 1 mm <sup>2</sup>		5 mm wide	for DIN 35 rail, 6 mm wide
dark gray 280-472 200 (8x25)		gray 280-418 100 (4x25)	gray 249-116 100 (4x25)
<b>Adjacent jumper, insulated,</b>		<b>Spacer module,</b>	
I <sub>N</sub> = I <sub>N</sub> terminal block		can be snapped together,	<b>Screwless end stop,</b>
gray 280-402 200 (8x25)		5 mm wide	for DIN 35 rail, 10 mm wide
		gray 280-419 100 (4x25)	gray 249-117 50 (2x25)

For list of approvals and user guide, see pages 634 to 637.



# Through and Ex Terminal Blocks 2.5 mm<sup>2</sup> 280 Series

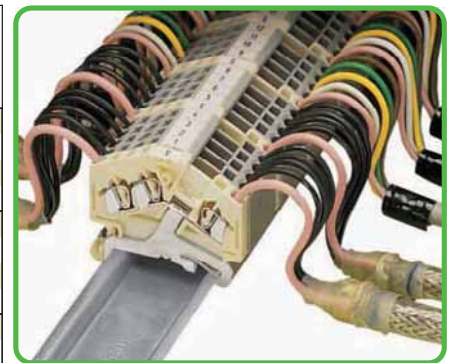
0.08 - 2.5 mm <sup>2</sup>	AWG 28 - 12 *
800 V/8 kV/3 ①	600 V, 20 A ②
I <sub>N</sub> 24 A	600 V, 25 A ③
Terminal block width 5 mm / 0.197 in	
8 - 9 mm / 0.33 in ④	



- \* AWG 12: THHN, THWN
- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ Suitable for Ex e II applications  
0.2 mm<sup>2</sup> - 2.5 mm<sup>2</sup>/AWG 24 - 12\*  
550 V, 23 A  
(also see Section 14)
- ⑤ See application notes for:  
Test plug module, page 194  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200



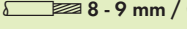

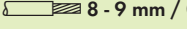

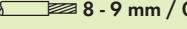
Item No.	Pack. Unit	280 Series Accessories
<b>4-conductor through terminal block</b>		Appropriate marking systems (see Section 13)
gray	280-646 100	<b>Alternate comb-style jumper bar,</b> insulated, I <sub>N</sub> = I <sub>N</sub> terminal block
blue	280-656 ③ 100	
orange	280-946 100	
light gray ⑤	280-996 ④ 100	
<b>Notice:</b> These terminal blocks cannot be commoned using adjacent jumpers		<b>Operating tool,</b> of insulating material
<b>280 Series Accessories</b>		<b>Operating tool,</b> of insulating material
<b>End and intermediate plate, 2.5 mm thick</b>		<b>Operating tool,</b> of insulating material
orange	280-313 100 (4x25)	10-way 280-440 1
gray	280-312 100 (4x25)	
light gray	280-354 100 (4x25)	<b>Protective warning marker,</b>
<b>Separator, oversized, 2.5 mm thick</b>		with high-voltage symbol, black, for 5 terminal blocks
orange	280-318 100 (4x25)	yellow 280-415 100 (4x25)
gray	280-348 100 (4x25)	<b>L-type test plug module,</b>
light gray	280-355 100 (4x25)	can be snapped together, 5 mm wide
<b>Ex e/Ex i separator, orange,</b>		gray 249-141 100 (4x25)
3 mm thick		<b>WMB Inline, plain,</b>
120 mm	209-191 50 (2x25)	stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll
<b>Spacer of same shape,</b>		white 2009-115 1
5 mm thick		<b>WMB Multi marking system,</b>
orange	280-654/056-000 100 (4x25)	10 strips with 10 markers per card, stretchable 5 - 5.2 mm
<b>Insulation stop,</b>		plain 793-5501 5
⑤ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-s")		<b>WMB Multi marking system, plain,</b>
white 280-470 200 (8x25)		10 strips with 10 markers per card, stretchable 5 - 5.2 mm
<b>Insulation stop,</b>		yellow 793-5501/000-002
⑤ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>		red 793-5501/000-005
light gray 280-471 200 (8x25)		blue 793-5501/000-006
<b>Insulation stop,</b>		gray 793-5501/000-007
⑤ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup>		orange 793-5501/000-012
dark gray 280-472 200 (8x25)		light green 793-5501/000-017
<b>Comb-style jumper bar, insulated,</b>		green 793-5501/000-023
⑤ I <sub>N</sub> = I <sub>N</sub> terminal block		violet 793-5501/000-024
2-way 280-482 200 (8x25)		
3-way 280-483 200 (8x25)		<b>Screwless end stop,</b>
<b>Comb-style jumper bar, insulated,</b>		for DIN 35 rail, 6 mm wide
⑤ I <sub>N</sub> = I <sub>N</sub> terminal block		gray 249-116 100 (4x25)
10-way 280-490 50 (2x25)		<b>Screwless end stop,</b>
		for DIN 35 rail, 10 mm wide
		gray 249-117 50 (2x25)

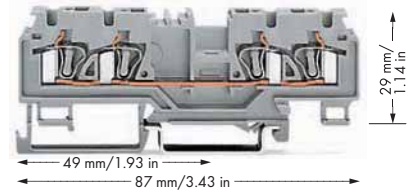
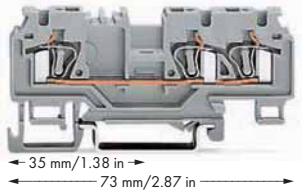
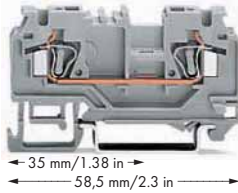


Application example for shield terminal blocks

Shielded control cables are becoming an increasingly common solution to external signal interference. Shield terminal blocks for front-entry are suitable for connecting braided cables. Like ground conductor terminal blocks for front-entry, they are equipped with a grounding foot for direct electrical connection to the rail, however they differ significantly by their white insulated housing. Shield terminal blocks for front-entry can be directly mounted beside signal-conductor terminal blocks, providing excellent deflection of interfering signals.

# Through and Ground Conductor Terminal Blocks 4 mm<sup>2</sup>, Terminal Block Width 5 mm Suited for Specialty Conductors AWG 12 with 216-206 Ferrule, 880 Series

0.08 - 4 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 25 A Terminal block width 5 mm / 0.197 in  8 - 9 mm / 0.33 in ②	AWG 28 - 12 600 V, 20 A: 	0.08 - 4 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 25 A Terminal block width 5 mm / 0.197 in  8 - 9 mm / 0.33 in ②	AWG 28 - 12 600 V, 20 A: 	0.08 - 4 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 20 A Terminal block width 5 mm / 0.197 in  8 - 9 mm / 0.33 in ②	AWG 28 - 12
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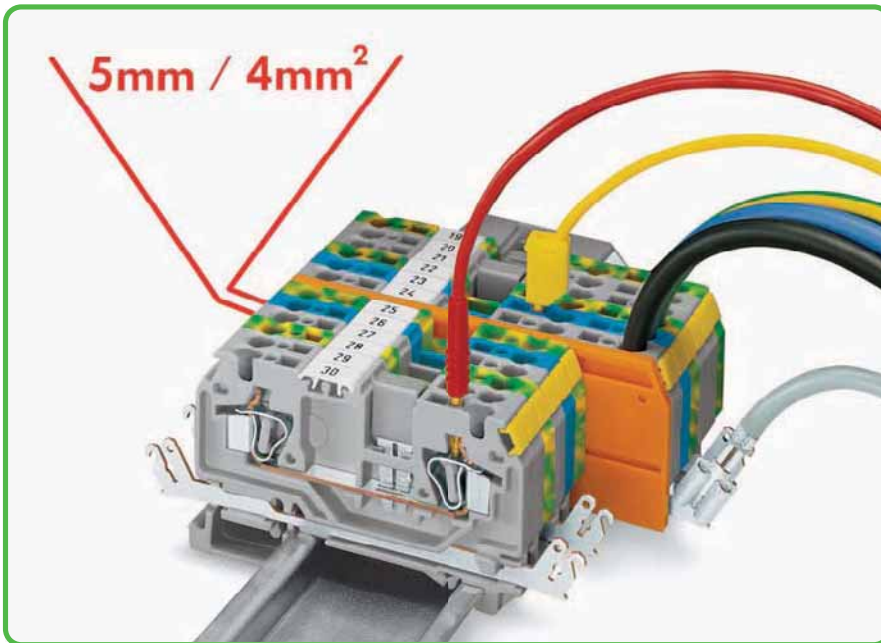
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block without shield contact</b>		<b>3-conductor through terminal block without shield contact</b>		<b>4-conductor through terminal block without shield contact</b>	
gray 880-901/999-940 100		gray 880-681/999-940 100		gray 880-831/999-940 50	
blue 880-904/999-940 ③ 100		blue 880-684/999-940 ③ 100		blue 880-834/999-940 ③ 50	
orange 880-902/999-940 100		orange 880-682/999-940 100		orange 880-832/999-940 50	
<b>2-conductor through terminal block with shield contact on request</b>		<b>3-conductor through terminal block with shield contact on request</b>			
<b>2-conductor ground terminal block</b>		<b>3-conductor ground terminal block</b>		<b>4-conductor ground terminal block</b>	
green-yellow 880-907/999-940 100		green-yellow 880-687/999-940 100		green-yellow 880-837/999-940 50	
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>	
orange 880-328 100 (4x25)		orange 880-339 100 (4x25)		orange 880-346 100 (4x25)	
gray 880-325 100 (4x25)		gray 880-308 100 (4x25)		gray 880-344 100 (4x25)	
<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>	
orange 880-329 100 (4x25)		orange 880-340 100 (4x25)		orange 880-347 100 (4x25)	
gray 880-326 100 (4x25)		gray 880-309 100 (4x25)		gray 880-345 100 (4x25)	

**880 Series Accessories**

Appropriate marking systems: WMB/WMB Inline/Miniature WSB/WFB (see Section 13)

<b>Insulation stop,</b> ④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "F-st") white 280-470 200 (8x25)	<b>Staggered jumper,</b> ④ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A from 1 to 2 780-452 100 (4x25) from 1 to 3 780-453 100 (4x25) from 1 to 4 780-454 100 (4x25) from 1 to 5 780-455 50 (2x25) from 1 to 6 780-456 50 (2x25) from 1 to 7 780-457 50 (2x25) from 1 to 8 780-458 50 (2x25)	<b>Comb-style jumper bar, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block 10-way 280-490 50 (2x25)
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 280-471 200 (8x25)		<b>Alternate comb-style jumper bar,</b> insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way 280-492 200 (8x25)
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray 280-472 200 (8x25)		<b>Operating tool, of insulating material</b> 2-way 280-432 1 3-way 280-433 1
<b>Adjacent jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray 280-402 200 (8x25) yellow-green 280-422 200 (8x25)	<b>Push-in type wire jumper,</b> ④ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm 249-125 10 L = 110 mm 249-126 10 L = 250 mm 249-127 10	<b>Operating tool, of insulating material</b> 10-way 280-440 1
<b>Alternate jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray 280-409 100 (4x25)		<b>Test plug module,</b> ④ can be snapped together, 5 mm wide gray 280-418 100 (4x25)
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow 280-415 100 (4x25)	<b>Comb-style jumper bar, insulated,</b> ④ I <sub>N</sub> = I <sub>N</sub> terminal block 2-way 280-482 200 (8x25) 3-way 280-483 200 (8x25)	<b>Spacer module,</b> can be snapped together, 5 mm wide gray 280-419 100 (4x25)

For list of approvals and user guide, see pages 634 to 637.



With/without shield contact



### Features

- 2-, 3- and 4-conductor terminal blocks, only 5 mm/0.197 in wide
- Conductor cross section up to 4 mm<sup>2</sup> (per VDE 0281), or \* AWG 12 with ferrule (Item No. 216-206)
- \* 2.5 mm<sup>2</sup>/AWG 14 with rubber-insulated conductors having a diameter up to 4.4 mm (0.173 in)
- Shield contact, solder contact / quick-connect contact 6.3 [2 x 2.8] mm
- Test plug, red, 2 mm Ø
- Test plug, yellow, 2.3 mm Ø
- WMB marking
- Miniature WSB marking, on both sides
- Commoning with standard WAGO jumper system



Using a AWG 12 cable with ferrule (Item No. 216-206)












- 1 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree

 600 V/20 A with shield contact  
 400 V/6 kV/3  
 300 V/10 A (also see Section 14)

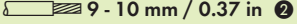
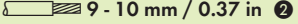
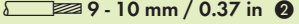
- 2 Strip length, see packaging or instructions.
- 3 Suitable for Ex i applications
- 4 See application notes for:  
Test plug modules, pages 194 - 196  
Banana plug, page 198  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200  
Staggered jumper, page 201  
Push-in type wire jumper, page 201

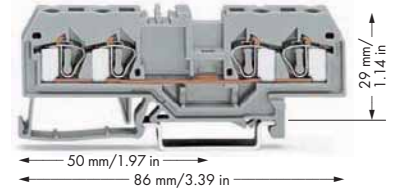
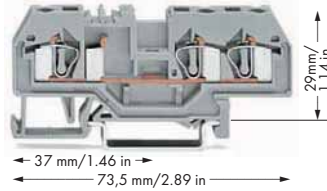
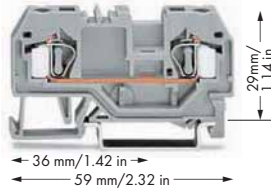


### 880 Series Accessories

	Test plug, with 500 mm cable, 2.3 mm Ø yellow	<b>210-137</b>	50
	Test plug, with 500 mm cable, 2 mm Ø red	<b>210-136</b>	50
	Test plug adapter, 5 mm wide, for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø gray	<b>280-404</b>	100 (4x25)
	Test plug adapter, 8.3 mm wide, for terminal blocks 1.5 - 10 mm <sup>2</sup> , for test plug 4 mm Ø gray	<b>209-170</b>	50 (2x25)
	Banana plug, for socket 4 mm Ø, color mixed	<b>215-111</b>	50
	Test plug adapter, 6 mm wide, with CAGE CLAMP®, for 0.08 - 2.5 mm <sup>2</sup> I <sub>N</sub> 24 A	<b>281-407</b>	100 (4x25)
	WMB Inline, plain, stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white	<b>2009-115</b>	1
	WMB Multi marking system, 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain	<b>793-5501</b>	5
	Miniature WSB Quick marking system, 10 strips with 10 markers per card, 5 mm wide markers plain	<b>248-501</b>	5
	Screwless end stop, for DIN 35 rail, 6 mm wide gray	<b>249-116</b>	100 (4x25)
	Screwless end stop, for DIN 35 rail, 10 mm wide gray	<b>249-117</b>	50 (2x25)

# Through/Ground Conductor/Shield and Ex Terminal Blocks 4 mm<sup>2</sup> 281 Series

<b>0.08 - 4 mm<sup>2</sup></b> <b>800 V/8 kV/3 ①</b> <b>I<sub>N</sub> 32 A</b>  <b>Terminal block width 6 mm / 0.236 in</b>  <b>9 - 10 mm / 0.37 in ②</b>	<b>AWG 28 - 12</b> <b>600 V, 20 A ③</b> <b>600 V, 25 A ④</b>	<b>0.08 - 4 mm<sup>2</sup></b> <b>800 V/8 kV/3 ①</b> <b>I<sub>N</sub> 32 A</b>  <b>Terminal block width 6 mm / 0.236 in</b>  <b>9 - 10 mm / 0.37 in ②</b>	<b>AWG 28 - 12</b> <b>600 V, 20 A ③</b> <b>600 V, 25 A ④</b>	<b>0.08 - 4 mm<sup>2</sup></b> <b>800 V/8 kV/3 ①</b> <b>I<sub>N</sub> 26 A</b>  <b>Terminal block width 6 mm / 0.236 in</b>  <b>9 - 10 mm / 0.37 in ②</b>	<b>AWG 28 - 12</b> <b>600 V, 20 A ③</b> <b>600 V, 25 A ④</b>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>		<b>3-conductor through terminal block</b>		<b>4-conductor through terminal block</b>	
gray 281-901	50	gray 281-681	50	gray 281-652	50
blue 281-904 ③	50	blue 281-684 ③	50	blue 281-654 ③	50
orange 281-902	50	orange 281-678	50	orange 281-653	50
red 281-903	50	red 281-679	50	red 281-663	50
black 281-905	50	black 281-685	50	black 281-664	50
yellow 281-906	50	yellow 281-686	50	yellow 281-668	50
light gray ④	50	light gray ④	50	light gray ④	50
<b>2-conductor ground terminal block</b>		<b>3-conductor ground terminal block</b>		<b>4-conductor ground terminal block</b>	
green-yellow 281-907	50	green-yellow 281-687	50	green-yellow 281-657	50
green-yellow ④	50	green-yellow ④	50	green-yellow ④	50
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>	
Diode 281-915/281-410	Page 258	Diode 281-673/281-410	Page 258	Diode 281-665/281-410	Page 258
Disconnect 281-912	Page 208	Disconnect 281-683	Page 208	Disconnect 281-659	Page 208
Carrier 281-916	Page 230	Carrier 281-610	Page 230	Disc., test & meas. 281-666	Page 208
				Carrier 281-656	Page 230
<b>4-conductor shield terminal block</b>					
				white 281-658	50


Item-Specific Accessories	Item-Specific Accessories	Item-Specific Accessories
<b>End and intermediate plate, 2.5 mm thick</b>	<b>End and intermediate plate, 2.5 mm thick</b>	<b>End and intermediate plate, 2.5 mm thick</b>
orange 281-329 100 (4x25)	orange 281-326 100 (4x25)	orange 281-335 100 (4x25)
gray 281-328 100 (4x25)	gray 281-324 100 (4x25)	gray 281-334 100 (4x25)
light gray 281-349 100 (4x25)	light gray 281-355 100 (4x25)	light gray 281-345 100 (4x25)
<b>Separator, oversized, 2 mm thick</b>	<b>Separator, oversized, 2 mm thick</b>	<b>Separator, oversized, 2 mm thick</b>
orange 281-331 100 (4x25)	orange 281-346 100 (4x25)	orange 281-339 100 (4x25)
gray 281-330 100 (4x25)	gray 281-344 100 (4x25)	gray 281-338 100 (4x25)
light gray 281-350 100 (4x25)	light gray 281-356 100 (4x25)	light gray 281-347 100 (4x25)
<b>Ex e/Ex i separator, orange, 3 mm thick</b>	<b>Ex e/Ex i separator, orange, 3 mm thick</b>	<b>Ex e/Ex i separator, orange, 3 mm thick</b>
120 mm 209-191 50 (2x25)	120 mm 209-191 50 (2x25)	120 mm 209-191 50 (2x25)
90 mm 209-190 50 (2x25)		
		<b>Cover plate, 1 mm thick</b>
		gray 284-336 100
		orange 284-346 100

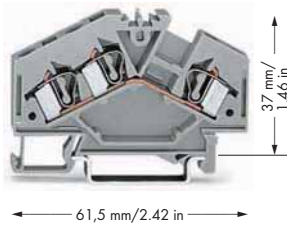
**281 Series Accessories**

Appropriate marking systems: WMB/WFB  
(see Section 13)

<b>Insulation stop, ⑤</b> 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "F-st") white 281-470 200 (8x25)	<b>Insulation stop, ⑤</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 281-471 200 (8x25)	<b>Insulation stop, ⑤</b> 5 pcs/strip, 0.25 - 1.5 mm <sup>2</sup> dark gray 281-472 200 (8x25)
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For list of approvals and user guide, see pages 634 to 637.

0.08 - 4 mm <sup>2</sup>	AWG 28 - 12
800 V/8 kV/3 ①	600 V, 20 A <sup>②</sup>
I <sub>N</sub> 32 A	600 V, 25 A <sup>③</sup>
Terminal block width 6 mm / 0.236 in	
 9 - 10 mm / 0.37 in ②	



- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ Suitable for Ex e II applications  
0.2 mm<sup>2</sup> - 4 mm<sup>2</sup>/AWG 24 - 12  
550 V, 30 A  
(also see Section 14)  
Using staggered jumpers reduces the maximum rated voltage to 275 V.
- ⑤ See application notes for:  
Test plug modules, pages 194 - 196  
Banana plug, page 198  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200  
Staggered jumper, page 201  
Push-in type wire jumper, page 201  
Step-down jumper, pages 178 - 179

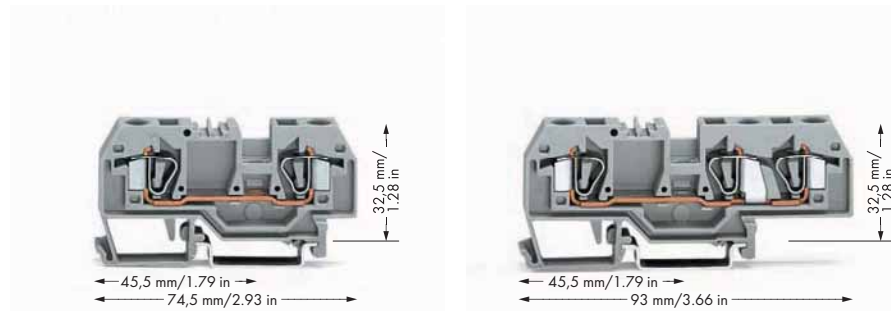
Item No.	Pack. Unit	281 Series Accessories	
Appropriate marking systems: WMB/WFB (see Section 13)			
<b>3-conductor through terminal block</b>		<b>Adjacent jumper, insulated,</b>	<b>Step-down jumper, insulated,</b>
gray	281-631 100	I <sub>N</sub> = I <sub>N</sub> terminal block	I <sub>N</sub> 30 A
blue	281-651 ③ 100	gray 281-402 200 (8x25)	gray 284-413 50 (2x25)
light gray	281-998 ④ 100	yellow-green 281-422 200 (8x25)	
<b>3-conductor ground terminal block</b>		<b>Alternate jumper, insulated,</b>	<b>Cover plate,</b>
green-yellow	281-637 100	I <sub>N</sub> = I <sub>N</sub> terminal block	1 mm thick
green-yellow	281-637/999-950 ④ 100	gray 281-409 100 (4x25)	gray 284-334 100
			orange 284-344 100
		<b>Push-in type wire jumper,</b>	<b>Test plug module,</b>
		⑤ insulated,	⑤ can be snapped together,
		I <sub>N</sub> 9 A,	6 mm wide
		wire size 0.75 mm <sup>2</sup>	gray 281-418 100 (4x25)
		L = 60 mm 249-125 10	<b>Spacer module,</b>
		L = 110 mm 249-126 10	can be snapped together,
		L = 250 mm 249-127 10	6 mm wide
			gray 281-419 100 (4x25)
		<b>Staggered jumper,</b>	<b>Test plug,</b>
		⑤ insulated,	with 500 mm cable,
		width 6 mm/0.236 in,	2 mm Ø
		I <sub>N</sub> 32 A	red 210-136 50
		from 1 to 2 781-452 100 (4x25)	<b>Test plug,</b>
		from 1 to 3 781-453 100 (4x25)	with 500 mm cable,
		from 1 to 4 781-454 100 (4x25)	2.3 mm Ø
		from 1 to 5 781-455 50 (2x25)	yellow 210-137 50
		from 1 to 6 781-456 50 (2x25)	<b>Test plug adapter, 5 mm wide,</b>
			for terminal blocks 1.5 - 4 mm <sup>2</sup> ,
			for 210-137 test plug 2.3 mm Ø
			gray 280-404 100 (4x25)
<b>Item-Specific Accessories</b>		<b>Comb-style jumper bar, insulated,</b>	<b>Test plug adapter, 8.3 mm wide,</b>
<b>End and intermediate plate, 2.5 mm thick</b>		I <sub>N</sub> = I <sub>N</sub> terminal block	for terminal blocks 1.5 - 10 mm <sup>2</sup> ,
orange	281-313 100 (4x25)	⑤ 2-way 281-482 100 (4x25)	for test plug 4 mm Ø
gray	281-312 100 (4x25)	3-way 281-483 100 (4x25)	gray 209-170 50 (2x25)
light gray	281-357 100 (4x25)	5-way 281-485 100 (4x25)	<b>Banana plug,</b>
<b>Separator, oversized, 2 mm thick</b>		10-way 281-490 50 (2x25)	⑤ for socket 4 mm Ø,
gray	281-318 100 (4x25)		color mixed
gray	281-348 100 (4x25)		215-111 50
light gray	281-358 100 (4x25)		<b>Test plug adapter, 6 mm wide,</b>
<b>Ex e/Ex i separator, orange,</b>		<b>Alternate comb-style jumper bar,</b>	with CAGE CLAMP®,
3 mm thick		insulated,	for 0.08 - 2.5 mm <sup>2</sup>
120 mm	209-191 50 (2x25)	I <sub>N</sub> = I <sub>N</sub> terminal block	I <sub>N</sub> 24 A 281-407 100 (4x25)
		2-way 281-492 100 (4x25)	<b>Screwless end stop,</b>
			for DIN 35 rail,
		<b>Operating tool, of insulating material</b>	6 mm wide
		2-way 280-432 1	gray 249-116 100 (4x25)
		3-way 280-433 1	<b>Screwless end stop,</b>
		5-way 281-440 1	for DIN 35 rail,
			10 mm wide
		<b>Protective warning marker,</b>	gray 249-117 50 (2x25)
		with high-voltage symbol, black,	
		for 5 terminal blocks	
		yellow 281-415 100 (4x25)	
		<b>Step-down jumper, insulated,</b>	
		⑤ I <sub>N</sub> 15 A	
		gray 284-414 50 (2x25)	

# Through/Ground Conductor and Ex Terminal Blocks 6 mm<sup>2</sup> 282 Series

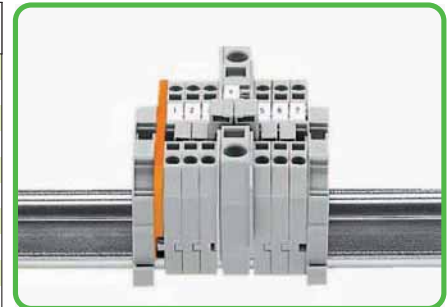
**CAGE CLAMP®**

0.2 - 6 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 41 A	AWG 24 - 10 600 V, 30 A ② 600 V, 40 A ③	0.2 - 6 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 41 A	AWG 24 - 10 600 V, 30 A ② 600 V, 40 A ③
Terminal block width 8 mm / 0.315 in 12 - 13 mm / 0.49 in ②		Terminal block width 8 mm / 0.315 in 12 - 13 mm / 0.49 in ②	

- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ Suitable for Ex e II applications  
0.5 mm<sup>2</sup> - 6 mm<sup>2</sup>/AWG 20 - 10  
550 V, 39 A  
Jumper 35 A  
(also see Section 14)
- ⑤ See application notes for:  
Test plug module, page 197  
Banana plug, page 198  
Step-down jumper, pages 178 - 179



Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>			
gray 282-901	50	gray 282-681	25
blue 282-904 ③	50	blue 282-684 ③	25
orange 282-902	50	orange 282-682	25
light gray ④	50	light gray ④	50
<b>2-conductor ground terminal block</b>			
green-yellow 282-907	50	green-yellow 282-687	25
green-yellow ④	50	green-yellow ④	50
<b>3-conductor through terminal block</b>			
<b>3-conductor ground terminal block</b>			
<b>Item-Specific Accessories</b>			
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>	
orange 282-328	100 (4x25)	orange 282-339	100 (4x25)
gray 282-325	100 (4x25)	gray 282-308	100 (4x25)
light gray 282-330	100 (4x25)	light gray 282-341	100 (4x25)
<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>	
orange 282-329	100 (4x25)	orange 282-340	100 (4x25)
gray 282-326	100 (4x25)	gray 282-309	100 (4x25)
light gray 282-331	100 (4x25)	light gray 282-342	100 (4x25)
<b>Cover plate, 1 mm thick</b>		<b>Cover plate, 1 mm thick</b>	
gray 282-357	25	gray 282-358	25
orange 282-367	25	orange 282-368	25


**Commoning with step-down jumpers**

A step-down cover plate must be inserted between terminal blocks to be jumpered. Step-down jumper 284-414 commons 10/6 mm<sup>2</sup>/AWG 8/10 terminal blocks with 4/2.5/1.5 mm<sup>2</sup>/AWG 12/14/16 terminal blocks.

Step-down jumpers are simply pushed down for full insertion, similar to adjacent jumpers.


**Commoning with step-down jumpers**

A step-down cover plate must be inserted between terminal blocks to be jumpered. Step-down jumper 284-413 commons 10/6 mm<sup>2</sup>/AWG 8/10 terminal blocks with 6/4 mm<sup>2</sup>/AWG 10/12 terminal blocks.

Step-down jumpers are simply pushed down for full insertion, similar to adjacent jumpers.

Note:

**The total current flowing shall not exceed the rating of the step-down jumper.**

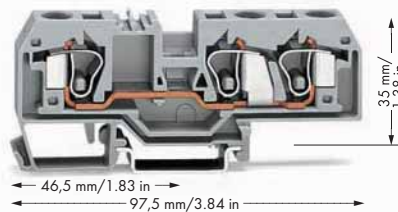
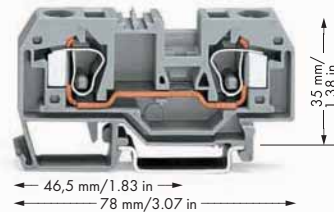
**282 Series Accessories**

Appropriate marking systems:  
WMB/WFB (see Section 13)

<b>Ex e/Ex i separator, orange, 3 mm thick</b> 120 mm 209-191 50 (2x25)	<b>Step-down jumper, insulated, I<sub>N</sub> 30 A</b> gray 284-413 50 (2x25)
<b>Adjacent jumper, insulated, I<sub>N</sub> 41 A</b> gray 282-402 100 (4x25) yellow-green 282-422 100 (4x25)	<b>Test plug adapter, 8.3 mm wide, for terminal blocks 1.5 - 10 mm<sup>2</sup>, for test plug 4 mm Ø</b> gray 209-170 50 (2x25)
<b>Alternate jumper, insulated, I<sub>N</sub> 41 A</b> gray 282-409 100 (4x25)	<b>Banana plug, for socket 4 mm Ø, color mixed</b> 215-111 50
<b>Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks</b> yellow 282-415 100 (4x25)	<b>B-type test plug module, can be snapped together, 8 mm wide</b> gray 709-310 100 (4x25)
<b>Step-down jumper, insulated, I<sub>N</sub> 15 A</b> gray 284-414 50 (2x25)	<b>B-type spacer module, can be snapped together, 8 mm wide</b> gray 709-311 100 (4x25)

# Through/Ground Conductor and Ex Terminal Blocks 10 mm<sup>2</sup> 284 Series

0.2 - 10 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 57 A	AWG 24 - 8 600 V, 50 A ② 600 V, 54 A ③	0.2 - 10 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 57 A	AWG 24 - 8 600 V, 50 A ② 600 V, 54 A ③
Terminal block width 10 mm / 0.394 in 12 - 13 mm / 0.49 in ②		Terminal block width 10 mm / 0.394 in 12 - 13 mm / 0.49 in ②	



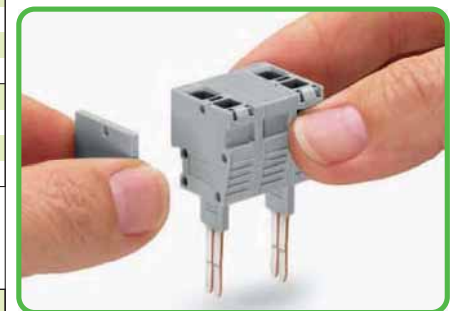
- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex e II applications  
0.5 mm<sup>2</sup> - 10 mm<sup>2</sup>/AWG 20 - 8  
550 V, 53 A  
(also see Section 14)
- ④ See application notes for:  
Test plug module, page 197  
Banana plug, page 198  
Step-down jumper, pages 178 - 179

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>			
gray 284-901	25	gray 284-681	25
blue 284-904	25	blue 284-684	25
orange 284-902	25	orange 284-682	25
light gray ④ 284-992 ③	25	light gray ④ 284-993 ③	25
<b>2-conductor ground terminal block</b>			
green-yellow 284-907	25	green-yellow 284-687	25
green-yellow ④ 284-907/999-950 ③	25	green-yellow ④ 284-687/999-950 ③	25



Inserting a finger guard seals unused conductor entries.

Item-Specific Accessories				Item-Specific Accessories			
<b>End and intermediate plate, 2.5 mm thick</b>				<b>End and intermediate plate, 2.5 mm thick</b>			
orange 284-328	100 (4x25)	orange 284-339	100 (4x25)	gray 284-325	100 (4x25)	gray 284-308	100 (4x25)
light gray 284-330	100 (4x25)	light gray 284-341	100 (4x25)				
<b>Separator, oversized, 2 mm thick</b>				<b>Separator, oversized, 2 mm thick</b>			
orange 284-329	100 (4x25)	orange 284-340	100 (4x25)	gray 284-326	100 (4x25)	gray 284-309	100 (4x25)
light gray 284-331	100 (4x25)	light gray 284-342	100 (4x25)				
<b>Cover plate, 1 mm thick</b>				<b>Cover plate, 1 mm thick</b>			
gray 284-357	25	gray 284-358	25	orange 284-367	25	orange 284-368	25



Snapping together test plug and spacer modules with spacer plates to assemble a multipole test plug module (max. 10 poles).

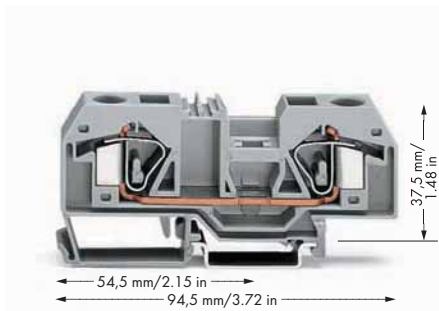
284 Series Accessories			
Appropriate marking systems: WMB/WFB (see Section 13)			
<b>Adjacent jumper, insulated,</b> I <sub>N</sub> 57 A		<b>Step-down jumper, insulated,</b> I <sub>N</sub> 30 A	
gray 284-402	100 (4x25)	gray 284-413	50 (2x25)
yellow-green 284-422	100 (4x25)		
<b>Alternate jumper, insulated,</b> I <sub>N</sub> 57 A		<b>Test plug adapter, 8.3 mm wide,</b> for terminal blocks 1.5 - 10 mm <sup>2</sup> , for test plug 4 mm Ø	
gray 284-409	50 (2x25)	gray 209-170	50 (2x25)
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks		<b>Banana plug,</b> ④ for socket 4 mm Ø, color mixed	
yellow 284-415	50 (2x25)	215-111	50
<b>Finger guard,</b> touchproof cover protects unused conductor entries		<b>B-type test plug module,</b> ④ can be snapped together, 8 mm wide	
yellow 284-400	100 (4x25)	gray 709-310	100 (4x25)
<b>Step-down jumper, insulated,</b> ④ I <sub>N</sub> 15 A		<b>B-type spacer plate,</b> can be snapped together, 2 mm wide	
gray 284-414	50 (2x25)	gray 709-312	100 (4x25)

For list of approvals and user guide, see pages 634 to 637.

# Through/Ground Conductor and Ex Terminal Blocks 16 mm<sup>2</sup> 283 Series

CAGE CLAMP®

0.2 - 16 mm<sup>2</sup> AWG 24 - 6  
 800 V/8 kV/3 ① 600 V, 65 A<sup>NA</sup>  
 I<sub>N</sub> 76 A 600 V, 70 A<sup>Ⓢ</sup>  
 Terminal block width 12 mm / 0.472 in  
 16 - 17 mm / 0.65 in ②



- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex e II applications  
0.5 mm<sup>2</sup> - 16 mm<sup>2</sup>/AWG 20 - 6  
550 V, 68 A  
Jumper 63 A  
(also see Section 14)
- ④ See application notes for:  
Banana plug, page 198  
Step-down jumper, pages 178 - 179

Item No.	Pack. Unit	283 Series Accessories
<b>2-conductor through terminal block</b>		Appropriate marking systems (see Section 13)
gray	283-901	20
blue	283-904	20
orange	283-902	20
light gray ⑤	283-992 ③	20
<b>2-conductor ground terminal block</b>		<b>End and intermediate plate, 2.5 mm thick</b>
green-yellow	283-907	20
green-yellow ⑤	283-907/999-950 ③	20
		orange 283-328 50 (2x25)
		gray 283-325 50 (2x25)
		light gray 283-330 50 (2x25)
		<b>Separator, oversized, 2 mm thick</b>
		orange 283-329 50 (2x25)
		gray 283-326 50 (2x25)
		light gray 283-331 50 (2x25)
		<b>Adjacent jumper, insulated,</b>
		I <sub>N</sub> 70 A
		gray 283-402 50 (2x25)
		yellow-green 283-422 50 (2x25)
		<b>Alternate jumper, insulated,</b>
		I <sub>N</sub> 76 A
		gray 283-409 50 (2x25)
		<b>Protective warning marker,</b>
		with high-voltage symbol, black, for 5 terminal blocks
		yellow 283-415 50 (2x25)
		<b>Finger guard,</b>
		touchproof cover protects unused conductor entries
		yellow 283-400 100 (4x25)
		<b>Step-down jumper, insulated,</b>
		④ I <sub>N</sub> 32 A
		gray 283-414 50 (2x25)
		<b>Cover plate,</b>
		1 mm thick
		gray 283-357 25
		orange 283-367 25
		<b>Test plug adapter, 11.6 mm wide,</b>
		for 1.5 - 16 mm <sup>2</sup> terminal blocks, for test plug 4 mm Ø
		gray 283-404 25
		<b>Banana plug,</b>
		④ for socket 4 mm Ø, color mixed
		215-111 50
		<b>Screwless end stop,</b>
		for DIN 35 rail, 6 mm wide
		gray 249-116 100 (4x25)
		<b>Screwless end stop,</b>
		for DIN 35 rail, 10 mm wide
		gray 249-117 50 (2x25)



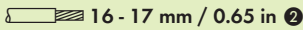
**Commoning with step-down jumpers**  
 A step-down cover plate must be inserted between terminal blocks to be jumpered. Step-down jumper 284-414 commons 16 mm<sup>2</sup>/AWG 6 terminal blocks with 4 mm<sup>2</sup>/AWG 12 terminal blocks.

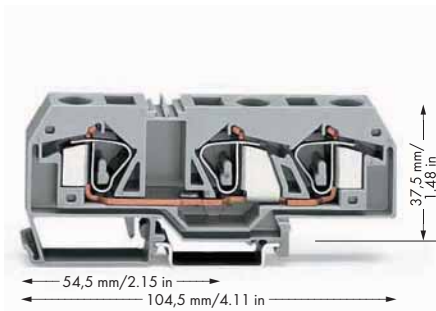
Step-down jumpers are simply pushed down for full insertion, similar to adjacent jumpers.

Note:  
**The total current flowing shall not exceed the rating of the step-down jumper.**



# Through/Ground Conductor and Ex Terminal Blocks 16 mm<sup>2</sup> 283 Series

0.2 - 16 mm <sup>2</sup>	AWG 24 - 6
800 V/8 kV/3 ❶	600 V, 65 A ❷
I <sub>N</sub> 76 A	600 V, 70 A ❸
Terminal block width 12 mm / 0.472 in	
 16 - 17 mm / 0.65 in ❹	



- ❶ 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ❷ Strip length, see packaging or instructions.
- ❸ Suitable for Ex e II applications  
0.5 mm<sup>2</sup> - 16 mm<sup>2</sup>/AWG 20 - 6  
550 V, 68 A  
(also see Section 14)



Item No.	Pack. Unit	283 Series Accessories
<b>3-conductor through terminal block</b>		Appropriate marking systems (see Section 13)
gray 283-671	20	<b>End and intermediate plate, 2.5 mm thick</b>
blue 283-674	20	orange 283-352 50 (2x25)
orange 283-672	20	gray 283-350 50 (2x25)
light gray 283-998 ❸	20	light gray 283-354 50 (2x25)
<b>3-conductor ground terminal block</b>		<b>Separator, oversized, 2 mm thick</b>
green-yellow 283-677	20	orange 283-353 50 (2x25)
green-yellow 283-677/999-950 ❸	20	gray 283-351 50 (2x25)
<b>Notice:</b> These terminal blocks cannot be commoned using adjacent jumpers		light gray 283-355 50 (2x25)
		<b>Protective warning marker,</b>
		with high-voltage symbol, black, for 5 terminal blocks
		yellow 283-415 50 (2x25)
		<b>Finger guard,</b>
		touchproof cover protects unused conductor entries
		yellow 283-400 100 (4x25)
		<b>Screwless end stop,</b>
		for DIN 35 rail, 6 mm wide
		gray 249-116 100 (4x25)
		<b>Screwless end stop,</b>
		for DIN 35 rail, 10 mm wide
		gray 249-117 50 (2x25)



The markers are not covered by the wiring when marking terminal blocks in center position.



Inserting a finger guard seals unused conductor entries.

For list of approvals and user guide, see pages 634 to 637.

# Through/Ground Conductor and Ex Terminal Blocks 35 mm<sup>2</sup> 285 Series

6 - 35 mm<sup>2</sup> AWG 8 - 2  
 1000 V/8 kV/3 ① 600 V, 115 A<sup>II</sup>  
 I<sub>N</sub> 125 A 600 V, 120 A<sup>III</sup>  
 Terminal block width 16 mm / 0.63 in  
 23 mm / 0.91 in ②



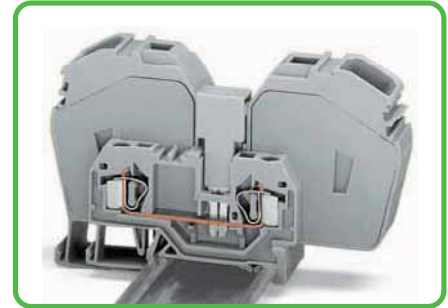
Terminating a 35 mm<sup>2</sup>/AWG 2 conductor.

- ① 1000 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex e II applications  
6 mm<sup>2</sup> - 35 mm<sup>2</sup>/AWG 8 - 2  
880 V, 85 A  
6 mm<sup>2</sup> - 25 mm<sup>2</sup>/AWG 8 - 4  
for ground conductor terminal blocks  
(also see Section 14)

Item No.	Pack. Unit
<b>2-conductor through terminal block,</b> with integrated end plate, to be used exclusively on DIN 35 x 15 rail	
gray 285-635	15
blue 285-634	15
light gray ② 285-992 ③	15
<b>2-conductor ground terminal block,</b> with integrated end plate, to be used exclusively on DIN 35 x 15 rail	
green-yellow 285-637	15
green-yellow ② 285-637/999-950 ③	15



Protective warning markers inserted into the operating slots.



Commoning a 285 Series terminal block (35 mm<sup>2</sup>/AWG 2) with a 281 Series terminal block (4 mm<sup>2</sup>/AWG 12) using a 283-414 step-down jumper. Step-down jumpers are simply pushed down for full insertion, similar to adjacent jumpers.  
 Note:  
**The total current flowing shall not exceed the rating of the step-down jumper.**

## 285 Series Accessories

Appropriate marking systems:  
 WMB/Miniature WSB/WFB

<b>Adjacent jumper, insulated,</b>	
I <sub>N</sub> 85 A	
gray 285-435	50 (2x25)

<b>Step-down jumper, insulated,</b>	
I <sub>N</sub> 32 A	
gray 283-414	50 (2x25)

<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks	
yellow 285-416	50 (2x25)

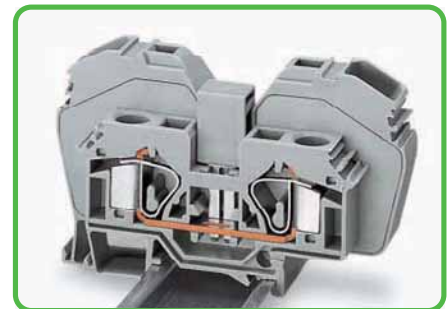
<b>Finger guard,</b>	
touchproof cover protects unused conductor entries	
yellow 285-401	100

<b>Screwless end stop,</b>	
for DIN 35 rail, 6 mm wide	
gray 249-116	100 (4x25)

<b>Screwless end stop,</b>	
for DIN 35 rail, 10 mm wide	
gray 249-117	50 (2x25)




Inserting a finger guard seals unused conductor entries.



285 Series terminal blocks can be commoned with 283 Series terminal blocks: 285-635 or 285-634 with 283-601 or 283-604 (for terminal blocks with side marking, see www.wagocatalog.com).  
 Jumper required: 285-435.

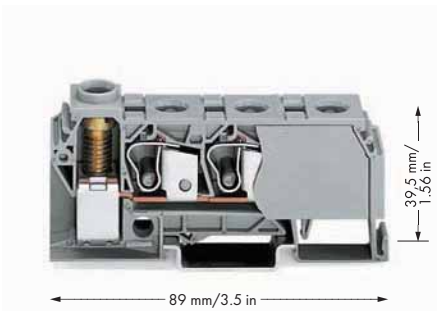
**Please note that the nominal current of adjacent jumper shall not exceed 63A.**

# Distribution Terminal blocks 3 x 10 mm<sup>2</sup> CAGE CLAMP® Connection and 1 x 35 mm<sup>2</sup> Screw Clamp Connection 284 Series

0.2 - 10 mm<sup>2</sup> ① AWG 24 - 8  
 6 - 35 mm<sup>2</sup> ② AWG 10 - 2  
 800 V/8 kV/3 ③  
 I<sub>N</sub> 125 A  
 Terminal block width 17.5 mm / 0.689 in  
 12 - 14 mm / 0.51 in ④



Terminating a 35 mm<sup>2</sup>/AWG 2 conductor. Screw clamp connection, side-entry wiring.



- ① CAGE CLAMP® connection
- ② Screw clamp termination
- ③ 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ④ Strip length, see packaging or instructions.
- ⑤ Individual arrangement: 125 A  
Two jumpers combined in one clamping unit: 100 A



Item No.	Pack. Unit
<b>Distribution terminal block,</b> with 3 x CAGE CLAMP® connection 10 mm <sup>2</sup> and 1 x screw clamp connection 35 mm <sup>2</sup> , Screw torque: 3.5 Nm	
○ gray 284-621	15
● blue 284-624	15



Terminating a 10 mm<sup>2</sup>/AWG 8 conductor CAGE CLAMP® connection, front-entry wiring.



Commoning with comb-style jumper bar.

### Accessories for Distribution Terminal Blocks

Appropriate marking system: WMB

<b>Comb-style jumper bar, insulated,</b> ⑤	
I <sub>N</sub> 125 A for 1 jumper, I <sub>N</sub> 100 A for 2 jumpers	
gray 284-412	100 (4x25)

<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide	
gray 249-116	100 (4x25)

<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide	
gray 249-117	50 (2x25)



Rail-mounted distribution terminal block with 35 mm<sup>2</sup>/AWG 2 screw clamp connection (front-entry) and 3 x 10 mm<sup>2</sup>/AWG 8 front-entry CAGE CLAMP® connection.

Snaps onto DIN 35 carrier rails per EN 60675. The terminal block enclosed on both sides, an end or intermediate plate is not necessary.

**In case of maximum wiring with 3 x 10 mm<sup>2</sup>/AWG 8 on the distribution side the nominal current of 125A shall not be exceeded.**

## Step-Down Jumpers for Front-Entry Through Terminal Blocks up to 16 mm<sup>2</sup>

### Front-entry terminal blocks cannot be commoned with side-entry terminal blocks



Cover plate snapped onto open side of terminal block.



Always use a cover plate also on the other side of the larger terminal block.



Commoning terminal blocks of different sizes – step down.  
Push down the step-down jumper until fully inserted.



Note: Jumpers are marked with suitable terminal block sizes for correct installation.

Step-down jumpers may common terminal blocks of different sizes, without losing a conductor clamping point. This can be beneficial on long conductor runs where voltage drop can be a problem. A large conductor can be easily connected to smaller conductors at the distribution point.

Step-down jumpers are simply pushed down for full insertion, similar to adjacent jumpers. Commoning may be made in either direction using the special thin end plate to cover the open side. Further terminal blocks of the smaller cross section may be commoned using standard adjacent jumpers.

In this case, pay attention that:

1. The total current flowing does not exceed the rating of the step-down jumper.
2. The standard or special thin cover plate is installed on the open side of the larger block.



Step-down jumper commoning from 10/6 mm<sup>2</sup> (AWG 8/10) to with 4/2.5/1.5 mm<sup>2</sup> (AWG 12/14/16) terminal blocks.  
I<sub>N</sub> 15 A **284-414**



Step-down jumper commoning from 10/6 mm<sup>2</sup> (AWG 8/10) to 6/4 mm<sup>2</sup> (AWG 10/12) terminal blocks.  
I<sub>N</sub> 30 A **284-413**



Step-down jumper commoning from 16 mm<sup>2</sup> (AWG 6) to 4 mm<sup>2</sup> (AWG 12) terminal blocks.  
I<sub>N</sub> 32 A **283-414**



The **283-414** step-down jumper can even common 35 mm<sup>2</sup> (AWG 2) **285-635** through terminal blocks with 4 mm<sup>2</sup> (AWG 12) **281-901** through terminal blocks.  
For 35 mm<sup>2</sup>/AWG 12 through terminal blocks, see page 176.

# Examples of Assembly



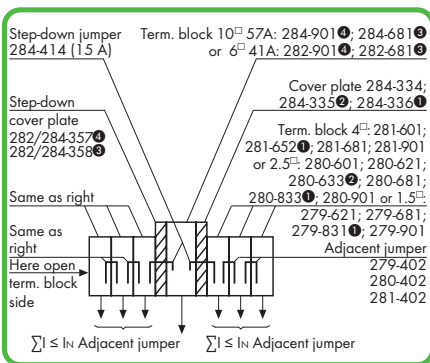
Commoning from 6 mm²/AWG 10 (282 Series) to 1.5 mm²/AWG 16 (279 Series) rail-mount terminal blocks.



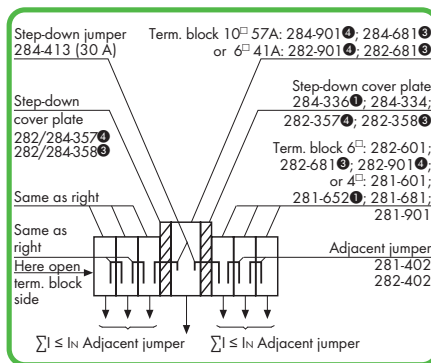
Commoning from 10 mm²/AWG 8 (284 Series) to 6 mm²/AWG 10 (282 Series) rail-mount terminal blocks.



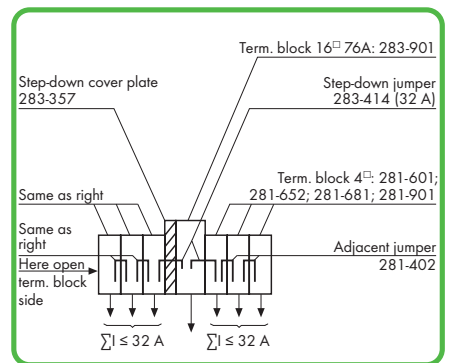
Commoning from 16 mm²/AWG 6 (283 Series) to 4 mm²/AWG 12 (281 Series) rail-mount terminal blocks.



Example of assembly: "Commoning from 10/6 mm² (AWG 8/10) to 4/2.5/1.5 mm² (AWG 12/14/16) rail-mount terminal blocks with 284-414 step-down jumper."



Example of assembly: "Commoning from 10/6 mm² (AWG 8/10) to 6 mm² (AWG 10) rail-mount terminal blocks with 284-413 step-down jumper."



Example of assembly: "Commoning from 16 mm² (AWG 6) to 4 mm² (AWG 12) rail-mount terminal blocks with 284-414 step-down jumper."



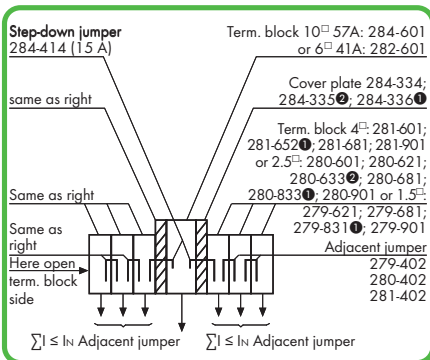
Commoning from 6 mm²/AWG 10 (282 Series) to 1.5 mm²/AWG 16 (279 Series) rail-mount terminal blocks.



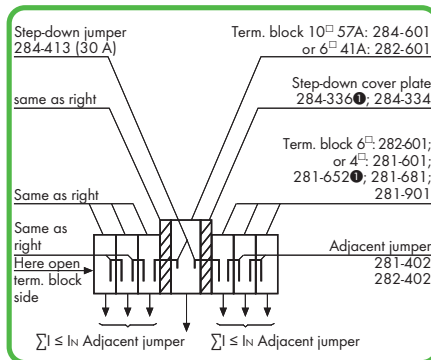
Commoning from 10 mm²/AWG 8 (284 Series) to 6 mm²/AWG 10 (282 Series) rail-mount terminal blocks.



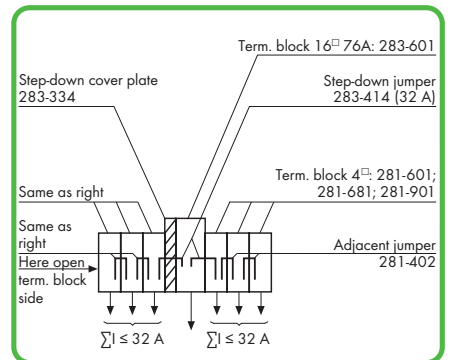
Commoning from 16 mm²/AWG 6 (283 Series) to 4 mm²/AWG 12 (281 Series) rail-mount terminal blocks.



Example of assembly: "Commoning from 10/6 mm² (AWG 8/10) to 4/2.5/1.5 mm² (AWG 12/14/16) rail-mount terminal blocks with 284-414 step-down jumper."



Example of assembly: "Commoning from 10/6 mm² (AWG 8/10) to 6 mm² (AWG 10) rail-mount terminal blocks with 284-413 step-down jumper."



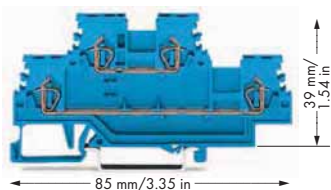
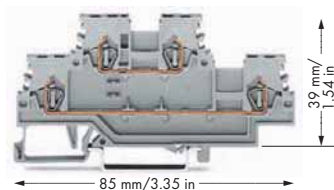
Example of assembly: "Commoning from 16 mm² (AWG 6) to 4 mm² (AWG 12) rail-mount terminal blocks with 284-414 step-down jumper."

# 3

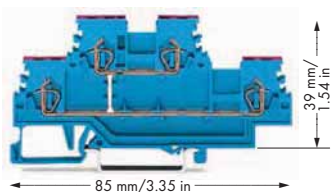
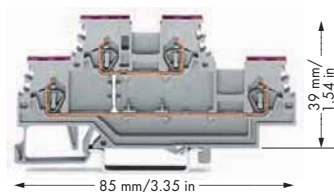
## Double-Deck Terminal Blocks 1.5 mm<sup>2</sup> 279 Series

180

<p>0.08 - 1.5 mm<sup>2</sup> AWG 28 - 16 500 V/6 kV/3 ① I<sub>N</sub> 18 A</p> <p>Terminal block width 4 mm / 0.157 in 8 - 9 mm / 0.33 in ②</p>	<p>0.08 - 1.5 mm<sup>2</sup> AWG 28 - 16 500 V/6 kV/3 ① I<sub>N</sub> 18 A</p> <p>Terminal block width 4 mm / 0.157 in 8 - 9 mm / 0.33 in ②</p>	<p>0.08 - 1.5 mm<sup>2</sup> AWG 28 - 16 500 V/6 kV/3 ① I<sub>N</sub> 18 A</p> <p>Terminal block width 4 mm / 0.157 in 8 - 9 mm / 0.33 in ②</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit		
<b>Through/through terminal block, gray housing</b>		<b>Through/through terminal block, blue housing</b>		<b>Ground conductor/through terminal block, gray housing</b>			
○ L/L	279-501	50	○ N/N	279-504	50		
○ N/L	279-512	50			○ PE/N	279-517	50
○ L/N	279-513	50			○ PE/L	279-527	50

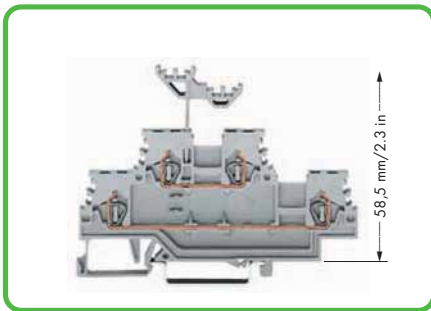


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit		
<b>4-conductor through terminal block, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>4-conductor through terminal block, internal commoning, conductor entry position colored in violet, blue housing</b>		<b>4-conductor ground terminal block, internal commoning, green-yellow housing</b>			
○ L	279-508	50	○ N	279-509	50		
					○ PE	279-507	50

For list of approvals and user guide, see pages 634 to 637.

# Accessories














## Double-Deck Terminal Blocks



**Double-deck marker carrier**  
Height including WSB double-deck marker carrier

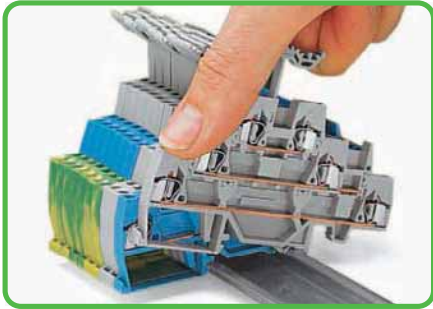
- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ See application notes for:  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200



279 Series Accessories		Appropriate marking system: WMB (see Section 13)	
<b>End and intermediate plate, 2 mm thick</b>		<b>WMB Multi marking system, plain,</b>	
	orange <b>279-519</b> 100 (4x25)		10 strips with 10 markers per card, stretchable 4 - 4.2 mm
	gray <b>279-518</b> 100 (4x25)		yellow <b>793-4501/000-002</b>
<b>Insulation stop,</b>			red <b>793-4501/000-005</b>
④ 	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")		blue <b>793-4501/000-006</b>
	white <b>279-470</b> 200 (8x25)		gray <b>793-4501/000-007</b>
<b>Insulation stop,</b>			orange <b>793-4501/000-012</b>
④ 	5 pcs/strip, 0.25 mm <sup>2</sup>		light green <b>793-4501/000-017</b>
	dark gray <b>279-471</b> 200 (8x25)		green <b>793-4501/000-023</b>
			violet <b>793-4501/000-024</b>
<b>Adjacent jumper, insulated,</b>			5
	I <sub>N</sub> 15 A gray <b>279-402</b> 200 (8x25)		
<b>Alternate jumper, insulated,</b>			
	I <sub>N</sub> 15 A gray <b>279-409</b> 100 (4x25)		
<b>WSB double-deck marker carrier</b>			
	gray <b>279-529</b> 50 (2x25)		
<b>Comb-style jumper bar, insulated,</b>			
④ 	I <sub>N</sub> = I <sub>N</sub> terminal block		
	2-way <b>279-482</b> 200 (8x25)		
	3-way <b>279-483</b> 200 (8x25)		
<b>Comb-style jumper bar, insulated,</b>			
	I <sub>N</sub> = I <sub>N</sub> terminal block		
	10-way <b>279-490</b> 50 (2x25)		
<b>Alternate comb-style jumper bar,</b>			
	insulated, I <sub>N</sub> = I <sub>N</sub> terminal block		
	2-way <b>279-492</b> 200 (8x25)		
<b>Operating tool, of insulating material</b>			
	2-way <b>279-432</b> 1		
	3-way <b>279-433</b> 1		
<b>Operating tool, of insulating material</b>			
	10-way <b>279-440</b> 1		
<b>WMB Multi marking system,</b>			
	10 strips with 10 markers per card, stretchable 4 - 4.2 mm		
	plain <b>793-4501</b> 5		

# Double- and Triple-Deck Terminal Blocks, 280 and 281 Series – Description and Handling –

## Assembly



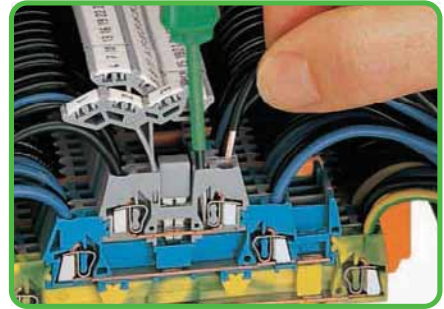
Snapping a terminal block onto the carrier rail.

## Removal



Removing a terminal block from the assembly.

## Conductor termination



Conductor termination

## Commoning

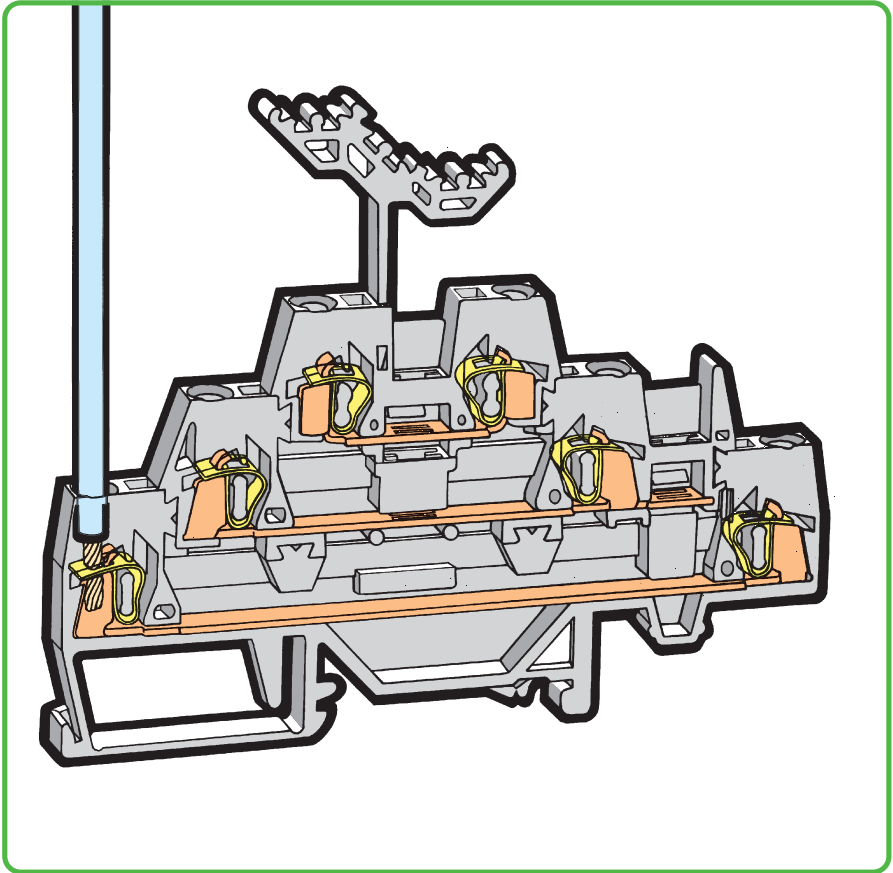


Commoning with 280-402 adjacent jumpers. Push down the adjacent jumper until fully inserted.

## Commoning



Commoning with vertical and adjacent jumpers.

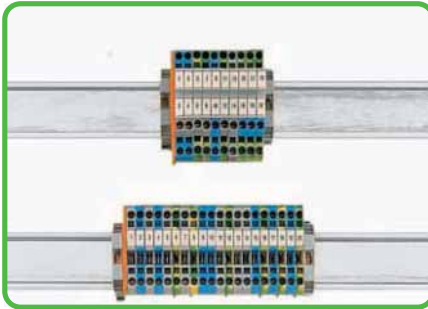


## Marking



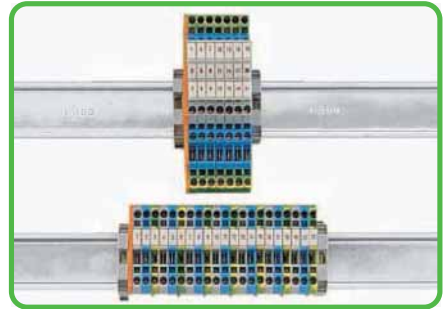
Marking with WMB Multi marking system. For other systems, see Section 13.

## Space saver



Save 50% of rail space when using double-deck terminal blocks.

## Space saver



Save 67% of rail space when using triple-deck terminal blocks.

### CAGE CLAMP® clamps the following copper conductors:\*

- solid
- stranded

fine-stranded, also with tinned single strands

fine-stranded, tip-bonded

fine-stranded, with ferrule ① (gastight crimped)

fine-stranded, with pin terminal (gastight crimped)

\* For aluminum conductors, see notes in Section 14.

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.





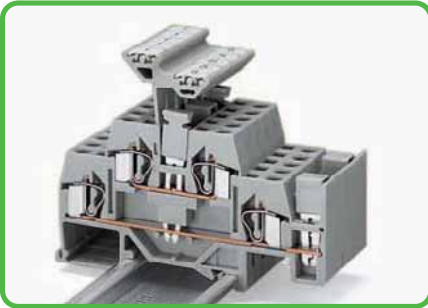
The flexible marker carrier, which is placed above the wiring level, can be pushed aside during wiring or comming. The marker carrier has two levels for two different markers relating to double-deck terminal blocks.



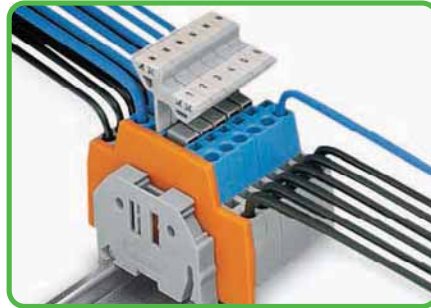
Example of a mixed assembly with double-deck terminal blocks. The 280 Series double-deck terminal blocks, are available with decks of same or different color according to the function. This is an additional visual aid during wiring or possible service/maintenance.



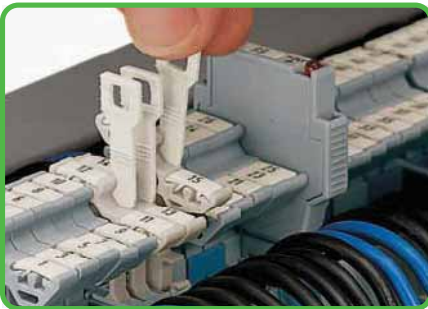
Double-deck terminal blocks accommodate two circuits of different potentials in one 2-level terminal block; different circuits can be differentiated by color coding either level for the 280 Series. The lower deck is wider than the upper, for ease of wiring.



Standard insulated push-in jumpers can be used for comming. A vertical jumper allows comming of upper and lower level, providing a 4-conductor feedthrough terminal block in one housing. Two adjacent terminals may be comming together on the same level using a push-in adjacent jumper.



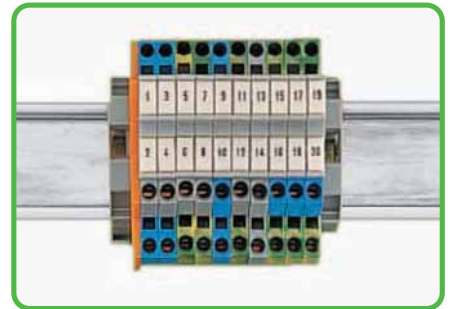
Double-deck terminal blocks used as control wire terminals; e.g., for magnetic valves. Upper deck commoned.



Pulling of disconnecting tab (also see page 207).



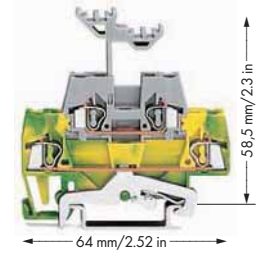
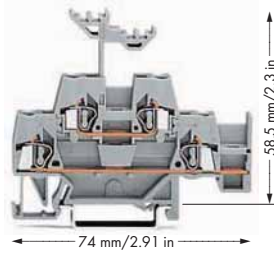
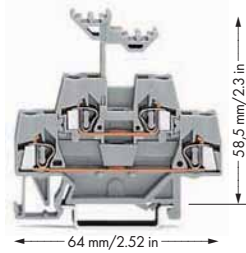
Double-deck terminal blocks used for connecting a three-phase motor.



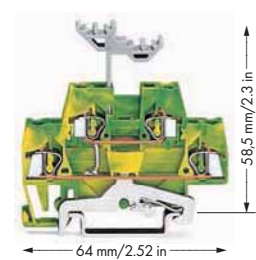
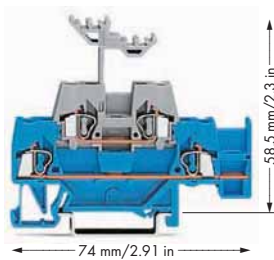
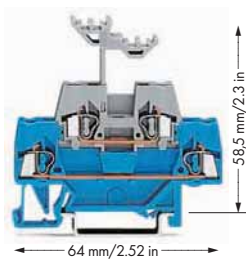
With a terminal block width of only 5 mm/0.197 in, an effective width of only 2.5 mm/0.098 in for terminal blocks of same or different potential can be realized at a cross sectional area of 0.08 mm<sup>2</sup> to 2.5 mm<sup>2</sup> (AWG 28 - 14)!

# Double-Deck Terminal Blocks 2.5 mm<sup>2</sup> 280 Series

<p>0.08 - 2.5 mm<sup>2</sup> 500 V/6 kV/3 ① I<sub>N</sub> 20 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 * 300 V, 15 A ⑤ 300 V, 20 A ⑥</p>	<p>0.08 - 2.5 mm<sup>2</sup> 500 V/6 kV/3 ① I<sub>N</sub> 20 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 * 300 V, 15 A ⑤ 300 V, 20 A ⑥</p>	<p>0.08 - 2.5 mm<sup>2</sup> 500 V/6 kV/3 ① I<sub>N</sub> 20 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 * 300 V, 20 A ⑥</p>
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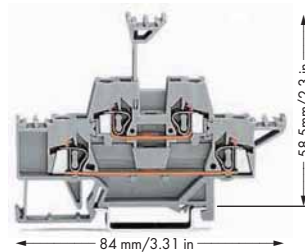
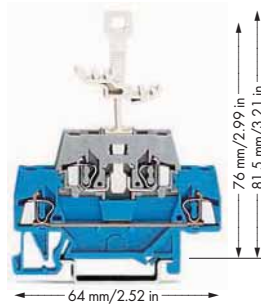
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/through terminal block</b>		<b>Through/through terminal block with horizontal jumpering on lower level</b>		<b>Ground conductor/through terminal block</b>	
gray 280-519	50	gray 280-520	50	green-yellow/gray 280-527	50
blue 280-529 ④	50	blue 280-530 ④	50	green-yellow/blue 280-537	50
<b>Other terminal blocks with the same profile:</b>					
Diode 280-940/281-410 Page 260					
LED 280-943/281-434 Page 260					
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>	
orange 280-341	100 (4x25)	orange 280-343	100 (4x25)	orange 280-341	100 (4x25)
gray 280-340	100 (4x25)	gray 280-342	100 (4x25)	gray 280-340	100 (4x25)
<b>Intermediate plate, 1.1 mm thick</b>		<b>Intermediate plate, 1.1 mm thick</b>		<b>Intermediate plate, 1.1 mm thick</b>	
orange 280-366	100 (4x25)	orange 280-369	100 (4x25)	orange 280-366	100 (4x25)



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/through terminal block</b>		<b>Through/through terminal block with horizontal jumpering on lower level</b>		<b>4-conductor ground terminal block, internal commoning</b>	
blue/gray 280-523	50	blue/gray 280-524	50	green-yellow 280-517	50
gray/blue 280-533	50	gray/blue 280-534	50		
<b>Item-Specific Accessories</b>					
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>	
orange 280-341	100 (4x25)	orange 280-343	100 (4x25)	orange 280-341	100 (4x25)
gray 280-340	100 (4x25)	gray 280-342	100 (4x25)	gray 280-340	100 (4x25)
<b>Intermediate plate, 1.1 mm thick</b>		<b>Intermediate plate, 1.1 mm thick</b>		<b>Intermediate plate, 1.1 mm thick</b>	
orange 280-366	100 (4x25)	orange 280-369	100 (4x25)	orange 280-366	100 (4x25)

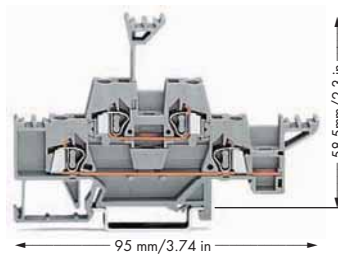
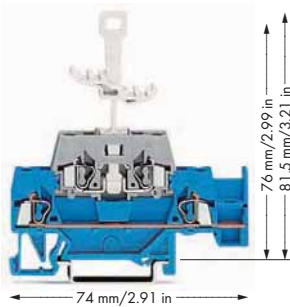
For list of approvals and user guide, see pages 634 to 637.

0.08 - 2.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 10 A	AWG 28 - 12 * 300 V, 15 A ② 300 V, 20 A ③	0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 20 A	AWG 28 - 12 * 300 V, 15 A ② 300 V, 20 A ③
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②		Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②	



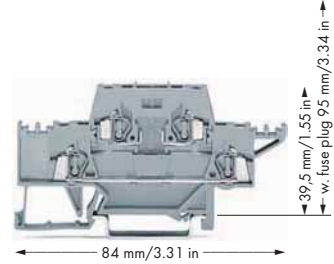
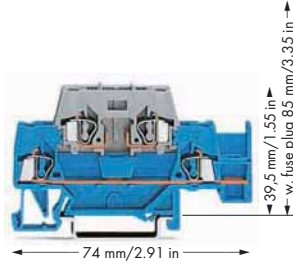
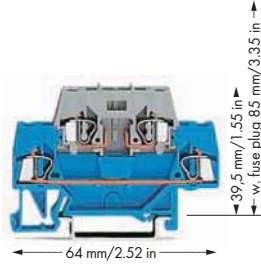
- \* AWG 12: THHN, THWN
- ① 500 V/400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
  - ② Strip length, see packaging or instructions.
  - ③ Suitable for Ex i applications
  - ④ See application notes for:  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200

Item No.	Pack. Unit	Item No.	Pack. Unit	280 Series Accessories
<b>Through/disconnect terminal block</b>		<b>Through/through terminal block with additional marking options on both sides of the terminal block</b>		<b>Appropriate marking systems</b> (see Section 13)
blue/gray	280-525 50	gray	280-513 50	<b>Insulation stop,</b> ④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>280-470</b> 200 (8x25)
gray/gray	280-521 50			<b>Insulation stop,</b> ④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>280-471</b> 200 (8x25)
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Insulation stop,</b> ④ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>280-472</b> 200 (8x25)
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>		<b>Adjacent jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b> 200 (8x25) yellow-green <b>280-422</b> 200 (8x25)
orange	280-341 100 (4x25)	orange	280-341 100 (4x25)	<b>Alternate jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-409</b> 100 (4x25)
gray	280-340 100 (4x25)	gray	280-340 100 (4x25)	<b>Vertical jumper, insulated,</b> I <sub>N</sub> 24 A gray <b>281-421</b> 200 (8x25)
<b>Intermediate plate,</b> 1.1 mm thick		<b>Intermediate plate,</b> 1.1 mm thick		<b>Comb-style jumper bar, insulated,</b> ④ I <sub>N</sub> = I <sub>N</sub> terminal block 2-way <b>280-482</b> 200 (8x25) 3-way <b>280-483</b> 200 (8x25)
orange	280-366 100 (4x25)	orange	280-366 100 (4x25)	<b>Comb-style jumper bar, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block 10-way <b>280-490</b> 50 (2x25)
<b>Through/disconnect terminal block with horizontal jumpering on lower level</b>		<b>Through/through terminal block with horizontal jumpering on lower level</b>		<b>Alternate comb-style jumper bar,</b> insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way <b>280-492</b> 200 (8x25)
blue/gray	280-526 50	gray	280-543 50	<b>Operating tool, of insulating material</b> 2-way <b>280-432</b> 1 3-way <b>280-433</b> 1
gray/gray	280-522 50			<b>Operating tool, of insulating material</b> 10-way <b>280-440</b> 1
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>		
orange	280-343 100 (4x25)	orange	280-343 100 (4x25)	
gray	280-342 100 (4x25)	gray	280-342 100 (4x25)	
<b>Intermediate plate,</b> 1.1 mm thick		<b>Intermediate plate,</b> 1.1 mm thick		
orange	280-369 100 (4x25)	orange	280-369 100 (4x25)	



# Carrier Double- and Triple-Deck Terminal Blocks for Fuse Plugs 2.5 mm<sup>2</sup> 280 Series

<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① ② I<sub>N</sub> 10 A (20 A)</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 15 A ④ 300 V, 20 A ⑤</p>	<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① ② I<sub>N</sub> 10 A (20 A)</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 15 A ④ 300 V, 20 A ⑤</p>	<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① ② I<sub>N</sub> 10 A (10 A)</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 15 A ④ 300 V, 20 A ⑤</p>
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
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/carrier terminal block for pluggable fuse modules</b>		<b>Through/carrier terminal block for pluggable fuse modules with horizontal jumpering on lower level</b>		<b>Through/carrier terminal block for pluggable fuse modules</b>	
blue/gray	280-531 50	blue/gray	280-532 50	gray/gray	280-528 50
gray/gray	280-514 50	gray/gray	280-891 50		
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>	
orange	280-341 100 (4x25)	orange	280-343 100 (4x25)	orange	280-341 100 (4x25)
gray	280-340 100 (4x25)	gray	280-342 100 (4x25)	gray	280-340 100 (4x25)
<b>Intermediate plate, 1.1 mm thick</b>		<b>Intermediate plate, 1.1 mm thick</b>		<b>Intermediate plate, 1.1 mm thick</b>	
orange	280-366 100 (4x25)	orange	280-369 100 (4x25)	orange	280-366 100 (4x25)
		<b>Adjacent jumper, insulated, I<sub>N</sub> = I<sub>N</sub> terminal block</b>			
		gray 280-402 200 (8x25)			
		<b>Alternate jumper, insulated, I<sub>N</sub> = I<sub>N</sub> terminal block</b>			
		gray 280-409 100 (4x25)			

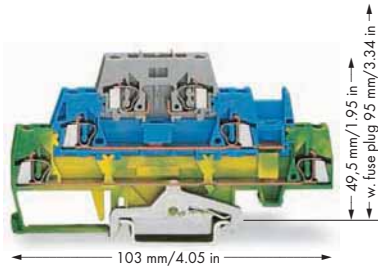
**Accessories**









Appropriate marking system for fuse plugs  
WSB Quick marking system

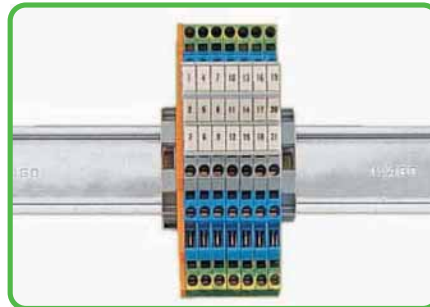
<p>④ Insulation stop, 5 pcs/strip, 0.08 - 0.2 mm<sup>2</sup> "s" (0.14 mm<sup>2</sup> "F-st") white 280-470 200 (8x25)</p>	<p>Fuse plug with pull-tab, 6 mm wide 281-512 50</p>	<p>Operating tool, of insulating material 2-way 280-432 1 3-way 280-433 1</p>
<p>④ Insulation stop, 5 pcs/strip, 0.25 - 0.5 mm<sup>2</sup> light gray 280-471 200 (8x25)</p>	<p>Fuse plug with pull-tab, 24 V AC/DC, with LED indicator, 6 mm wide 281-512/281-501 50</p>	<p>WSB Quick marking system, for fuse plug 281-5., WSB Markers 4 mm wide F1, ..., F10 (10x) 209-787 5 F11, ..., F20 (10x) 209-700/209-124 F21, ..., F30 (10x) 209-700/209-125 F31, ..., F40 (10x) 209-700/209-126 F41, ..., F50 (10x) 209-700/209-127</p>
<p>④ Insulation stop, 5 pcs/strip, 0.75 - 1 mm<sup>2</sup> dark gray 280-472 200 (8x25)</p>	<p>④ Comb-style jumper bar, insulated, I<sub>N</sub> = I<sub>N</sub> terminal block 2-way 280-482 200 (8x25) 3-way 280-483 200 (8x25)</p>	
<p>Fuse plug with pull-tab, 6 mm wide 281-511 50</p>	<p>Alternate comb-style jumper bar, insulated, I<sub>N</sub> = I<sub>N</sub> terminal block 2-way 280-492 200 (8x25)</p>	

For list of approvals and user guide, see pages 634 to 637.

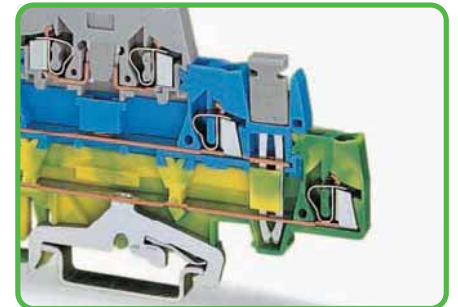
0.08 - 2.5 mm <sup>2</sup>	AWG 28 - 12 *
400 V/6 kV/3 ① ②	300 V, 15 A 
I <sub>N</sub> 20 A (20 A)	600 V, 20 A 
Terminal block width 5 mm / 0.197 in	
 8 - 9 mm / 0.33 in ③	



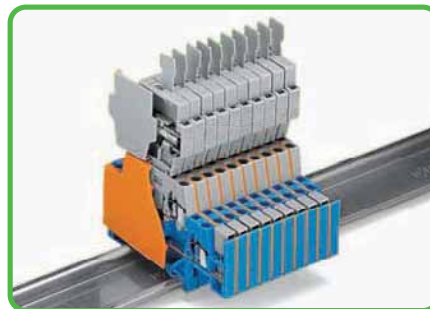
Item No.	Pack. Unit
<b>Ground conductor/through/carrier terminal block for fuse plugs</b>	
green-yellow/blue/gray 280-510	50
<b>Through/through/carrier terminal block for fuse plugs</b>	
gray/gray/gray 280-889	50
<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>	
 orange 280-304	50 (2x25)
 gray 280-303	50 (2x25)
<b>Intermediate plate,</b>	
1.1 mm thick	
 orange 280-336	50 (2x25)
<b>Adjacent jumper, insulated,</b>	
 I <sub>N</sub> = I <sub>N</sub> terminal block	
gray 280-402	200 (8x25)
<b>Alternate jumper, insulated,</b>	
 I <sub>N</sub> = I <sub>N</sub> terminal block	
gray 280-409	100 (4x25)
<b>Vertical jumper, insulated,</b>	
 I <sub>N</sub> 24 A	
gray 281-421	200 (8x25)
<b>WSB Quick marking system,</b>	
 10 strips with 10 markers per card, WSB Markers 4 mm wide	
plain 209-701	5
<b>WSB Quick marking system, plain,</b>	
 10 strips with 10 markers per card, WSB Markers 4 mm wide	
yellow 209-701/000-002	
red 209-701/000-005	
blue 209-701/000-006	
gray 209-701/000-007	
orange 209-701/000-012	
light green 209-701/000-017	
green 209-701/000-023	
violet 209-701/000-024	



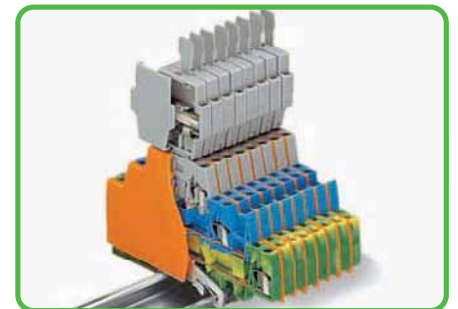
Double- (triple-) deck terminal blocks accommodate two (three) circuits of different potentials in one 2-(3-) level terminal block; different circuits can be differentiated by color coding either level for the 280 Series. The lower deck is wider than the upper, for ease of wiring.



Grounding to carrier rail.  
Connecting N-level to ground level via vertical jumper



When double-deck terminal blocks are used with a fuse plug (width 6 mm/0.236 in) in the receptacle (top) level, the extra width can be compensated for the 280 Series (width 5 mm/0.197 in) via an intermediate plate (thickness 1.1 mm/0.043 in). If required, this special intermediate plate still allows jumpering on the lower level via push-in adjacent jumpers (280-402).

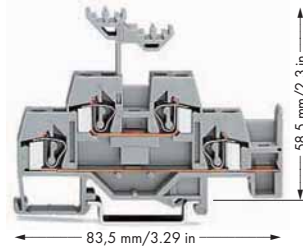
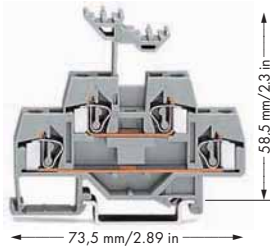


When triple-deck terminal blocks are used with a fuse plug (width 6 mm/0.236 in) in the receptacle (top) level, the extra width can be compensated for the 280 Series (width 5 mm/0.197 in) via an intermediate plate (thickness 1.1 mm/0.043 in).

\* AWG 12: THHN, THWN

- ① 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Electrical ratings are given by the fuse or nominal voltage of the LED (also see pages 234 - 235).
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200

0.08 - 4 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 26 A	AWG 28 - 12 600 V, 20 A ② 600 V, 25 A ③	0.08 - 4 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 26 A	AWG 28 - 12 600 V, 20 A ② 600 V, 25 A ③
Terminal block width 6 mm / 0.236 in 9 - 10 mm / 0.37 in ②		Terminal block width 6 mm / 0.236 in 9 - 10 mm / 0.37 in ②	

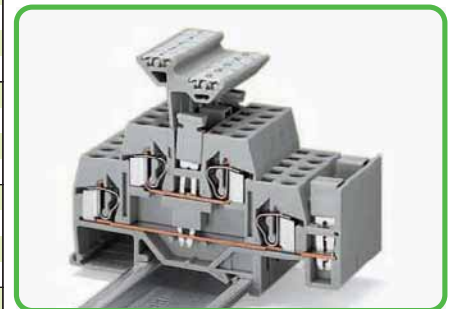


- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ See application notes for:  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/through terminal block</b>		<b>Through/through terminal block with horizontal jumpering on lower level</b>	
gray 281-619	50	gray 281-620	50
blue 281-629 ③	50	blue 281-630 ③	50
<b>Other terminal blocks with the same profile:</b>			
Diode	281-633/281-410	Page 262	
LED	281-634/281-434	Page 262	
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>	
orange 281-341	100 (4x25)	orange 281-343	100 (4x25)
gray 281-340	100 (4x25)	gray 281-342	100 (4x25)
<b>281 Series Accessories</b>			
Appropriate marking system: WMB (see Section 13)			
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white 281-470 200 (8x25)		<b>Alternate comb-style jumper bar,</b> insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way 281-492 100 (4x25)	
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 281-471 200 (8x25)		<b>Operating tool,</b> of insulating material ④ 2-way 280-432 1 3-way 280-433 1	
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.25 - 1.5 mm <sup>2</sup> dark gray 281-472 200 (8x25)		<b>Operating tool,</b> of insulating material 5-way 281-440 1	
<b>Adjacent jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray 281-402 200 (8x25)		<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray 249-116 100 (4x25)	
<b>Alternate jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray 281-409 100 (4x25)		<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray 249-117 50 (2x25)	
<b>Vertical jumper, insulated,</b> I <sub>N</sub> 24 A gray 281-421 200 (8x25)			
<b>Comb-style jumper bar, insulated,</b> ④ I <sub>N</sub> = I <sub>N</sub> terminal block 2-way 281-482 100 (4x25) 3-way 281-483 100 (4x25)			
<b>Comb-style jumper bar, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block 5-way 281-485 100 (4x25)			



Wiring

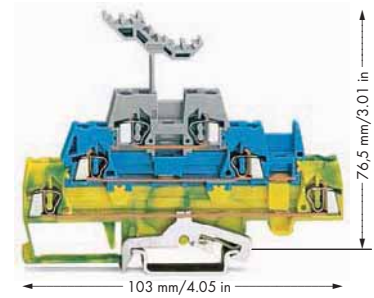
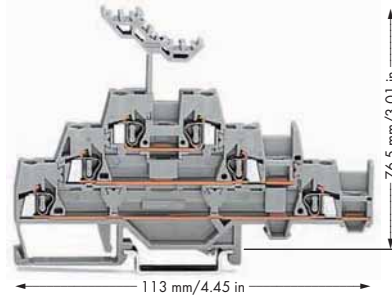
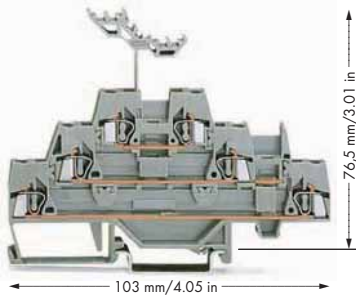


Commoning double-deck terminal blocks

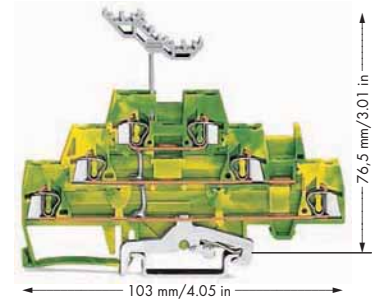
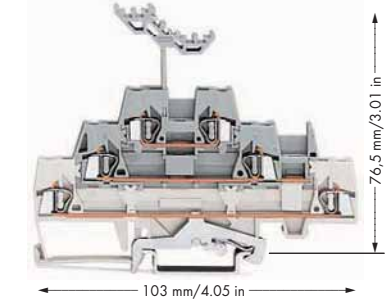
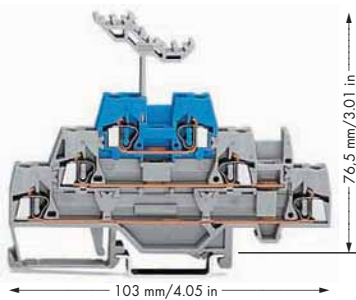


# Triple-Deck Terminal Blocks 2.5 mm<sup>2</sup> 280 Series

<p>0.08 - 2.5 mm<sup>2</sup> 500 V/6 kV/3 ① I<sub>N</sub> 20 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 * 300 V, 15 A ⑤ 300 V, 20 A ⑥</p>	<p>0.08 - 2.5 mm<sup>2</sup> 500 V/6 kV/3 ① I<sub>N</sub> 20 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 * 300 V, 15 A ⑤ 300 V, 20 A ⑥</p>	<p>0.08 - 2.5 mm<sup>2</sup> 500 V/6 kV/3 ① I<sub>N</sub> 20 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 * 300 V, 20 A ⑥</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/through/through terminal block</b>		<b>Through/through/through terminal block with horizontal jumpering on lower level</b>		<b>Ground conductor/through/through terminal block</b>	
gray 280-549	40	gray 280-550	40	green-yellow/blue/gray 280-547	40
blue 280-551	40			green-yellow/gray/gray 280-557	40
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>	
orange 280-304	50 (2x25)	orange 280-306	50 (2x25)	orange 280-304	50 (2x25)
gray 280-303	50 (2x25)	gray 280-305	50 (2x25)	gray 280-303	50 (2x25)
<b>Intermediate plate, 1.1 mm thick</b>		<b>Intermediate plate, 1.1 mm thick</b>		<b>Intermediate plate, 1.1 mm thick</b>	
orange 280-336	50 (2x25)	orange 280-339	50 (2x25)	orange 280-336	50 (2x25)

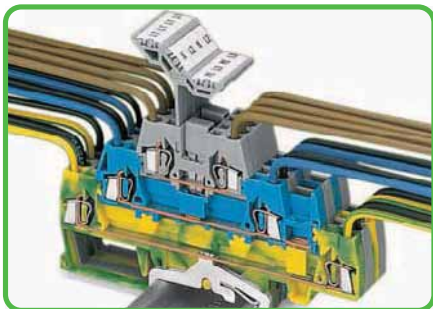


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/through/through terminal block</b>		<b>Shield/through/through terminal block</b>		<b>6-conductor ground terminal block, internal commoning</b>	
gray/gray/blue 280-552	40	white/gray/gray 280-548	40	green-yellow 280-597	40
		white/blue/gray 280-558	40		
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>	
orange 280-304	50 (2x25)	orange 280-304	50 (2x25)	orange 280-304	50 (2x25)
gray 280-303	50 (2x25)	gray 280-303	50 (2x25)	gray 280-303	50 (2x25)
<b>Intermediate plate, 1.1 mm thick</b>		<b>Intermediate plate, 1.1 mm thick</b>		<b>Intermediate plate, 1.1 mm thick</b>	
orange 280-336	50 (2x25)	orange 280-336	50 (2x25)	orange 280-336	50 (2x25)

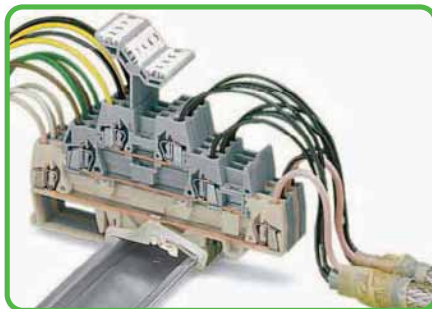
For list of approvals and user guide, see pages 634 to 637.



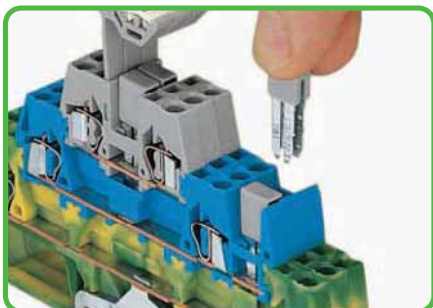
## - Handling - Triple-Deck Terminal Blocks



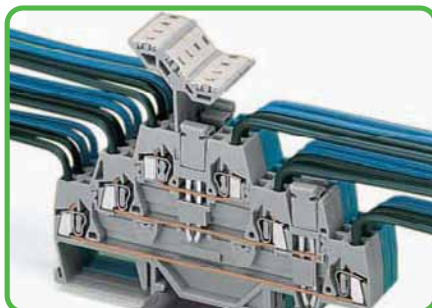
3-conductor power circuit with additional branch circuit tapping.



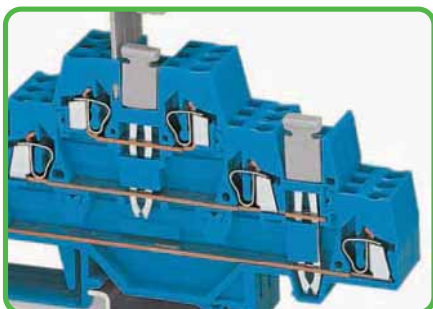
Shielded twisted pair cable.



Triple-deck terminal blocks accommodate three circuits of different potentials in one 3-level terminal block; different circuits can be differentiated by color coding either level for the 280 Series.



Commoning with vertical and adjacent jumpers.



Standard insulated push-in jumpers can be used for commoning. A vertical jumper allows commoning of upper and lower level, providing a 6-conductor feedthrough terminal block in one housing. Two adjacent terminals may be commoned together on the same level using a push-in adjacent jumper.



The ground conductor or shield terminal blocks have a contact foot in the bottom level, automatically establishing direct contact to the carrier rail. The flexible marker carrier, which is placed above the wiring levels, can be pushed aside during wiring or commoning. The marker carrier has three levels for three different WMB markers relating to the three decks of the terminal blocks. With a terminal block width of only 5 mm/0.197 in an effective width of only 1.67 mm/0.066 in for terminal blocks of same or different potentials can be realized for wire sizes 0.08 mm<sup>2</sup> - 2.5 mm<sup>2</sup> (AWG 28 - 14).

\* AWG 12: THHN, THWN

- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree

(also see Section 14)







- ② Strip length, see packaging or instructions.
- ③ See application notes for:  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200

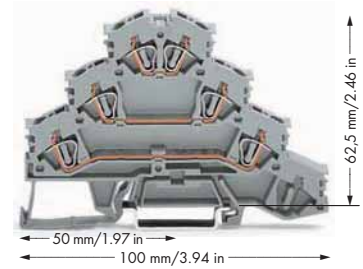
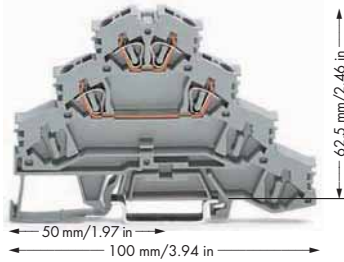
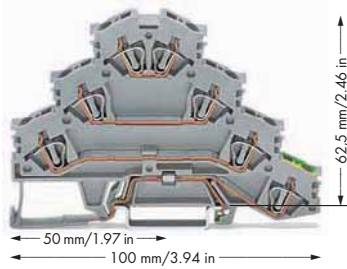
### 280 Series Accessories

Appropriate marking systems  
(see Section 13)

<b>Insulation stop,</b>			
③	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white	<b>280-470</b>	200 (8x25)
<b>Insulation stop,</b>			
③	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray	<b>280-471</b>	200 (8x25)
<b>Insulation stop,</b>			
③	5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray	<b>280-472</b>	200 (8x25)
<b>Adjacent jumper, insulated,</b>			
	I <sub>N</sub> = I <sub>N</sub> terminal block		
	gray	<b>280-402</b>	200 (8x25)
	yellow-green	<b>280-422</b>	200 (8x25)
<b>Alternate jumper, insulated,</b>			
	I <sub>N</sub> = I <sub>N</sub> terminal block		
	gray	<b>280-409</b>	100 (4x25)
<b>Vertical jumper, insulated,</b>			
	I <sub>N</sub> 24 A		
	gray	<b>281-421</b>	200 (8x25)
<b>Comb-style jumper bar, insulated,</b>			
③	I <sub>N</sub> = I <sub>N</sub> terminal block		
	2-way	<b>280-482</b>	200 (8x25)
	3-way	<b>280-483</b>	200 (8x25)
<b>Comb-style jumper bar, insulated,</b>			
	I <sub>N</sub> = I <sub>N</sub> terminal block		
	10-way	<b>280-490</b>	50 (2x25)
<b>Alternate comb-style jumper bar,</b>			
	insulated, I <sub>N</sub> = I <sub>N</sub> terminal block		
	2-way	<b>280-492</b>	200 (8x25)
<b>Operating tool, of insulating material</b>			
	2-way	<b>280-432</b>	1
	3-way	<b>280-433</b>	1
<b>Operating tool, of insulating material</b>			
	10-way	<b>280-440</b>	1
<b>Screwless end stop,</b>			
	for DIN 35 rail, 6 mm wide		
	gray	<b>249-116</b>	100 (4x25)

# Quadruple-Deck, Rail-Mounted Terminal Blocks or Rail-Mounted Terminal Blocks for Wiring of Electric Motors 4 mm<sup>2</sup> 281 Series










<p>0.08 - 4 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 20 A (2.5 mm<sup>2</sup>) I<sub>N</sub> 25 A (4 mm<sup>2</sup>) Terminal block width 6 mm / 0.236 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 600 V, 20 A  300 V, 25 A </p>	<p>0.08 - 4 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 20 A (2.5 mm<sup>2</sup>) I<sub>N</sub> 25 A (4 mm<sup>2</sup>) Terminal block width 6 mm / 0.236 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 600 V, 20 A  300 V, 25 A </p>	<p>0.08 - 4 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 20 A (2.5 mm<sup>2</sup>) I<sub>N</sub> 25 A (4 mm<sup>2</sup>) Terminal block width 6 mm / 0.236 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 600 V, 20 A  300 V, 25 A </p>
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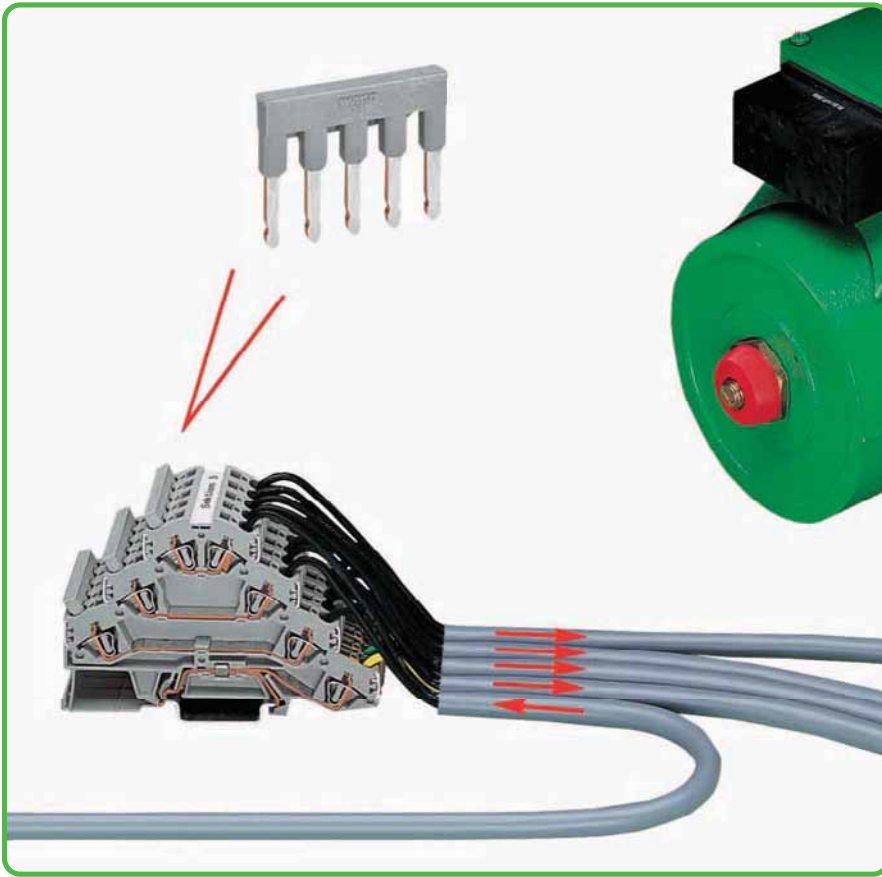


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Quadruple-deck, rail-mounted terminal block or Rail-mounted terminal block for wiring of electric motors, gray		Quadruple-deck, rail-mounted terminal block or Rail-mounted terminal block for wiring of electric motors, gray		Quadruple-deck, rail-mounted terminal block or Rail-mounted terminal block for wiring of electric motors, gray	
⊙ L1 - L2 - L3 - PE	281-530 50	⊙ L1 - L2	281-531 50	⊙ L1 - L2 - L3	281-532 50

## 281 Series Accessories

Appropriate marking systems: WMB/Marking strips (see Section 13)

<p><b>End and intermediate plate, 1 mm thick</b></p> <p> orange <b>281-366</b> 100 (4x25)</p> <p> gray <b>281-365</b> 100 (4x25)</p>	<p><b>WMB Multi marking system,</b></p> <p> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5</p>
<p><b>Insulation stop,</b></p> <p>③ 5 pcs/strip, 0.08 - 0.2 mm<sup>2</sup> "s" (0.14 mm<sup>2</sup> "f-st") white <b>281-470</b> 200 (8x25)</p>	<p><b>WMB Multi marking system, plain,</b></p> <p> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm</p>
<p><b>Insulation stop,</b></p> <p>③ 5 pcs/strip, 0.25 - 0.5 mm<sup>2</sup> light gray <b>281-471</b> 200 (8x25)</p>	<p>yellow <b>793-5501/000-002</b></p> <p>red <b>793-5501/000-005</b></p> <p>blue <b>793-5501/000-006</b></p> <p>gray <b>793-5501/000-007</b></p> <p>orange <b>793-5501/000-012</b></p> <p>light green <b>793-5501/000-017</b></p> <p>green <b>793-5501/000-023</b></p> <p>violet <b>793-5501/000-024</b> 5</p>
<p><b>Insulation stop,</b></p> <p>③ 5 pcs/strip, 0.25 - 1.5 mm<sup>2</sup> dark gray <b>281-472</b> 200 (8x25)</p>	<p><b>Marking strip, plain,</b></p> <p> 7.5 mm wide, 50 m roll translucent <b>709-177</b> 1</p>
<p><b>Comb-style jumper bar, insulated,</b></p> <p>③ I<sub>N</sub> = I<sub>N</sub> terminal block</p> <p>2-way <b>281-482</b> 100 (4x25)</p> <p>3-way <b>281-483</b> 100 (4x25)</p> <p>5-way <b>281-485</b> 100 (4x25)</p> <p>10-way <b>281-490</b> 50 (2x25)</p>	<p><b>Screwless end stop,</b></p> <p> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)</p>
<p><b>Alternate comb-style jumper bar,</b></p> <p>insulated, I<sub>N</sub> = I<sub>N</sub> terminal block</p> <p>2-way <b>281-492</b> 100 (4x25)</p>	<p><b>Screwless end stop,</b></p> <p> for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)</p>
<p><b>Operating tool, of insulating material</b></p> <p>2-way <b>280-432</b> 1</p> <p>3-way <b>280-433</b> 1</p> <p>5-way <b>281-440</b> 1</p>	
<p><b>Test plug,</b></p> <p> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50</p>	
<p><b>Test plug,</b></p> <p> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50</p>	



- ❶ 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ❷ Strip length, see packaging or instructions.
- ❸ See application notes for:  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200



Testing with test plug 2 mm Ø.

In addition to rail-mounted terminal blocks for electric motor wiring, special versions are also available.

- Terminal block **without** ground contact and only 2 potentials.

Especially designed for additional functions such as engine brakes or temperature probes. Having the same shape, this type can be put next to the appropriate terminal block for electric motor wiring without using separator plates. That makes the rail assembly clearer and wiring is easier. This also prevents wiring errors as no conductor entry is unused.

- Terminal block **without** ground contact and with 3 potentials.

Clearly designated clamping units is the primary advantage to this terminal block design. When using devices with protective insulation for example, there are no open ground clamping units that could create confusion.



Compact design: 3 phases and ground conductor in one terminal block.



Marking clamping units with WMB Multi marking system (see Section 13). Group marking with 709-177 marker strips.

# L-Type Test Plug Modules for Testing Rail-Mounted Terminal Blocks, Terminal Block Width 5 mm or 6 mm, via Conductor Wire Opening

CAGE CLAMP®

Test plug module for rail-mounted terminal blocks  
 0.08 - 1.5 mm<sup>2</sup> | AWG 28 - 16  
 Test voltage 630 V | Test current 6 A  
 module width 5 mm / 0.197 in  
 These test plugs are not suitable for Ex e applications.

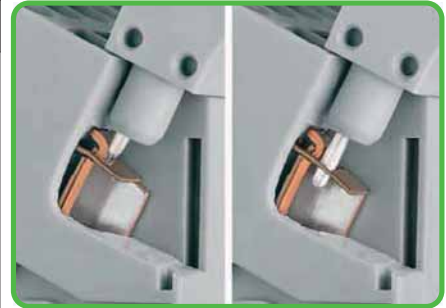
Test plug module for rail-mounted terminal blocks  
 0.08 - 2.5 mm<sup>2</sup> | AWG 28 - 14  
 Test voltage 630 V | Test current 6 A  
 module width 6 mm / 0.236 in  
 These test plugs are not suitable for Ex e applications.



Snapping test plug and spacer modules together to assemble a multipole test plug module (max. 10 poles).



Item No.	Pack. Unit	Item No.	Pack. Unit
L-type test plug module with spring-loaded contact pin and CAGE CLAMP®, center module, can be snapped together, module width 5 mm		L-type test plug module with spring-loaded contact pin and CAGE CLAMP®, center module, can be snapped together, module width 6 mm	
gray 249-141	100 (4x25)	gray 249-144	100 (4x25)
End module with rigid contact pin and CAGE CLAMP®, end module, can be snapped together, module width 5 mm		End module with rigid contact pin and CAGE CLAMP®, end module, can be snapped together, module width 6 mm	
gray 249-142	100 (4x25)	gray 249-145	100 (4x25)
Spacer module, e.g., for bridging commoned terminal blocks, can be snapped together, module width 5 mm		Spacer module, e.g., for bridging commoned terminal blocks, can be snapped together, module width 6 mm	
gray 249-143	100 (4x25)	gray 249-146	100 (4x25)



A = Center module spring-loaded contact pin  
 B = End module with rigid contact pin

### Accessories for L-Type Test Plug Modules

Appropriate marking systems: WMB/Miniature WSB (see Section 13)

WMB Multi marking system,	Miniature WSB Quick marking system,
10 strips with 10 markers per card, stretchable 5 - 5.2 mm	10 strips with 10 markers per card, 5 mm wide markers
plain 793-5501 5	plain 248-501 5



CAGE CLAMP®  
 0.08 mm<sup>2</sup> - 1.5 mm<sup>2</sup>/AWG 28 - 16; module width 5 mm/0.197 in  
 0.08 mm<sup>2</sup> - 2.5 mm<sup>2</sup>/AWG 28 - 14; module width 6 mm/0.236 in



For easily testing terminal block assemblies, these test plug modules with CAGE CLAMP® (version using the conductor wire opening) may be used on unwired terminal blocks. For testing, the module is assembled with spring-loaded pins in the center positions and rigid pin modules at the ends. The terminal blocks corresponding to the end position modules are opened using operating tools (as shown), these rigid pins are then held in place by the CAGE CLAMP®.

The intermediate pins are spring-loaded and make contact with the current bars, for test currents up to 6A.

Clamping units needing to remain wired may be skipped over by assembling a spacer in the test plug module.

**Notice:**  
 Mating direction must be observed (see picture).

# B-Type Test Plug Modules for Testing Rail-Mounted Terminal Blocks, Terminal Block Width 5 mm or 6 mm, via Jumper Contact Slot in Current Bar

CAGE CLAMP®

3

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<p>Test plug module for rail-mounted terminal blocks                  0.08 - 1.5 mm<sup>2</sup>   AWG 28 - 16                  Test voltage 630 V   Test current 10 A                  module width 5 mm / 0.197 in                  These test plugs are not suitable for Ex e applications.</p>	<p>Test plug module for rail-mounted terminal blocks                  0.08 - 2.5 mm<sup>2</sup>   AWG 28 - 14                  Test voltage 630 V   Test current 10 A                  module width 6 mm / 0.236 in                  These test plugs are not suitable for Ex e applications.</p>
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Snapping test plug and spacer modules together to assemble a multipole test plug module (max. 10 poles).

3





Item No.	Pack. Unit	Item No.	Pack. Unit
<b>B-type test plug module with CAGE CLAMP®</b> , can be snapped together, module width 5 mm		<b>B-type test plug module with CAGE CLAMP®</b> , can be snapped together, module width 6 mm	
○ gray 249-106 100 (4x25)		○ gray 249-147 100 (4x25)	
<b>B-type spacer module</b> , e.g., for bridging commoned terminal blocks, can be snapped together, module width 5 mm		<b>B-type spacer module</b> , e.g., for bridging commoned terminal blocks, can be snapped together, module width 6 mm	
○ gray 249-107 100 (4x25)		○ gray 249-148 100 (4x25)	



B-type test plugs are directly inserted into the jumper contact slots of the current bar.

## Accessories for B-Type Test Plug Modules

Appropriate marking systems: WMB/Miniature WSB (see Section 13)

<b>WMB Multi marking system,</b>		
	10 strips with 10 markers per card, stretchable 5 - 5.2 mm	
	plain 793-5501	5
<b>Miniature WSB Quick marking system,</b>		
	10 strips with 10 markers per card, 5 mm wide markers	
	plain 248-501	5



CAGE CLAMP®  
 0.08 mm<sup>2</sup> - 1.5 mm<sup>2</sup>/AWG 28 - 16;  
 module width 5 mm/0.197 in  
 0.08 mm<sup>2</sup> - 2.5 mm<sup>2</sup>/AWG 28 - 14;  
 module width 6 mm/0.236 in



For testing individual circuits, WAGO offers a single-pole test plug accessory with CAGE CLAMP® up to 2.5 mm<sup>2</sup>/AWG 14 for direct contact with the current bar of a terminal block, or 1-pole test plug adapters for 4 mm Ø test plugs.

For serial testing on assembled terminal block assemblies, WAGO has developed special multipole (max. 10 poles) modular test plug modules. For testing completely wired terminal blocks (even when using adjacent jumpers), the test plug modules with CAGE CLAMP® (version using jumper contact position in current bar) are ideal. For this type of testing, the structure of the testing plug modules adapts directly to the terminal block assembly. The test plug modules make direct contact to the jumper contact slot of the terminal blocks to be tested.

# Test Plug Modules for Testing Rail-Mounted Terminal Blocks, Terminal Block Width 5 mm or 6 mm, via Jumper Contact Slot in Current Bar



Test plug module for rail-mounted terminal blocks  
 Test voltage 400 V | Test current 6 A  
 module width 5 mm / 0.197 in  
 These test plugs are not suitable for Ex e applications.

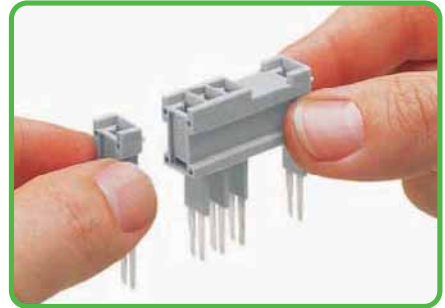
Test plug module for rail-mounted terminal blocks  
 Test voltage 400 V | Test current 6 A  
 module width 6 mm / 0.236 in  
 These test plugs are not suitable for Ex e applications.



Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Test plug module,</b> can be snapped together, module width 5 mm <input type="radio"/> gray		<b>Test plug module,</b> can be snapped together, module width 6 mm <input type="radio"/> gray	
<b>280-418</b>	100 (4x25)	<b>281-418</b>	100 (4x25)
<b>Spacer module,</b> e.g., for bridging commoned terminal blocks, can be snapped together, module width 5 mm <input type="radio"/> gray		<b>Spacer module,</b> e.g., for bridging commoned terminal blocks, can be snapped together, module width 6 mm <input type="radio"/> gray	
<b>280-419</b>	100 (4x25)	<b>281-419</b>	100 (4x25)

**Accessories**

 Test plug, with 500 mm cable, 2 mm Ø red	<b>210-136</b>	50
 Test plug, with 500 mm cable, 2.3 mm Ø yellow	<b>210-137</b>	50



Snapping test plug and spacer modules together to assemble a multipole test plug module.



The test plug modules are directly inserted into the jumper contact slots of the current bar.

# B-Type Test Plug Modules for Testing Rail-Mounted Terminal Blocks, Terminal Block Width 8 mm or 10 mm, via Jumper Contact Slot in Current Bar

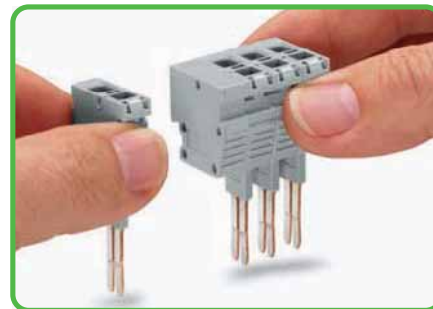
CAGE CLAMP®

3

197



Test plug module for rail-mounted terminal blocks  
 0.2 - 6 mm<sup>2</sup> | AWG 24 - 10  
 Test voltage 800 V | Test current 32 A  
 module width 8 mm / 0.315 in  
 These test plugs are not suitable for Ex e applications.

Spacer plate for rail-mounted terminal blocks with 10 mm/0.394 in module width  
 module width 2 mm / 0.079 in  
 These intermediate plates are not suitable for Ex e applications.



Snapping test plug and spacer modules together to assemble a multipole test plug module (max. 10 poles) for 8 mm/0.315 in terminal block width.

3

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>B-type test plug module with CAGE CLAMP®</b> , can be snapped together, module width 8 mm		<b>B-type spacer plate</b> , snaps on 709-310 B-type test plug modules and 709-311 B-type spacer modules, can be snapped together, module width 2 mm	
○ gray	<b>709-310</b> 100 (4x25)	○ gray	<b>709-312</b> 100 (4x25)
<b>B-type spacer module</b> , e.g., for bridging commoned terminal blocks, can be snapped together, module width 8 mm			
○ gray	<b>709-311</b> 100 (4x25)		
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>Strain relief plate</b> , gray, for 8 mm wide terminal blocks		<b>Strain relief plate</b> , gray, for 10 mm wide terminal blocks	
	2-pole <b>709-322</b> 100 (4x25)		2-pole <b>709-332</b> 100 (4x25)
	4-pole <b>709-324</b> 100 (4x25)		4-pole <b>709-334</b> 100 (4x25)
	6-pole <b>709-326</b> 100 (4x25)		6-pole <b>709-336</b> 100 (4x25)



Snapping test plug and spacer modules with spacer plate together to assemble a multipole test plug module (max. 10 poles) for 10 mm/0.394 in terminal block width.



The test plug modules are directly inserted into the jumper contact slots of the current bar (picture shows 284 Series).












For testing individual circuits, WAGO offers a single-pole test plug accessory with CAGE CLAMP® up to 6 mm<sup>2</sup>/AWG 10 for direct contact with the current bar of a terminal block, or 1-pole test plug adapters for 4 mm Ø test plugs.

For serial testing on assembled terminal block assemblies, WAGO has developed special multipole (max. 10 poles) modular test plug modules. For testing completely wired terminal blocks (even when using adjacent jumpers), the test plug modules with CAGE CLAMP® (version using jumper contact position in current bar) are ideal. For this type of testing, the structure of the testing plug modules adapts directly to the terminal block assembly. The test plug modules make direct contact to the jumper contact slot of the terminal blocks to be tested.

## Banana Plugs (Only for Safety Extra-Low Voltage)

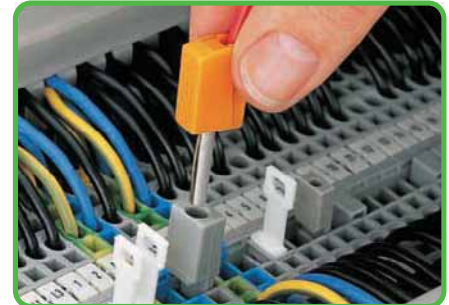
0.08 - 2.5 mm<sup>2</sup> | AWG 28 - 14  
 42 V  
 I<sub>N</sub> 20 A  
 for socket 4 mm Ø  
 9 - 11 mm / 0.39 in



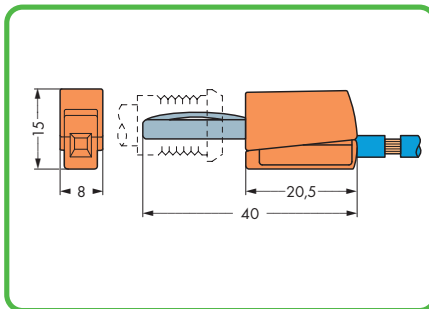
Item No.	Pack. Unit
<b>Banana plug,</b> for socket 4 mm Ø, color mixed, 10 x each - orange, white, black, blue, yellow	215-111 50
<b>Banana Plugs</b>  single plugs	
<b>Banana plug,</b>  for socket 4 mm Ø orange	215-211 50
<b>Banana plug,</b>  for socket 4 mm Ø red	215-212 50
<b>Banana plug,</b>  for socket 4 mm Ø black	215-311 50
<b>Banana plug,</b>  for socket 4 mm Ø green	215-411 50
<b>Banana plug,</b>  for socket 4 mm Ø yellow	215-511 50
<b>Banana plug,</b>  for socket 4 mm Ø white	215-611 50
<b>Banana plug,</b>  for socket 4 mm Ø blue	215-711 50
<b>Banana plug,</b>  for socket 4 mm Ø gray	215-811 50
<b>Banana plug,</b>  for socket 4 mm Ø green-yellow	215-911 50



Conductor termination: Press button fully and insert stripped conductor into square entry until it hits backstop and release.



Banana plug used as test plug.  
Picture shows 209-170 test plug adapter.



Dimensions in mm



# Conductor Insulation Stops

## 0.08 mm<sup>2</sup> – 1.5 mm<sup>2</sup> / AWG 28 – 16

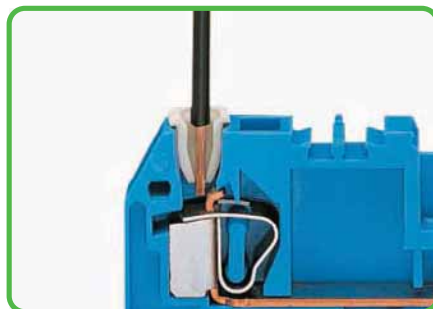
<p>Insulation stop suitable for all rail-mounted terminal blocks featuring:</p> <p>Terminal block width 4 mm / 0.157 in</p>	<p>Insulation stop suitable for all rail-mounted terminal blocks featuring:</p> <p>Terminal block width 5 mm / 0.197 in</p>	<p>Insulation stop suitable for all rail-mounted terminal blocks featuring:</p> <p>Terminal block width 6 mm / 0.236 in</p>
-----------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<p><b>Insulation stop,</b> 5 pcs/strip, 0.08 - 0.2 mm<sup>2</sup> "s" (0.14 mm<sup>2</sup> "f-st")</p> <p>○ white      <b>279-470</b>      200 (8x25)</p>		<p><b>Insulation stop,</b> 5 pcs/strip, 0.08 - 0.2 mm<sup>2</sup> "s" (0.14 mm<sup>2</sup> "f-st")</p> <p>○ white      <b>280-470</b>      200 (8x25)</p>		<p><b>Insulation stop,</b> 5 pcs/strip, 0.08 - 0.2 mm<sup>2</sup> "s" (0.14 mm<sup>2</sup> "f-st")</p> <p>○ white      <b>281-470</b>      200 (8x25)</p>	
<p><b>Insulation stop,</b> 5 pcs/strip, 0.25 mm<sup>2</sup></p> <p>● dark gray      <b>279-471</b>      200 (8x25)</p>		<p><b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm<sup>2</sup></p> <p>○ light gray      <b>280-471</b>      200 (8x25)</p>		<p><b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm<sup>2</sup></p> <p>○ light gray      <b>281-471</b>      200 (8x25)</p>	
		<p><b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm<sup>2</sup></p> <p>● dark gray      <b>280-472</b>      200 (8x25)</p>		<p><b>Insulation stop,</b> 5 pcs/strip, 0.25 - 1.5 mm<sup>2</sup></p> <p>● dark gray      <b>281-472</b>      200 (8x25)</p>	
<p>The wiring of programmable logic controllers and micro-processor-operated control circuits often relies on very small cross sections of fine-stranded conductors. These small conductors are highly flexible, and they deform when pushed against the conductor stop in terminal blocks. As a result, the conductor insulation - not the copper conductor - may be clamped, causing intermittent contact or no contact at all. Common to all terminal block types currently offered, this problem creates unnecessary downtime for troubleshooting.</p>		<p>The solution: an insulation stop for rail-mount terminal blocks. Insulation stops automatically bundle the cores of fine-stranded conductors when inserted into the clamping unit, preventing splaying. This also limits the conductor entry to a defined cross sectional area - ensuring the actual conductor, not the insulation, will enter the clamping unit.</p>		<p>The insulation stop is available as dividable 5-pole strip for 279, 280/780/870/880 and 281/781 Series rail-mount terminal blocks. Insulation stop usage will not affect the conductor strip lengths for the aforementioned rail-mount terminal blocks.</p>	



Insert stripped, untwisted conductor into insulation stop.



The conductor is bundled.



The conductor insulation is prevented from being pushed into the clamping unit by the positive stop.

# Comb-Style Jumper Bars and Alternate Comb-Style Jumper Bars Operating Tool

Comb-style jumper bars and alternate comb-style jumper bars for 279 Series  
 $I_N = I_N$  terminal block  
 Operating tool

Comb-style jumper bars and alternate comb-style jumper bars for 280/769/780/880 Series  
 $I_N = I_N$  terminal block  
 Operating tool

Comb-style jumper bars and alternate comb-style jumper bars for 281/781 Series  
 $I_N = I_N$  terminal block  
 Operating tool



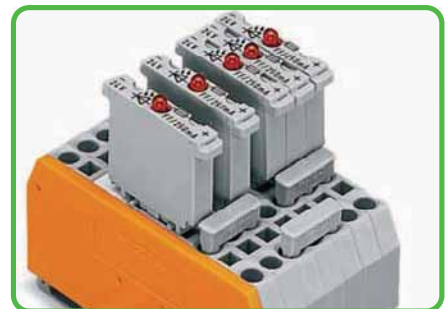
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Comb-style jumper bar, insulated</b>		<b>Comb-style jumper bar, insulated</b>		<b>Comb-style jumper bar, insulated</b>	
○ 2-way <b>279-482</b>	200 (8x25)	○ 2-way <b>280-482</b>	200 (8x25)	○ 2-way <b>281-482</b>	100 (4x25)
○ 3-way <b>279-483</b>	200 (8x25)	○ 3-way <b>280-483</b>	200 (8x25)	○ 3-way <b>281-483</b>	100 (4x25)
○ 10-way <b>279-490</b>	50 (2x25)	○ 10-way <b>280-490</b>	50 (2x25)	○ 5-way <b>281-485</b>	100 (4x25)
				○ 10-way <b>281-490</b>	50 (2x25)
<b>Alternate comb-style jumper bar, insulated</b>		<b>Alternate comb-style jumper bar, insulated</b>		<b>Alternate comb-style jumper bar, insulated</b>	
○ 2-way <b>279-492</b>	200 (8x25)	○ 2-way <b>280-492</b>	200 (8x25)	○ 2-way <b>281-492</b>	100 (4x25)
<b>Operating tool, of insulating material</b>		<b>Operating tool, of insulating material</b>		<b>Operating tool, of insulating material</b>	
2-way <b>279-432</b>	1	2-way <b>280-432</b>	1	2-way <b>280-432</b>	1
3-way <b>279-433</b>	1	3-way <b>280-433</b>	1	3-way <b>280-433</b>	1
10-way <b>279-440</b>	1	10-way <b>280-440</b>	1	5-way <b>281-440</b>	1



4-conductor through terminal blocks, angled type  
 Formation of groups with 3-way, comb-style jumper bars



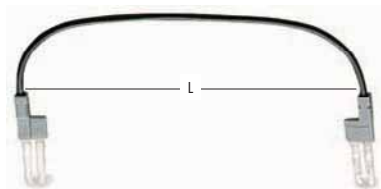
Disconnect terminal blocks for test and measurement  
 10-way, comb-style jumper bar



Carrier terminal blocks with component plugs  
 Alternate comb-style jumper bars  
 3-way, comb-style jumper bar

# Staggered Jumpers and Push-In Type Wire Jumpers

<b>Staggered jumper</b> Nominal voltage 400 V/6 kV/3	<b>Push-in type wire jumper</b> 800 V/8 kV/3 $I_N$ 9 A Conductor size 0.75 mm <sup>2</sup>
---------------------------------------------------------	-----------------------------------------------------------------------------------------------------



- 1 Suitable for Ex e II applications  
max. rated voltage 275 V  
23 A for 2-conductor terminal blocks  
22 A for 3-conductor terminal blocks  
20 A for 4-conductor terminal blocks  
(also see Section 14)
- 2 Suitable for Ex e II applications  
max. rated voltage 275 V, 26 A  
(also see Section 14)

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Staggered jumper, insulated,</b> width 5 mm/0.197 in, $I_N$ 24 A		<b>Push-in type wire jumper, insulated</b> Wire length of wire jumpers: L = 60 mm	
○ from 1 to 2	780-452 1 100 (4x25)	249-125	10
○ from 1 to 3	780-453 1 100 (4x25)		
○ from 1 to 4	780-454 1 100 (4x25)		
○ from 1 to 5	780-455 1 50 (2x25)		
○ from 1 to 6	780-456 1 50 (2x25)		
○ from 1 to 7	780-457 1 50 (2x25)		
○ from 1 to 8	780-458 1 50 (2x25)		
<b>Staggered jumper, insulated,</b> width 6 mm/0.236 in, $I_N$ 32 A		<b>Push-in type wire jumper, insulated</b> Wire length of wire jumpers: L = 110 mm	
○ from 1 to 2	781-452 2 100 (4x25)	249-126	10
○ from 1 to 3	781-453 2 100 (4x25)		
○ from 1 to 4	781-454 2 100 (4x25)		
○ from 1 to 5	781-455 2 50 (2x25)		
○ from 1 to 6	781-456 2 50 (2x25)		
		<b>Push-in type wire jumper, insulated</b> Wire length of wire jumpers: L = 250 mm	
		<b>Note:</b> Push down the wire jumper until fully inserted.	

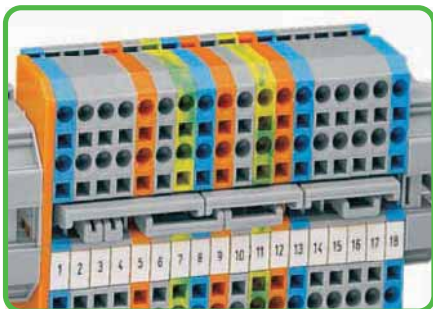
### Wire jumpers

When installing machines or control systems, it is often necessary to make an additional connection between two terminal blocks that are not next to each other on the rail. In such cases, the plug-in, touchproof wire jumper is ideal.

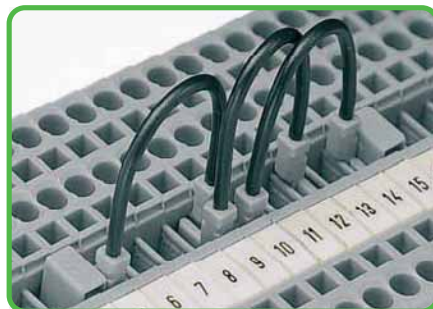
Suitable for rail-mount terminal blocks of 279 Series (1.5 mm<sup>2</sup>/AWG 16), 280/775/780 Series (2.5 mm<sup>2</sup>/AWG 14) and 281/769/776/777/781 and 880 Series (4 mm<sup>2</sup>/AWG 12), this jumper is available in 3 wire lengths: 60, 110 and 250 mm (2.362, 4.331 and 9.843 in). This allows up to 60 terminal blocks between the two blocks being commoned (see table below).

Terminal blocks Series	Wire jumpers Item No.	"n"
279 (1.5 mm <sup>2</sup> /AWG 16)	249-125	13
	249-126	25
	249-127	60
280, 775, 780 (2.5 mm <sup>2</sup> /AWG 14) 769, 880 (4 mm <sup>2</sup> /AWG 12)	249-125	10
	249-126	20
	249-127	48
281, 781, 776, 777 (4 mm <sup>2</sup> /AWG 12)	249-125	9
	249-126	17
	249-127	40

"n" = number of 279, 280/769/780/880 and 281/781 Series terminal blocks which can be skipped with a wire jumper.

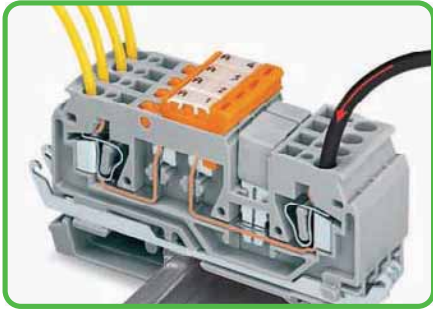


Staggered jumpers for sophisticated circuit requirements.

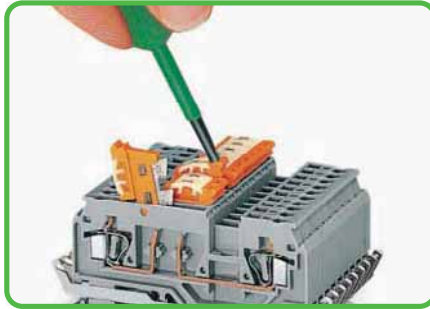


Series 280/775/780 and 281/776/777/781 will accept two wire jumpers, so it is possible to bridge several terminal blocks together. Since the 279 Series will only accept one wire jumper per terminal block, bridging several terminal blocks is not possible. Series 280/769/775/780/880 and 281/776/777/781 permit the introduction of a wire jumper and an adjacent jumper into the same block simultaneously.

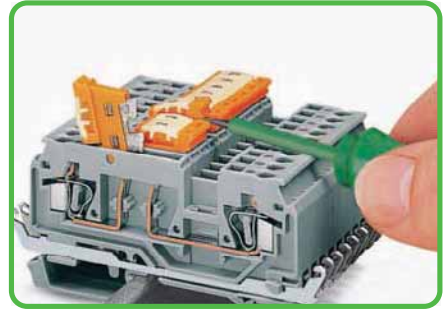
# Disconnect Terminal Blocks for Test and Measurement with Movable Knife Disconnect, 280 Series



Power distribution using adjacent jumper. Knife disconnects used to disconnect individual outputs.



Movable Knife disconnect



Movable Knife disconnect clearly indicates circuit state by defined, notched positions "ON" <-> "OFF"

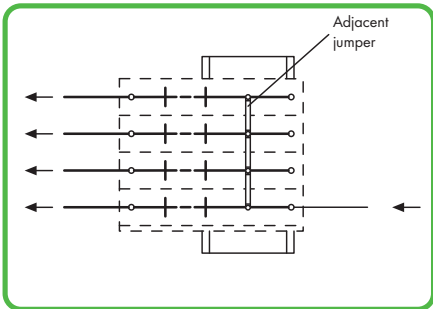


Diagram of the assembly as shown in the above picture.



Power distribution using knife disconnect in supply line, disconnection of all outputs.

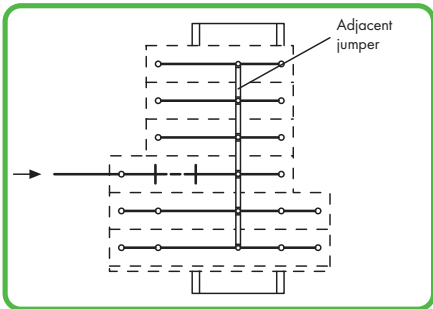
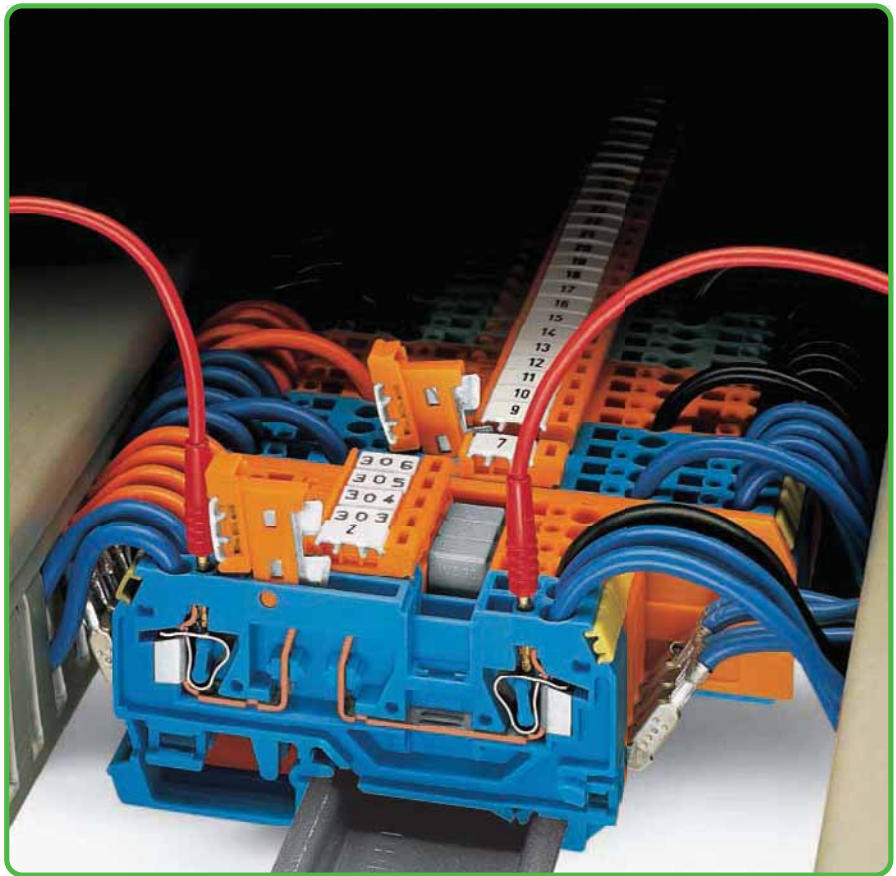


Diagram of the assembly as shown in the above picture.



Staggered jumpers for sophisticated circuit requirements. Push jumpers down firmly until fully inserted.

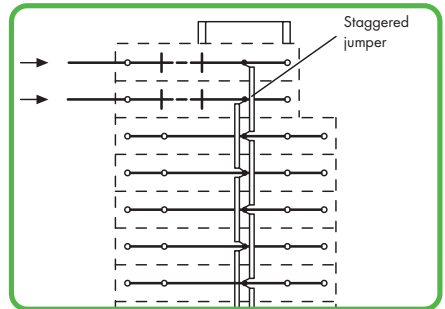


Diagram of the assembly as shown in the picture on the left.



**CAGE CLAMP®** clamps the following copper conductors:\*

solid



stranded



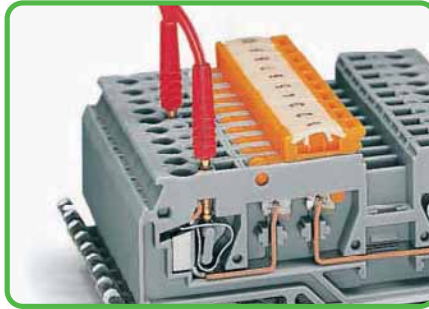
fine-stranded, also with tinned single strands

\* For aluminum conductors, see notes in Section 14.

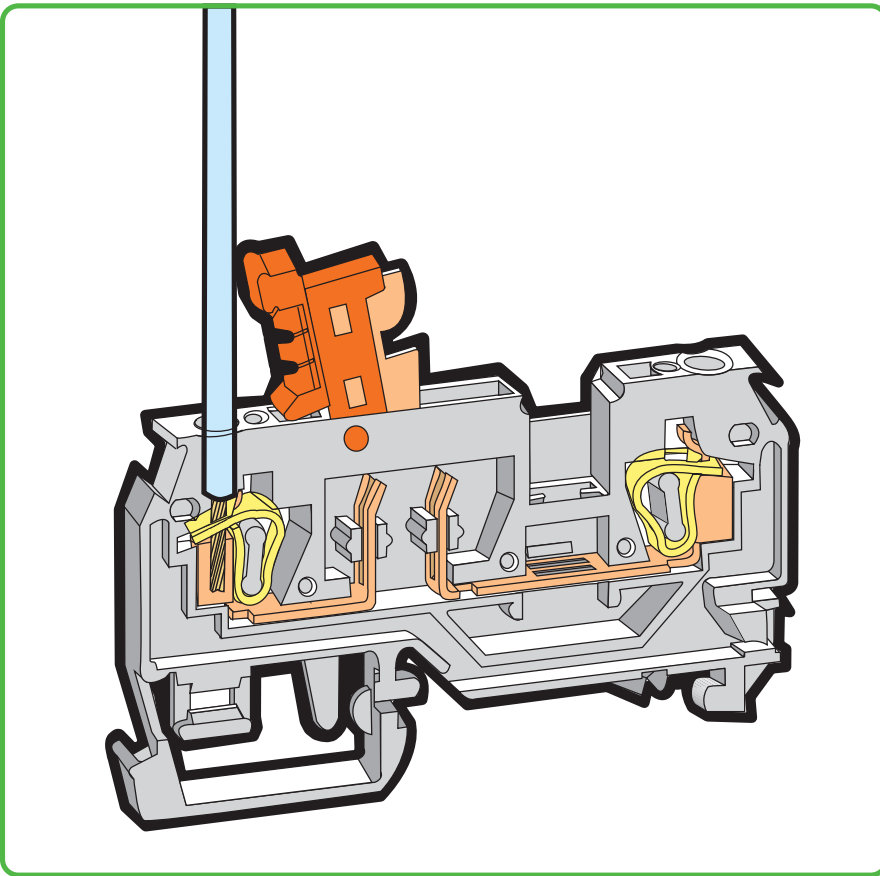
- Description and Handling -



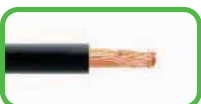
Shield contact:  
with solder/crimp quick disconnect terminal  
(2.5 x 0.8) mm.



Test slot:  
for test plug 2 mm Ø or 2.3 mm Ø - with direct contact  
to the current bar.



Terminal block marking:  
with WMB (center position) and miniature WSB markers  
(on the sides) - also see Section 13.



fine-stranded,  
tip-bonded.



fine-stranded,  
with ferrule ①  
(gas-tight crimped)



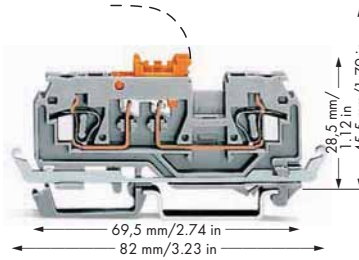
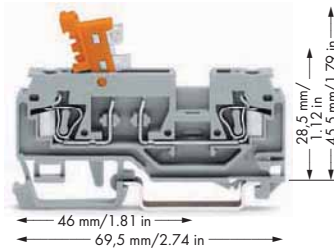
fine-stranded,  
with pin terminal  
(gas-tight crimped)

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

## 2-Conductor Disconnect Terminal Blocks for Test and Measurement 280 Series

**CAGE CLAMP®**

0.08 - 2.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 16 A	AWG 28 - 12 * 600 V, 15 A <sup>Ⓜ</sup> 300 V, 15 A <sup>Ⓢ</sup>	0.08 - 2.5 mm <sup>2</sup> 250 V/4 kV/3 ① I <sub>N</sub> 16 A	AWG 28 - 12 * 600 V, 15 A <sup>Ⓜ</sup> 300 V, 15 A <sup>Ⓢ</sup>
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②		Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②	



\* AWG 12: THHN, THWN

- ① 400 V/250 V = rated voltage  
6 kV/4 kV = rated surge voltage  
3 = pollution degree

(also see Section 14)

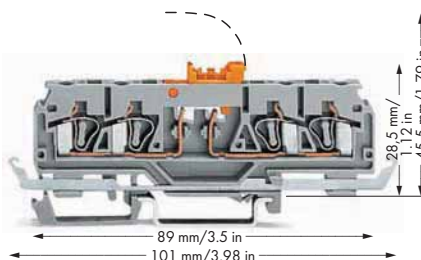
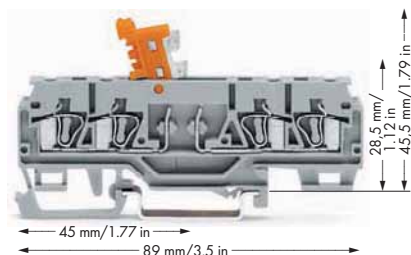
- ② Strip length, see packaging or instructions.  
③ Suitable for Ex i applications  
④ See application notes for:  
Test plug modules, pages 194 - 196  
Banana plug, page 198  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200  
Staggered jumper, page 201  
Push-in type wire jumper, page 201

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
2-conductor disconnect terminal block for test and measurement with test slot for test plug 2 mm Ø and 2.3 mm Ø, gray terminal block housing, orange disconnect link ● 280-870 100		2-conductor disconnect terminal block for test and measurement with shield contact and with test slot for test plug 2 mm Ø and 2.3 mm Ø, gray terminal block housing, orange disconnect link ● 280-871 50		<b>Comb-style jumper bar</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 10-way 280-490 50 (2x25)  <b>Operating tool</b> , of insulating material 10-way 280-440 1  <b>Protective warning marker</b> , with high-voltage symbol, black, for 5 terminal blocks yellow 280-415 100 (4x25)  <b>Test plug module</b> , ④ can be snapped together, 5 mm wide gray 280-418 100 (4x25)  <b>Spacer module</b> , can be snapped together, 5 mm wide gray 280-419 100 (4x25)  <b>Test plug</b> , with 500 mm cable, 2 mm Ø red 210-136 50  <b>Test plug</b> , with 500 mm cable, 2.3 mm Ø yellow 210-137 50  <b>Test plug adapter</b> , 5 mm wide, for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø gray 280-404 100 (4x25)  <b>Test plug adapter</b> , 8.3 mm wide, for terminal blocks 1.5 - 10 mm <sup>2</sup> , for test plug 4 mm Ø gray 209-170 50 (2x25)  <b>Banana plug</b> , ④ for socket 4 mm Ø, color mixed 215-111 50
gray terminal block housing, gray disconnect link ● 280-868 100		gray terminal block housing, gray disconnect link ● 280-869 50		
blue terminal block housing, orange disconnect link ● 280-876 ④ 100		orange terminal block housing, orange disconnect link ● 280-880 50		
orange terminal block housing, orange disconnect link ● 280-879 100				
<b>Accessories</b> Appropriate marking systems: WMB/WMB Inline/Miniature WSB (see Section 13)				
<b>End and intermediate plate</b> , 2.5 mm thick orange 280-371 100 (4x25) gray 280-374 100 (4x25)		<b>Staggered jumper</b> , ④ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A from 1 to 2 780-452 100 (4x25) from 1 to 3 780-453 100 (4x25) from 1 to 4 780-454 100 (4x25) from 1 to 5 780-455 50 (2x25) from 1 to 6 780-456 50 (2x25) from 1 to 7 780-457 50 (2x25) from 1 to 8 780-458 50 (2x25)		
<b>Insulation stop</b> , ④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "F-st") white 280-470 200 (8x25)				
<b>Insulation stop</b> , ④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 280-471 200 (8x25)				
<b>Insulation stop</b> , ④ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray 280-472 200 (8x25)		<b>Push-in type wire jumper</b> , ④ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm 249-125 10 L = 110 mm 249-126 10 L = 250 mm 249-127 10		
<b>Adjacent jumper</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block gray 280-402 200 (8x25) yellow-green 280-422 200 (8x25)				
<b>Alternate jumper</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block gray 280-409 100 (4x25)		<b>Alternate comb-style jumper bar</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way 280-492 200 (8x25)		
<b>Comb-style jumper bar</b> , insulated, ④ I <sub>N</sub> = I <sub>N</sub> terminal block 2-way 280-482 200 (8x25) 3-way 280-483 200 (8x25)		<b>Operating tool</b> , of insulating material 2-way 280-432 1 3-way 280-433 1		

For list of approvals and user guide, see pages 634 to 637.

# 4-Conductor Disconnect Terminal Blocks for Test and Measurement 2.5 mm<sup>2</sup> 280 Series

0.08 - 2.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 16 A	AWG 28 - 12 * 600 V, 15 A ② 300 V, 15 A ③	0.08 - 2.5 mm <sup>2</sup> 250 V/4 kV/3 ① I <sub>N</sub> 16 A	AWG 28 - 12 * 600 V, 15 A ② 300 V, 15 A ③
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②		Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②	



- \* AWG 12: THHN, THWN
- ① 400 V/250 V = rated voltage  
6 kV/4 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
  - ② Strip length, see packaging or instructions.
  - ③ Suitable for Ex i applications
  - ④ See application notes for:  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200

Item No.	Pack. Unit	Item No.	Pack. Unit
4-conductor disconnect terminal block for test and measurement with test slot for test plug 2 mm Ø and 2.3 mm Ø, gray terminal block housing, orange disconnect link		4-conductor disconnect terminal block for test and measurement with shield contact and with test slot for test plug 2 mm Ø and 2.3 mm Ø, gray terminal block housing, orange disconnect link	
280-874	50	280-875	50
gray terminal block housing, gray disconnect link		gray terminal block housing, gray disconnect link	
280-881	50	280-882	50
blue terminal block housing, orange disconnect link		orange terminal block housing, orange disconnect link	
280-885	50	280-884	50
orange terminal block housing, orange disconnect link			
280-883	50		

### Accessories

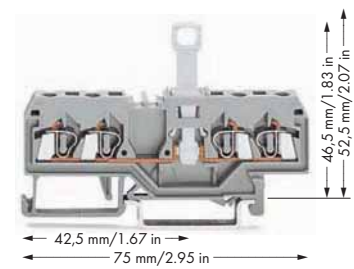
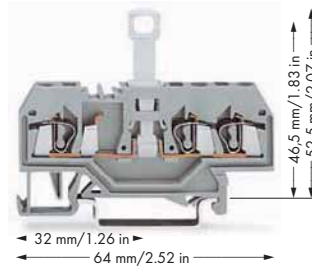
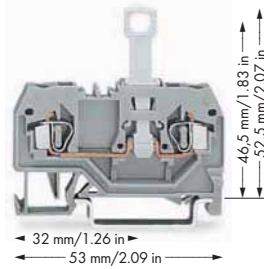
Appropriate marking systems: WMB/WMB Inline/Miniature WSB  
(see Section 13)

End and intermediate plate, 2.5 mm thick orange 280-373 100 (4x25) gray 280-376 100 (4x25)	Operating tool, of insulating material 2-way 280-432 1 3-way 280-433 1
Insulation stop, ④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white 280-470 200 (8x25)	Operating tool, of insulating material 10-way 280-440 1
Insulation stop, ④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 280-471 200 (8x25)	Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks yellow 280-415 100 (4x25)
Insulation stop, ④ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray 280-472 200 (8x25)	Test plug, with 500 mm cable, 2 mm Ø red 210-136 50
Comb-style jumper bar, insulated, ④ I <sub>N</sub> = I <sub>N</sub> terminal block 2-way 280-482 200 (8x25) 3-way 280-483 200 (8x25)	Test plug, with 500 mm cable, 2.3 mm Ø yellow 210-137 50
Comb-style jumper bar, insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 10-way 280-490 50 (2x25)	Screwless end stop, for DIN 35 rail, 6 mm wide gray 249-116 100 (4x25)
Alternate comb-style jumper bar, insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way 280-492 200 (8x25)	Screwless end stop, for DIN 35 rail, 10 mm wide gray 249-117 50 (2x25)

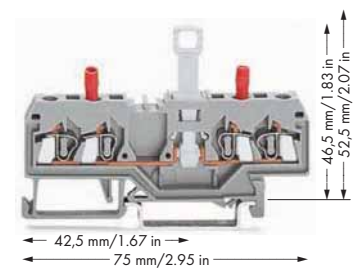
For list of approvals and user guide, see pages 634 to 637.

# Disconnect Terminal Blocks for Test and Measurement 2.5 mm<sup>2</sup> 280 Series

<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 10 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 * 300 V, 15 A ① 300 V, 15 A ②</p>	<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 10 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 * 300 V, 15 A ① 600 V, 15 A ②</p>	<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 10 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②</p>	<p>AWG 28 - 12 * 300 V, 15 A ① 600 V, 15 A ②</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor disconnect terminal block</b>		<b>3-conductor disconnect terminal block</b>		<b>4-conductor disconnect terminal block</b>	
gray	280-912 50	gray	280-683 50	gray	280-836 50
blue	280-914 50			blue	280-839 50
orange	280-913 50			orange	280-805 50
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>	
Through	280-901 Page 164	Through	280-681 Page 164	Through	280-833 Page 164
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>	
orange	280-309 100 (4x25)	orange	280-326 100 (4x25)	orange	280-315 100 (4x25)
gray	280-308 100 (4x25)	gray	280-324 100 (4x25)	gray	280-314 100 (4x25)
light gray	280-356 100 (4x25)	light gray	280-358 100 (4x25)	light gray	280-352 100 (4x25)
<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>	
orange	280-311 100 (4x25)	orange	280-346 100 (4x25)	orange	280-335 100 (4x25)
gray	280-310 100 (4x25)	gray	280-344 100 (4x25)	gray	280-334 100 (4x25)
light gray	280-357 100 (4x25)	light gray	280-359 100 (4x25)	light gray	280-353 100 (4x25)



Item No.	Pack. Unit
<b>2-conductor disconnect terminal block for test and measurement with integrated test sockets</b>	
gray	280-829 50
<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>	
orange	280-315 100 (4x25)
gray	280-314 100 (4x25)
light gray	280-352 100 (4x25)
<b>Separator, oversized, 2 mm thick</b>	
orange	280-335 100 (4x25)
gray	280-334 100 (4x25)
light gray	280-353 100 (4x25)



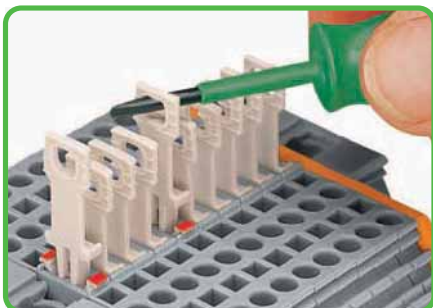
# - Handling - Disconnect Terminal Blocks for Test and Measurement



Disconnect terminal block with colored tab to indicate the switching condition (red = disconnected).



Commoning using comb-style jumper bars.



Pulling the disconnect tab with operating tool.















The lock is put on the disconnect tab of the disconnect terminal block (the picture shows a 769 Series 2-pin disconnect carrier terminal block).

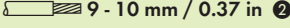
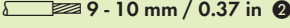
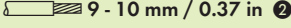


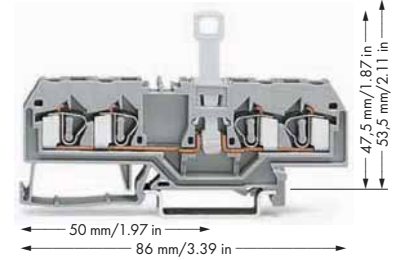
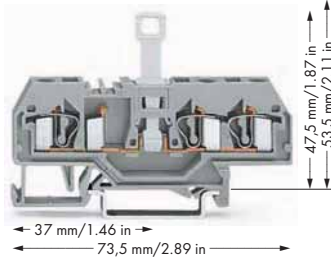
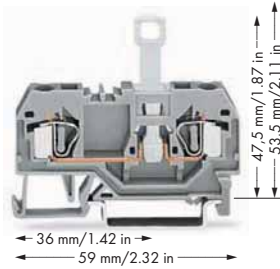
Pulling the disconnect tab by hand.



















- ① 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ See application notes for:  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200

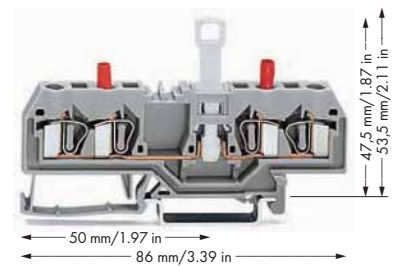
280 Series Accessories			
Appropriate marking systems (see Section 13)			
<b>Insulation stop,</b>			
③		5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white	<b>280-470</b> 200 (8x25)
<b>Insulation stop,</b>			
③		5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray	<b>280-471</b> 200 (8x25)
<b>Insulation stop,</b>			
③		5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray	<b>280-472</b> 200 (8x25)
<b>Comb-style jumper bar, insulated,</b>			
③		I <sub>N</sub> = I <sub>N</sub> terminal block 2-way	<b>280-482</b> 200 (8x25)
		3-way	<b>280-483</b> 200 (8x25)
<b>Alternate comb-style jumper bar, insulated,</b>			
		I <sub>N</sub> = I <sub>N</sub> terminal block 2-way	<b>280-492</b> 200 (8x25)
<b>Operating tool, of insulating material</b>			
		2-way	<b>280-432</b> 1
		3-way	<b>280-433</b> 1
<b>Protective warning marker,</b>			
		with high-voltage symbol, black, for 5 terminal blocks yellow	<b>280-415</b> 100 (4x25)
<b>Disconnect lock,</b>			
		for disconnect tab used on 280/281 and 769 Series disconnect terminal blocks red	<b>709-170</b> 200 (8x25)
<b>Test socket,</b>			
		insulated, 2 mm Ø red	<b>209-107</b> 100 (2x50)
<b>Test socket,</b>			
		insulated, 2.3 mm Ø yellow	<b>209-108</b> 100 (2x50)
<b>Test plug,</b>			
		with 500 mm cable, 2 mm Ø red	<b>210-136</b> 50
<b>Test plug,</b>			
		with 500 mm cable, 2.3 mm Ø yellow	<b>210-137</b> 50







# Disconnect Terminal Blocks for Test and Measurement 4 mm<sup>2</sup> 281 Series

<p>0.08 - 4 mm<sup>2</sup> AWG 28 - 12                  400 V/6 kV/3 ① 300 V, 15 A <b>AW</b>                  I<sub>N</sub> 10 A 300 V, 15 A <b>Ⓒ</b></p> <p>Terminal block width 6 mm / 0.236 in   9 - 10 mm / 0.37 in ②</p>	<p>0.08 - 4 mm<sup>2</sup> AWG 28 - 12                  400 V/6 kV/3 ① 300 V, 15 A <b>AW</b>                  I<sub>N</sub> 10 A 600 V, 15 A <b>Ⓒ</b></p> <p>Terminal block width 6 mm / 0.236 in   9 - 10 mm / 0.37 in ②</p>	<p>0.08 - 4 mm<sup>2</sup> AWG 28 - 12                  400 V/6 kV/3 ① 300 V, 15 A <b>AW</b>                  I<sub>N</sub> 10 A 600 V, 15 A <b>Ⓒ</b></p> <p>Terminal block width 6 mm / 0.236 in   9 - 10 mm / 0.37 in ②</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor disconnect terminal block</b>		<b>3-conductor disconnect terminal block</b>		<b>4-conductor disconnect terminal block</b>	
● gray	<b>281-912</b> 50	● gray	<b>281-683</b> 50	● gray	<b>281-659</b> 50
				● blue	<b>281-660</b> 50
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>	
Through	<b>281-901</b> Page 170	Through	<b>281-681</b> Page 170	Through	<b>281-652</b> Page 170
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>	
 orange	<b>281-329</b> 100 (4x25)	 orange	<b>281-326</b> 100 (4x25)	 orange	<b>281-335</b> 100 (4x25)
 gray	<b>281-328</b> 100 (4x25)	 gray	<b>281-324</b> 100 (4x25)	 gray	<b>281-334</b> 100 (4x25)
 light gray	<b>281-349</b> 100 (4x25)	 light gray	<b>281-355</b> 100 (4x25)	 light gray	<b>281-345</b> 100 (4x25)
<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>	
 orange	<b>281-331</b> 100 (4x25)	 orange	<b>281-346</b> 100 (4x25)	 orange	<b>281-339</b> 100 (4x25)
 gray	<b>281-330</b> 100 (4x25)	 gray	<b>281-344</b> 100 (4x25)	 gray	<b>281-338</b> 100 (4x25)
 light gray	<b>281-350</b> 100 (4x25)	 light gray	<b>281-356</b> 100 (4x25)	 light gray	<b>281-347</b> 100 (4x25)



Item No.	Pack. Unit
<b>2-conductor disconnect terminal block for test and measurement with integrated test sockets</b>	
● gray	<b>281-666</b> 50
<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>	
 orange	<b>281-335</b> 100 (4x25)
 gray	<b>281-334</b> 100 (4x25)
 light gray	<b>281-345</b> 100 (4x25)
<b>Separator, oversized, 2 mm thick</b>	
 orange	<b>281-339</b> 100 (4x25)
 gray	<b>281-338</b> 100 (4x25)
 light gray	<b>281-347</b> 100 (4x25)

## - Handling - Disconnect Lock



The lock is put on the disconnect tab of the disconnect terminal block (the picture shows a 769 Series 2-pin disconnect carrier terminal block)



The disconnect lock is in position.



Unlocking of disconnect lock.

### Double safety

The disconnect tab has been designed for maximum operational safety.

As soon as the disconnecting tab is in the disconnect position, it can be protected against unintentional reconnection by using the disconnect lock.

Only through dedicated effort and use of a tool, can the disconnect lock be removed, and the circuit reconnected.



Removing of disconnect lock.

### Features/Benefits:

- Easy handling
- The disconnect lock can be easily installed
- Clear identification of disconnect tab position
- Increases safety
- Dedicated effort is required to reconnect the circuit

- 1 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- 2 Strip length, see packaging or instructions.
- 3 See application notes for:  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200

281 Series Accessories			
Appropriate marking systems (see Section 13)			
<b>Insulation stop,</b>			
③	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white	<b>281-470</b>	200 (8x25)
<b>Insulation stop,</b>			
③	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray	<b>281-471</b>	200 (8x25)
<b>Insulation stop,</b>			
③	5 pcs/strip, 0.25 - 1.5 mm <sup>2</sup> dark gray	<b>281-472</b>	200 (8x25)
<b>Comb-style jumper bar, insulated,</b>			
③	I <sub>N</sub> = I <sub>N</sub> terminal block		
	2-way	<b>281-482</b>	100 (4x25)
	3-way	<b>281-483</b>	100 (4x25)
<b>Alternate comb-style jumper bar,</b>			
	insulated, I <sub>N</sub> = I <sub>N</sub> terminal block		
	2-way	<b>281-492</b>	100 (4x25)
<b>Operating tool, of insulating material</b>			
	2-way	<b>280-432</b>	1
	3-way	<b>280-433</b>	1
<b>Protective warning marker,</b>			
	with high-voltage symbol, black, for 5 terminal blocks		
	yellow	<b>281-415</b>	100 (4x25)
<b>Disconnect lock,</b>			
	for disconnect tab used on 280/281 and 769 Series disconnect terminal blocks		
	red	<b>709-170</b>	200 (8x25)
<b>Test socket,</b>			
	insulated, 2 mm Ø		
	red	<b>209-107</b>	100 (2x50)
<b>Test socket,</b>			
	insulated, 2.3 mm Ø		
	yellow	<b>209-108</b>	100 (2x50)
<b>Test plug,</b>			
	with 500 mm cable, 2 mm Ø		
	red	<b>210-136</b>	50
<b>Test plug,</b>			
	with 500 mm cable, 2.3 mm Ø		
	yellow	<b>210-137</b>	50

# Disconnect Terminal Blocks for Test and Measurement of Transformer Circuits, 282 Series

## Preparing the shorting path for the current transformer



Insertion of insulated, touchproof adjacent jumpers into the protected shorting position.



Terminal strip permanently prepared for current transformer circuits.

## Lock-out

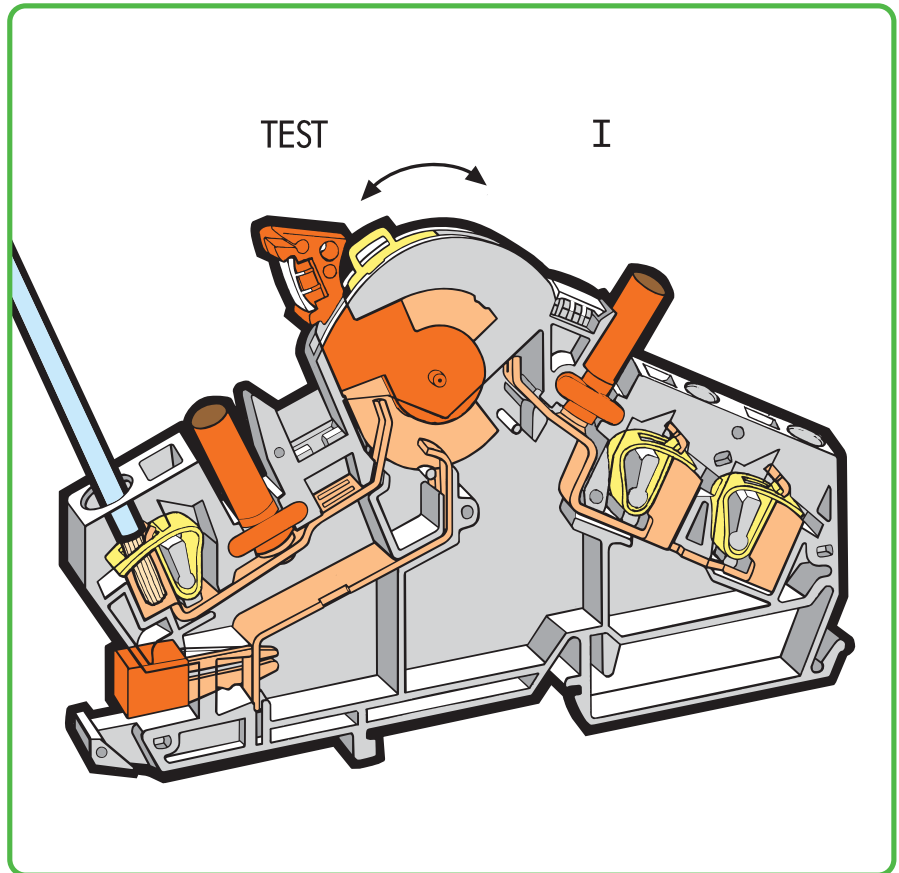


Lock-out has "snap" action into two notched positions preventing accidental operation of the disconnect link.

## Locking cover for disconnect links



Transparent locking cover for 1 - 4 disconnect links can be snapped on  
a) for mechanical interlocking for multipole switching  
b) for protecting markers.

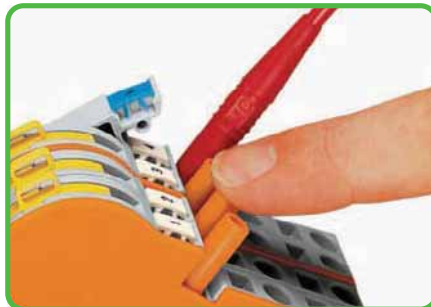


## Interlocking link



Interlocking link for mechanical interlocking of several links for multipole switching.

## Touch-proof test sockets



For touch-proof test sockets 4 mm Ø, for example mfd by Multi-Contact (not offered by WAGO).

## Marking



Marking with WMB Multi marking system. For other systems, see Section 13.



**CAGE CLAMP®** clamps the following copper conductors:\*

solid



stranded

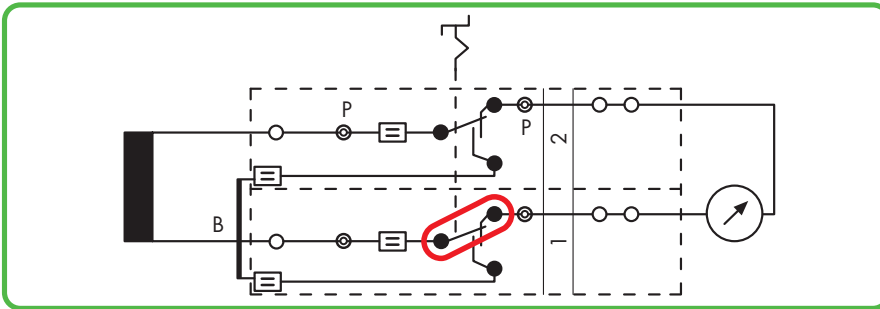


fine-stranded, also with tinned single strands

\* For aluminum conductors, see notes in Section 14.

## - Description and Handling -

### Disconnect link in notched position "I"

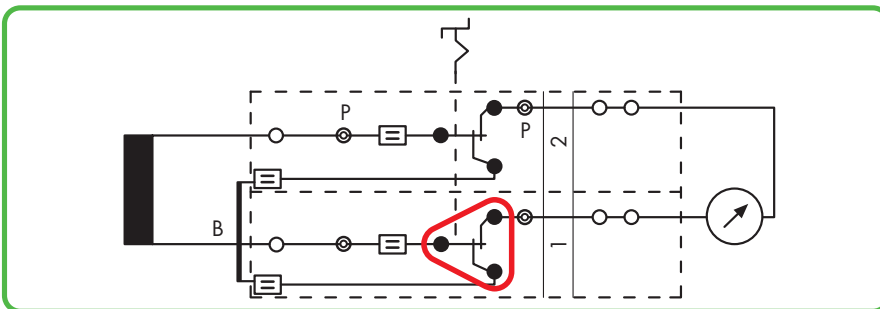


In position "I", the measuring instrument is connected to the transformer secondary.

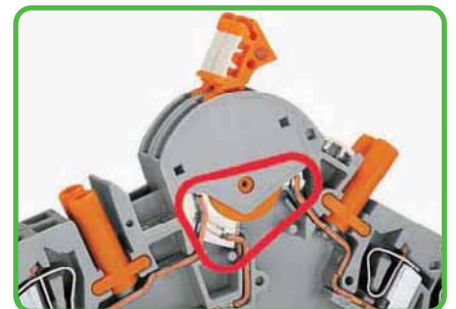
B = shunting jumper, P = test socket



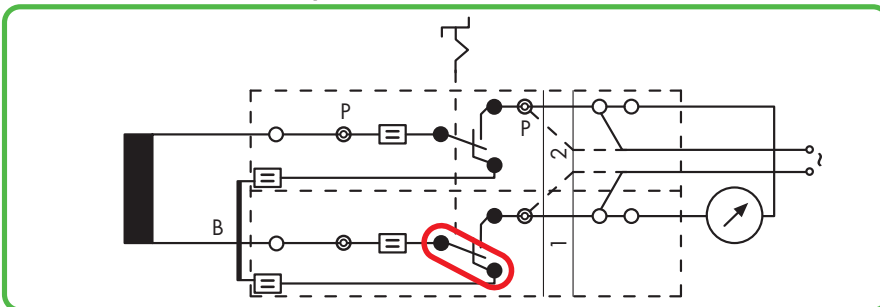
### Disconnect link in transition from "I" -> "TEST" (terminal blocks 1 + 2)



By moving the interlocked disconnect links from "I" to "TEST" the shorting path is activated without disconnection of the measuring instrument yet.



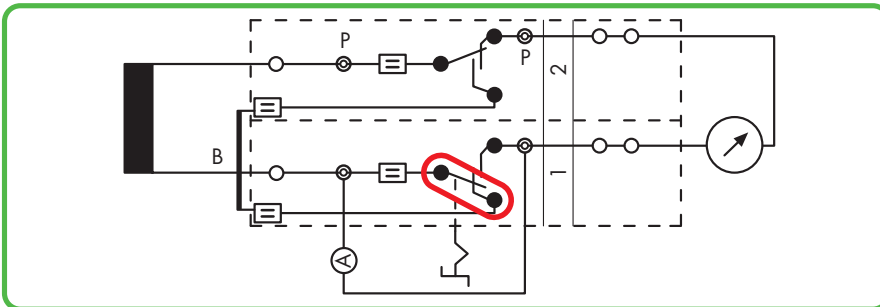
### Disconnect link in notched position "TEST" (terminal blocks 1 + 2)



The measuring instrument is electrically disconnected from the transformer. In this position, if necessary, external voltage can be applied via sockets, or the 2nd CAGE CLAMP® connection for relay testing in transformer protection circuits.



### Disconnect link in notched position "I" (terminal block 2) Disconnect link in notched position "TEST" (terminal block 1)



Measurement testing. Before moving the disconnect link of terminal block 1 into the notched position "TEST", the reference current meter must be inserted into the test socket of terminal block 1.



fine-stranded,  
tip-bonded



fine-stranded,  
with ferrule ①  
(gastight crimped)

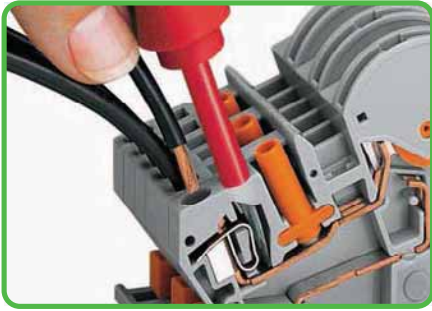


fine-stranded,  
with pin terminal  
(gastight crimped)

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

# Circuit Configuration Examples

## CAGE CLAMP® connection



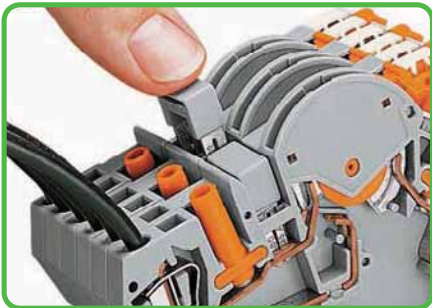
Conductor termination with operating tool (5.5 x 0.8) mm

## Additional CAGE CLAMP® connection



Additional CAGE CLAMP® connection on the side of the measuring instrument. For example: connecting wire commoning chains or applying an external voltage.

## Commoning



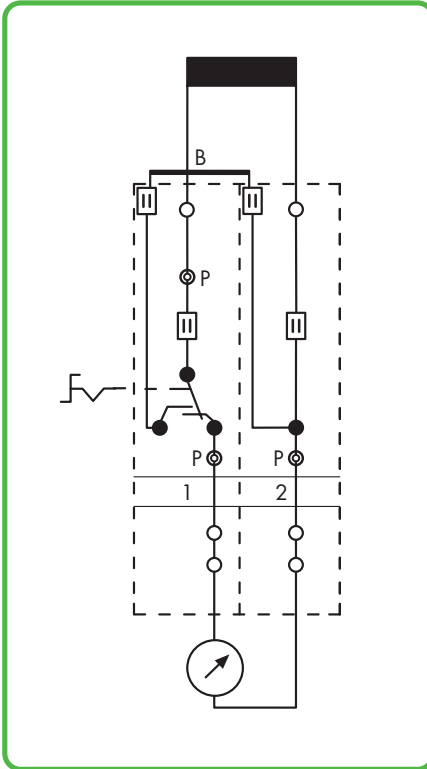
Additional commoning possible with adjacent jumper or testing option via 209-170 test plug adapter on transformer side.

## Lock-out seal



A lock-out seal can be used on the disconnect link in notched position "1".

## Measuring set for a single-phase current transformer

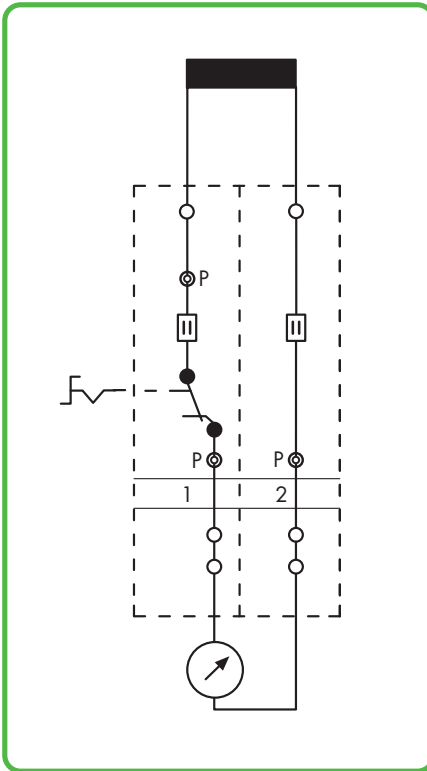


(without measurement testing)



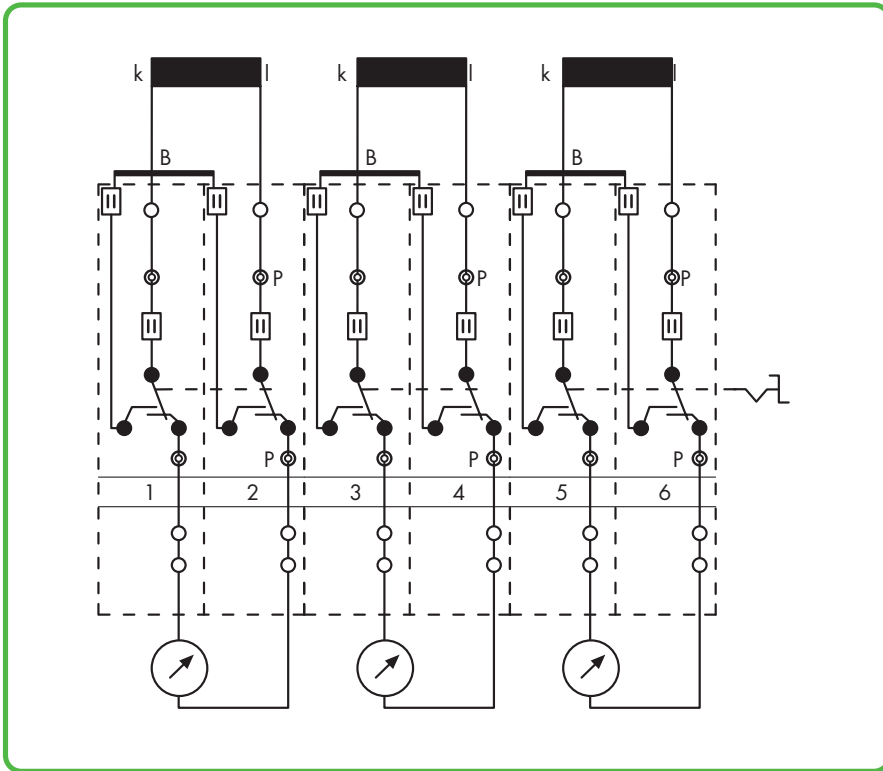
Terminal blocks required:  
 1 x disconnect/test terminal block 282-870  
 1 x through terminal block 282-865  
 1 x jumper, orange 282-424  
 1 x end plate, orange 282-386  
 in addition locking cover, lock-out

## Measuring set for a single-phase voltage transformer



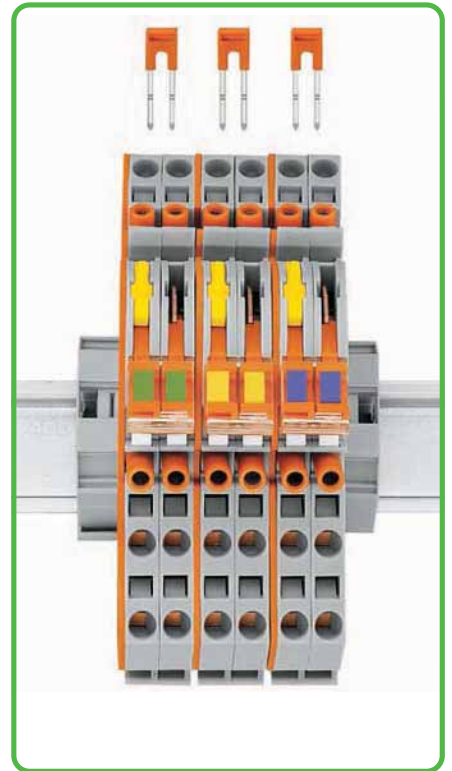
Terminal blocks required:  
 1 x disconnect/test terminal block 282-860  
 1 x through terminal block 282-866  
 1 x jumper, orange 282-424  
 1 x end plate, orange 282-386  
 in addition locking cover, lock-out

Measuring set for a 3-phase current transformer



Pairs of disconnect links are interlocked by locking covers.  
After the interlocking has been released, testing of the measured value is also possible.

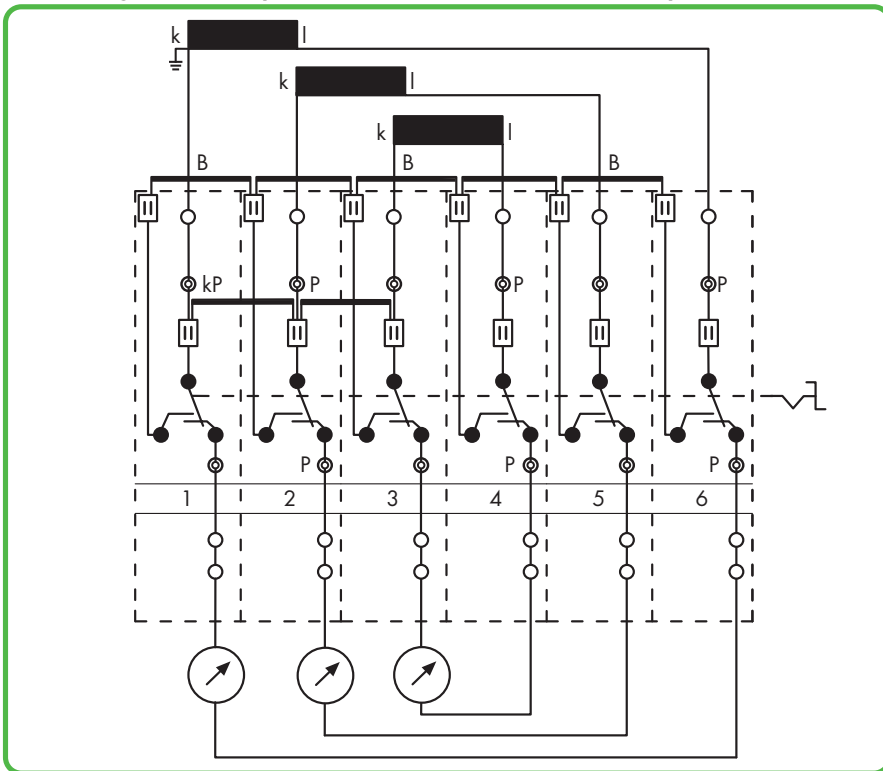
B = shorting jumper, P = test socket



Terminal blocks required:  
6 x disconnect/test terminal block 282-870  
3 x jumper, orange 282-424  
3 x end plate, orange 282-386  
in addition locking links, locking covers, lock-outs

3

Measuring set for a 3-phase current transformer with 'Y' point



All 6 disconnect links are interlocked by the interlocking link.

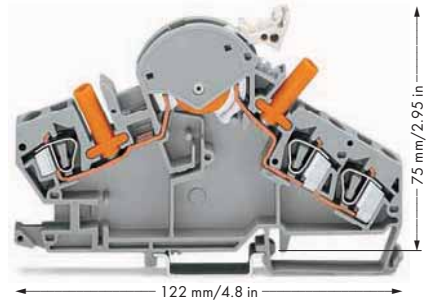
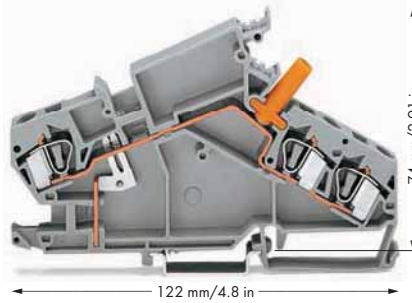
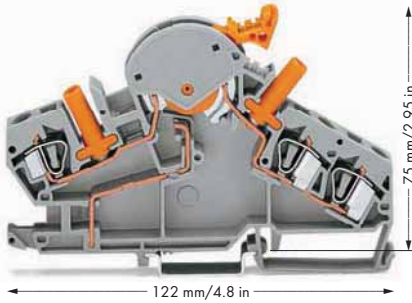
kP = 'Y' point jumpers


















Terminal blocks required:  
6 x disconnect/test terminal block 282-870  
5 x jumper, orange 282-424  
2 x jumper, gray 282-402  
1 x end plate, orange 282-386  
in addition locking links, locking covers, lock-outs

# Disconnect Terminal Blocks for Test and Measurement, 6 mm<sup>2</sup>/30 A, Through Terminal Blocks for Current and Voltage Transformer Circuits 282 Series

<p>0.2 - 6 mm<sup>2</sup> 500 V/6 kV/3 ① I<sub>N</sub> 30 A</p> <p>AWG 24 - 10 600 V, 30 A ② 300 V, 5 A ③</p> <p>Terminal block width 8 mm / 0.315 in 12 - 13 mm / 0.49 in ②</p>	<p>0.2 - 6 mm<sup>2</sup> 500 V/6 kV/3 ① I<sub>N</sub> 30 A</p> <p>AWG 24 - 10 600 V, 30 A ② 300 V, 5 A ③</p> <p>Terminal block width 8 mm / 0.315 in 12 - 13 mm / 0.49 in ②</p>	<p>0.2 - 6 mm<sup>2</sup> 500 V/6 kV/3 ① I<sub>N</sub> 30 A</p> <p>AWG 24 - 10 600 V, 30 A ② 300 V, 5 A ③</p> <p>Terminal block width 8 mm / 0.315 in 12 - 13 mm / 0.49 in ②</p>
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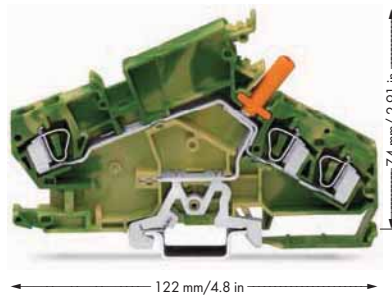
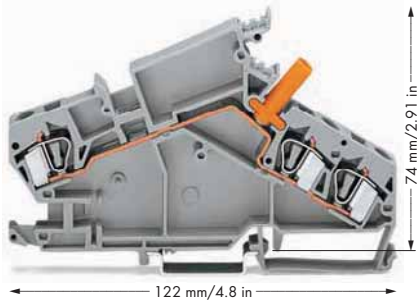


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<p><b>Disconnect terminal block for test and measurement</b>, e.g., current transformer circuits, with touch-proof test sockets, orange disconnect link</p> <p>○ gray <b>282-870</b> ③ ④ 20</p>		<p><b>Through terminal block</b>, e.g., current transformer circuits, with touch-proof test socket</p> <p>○ gray <b>282-865</b> ④ 20</p>		<p><b>Disconnect terminal block for test and measurement</b>, e.g., voltage transformer circuits, with touch-proof test sockets, light gray disconnect link</p> <p>○ gray <b>282-860</b> ③ ④ 20</p>	
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<p><b>End and separator plate</b>, 1.5 mm thick, without use of lock-out seal</p> <p> orange <b>282-386</b> 50 (5x10)</p> <p>gray <b>282-391</b> 50 (5x10)</p>		<p><b>End and separator plate</b>, 1.5 mm thick</p> <p> orange <b>282-385</b> 50 (5x10)</p> <p>gray <b>282-390</b> 50 (5x10)</p>		<p><b>End and separator plate</b>, 1.5 mm thick, without use of lock-out seal</p> <p> orange <b>282-386</b> 50 (5x10)</p> <p>gray <b>282-391</b> 50 (5x10)</p>	
<p><b>End and separator plate</b>, 1.5 mm thick, for use of lock-out seal</p> <p> orange <b>282-387</b> 50 (5x10)</p> <p>gray <b>282-392</b> 50 (5x10)</p>		<p><b>WMB Multi marking system</b>, 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm, yellow</p> <p> k/1 (50x) <b>794-5553/000-002</b> 5</p>		<p><b>End and separator plate</b>, 1.5 mm thick, for use of lock-out seal</p> <p> orange <b>282-387</b> 50 (5x10)</p> <p>gray <b>282-392</b> 50 (5x10)</p>	
<p><b>Lock-out</b>, for disconnect link</p> <p> yellow <b>282-384</b> 100 (5x20)</p>				<p><b>Lock-out</b>, for disconnect link</p> <p> yellow <b>282-384</b> 100 (5x20)</p>	
<p><b>Locking cover</b>, transparent, mechanically locks multiple links</p> <p> 1-pole <b>282-881</b> 50 (5x10)</p> <p>2-pole <b>282-882</b> 50 (5x10)</p> <p>3-pole <b>282-883</b> 50 (5x10)</p> <p>4-pole <b>282-884</b> 50 (5x10)</p> <p>5-pole <b>282-885</b> 50 (5x10)</p> <p>6-pole <b>282-886</b> 50 (5x10)</p> <p>7-pole <b>282-887</b> 50 (5x10)</p> <p>8-pole <b>282-888</b> 50 (5x10)</p>				<p><b>Locking cover</b>, transparent, mechanically locks multiple links</p> <p> 1-pole <b>282-881</b> 50 (5x10)</p> <p>2-pole <b>282-882</b> 50 (5x10)</p> <p>3-pole <b>282-883</b> 50 (5x10)</p> <p>4-pole <b>282-884</b> 50 (5x10)</p> <p>5-pole <b>282-885</b> 50 (5x10)</p> <p>6-pole <b>282-886</b> 50 (5x10)</p> <p>7-pole <b>282-887</b> 50 (5x10)</p> <p>8-pole <b>282-888</b> 50 (5x10)</p>	
<p><b>Interlocking link</b>, mechanically locks multiple links, 1 m/3'3" long, transparent</p> <p> <b>210-254</b> 1</p>				<p><b>Interlocking link</b>, mechanically locks multiple links, 1 m/3'3" long, transparent</p> <p> <b>210-254</b> 1</p>	
<p><b>Adjacent jumper</b>, insulated, I<sub>N</sub> 41 A</p> <p> orange <b>282-424</b> 100 (4x25)</p>				<p><b>WMB Multi marking system</b>, 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm, blue</p> <p> U/V (50x) <b>794-5554/000-006</b> 5</p>	
<p><b>WMB Multi marking system</b>, 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm, yellow</p> <p> k/1 (50x) <b>794-5553/000-002</b> 5</p>					

For list of approvals and user guide, see pages 634 to 637.



0.2 - 6 mm <sup>2</sup> 500 V/6 kV/3 <sup>①</sup> I <sub>N</sub> 30 A	AWG 24 - 10 600 V, 30 A <sup>②</sup> 300 V, 5 A <sup>③</sup>	0.2 - 6 mm <sup>2</sup>   AWG 24 - 10	
Terminal block width 8 mm / 0.315 in 12 - 13 mm / 0.49 in <sup>②</sup>		Terminal block width 8 mm / 0.315 in 12 - 13 mm / 0.49 in <sup>②</sup>	



- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Max. height when rotating the disconnect link (incl. locking cover): 92 mm/3.62 in
- ④ For operating stickers, please refer to our online catalog:  
for 282-870: Item No. 210-412  
for 282-865: Item No. 210-415  
for 282-860: Item No. 210-414  
for 282-866: Item No. 210-413

Item No.	Pack. Unit	Item No.	Pack. Unit	282 Series Accessories
Through terminal block, e.g., voltage transformer circuits, with touch-proof test socket		Ground terminal block, e.g., voltage transformer circuits, with touch-proof test socket		Appropriate marking systems (see Section 13)
○ gray	282-866 ④ 20	● green-yellow	282-868 ④ 20	Adjacent jumper, insulated, I <sub>N</sub> 41 A gray 282-402 100 (4x25)
Item-Specific Accessories		Item-Specific Accessories		Alternate jumper, insulated, I <sub>N</sub> 41 A gray 282-409 100 (4x25)
End and separator plate, 1.5 mm thick		End and separator plate, 1.5 mm thick		Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks yellow 282-415 100 (4x25)
orange	282-385 50 (5x10)	orange	282-385 50 (5x10)	Wire commoning chain, 4 connections, 3 x 110 mm, insulated, I <sub>N</sub> 24 A black 709-110 1
gray	282-390 50 (5x10)	gray	282-390 50 (5x10)	Wire commoning chain, 3 connections, 2 x 120 mm, insulated, I <sub>N</sub> 24 A black 709-111 1
WMB Multi marking system, 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm, blue U/V (50x) 794-5554/000-006 5				Wire commoning chain, 3 connections, 2 x 170 mm, insulated, I <sub>N</sub> 24 A black 709-112 1
				Group marker carrier, e.g., for 282 Series transformer terminal blocks, angled gray 209-144 50 (2x25)
				WMB Multi marking system, 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm plain 793-501 5
				WMB Multi marking system, plain, 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm yellow 793-501/000-002 red 793-501/000-005 blue 793-501/000-006 gray 793-501/000-007 orange 793-501/000-012 light green 793-501/000-017 green 793-501/000-023 violet 793-501/000-024 5

# Transverse Switching Terminal Blocks and Longitudinal Switching Disconnect Terminal Blocks, 282 Series – Description and Handling –

## Commoning



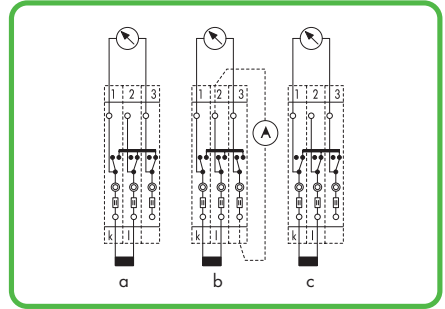
Transverse switching terminal blocks  
Left: Adjacent jumper for commoning of switch lever  
Right: Commoning with orange jumper

## Switch positions



Left: closed  
Right: open

## Current transformer circuit

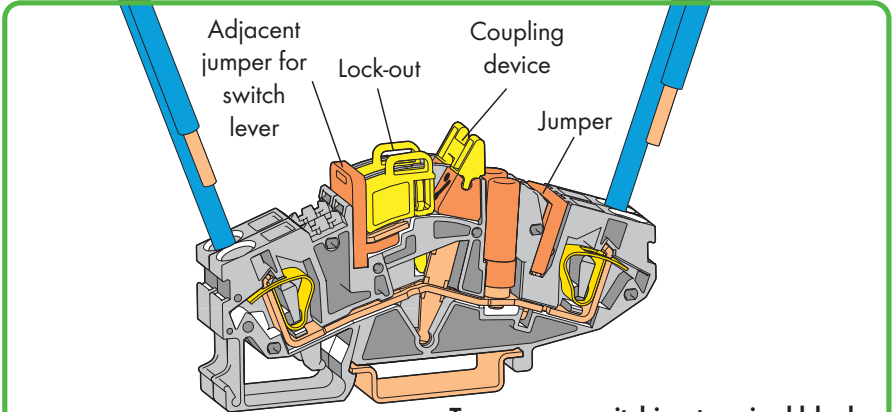


via transverse switching terminal blocks  
a = Normal operation b = Measurement testing  
c = Transformer short-circuit

## Testing



Testing with touch-proof test sockets 4 mm Ø.  
(not offered by WAGO)  
e.g., mfd by Multi-Contact Deutschland GmbH

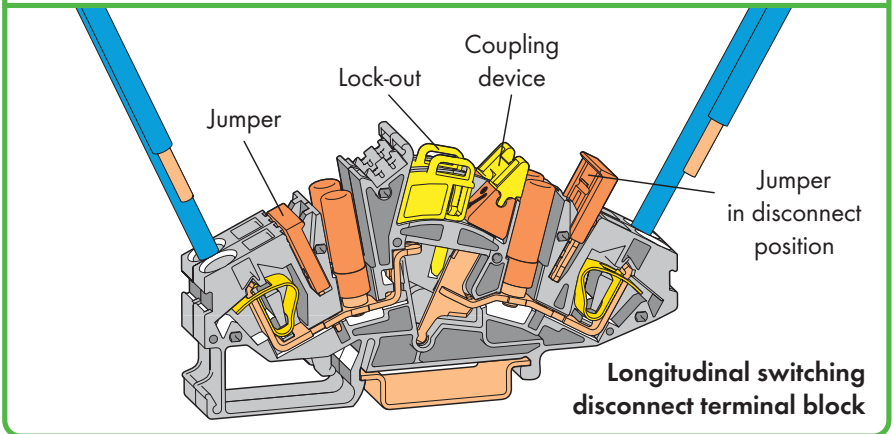


Transverse switching terminal block

## CAGE CLAMP® connection



Conductor termination



Longitudinal switching disconnect terminal block

## Lock-out



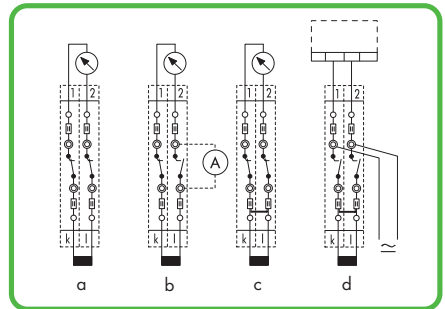
Inserting lock-out.

## Commoning



Longitudinal switching disconnect terminal blocks

## Current transformer circuit



via longitudinal switching disconnect terminal blocks  
a = Normal operation b = Measurement testing  
c = Transformer short-circuit d = Relay test

## CAGE CLAMP® clamps the following copper conductors:\*

- solid
- stranded

- fine-stranded, also with tinned single strands

- fine-stranded, tip-bonded

- fine-stranded, with ferrule ❶ (gastight crimped)

- fine-stranded, with pin terminal (gastight crimped)

\* For aluminum conductors, see notes in Section 14.

❶ When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

# Jumpers with Safety Lid for Longitudinal Switching Disconnect Terminal Blocks Series 282



Jumper with safety lid  
- Jumper in pre-latching position



Jumper with safety lid  
Longitudinal switching disconnect terminal blocks with  
inserted jumper, including safety lid

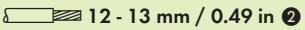
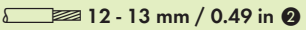
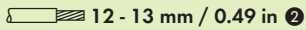


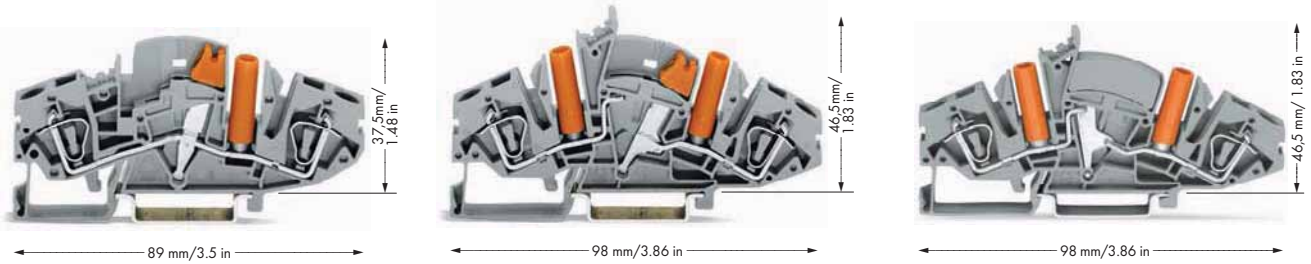
Jumper with safety lid  
- Jumper with raised safety lid






Jumper with safety lid  
- Removing jumper via safety lid

# Transverse Switching Terminal Blocks and Longitudinal Switching Disconnect Terminal Blocks 6 mm<sup>2</sup>, e.g., Current Transformer Circuits, 282 Series

<b>0.2 - 6 mm<sup>2</sup></b> 500 V/6 kV/3 ① I <sub>N</sub> 30 A Terminal block width 8 mm / 0.315 in  12 - 13 mm / 0.49 in ②	<b>AWG 24 - 10</b> 600 V, 30 A ① 300 V, 36 A ②	<b>0.2 - 6 mm<sup>2</sup></b> 500 V/6 kV/3 ① I <sub>N</sub> 30 A Terminal block width 8 mm / 0.315 in  12 - 13 mm / 0.49 in ②	<b>AWG 24 - 10</b> 600 V, 30 A ① 300 V, 36 A ②	<b>0.2 - 6 mm<sup>2</sup></b> 500 V/6 kV/3 ① I <sub>N</sub> 30 A Terminal block width 8 mm / 0.315 in  12 - 13 mm / 0.49 in ②	<b>AWG 24 - 10</b> 600 V, 30 A ① 300 V, 36 A ②
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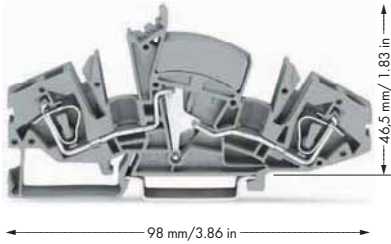
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor transverse switching terminal block,</b> with touch-proof test socket, for test plug 4 mm Ø ● gray <b>282-811</b> ④ 20		<b>2-conductor longitudinal switching disconnect terminal block,</b> with touch-proof test sockets, for test plug 4 mm Ø ● gray <b>282-821</b> ④ 20		<b>2-conductor through terminal block,</b> with touch-proof test sockets, for test plug 4 mm Ø ● gray <b>282-841</b> 20	
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and separator plate,</b> 1.5 mm thick  orange <b>282-366</b> 50 (5x10) gray <b>282-361</b> 50 (5x10)		<b>End and separator plate,</b> 1.5 mm thick  orange <b>282-365</b> 50 (5x10) gray <b>282-360</b> 50 (5x10)		<b>End and separator plate,</b> 1.5 mm thick  orange <b>282-365</b> 50 (5x10) gray <b>282-360</b> 50 (5x10)	
<b>Adjacent jumper for switch lever, insulated, orange,</b> I <sub>N</sub> 30 A 2-way <b>282-442</b> 50 (5x10) 3-way <b>282-443</b> 50 (5x10) 4-way <b>282-444</b> 50 (5x10) 5-way <b>282-445</b> 50 (5x10) 6-way <b>282-446</b> 50 (5x10)					

**Accessories**

Appropriate marking systems: WMB/Miniature WSB  
(see Section 13)






<b>Lock-out,</b> for disconnect link yellow <b>282-370</b> 100 (4x25)	<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>282-415</b> 100 (4x25)	<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm plain <b>793-501</b> 5
<b>Coupling device,</b> mechanically locks multiple links, yellow 2-way <b>282-372</b> 50 (5x10) 3-way <b>282-373</b> 50 (5x10) 4-way <b>282-374</b> 50 (5x10)	<b>Jumper, special design,</b> I <sub>N</sub> 30 A, orange 1-3-5 <b>282-435/011-000</b> 1-3-5-7 <b>282-437/011-000</b> 50 (5x10)	<b>WMB Multi marking system, plain,</b> 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm yellow <b>793-501/000-002</b> red <b>793-501/000-005</b> blue <b>793-501/000-006</b> gray <b>793-501/000-007</b> orange <b>793-501/000-012</b> light green <b>793-501/000-017</b> green <b>793-501/000-023</b> violet <b>793-501/000-024</b> 5
<b>Jumper, insulated,</b> I <sub>N</sub> 30 A, orange 2-way <b>282-432</b> 50 (5x10) 3-way <b>282-433</b> 50 (5x10) 4-way <b>282-434</b> 50 (5x10) 5-way <b>282-435</b> 50 (5x10) 6-way <b>282-436</b> 50 (5x10) 7-way <b>282-437</b> 50 (5x10) 8-way <b>282-438</b> 50 (5x10) 9-way <b>282-439</b> 50 (5x10) 10-way <b>282-440</b> 50 (5x10)	<b>Jumper with safety lid, insulated,</b> I <sub>N</sub> 30 A, orange 2-way <b>282-432/100-000</b> 3-way <b>282-433/100-000</b> 4-way <b>282-434/100-000</b> 50 (5x10)	
	<b>Collective carrier for jumpers,</b> for jumpers for transverse switching terminal block (282-811) and longitudinal switching disconnect terminal block (282-821) gray <b>282-369</b> 25	

0.2 - 6 mm<sup>2</sup> | AWG 24 - 10  
 500 V/6 kV/3 ①  
 I<sub>N</sub> 30 A  
 Terminal block width 8 mm / 0.315 in  
 12 - 13 mm / 0.49 in ②



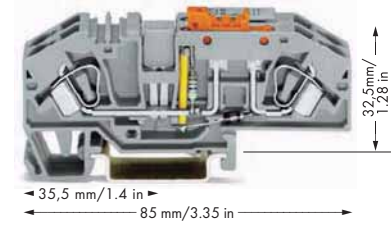
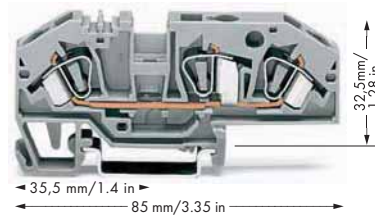
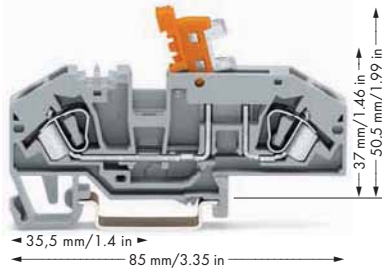
- ① 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Max. height when rotating the disconnect link (incl. locking cover): 45 mm/1.77 in  
 For operating stickers, please refer to our online catalog:  
 for 282-811: Item No. 210-424  
 for 282-821: Item No. 210-423



Item No.	Pack. Unit
<b>2-conductor through terminal block, without test sockets</b>	
● gray 282-841/049-000	20
<b>Item-Specific Accessories</b>	
<b>End and separator plate, 1.5 mm thick</b>	
 orange 282-365	50 (5x10)
gray 282-360	50 (5x10)
<b>WMB Multi marking system, 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm, yellow</b>	
 k/1 (50x) 794-5553/000-002	5
<b>WMB Multi marking system, 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm, blue</b>	
 U/V (50x) 794-5554/000-006	5
<b>Screwless end stop, for DIN 35 rail, 6 mm wide</b>	
 gray 249-116	100 (4x25)
<b>Screwless end stop, for DIN 35 rail, 10 mm wide</b>	
 gray 249-117	50 (2x25)

## Disconnect and Ground Conductor Disconnect Terminal Blocks 6 mm<sup>2</sup>/30 A and Through Terminal Blocks of Same Profile 282 Series

0.2 - 6 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 30 A	AWG 24 - 10 600 V, 30 A ① 300 V, 36 A ②	0.2 - 6 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 41 A	AWG 24 - 10 600 V, 30 A ① 600 V, 40 A ②	0.2 - 6 mm <sup>2</sup>   AWG 24 - 10
Terminal block width 8 mm / 0.315 in 12 - 13 mm / 0.49 in ②		Terminal block width 8 mm / 0.315 in 12 - 13 mm / 0.49 in ②		Terminal block width 16 mm / 0.63 in 12 - 13 mm / 0.49 in ②



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor disconnect terminal block, with test point, orange disconnect link</b>		<b>3-conductor through terminal block, with test point, same profile as disconnect terminal blocks</b>		<b>Ground conductor disconnect terminal block, with test point, orange disconnect link, gray</b>	
● gray	<b>282-697</b> 25	● gray	<b>282-699</b> 25	● 24 V	<b>282-640</b> 12
● blue	<b>282-695</b> 25	● blue	<b>282-694</b> 25	● 48 V	<b>282-641</b> 12
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>	
Through	<b>282-699</b> Page 220	Disconnect	<b>282-697</b> Page 220	Through	<b>282-699</b> Page 220
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>			
<b>Adjacent jumper, insulated, I<sub>N</sub> 41 A</b>		<b>Adjacent jumper, insulated, I<sub>N</sub> 41 A</b>			
● gray	<b>282-402</b> 100 (4x25)	● gray	<b>282-402</b> 100 (4x25)		
<b>Alternate jumper, insulated, I<sub>N</sub> 41 A</b>		<b>Alternate jumper, insulated, I<sub>N</sub> 41 A</b>			
● gray	<b>282-409</b> 100 (4x25)	● gray	<b>282-409</b> 100 (4x25)		
<b>Test plug adapter, 8.3 mm wide, for terminal blocks 1.5 - 10 mm<sup>2</sup>, for test plug 4 mm Ø</b>		<b>Test plug adapter, 8.3 mm wide, for terminal blocks 1.5 - 10 mm<sup>2</sup>, for test plug 4 mm Ø</b>			
● gray	<b>209-170</b> 50 (2x25)	● gray	<b>209-170</b> 50 (2x25)		

### Accessories

Appropriate marking system: WMB  
(see Section 13)

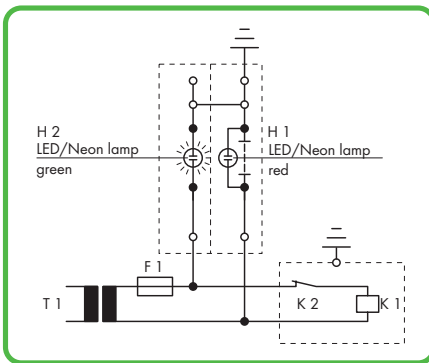
<b>End plate, 2 mm thick</b>		
● orange	<b>282-333</b> 100 (4x25)	
● gray	<b>282-334</b> 100 (4x25)	
<b>Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks</b>		
● yellow	<b>282-405</b> 100 (4x25)	
<b>Screwless end stop, for DIN 35 rail, 6 mm wide</b>		
● gray	<b>249-116</b> 100 (4x25)	
<b>Screwless end stop, for DIN 35 rail, 10 mm wide</b>		
● gray	<b>249-117</b> 50 (2x25)	

# Disconnect and Ground Conductor Disconnect Terminal Blocks

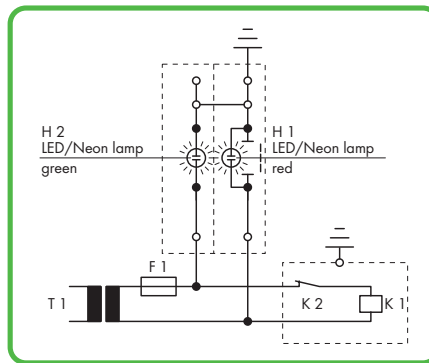


Ground conductor disconnect terminal block – top view

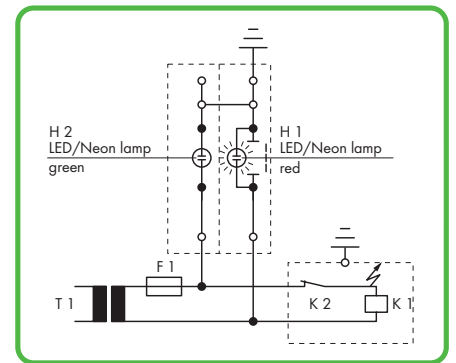
- ❶ 400 V/800 V = rated voltage  
6 kV/8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ❷ Strip length, see packaging or instructions.



**Operating condition**  
Slide link closed, auxiliary circuit grounded,  
green lamp illuminates.



**Test condition – no grounding**  
Slide link open, auxiliary circuit not grounded.



**Test condition – grounding**  
Slide link open, auxiliary circuit not grounded,  
red lamp illuminates.



Testing via conductor entry.



Testing via or jumper contact position in current bar.



Supply via disconnect. All-pole disconnection of the commoned fuse terminal blocks.

IEC 60204/DIN VDE 0113 “Electrical equipment of industrial machines, part 1: General requirements” 9.4.3.1:

Ground faults on control circuits shall not cause unintentional starting, hazardous movements, or prevent stopping of the machine.

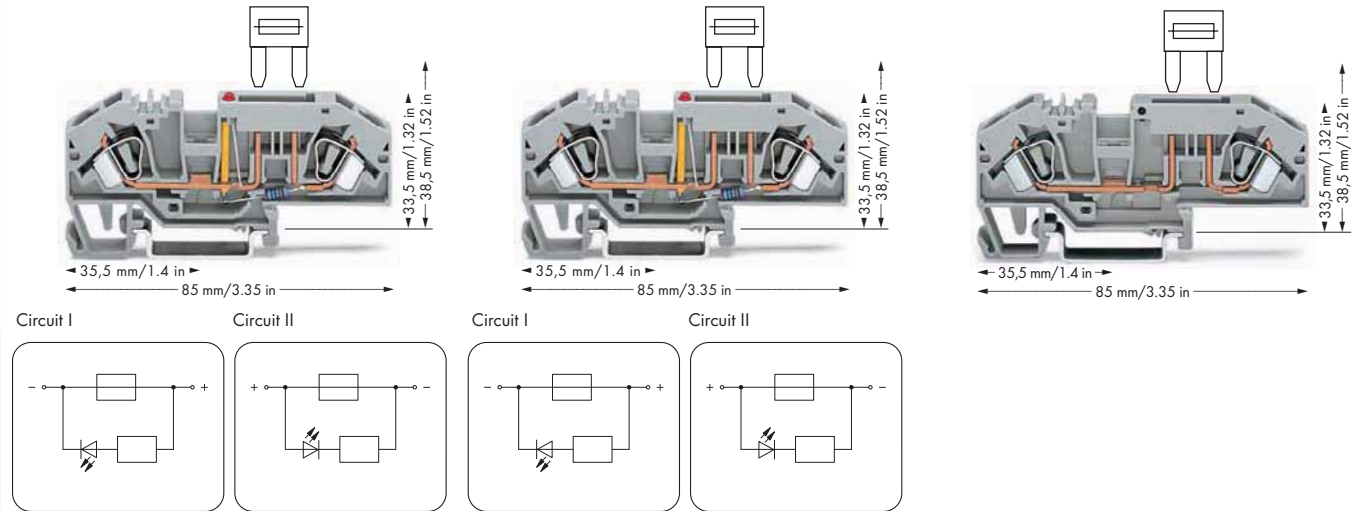
In order to fulfill this requirement, bonding to the protective bonding circuit shall be provided in accordance with 8.2 and the devices shall be connected as described in 9.1.4. Control circuits fed from a transformer and not connected to the protective bonding circuit shall be provided with an insulation monitoring device (e.g., residual current device) which either indicates a ground fault or interrupts the circuit automatically after a ground fault.

In the case of electronic circuits, the connection of one side of the control circuit to the protective bonding circuit in accordance with 9.1.4 can prevent unintentional operation. When this does not help, or if due to other reasons electronic circuits cannot be connected to the protective bonding circuit, other measures shall be taken to achieve the same level of safety.

Where the control circuit is directly connected between the phase conductors of the supply or between a phase conductor and a neutral conductor, which is either not grounded or grounded through a high impedance, multipole control switches which interrupt all live conductors shall be used for start or stop of those machine functions, which can cause a hazardous condition or damage to the machine or to the work in progress, in the event of unintentional starting or failure to stop.

# Fuse Terminal Blocks for Mini-Automotive Blade-Style Fuses 6 mm<sup>2</sup> 282 Series

<p>0.2 - 6 mm<sup>2</sup> 400 V/6 kV/3 ① ② I<sub>N</sub> 25 A (30 A)</p> <p>AWG 24 - 10 12 V, 30 A  24 V, 12 A </p> <p>Terminal block width 8 mm / 0.315 in  12 - 13 mm / 0.49 in ③</p>	<p>0.2 - 6 mm<sup>2</sup> 400 V/6 kV/3 ① ② I<sub>N</sub> 25 A (30 A)</p> <p>AWG 24 - 10 24 V, 30 A  I<sub>N</sub> 25 A (30 A)</p> <p>Terminal block width 8 mm / 0.315 in  12 - 13 mm / 0.49 in ③</p>	<p>0.2 - 6 mm<sup>2</sup> 400 V/6 kV/3 ① ② I<sub>N</sub> 25 A (30 A)</p> <p>AWG 24 - 10 600 V, 30 A  24 V, 30 A </p> <p>Terminal block width 8 mm / 0.315 in  12 - 13 mm / 0.49 in ③</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<p><b>2-conductor fuse terminal block for mini-automotive blade-style fuses,</b> 12V, with test point, with blown fuse indication by LED, LED power consumption: 4.8mA, gray Nominal voltage and current are given by the LED or fuse. Blade-style fuses, please note touchproof protection for 42V and higher.</p> <p>● Circuit I      <b>282-698/281-429</b>    25 ● Circuit II     <b>282-698/281-449</b>    25</p>		<p><b>2-conductor fuse terminal block for mini-automotive blade-style fuses,</b> 24V, with test point, with blown fuse indication by LED, LED power consumption: 4.8mA, gray Nominal voltage and current are given by the LED or fuse. Blade-style fuses, please note touchproof protection for 42V and higher.</p> <p>● Circuit I      <b>282-698/281-413</b>    25 ● Circuit II     <b>282-698/281-434</b>    25</p>		<p><b>2-conductor fuse terminal block for mini-automotive blade-style fuses,</b> with test point, without blown fuse indication, Nominal voltage and current are given by the fuse. Blade-style fuses, please note touchproof protection for 42V and higher.</p> <p>● gray            <b>282-696</b>    25</p>	
<p><b>Other terminal blocks with the same profile:</b> Through            <b>282-699</b>            Page 220</p>		<p><b>Other terminal blocks with the same profile:</b> Through            <b>282-699</b>            Page 220</p>		<p><b>Other terminal blocks with the same profile:</b> Through            <b>282-699</b>            Page 220</p>	
<p><b>Blade-style fuses</b> (not offered by WAGO)</p>					
<p><b>Excess-current circuit-breaker, thermal</b> (not offered by WAGO) Recommended excess-current circuit-breakers from ETA</p>					

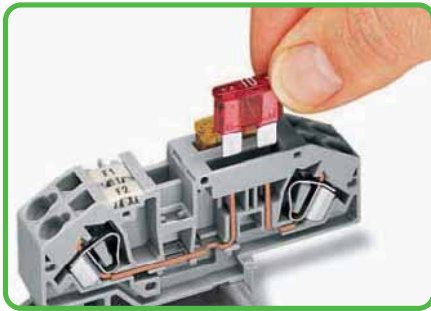
## Accessories for Fuse Terminal Blocks

Appropriate marking system: WMB  
(see Section 13)

<p><b>End plate, 2 mm thick</b></p> <p> orange      <b>282-333</b>    100 (4x25)  gray            <b>282-334</b>    100 (4x25)</p>	<p><b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide  gray            <b>249-116</b>    100 (4x25)</p>
<p><b>Adjacent jumper, insulated,</b> I<sub>N</sub> 41 A  gray            <b>282-402</b>    100 (4x25)</p>	<p><b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide  gray            <b>249-117</b>    50 (2x25)</p>
<p><b>Alternate jumper, insulated,</b> I<sub>N</sub> 41 A  gray            <b>282-409</b>    100 (4x25)</p>	
<p><b>Test plug adapter, 8.3 mm wide,</b> for terminal blocks 1.5 - 10 mm<sup>2</sup>, for test plug 4 mm Ø  gray            <b>209-170</b>    50 (2x25)</p>	

For list of approvals and user guide, see pages 634 to 637.





Inserting a fuse.

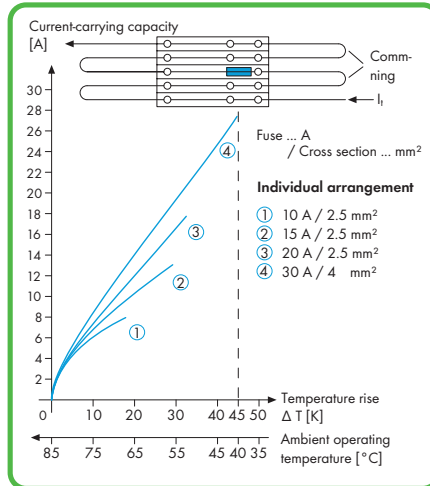


Diagram: Individual arrangement

- ① 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)

- ② Electrical ratings are given by the fuse  
(also see pages 234 – 235).

- ③ Strip length, see packaging or instructions.



Blown fuse indication by LED.

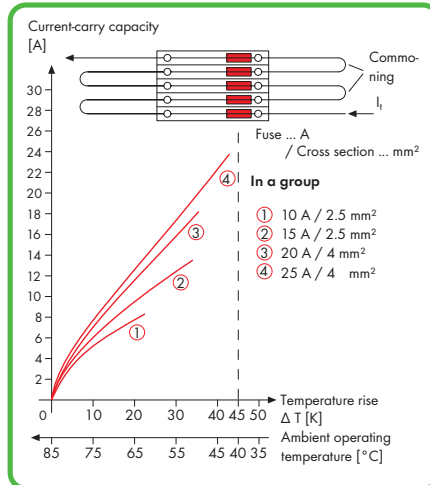
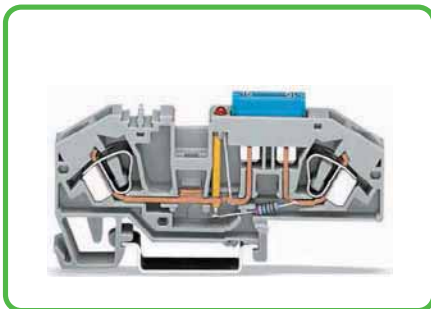


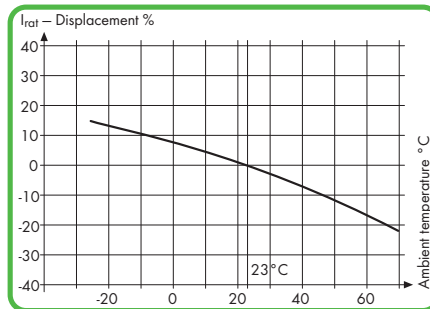
Diagram: Block arrangement

### Information from the mini-automotive blade-type fuse manufacturers

Derating $T_{amb} / ^\circ C$	%	$F_T$
- 25	14	0.877
- 20	13	0.885
- 15	12	0.893
- 10	11	0.901
- 5	10	0.909
0	9	0.917
5	8	0.926
10	6	0.943
15	4	0.962
20	2	0.980
23	0	1.000
30	- 2	1.020
35	- 4	1.042
40	- 6	1.064
45	- 8	1.087
50	- 10	1.111
55	- 13	1.149
60	- 16	1.190
65	- 19	1.235
70	- 22	1.282



2-conductor fuse terminal block with mini-automotive blade-style fuse.



The rated currents of the fuse cartridges are defined differently in international standards.

Due to the different current rating definitions, the recommended current-carrying permanent capacity of the fuses is max. 80% of their rated current according to DIN 72581 part 3 (for an ambient operating temperature of 23 °C).

Selecting the correct fuse cartridge is important for product safety within applications, as well as for fuse cartridge service life and operational reliability of the fuse cartridges. Fuse cartridges can operate perfectly as protection (break-off point) if they are properly selected and are used in accordance with manufacturer specifications.

With regard to the product safety, it is in general necessary to test fuse cartridges under normal conditions and operational failures within your application.

# Fuse Disconnect Terminal Blocks with Pivoting Fuse Holder, for Miniature Metric Fuses, 281 Series

## Blown fuse indication

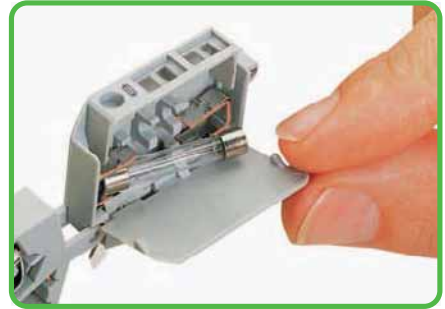


Blown fuse indication by LED or neon lamp.

## Fuse replacement

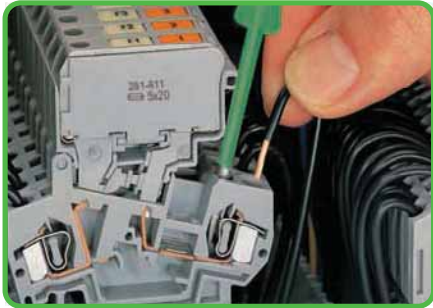


Before replacing the fuse, pivot the fuse holder in the locked open position.



One end of the fuse is automatically ejected from the holder when opening the cover.

## CAGE CLAMP® connection



Conductor termination

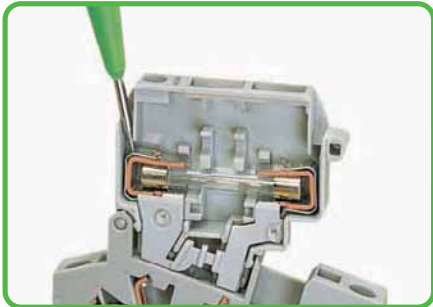
## Commoning



Distribution of current to several fuse-protected circuits via insulated touchproof jumpers.



## Testing



Voltage test, either at input or output with fuse holder in closed position (live).



Through test with fuse holder in open position (no voltage).



Voltage test at input in the test slot of the current bar.



CAGE CLAMP® clamps the following copper conductors:\*

solid



stranded



fine-stranded, also with tinned single strands

\* For aluminum conductors, see notes in Section 14.

## - Description and Handling -

### Fuse replacement (continued)



The fuse can be easily removed by hand.

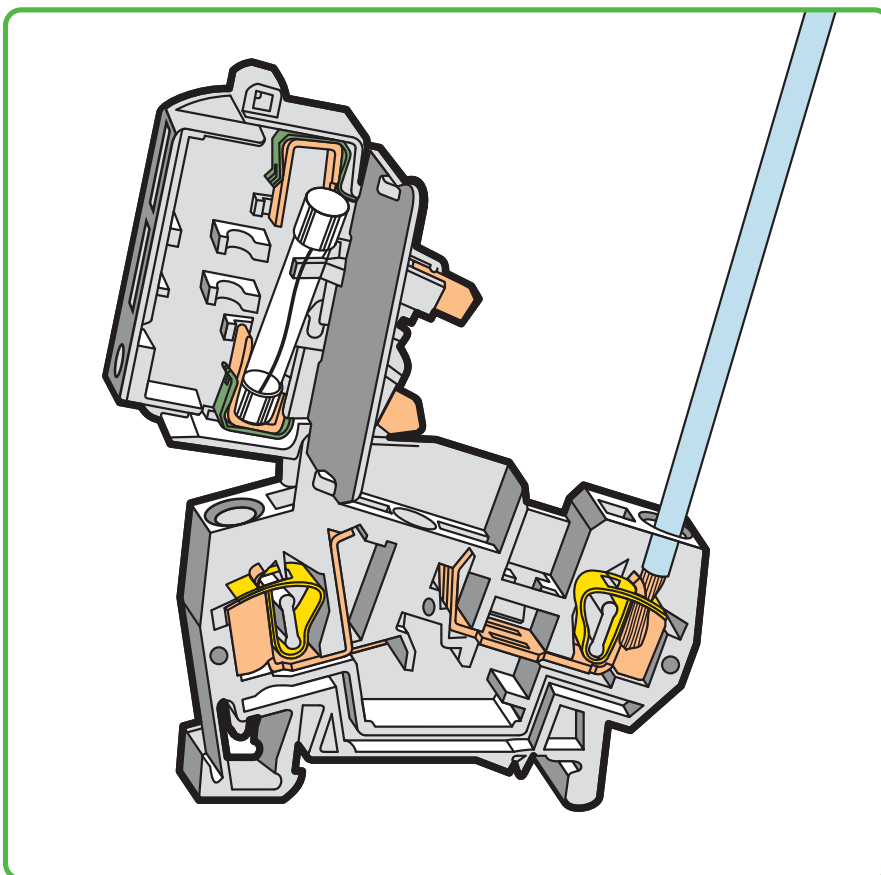


Insert new fuse snap the cover closed.

### Spare fuse



Storage of spare fuse (fuse holder without blown fuse indication).



### Touchproof protection



"Touchproof" protection in all positions of the fuse holder.

### Locked position



Fuse holder will remain safely locked open in vertical assemblies.

### Testing (continued)



Testing voltage at the output via separate test slot.



Current measuring between jumper slot and separate test slot.



Voltage testing at input via 280-404 test plug adapter (shown) or 281-407 test plug.



fine-stranded, tip-bonded



fine-stranded, with ferrule ① (gastight crimped)



fine-stranded, with pin terminal (gastight crimped)

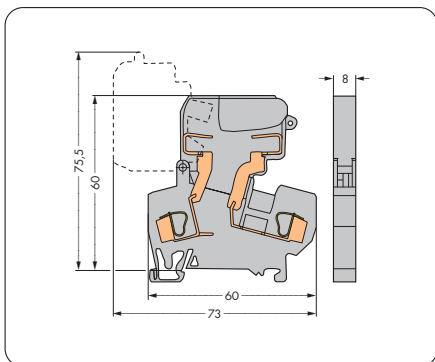
① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

# Fuse Disconnect Terminal Blocks with Pivoting Fuse Holder 4 mm<sup>2</sup> for Miniature Metric Fuses 5 x 20 mm, 5 x 25 mm and 5 x 30 mm 281 Series

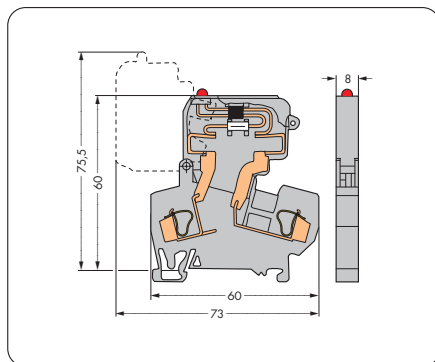
<p>0.08 - 4 mm<sup>2</sup> 800 V/8 kV/3 ① ② I<sub>N</sub> 10 A (6.3 A)</p> <p>Terminal block width 8 mm / 0.315 in 9 - 10 mm / 0.37 in ③</p>	<p>AWG 28 - 12 600 V, 10 A ④ 600 V, 10 A ⑤</p>	<p>0.08 - 4 mm<sup>2</sup> 800 V/8 kV/3 ① ② I<sub>N</sub> 10 A (6.3 A)</p> <p>Terminal block width 8 mm / 0.315 in 9 - 10 mm / 0.37 in ③</p>	<p>AWG 28 - 12 30 V, 10 A ④ 230 V, 10 A ⑤</p>	<p>0.08 - 4 mm<sup>2</sup> 800 V/8 kV/3 ① ② I<sub>N</sub> 10 A (6.3 A)</p> <p>Terminal block width 8 mm / 0.315 in 9 - 10 mm / 0.37 in ③</p>	<p>AWG 28 - 12 220 V, 10 A ④ 230 V, 10 A ⑤</p>
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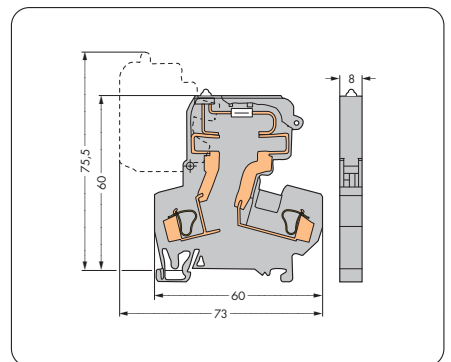
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 20 mm, without blown fuse indication, Nominal voltage and current are given by the fuse.		<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 20 mm, with blown fuse indication by LED, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 6mA		<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 20 mm, with blown fuse indication by neon lamp, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: Neon lamp < 0.4mA	
● gray	<b>281-611</b> 50	● 15 - 30 V	<b>281-611/281-541</b> 50	● 230 V	<b>281-611/281-417</b> 50
● orange	<b>281-616</b> 50	● 30 - 65 V	<b>281-611/281-542</b> 50	● 120 V	<b>281-611/281-418</b> 50
<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 25 mm, without blown fuse indication, Nominal voltage and current are given by the fuse.		<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 25 mm, with blown fuse indication by LED, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 6mA		<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 25 mm, with blown fuse indication by neon lamp, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: Neon lamp < 0.4mA	
● gray	<b>281-612</b> 50	● 15 - 30 V	<b>281-612/281-541</b> 50	● 230 V	<b>281-612/281-417</b> 50
		● 30 - 65 V	<b>281-612/281-542</b> 50	● 120 V	<b>281-612/281-418</b> 50
<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 30 mm, without blown fuse indication, Nominal voltage and current are given by the fuse.		<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 30 mm, with blown fuse indication by LED, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 6mA		<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature metric fuses 5 x 30 mm, with blown fuse indication by neon lamp, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: Neon lamp < 0.4mA	
● gray	<b>281-622</b> 50	● 15 - 30 V	<b>281-622/281-541</b> 50	● 230 V	<b>281-622/281-417</b> 50
		● 30 - 65 V	<b>281-622/281-542</b> 50	● 120 V	<b>281-622/281-418</b> 50
Miniature metric fuse on request		Miniature metric fuse on request		Miniature metric fuse on request	



Dimensions in mm

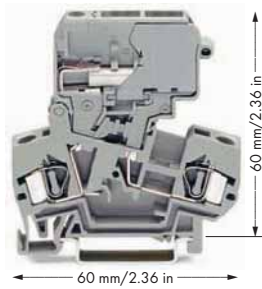


Dimensions in mm



Dimensions in mm

0.08 - 4 mm<sup>2</sup>  
 800 V/8 kV/3 ❶  
 I<sub>N</sub> 16 A  
 AWG 28 - 12  
 600 V, 16 A ❷  
 600 V, 10 A ❸  
 Terminal block width 8 mm / 0.315 in  
 ❸ 9 - 10 mm / 0.37 in



Fuse or fuse disconnect terminal blocks with a width of 8 mm/0.315 in can be assembled adjacently. At the end of an assembly, if there is **no** adjacent Fuse or fuse disconnect terminal block, an end or intermediate plate must be used.

❶ 800 V = rated voltage  
 8 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)

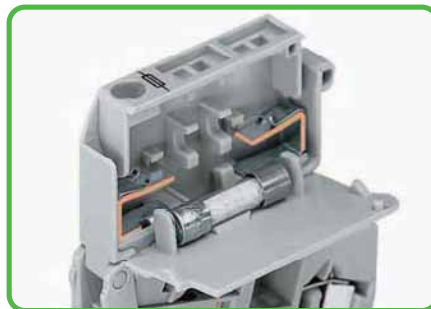
❷ Electrical ratings are given by the fuse  
 (also see pages 234 - 235).

❸ Strip length, see packaging or instructions.

Item No.	Pack. Unit
<b>Disconnect terminal block with movable disconnect slide link</b>	
gray	281-624 50
orange	281-672 50























Fuse holders are printed with correct fuse size.

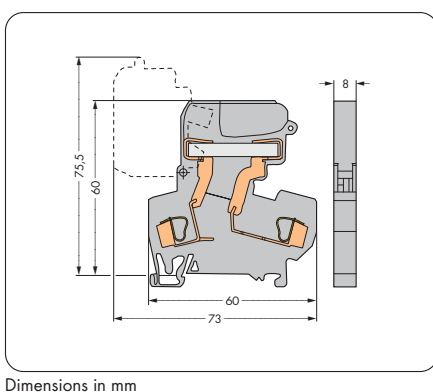


Types 5x20 mm, 5x25 mm and ¼"x1" are fitted with stops on the inside of the cover.

### 281 Series Accessories







Appropriate marking system:  
 WMB (see Section 13)

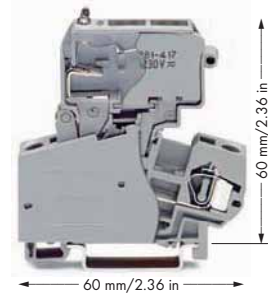
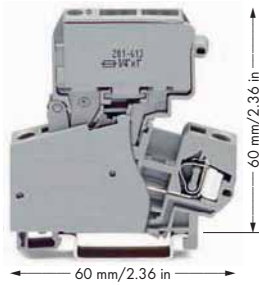
<b>End and intermediate plate, 2.5 mm thick</b>			
	orange	281-309	100 (4x25)
	gray	281-311	100 (4x25)
<b>Adjacent jumper, insulated,</b>			
	I <sub>N</sub> = I <sub>N</sub> terminal block		
	gray	281-402	200 (8x25)
<b>Collective carrier for adjacent jumpers</b>			
	gray	209-100	50 (2x25)
<b>Test plug adapter, 5 mm wide,</b>			
	for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø		
	gray	280-404	100 (4x25)
<b>Test plug,</b>			
	with 500 mm cable, 2.3 mm Ø		
	yellow	210-137	50
<b>Test plug adapter, 6 mm wide,</b>			
	with CAGE CLAMP®, for 0.08 - 2.5 mm <sup>2</sup>		
	I <sub>N</sub> 24 A	281-407	100 (4x25)
<b>Push-in type wire jumper,</b>			
	insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup>		
	L = 60 mm	249-125	10
	L = 110 mm	249-126	10
	L = 250 mm	249-127	10
<b>Interlocking link,</b>			
	mechanically locks multiple links, 1 m/3'3" long		
	transparent	210-254	1
<b>Screwless end stop,</b>			
	for DIN 35 rail, 6 mm wide		
	gray	249-116	100 (4x25)
<b>Screwless end stop,</b>			
	for DIN 35 rail, 10 mm wide		
	gray	249-117	50 (2x25)



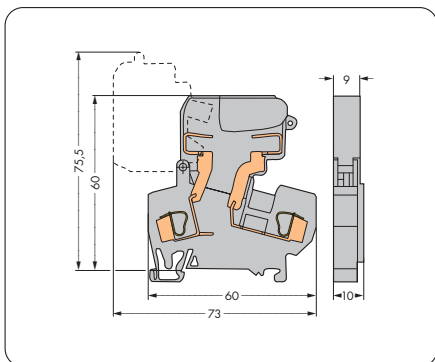
Dimensions in mm

# Fuse Disconnect Terminal Blocks with Pivoting Fuse Holder 4 mm<sup>2</sup> for Miniature Metric Fuses 1/4" x 1" mm and 1/4" x 1 1/4" mm 281 Series

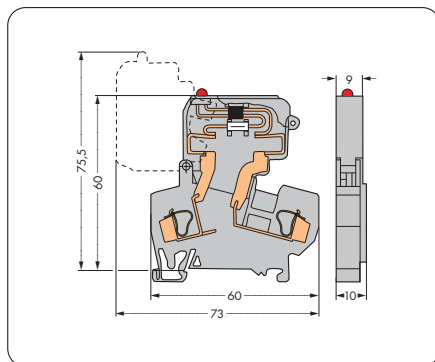
<p>0.08 - 4 mm<sup>2</sup> 800 V/8 kV/3 ① ② I<sub>N</sub> 10 A (6.3 A)</p> <p>Terminal block width 10 mm / 0.394 in 9 - 10 mm / 0.37 in ③</p>	<p>AWG 28 - 12 600 V, 10 A  600 V, 10 A </p>	<p>0.08 - 4 mm<sup>2</sup> 800 V/8 kV/3 ① ② I<sub>N</sub> 10 A (6.3 A)</p> <p>Terminal block width 10 mm / 0.394 in 9 - 10 mm / 0.37 in ③</p>	<p>AWG 28 - 12 30 V, 10 A  30 V, 10 A </p>	<p>0.08 - 4 mm<sup>2</sup> 800 V/8 kV/3 ① ② I<sub>N</sub> 10 A (6.3 A)</p> <p>Terminal block width 10 mm / 0.394 in 9 - 10 mm / 0.37 in ③</p>	<p>AWG 28 - 12 220 V, 10 A  100 V, 10 A </p>
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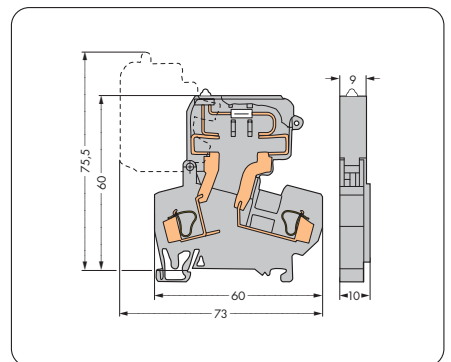
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature fuses 1/4" x 1", without blown fuse indication, Nominal voltage and current are given by the fuse.		<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature fuses 1/4" x 1", with blown fuse indication by LED, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 6mA		<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature fuses 1/4" x 1", with blown fuse indication by neon lamp, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: Neon lamp < 0.4mA	
● gray	281-613 50	● 15 - 30 V 281-613/281-541 50	● 30 - 65 V 281-613/281-542 50	● 230 V 281-613/281-417 50	● 120 V 281-613/281-418 50
<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature fuses 1/4" x 1 1/4", without blown fuse indication, Nominal voltage and current are given by the fuse.		<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature fuses 1/4" x 1 1/4", with blown fuse indication by LED, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: LED 6mA		<b>Fuse disconnect terminal block with pivoting fuse holder,</b> for miniature fuses 1/4" x 1 1/4", with blown fuse indication by neon lamp, gray Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: Neon lamp < 0.4mA	
● gray	281-623 50	● 15 - 30 V 281-623/281-541 50	● 30 - 65 V 281-623/281-542 50	● 230 V 281-623/281-417 50	● 120 V 281-623/281-418 50
Miniature metric fuse on request		Miniature metric fuse on request		Miniature metric fuse on request	



Dimensions in mm



Dimensions in mm



Dimensions in mm



A spacer is standard equipment for 10 mm/0.394 in wide fuse terminal blocks. At the end of an assembly, or if there is **no** adjacent fuse terminal block, an end or intermediate plate must be used.



Two marker slots each per fuse holder are available for individual WMB Multi marking. (example: 8 mm/0.315 in terminal blocks).













Ganging several fuse holders with a connecting strip (example: 8 mm/0.315 in terminal blocks).

- ❶ 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ❷ Electrical ratings are given by the fuse  
(also see pages 234 - 235).
- ❸ Strip length, see packaging or instructions.

### 281 Series Accessories

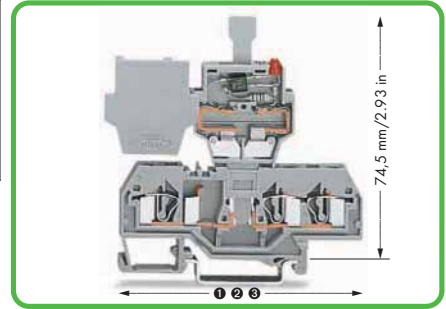
Appropriate marking system:  
WMB (see Section 13)

End and intermediate plate, 2.5 mm thick			
	orange	<b>281-309</b>	100 (4x25)
	gray	<b>281-311</b>	100 (4x25)
Adjacent jumper, insulated, $I_N = I_N$ terminal block			
	gray	<b>281-402</b>	200 (8x25)
Collective carrier for adjacent jumpers			
	gray	<b>209-100</b>	50 (2x25)
Test plug adapter, 5 mm wide, for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø			
	gray	<b>280-404</b>	100 (4x25)
Test plug, with 500 mm cable, 2.3 mm Ø			
	yellow	<b>210-137</b>	50
Test plug adapter, 6 mm wide, with CAGE CLAMP®, for 0.08 - 2.5 mm <sup>2</sup> $I_N$ 24 A			
		<b>281-407</b>	100 (4x25)
Push-in type wire jumper, insulated, $I_N$ 9 A, wire size 0.75 mm <sup>2</sup>			
	L = 60 mm	<b>249-125</b>	10
	L = 110 mm	<b>249-126</b>	10
	L = 250 mm	<b>249-127</b>	10
Interlocking link, mechanically locks multiple links, 1 m/3'3" long			
	transparent	<b>210-254</b>	1
Screwless end stop, for DIN 35 rail, 6 mm wide			
	gray	<b>249-116</b>	100 (4x25)
Screwless end stop, for DIN 35 rail, 10 mm wide			
	gray	<b>249-117</b>	50 (2x25)

# Fuse Plugs on Carrier Terminal Blocks 4 mm<sup>2</sup> 281 Series

**Fuse plug with pull-tab**  
for miniature metric fuses 5 x 20 mm and 5 x 25 mm  
250 V / I<sub>N</sub> 6.3 A ④  
Plug width 6 mm / 0.236 in

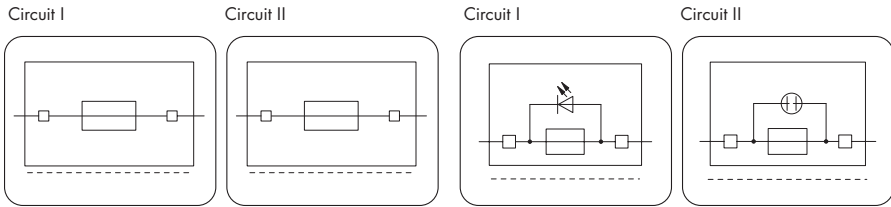
**Fuse plug with pull-tab**  
for miniature metric fuses 5 x 20 mm and 5 x 25 mm  
250 V / I<sub>N</sub> 6.3 A ④  
Plug width 6 mm / 0.236 in



Dimensions of carrier terminal blocks with fuse plug

- ① 59 mm / 2.32 in for 281-916
- ② 73.5 mm / 2.89 in for 281-610
- ③ 86 mm / 3.39 in for 281-656

For terminal blocks with side marking, see [www.wagocatalog.com](http://www.wagocatalog.com)



### Accessories

**4-conductor carrier terminal block,**  
③ 0.08 - 4 mm<sup>2</sup> / AWG 28 - 12,  
Terminal block width 6 mm / 0.236 in  
gray **281-656** 50

**End and intermediate plate, 2.5 mm thick**  
orange **281-335** 100 (4x25)  
gray **281-334** 100 (4x25)

**Comb-style jumper bar, insulated,**  
I<sub>N</sub> = I<sub>N</sub> terminal block  
2-way **281-482** 100 (4x25)  
3-way **281-483** 100 (4x25)  
5-way **281-485** 100 (4x25)  
10-way **281-490** 50 (2x25)

**Alternate comb-style jumper bar,**  
insulated,  
I<sub>N</sub> = I<sub>N</sub> terminal block  
2-way **281-492** 100 (4x25)

**Operating tool, of insulating material**  
2-way **280-432** 1  
3-way **280-433** 1  
5-way **281-440** 1

**WSB Quick marking system,**  
10 strips with 10 markers per card,  
WSB Markers 4 mm wide  
plain **209-701** 5

**WSB Quick marking system, plain,**  
10 strips with 10 markers per card,  
WSB Markers 4 mm wide  
yellow **209-701/000-002**  
red **209-701/000-005**  
blue **209-701/000-006**  
gray **209-701/000-007**  
orange **209-701/000-012**  
light green **209-701/000-017**  
green **209-701/000-023**  
violet **209-701/000-024**

**Shorting link, 5 x 20 mm,**  
if the fuse plug is used as disconnect plug  
I<sub>N</sub> 6.3 A **281-503** 250 (10x25)




Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Fuse plug with pull-tab,</b> for miniature metric fuses 5 x 20 mm and 5 x 25 mm, Nominal voltage and current are given by the fuse. 6 mm wide, gray		<b>Fuse plug with pull-tab,</b> for miniature metric fuses 5 x 20 mm and 5 x 25 mm, with LED indicator, 24 V AC/DC, Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: 5 - 20mA, 6 mm wide, gray	
○ Circuit I <b>281-511</b>	50	○ Circuit I <b>281-512/281-501</b>	50
<b>Fuse plug with pull-tab,</b> for miniature metric fuses 5 x 20 mm and 5 x 25 mm, with hole for one LED (for self-assembly), Nominal voltage and current are given by the LED or fuse. 6 mm wide, gray		<b>Fuse plug with pull-tab,</b> for miniature metric fuses 5 x 20 mm and 5 x 25 mm, with neon lamp 120 V AC/DC, Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: Neon lamp < 0.4mA, 6 mm wide, gray	
○ Circuit II <b>281-512</b>	50	○ Circuit II <b>281-512/281-418</b>	50
		<b>Fuse plug with pull-tab,</b> for miniature metric fuses 5 x 20 mm and 5 x 25 mm, with neon lamp 230 V AC/DC, Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: Neon lamp < 0.4mA, 6 mm wide, gray	
		○ Circuit II <b>281-512/281-417</b>	50

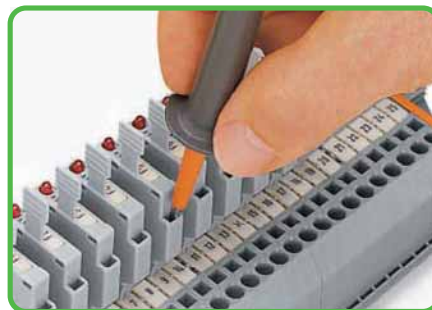
**Accessories**  
Appropriate marking system: 4 mm wide WSB for plug and WMB for terminal block

<b>2-conductor carrier terminal block,</b> ① 0.08 - 4 mm <sup>2</sup> / AWG 28 - 12, Terminal block width 6 mm / 0.236 in gray <b>281-916</b> 50	<b>3-conductor carrier terminal block,</b> ② 0.08 - 4 mm <sup>2</sup> / AWG 28 - 12, Terminal block width 6 mm / 0.236 in gray <b>281-610</b> 50
<b>End and intermediate plate, 2.5 mm thick</b> orange <b>281-329</b> 100 (4x25) gray <b>281-328</b> 100 (4x25)	<b>End and intermediate plate, 2.5 mm thick</b> orange <b>281-326</b> 100 (4x25) gray <b>281-324</b> 100 (4x25)
<b>Wire commoning chain, 50 connections,</b> insulated, I <sub>N</sub> 8 A black <b>210-103</b> 1	<b>Wire commoning chain, 50 connections,</b> insulated, I <sub>N</sub> 8 A blue <b>210-123</b> 1

For list of approvals and user guide, see pages 634 to 637.



Accessories			
<b>WSB Quick marking system,</b>			
	for fuse plug 281-5., WSB Markers 4 mm wide		
	F1, ..., F10 (10x)	<b>209-787</b>	5
	F11, ..., F20 (10x)	<b>209-700/209-124</b>	
	F21, ..., F30 (10x)	<b>209-700/209-125</b>	
	F31, ..., F40 (10x)	<b>209-700/209-126</b>	
	F41, ..., F50 (10x)	<b>209-700/209-127</b>	
			5
<b>WMB Multi marking system,</b>			
	10 strips with 10 markers per card, stretchable 5 - 5.2 mm		
	plain	<b>793-5501</b>	5
<b>WMB Multi marking system, plain,</b>			
	10 strips with 10 markers per card, stretchable 5 - 5.2 mm		
	yellow	<b>793-5501/000-002</b>	
	red	<b>793-5501/000-005</b>	
	blue	<b>793-5501/000-006</b>	
	gray	<b>793-5501/000-007</b>	
	orange	<b>793-5501/000-012</b>	
	light green	<b>793-5501/000-017</b>	
	green	<b>793-5501/000-023</b>	
	violet	<b>793-5501/000-024</b>	
			5



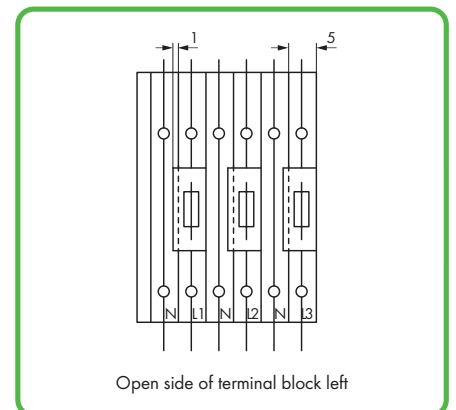
Using pluggable fuse holders with rail-mount terminal blocks for control circuit protection is highly advantageous for the user, as the function and the wiring are accomplished by two separate parts:

- No additional cost for assembly and wiring
- No risk of accidental contact with live parts during disconnection of fuse plug
- If exchanging a defective fuse, the fuse plug is completely separated from the carrier terminal block. This provides changeout away from current carrying parts.
- The fuse plug can be removed by service personnel, avoiding unintentional reclosing of the circuit by another person.
- Quickly exchange a fuse by using a prepared "stand-by plug."

The following fuse plug features provide quick and safe handling:

- Optional LED indicates blown fuse
- Markable fuse plug for clear coordination to the correct carrier terminal block
- Two touch-proof test slots
- High density with only 6 mm/0.236 in width of terminal block/fuse plug
- Instead of a fuse, a shorting link may be used as a disconnect plug.

4 Electrical ratings are given by the fuse or LED nominal voltage (also see pages 234 - 235).

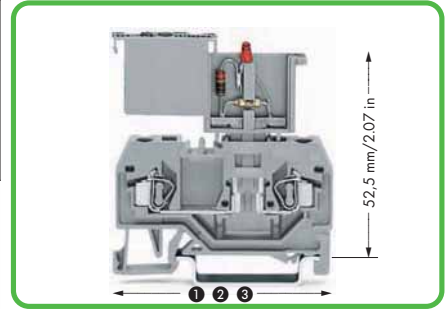


When corresponding Neutral-circuit is adjacent to a fuse plug, a 5 mm/0.197 in wide space saving terminal block may be used, as a 6 mm/0.236 in fuse plug may overlap the terminal block (see diagram below).  
For 5 mm/0.197 in wide carrier terminal blocks, see page 232 (can be used with end plate, for example).

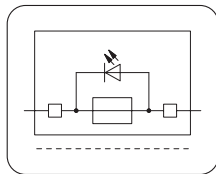
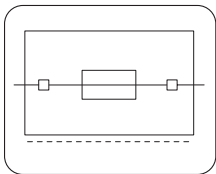
# Fuse Plugs on Carrier Terminal Blocks 2.5 mm<sup>2</sup> 280 Series

**Fuse plug**  
**5 mm wide**  
 125 V / I<sub>N</sub> 5 A ④  
 Plug width 5 mm / 0.197 in

**Fuse plug**  
**5 mm wide**  
 125 V / I<sub>N</sub> 5 A ④  
 Plug width 5 mm / 0.197 in



① 53 mm / 2.09 in for 280-916  
 ② 64 mm / 2.52 in for 280-610  
 ③ 75 mm / 2.95 in for 280-816  
 For terminal blocks with side marking, see www.wagocatalog.com



## Fuse Plug Accessories

**Wire comming chain**, 50 connections, insulated, I<sub>N</sub> 8 A  
 blue **210-123** 1

**WMB Multi marking system**, 10 strips with 10 markers per card, stretchable 5 - 5.2 mm  
 plain **793-5501** 5

**WMB Multi marking system**, plain, 10 strips with 10 markers per card, stretchable 5 - 5.2 mm  
 yellow **793-5501/000-002**  
 red **793-5501/000-005**  
 blue **793-5501/000-006**  
 gray **793-5501/000-007**  
 orange **793-5501/000-012**  
 light green **793-5501/000-017**  
 green **793-5501/000-023**  
 violet **793-5501/000-024** 5

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Fuse plug</b> , with soldered miniature fuse, Nominal voltage and current are given by the fuse. 5 mm wide		<b>Fuse plug</b> , with soldered miniature fuse, with indicator lamp, additional LED, 15 - 30 VDC. Nominal voltage and current are given by the LED or fuse. Leakage current in case of blown fuse: 5 - 20 mA	
● 250 mA FF <b>280-850</b>	100	● 250 mA FF <b>280-850/281-413</b>	100
● 500 mA FF <b>280-852</b>	100	● 500 mA FF <b>280-852/281-413</b>	100
● 1 A FF <b>280-854</b>	100	● 1 A FF <b>280-854/281-413</b>	100
● 2 A FF <b>280-856</b>	100	● 2 A FF <b>280-856/281-413</b>	100

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor carrier terminal block</b> , 0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 14, Terminal block width 5 mm / 0.197 in, gray <b>280-916</b> 100		<b>Comb-style jumper bar</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block, 2-way <b>280-482</b> 200 (8x25), 3-way <b>280-483</b> 200 (8x25)	
<b>End and intermediate plate</b> , 2.5 mm thick, orange <b>280-309</b> 100 (4x25), gray <b>280-308</b> 100 (4x25)		<b>Comb-style jumper bar</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block, 10-way <b>280-490</b> 50 (2x25)	
<b>3-conductor carrier terminal block</b> , 0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 14, Terminal block width 5 mm / 0.197 in, gray <b>280-610</b> 100		<b>Alternate comb-style jumper bar</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block, 2-way <b>280-492</b> 200 (8x25)	
<b>End and intermediate plate</b> , 2.5 mm thick, orange <b>280-326</b> 100 (4x25), gray <b>280-324</b> 100 (4x25)		<b>Operating tool</b> , of insulating material, 2-way <b>280-432</b> 1, 3-way <b>280-433</b> 1	
<b>4-conductor carrier terminal block</b> , 0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 14, Terminal block width 5 mm / 0.197 in, gray <b>280-816</b> 100		<b>Operating tool</b> , of insulating material, 10-way <b>280-440</b> 1	
<b>End and intermediate plate</b> , 2.5 mm thick, orange <b>280-315</b> 100 (4x25), gray <b>280-314</b> 100 (4x25)		<b>Wire comming chain</b> , 50 connections, insulated, I <sub>N</sub> 8 A, black <b>210-103</b> 1	

**Accessories for Carrier terminal blocks**  
 Appropriate marking system:  
 WMB (see Section 13)

<b>2-conductor carrier terminal block</b> , 0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 14, Terminal block width 5 mm / 0.197 in, gray <b>280-916</b> 100		<b>Comb-style jumper bar</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block, 2-way <b>280-482</b> 200 (8x25), 3-way <b>280-483</b> 200 (8x25)	
<b>End and intermediate plate</b> , 2.5 mm thick, orange <b>280-309</b> 100 (4x25), gray <b>280-308</b> 100 (4x25)		<b>Comb-style jumper bar</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block, 10-way <b>280-490</b> 50 (2x25)	
<b>3-conductor carrier terminal block</b> , 0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 14, Terminal block width 5 mm / 0.197 in, gray <b>280-610</b> 100		<b>Alternate comb-style jumper bar</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block, 2-way <b>280-492</b> 200 (8x25)	
<b>End and intermediate plate</b> , 2.5 mm thick, orange <b>280-326</b> 100 (4x25), gray <b>280-324</b> 100 (4x25)		<b>Operating tool</b> , of insulating material, 2-way <b>280-432</b> 1, 3-way <b>280-433</b> 1	
<b>4-conductor carrier terminal block</b> , 0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 14, Terminal block width 5 mm / 0.197 in, gray <b>280-816</b> 100		<b>Operating tool</b> , of insulating material, 10-way <b>280-440</b> 1	
<b>End and intermediate plate</b> , 2.5 mm thick, orange <b>280-315</b> 100 (4x25), gray <b>280-314</b> 100 (4x25)		<b>Wire comming chain</b> , 50 connections, insulated, I <sub>N</sub> 8 A, black <b>210-103</b> 1	

For list of approvals and user guide, see pages 634 to 637.

- 4 Electrical ratings are given by the fuse or LED nominal voltage (also see pages 234 – 235).

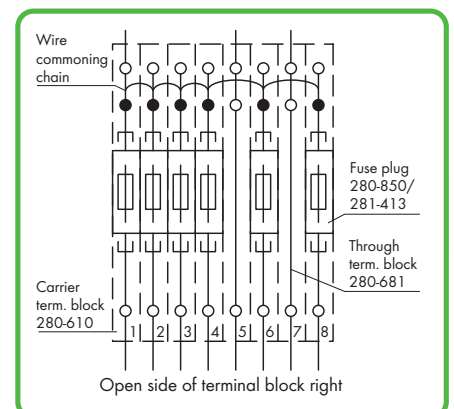


Using pluggable fuse holders with 280/281 and 769 Series rail-mount terminal blocks for control circuit protection is highly advantageous for the user, as the function and the wiring are accomplished by two separate parts:

- No additional cost for assembly and wiring
- No risk of accidental contact with live parts during disconnection of fuse plug
- Quick replacement of fuse plug in case of blown fuse
- The fuse plug can be removed by service personnel, avoiding unintentional reclosing of the circuit by another person.

Further advantages:

- Extremely high density with only 5 mm/0.197 in width of terminal block/fuse plug
- Optional LED indicates blown fuse.



Fuse protection of individual outputs, supply via wire commoning chain

Terminal blocks for miniature metric fuses tested acc. to IEC or EN 60947-7-3/VDE 0611-6

When selecting miniature metric fuses, the maximum power loss listed below should not be exceeded.

The power loss is determined according to IEC or EN 60947-7-3/VDE 0611-6 at 23 °C.

The temperature rise of the terminal blocks must be checked according to their application and mounting.

Higher ambient temperatures represent an additional impact on miniature metric fuses. Therefore, in such applications the rated current must be reduced if necessary.

More details from the manufacturer.

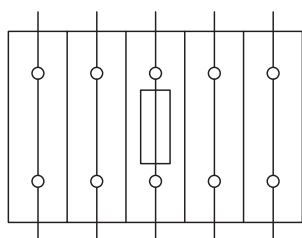
#### Miniature metric fuses 5 x 20

Series Item No.	Overload and short-circuit protection		Short-circuit protection only	
	Individual arrangement	Block arrangement	Individual arrangement	Block arrangement
Fuse terminal blocks (with screw cap), side-entry (5 x 20 mm)				
<b>282-122</b> <b>282-124</b>	2.5 W	2.5 W	4 W	4 W
Fuse disconnect terminal blocks with pivoting fuse holder for miniature metric fuses (5 x 20 mm)				
<b>281-611</b> <b>281-616</b> <b>281-611/281-541</b> <b>281-611/281-542</b> <b>281-611/281-417</b> <b>281-611/281-418</b>	2.5 W	1.6 W	4 W	4 W
Fuse plugs for miniature metric fuses (5 x 20 mm)				
<b>281-511</b> <b>281-512</b> <b>281-512/281-501</b> <b>281-512/281-418</b> <b>281-512/281-417</b>	2.5 W	1.6 W	4 W	4 W

### Miniature metric fuses 6.3 x 32

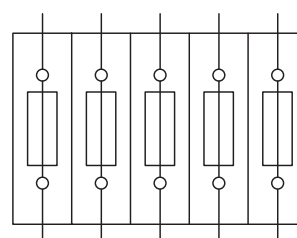
Series Item No.	Overload and short circuit protection		Short-circuit protection only	
	Individual arrangement	Block arrangement	Individual arrangement	Block arrangement
Fuse terminal blocks (with screw cap), side-entry ( $1/4" \times 1 1/4" \approx 6.3 \times 32 \text{ mm}$ )				
<b>282-128</b> <b>282-128/281-418</b> <b>282-128/281-413</b> <b>282-128/281-417</b>	2.5 W	2.5 W	4 W	4 W
Fuse disconnect terminal blocks with pivoting fuse holder for miniature metric fuses ( $1/4" \times 1 1/4" \approx 6.3 \times 32 \text{ mm}$ )				
<b>281-623</b> <b>281-623/281-541</b> <b>281-623/281-542</b> <b>281-623/281-417</b> <b>281-623/281-418</b>	2.5 W	1.6 W	4 W	2.5 W

Fuse terminal block in individual arrangement



Terminal block assembly including  
one fuse terminal block and 4 through terminal blocks

Fuse terminal blocks in block arrangement



Terminal block assembly including  
5 fuse terminal blocks

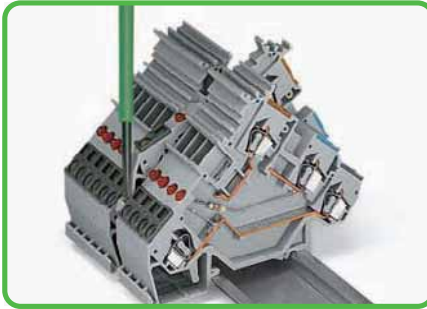
# Sensor and Actuator Terminal Blocks 280 Series

## Assembly



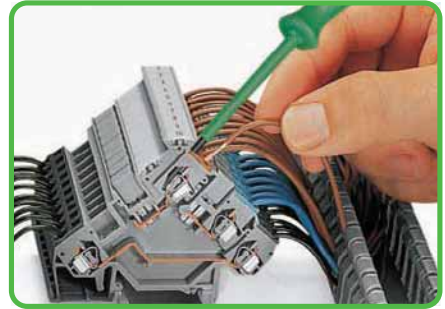
Assembly on the carrier rail. Terminal blocks with ground connection automatically establish a direct contact to the rail.

## Removal



Removal from the carrier rail.  
Notice: Remove jumper contacts first.

## CAGE CLAMP® connection



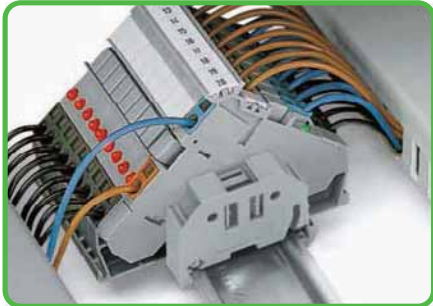
Conductor termination with straight operating tool (210-720).

## Commoning

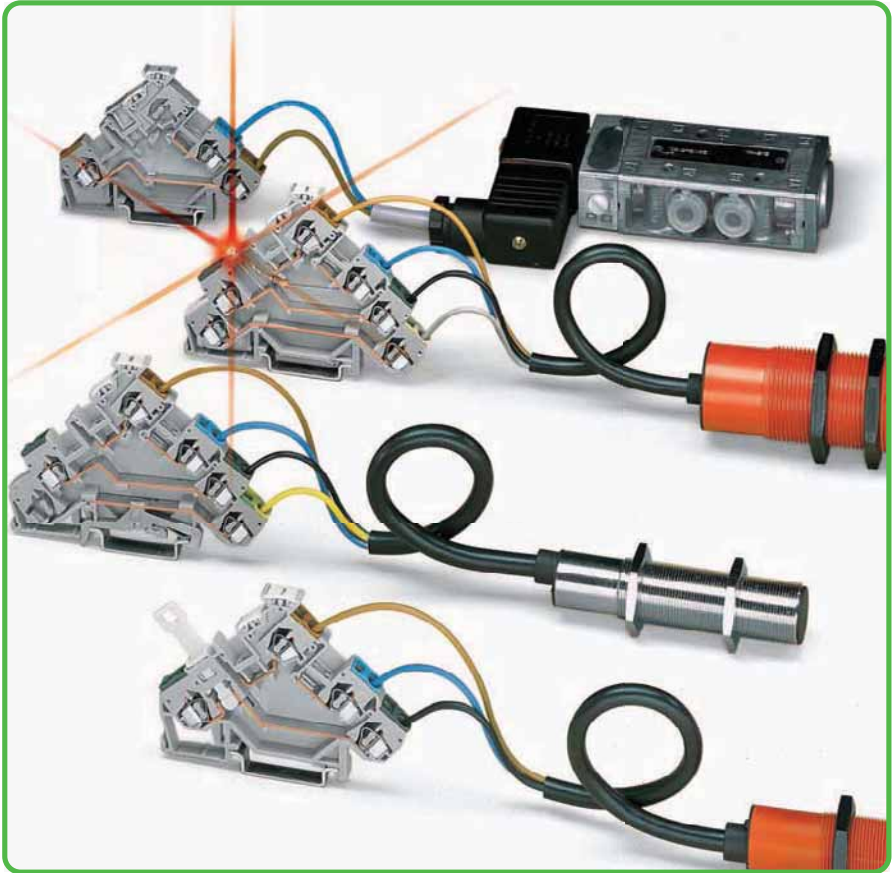


Commoning with adjacent jumpers. Push down the adjacent jumper until fully inserted.

## Power supply



Sensor terminal blocks.  
Power supply from control cabinet side.



## Power supply



Sensor terminal blocks.  
Power supply from sensor side.



Actuator terminal block and thermocouple with shield contact.



CAGE CLAMP® clamps the following copper conductors:\*

solid



stranded



fine-stranded,  
also with tinned  
single strands

\* For aluminum conductors, see notes in Section 14.

- Description and Handling -

CAGE CLAMP® connection



Conductor termination with angled operating tool (210-658).

Marking

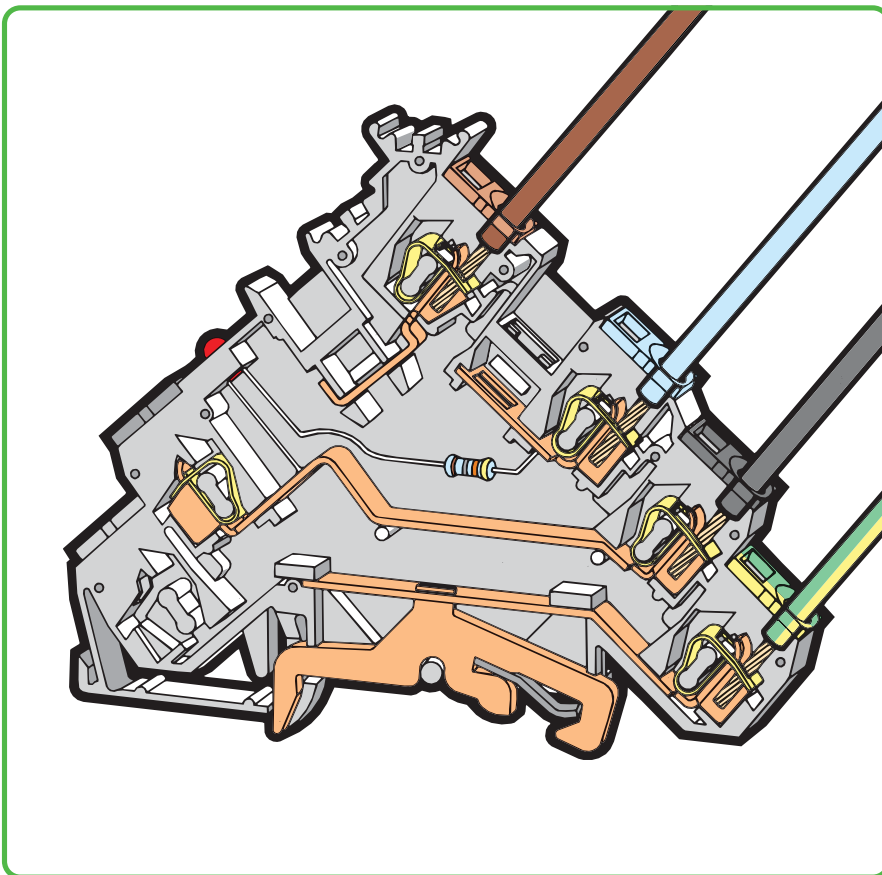


Marking with WMB Multi marking system. For additional systems, see Section 13.

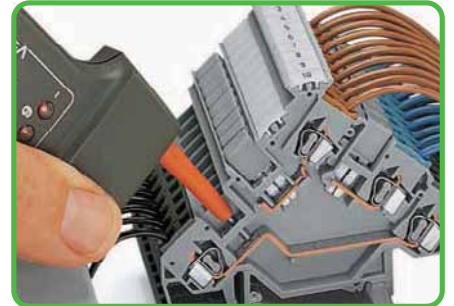
Testing



Testing via banana plug and 209-170 test plug adapter.



Testing



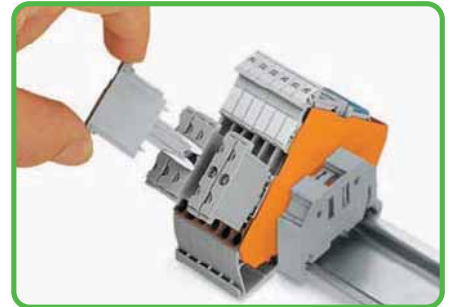
Testing with voltage tester directly on the current bar.

Fuse plugs



Actuator terminal blocks with 281-511 fuse plugs (requires additional intermediate plates).

Component plugs



Actuator terminal blocks with component plugs (280-801).



Actuator terminal block with thermocouple.



fine-stranded, tip-bonded



fine-stranded, with ferrule ① (gastight crimped)

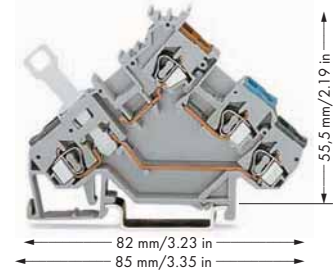
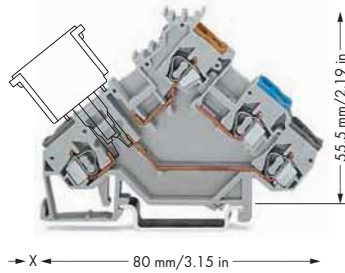
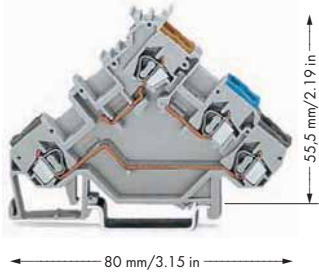


fine-stranded, with pin terminal (gastight crimped)

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

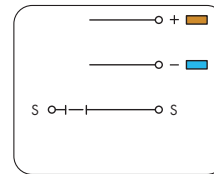
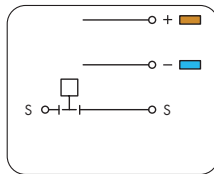
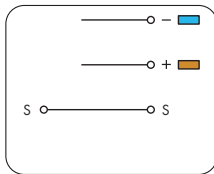
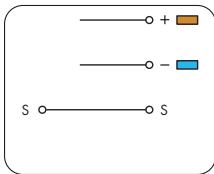
# Sensor Terminal Blocks 2.5 mm<sup>2</sup> for 3-Conductor Sensors 280 Series

<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 20 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 15 A ④ 300 V, 15 A ⑤</p>	<p>0.08 - 2.5 mm<sup>2</sup> 250 V/4 kV/3 ① ② I<sub>N</sub> 6 A ②</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 6 A ④ 300 V, 15 A ⑤</p>	<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 10 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 10 A ④ 300 V, 15 A ⑤</p>
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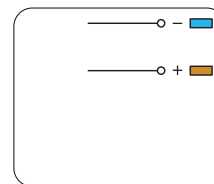
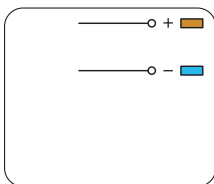
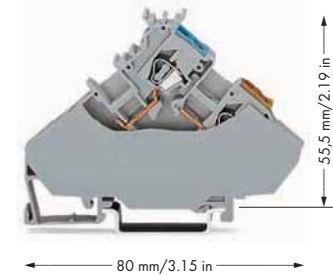
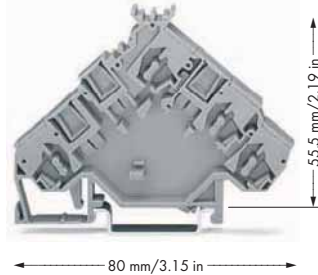
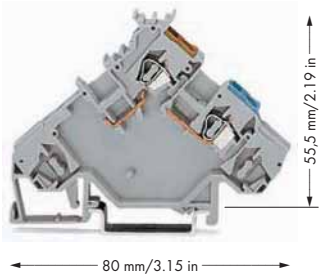


Circuit I

Circuit II



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	
<b>Sensor terminal block</b>		<b>Sensor terminal block, for component plugs</b>		<b>Sensor disconnect terminal block, for signal interruption</b>		
● Circuit I	280-560	50	●	280-561 ④	50	
● Circuit II	280-553	50		●	280-563	50



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	
<b>Sensor supply terminal block, power supply from sensor side</b>		<b>Spacer, same profile as 3-conductor sensor terminal blocks or appropriate actuator terminal blocks. Spacers with the profile clearly differentiate between sensor or actuator terminal groups, e.g., of different power supply.</b>		<b>Sensor supply terminal block, power supply from control panel side, with end plate</b>		
●	280-564	10	● gray	280-559	50	
				●	280-567	20
				Technical data: 400 V/6 kV/3		
					I <sub>N</sub> 20 A	

For list of approvals and user guide, see pages 634 to 637.





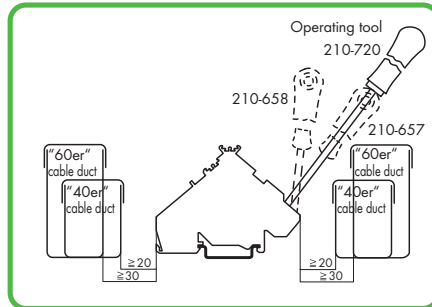
Sensor terminal block with 3-conductor sensor

\* AWG 12: THHN, THWN

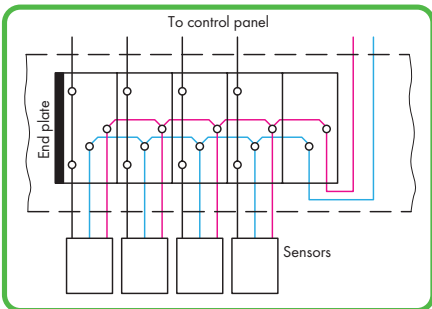
- 1 400 V/250 V = rated voltage  
6 kV/4 kV = rated surge voltage  
3 = pollution degree

(also see Section 14)

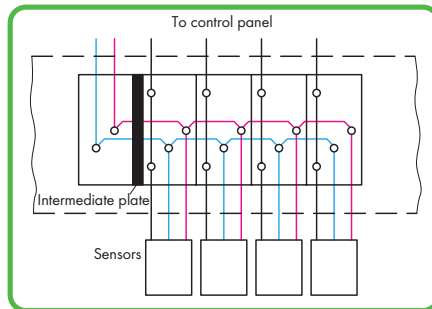
- 2 Electrical ratings are given by the fuse plug or empty component plug housing.
- 3 Strip length, see packaging or instructions.
- 4 For empty component plug housings, see interface modules  
x = 12 mm/0.472 in  
For fuse plugs, see page 232  
x = 20 mm/0.787 in
- 5 See application notes for:  
Insulation stop, page 199



Min. mounting distance - terminal blocks to cable duct










Power supply from sensor side



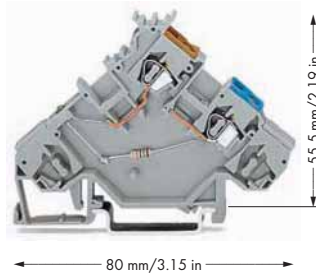
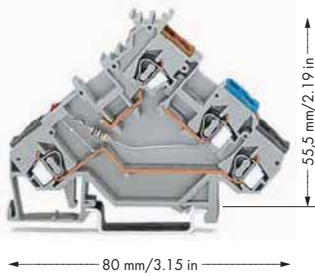
Power supply from control panel side

**280 Series Accessories**

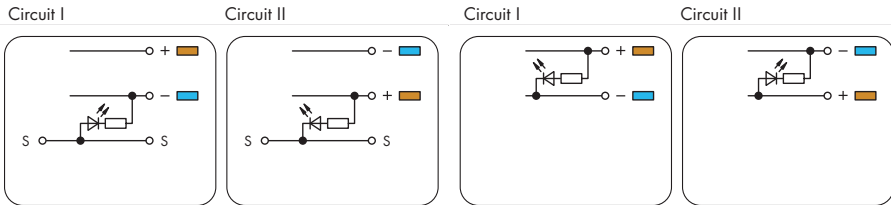
Appropriate marking system:  
WMB (see Section 13)

<b>End and intermediate plate, 1 mm thick,</b>			
for triple-deck terminal blocks			
	orange	<b>280-321</b>	100 (4x25)
	gray	<b>280-319</b>	100 (4x25)
<b>Insulation stop,</b>			
	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")	white	<b>280-470</b> 200 (8x25)
	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>	light gray	<b>280-471</b> 200 (8x25)
	5 pcs/strip, 0.75 - 1 mm <sup>2</sup>	dark gray	<b>280-472</b> 200 (8x25)
<b>Adjacent jumper, insulated,</b>			
	I <sub>N</sub> = I <sub>N</sub> terminal block	gray	<b>280-402</b> 200 (8x25)
<b>Screwless end stop,</b>			
	for DIN 35 rail, 6 mm wide	gray	<b>249-116</b> 100 (4x25)
	for DIN 35 rail, 10 mm wide	gray	<b>249-117</b> 50 (2x25)

0.08 - 2.5 mm <sup>2</sup> 24 VDC ① 20 A	AWG 28 - 12 * 24 V, 15 A <sup>Ⓜ</sup> 300 V, 15 A <sup>Ⓜ</sup>	0.08 - 2.5 mm <sup>2</sup> 24 VDC ① 20 A	AWG 28 - 12 * 24 V, 15 A <sup>Ⓜ</sup> 300 V, 15 A <sup>Ⓜ</sup>
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②		Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②	



- \* AWG 12: THHN, THWN
- ① Other voltages upon request.
- ② Strip length, see packaging or instructions.

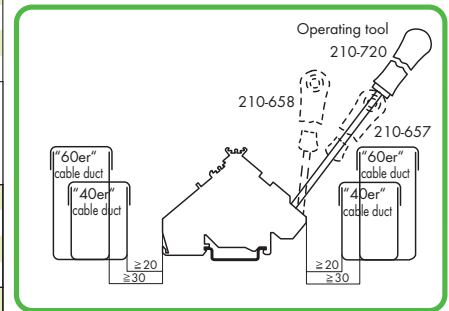


Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Sensor LED terminal block,</b> for PNP (positive) switching sensors, additional LED, 24 VDC, LED power consumption: 4.8 mA		<b>Sensor LED supply terminal block,</b> power supply from sensor side, for PNP (positive) switching sensors, green LED, 24 VDC, LED power consumption: 4.8 mA	
○ Circuit I	280-560/281-434 50	○ Circuit I	280-564/281-483 10
<b>Sensor LED terminal block,</b> for NPN (negative) switching sensors, red LED, 24 VDC, LED power consumption: 4.8 mA		<b>Sensor LED supply terminal block,</b> power supply from sensor side, for NPN (negative) switching sensors, green LED, 24 VDC, LED power consumption: 4.8 mA	
○ Circuit II	280-561/281-413 50	○ Circuit II	280-566/281-496 10

### 280 Series Accessories

Appropriate marking system:  
WMB (see Section 13)

<b>End and intermediate plate,</b> 1 mm thick, for triple-deck terminal blocks orange 280-321 100 (4x25) gray 280-319 100 (4x25)	<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 280-471 200 (8x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white 280-470 200 (8x25)	<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray 280-472 200 (8x25)



Min. mounting distance - terminal blocks to cable duct



Sensor LED terminal block with 3-conductor sensor

# Sensor LED Terminal Blocks 2.5 mm<sup>2</sup> for 4-Conductor Sensors 280 Series

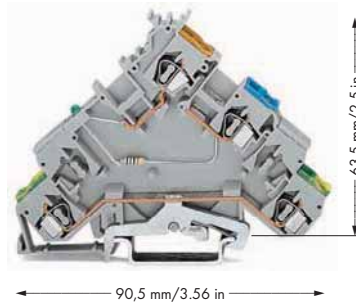
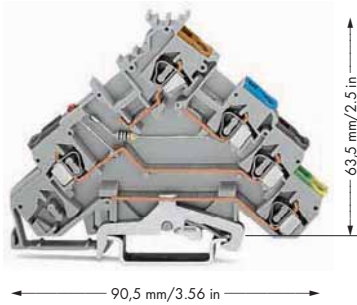
CAGE CLAMP®

3

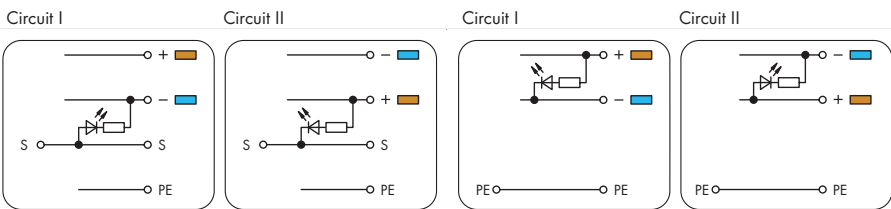
241

3

0.08 - 2.5 mm <sup>2</sup> 24 VDC ① 20 A	AWG 28 - 12 * 24 V, 15 A <sup>⚡</sup> 300 V, 15 A <sup>Ⓞ</sup>	0.08 - 2.5 mm <sup>2</sup> 24 VDC ① 20 A	AWG 28 - 12 * 24 V, 15 A <sup>⚡</sup> 300 V, 15 A <sup>Ⓞ</sup>
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②		Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②	





- \* AWG 12: THHN, THWN
- ① Other voltages upon request.
- ② Strip length, see packaging or instructions.

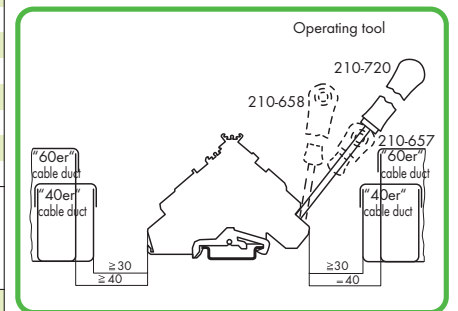


Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Sensor LED terminal block,</b> for PNP (positive) switching sensors, red LED, 24 VDC, LED power consumption: 4.8 mA		<b>Sensor LED supply terminal block,</b> power supply from sensor side, for PNP (positive) switching sensors, green LED, 24 VDC, LED power consumption: 4.8 mA	
○ Circuit I	280-570/281-434 50	○ Circuit I	280-574/281-483 10
<b>Sensor LED terminal block,</b> for NPN (negative) switching sensors, additional LED, 24 VDC, LED power consumption: 4.8 mA		<b>Sensor LED supply terminal block,</b> power supply from sensor side, for NPN (negative) switching sensors, green LED, 24 VDC, LED power consumption: 4.8 mA	
○ Circuit II	280-571/281-413 50	○ Circuit II	280-576/281-496 10
		<b>Sensor LED supply terminal block,</b> power supply from control panel side, for PNP (positive) switching sensors, green LED, 24 VDC, LED power consumption: 4.8 mA, with end plate	
		○ Circuit II	280-577/281-496 20

## 280 Series Accessories

Appropriate marking system:  
WMB (see Section 13)

<b>End and intermediate plate, 1 mm thick,</b> for quadruple-deck terminal blocks			
	orange	280-323	100 (4x25)
	gray	280-320	100 (4x25)



Min. mounting distance - terminal blocks to cable duct

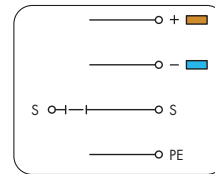
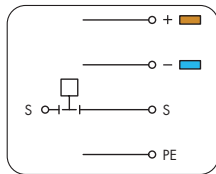
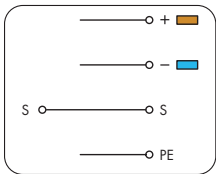
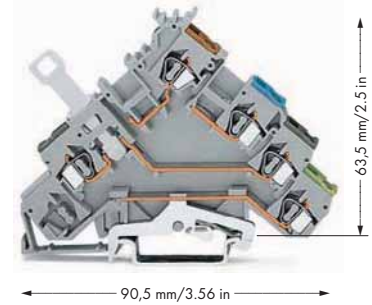
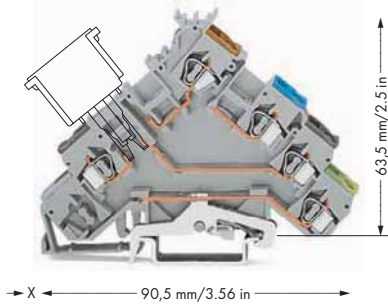
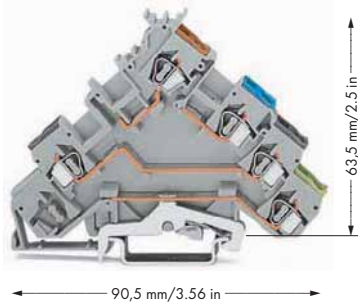


Sensor LED terminal block, with 3-conductor sensor with ground connection

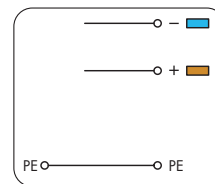
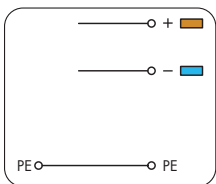
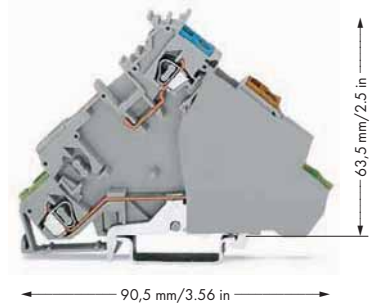
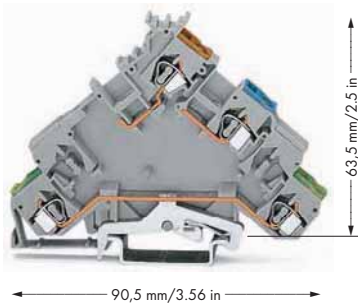
For list of approvals and user guide, see pages 634 to 637.

# Sensor Terminal Blocks 2.5 mm<sup>2</sup> for 3-Conductor Sensors with Ground Connection 280 Series

<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 20 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 15 A ② 300 V, 15 A ⑥</p>	<p>0.08 - 2.5 mm<sup>2</sup> 250 V/4 kV/3 ① ② I<sub>N</sub> 6 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 6 A ② 300 V, 15 A ⑥</p>	<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 10 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 10 A ② 300 V, 15 A ⑥</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Sensor terminal block with ground connection</b>		<b>Sensor terminal block with ground connection, for component plugs</b>		<b>Sensor disconnect terminal block with ground connection, for signal interruption</b>	
280-570	50	280-571 ④	50	280-573	50



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Sensor supply terminal block with ground connection, power supply from sensor side</b>		<b>Spacer, same profile as 4-conductor sensor terminal blocks, 3-conductor sensor terminal blocks with ground connection or appropriate actuator terminal blocks. Spacers with the profile clearly differentiate between sensor or actuator terminal groups, e.g., of different power supply.</b>		<b>Sensor supply terminal block with ground connection, power supply from control panel side, with end plate</b>	
280-574	10	280-582	50	280-577	20
				Technical data: 400 V/6 kV/3	
				I <sub>N</sub> 20 A	



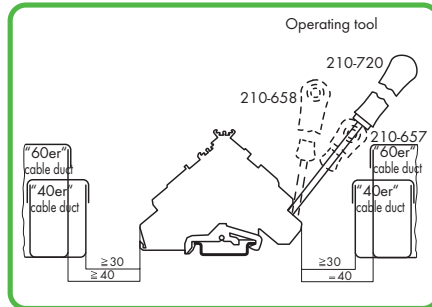
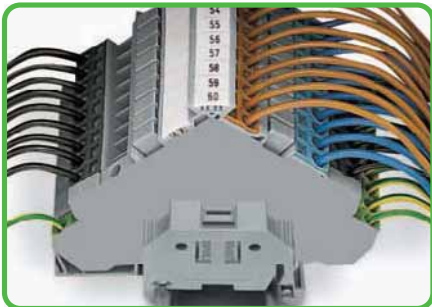
Sensor terminal block, with 3-conductor sensor with ground connection

\* AWG 12: THHN, THWN

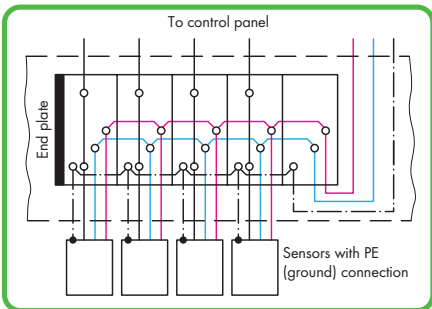
- 1 400 V/250 V = rated voltage  
6 kV/4 kV = rated surge voltage  
3 = pollution degree

(also see Section 14)

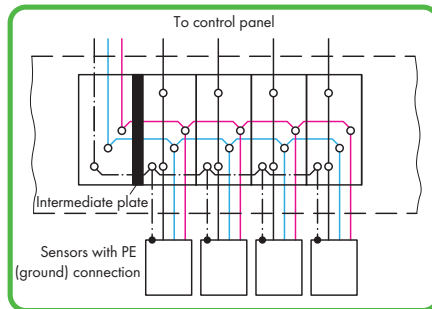
- 2 Electrical ratings are given by the fuse plug or empty component plug housing.
- 3 Strip length, see packaging or instructions.
- 4 For empty component plug housings, see interface modules  
x = 12 mm/0.472 in  
For fuse plugs, see page 232  
x = 20 mm/0.787 in
- 5 See application notes for:  
Insulation stop, page 199



Min. mounting distance - terminal blocks to cable duct











Power supply from sensor side



Power supply from control panel side

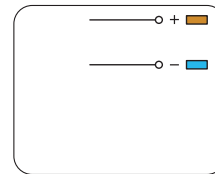
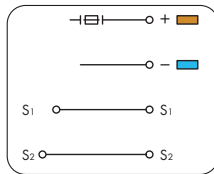
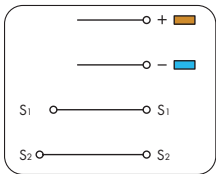
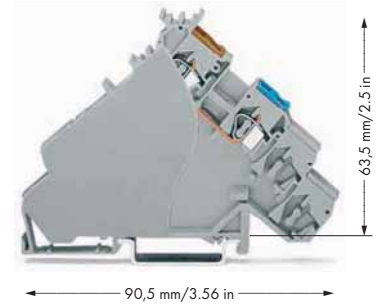
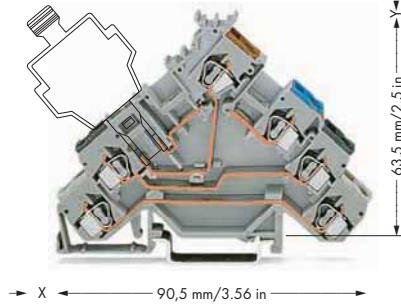
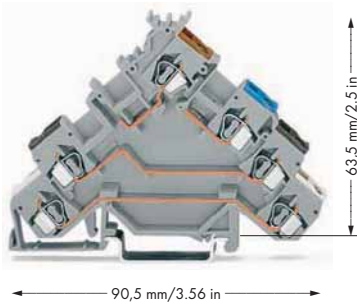
### 280 Series Accessories

Appropriate marking system:  
WMB (see Section 13)

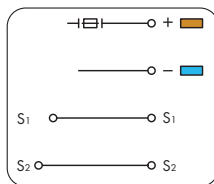
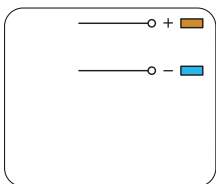
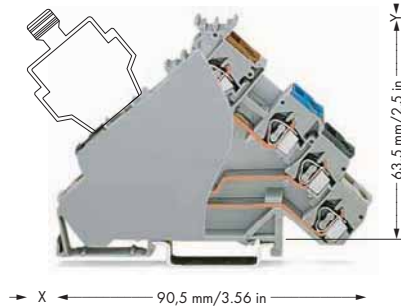
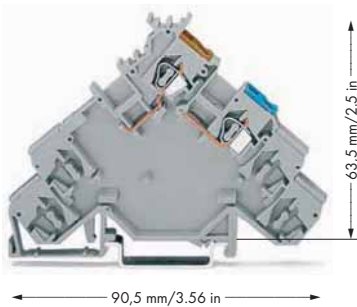
<b>End and intermediate plate, 1 mm thick,</b>			
for quadruple-deck terminal blocks			
	orange	<b>280-323</b>	100 (4x25)
	gray	<b>280-320</b>	100 (4x25)
<b>Insulation stop,</b>			
	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")	<b>280-470</b>	200 (8x25)
<b>Insulation stop,</b>			
	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>	<b>280-471</b>	200 (8x25)
<b>Insulation stop,</b>			
	5 pcs/strip, 0.75 - 1 mm <sup>2</sup>	<b>280-472</b>	200 (8x25)
<b>Adjacent jumper, insulated,</b>			
	I <sub>N</sub> = I <sub>N</sub> terminal block	<b>280-402</b>	200 (8x25)
<b>Screwless end stop,</b>			
	for DIN 35 rail, 6 mm wide	<b>249-116</b>	100 (4x25)
<b>Screwless end stop,</b>			
	for DIN 35 rail, 10 mm wide	<b>249-117</b>	50 (2x25)

# Sensor Terminal Blocks 2.5 mm<sup>2</sup> for 4-Conductor Sensors 280 Series

<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 20 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 15 A ② 300 V, 15 A ⑥</p>	<p>0.08 - 2.5 mm<sup>2</sup> 125 V/5 A ② 250 V/6.3 A ②</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 6 A ② 300 V, 15 A ⑥</p>	<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 20 A</p> <p>Terminal block width 6 mm / 0.236 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 24 V, 15 A ② 300 V, 15 A ⑥</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Sensor terminal block</b>		<b>Sensor terminal block,</b> for fuse plugs, for PNP (positive) switching sensors without end plate		<b>Sensor supply terminal block,</b> power supply from control panel side, with end plate	
●	280-580	50	●	280-588 ④	50
				●	280-587
					20



Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Sensor supply terminal block,</b> power supply from sensor side, without end plate		<b>Sensor terminal block,</b> for fuse plugs, for PNP (positive) switching sensors with end plate	
●	280-584	10	● gray
			● gray
			280-588/280-320
			50
			280-588/280-323
			50



Sensor terminal block with 4-conductor sensor

\* AWG 12: THHN, THWN

- ① 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree

(also see Section 14)

- ② Electrical ratings are given by the fuse plug or empty component plug housing.

- ③ Strip length, see packaging or instructions.

- ④ For empty component plug housings, see interface modules

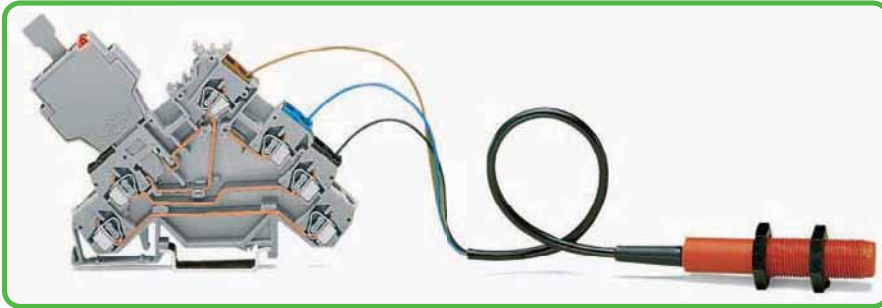
x = 12 mm / 0.472 in

For fuse plugs, see page 230

x = 15.5 mm / 0.61 in

y = 10 mm / 0.394 in


- ⑤ See application notes for:  
Insulation stop, page 199



Sensor terminal block with fuse plug, including 3-conductor sensor

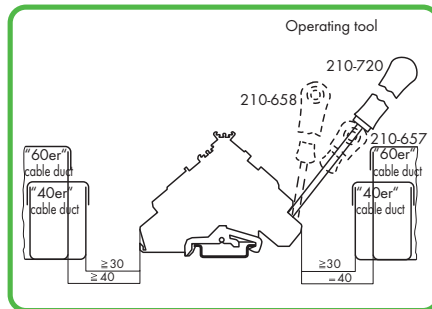
**280 Series Accessories**

Appropriate marking system:  
WMB (see Section 13)

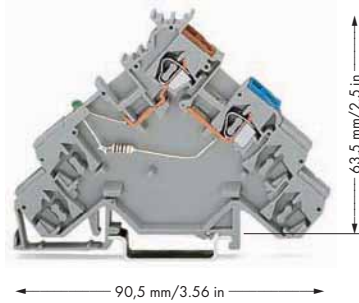
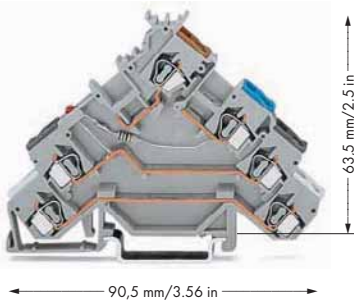
<b>End and intermediate plate, 1 mm thick,</b>			
for quadruple-deck terminal blocks			
	orange	<b>280-323</b>	100 (4x25)
	gray	<b>280-320</b>	100 (4x25)
<b>Insulation stop,</b>			
⑤	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")		
	white	<b>280-470</b>	200 (8x25)
<b>Insulation stop,</b>			
⑤	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>		
	light gray	<b>280-471</b>	200 (8x25)
<b>Insulation stop,</b>			
⑤	5 pcs/strip, 0.75 - 1 mm <sup>2</sup>		
	dark gray	<b>280-472</b>	200 (8x25)
<b>Adjacent jumper, insulated,</b>			
	I <sub>N</sub> = I <sub>N</sub> terminal block		
	gray	<b>280-402</b>	200 (8x25)
<b>Screwless end stop,</b>			
	for DIN 35 rail, 6 mm wide		
	gray	<b>249-116</b>	100 (4x25)
<b>Screwless end stop,</b>			
	for DIN 35 rail, 10 mm wide		
	gray	<b>249-117</b>	50 (2x25)



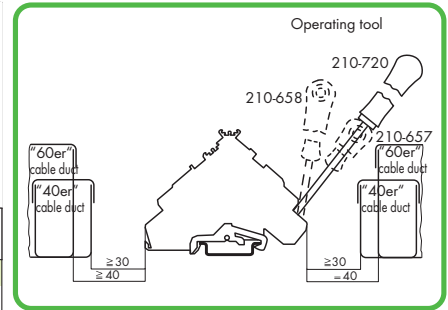
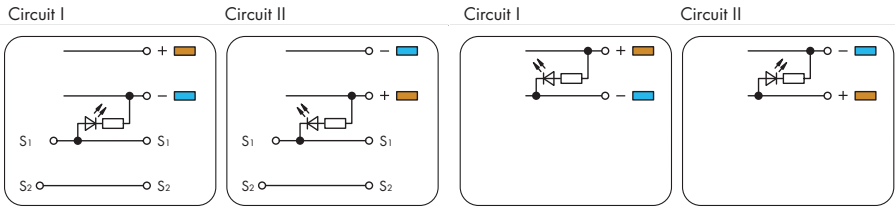
The fuse plug is 1 mm/0.039 in wider than the terminal block. This means an intermediate plate has to be fitted.



<p>0.08 - 2.5 mm<sup>2</sup>                  24 VDC ①                  20 A</p> <p>Terminal block width 5 mm / 0.197 in                  ② 8 - 9 mm / 0.33 in</p>	<p>AWG 28 - 12 *                  24 V, 15 A<sup>VA</sup></p>	<p>0.08 - 2.5 mm<sup>2</sup>                  24 VDC ①                  20 A</p> <p>Terminal block width 5 mm / 0.197 in                  ② 8 - 9 mm / 0.33 in</p>	<p>AWG 28 - 12 *                  24 V, 15 A<sup>VA</sup>                  300 V, 15 A<sup>@</sup></p>
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- \* AWG 12: THHN, THWN
- ① Other voltages upon request.
- ② Strip length, see packaging or instructions.



Min. mounting distance - terminal blocks to cable duct

Item No.	Pack. Unit	Item No.	Pack. Unit
<p><b>Sensor LED terminal block,</b>                      for PNP (positive) switching sensors,                      red LED, 24 VDC, LED power consumption: 4.8 mA</p>		<p><b>Sensor LED supply terminal block,</b>                      power supply from sensor side,                      for PNP (positive) switching sensors,                      green LED, 24 VDC, LED power consumption: 4.8 mA</p>	
○ Circuit I	<b>280-580/281-434</b> 50	○ Circuit I	<b>280-584/281-483</b> 10
<p><b>Sensor LED terminal block,</b>                      for NPN (negative) switching sensors,                      red LED, 24 VDC, LED power consumption: 4.8 mA</p>		<p><b>Sensor LED supply terminal block,</b>                      power supply from sensor side,                      for NPN (negative) switching sensors,                      green LED, 24 VDC, LED power consumption: 4.8 mA</p>	
○ Circuit II	<b>280-581/281-413</b> 50	○ Circuit II	<b>280-586/281-496</b> 10



### 280 Series Accessories

Appropriate marking system:  
 WMB (see Section 13)

<p><b>End and intermediate plate, 1 mm thick,</b>                      for quadruple-deck terminal blocks</p> <p>orange <b>280-323</b> 100 (4x25)                      gray <b>280-320</b> 100 (4x25)</p>	<p><b>Insulation stop,</b>                      5 pcs/strip,                      0.25 - 0.5 mm<sup>2</sup>                      light gray <b>280-471</b> 200 (8x25)</p>
<p><b>Insulation stop,</b>                      5 pcs/strip,                      0.08 - 0.2 mm<sup>2</sup> "s" (0.14 mm<sup>2</sup> "f-st")                      white <b>280-470</b> 200 (8x25)</p>	<p><b>Insulation stop,</b>                      5 pcs/strip,                      0.75 - 1 mm<sup>2</sup>                      dark gray <b>280-472</b> 200 (8x25)</p>



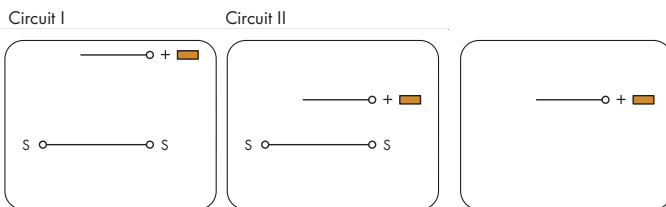
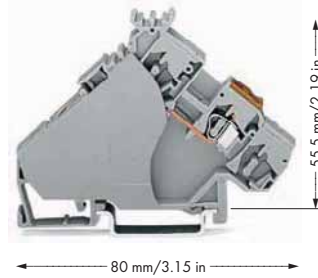
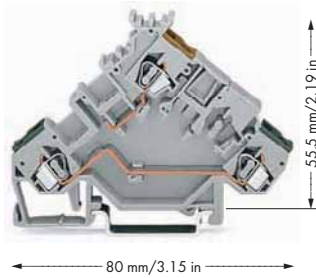
Sensor LED terminal block with 4-conductor sensor

For list of approvals and user guide, see pages 634 to 637.



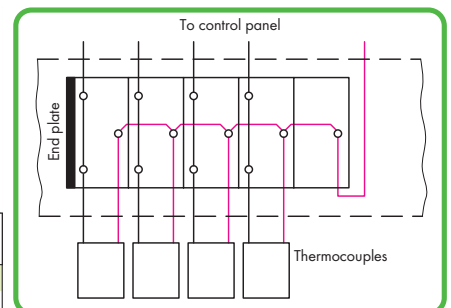
# Actuator Terminal Blocks 2.5 mm<sup>2</sup> for Pressure Switches, Thermocouples, etc. Serie 280

0.08 - 2.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 20 A	AWG 28 - 12 * 300 V, 15 A <sup>⚡</sup> 300 V, 15 A <sup>Ⓒ</sup>	0.08 - 2.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 20 A	AWG 28 - 12 * 300 V, 15 A <sup>⚡</sup> 300 V, 15 A <sup>Ⓒ</sup>
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②		Terminal block width 6 mm / 0.236 in 8 - 9 mm / 0.33 in ②	



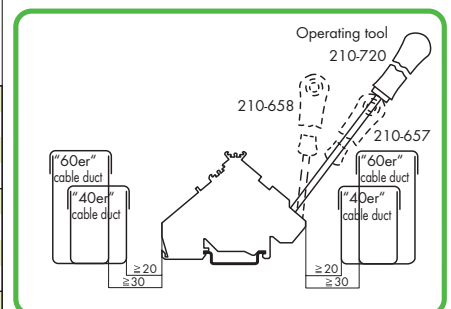
- \* AWG 12: THHN, THWN
- ① 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Actuator terminal block</b>		<b>Actuator supply terminal block,</b>	
		in connection with 280-555: power supply from control cabinet side,	
		in connection with 280-554: power supply from actuator side,	
		with end plate	
○ Circuit I	<b>280-555</b> 50	○	<b>280-556</b> 20
<b>Actuator terminal block, (no picture)</b>			
○ Circuit II	<b>280-554</b> 50		



Power supply from actuator side

280 Series Accessories			
Appropriate marking system: WMB (see Section 13)			
<b>End and intermediate plate, 1 mm thick,</b> for triple-deck terminal blocks	<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>		orange <b>280-321</b> 100 (4x25)
		gray <b>280-319</b> 100 (4x25)	light gray <b>280-471</b> 200 (8x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")	<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup>		white <b>280-470</b> 200 (8x25)
		dark gray <b>280-472</b> 200 (8x25)	
<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide	<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide		gray <b>249-116</b> 100 (4x25)
		gray <b>249-117</b> 50 (2x25)	



Min. mounting distance - terminal blocks to cable duct

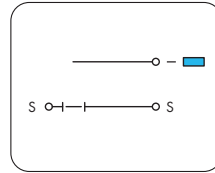
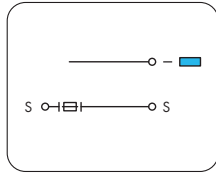
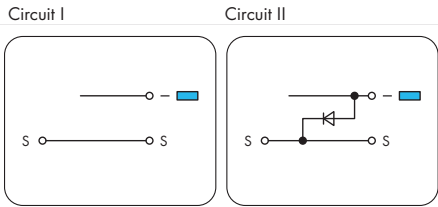
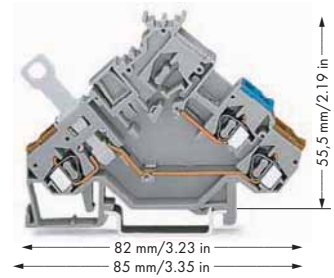
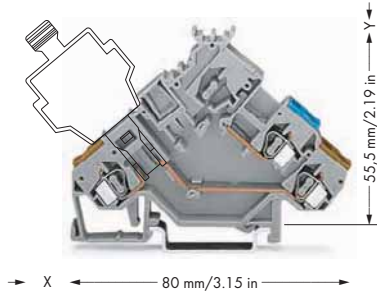
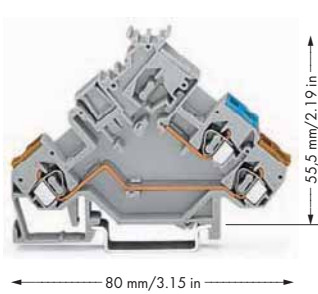


Actuator terminal block paired with a thermocouple

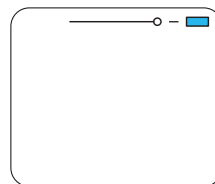
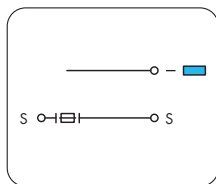
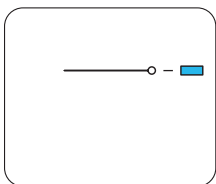
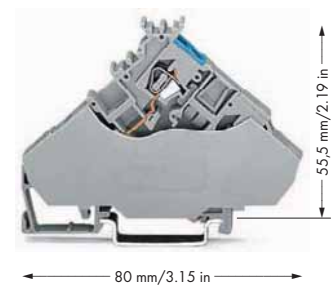
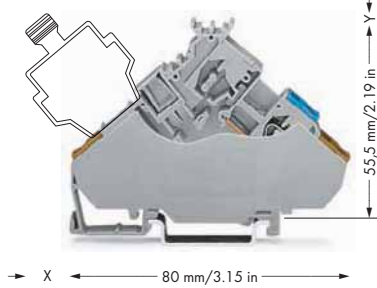
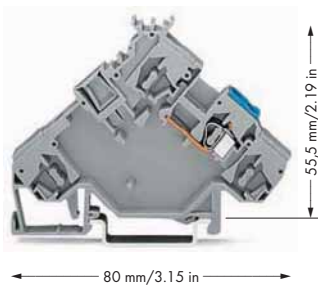
For list of approvals and user guide, see pages 634 to 637.

# Actuator Terminal Blocks 2.5 mm<sup>2</sup> for Magnetic Valves, Servomotors, etc. 280 Series

<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3; 20 A ① ② 250 V/4 kV/3; 20 A ① ②</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 15 A ④ 300 V, 15 A ⑤</p>	<p>0.08 - 2.5 mm<sup>2</sup> 125 V/5 A ② 250 V/6.3 A ②</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 6 A ④ 300 V, 15 A ⑤</p>	<p>0.08 - 2.5 mm<sup>2</sup> 400 V/6 kV/3 ① I<sub>N</sub> 10 A</p> <p>Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③</p>	<p>AWG 28 - 12 * 300 V, 10 A ④ 300 V, 15 A ⑤</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Actuator terminal block</b>		<b>Actuator terminal block, for fuse plugs, for fuse protection of line voltage, without end plate</b>		<b>Actuator disconnect terminal block, for interruption of line</b>	
● Circuit I	280-562	50	●	280-565 ④	50
● Circuit II	280-562/281-411	50		●	280-566
					50



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Actuator supply terminal block, power supply form actuator side</b>		<b>Actuator terminal block, for fuse plugs, for fuse protection of line voltage, with end plate</b>		<b>Actuator supply terminal block, power supply from control panel side, with end plate</b>	
●	280-592	10	● gray	280-565/280-319	50
			● gray	280-565/280-321	50
					Technical data: 400 V/6 kV/3 I <sub>N</sub> 20 A

For list of approvals and user guide, see pages 634 to 637.

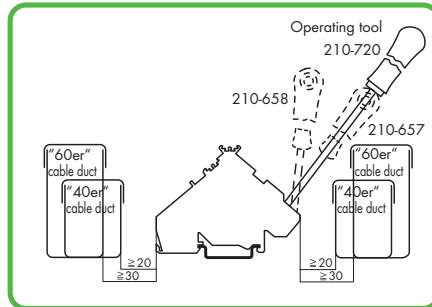


Actuator terminal block paired with a magnetic valve

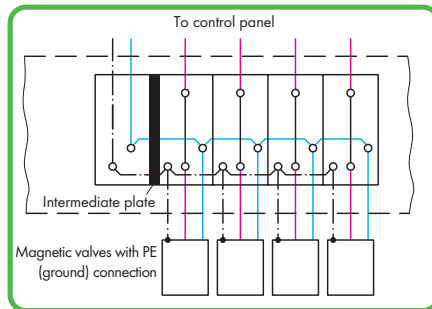
- \* AWG 12: THHN, THWN
- ① 400 V/250 V = rated voltage  
6 kV/4 kV = rated surge voltage  
3 = pollution degree

(also see Section 14)

- ② Electrical ratings are given by the fuse plug or empty component plug housing.
- ③ Strip length, see packaging or instructions.
- ④ For empty component plug housings, see interface modules  
x = 12 mm/0.472 in  
For fuse plugs, see page 232  
x = 15.5 mm/0.61 in  
y = 10 mm/0.394 in
- ⑤ See application notes for:  
Insulation stop, page 199










Min. mounting distance - terminal blocks to cable duct



Power supply from control panel side

**280 Series Accessories**

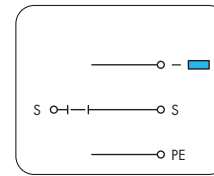
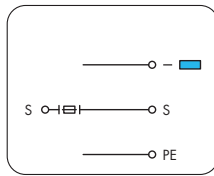
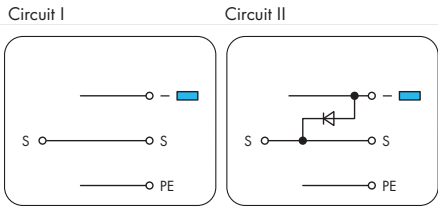
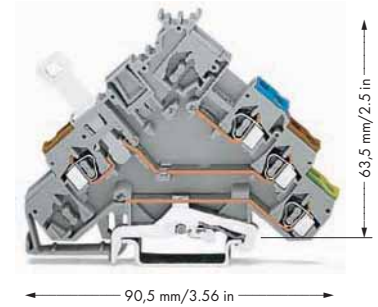
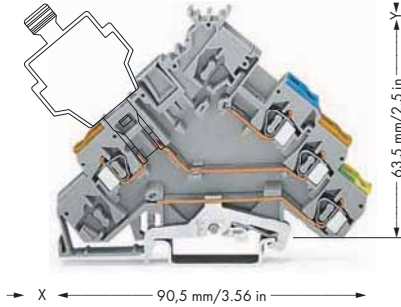
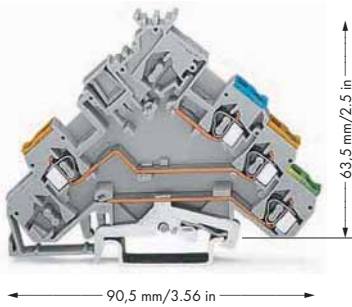
Appropriate marking system:  
WMB (see Section 13)

<b>End and intermediate plate, 1 mm thick,</b>			
for triple-deck terminal blocks			
	orange	<b>280-321</b>	100 (4x25)
	gray	<b>280-319</b>	100 (4x25)
<b>Insulation stop,</b>			
⑤ 	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")	white	<b>280-470</b> 200 (8x25)
<b>Insulation stop,</b>			
⑤ 	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>	light gray	<b>280-471</b> 200 (8x25)
<b>Insulation stop,</b>			
⑤ 	5 pcs/strip, 0.75 - 1 mm <sup>2</sup>	dark gray	<b>280-472</b> 200 (8x25)
<b>Adjacent jumper, insulated,</b>			
	I <sub>N</sub> = I <sub>N</sub> terminal block	gray	<b>280-402</b> 200 (8x25)
<b>Screwless end stop,</b>			
	for DIN 35 rail, 6 mm wide	gray	<b>249-116</b> 100 (4x25)
<b>Screwless end stop,</b>			
	for DIN 35 rail, 10 mm wide	gray	<b>249-117</b> 50 (2x25)

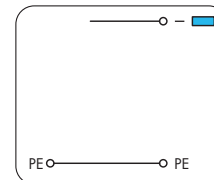
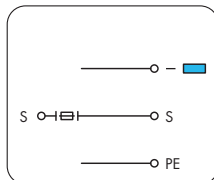
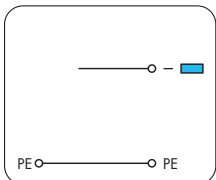
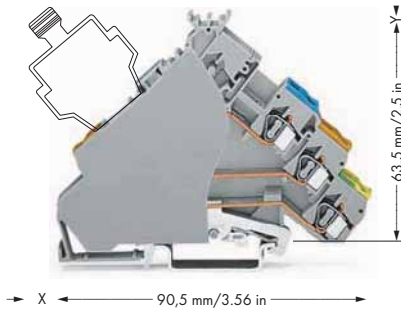
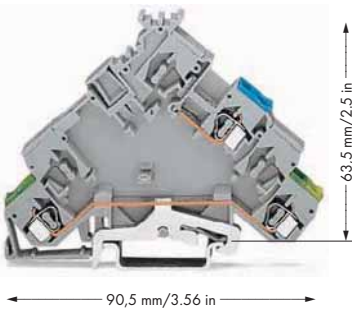
# Actuator Terminal Blocks with Ground Connection 2.5 mm<sup>2</sup> for Magnetic Valves, Servomotors

## 280 Series

0.08 - 2.5 mm <sup>2</sup> 400 V/6 kV/3; 20 A ① ② 250 V/4 kV/3; 20 A ① ② Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③	AWG 28 - 12 * 300 V, 15 A ④ 300 V, 15 A ⑤	0.08 - 2.5 mm <sup>2</sup> 125 V/5 A ② 250 V/6.3 A ② Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③	AWG 28 - 12 * 300 V, 6 A ④ 300 V, 15 A ⑤	0.08 - 2.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 10 A Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③	AWG 28 - 12 * 300 V, 10 A ④ 300 V, 15 A ⑤
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Actuator terminal block with ground connection</b>		<b>Actuator terminal block with ground connection, for fuse plugs,</b>		<b>Actuator disconnect terminal block with ground connection,</b>	
● Circuit I	<b>280-572</b>	50	●	<b>280-575</b> ④	50
<b>Actuator terminal block with ground connection, with recovery diode 1N4007</b>				for interruption of line	
● Circuit II	<b>280-572/281-411</b>	50		●	<b>280-576</b>
					50



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Actuator supply terminal block with ground connection,</b>		<b>Actuator terminal block with ground connection,</b>		<b>Actuator supply terminal block with ground connection,</b>	
power supply form actuator side		for fuse plugs,		power supply from control panel side, with end plate	
●	<b>280-593</b>	10	● gray	<b>280-575/280-320</b>	50
			● gray	<b>280-575/280-323</b>	50
					Technical data:
					400 V/6 kV/3
					I <sub>N</sub> 20 A



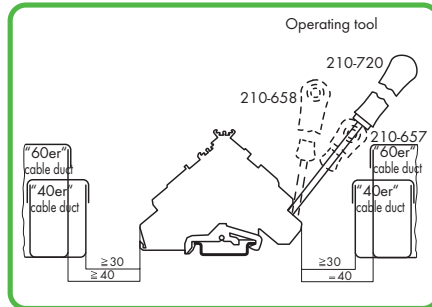
Actuator terminal block paired with a magnetic valve with ground connection

\* AWG 12: THHN, THWN

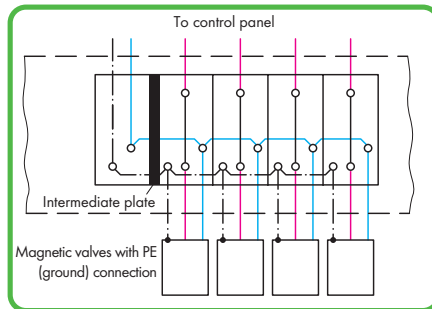
- ① 400 V/250 V = rated voltage  
6 kV/4 kV = rated surge voltage  
3 = pollution degree

(also see Section 14)

- ② Electrical ratings are given by the fuse plug or empty component plug housing.
- ③ Strip length, see packaging or instructions.
- ④ For empty component plug housings, see interface modules  
x = 12 mm/0.472 in  
For fuse plugs, see page 230  
x = 15.5 mm/0.61 in  
y = 10 mm/0.394 in
- ⑤ See application notes for:  
Insulation stop, page 199











Min. mounting distance - terminal blocks to cable duct



Power supply from control panel side

**280 Series Accessories**

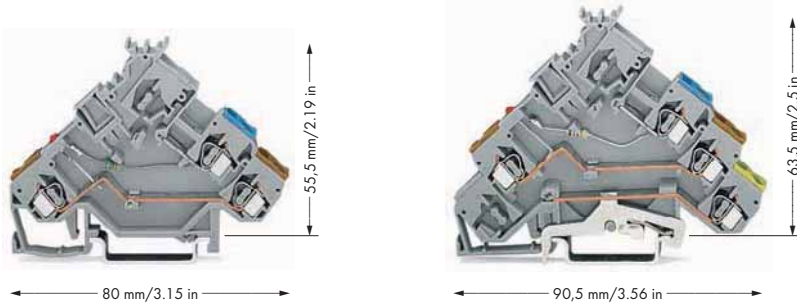
Appropriate marking system:  
WMB (see Section 13)

<b>End and intermediate plate, 1 mm thick,</b>			
for quadruple-deck terminal blocks			
	orange	<b>280-323</b>	100 (4x25)
	gray	<b>280-320</b>	100 (4x25)
<b>Insulation stop,</b>			
⑤	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")		
	white	<b>280-470</b>	200 (8x25)
<b>Insulation stop,</b>			
⑤	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>		
	light gray	<b>280-471</b>	200 (8x25)
<b>Insulation stop,</b>			
⑤	5 pcs/strip, 0.75 - 1 mm <sup>2</sup>		
	dark gray	<b>280-472</b>	200 (8x25)
<b>Adjacent jumper, insulated,</b>			
	I <sub>N</sub> = I <sub>N</sub> terminal block		
	gray	<b>280-402</b>	200 (8x25)
<b>Screwless end stop,</b>			
for DIN 35 rail,			
	6 mm wide		
	gray	<b>249-116</b>	100 (4x25)
<b>Screwless end stop,</b>			
for DIN 35 rail,			
	10 mm wide		
	gray	<b>249-117</b>	50 (2x25)

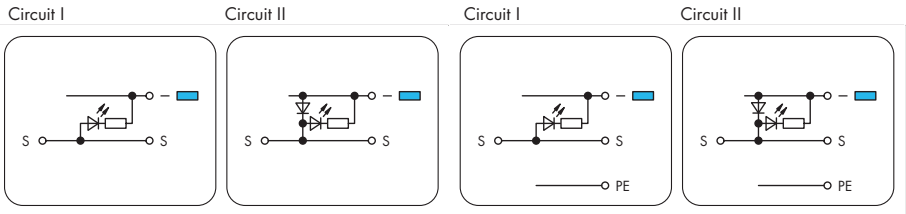
# Actuator LED Terminal Blocks with Ground Connection 2.5 mm<sup>2</sup> 280 Series



0.08 - 2.5 mm <sup>2</sup> 24 VDC ① 20 A	AWG 28 - 12 * 24 V, 15 A <sup>⚡</sup> 300 V, 15 A <sup>Ⓜ</sup>	0.08 - 2.5 mm <sup>2</sup> 24 VDC ① 20 A	AWG 28 - 12 * 24 V, 15 A <sup>⚡</sup> 300 V, 15 A <sup>Ⓜ</sup>
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②		Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②	



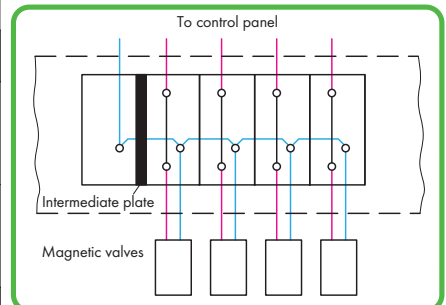
- \* AWG 12: THHN, THWN
- ① Other voltages upon request.
- ② Strip length, see packaging or instructions.
- ③ See application notes for: Insulation stop, page 199



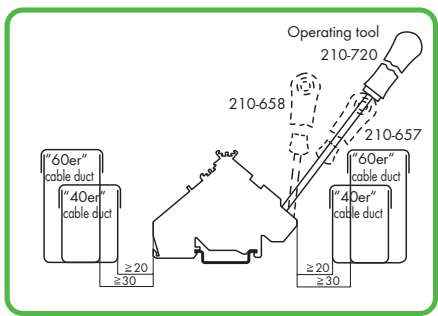
Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Actuator LED terminal block, additional LED, 24 VDC, LED power consumption: 4.8 mA</b>		<b>Actuator LED terminal block with ground connection, additional LED, 24 VDC, LED power consumption: 4.8 mA</b>	
● Circuit I	<b>280-562/281-434</b> 50	● Circuit I	<b>280-572/281-434</b> 50
<b>Actuator LED terminal block, with recovery diode 1N4007, red LED, 24 VDC, LED power consumption: 4.8 mA</b>		<b>Actuator LED terminal block with ground connection, with recovery diode 1N4007, additional LED, 24 VDC, LED power consumption: 4.8 mA</b>	
● Circuit II	<b>280-562/281-420</b> 50	● Circuit II	<b>280-572/281-420</b> 50

Item-Specific Accessories		Item-Specific Accessories	
<b>End and intermediate plate, 1 mm thick, for triple-deck terminal blocks</b>		<b>End and intermediate plate, 1 mm thick, for quadruple-deck terminal blocks</b>	
	orange <b>280-321</b> 100 (4x25)		orange <b>280-323</b> 100 (4x25)
	gray <b>280-319</b> 100 (4x25)		gray <b>280-320</b> 100 (4x25)

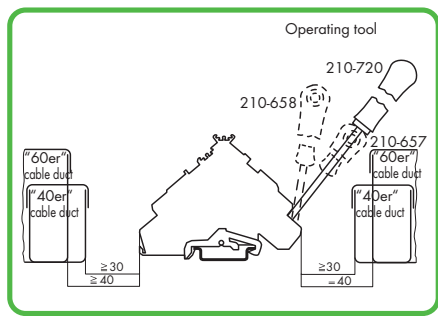
280 Series Accessories			
Appropriate marking system: WMB (see Section 13)			
<b>Insulation stop,</b>		<b>Adjacent jumper, insulated,</b>	
③	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>280-470</b> 200 (8x25)		I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b> 200 (8x25)



Power supply from control panel side



Min. mounting distance - terminal blocks to cable duct

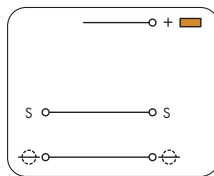
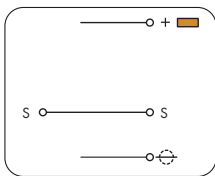


Min. mounting distance - terminal blocks to cable duct

For list of approvals and user guide, see pages 634 to 637.

# Actuator Terminal Blocks 2.5 mm<sup>2</sup> for Actuators with Shield Connection and Actuators with Shield Conductor Through Contact for Thermocouples, etc. – 280 Series

0.08 - 2.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 20 A	AWG 28 - 12 * 300 V, 15 A 300 V, 15 A	0.08 - 2.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 20 A	AWG 28 - 12 * 300 V, 15 A 300 V, 15 A
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②		Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②	

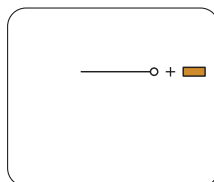
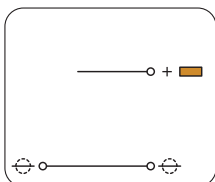
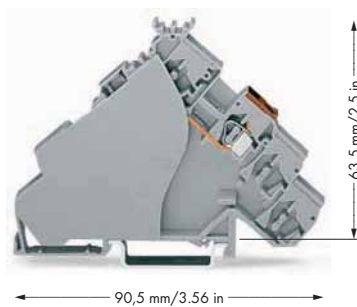
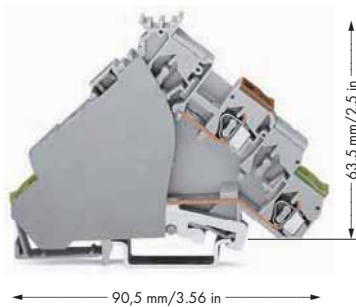


- \* AWG 12: THHN, THWN
- ① 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Actuator terminal block with shield connection</b>		<b>Actuator terminal block with shield conductor through contact</b>	
280-585	50	280-583	50
Item-specific accessories, see page 242		Item-specific accessories, see page 242	



Green-yellow clamping unit = shield contact

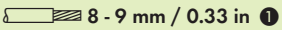
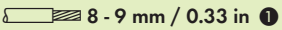
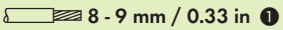


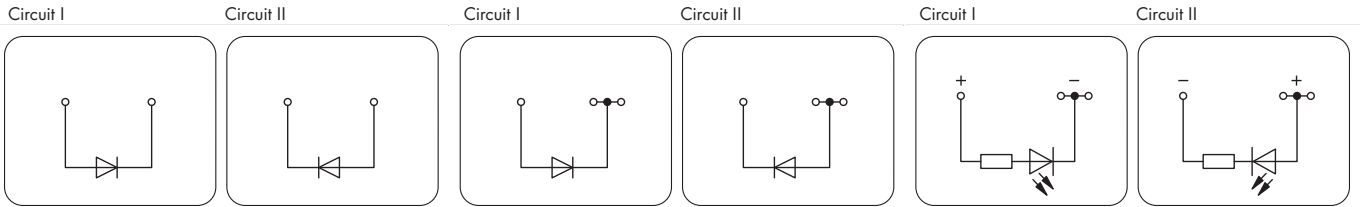
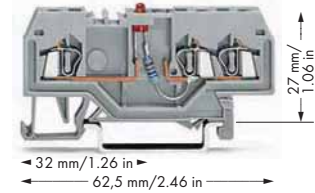
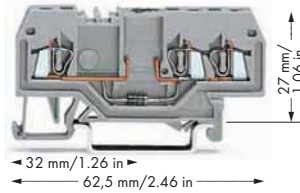
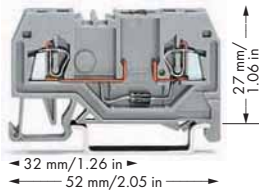
White clamping unit = shield conductor through contact

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Actuator supply terminal block with shield connection, power supply from control panel side, with end plate</b>		<b>Actuator supply terminal block, power supply from control panel side, with end plate, for actuators with shield conductor through contact</b>	
280-586	50	280-515	20
Item-specific accessories, see page 242		Item-specific accessories, see page 242	

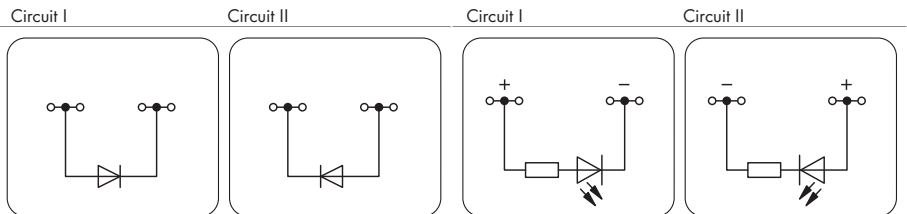
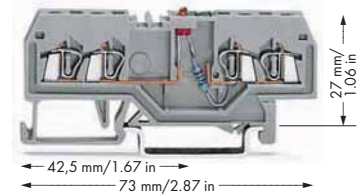
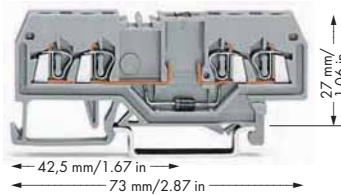
For list of approvals and user guide, see pages 634 to 637.

# Diode Terminal Blocks and LED Terminal Blocks 1.5 mm<sup>2</sup> 279 Series

<p>0.08 - 1.5 mm<sup>2</sup>   AWG 28 - 16                  U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V                  1N4007 - 0.5 A continuous current                  Terminal block width 4 mm / 0.157 in   8 - 9 mm / 0.33 in ①</p>	<p>0.08 - 1.5 mm<sup>2</sup>   AWG 28 - 16                  U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V                  1N4007 - 0.5 A continuous current                  Terminal block width 4 mm / 0.157 in   8 - 9 mm / 0.33 in ①</p>	<p>0.08 - 1.5 mm<sup>2</sup>   AWG 28 - 16                  24 VDC                  I<sub>F</sub> 0.025 A max.                  Terminal block width 4 mm / 0.157 in   8 - 9 mm / 0.33 in ①</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor diode terminal block with 1N4007 diode, gray</b>		<b>3-conductor diode terminal block with 1N4007 diode, gray</b>		<b>3-conductor LED terminal block with red LED, 24 VDC, gray</b>	
● Circuit I	<b>279-915/281-410</b>	100	● Circuit I	<b>279-673/281-410</b>	100
● Circuit II	<b>279-915/281-411</b>	100	● Circuit II	<b>279-673/281-411</b>	100
			● Circuit I	<b>279-674/281-434</b>	100
			● Circuit II	<b>279-674/281-413</b>	100



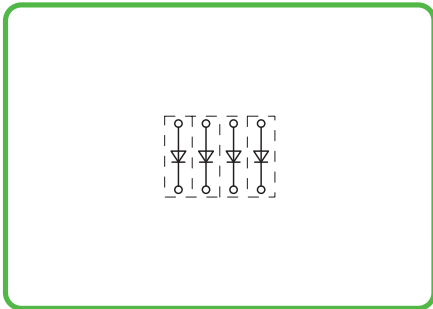
	Item No.	Pack. Unit	Item No.	Pack. Unit		
Through terminal blocks with same profile, see page 162	<b>4-conductor diode terminal block with 1N4007 diode, gray</b>		<b>4-conductor LED terminal block with red LED, 24 VDC, gray</b>			
	● Circuit I	<b>279-815/281-410</b>	100	● Circuit I	<b>279-809/281-434</b>	100
	● Circuit II	<b>279-815/281-411</b>	100	● Circuit II	<b>279-809/281-413</b>	100

For list of approvals and user guide, see pages 634 to 637.

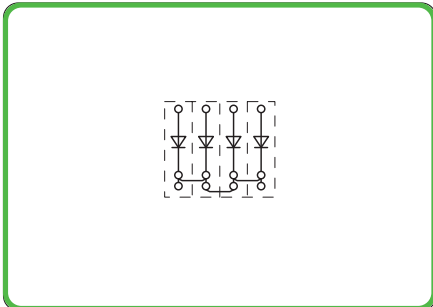


# Circuit Configuration Examples

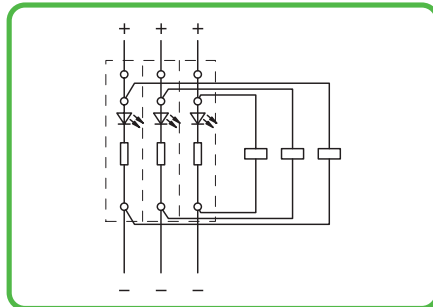
## Diode Terminal Blocks and LED Terminal Blocks



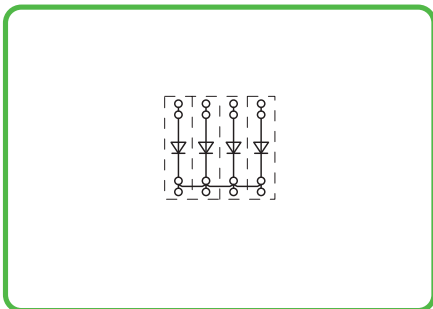
Open diode gates can be created using the following terminal blocks:  
279-915/281-410 or  
279-915/281-411



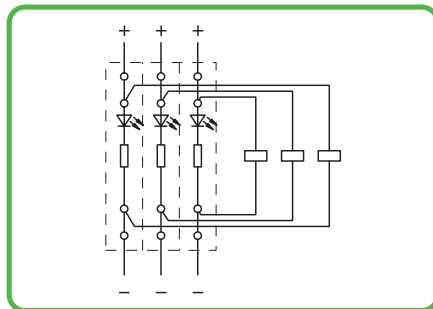
Polarized diode gates with common cathode can be created using the following terminal blocks:  
279-673/281-410 or  
279-673/281-411



Circuit-related voltage indications can be created using the following terminal blocks:  
279-674/281-434 or  
279-674/281-413



Polarized diode gates with common cathode can be created using the following terminal blocks:  
279-815/281-410 or  
279-815/281-411



Circuit-related voltage indications can be created using the following terminal blocks:  
279-809/281-434 or  
279-809/281-413

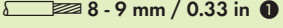
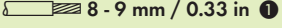
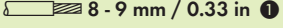
① Strip length, see packaging or instructions.

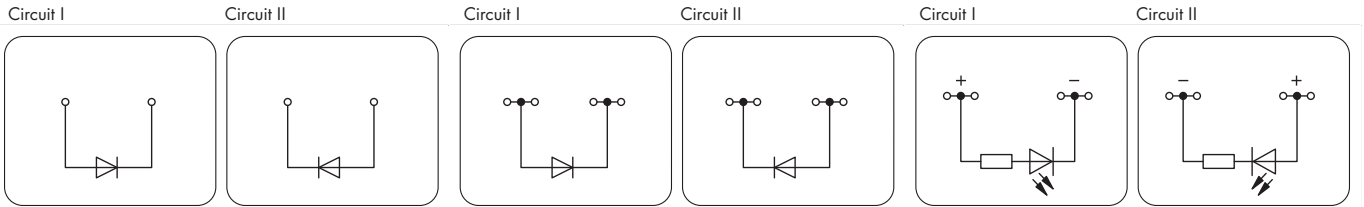
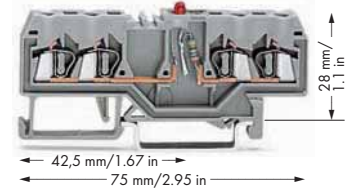
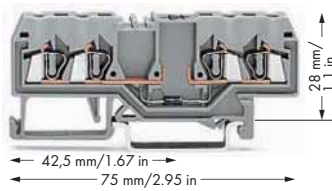
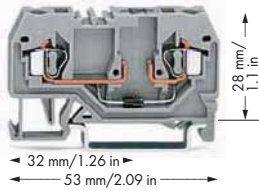
### 279 Series Accessories

Appropriate marking system:  
WMB (see Section 13)

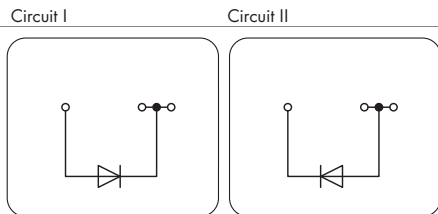
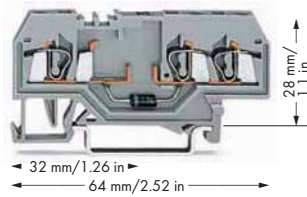
<b>Insulation stop,</b>			
	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white	<b>279-470</b>	200 (8x25)
<b>Insulation stop,</b>			
	5 pcs/strip, 0.25 mm <sup>2</sup> dark gray	<b>279-471</b>	200 (8x25)
<b>Comb-style jumper bar, insulated,</b>			
	I <sub>N</sub> = I <sub>N</sub> terminal block 2-way	<b>279-482</b>	200 (8x25)
	3-way	<b>279-483</b>	200 (8x25)
<b>Comb-style jumper bar, insulated,</b>			
	I <sub>N</sub> = I <sub>N</sub> terminal block 10-way	<b>279-490</b>	50 (2x25)
<b>Alternate comb-style jumper bar,</b>			
	insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way	<b>279-492</b>	200 (8x25)
<b>Operating tool, of insulating material</b>			
	2-way	<b>279-432</b>	1
	3-way	<b>279-433</b>	1
<b>Operating tool, of insulating material</b>			
	10-way	<b>279-440</b>	1

# Diode Terminal Blocks and LED Terminal Blocks 2.5 mm<sup>2</sup> 280 Series

<p>0.08 - 2.5 mm<sup>2</sup>   AWG 28 - 14                  U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V                  1N4007 - 0.5 A continuous current                  Terminal block width 5 mm / 0.197 in   8 - 9 mm / 0.33 in ①</p>	<p>0.08 - 2.5 mm<sup>2</sup>   AWG 28 - 14                  U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V                  1N4007 - 0.5 A continuous current                  Terminal block width 5 mm / 0.197 in   8 - 9 mm / 0.33 in ①</p>	<p>0.08 - 2.5 mm<sup>2</sup>   AWG 28 - 14                  24 VDC                  I<sub>F</sub> 0.025 A max.                  Terminal block width 5 mm / 0.197 in   8 - 9 mm / 0.33 in ①</p>
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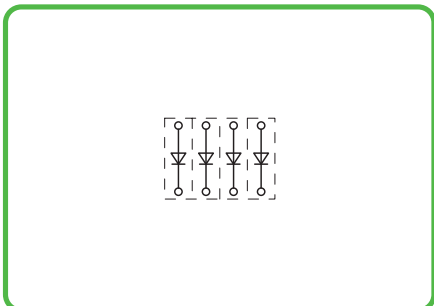
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor diode terminal block with 1N4007 diode, gray</b>		<b>4-conductor diode terminal block with 1N4007 diode, gray</b>		<b>4-conductor LED terminal block with red LED, 24 VDC, gray</b>	
● Circuit I	<b>280-915/281-410</b>	100	● Circuit I	<b>280-815/281-410</b>	100
● Circuit II	<b>280-915/281-411</b>	100	● Circuit II	<b>280-815/281-411</b>	100
				● Circuit I	<b>280-809/281-434</b>
				● Circuit II	<b>280-809/281-413</b>



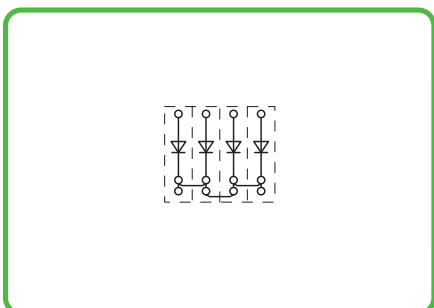
Item No.	Pack. Unit
<b>Through terminal blocks with same profile, see page 164</b>	
<b>3-conductor diode terminal block with 1N4007 diode, gray</b>	
● Circuit I	<b>280-673/281-410</b>
● Circuit II	<b>280-673/281-411</b>

# Circuit Configuration Examples

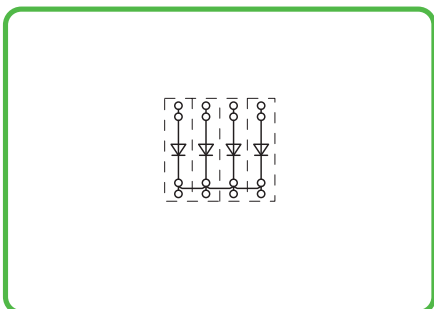
## Diode Terminal Blocks and LED Terminal Blocks



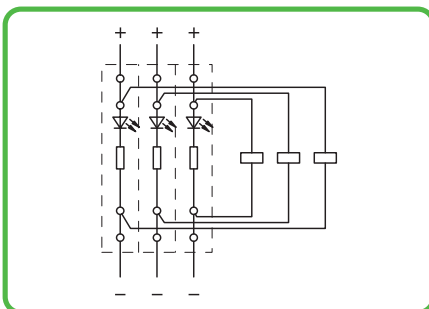
Open diode gates can be created using the following terminal blocks:  
280-915/281-410 or  
280-915/281-411



Polarized diode gates with common cathode can be created using the following terminal blocks:  
280-673/281-410 or  
280-673/281-411



Polarized diode gates with common cathode can be created using the following terminal blocks:  
280-815/281-410 or  
280-815/281-411



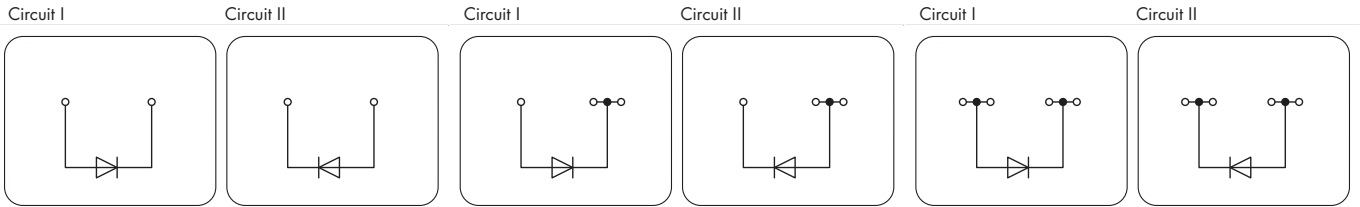
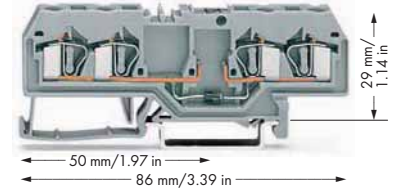
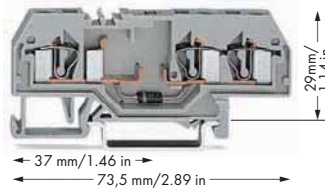
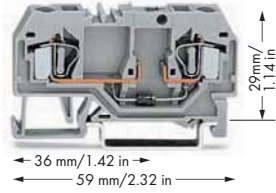
Circuit-related voltage indications can be created using the following terminal blocks:  
280-809/281-434 or  
280-809/281-413

① Strip length, see packaging or instructions.

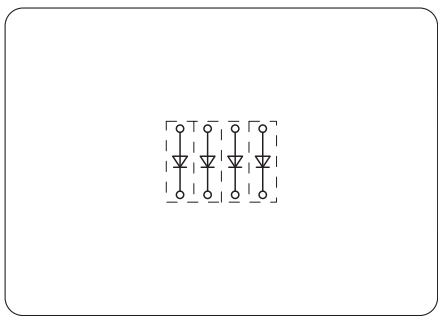
280 Series Accessories			
Appropriate marking system: WMB (see Section 13)			
	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white	<b>280-470</b>	200 (8x25)
	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray	<b>280-471</b>	200 (8x25)
	5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray	<b>280-472</b>	200 (8x25)
	Comb-style jumper bar, insulated, I <sub>N</sub> = I <sub>N</sub> terminal block	2-way <b>280-482</b> 3-way <b>280-483</b>	200 (8x25) 200 (8x25)
	Comb-style jumper bar, insulated, I <sub>N</sub> = I <sub>N</sub> terminal block	10-way <b>280-490</b>	50 (2x25)
	Alternate comb-style jumper bar, insulated, I <sub>N</sub> = I <sub>N</sub> terminal block	2-way <b>280-492</b>	200 (8x25)
	Operating tool, of insulating material	2-way <b>280-432</b> 3-way <b>280-433</b>	1 1
	Operating tool, of insulating material	10-way <b>280-440</b>	1
	Wire commoning chain, 50 connections, insulated, I <sub>N</sub> 8 A	black <b>210-103</b>	1
	Wire commoning chain, 50 connections, insulated, I <sub>N</sub> 8 A	blue <b>210-123</b>	1

# Diode Terminal Blocks 4 mm<sup>2</sup> 281 Series

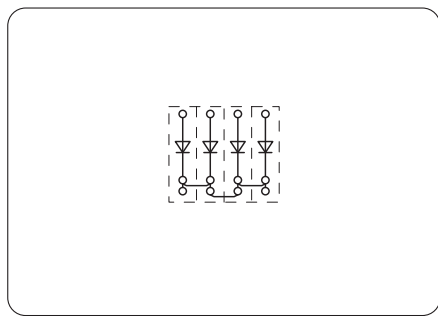
<p>0.08 - 4 mm<sup>2</sup>   AWG 28 - 12 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V</p> <p>Terminal block width 6 mm / 0.236 in 9 - 10 mm / 0.37 in ①</p>	<p>0.08 - 4 mm<sup>2</sup>   AWG 28 - 12 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V</p> <p>Terminal block width 6 mm / 0.236 in 9 - 10 mm / 0.37 in ①</p>	<p>0.08 - 4 mm<sup>2</sup>   AWG 28 - 12 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V</p> <p>Terminal block width 6 mm / 0.236 in 9 - 10 mm / 0.37 in ①</p>
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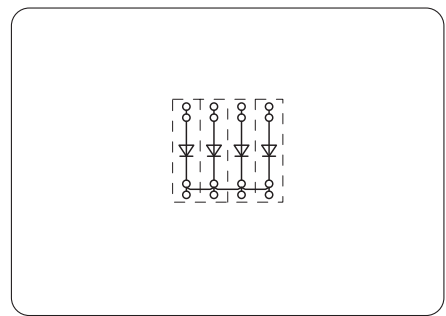
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor diode terminal block with 1N4007 diode, 0.5 A continuous current, gray</b>		<b>3-conductor diode terminal block with 1N4007 diode, 0.5 A continuous current, gray</b>		<b>4-conductor diode terminal block with 1N4007 diode, 0.5 A continuous current, gray</b>	
● Circuit I	<b>281-915/281-410</b> 50	● Circuit I	<b>281-673/281-410</b> 50	● Circuit I	<b>281-665/281-410</b> 50
● Circuit II	<b>281-915/281-411</b> 50	● Circuit II	<b>281-673/281-411</b> 50	● Circuit II	<b>281-665/281-411</b> 50
<b>2-conductor diode terminal block with 1N5408 diode, 1.5 A continuous current, gray</b>		<b>3-conductor diode terminal block with 1N5408 diode, 1.5 A continuous current, gray</b>		<b>4-conductor diode terminal block with 1N5408 diode, 1.5 A continuous current, gray</b>	
● Circuit I	<b>281-915/281-400</b> 50	● Circuit I	<b>281-673/281-400</b> 50	● Circuit I	<b>281-665/281-400</b> 50
● Circuit II	<b>281-915/281-401</b> 50	● Circuit II	<b>281-673/281-401</b> 50	● Circuit II	<b>281-665/281-401</b> 50
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>	
Through	<b>281-901</b> Page 170	Through	<b>281-681</b> Page 170	Through	<b>281-652</b> Page 170



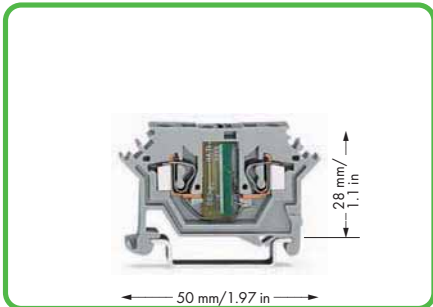
Open diode gate



Polarized diode gate, common cathode



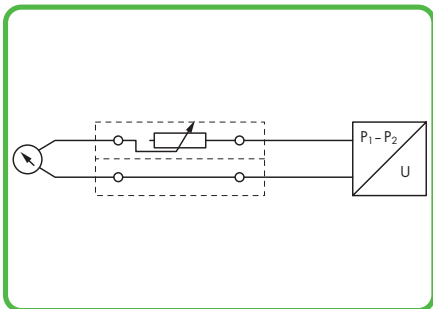
Polarized diode gate, common cathode



**Variable resistor terminal blocks, with balancing resistance**  
0.5 Ohm - 20 Ohm, 0.75 W  
gray 280-615/281-412 ②

0.5 Ohm - 20 Ohm, 0.75 W  
blue 280-645/281-412 ② ③

20 Ohm - 1 kOhm, 0.75 W  
gray 280-615/281-428 ②



**Variable resistor terminal blocks**  
Trimming circuit for differential pressure

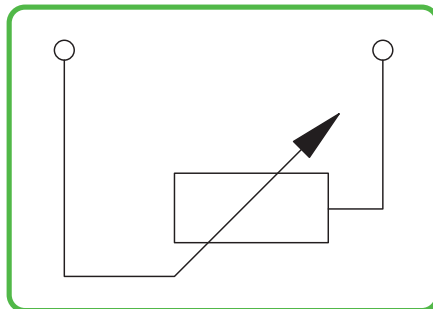
② Other resistors on request

③ Suitable for Ex i applications in connection with the 280-331 intermediate plate



**End plates for variable resistor terminal blocks**  
orange 280-331 100 (4x25)  
gray 280-330 100 (4x25)

For terminal blocks with side marking (e.g., 280-601), see [www.wagocatalog.com](http://www.wagocatalog.com)



**Circuit diagram**  
Variable resistor terminal block with balancing resistance

① Strip length, see packaging or instructions.

### 281 Series Accessories

Appropriate marking system:  
WMB (see Section 13)

Insulation stop,			
	5 pcs/strip, 0.08 - 0.2 mm² "s" (0.14 mm² "f-st")		
	white	<b>281-470</b>	200 (8x25)

Insulation stop,			
	5 pcs/strip, 0.25 - 0.5 mm²		
	light gray	<b>281-471</b>	200 (8x25)

Insulation stop,			
	5 pcs/strip, 0.25 - 1.5 mm²		
	dark gray	<b>281-472</b>	200 (8x25)

Comb-style jumper bar, insulated,			
	I <sub>N</sub> = I <sub>N</sub> terminal block		
	2-way	<b>281-482</b>	100 (4x25)
	3-way	<b>281-483</b>	100 (4x25)
	5-way	<b>281-485</b>	100 (4x25)
	10-way	<b>281-490</b>	50 (2x25)

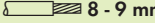
Alternate comb-style jumper bar,			
	insulated, I <sub>N</sub> = I <sub>N</sub> terminal block		
	2-way	<b>281-492</b>	100 (4x25)

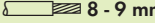
Operating tool, of insulating material			
	2-way	<b>280-432</b>	1
	3-way	<b>280-433</b>	1
	5-way	<b>281-440</b>	1

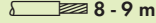
Wire commoning chain, 50 connections,			
	insulated, I <sub>N</sub> 8 A		
	black	<b>210-103</b>	1

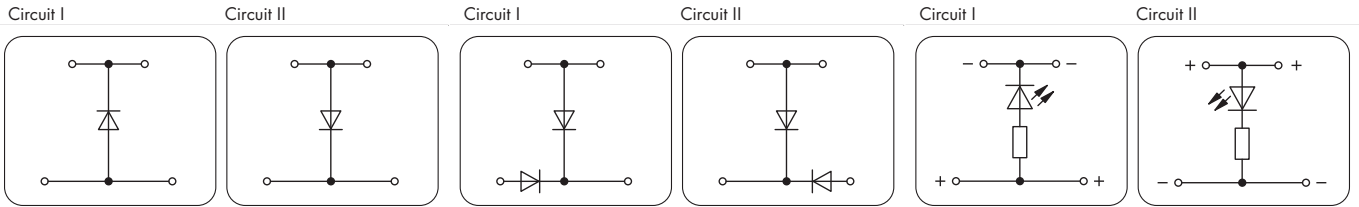
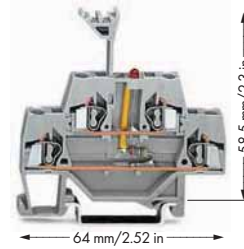
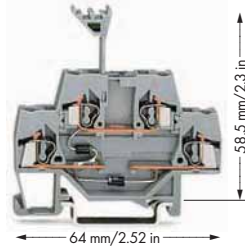
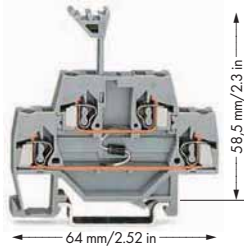
Wire commoning chain, 50 connections,			
	insulated, I <sub>N</sub> 8 A		
	blue	<b>210-123</b>	1

# Double-Deck Diode Terminal Blocks and LED Terminal Blocks 2.5 mm<sup>2</sup> 280 Series

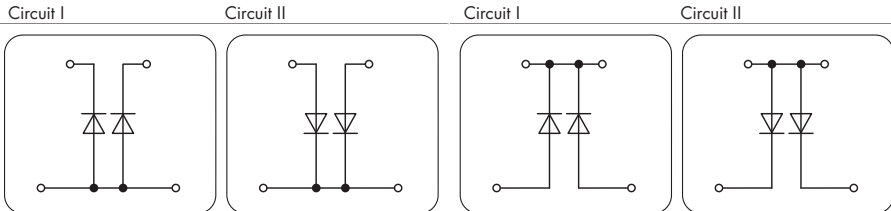
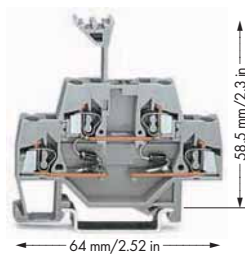
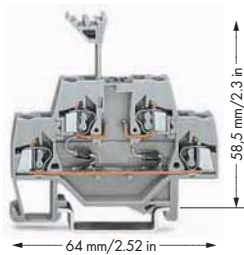
0.08 - 2.5 mm<sup>2</sup> | AWG 28 - 14  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N4007 - 0.5 A continuous current  
 Terminal block width 5 mm / 0.197 in  
 8 - 9 mm / 0.33 in ①

0.08 - 2.5 mm<sup>2</sup> | AWG 28 - 14  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N4007 - 0.5 A continuous current  
 Terminal block width 5 mm / 0.197 in  
 8 - 9 mm / 0.33 in ①

0.08 - 2.5 mm<sup>2</sup> | AWG 28 - 14  
 24 VDC  
 I<sub>F</sub> 0.025 A max.  
 Terminal block width 5 mm / 0.197 in  
 8 - 9 mm / 0.33 in ①



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Double-deck diode terminal block with 1N4007 diode, gray</b>		<b>Double-deck diode terminal block with 2 diodes 1N4007, gray</b>		<b>Double-deck LED terminal block with red LED, 24 VDC, gray</b>	
● Circuit I	<b>280-940/281-410</b>	50	● Circuit I	<b>280-941/281-492</b>	50
● Circuit II	<b>280-940/281-411</b>	50	● Circuit II	<b>280-941/281-491</b>	50
				● Circuit I	<b>280-943/281-434</b>
				● Circuit II	<b>280-943/281-413</b>

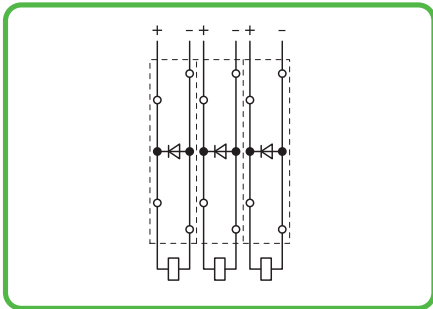


Item No.	Pack. Unit	Item No.	Pack. Unit		
<b>Double-deck diode terminal block with 2 diodes 1N4007, gray</b>		<b>Double-deck diode terminal block with 2 diodes 1N4007, gray</b>		<b>Through terminal blocks with same profile, see page 184</b>	
● Circuit I	<b>280-942/281-487</b>	50	● Circuit I		<b>280-941/281-489</b>
● Circuit II	<b>280-942/281-488</b>	50	● Circuit II	<b>280-941/281-490</b>	50

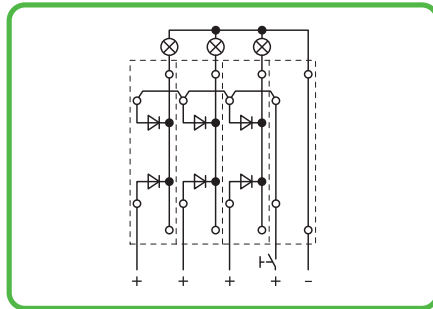
For list of approvals and user guide, see pages 634 to 637.

# Circuit Configuration Examples

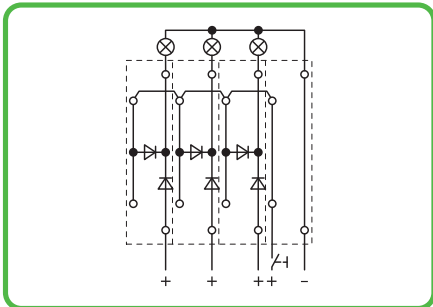
## Double-Deck Diode and LED Terminal Blocks



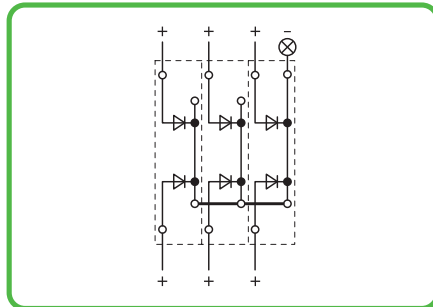
Recovery diodes can be created using the following terminal blocks:  
280-940/281-410 or  
280-940/281-411



Lamp test circuits can be created using the following terminal blocks:  
280-942/281-487 or  
280-942/281-488



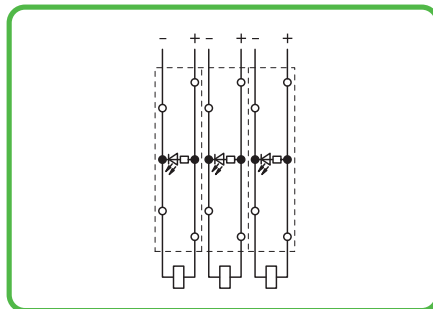
Lamp test circuits can be created using the following terminal blocks:  
280-941/281-492 or  
280-941/281-491



Collective fault signals can be created using the following terminal blocks:  
280-941/281-489 or  
280-941/281-490

### Double-deck diode terminal blocks

have been specially developed for custom diode circuits, such as lamp test and collective fault signal circuits. Using LED terminal blocks, monitoring units can be designed, e.g., for control and operating circuits. The terminal blocks provide high-density wiring, while maintaining a width of only 5 mm/0.197 in.














Circuit-related voltage indications can be created using the following terminal blocks:  
280-943/281-434 or  
280-943/281-413


① Strip length, see packaging or instructions.


### 280 Series Accessories


Appropriate marking systems  
(see Section 13)

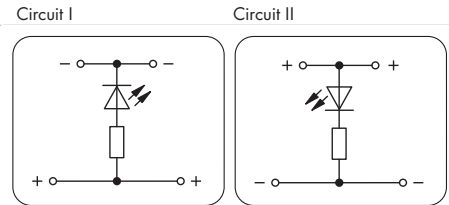
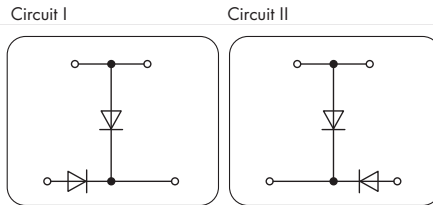
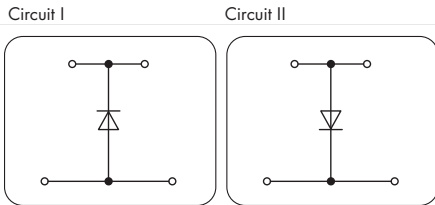
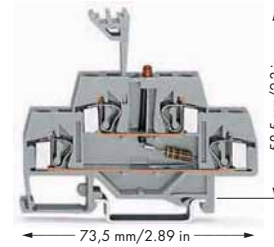
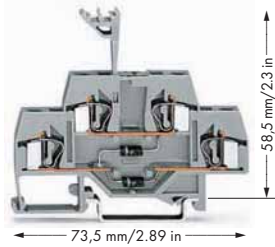
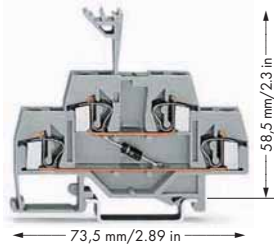
<b>End and intermediate plate, 2.5 mm thick</b>		
	orange	280-341 100 (4x25)
	gray	280-340 100 (4x25)
<b>Insulation stop,</b>		
	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")	
	white	280-470 200 (8x25)
<b>Insulation stop,</b>		
	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>	
	light gray	280-471 200 (8x25)
<b>Insulation stop,</b>		
	5 pcs/strip, 0.75 - 1 mm <sup>2</sup>	
	dark gray	280-472 200 (8x25)
<b>Comb-style jumper bar, insulated,</b>		
	I <sub>N</sub> = I <sub>N</sub> terminal block 2-way	280-482 200 (8x25)
	3-way	280-483 200 (8x25)
<b>Comb-style jumper bar, insulated,</b>		
	I <sub>N</sub> = I <sub>N</sub> terminal block 10-way	280-490 50 (2x25)
<b>Alternate comb-style jumper bar,</b>		
	insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way	280-492 200 (8x25)
<b>Operating tool, of insulating material</b>		
	2-way	280-432 1
	3-way	280-433 1
<b>Operating tool, of insulating material</b>		
	10-way	280-440 1
<b>Wire commoning chain, 50 connections,</b>		
	insulated, I <sub>N</sub> 8 A black	210-103 1
<b>Wire commoning chain, 50 connections,</b>		
	insulated, I <sub>N</sub> 8 A blue	210-123 1

# Double-Deck Diode Terminal Blocks and LED Terminal Blocks 4 mm<sup>2</sup> 281 Series

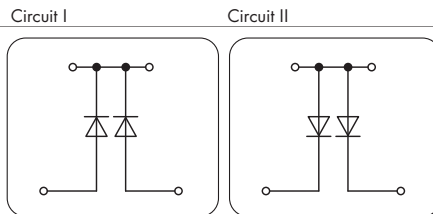
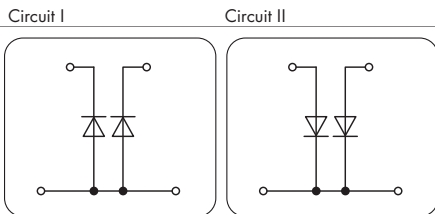
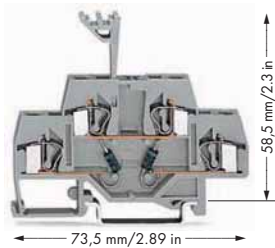
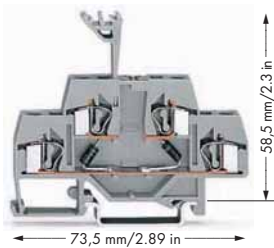
0.08 - 4 mm<sup>2</sup> | AWG 28 - 12  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N4007 - 0.5 A continuous current  
 Terminal block width 6 mm / 0.236 in  
 9 - 10 mm / 0.37 in ①

0.08 - 4 mm<sup>2</sup> | AWG 28 - 12  
 U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V  
 1N4007 - 0.5 A continuous current  
 Terminal block width 6 mm / 0.236 in  
 9 - 10 mm / 0.37 in ①

0.08 - 4 mm<sup>2</sup> | AWG 28 - 12  
 24 VDC  
 I<sub>f</sub> 0.025 A max.  
 Terminal block width 6 mm / 0.236 in  
 9 - 10 mm / 0.37 in ①



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Double-deck diode terminal block with 1N4007 diode, gray</b>		<b>Double-deck diode terminal block with 2 diodes 1N4007, gray</b>		<b>Double-deck LED terminal block with red LED, 24 VDC, gray</b>	
● Circuit I	281-633/281-410 50	● Circuit I	281-635/281-492 50	● Circuit I	281-634/281-434 50
● Circuit II	281-633/281-411 50	● Circuit II	281-635/281-491 50	● Circuit II	281-634/281-413 50

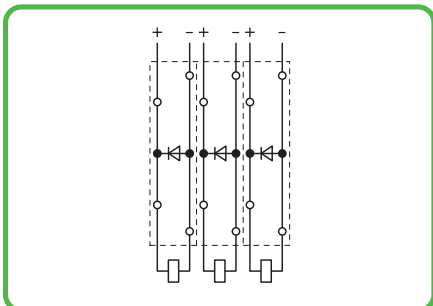


Item No.	Pack. Unit	Item No.	Pack. Unit	
<b>Double-deck diode terminal block with 2 diodes 1N4007, gray</b>		<b>Double-deck diode terminal block with 2 diodes 1N4007, gray</b>		<b>Through terminal blocks with same profile, see page 188</b>
● Circuit I	281-636/281-487 50	● Circuit I	281-635/281-489 50	
● Circuit II	281-636/281-488 50	● Circuit II	281-635/281-490 50	

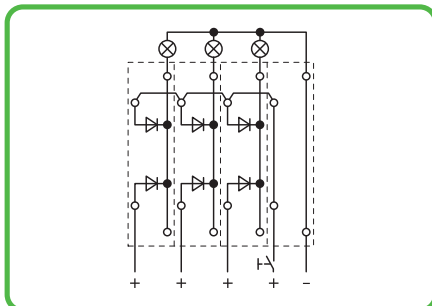


# Circuit Configuration Examples

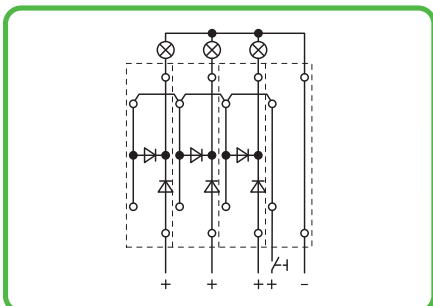
## Double-Deck Diode and LED Terminal Blocks



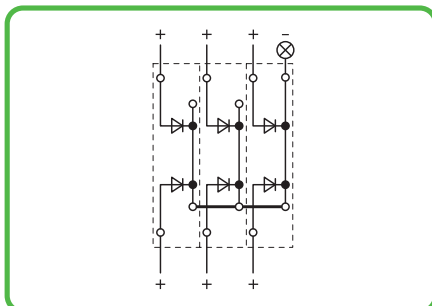
Recovery diodes can be created using the following terminal blocks:  
281-633/281-410 or  
281-633/281-411



Lamp test circuits can be created using the following terminal blocks:  
281-636/281-487 or  
281-636/281-488



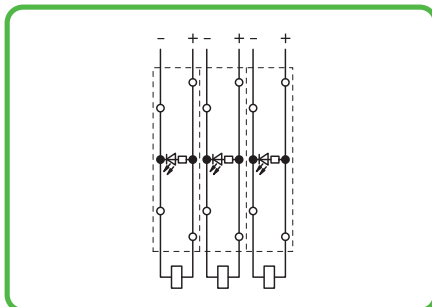
Lamp test circuits can be created using the following terminal blocks:  
281-635/281-492 or  
281-635/281-491



Collective fault signals can be created using the following terminal blocks:  
281-635/281-489 or  
281-635/281-490

### Double-deck diode terminal blocks

have been specially developed for custom diode circuits, such as lamp test and collective fault signal circuits. Using LED terminal blocks, monitoring units can be designed, e.g., for control and operating circuits. The terminal blocks provide high-density wiring, while maintaining a width of only 6 mm/0.236 in.



Circuit-related voltage indications can be created using the following terminal blocks:  
281-634/281-434 or  
281-634/281-413

① Strip length, see packaging or instructions.

### 281 Series Accessories

Appropriate marking system:  
WMB (see Section 13)

End and intermediate plate, 2.5 mm thick			
orange	281-341	100	(4x25)
gray	281-340	100	(4x25)

Insulation stop,			
5 pcs/strip,			
0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")			
white	281-470	200	(8x25)

Insulation stop,			
5 pcs/strip,			
0.25 - 0.5 mm <sup>2</sup>			
light gray	281-471	200	(8x25)

Insulation stop,			
5 pcs/strip,			
0.25 - 1.5 mm <sup>2</sup>			
dark gray	281-472	200	(8x25)

Comb-style jumper bar, insulated,			
$I_N = I_N$ terminal block			
2-way	281-482	100	(4x25)
3-way	281-483	100	(4x25)
5-way	281-485	100	(4x25)
10-way	281-490	50	(2x25)

Alternate comb-style jumper bar,			
insulated,			
$I_N = I_N$ terminal block			
2-way	281-492	100	(4x25)

Operating tool, of insulating material			
2-way	280-432		1
3-way	280-433		1
5-way	281-440		1

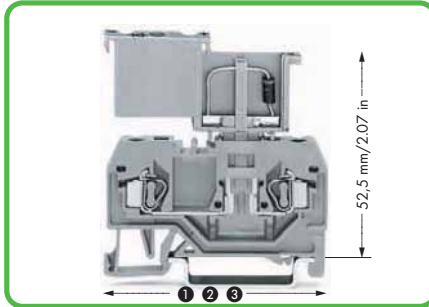
Wire commoning chain, 50 connections,			
insulated, $I_N$ 8 A			
black	210-103		1

Wire commoning chain, 50 connections,			
insulated, $I_N$ 8 A			
blue	210-123		1

# Pluggable Diode Modules on Carrier Terminal Blocks 2.5 mm<sup>2</sup> 280 Series



Diode module with 1N4007 diode  
 $U_N$  250 V,  $U_{RM}$  1000 V  
 $I_N$  1 A  
 Plug width 5 mm / 0.197 in

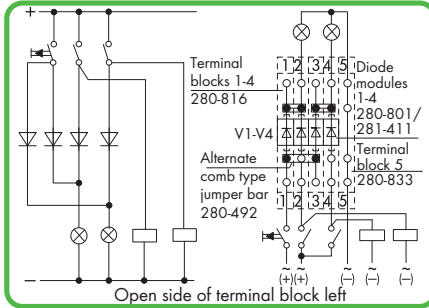
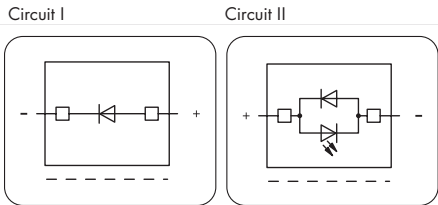


These diode have been designed for use in lamp test circuits or collective fault indicating systems, and offer the following advantages:

- Separation into functional and wiring level
- Polarized direction of switching
- Quick and easy exchange of modules
- High density with only 5 mm/0.197 in width of terminal block and module.

For terminal blocks with side marking, see www.wagocatalog.com

- ① Length of 280-916: 53 mm / 2.09 in  
2-conductor carrier terminal block, front-entry
- ② Length of 280-610: 64 mm / 2.52 in  
3-conductor carrier terminal block, front-entry
- ③ Length of 280-816: 75 mm / 2.95 in  
4-conductor carrier terminal block, front-entry
- ④ See application notes for:  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200



Lamp test circuit with blocking diodes

### Accessories

<b>Insulation stop,</b>	
④	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>280-470</b> 200 (8x25)

<b>Insulation stop,</b>	
④	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>280-471</b> 200 (8x25)

<b>Insulation stop,</b>	
④	5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>280-472</b> 200 (8x25)

<b>Comb-style jumper bar, insulated,</b>	
④	$I_N = I_N$ terminal block 2-way <b>280-482</b> 200 (8x25) 3-way <b>280-483</b> 200 (8x25)

<b>Comb-style jumper bar, insulated,</b>	
④	$I_N = I_N$ terminal block 10-way <b>280-490</b> 50 (2x25)

<b>Alternate comb-style jumper bar, insulated,</b>	
④	$I_N = I_N$ terminal block 2-way <b>280-492</b> 200 (8x25)

<b>Operating tool, of insulating material</b>	
	2-way <b>280-432</b> 1
	3-way <b>280-433</b> 1

<b>Operating tool, of insulating material</b>	
	10-way <b>280-440</b> 1

<b>Wire commoning chain, 50 connections,</b>	
	insulated, $I_N$ 8 A black <b>210-103</b> 1

<b>Wire commoning chain, 50 connections,</b>	
	insulated, $I_N$ 8 A blue <b>210-123</b> 1

Item No.	Pack. Unit
Diode module, with 1N4007 diode, 5 mm wide	<b>280-801/281-411</b> 100
Diode module, with recovery diode 1N4007, red LED, 5 mm wide	
24 VDC	<b>280-801/281-420</b> 100
48 VDC	<b>280-801/281-421</b> 100

### Carrier Term. Blocks and Accessories

Appropriate marking system: WMB (see Section 13)

<b>2-conductor carrier terminal block,</b>	
①	0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 14, Terminal block width 5 mm / 0.197 in gray <b>280-916</b> 100

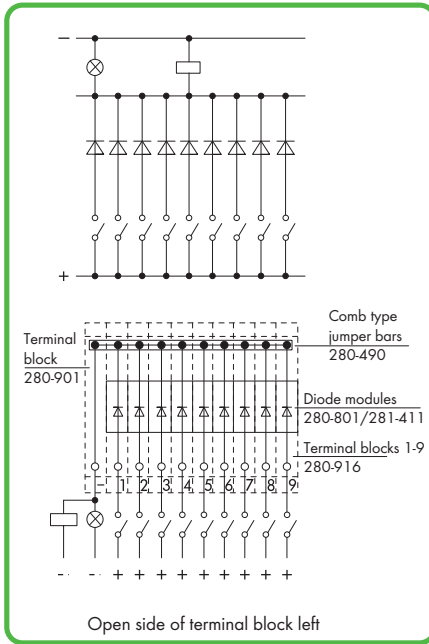
<b>End and intermediate plate, 2.5 mm thick</b>	
	orange <b>280-309</b> 100 (4x25)
	gray <b>280-308</b> 100 (4x25)

<b>3-conductor carrier terminal block,</b>	
②	0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 14, Terminal block width 5 mm / 0.197 in gray <b>280-610</b> 100

<b>End and intermediate plate, 2.5 mm thick</b>	
	orange <b>280-326</b> 100 (4x25)
	gray <b>280-324</b> 100 (4x25)

<b>4-conductor carrier terminal block,</b>	
③	0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 14, Terminal block width 5 mm / 0.197 in gray <b>280-816</b> 100

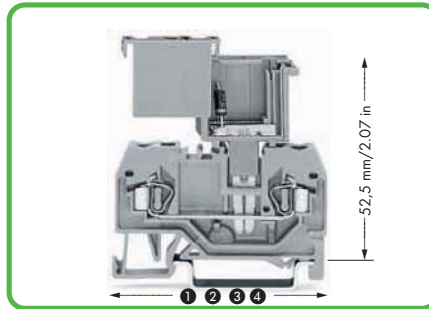
<b>End and intermediate plate, 2.5 mm thick</b>	
	orange <b>280-315</b> 100 (4x25)
	gray <b>280-314</b> 100 (4x25)



Diode gate for collective fault indication

# Pluggable Diode Modules on Through Terminal Blocks 2.5 mm<sup>2</sup> 280 Series

Diode module  
with 1N4007 diode  
 $U_N$  250 V,  $U_{RM}$  1000 V  
 $I_N$  1 A  
Plug width 10 mm / 0.394 in



Similar to a push-in jumper, these diode modules are simply pushed into the contact slots of the current bars for two adjacent through terminal blocks.

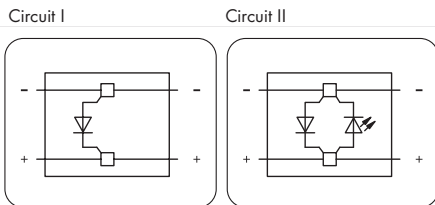
This offers the following advantages:




- The modules are suitable for all 280 Series through terminal blocks.
- Easily retrofit terminal blocks with diode modules.

For terminal blocks with side marking, see [www.wagocatalog.com](http://www.wagocatalog.com)

\* AWG 12: THHN, THWN







- 1 Length of 280-901: 53 mm / 2.09 in  
2-conductor through terminal block, front-entry
- 2 Length of 280-681: 64 mm / 2.52 in  
3-conductor through terminal block, front-entry
- 3 Length of 280-833: 75 mm / 2.95 in  
4-conductor through terminal block, front-entry
- 4 Length of 280-101: 42.5 mm / 1.67 in  
2-conductor through terminal block, side-entry
- 5 See application notes for:  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200



Item No.	Pack. Unit
<b>Diode module,</b> with 1N4007 diode, 10 mm wide 	<b>280-803/281-411</b> 50
<b>Diode module,</b> with recovery diode 1N4007, additional LED, 10 mm wide  24 VDC	<b>280-803/281-420</b> 50
 48 VDC	<b>280-803/281-421</b> 50

## Through Term. Blocks and Accessories

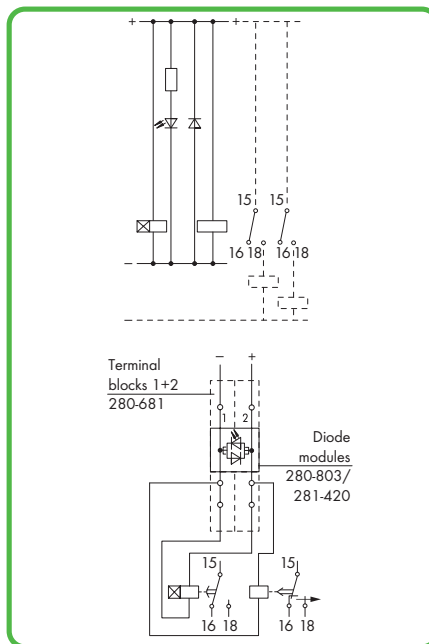
Appropriate marking system:  
WMB (see Section 13)

<b>2-conductor through terminal block,</b> 	0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 12 *, Terminal block width 5 mm / 0.197 in gray <b>280-901</b> 100
<b>End and intermediate plate,</b> 2.5 mm thick 	orange <b>280-309</b> 100 (4x25) gray <b>280-308</b> 100 (4x25)
<b>3-conductor through terminal block,</b> 	0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 12 *, Terminal block width 5 mm / 0.197 in gray <b>280-681</b> 100
<b>End and intermediate plate,</b> 2.5 mm thick 	orange <b>280-326</b> 100 (4x25) gray <b>280-324</b> 100 (4x25)
<b>4-conductor through terminal block,</b> 	0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 12 *, Terminal block width 5 mm / 0.197 in gray <b>280-833</b> 100
<b>End and intermediate plate,</b> 2.5 mm thick 	orange <b>280-315</b> 100 (4x25) gray <b>280-314</b> 100 (4x25)











Further advantages:

- Separation into functional and wiring level
- Modules can be replaced quickly by other types of modules



Free-wheeling diode and voltage check

## Accessories

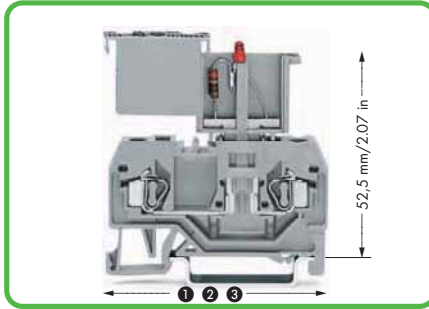
<b>2-conductor through terminal block,</b> 	0.08 - 2.5 mm <sup>2</sup> / AWG 28 - 12 *, Terminal block width 5 mm / 0.197 in gray <b>280-101</b> 100
<b>End and intermediate plate,</b> 2.5 mm thick 	orange <b>280-302</b> 100 (4x25) gray <b>280-301</b> 100 (4x25)
<b>Insulation stop,</b> 	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>280-470</b> 200 (8x25)
<b>Insulation stop,</b> 	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>280-471</b> 200 (8x25)
<b>Insulation stop,</b> 	5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>280-472</b> 200 (8x25)
<b>Adjacent jumper, insulated,</b> 	$I_N = I_N$ terminal block gray <b>280-402</b> 200 (8x25)
<b>Wire commoning chain,</b> 50 connections, insulated, $I_N$ 8 A 	black <b>210-103</b> 1
<b>Wire commoning chain,</b> 50 connections, insulated, $I_N$ 8 A 	blue <b>210-123</b> 1

For list of approvals and user guide, see pages 634 to 637.

# Pluggable LED and Neon Indicator Modules on Carrier Terminal Blocks 2.5 mm<sup>2</sup> 280 Series



**LED module**  
 $I_N$  5.6 mA;  $I_F$  25 mA  
**Neon indicator module**  
 $I_N$  0.5 mA  
 Plug width 5 mm / 0.197 in



The monitoring of control and operating current circuits with LED and neon indicator modules on rail-mounted terminal blocks offers various advantages to the user:

- No additional cost for assembly and wiring
- Separation into functional and wiring level
- Modules can be replaced quickly and easily by other types of modules

- 1 Length of 280-916: 53 mm / 2.09 in  
2-conductor carrier terminal block, front-entry
- 2 Length of 280-610: 64 mm / 2.52 in  
3-conductor carrier terminal block, front-entry
- 3 Length of 280-816: 75 mm / 2.95 in  
4-conductor carrier terminal block, front-entry

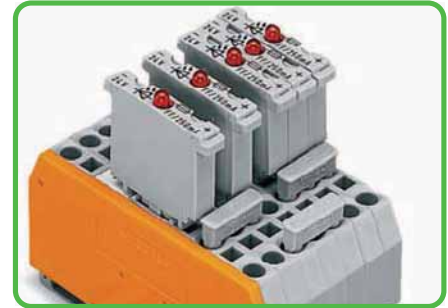
Item No.	Pack. Unit
<b>LED module, with red LED, 5 mm wide</b>	
24 VDC 280-801/281-413	100
48 VDC 280-801/281-414	100
<b>LED module, with red LED, 5 mm wide</b>	
24 V AC/DC 280-801/281-415	100
48 V AC/DC 280-801/281-416	100
<b>Neon indicator module, 5 mm wide</b>	
120 V AC/DC 280-801/281-418	100
230 V AC/DC 280-801/281-417	100
Carrier terminal blocks, see page 264	



Further advantages:

- Polarized direction of switching
- High density with only 5 mm/0.197 in width of terminal block and module

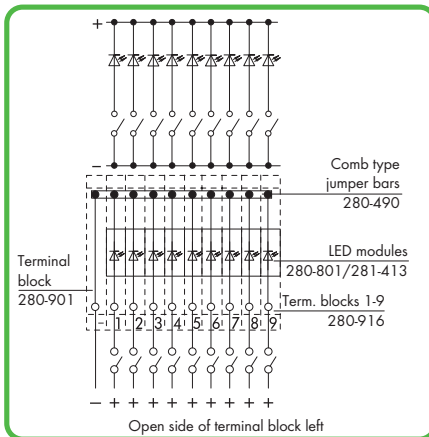
For terminal blocks with side marking, see [www.wagocatalog.com](http://www.wagocatalog.com)



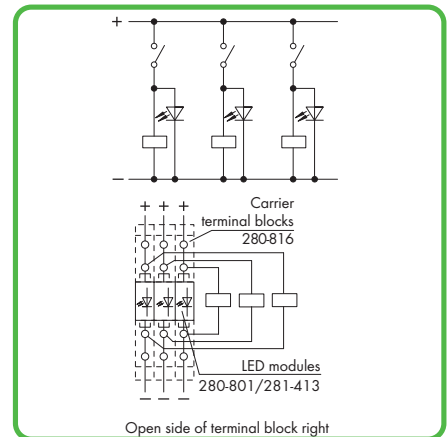
Carrier terminal blocks with component plugs  
 Alternate comb-style jumper bars  
 3-way, comb-style jumper bar

## Circuit Diagrams

LED module	24 VDC	280-801/281-413	100
	48 VDC	280-801/281-414	
LED module	24 V AC/DC	280-801/281-415	100
	48 V AC/DC	280-801/281-416	
Neon indicator module	120 V AC/DC	280-801/281-418	100
	230 V AC/DC	280-801/281-417	



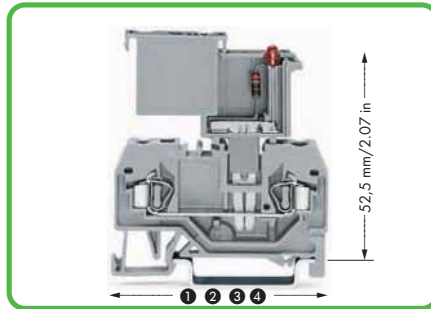
LED gate for collective fault indication - individual display



Voltage control refers to current circuits

# Pluggable LED and Neon Indicator Modules on Through Terminal Blocks 2.5 mm<sup>2</sup> 280 Series

**LED module**  
 $I_N$  5.6 mA;  $I_F$  25 mA  
**Neon indicator module**  
 $I_N$  0.5 mA  
 Plug width 10 mm / 0.394 in



Similar to a push-in jumper, these LED and neon indicator modules are simply pushed into the current bar contact slots of two adjacent through terminal blocks. This offers the following advantages:

- The modules are suitable for all 280 Series through terminal blocks
- Easily retrofit terminal blocks with diode modules

Further advantages:

- Separation into functional and wiring level
- Modules can be replaced quickly by other types of modules

- 1 Length of 280-901: 53 mm / 2.09 in  
2-conductor through terminal block, front-entry
- 2 Length of 280-681: 64 mm / 2.52 in  
3-conductor through terminal block, front-entry
- 3 Length of 280-833: 75 mm / 2.95 in  
4-conductor through terminal block, front-entry
- 4 Length of 280-101: 42.5 mm / 1.67 in  
2-conductor through terminal block, side-entry

For terminal blocks with side marking, see [www.wagocatalog.com](http://www.wagocatalog.com)



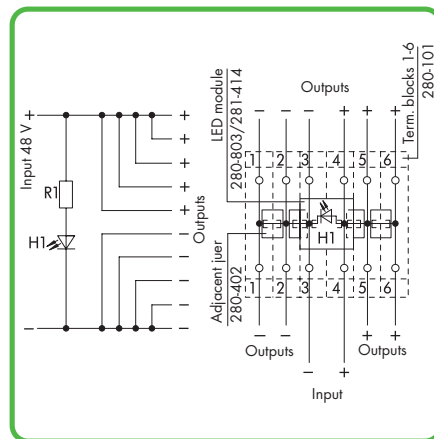
Diode and LED modules on through terminal blocks with side marking

Item No.	Pack. Unit
<b>LED module, with red LED, 10 mm wide</b>	
24 VDC 280-803/281-413	50
48 VDC 280-803/281-414	50
<b>LED module, with red LED, 10 mm wide</b>	
24 V AC/DC 280-803/281-415	50
48 V AC/DC 280-803/281-416	50
<b>Neon indicator module, 10 mm wide</b>	
120 V AC/DC 280-803/281-418	50
230 V AC/DC 280-803/281-417	50

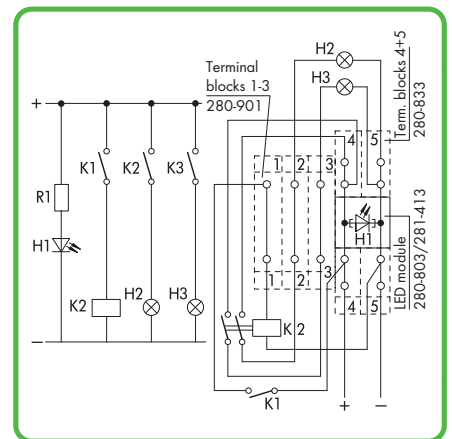
Through terminal blocks, see page 265

## Circuit Diagrams

	24 VDC 280-803/281-413	50
	48 VDC 280-803/281-414	
	24 V AC/DC 280-803/281-415	50
	48 V AC/DC 280-803/281-416	
	120 V AC/DC 280-803/281-418	50
	230 V AC/DC 280-803/281-417	



Multiple outputs with indicator lamp



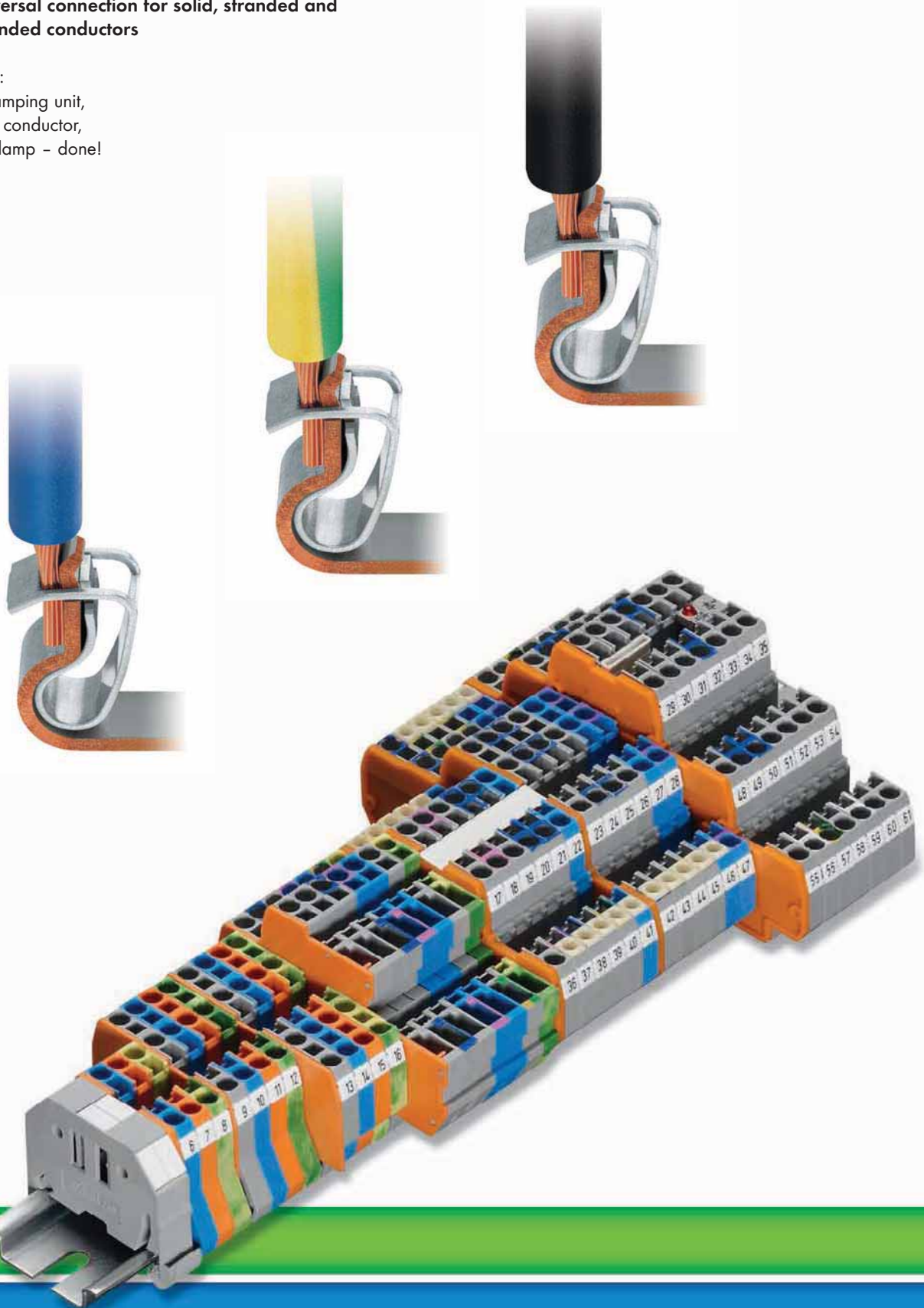
Control unit

# CAGE CLAMP<sup>®</sup>

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

Handling:

Open clamping unit,  
insert the conductor,  
release clamp - done!



# Miniature Rail-Mounted Terminal Blocks for DIN 35 and DIN 15 Rails; Compact Rail-Mounted Terminal Blocks, Multilevel and Function Terminal Blocks, Front-Entry

# 4

4



**Through, Ground Conductor and Ex Terminal Blocks**  
 – for DIN 35 and DIN 15 rails  
 0.08 mm<sup>2</sup> to 2.5 mm<sup>2</sup> (AWG 28 - 12)

264 Series

272 – 273



**Through, Ground Conductor and Ex Terminal Blocks**  
 – for DIN 35 and DIN 15 rails  
 0.08 mm<sup>2</sup> to 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") / AWG 28 - 12

870 Series

276



**Double-Potential Terminal Blocks**  
 0.08 mm<sup>2</sup> to 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") / AWG 28 - 12

870 Series

276



**Multilevel Rail-Mounted Terminal Blocks**  
 – Double-deck  
 0.08 mm<sup>2</sup> to 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") / AWG 28 - 12  
 – Triple-deck  
 0.08 mm<sup>2</sup> to 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") / AWG 28 - 12

870 Series

278 – 279

870 Series

280



**Sensor and Actuator Terminal Blocks**  
 0.08 mm<sup>2</sup> to 2.5 mm<sup>2</sup> (AWG 28 - 12)

870 Series

285 – 287



**Double- and Triple-Deck Diode and LED Terminal Blocks**  
 0.08 mm<sup>2</sup> to 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") / AWG 28 - 12

870 Series

288 – 291



**Accessories for Rail-Mounted Terminal Blocks**  
 – Busbar Terminal Blocks  
 – Insulation Stops  
 – Tap-Off and Test Plug Modules  
 – Group Marker Carriers

for 870 Series  
 for 870 Series

427  
 199  
 283  
 281

# Miniature Rail-Mounted Terminal Blocks for DIN 15 and DIN 35 Rails

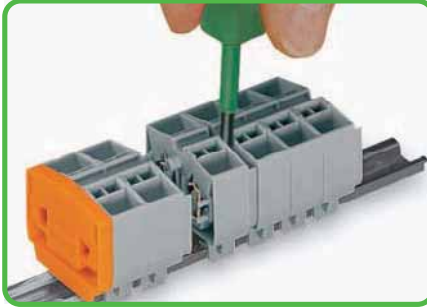
## 264 Series

### Assembly



Quick assembly keys prevent reverse mounting.

### Removal



Separate terminal strip and slide the individual terminal block laterally.

### Removal



Remove terminal block from the carrier rail.

### Commoning

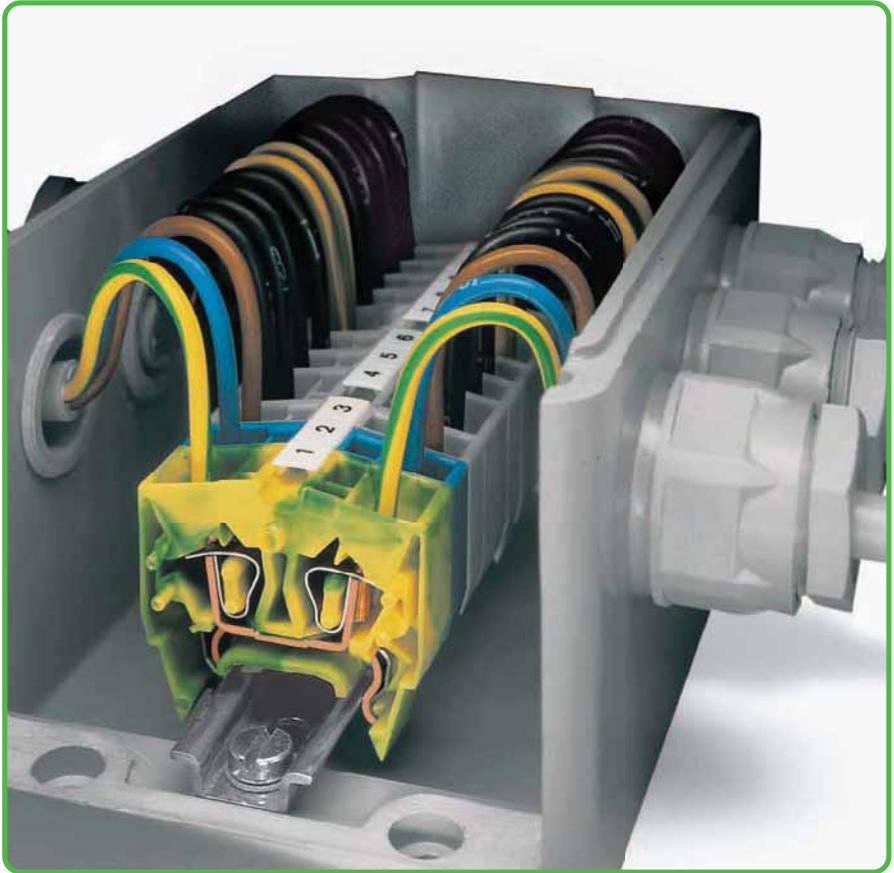


Commoning with comb-style jumper bar.

### Commoning



Commoning with comb-style jumper bar.



### Application



Easy handling with minimum space in small enclosures.

### Combining/Marking



Combining 2- and 4-conductor terminal blocks. Marking via miniature WSB quick marking system.



**CAGE CLAMP®** clamps the following copper conductors:\*

solid



stranded



fine-stranded, also with tinned single strands

\* For aluminum conductors, see notes in Section 14.

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.



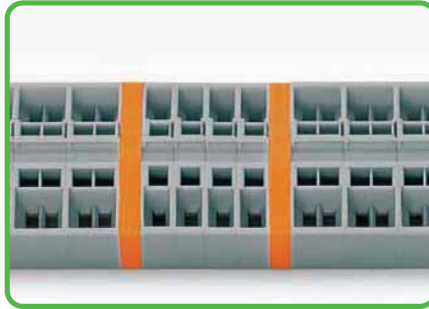
- Description and Handling -

CAGE CLAMP® connection



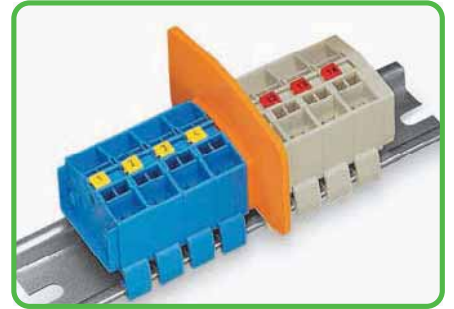
Conductor termination

Group formation

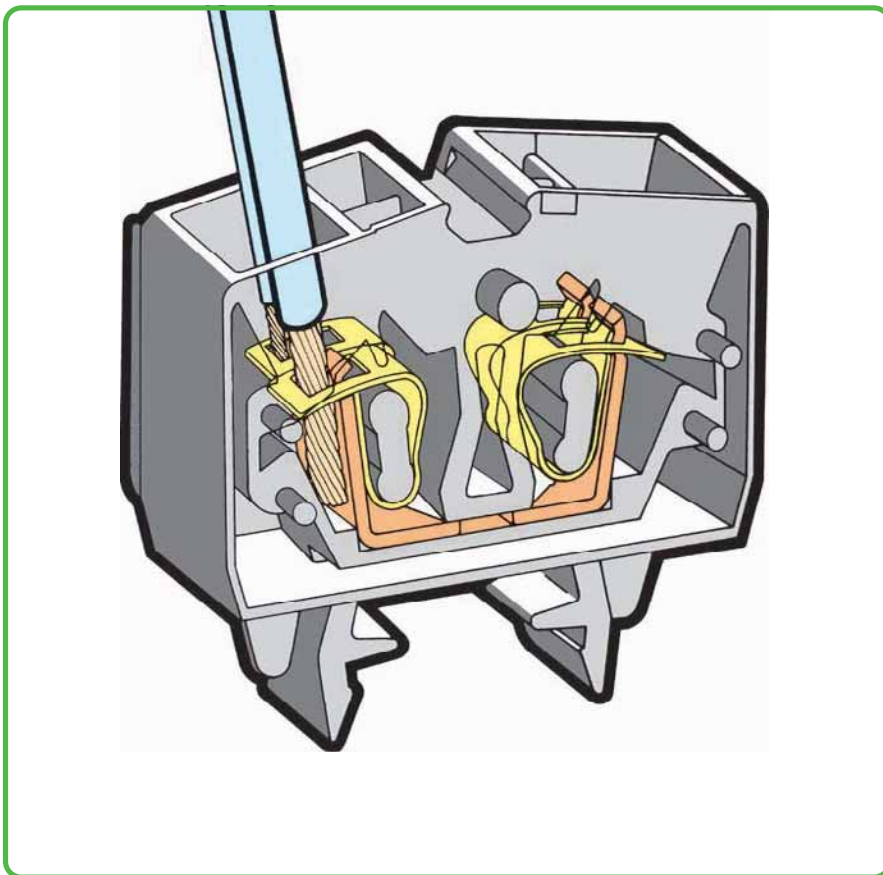


Indication of groups via intermediate plates.

Application notes



Ex e/Ex i separator plate for miniature rail-mounted terminal blocks.



Testing



Testing by quick contact with the CAGE CLAMP® spring (limited to 0.5A).

Application notes



Testing via CAGE CLAMP® connection on the current bar - max. nominal current 6A; CAGE CLAMP® clamps individual test contacts.

T marker tag



Marking with T marker tag (209-290).



fine-stranded, tip-bonded



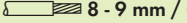
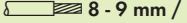
fine-stranded, with ferrule ① (gastight crimped)

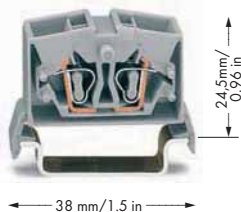


fine-stranded, with pin terminal (gastight crimped)

# Miniature Through/Ground Conductor and Ex Terminal Blocks 2.5 mm<sup>2</sup> for DIN 35 Rail 264 Series

CAGE CLAMP®

<b>0.08 - 2.5 mm<sup>2</sup></b> 800 V/8 kV/3 ❶ I <sub>N</sub> 24 A  Terminal block width 6 mm / 0.236 in  8 - 9 mm / 0.33 in ❷	AWG 28 - 12 * 300 V, 20 A ❸ 600 V, 20 A ❹	<b>0.08 - 2.5 mm<sup>2</sup></b> 800 V/8 kV/3 ❶ I <sub>N</sub> 24 A  Terminal block width 10 mm / 0.394 in  8 - 9 mm / 0.33 in ❷	AWG 28 - 12 * 300 V, 20 A ❸ 600 V, 20 A ❹
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------




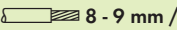
- \* AWG 12: THHN, THWN
- ❶ 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ❷ Strip length, see packaging or instructions.
- ❸ Suitable for Ex i applications
- ❹ Suitable for Ex e II applications  
0.5 mm<sup>2</sup> - 2.5 mm<sup>2</sup>/AWG 20 - 12 \*  
690 V, 23 A  
(also see Section 14)
- ❺ See application notes for:  
Test plug module, page 456  
Alternate comb-style jumper bar, page 200

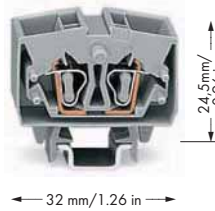
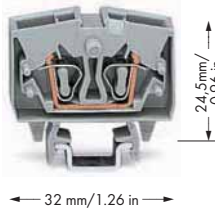
Item No.	Pack. Unit	Item No.	Pack. Unit	264 Series Accessories
<b>2-conductor miniature through terminal block, for DIN 35 rail</b>		<b>4-conductor miniature through terminal block, for DIN 35 rail</b>		<b>Miniature WSB (see Section 13)</b>
gray	264-711 100	gray	264-731 100	<b>End and intermediate plate, 4 mm thick</b>
blue	264-714 ❸ 100	blue	264-734 ❸ 100	orange 264-369 25
orange	264-716 100	orange	264-736 100	gray 264-368 25
light gray ❹	264-125 ❹ 100	light gray ❹	264-225 ❹ 100	light gray 264-370 25
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Ex e/Ex i separator, orange, 4 mm thick</b>
<b>Alternate comb-style jumper bar, ❺ insulated, I<sub>N</sub> = I<sub>N</sub> terminal block 2-way 281-492 100 (4x25)</b>		<b>Alternate comb-style jumper bar, ❺ insulated, I<sub>N</sub> = I<sub>N</sub> terminal block 2-way 280-492 200 (8x25)</b>		66 mm 264-367 25
<b>Test plug module, ❺ can be snapped together, 6 mm wide gray 249-136 100 (4x25)</b>		<b>Test plug module, ❺ can be snapped together, 10 mm wide gray 249-139 100 (4x25)</b>		<b>Comb-style jumper bar, insulated, I<sub>N</sub> 16 A, gray, reduces maximum conductor size to 1.5 mm<sup>2</sup>/AWG 16 2-way 264-402 200 (8x25)</b>
				<b>Operating tool, of insulating material 2-way 280-432 1</b>



	Item No.	Pack. Unit	
	<b>4-conductor miniature ground conductor terminal block, for DIN 35 rail</b>		
	green-yellow 264-737 100		
	green-yellow ❹ 264-737/999-950 ❹ 100		
	<b>Item-Specific Accessories</b>		
	<b>Alternate comb-style jumper bar, ❺ insulated, I<sub>N</sub> = I<sub>N</sub> terminal block 2-way 280-492 200 (8x25)</b>		
	<b>Test plug module, ❺ can be snapped together, 10 mm wide gray 249-139 100 (4x25)</b>		
			<b>Test plug, with 500 mm cable, 2 mm Ø red 210-136 50</b>
			<b>Test plug, with 500 mm cable, 2.3 mm Ø yellow 210-137 50</b>
			<b>Miniature WSB Quick marking system, 10 strips with 10 markers per card, 5 mm wide markers plain 248-501 5</b>
			<b>Screwless end stop, for DIN 35 rail, 6 mm wide gray 249-116 100 (4x25)</b>
			<b>Screwless end stop, for DIN 35 rail, 10 mm wide gray 249-117 50 (2x25)</b>
			<b>Steel carrier rail, acc. to EN 60715, 35 x 7.5 mm, 1 mm, 2 m/6'6" long slotted 210-112 10 (10x1)</b>
			<b>Steel carrier rail, acc. to EN 60715, 35 x 7.5 mm, 1 mm, 2 m/6'6" long unslotted 210-113 10</b>
			<b>Aluminum carrier rail, acc. to EN 60715, 35 x 8.2 mm, 1.6 mm, 2 m/6'6" long unslotted 210-196 10</b>

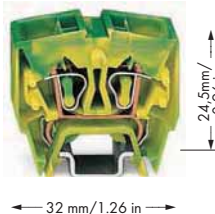
# Miniature Through/Ground Conductor and Ex Terminal Blocks 2.5 mm<sup>2</sup> for DIN 15 Rail 264 Series

<b>0.08 - 2.5 mm<sup>2</sup></b> <b>800 V/8 kV/3 ①</b> <b>I<sub>N</sub> 24 A</b>  <b>Terminal block width 6 mm / 0.236 in</b>  <b>8 - 9 mm / 0.33 in ②</b>	<b>AWG 28 - 12 *</b> <b>300 V, 20 A ③</b> <b>600 V, 20 A ④</b>	<b>0.08 - 2.5 mm<sup>2</sup></b> <b>800 V/8 kV/3 ①</b> <b>I<sub>N</sub> 24 A</b>  <b>Terminal block width 10 mm / 0.394 in</b>  <b>8 - 9 mm / 0.33 in ②</b>	<b>AWG 28 - 12 *</b> <b>300 V, 20 A ③</b> <b>600 V, 20 A ④</b>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------



- \* AWG 12: THHN, THWN
- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ Suitable for Ex e II applications  
0.5 mm<sup>2</sup> - 2.5 mm<sup>2</sup>/AWG 20 - 12\*  
690 V, 23 A  
(also see Section 14)
- ⑤ See application notes for:  
Test plug module, page 456  
Alternate comb-style jumper bar, page 200



Item No.	Pack. Unit	Item No.	Pack. Unit	264 Series Accessories
<b>2-conductor miniature through terminal block, for DIN 15 rail</b> gray 264-701 100 blue 264-704 ③ 100 orange 264-706 100 light gray ④ 264-120 ④ 100		<b>4-conductor miniature through terminal block, for DIN 15 rail</b> gray 264-721 100 blue 264-724 ③ 100 orange 264-726 100 light gray ④ 264-220 ④ 100		<b>Miniature WSB (see Section 13)</b> <b>End and intermediate plate, 4 mm thick</b> orange 264-369 25 gray 264-368 25 light gray 264-370 25 <b>Ex e/Ex i separator, orange, 4 mm thick</b> 66 mm 264-367 25 <b>Comb-style jumper bar, insulated, I<sub>N</sub> = I<sub>N</sub> terminal block, 2-way</b> 264-402 200 (8x25)
<b>Item-Specific Accessories</b> <b>Alternate comb-style jumper bar, ⑤ insulated, I<sub>N</sub> = I<sub>N</sub> terminal block, 2-way</b> 281-492 100 (4x25)		<b>Item-Specific Accessories</b> <b>Alternate comb-style jumper bar, ⑤ insulated, I<sub>N</sub> = I<sub>N</sub> terminal block, 2-way</b> 280-492 200 (8x25)		<b>Operating tool, of insulating material</b> 2-way 280-432 1
<b>Test plug module, ⑤ can be snapped together, 6 mm wide</b> gray 249-136 100 (4x25)		<b>Test plug module, ⑤ can be snapped together, 10 mm wide</b> gray 249-139 100 (4x25)		<b>Test plug, with 500 mm cable, 2 mm Ø</b> red 210-136 50 <b>Test plug, with 500 mm cable, 2.3 mm Ø</b> yellow 210-137 50
				<b>Miniature WSB Quick marking system, 10 strips with 10 markers per card, 5 mm wide markers</b> plain 248-501 5 <b>Screwless end stop, for DIN 15 rail, 6 mm wide</b> gray 249-101 25
		<b>Item-Specific Accessories</b> <b>Alternate comb-style jumper bar, ⑤ insulated, I<sub>N</sub> = I<sub>N</sub> terminal block, 2-way</b> 280-492 200 (8x25)		<b>Steel carrier rail, acc. to EN 60715, 15 x 5.5 mm, 1 mm, 2 m/6'6" long</b> slotted 210-111 1 <b>Steel carrier rail, acc. to EN 60715, 15 x 5.5 mm, 1 mm, 2 m/6'6" long</b> unslotted 210-295 1
		<b>Test plug module, ⑤ can be snapped together, 10 mm wide</b> gray 249-139 100 (4x25)		<b>Aluminum carrier rail, acc. to EN 60715, 15 x 5.5 mm, 1 mm, 2 m/6'6" long</b> unslotted 210-296 10 <b>Operating tool, of insulating material</b> 1-way 209-130 1

For list of approvals and user guide, see pages 634 to 637.

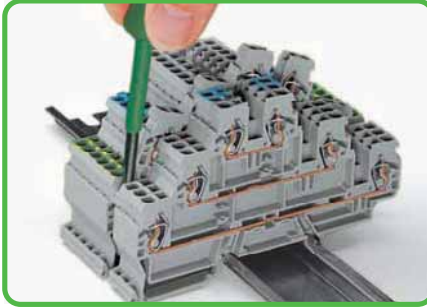
# Compact Rail-Mounted Terminal Blocks for DIN 15 and DIN 35 Rails 870 Series

## Assembly



Snapping a rail-mount terminal block onto DIN 35 carrier rail.

## Removal



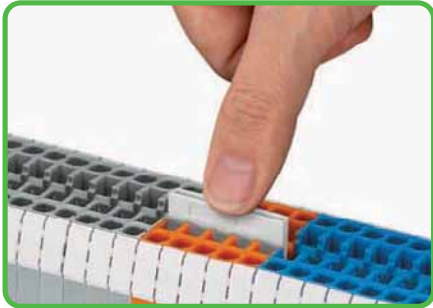
Removing a terminal block from the assembly.

## Insulation stop



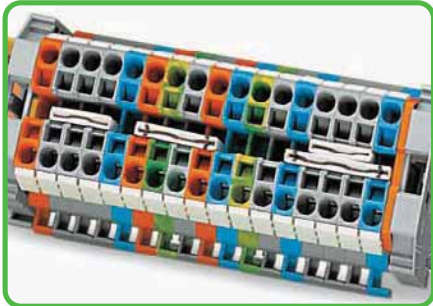
Inserting an insulation stop.

## Push-in type jumper bar system

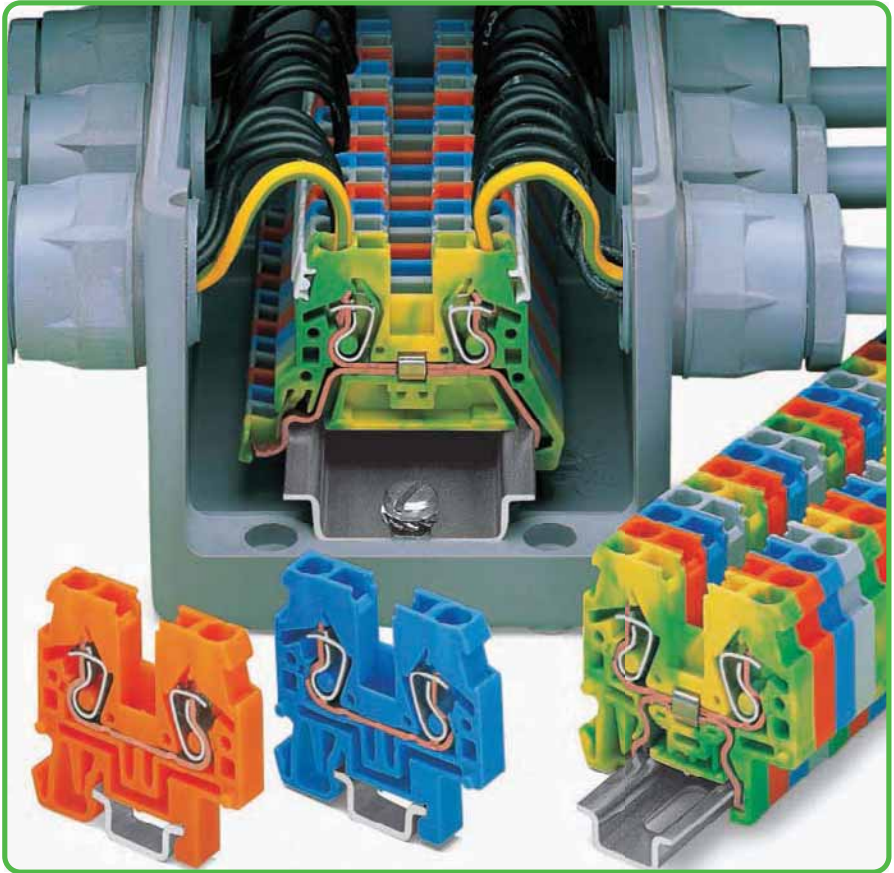


Push jumper bars down firmly until fully inserted. When using multipole bars, push alternately on right and then left side, until installed.  
Push-in type jumper bars 1 - 3 - 5 - 7 or 1 - - 4 - - 7 upon request.

## Push-in type jumper bar system



Two parallel jumper receptacles are accommodated in one terminal block.

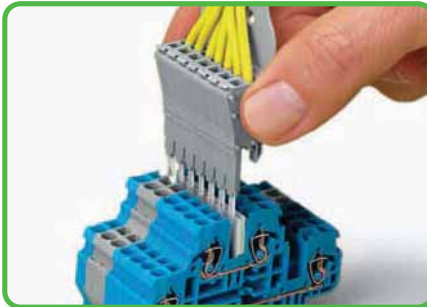


## Commoning with step-down jumpers



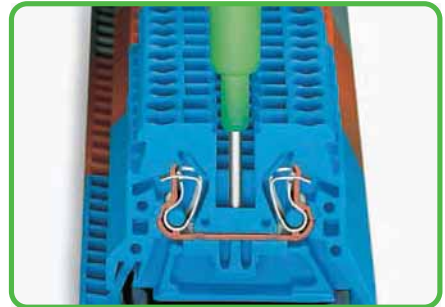
Commoning terminal blocks of different sizes - step down.

## Testing



Testing is also possible using a pre-wired module assembly, similar to test plugs.

## Testing



Testing with phase testing device, also possible with single-pole voltage tester.



**CAGE CLAMP®** clamps the following copper conductors:\*

solid



stranded



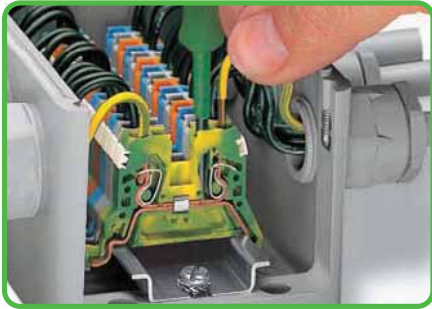
fine-stranded, also with tinned single strands

\* For aluminum conductors, see notes in Section 14.

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

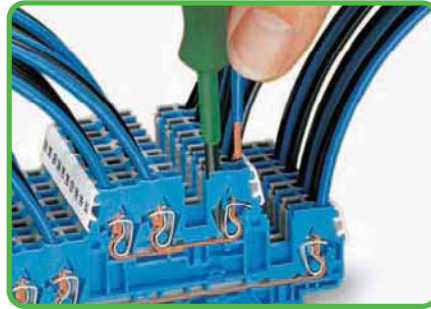
- Description and Handling -

CAGE CLAMP® connection



Terminating fine-stranded conductors ranging from 0.08 to 4 mm<sup>2</sup> (AWG 28 - 12).

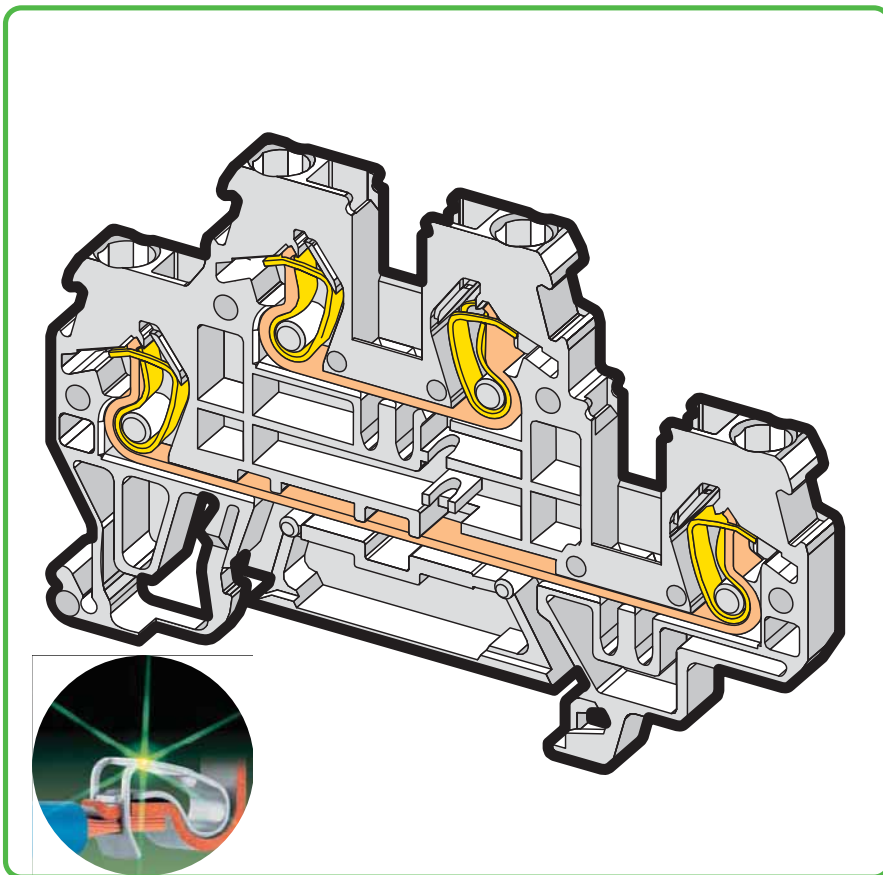
CAGE CLAMP® connection



Multilevel terminal blocks



Double- and triple-deck terminal blocks with internal commoning acting as 4- and 6-conductor terminal blocks.

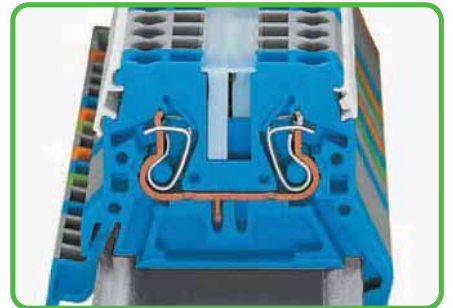


Protective warning marker



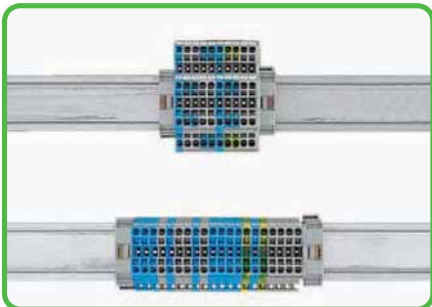
Protective warning markers (280-405), with black high-voltage symbols.

Marking



Marking the clamping unit via WMB Multi marking system or miniature WSB Quick marking system.

Space saver



Save 50% of rail space when using double-deck terminal blocks.

Space saver



Save 67% of rail space when using triple-deck terminal blocks.

Marking Strips



Transparent marker strips (note: Jumpers below may be visible).



fine-stranded, tip-bonded

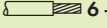

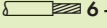

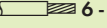



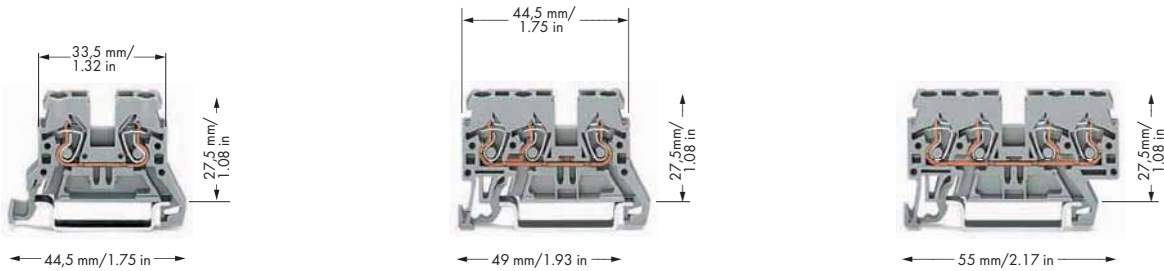
fine-stranded, with ferrule ① (gastight crimped)

























fine-stranded, with pin terminal (gastight crimped)

# Through/Ground Conductor and Ex Terminal Blocks 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") for DIN 35 and DIN 15 Rails 870 Series

<b>0.08 - 2.5 (4"f-st")mm<sup>2</sup></b> ① 500 V/6 kV/3 ② I <sub>N</sub> 24 A  Terminal block width 5 mm / 0.197 in  6 - 7 mm / 0.26 in ③	AWG 28 - 12 300 V, 20 A 	<b>0.08 - 2.5 (4"f-st")mm<sup>2</sup></b> ① 500 V/6 kV/3 ② I <sub>N</sub> 24 A  Terminal block width 5 mm / 0.197 in  6 - 7 mm / 0.26 in ③	AWG 28 - 12 300 V, 20 A 	<b>0.08 - 2.5 (4"f-st")mm<sup>2</sup></b> ① 500 V/6 kV/3 ② I <sub>N</sub> 24 A  Terminal block width 5 mm / 0.197 in  6 - 7 mm / 0.26 in ③	AWG 28 - 12 300 V, 20 A 
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block, for DIN 35 rail</b>		<b>3-conductor through terminal block, for DIN 35 rail</b>		<b>4-conductor through terminal block, for DIN 35 rail</b>	
 gray	<b>870-901</b> 100	 gray	<b>870-681</b> 100	 gray	<b>870-831</b> 100
 blue	<b>870-904</b> ④ 100	 blue	<b>870-684</b> ④ 100	 blue	<b>870-834</b> ④ 100
 orange	<b>870-902</b> 100	 orange	<b>870-682</b> 100	 orange	<b>870-832</b> 100
 light gray ⑤	<b>870-909</b> ⑤ 100				
<b>2-conductor ground terminal block, for DIN 35 rail,</b> Notice: This ground conductor terminal block cannot be commoned with push-in type jumper bars.		<b>3-conductor ground terminal block, for DIN 35 rail,</b> Notice: This ground conductor terminal block cannot be commoned with push-in type jumper bars.		<b>4-conductor ground terminal block, for DIN 35 rail,</b> Notice: This ground conductor terminal block cannot be commoned with push-in type jumper bars.	
 green-yellow	<b>870-907</b> 100	 green-yellow	<b>870-687</b> 100	 green-yellow	<b>870-837</b> 100
 green-yellow ⑤	<b>870-907/999-950</b> ⑤ 100				
<b>Other terminal blocks with the same profile:</b> Double-potential <b>870-826</b> Page 277					
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2 mm thick</b>		<b>End and intermediate plate, 1 mm thick</b>		<b>End and intermediate plate, 1 mm thick</b>	
	orange <b>870-924</b> 100 (4x25)		orange <b>870-934</b> 100 (4x25)		orange <b>870-944</b> 100 (4x25)
	gray <b>870-923</b> 100 (4x25)		gray <b>870-933</b> 100 (4x25)		gray <b>870-943</b> 100 (4x25)
	light gray <b>870-925</b> 100 (4x25)				
<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 1 mm thick</b>		<b>Separator, oversized, 1 mm thick</b>	
	orange <b>870-929</b> 100 (4x25)		orange <b>870-947</b> 100 (4x25)		orange <b>870-949</b> 100 (4x25)
	gray <b>870-928</b> 100 (4x25)		gray <b>870-946</b> 100 (4x25)		gray <b>870-948</b> 100 (4x25)
<b>End and intermediate plate, 2 mm thick, for 2-conductor ground conductor Ex terminal blocks only</b>					
	green-yellow <b>870-926</b> 100 (4x25)				
<b>Ex e/Ex i separator, orange, 3 mm thick</b>					
	90 mm <b>209-190</b> 50 (2x25)				
	120 mm <b>209-191</b> 50 (2x25)				


**870 Series Accessories**

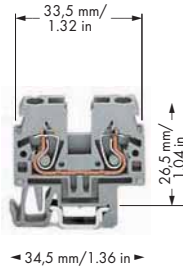
Appropriate marking systems: WMB/Miniature WSB (see Section 13)

Insulation stop, ⑥	Push-in type jumper bar, insulated, I <sub>N</sub> 18 A,	Push-in type jumper bar, insulated, I <sub>N</sub> 18 A,
5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>280-470</b> 200 (8x25)	light gray 2-way <b>870-402</b> 200 (8x25)	light gray from 1 to 3 <b>870-433</b> 200 (8x25)
	3-way <b>870-403</b> 200 (8x25)	from 1 to 4 <b>870-434</b> 200 (8x25)
	4-way <b>870-404</b> 200 (8x25)	from 1 to 5 <b>870-435</b> 100 (4x25)
	5-way <b>870-405</b> 100 (4x25)	from 1 to 6 <b>870-436</b> 100 (4x25)
	6-way <b>870-406</b> 100 (4x25)	from 1 to 7 <b>870-437</b> 100 (4x25)
	7-way <b>870-407</b> 100 (4x25)	from 1 to 8 <b>870-438</b> 100 (4x25)
	8-way <b>870-408</b> 100 (4x25)	from 1 to 9 <b>870-439</b> 100 (4x25)
	9-way <b>870-409</b> 100 (4x25)	from 1 to 10 <b>870-440</b> 100 (4x25)
	10-way <b>870-410</b> 100 (4x25)	
Insulation stop, ⑥ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>280-471</b> 200 (8x25)		
Insulation stop, ⑥ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>280-472</b> 200 (8x25)		

For list of approvals and user guide, see pages 634 to 637.

0.08 - 2.5 (4 "f-st") mm<sup>2</sup> ① AWG 28 - 12  
 500 V/6 kV/3 ② 300 V, 20 A:   
 I<sub>N</sub> 24 A

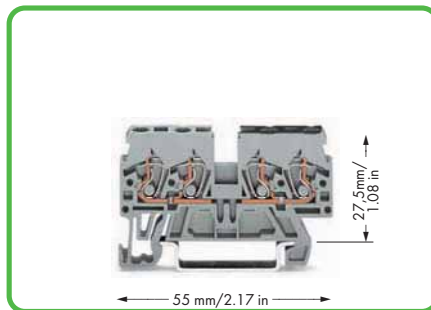
Terminal block width 5 mm / 0.197 in  
 6 - 7 mm / 0.26 in ③



**Assembly:**  
 Snap individual terminal blocks onto DIN 15 carrier rail and slide together.  
**Removal:**  
 Open assembly by laterally sliding terminal blocks with an operating tool and remove them from the rail.

- ① Max. insulation diameter: 4.4 mm
- ② 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
 0.2 mm<sup>2</sup> - 2.5 (4 "f-st") mm<sup>2</sup>/AWG 24 - 12  
 440 V, 22 A  
 Using push-in type jumper bars 1 to X, the maximum rated voltage is reduced to 275 V and the rated current to 13.5 A  
 (also see Section 14)
- ⑥ See application notes for:  
 Insulation stop, page 199  
 Tap-off module, page 283

Item No.	Pack. Unit
<b>2-conductor through terminal block,</b> for DIN 15 rail	
gray	870-911 100
blue	870-914 ④ 100
orange	870-912 100
light gray ⑤	870-919 ⑤ 100
<b>2-conductor ground terminal block,</b> for DIN 15 rail, Notice: This ground conductor terminal block cannot be commoned with push-in type jumper bars.	
green-yellow	870-917 100



**Double-potential terminal block**  
 with integrated marking position.  
 gray 870-826  
 Packing unit: 100 pcs  
**Notice: This double-potential terminal block cannot be commoned with push-in type jumper bars!**



Protective warning markers inserted into the operating slots.

Item-Specific Accessories		
<b>End and intermediate plate, 2 mm thick</b>		
	orange	870-924 100 (4x25)
	gray	870-923 100 (4x25)
	light gray	870-925 100 (4x25)
<b>Separator, oversized, 2 mm thick</b>		
	orange	870-929 100 (4x25)
	gray	870-928 100 (4x25)

For technical data and accessories, see [www.wagocatalog.com](http://www.wagocatalog.com)



Miniature WSB or WMB markers provide marking directly on terminal block.

WAGO front-entry double-potential terminal blocks are space savers.  
 Two independent feedthrough circuits are placed in one insulated housing on one level in just 5 mm/0.197 in. This achieves a width of just 2.5 mm/0.098 in is achieved versus standard through terminal blocks for a total height of only 27.5 mm/1.08 in from the upper edge of the carrier rail.  
 Input and output contacts of one circuit are placed on the same side of the terminal block. Both circuits can be individually marked according to input and output.

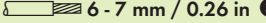

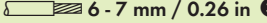


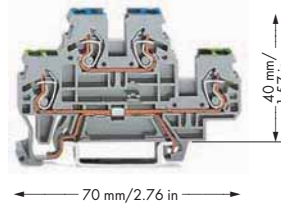
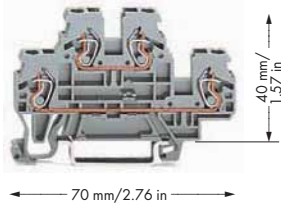
In order to meet creepage and clearance requirements for Ex e applications, it is necessary to insert an end or intermediate plate between a through and a ground conductor terminal block.  
 End plates 870-923 (gray), 870-924 (orange) and 870-925 (light gray), as well as separator plates 870-928 (gray) and 870-929 (orange) cannot be assembled to 870-907/999-950 2-conductor ground Ex terminal blocks.

<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks		
	yellow	280-405 100 (4x25)
<b>Tap-off module with anti-reverse mating protection,</b> ⑥		
	can be snapped together, 5 mm wide	
	gray	870-425 100 (4x25)
<b>Miniature WSB Quick marking system,</b>		
	10 strips with 10 markers per card, 5 mm wide markers	
	plain	248-501 5

# Double-Deck Terminal Blocks 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") 870 Series

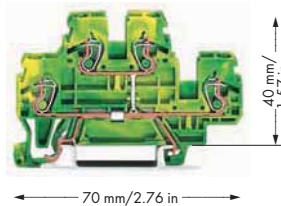
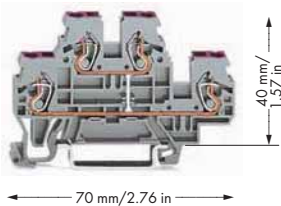


0.08 - 2.5 (4"f-st")mm <sup>2</sup> ① 500 V/6 kV/3 ② I <sub>N</sub> 24 A  Terminal block width 5 mm / 0.197 in  6 - 7 mm / 0.26 in ③	AWG 28 - 12 300 V, 20 A   I <sub>N</sub> 24 A  Terminal block width 5 mm / 0.197 in  6 - 7 mm / 0.26 in ③
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



- ① Max. insulation diameter: 4.4 mm
- ② 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
0.2 mm<sup>2</sup> - 2.5 (4 "f-st") mm<sup>2</sup>/AWG 24 - 12  
440 V, 18 A  
Using push-in type jumper bars 1 to X, the maximum rated voltage is reduced to 275 V and the rated current to 13.5 A  
(also see Section 14)
- ⑥ See application notes for:  
Insulation stop, page 199

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>Through/through terminal block, gray housing</b>		<b>Ground conductor/through terminal block, gray housing</b>		WMB/Miniature WSB (see Section 13)
○ L/L 870-501	50	○ PE/N 870-517	50	
○ N/L 870-502	50	○ PE/L 870-527	50	<b>End and intermediate plate, 2 mm thick</b>
○ L/N 870-503	50			orange 870-519 100 (4x25)
<b>Through/through terminal block, blue housing</b>				gray 870-518 100 (4x25)
● N/N 870-504 ④	50			<b>Ex e/Ex i separator, orange, 3 mm thick</b>
<b>Through/through terminal block, light gray housing</b>		<b>Ground conductor/through terminal block, light gray housing</b>		125.5 mm 209-192 50 (2x25)
○ L/L ⑤	50	○ PE/L ⑤	50	<b>Insulation stop, ⑥</b>
<b>Other terminal blocks with the same profile:</b>				5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")
Diode 870-540/281-410	Page 288			white 280-470 200 (8x25)
LED 870-543/281-434	Page 288			<b>Insulation stop, ⑥</b>
				5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>
				light gray 280-471 200 (8x25)
				<b>Insulation stop, ⑥</b>
				5 pcs/strip, 0.75 - 1 mm <sup>2</sup>
				dark gray 280-472 200 (8x25)
				<b>Push-in type jumper bar, insulated, I<sub>N</sub> 18 A,</b>
				light gray
				2-way 870-402 200 (8x25)
				3-way 870-403 200 (8x25)
				4-way 870-404 200 (8x25)
				5-way 870-405 100 (4x25)
				6-way 870-406 100 (4x25)
				7-way 870-407 100 (4x25)
				8-way 870-408 100 (4x25)
				9-way 870-409 100 (4x25)
				10-way 870-410 100 (4x25)







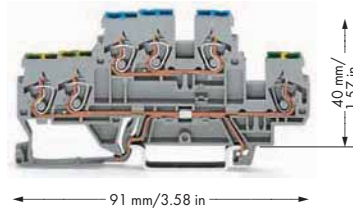
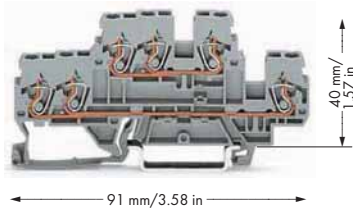
Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>4-conductor through terminal block, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>4-conductor ground terminal block, internal commoning, green-yellow housing</b>		<b>Push-in type jumper bar, insulated, I<sub>N</sub> 18 A,</b>
○ L 870-508	50	● PE 870-507	50	
<b>4-conductor through terminal block, internal commoning, conductor entry position colored in violet, blue housing</b>				from 1 to 3 870-433 200 (8x25)
● N 870-509 ④	50			from 1 to 4 870-434 200 (8x25)
				from 1 to 5 870-435 100 (4x25)
				from 1 to 6 870-436 100 (4x25)
				from 1 to 7 870-437 100 (4x25)
				from 1 to 8 870-438 100 (4x25)
				from 1 to 9 870-439 100 (4x25)
				from 1 to 10 870-440 100 (4x25)
				<b>Protective warning marker,</b>
				with high-voltage symbol, black, for 5 terminal blocks
				yellow 280-405 100 (4x25)



# 3-Conductor Double-Deck Terminal Blocks 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st")



## 870 Series

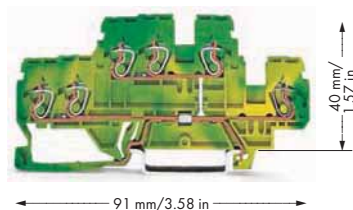
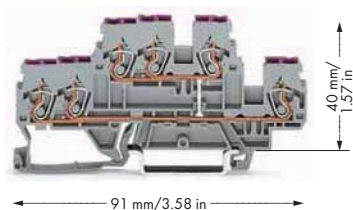
0.08 - 2.5 (4" f-st") mm <sup>2</sup> ① 500 V/6 kV/3 ② I <sub>N</sub> 24 A	AWG 28 - 12 300 V, 20 A: 	0.08 - 2.5 (4" f-st") mm <sup>2</sup> ① 500 V/6 kV/3 ② I <sub>N</sub> 24 A	AWG 28 - 12 300 V, 20 A: 
Terminal block width 5 mm / 0.197 in  6 - 7 mm / 0.26 in ③		Terminal block width 5 mm / 0.197 in  6 - 7 mm / 0.26 in ③	








- ① Max. insulation diameter: 4.4 mm
- ② 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ See application notes for: Insulation stop, page 199



Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories WMB/Miniature WSB (see Section 13)
<b>Through/through terminal block, gray housing</b>		<b>Ground conductor/through terminal block, gray housing</b>		
○ L/L	<b>870-531</b> 50	○ PE/N	<b>870-535</b> 50	
○ N/L	<b>870-532</b> 50	○ PE/L	<b>870-536</b> 50	
○ L/N	<b>870-533</b> 50			<b>Insulation stop,</b> ⑤  5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>280-470</b> 200 (8x25)
<b>Through/through terminal block, blue housing</b>				
● N/N	<b>870-534</b> ④ 50			<b>Insulation stop,</b> ⑤  5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>280-471</b> 200 (8x25)



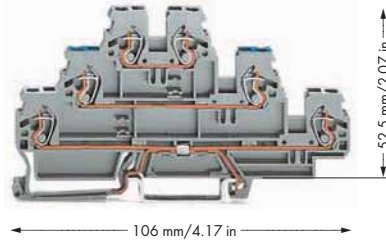
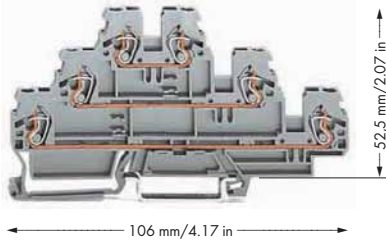
Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories WMB/Miniature WSB (see Section 13)	
<b>6-conductor through terminal block, internal commoning, conductor entry position colored in violet, gray housing</b>		<b>6-conductor ground terminal block, internal commoning, green-yellow housing</b>			<b>Insulation stop,</b> ⑤  5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>280-472</b> 200 (8x25)
○ L	<b>870-538</b> 50	● PE	<b>870-537</b> 50		
<b>6-conductor through terminal block, internal commoning, conductor entry position colored in violet, blue housing</b>				<b>Push-in type jumper bar, insulated, I<sub>N</sub> 18 A, light gray</b>  2-way <b>870-402</b> 200 (8x25) 3-way <b>870-403</b> 200 (8x25) 4-way <b>870-404</b> 200 (8x25) 5-way <b>870-405</b> 100 (4x25) 6-way <b>870-406</b> 100 (4x25) 7-way <b>870-407</b> 100 (4x25) 8-way <b>870-408</b> 100 (4x25) 9-way <b>870-409</b> 100 (4x25) 10-way <b>870-410</b> 100 (4x25)	
● N	<b>870-539</b> ④ 50				
					<b>Push-in type jumper bar, insulated, I<sub>N</sub> 18 A, light gray</b>  from 1 to 3 <b>870-433</b> 200 (8x25) from 1 to 4 <b>870-434</b> 200 (8x25) from 1 to 5 <b>870-435</b> 100 (4x25) from 1 to 6 <b>870-436</b> 100 (4x25) from 1 to 7 <b>870-437</b> 100 (4x25) from 1 to 8 <b>870-438</b> 100 (4x25) from 1 to 9 <b>870-439</b> 100 (4x25) from 1 to 10 <b>870-440</b> 100 (4x25)
				<b>Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks</b>  yellow <b>280-405</b> 100 (4x25)	
				<b>Marking strip, plain, 7.5 mm wide, 1 m/3'3" long</b>  translucent <b>709-196</b> 1	

For list of approvals and user guide, see pages 634 to 637.

# Triple-Deck Terminal Blocks 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") 870 Series



0.08 - 2.5 (4"f-st")mm <sup>2</sup> ① 500 V/6 kV/3 ② I <sub>N</sub> 24 A	AWG 28 - 12 300 V, 20 A:	0.08 - 2.5 (4"f-st")mm <sup>2</sup> ① 500 V/6 kV/3 ② I <sub>N</sub> 24 A	AWG 28 - 12 300 V, 20 A:
Terminal block width 5 mm / 0.197 in 6 - 7 mm / 0.26 in ③		Terminal block width 5 mm / 0.197 in 6 - 7 mm / 0.26 in ③	

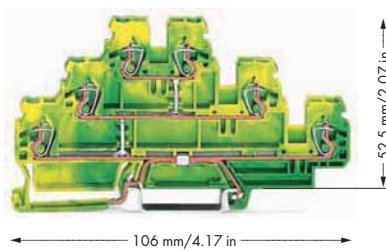
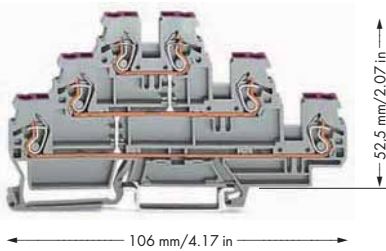


- ① Max. insulation diameter: 4.4 mm
- ② 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex e II applications  
0.2 mm<sup>2</sup> - 2.5 (4 "f-st") mm<sup>2</sup>/AWG 24 - 12  
440 V, 18 A  
Using push-in type jumper bars 1 to X, the maximum rated voltage is reduced to 275 V and the rated current to 13.5 A  
(also see Section 14)
- ⑤ See application notes for:  
Insulation stop, page 199

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through/through/through terminal block, gray housing</b>		<b>Shield/through/through terminal block, gray housing</b>	
○ L/L/L <b>870-551</b>	50	○ Shield/N/L <b>870-558</b>	50
○ L/L/N <b>870-553</b>	50	○ Shield/L/L <b>870-559</b>	50
		<b>Ground conductor/through/through terminal block, gray housing</b>	
		○ PE/N/L <b>870-567</b>	50
		○ PE/L/L <b>870-577</b>	50
<b>Through/through/through terminal block, light gray housing</b>		<b>Ground conductor/through/through terminal block, light gray housing</b>	
○ L/L/L ④ <b>870-951</b>	50	○ PE/L/L <b>870-957/999-950</b> ④	50
<b>Other terminal blocks with the same profile:</b>			
Diode	<b>870-590/281-410</b>	Page 290	
LED	<b>870-593/281-434</b>	Page 291	

### Accessories

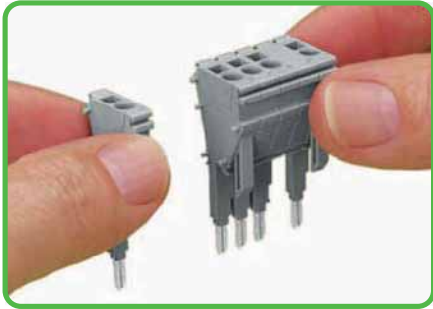
<b>WMB/Miniature WSB</b> (see Section 13)			
<b>End and intermediate plate, 2 mm thick</b>			
	orange	<b>870-569</b>	50 (2x25)
	gray	<b>870-568</b>	50 (2x25)
<b>Insulation stop,</b>			
⑤	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white	<b>280-470</b>	200 (8x25)
⑤	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray	<b>280-471</b>	200 (8x25)
⑤	5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray	<b>280-472</b>	200 (8x25)
<b>Push-in type jumper bar, insulated,</b>			
	I <sub>N</sub> 18 A, light gray		
	2-way	<b>870-402</b>	200 (8x25)
	3-way	<b>870-403</b>	200 (8x25)
	4-way	<b>870-404</b>	200 (8x25)
	5-way	<b>870-405</b>	100 (4x25)
	6-way	<b>870-406</b>	100 (4x25)
	7-way	<b>870-407</b>	100 (4x25)
	8-way	<b>870-408</b>	100 (4x25)
	9-way	<b>870-409</b>	100 (4x25)
	10-way	<b>870-410</b>	100 (4x25)
<b>Push-in type jumper bar, insulated,</b>			
	I <sub>N</sub> 18 A, light gray		
	from 1 to 3	<b>870-433</b>	200 (8x25)
	from 1 to 4	<b>870-434</b>	200 (8x25)
	from 1 to 5	<b>870-435</b>	100 (4x25)
	from 1 to 6	<b>870-436</b>	100 (4x25)
	from 1 to 7	<b>870-437</b>	100 (4x25)
	from 1 to 8	<b>870-438</b>	100 (4x25)
	from 1 to 9	<b>870-439</b>	100 (4x25)
	from 1 to 10	<b>870-440</b>	100 (4x25)
<b>Protective warning marker,</b>			
	with high-voltage symbol, black, for 5 terminal blocks yellow	<b>280-405</b>	100 (4x25)
<b>Marking strip, plain,</b>			
	7.5 mm wide, 1 m/3'3" long translucent	<b>709-196</b>	1



Item No.	Pack. Unit	Item No.	Pack. Unit
<b>6-conductor through terminal block, internal</b>		<b>6-conductor ground terminal block, internal</b>	
commoning, conductor entry position colored in violet, gray housing		commoning, green-yellow housing	
○ L <b>870-556</b>	50	● PE <b>870-557</b>	50



Assembly



Snapping together tap-off and spacer modules to create a module assembly (max. 10 poles).



Module assembly with CAGE CLAMP® connections (0.25 mm<sup>2</sup> - 2.5 mm<sup>2</sup>/AWG 24 - 14), including strain relief plate and marker slots for miniature WSB or WMB markers.

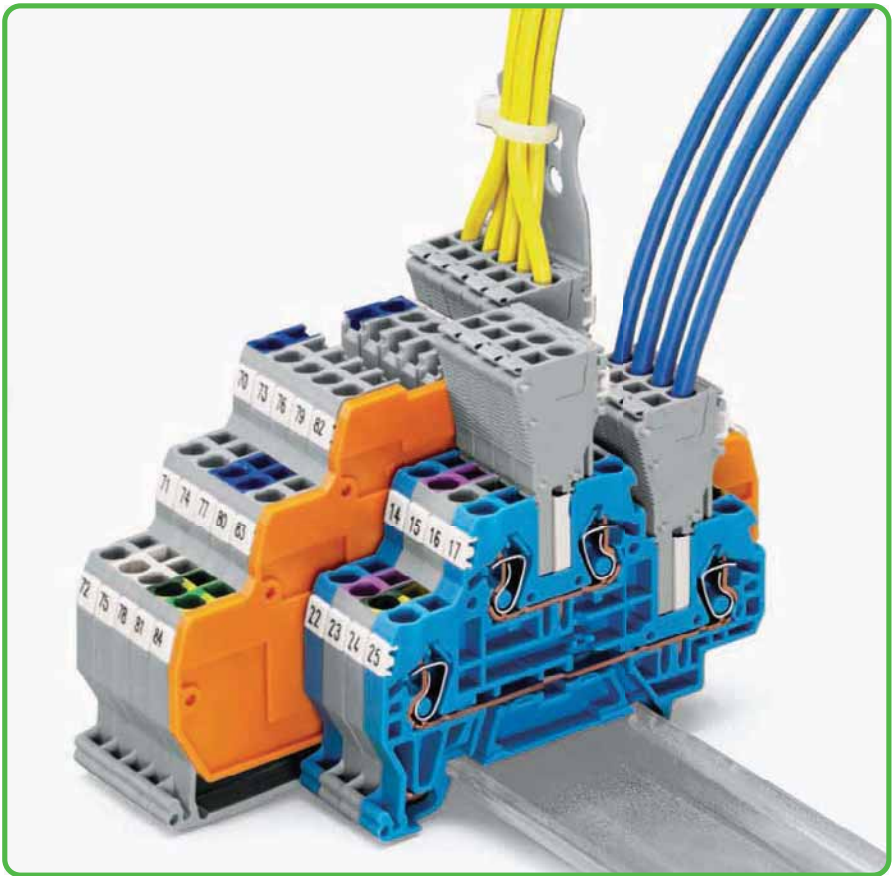


The module assembly can be directly inserted into jumper contact slots of the terminal blocks. The terminal blocks can also be commoned via push-in type jumper bars parallel to the jumper slots being used by the modules.

CAGE CLAMP® connection



Tap-off modules are used when additional or removable connections are required (can be used as a permanent connection or a test plug). Wiring is possible whether the modules are plugged into the assembly or not.



Anti-reverse mating protection

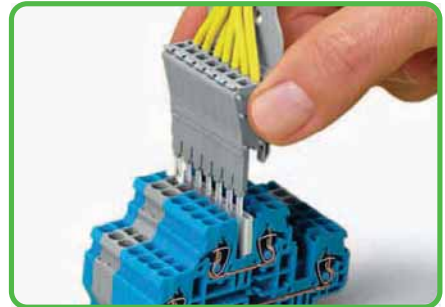


Using anti-reverse mating modules at both ends of a module assembly prevents reverse mating.



Three anti-reverse mating modules are necessary when snapping more than 7 modules together.

Testing



Testing is also possible using a pre-wired module assembly, similar to test plugs.



CAGE CLAMP® clamps the following copper conductors:<sup>\*</sup>

solid



stranded



fine-stranded, also with tinned single strands

\* For aluminum conductors, see notes in Section 14.

# Tap-Off Modules 870 Series

CAGE CLAMP®

4

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0.25 - 2.5 mm <sup>2</sup>   AWG 22 - 14 500 V/6 kV/3 ① I <sub>N</sub> 18 A module width 5 mm / 0.197 in 10 mm / 0.38 in ②	0.25 - 2.5 mm <sup>2</sup>   AWG 22 - 14 500 V/6 kV/3 ① I <sub>N</sub> 10 A module width 5 mm / 0.197 in 10 mm / 0.38 in ②
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- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.

4

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Tap-off module with CAGE CLAMP® and with anti-reverse mating protection,</b> can be snapped together, suitable for 870 Series terminal blocks with jumper slots, module width 5 mm		<b>Tap-off module with CAGE CLAMP®,</b> can be snapped together, suitable for 870 Series terminal blocks with jumper slots, module width 5 mm	
gray	<b>870-425</b> 100 (4x25)	gray	<b>870-426</b> 100 (4x25)
		<b>Spacer module,</b> can be snapped together, e.g., for bridging commoned terminal blocks, module width 5 mm	
		gray	<b>870-427</b> 100 (4x25)

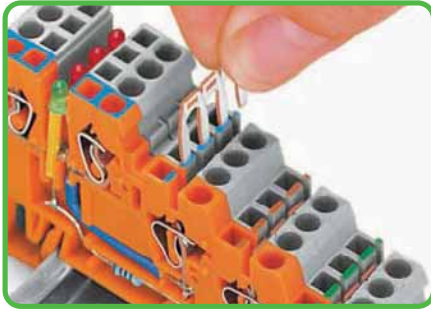
For additional wire connections, as well as serial testing on terminal block assemblies, WAGO has developed special tap-off modules. The tap-off modules readily adapt to terminal block assemblies using spacer modules, if necessary (see left). It is possible to connect the modules directly in the jumper contact positions of the terminal blocks to be tested/tapped, even though a push-in type jumper bar is already being used.

## Accessories

<b>Miniature WSB Quick marking system,</b> 10 strips with 10 markers per card, 5 mm wide markers plain	<b>248-501</b>	5
<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain	<b>793-5501</b>	5
<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm plain	<b>793-501</b>	5
<b>Strain relief plate, gray</b>		
35 mm width	<b>734-326</b>	100 (4x25)
6 mm wide	<b>734-327</b>	100 (4x25)
12.5 mm width	<b>734-328</b>	100 (4x25)
25 mm wide	<b>734-329</b>	100 (4x25)

For list of approvals and user guide, see pages 634 to 637.

Commoning



Inserting a jumper.



Commoning a supply voltage using uninsulated push-in type jumper bars, 2- to 9-way or 17-way (2 x 8 bits), depending on application.



Commoning signal level voltage via insulated 870 Series push-in type jumper bars, 2- to 9-way, depending on application.  
**Sensor LED terminal blocks cannot be commoned on the signal level.**

Sensor terminal blocks

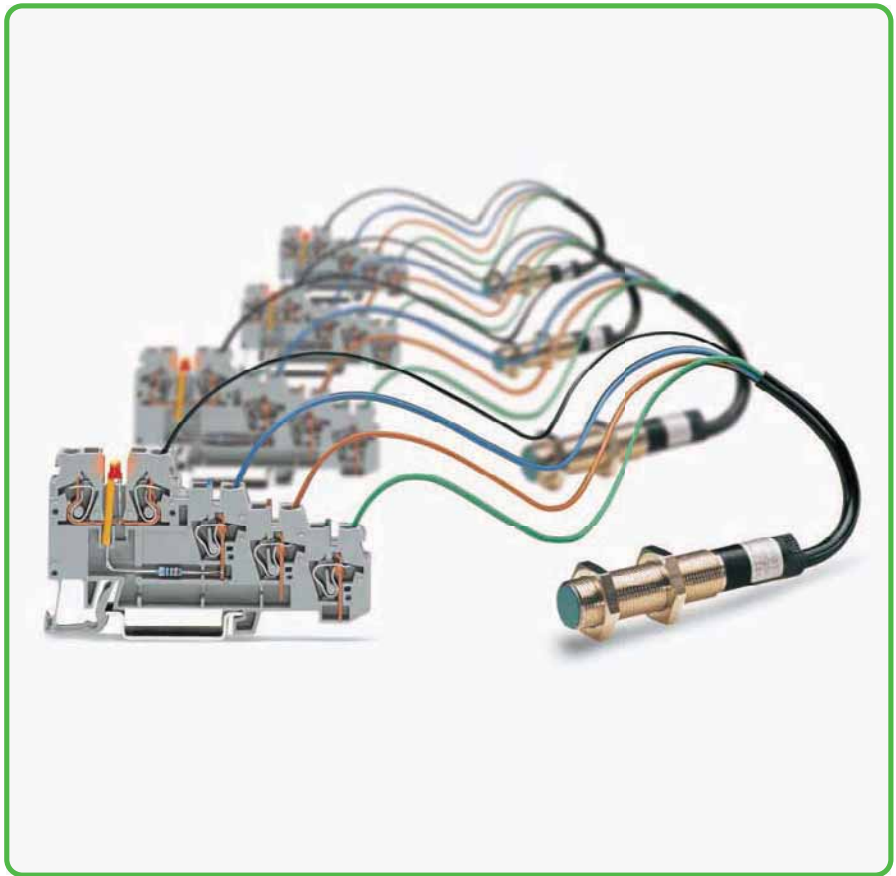


Terminal block assembly:  
 Sensor terminal blocks

Sensor LED terminal blocks



Terminal block assembly:  
 Sensor LED terminal blocks



Marking Strips



Marking strips  
 Item No. 709-196  
**Not suitable for LED terminal blocks!**

CAGE CLAMP® clamps the following copper conductors\*:

- solid
- stranded

fine-stranded, also with tinned single strands

fine-stranded, tip-bonded

fine-stranded, with ferrule ❶ (gastight crimped)

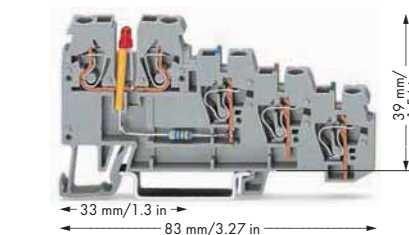
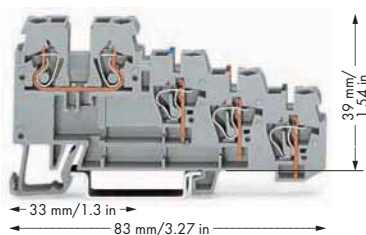
fine-stranded, with pin terminal (gastight crimped)

\* For aluminum conductors, see notes in Section 14.

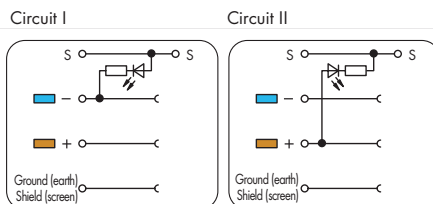
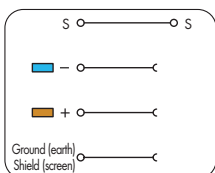
❶ When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

# 4-Conductor Sensor Terminal Blocks and 4-Conductor Sensor LED Terminal Blocks 270 Series

<b>0.08 - 2.5 mm<sup>2</sup></b> <b>250 V/4 kV/3 ①</b> <b>I<sub>N</sub> 18 A ②</b> Terminal block width 5 mm / 0.197 in 6 - 7 mm / 0.26 in ④	<b>AWG 28 - 12 *</b> <b>300 V, 20 A ③</b> <b>300 V, 10 A ④</b>	<b>0.08 - 2.5 mm<sup>2</sup></b>   <b>AWG 28 - 12 *</b> <b>24 VDC ③</b> Terminal block width 5 mm / 0.197 in 6 - 7 mm / 0.26 in ④
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- \* AWG 12: THHN, THWN
- ① 250 V = rated voltage  
4 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Internal bridge: 9 A
- ③ Other voltages upon request.  
LED power consumption: 4.8 mA
- ④ Strip length, see packaging or instructions.
- ⑤ See application notes for:  
Insulation stop, page 199



Item No.	Pack. Unit	Item No.	Pack. Unit
<b>4-conductor sensor terminal block,</b> for DIN 35 rail		<b>4-conductor sensor LED terminal block,</b> for DIN 35 rail,	
gray	270-570 50	for PNP (positive) switching sensors, red LED ● Circuit I	270-570/281-434 50
		<b>4-conductor sensor LED terminal block,</b> for DIN 35 rail,	
		for NPN (negative) switching sensors, yellow LED ● Circuit II	270-570/281-507 50

## Accessories for 4-Conductor Terminal Blocks WMB/Miniature WSB (see Section 13)

<b>End and intermediate plate, 1 mm thick,</b> for quadruple-deck terminal blocks		
	orange	270-322 100 (4x25)
	gray	270-320 100 (4x25)

<b>Insulation stop,</b> ⑤		
	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")	white 280-470 200 (8x25)

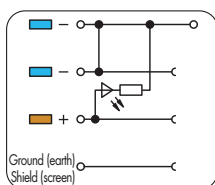
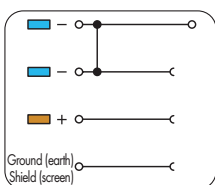
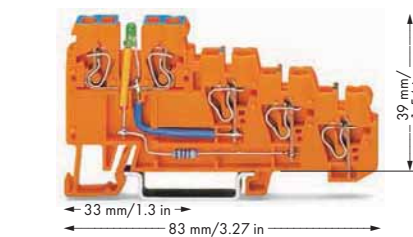
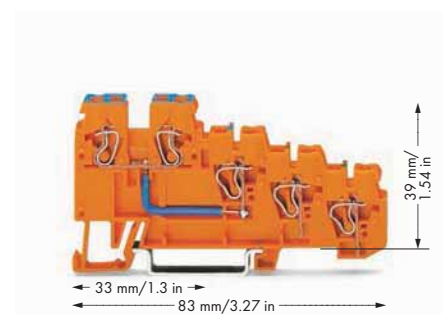
<b>Insulation stop,</b> ⑤		
	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>	light gray 280-471 200 (8x25)

<b>Insulation stop,</b> ⑤		
	5 pcs/strip, 0.75 - 1 mm <sup>2</sup>	dark gray 280-472 200 (8x25)

<b>Jumper, uninsulated,</b> I <sub>N</sub> 18 A, Jumpers can be shortened using an electronic side cutter		
	9-way	270-409 100 (4x25)
	17-way	270-417 100 (4x25)
	80-way	270-480 10

<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 18 A, light gray		
	2-way	870-402 200 (8x25)
	3-way	870-403 200 (8x25)
	4-way	870-404 200 (8x25)
	5-way	870-405 100 (4x25)
	6-way	870-406 100 (4x25)
	7-way	870-407 100 (4x25)
	8-way	870-408 100 (4x25)
	9-way	870-409 100 (4x25)

<b>Operating tool with partially insulated shaft,</b> type 2, (3.5 x 0.5) mm blade		
		210-720 1



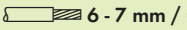
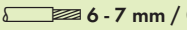
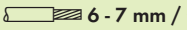
Item No.	Pack. Unit	Item No.	Pack. Unit
<b>4-conductor sensor supply terminal block,</b> for DIN 35 rail, internal bridge 9 A		<b>4-conductor sensor LED supply terminal block,</b> for DIN 35 rail	
orange	270-574 10	green LED	270-574/281-483 10

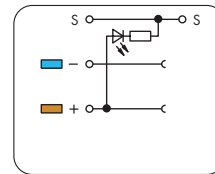
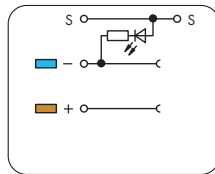
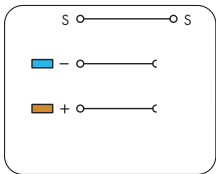
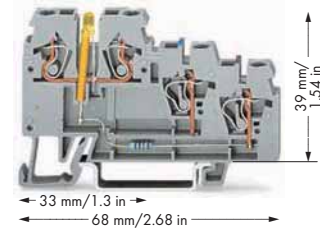
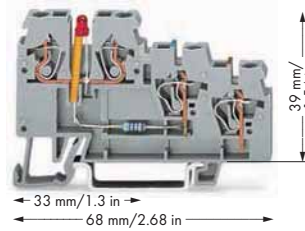
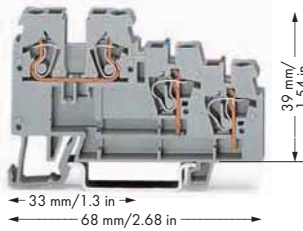
<b>Miniature WSB Quick marking system,</b> 10 strips with 10 markers per card, 5 mm wide markers		
	plain	248-501 5

<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm		
	plain	793-5501 5

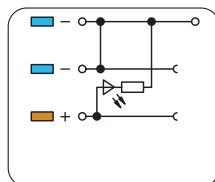
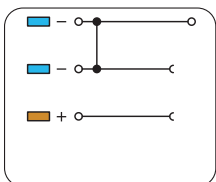
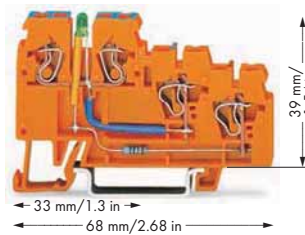
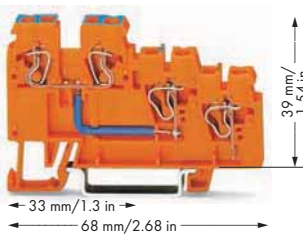
For list of approvals and user guide, see pages 634 to 637.

# 3-Conductor Sensor Terminal Blocks and 3-Conductor Sensor LED Terminal Blocks 270 Series

<p>0.08 - 2.5 mm<sup>2</sup>   AWG 28 - 12 *                  250 V/4 kV/3 ①                  I<sub>N</sub> 18 A</p> <p>Terminal block width 5 mm / 0.197 in   6 - 7 mm / 0.26 in ③</p>	<p>0.08 - 2.5 mm<sup>2</sup>   AWG 28 - 12 *                  24 VDC ②</p> <p>Terminal block width 5 mm / 0.197 in   6 - 7 mm / 0.26 in ③</p>	<p>0.08 - 2.5 mm<sup>2</sup>   AWG 28 - 12 *                  24 VDC ②</p> <p>Terminal block width 5 mm / 0.197 in   6 - 7 mm / 0.26 in ③</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>3-conductor sensor terminal block,</b> for DIN 35 rail		<b>3-conductor sensor LED terminal block,</b> for DIN 35 rail,		<b>3-conductor sensor LED terminal block,</b> for DIN 35 rail,	
for PNP (positive) switching sensors		for NPN (negative) switching sensors			
● gray	<b>270-560</b>	50	● red LED	<b>270-560/281-434</b>	50
			● yellow LED	<b>270-560/281-507</b>	50

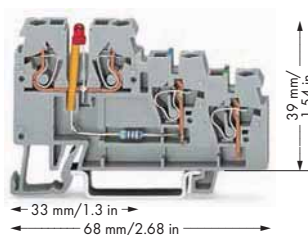
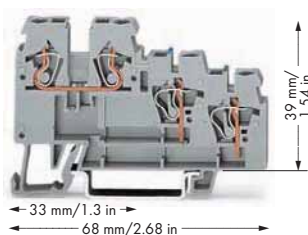


Item No.	Pack. Unit	Item No.	Pack. Unit		
<b>3-conductor sensor supply terminal block,</b> for DIN 35 rail, internal bridge 9 A		<b>3-conductor sensor LED supply terminal block,</b> for DIN 35 rail		Tap-off modules (870-425, 870-426, 870-427) also suitable for signal level.	
● orange	<b>270-564</b>	50	● green LED	<b>270-564/281-483</b>	10



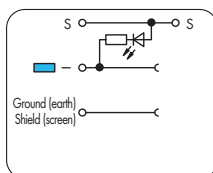
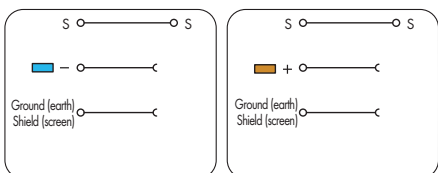
# 3-Conductor Actuator Terminal Blocks and 3-Conductor Actuator LED Terminal Blocks 270 Series

<b>0.08 - 2.5 mm<sup>2</sup></b> <b>250 V/4 kV/3 ①</b> <b>I<sub>N</sub> 18 A</b> <b>Terminal block width 5 mm / 0.197 in</b>  <b>6 - 7 mm / 0.26 in ③</b>	<b>AWG 28 - 12 *</b> <b>300 V, 20 A<sup>②</sup></b> <b>300 V, 10 A<sup>②</sup></b>	<b>0.08 - 2.5 mm<sup>2</sup></b>   <b>AWG 28 - 12 *</b> <b>24 VDC ②</b> <b>Terminal block width 5 mm / 0.197 in</b>  <b>6 - 7 mm / 0.26 in ③</b>
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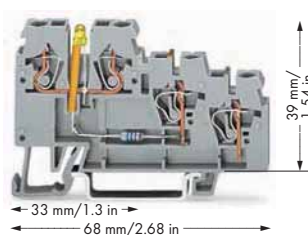
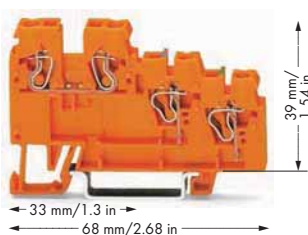


Circuit I

Circuit II

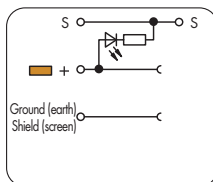
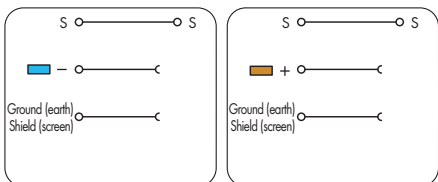


Item No.	Pack. Unit	Item No.	Pack. Unit
<b>3-conductor actuator terminal block, for DIN 35 rail</b>		<b>3-conductor actuator LED terminal block, for DIN 35 rail, for PNP (positive) switching actuators</b>	
● Circuit I	<b>270-572</b> 50	● red LED	<b>270-572/281-434</b> 50
<b>3-conductor actuator terminal block, for DIN 35 rail</b>			
● Circuit II	<b>270-585</b> 50		



Circuit I

Circuit II



Item No.	Pack. Unit	Item No.	Pack. Unit
<b>3-conductor actuator supply terminal block, for DIN 35 rail</b>		<b>3-conductor actuator LED terminal block, for DIN 35 rail, for NPN (negative) switching actuators</b>	
● Circuit I	<b>270-577</b> 10	● yellow LED	<b>270-585/281-507</b> 50
<b>3-conductor actuator supply terminal block, for DIN 35 rail</b>			
● Circuit II	<b>270-586</b> 10		

- \* AWG 12: THHN, THWN
- ① 250 V = rated voltage  
4 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Other voltages upon request.  
LED power consumption: 4.8 mA
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
Insulation stop, page 199

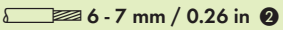
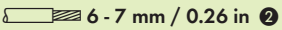
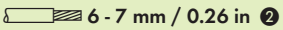
## Accessories for 3-Conductor Terminal Blocks

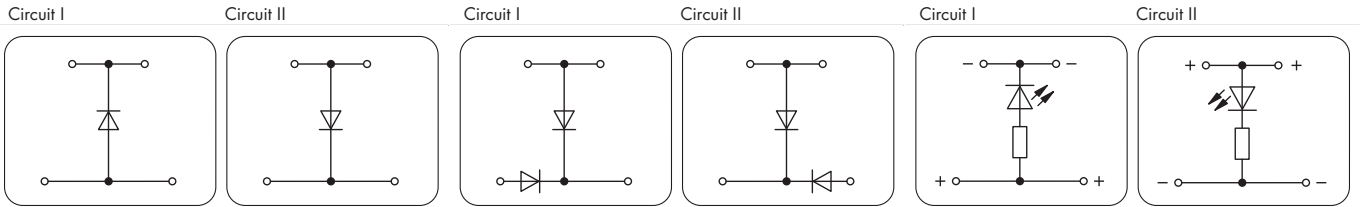
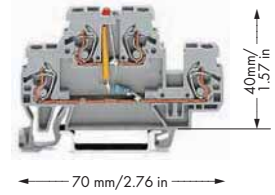
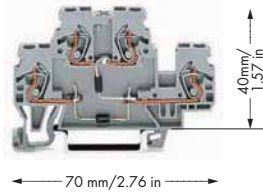
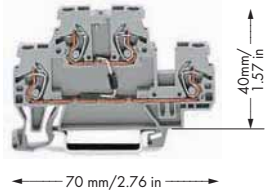
WMB/Miniature WSB (see Section 13)

<b>End and intermediate plate, 1 mm thick, for triple-deck terminal blocks</b>	
	orange <b>270-321</b> 100 (4x25)
	gray <b>270-319</b> 100 (4x25)
<b>Insulation stop, ④</b>	
	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>280-470</b> 200 (8x25)
<b>Insulation stop, ④</b>	
	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>280-471</b> 200 (8x25)
<b>Insulation stop, ④</b>	
	5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>280-472</b> 200 (8x25)
<b>Jumper, uninsulated, I<sub>N</sub> 18 A, Jumpers can be shortened using an electronic side cutter</b>	
	9-way <b>270-409</b> 100 (4x25)
	17-way <b>270-417</b> 100 (4x25)
	80-way <b>270-480</b> 10
<b>Push-in type jumper bar, insulated, I<sub>N</sub> 18 A, light gray</b>	
	2-way <b>870-402</b> 200 (8x25)
	3-way <b>870-403</b> 200 (8x25)
	4-way <b>870-404</b> 200 (8x25)
	5-way <b>870-405</b> 100 (4x25)
	6-way <b>870-406</b> 100 (4x25)
	7-way <b>870-407</b> 100 (4x25)
	8-way <b>870-408</b> 100 (4x25)
	9-way <b>870-409</b> 100 (4x25)
<b>Operating tool with partially insulated shaft, type 2, (3.5 x 0.5) mm blade</b>	
	<b>210-720</b> 1
<b>Miniature WSB Quick marking system, 10 strips with 10 markers per card, 5 mm wide markers</b>	
	plain <b>248-501</b> 5
<b>WMB Multi marking system, 10 strips with 10 markers per card, stretchable 5 - 5.2 mm</b>	
	plain <b>793-5501</b> 5

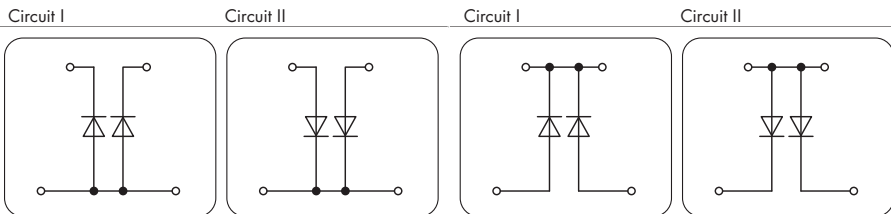
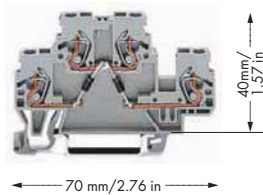
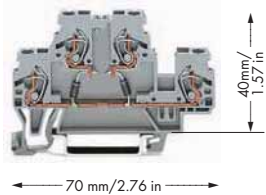
# 4 Double-Deck Diode Terminal Blocks and LED Terminal Blocks 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") 870 Series

288

<p>0.08 - 2.5 (4"f-st")mm<sup>2</sup> ①   AWG 28 - 12          U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V          1N4007 - 0.5 A continuous current          Terminal block width 5 mm / 0.197 in   6 - 7 mm / 0.26 in ②</p>	<p>0.08 - 2.5 (4"f-st")mm<sup>2</sup> ①   AWG 28 - 12          U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V          1N4007 - 0.5 A continuous current          Terminal block width 5 mm / 0.197 in   6 - 7 mm / 0.26 in ②</p>	<p>0.08 - 2.5 (4"f-st")mm<sup>2</sup> ①   AWG 28 - 12          24 VDC          I<sub>F</sub> 0.025 A max.          Terminal block width 5 mm / 0.197 in   6 - 7 mm / 0.26 in ②</p>
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Double-deck diode terminal block with 1N4007 diode, gray</b>		<b>Double-deck diode terminal block with 2 diodes 1N4007, gray</b>		<b>Double-deck LED terminal block with red LED, 24 VDC, gray</b>	
● Circuit I	<b>870-540/281-410</b>	50	● Circuit I	<b>870-541/281-492</b>	50
● Circuit II	<b>870-540/281-411</b>	50	● Circuit II	<b>870-541/281-491</b>	50
				● Circuit I	<b>870-543/281-434</b>
				● Circuit II	<b>870-543/281-413</b>

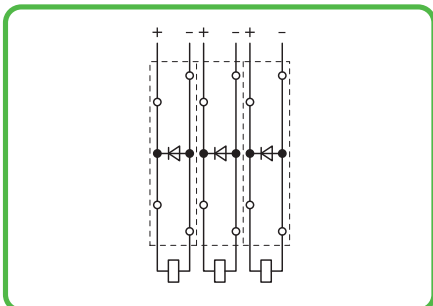


Item No.	Pack. Unit	Item No.	Pack. Unit	
<b>Double-deck diode terminal block with 2 diodes 1N4007, gray</b>		<b>Double-deck diode terminal block with 2 diodes 1N4007, gray</b>		<b>Through terminal blocks with same profile, see page 278</b>
● Circuit I	<b>870-542/281-487</b>	50	● Circuit I	
● Circuit II	<b>870-542/281-488</b>	50	● Circuit II	<b>870-541/281-490</b>

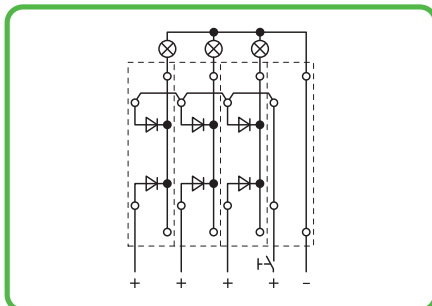
For list of approvals and user guide, see pages 634 to 637.

# Circuit Configuration Examples

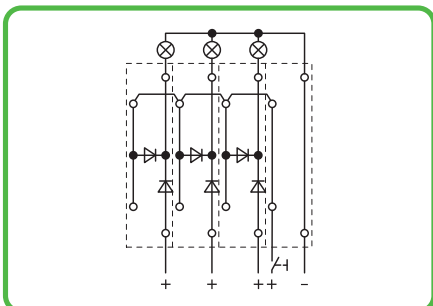
## Double-Deck Diode and LED Terminal Blocks



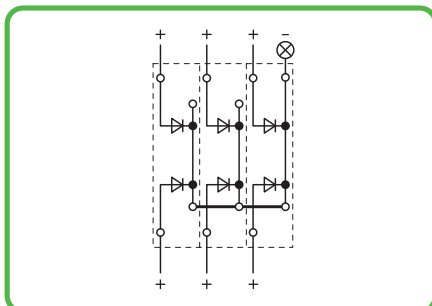
Recovery diodes can be created using the following terminal blocks:  
870-540/281-410 or  
870-540/281-411



Lamp test circuits can be created using the following terminal blocks:  
870-542/281-487 or  
870-542/281-488



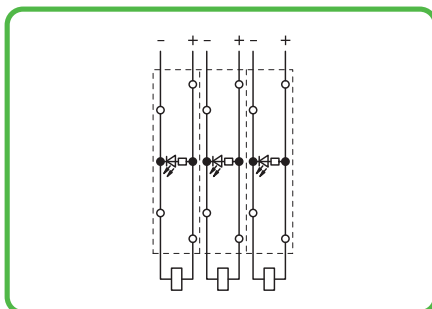
Lamp test circuits can be created using the following terminal blocks:  
870-541/281-410 or  
870-541/281-411



Collective fault signals can be created using the following terminal blocks:  
870-541/281-489 or  
870-541/281-490

### Double-deck diode terminal blocks

have been specially developed for custom diode circuits, such as lamp test and collective fault signal circuits. Using LED terminal blocks, monitoring units can be designed, e.g., for control and operating circuits. The terminal blocks provide high-density wiring, while maintaining a width of only 5 mm/0.197 in. Push-in type jumper bars provide additional options for custom circuit design.





Circuit-related voltage indications can be created using the following terminal blocks:  
870-543/281-434 or  
870-543/281-413


- 1 Max. insulation diameter: 4.4 mm
- 2 Strip length, see packaging or instructions.
- 3 See application notes for: Insulation stop, page 199


### 870 Series Accessories


WMB/Miniature WSB  
(see Section 13)


End and intermediate plate, 2 mm thick		
	orange	870-519 100 (4x25)
	gray	870-518 100 (4x25)


Insulation stop,		
	5 pcs/strip, 0.08 - 0.2 mm² "s" (0.14 mm² "f-st")	white 280-470 200 (8x25)

Insulation stop,		
	5 pcs/strip, 0.25 - 0.5 mm²	light gray 280-471 200 (8x25)

Insulation stop,		
	5 pcs/strip, 0.75 - 1 mm²	dark gray 280-472 200 (8x25)

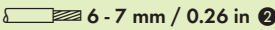
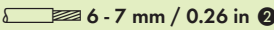
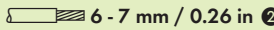
Push-in type jumper bar, insulated,		
	I <sub>N</sub> 18 A, light gray	
	2-way	870-402 200 (8x25)
	3-way	870-403 200 (8x25)
	4-way	870-404 200 (8x25)
	5-way	870-405 100 (4x25)
	6-way	870-406 100 (4x25)
	7-way	870-407 100 (4x25)
	8-way	870-408 100 (4x25)
	9-way	870-409 100 (4x25)
	10-way	870-410 100 (4x25)

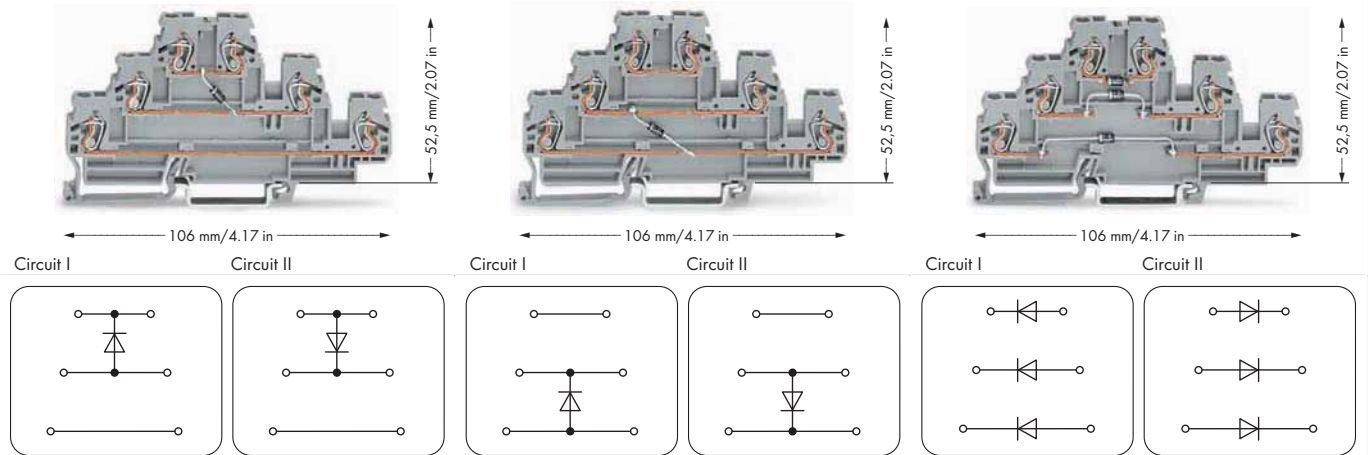
Push-in type jumper bar, insulated,		
	I <sub>N</sub> 18 A, light gray	
	from 1 to 3	870-433 200 (8x25)
	from 1 to 4	870-434 200 (8x25)
	from 1 to 5	870-435 100 (4x25)
	from 1 to 6	870-436 100 (4x25)
	from 1 to 7	870-437 100 (4x25)
	from 1 to 8	870-438 100 (4x25)
	from 1 to 9	870-439 100 (4x25)
	from 1 to 10	870-440 100 (4x25)

Protective warning marker,		
	with high-voltage symbol, black, for 5 terminal blocks	yellow 280-405 100 (4x25)













# 4 Triple-Deck Diode Terminal Blocks and LED Terminal Blocks 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") 870 Series

290

<b>0.08 - 2.5 (4"f-st")mm<sup>2</sup> ①</b>   AWG 28 - 12 <b>U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V</b> <b>1N4007 - 0.5 A continuous current</b> <b>Terminal block width 5 mm / 0.197 in</b>  <b>6 - 7 mm / 0.26 in ②</b>	<b>0.08 - 2.5 (4"f-st")mm<sup>2</sup> ①</b>   AWG 28 - 12 <b>U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V</b> <b>1N4007 - 0.5 A continuous current</b> <b>Terminal block width 5 mm / 0.197 in</b>  <b>6 - 7 mm / 0.26 in ②</b>	<b>0.08 - 2.5 (4"f-st")mm<sup>2</sup> ①</b>   AWG 28 - 12 <b>U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V</b> <b>1N4007 - 0.5 A continuous current</b> <b>Terminal block width 5 mm / 0.197 in</b>  <b>6 - 7 mm / 0.26 in ②</b>
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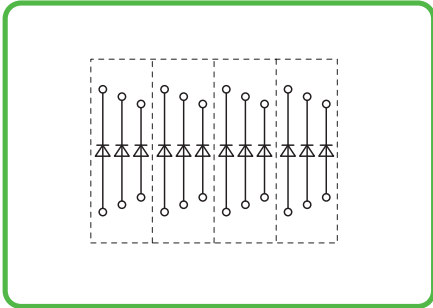
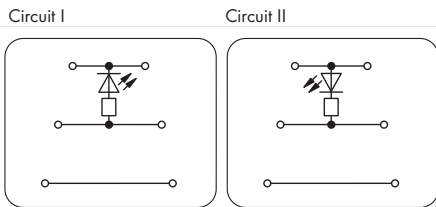
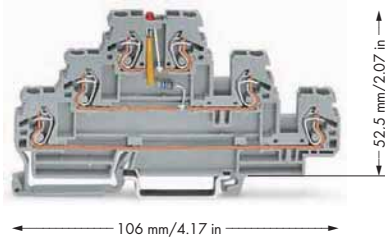


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Triple-deck diode terminal block with 1N4007 diode, gray</b>		<b>Triple-deck diode terminal block with 1N4007 diode, gray</b>		<b>Triple-deck diode terminal block with 3 diodes 1N4007, gray</b>	
○ Circuit I	<b>870-590/281-410</b> 50	○ Circuit I	<b>870-590/281-675</b> 50	○ Circuit I	<b>870-596/281-673</b> 50
○ Circuit II	<b>870-590/281-411</b> 50	○ Circuit II	<b>870-590/281-676</b> 50	○ Circuit II	<b>870-596/281-674</b> 50
<b>Other terminal blocks with the same profile:</b>					
Through	<b>870-551</b>		Page 280		

870 Series Accessories					
WMB/Miniature WSB (see Section 13)					
<b>End and intermediate plate, 2 mm thick</b>  <ul style="list-style-type: none"> <li>orange <b>870-569</b> 50 (2x25)</li> <li>gray <b>870-568</b> 50 (2x25)</li> </ul>	<b>Push-in type jumper bar, insulated,</b>  <ul style="list-style-type: none"> <li>I<sub>N</sub> 18 A, light gray</li> <li>from 1 to 3 <b>870-433</b> 200 (8x25)</li> <li>from 1 to 4 <b>870-434</b> 200 (8x25)</li> <li>from 1 to 5 <b>870-435</b> 100 (4x25)</li> <li>from 1 to 6 <b>870-436</b> 100 (4x25)</li> <li>from 1 to 7 <b>870-437</b> 100 (4x25)</li> <li>from 1 to 8 <b>870-438</b> 100 (4x25)</li> <li>from 1 to 9 <b>870-439</b> 100 (4x25)</li> <li>from 1 to 10 <b>870-440</b> 100 (4x25)</li> </ul>	<b>Miniature WSB Quick marking system, plain,</b>  <ul style="list-style-type: none"> <li>10 strips with 10 markers per card, 5 mm wide markers</li> <li>yellow <b>248-501/000-002</b></li> <li>red <b>248-501/000-005</b></li> <li>blue <b>248-501/000-006</b></li> <li>gray <b>248-501/000-007</b></li> <li>orange <b>248-501/000-012</b></li> <li>light green <b>248-501/000-017</b></li> <li>green <b>248-501/000-023</b></li> <li>violet <b>248-501/000-024</b></li> </ul>			
<b>Insulation stop,</b>  <ul style="list-style-type: none"> <li>5 pcs/strip, 0.08 - 0.2 mm<sup>2</sup> "s" (0.14 mm<sup>2</sup> "f-st")</li> <li>white <b>280-470</b> 200 (8x25)</li> </ul>					
<b>Insulation stop,</b>  <ul style="list-style-type: none"> <li>5 pcs/strip, 0.25 - 0.5 mm<sup>2</sup></li> <li>light gray <b>280-471</b> 200 (8x25)</li> </ul>					
<b>Insulation stop,</b>  <ul style="list-style-type: none"> <li>5 pcs/strip, 0.75 - 1 mm<sup>2</sup></li> <li>dark gray <b>280-472</b> 200 (8x25)</li> </ul>	<b>Protective warning marker,</b>  <ul style="list-style-type: none"> <li>with high-voltage symbol, black, for 5 terminal blocks</li> <li>yellow <b>280-405</b> 100 (4x25)</li> </ul>	<b>WMB Multi marking system, plain,</b>  <ul style="list-style-type: none"> <li>10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm</li> <li>yellow <b>793-501/000-002</b></li> <li>red <b>793-501/000-005</b></li> <li>blue <b>793-501/000-006</b></li> <li>gray <b>793-501/000-007</b></li> <li>orange <b>793-501/000-012</b></li> <li>light green <b>793-501/000-017</b></li> <li>green <b>793-501/000-023</b></li> <li>violet <b>793-501/000-024</b></li> </ul>			
<b>Push-in type jumper bar, insulated,</b>  <ul style="list-style-type: none"> <li>I<sub>N</sub> 18 A, light gray</li> <li>2-way <b>870-402</b> 200 (8x25)</li> <li>3-way <b>870-403</b> 200 (8x25)</li> <li>4-way <b>870-404</b> 200 (8x25)</li> <li>5-way <b>870-405</b> 100 (4x25)</li> <li>6-way <b>870-406</b> 100 (4x25)</li> <li>7-way <b>870-407</b> 100 (4x25)</li> <li>8-way <b>870-408</b> 100 (4x25)</li> <li>9-way <b>870-409</b> 100 (4x25)</li> <li>10-way <b>870-410</b> 100 (4x25)</li> </ul>	<b>Miniature WSB Quick marking system,</b>  <ul style="list-style-type: none"> <li>10 strips with 10 markers per card, 5 mm wide markers</li> <li>plain <b>248-501</b> 5</li> </ul>				
	<b>WMB Multi marking system,</b>  <ul style="list-style-type: none"> <li>10 strips with 10 markers per card, stretchable 5 - 5.2 mm</li> <li>plain <b>793-5501</b> 5</li> </ul>				
	<b>WMB Multi marking system,</b>  <ul style="list-style-type: none"> <li>10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm</li> <li>plain <b>793-501</b> 5</li> </ul>				

For list of approvals and user guide, see pages 634 to 637.

0.08 - 2.5 (4" f-st") mm<sup>2</sup> ① | AWG 28 - 12  
 24 VDC  
 I<sub>F</sub> 0.025 A max.  
 Terminal block width 5 mm / 0.197 in  
 ② 6 - 7 mm / 0.26 in ②



- ① Max. insulation diameter: 4.4 mm
- ② Strip length, see packaging or instructions.
- ③ See application notes for: Insulation stop, page 199

4

Item No.	Pack. Unit
<b>Triple-deck LED terminal block with red LED,</b>	
24 VDC, gray	
○ Circuit I	870-593/281-434 50
○ Circuit II	870-593/281-413 50

**Triple-deck diode terminal blocks** have been specially developed for custom diode circuits, such as lamp test and collective fault signal circuits.

Using LED terminal blocks, monitoring units can be designed, e.g., for control and operating circuits. The terminal blocks provide high-density wiring, while maintaining a width of only 5 mm/0.197 in.

Push-in type jumper bars provide additional options for custom circuit design.

WMB Multi marking system, plain,	
10 strips with 10 markers per card, stretchable 5 - 5.2 mm	
yellow	793-5501/000-002
red	793-5501/000-005
blue	793-5501/000-006
gray	793-5501/000-007
orange	793-5501/000-012
light green	793-5501/000-017
green	793-5501/000-023
violet	793-5501/000-024

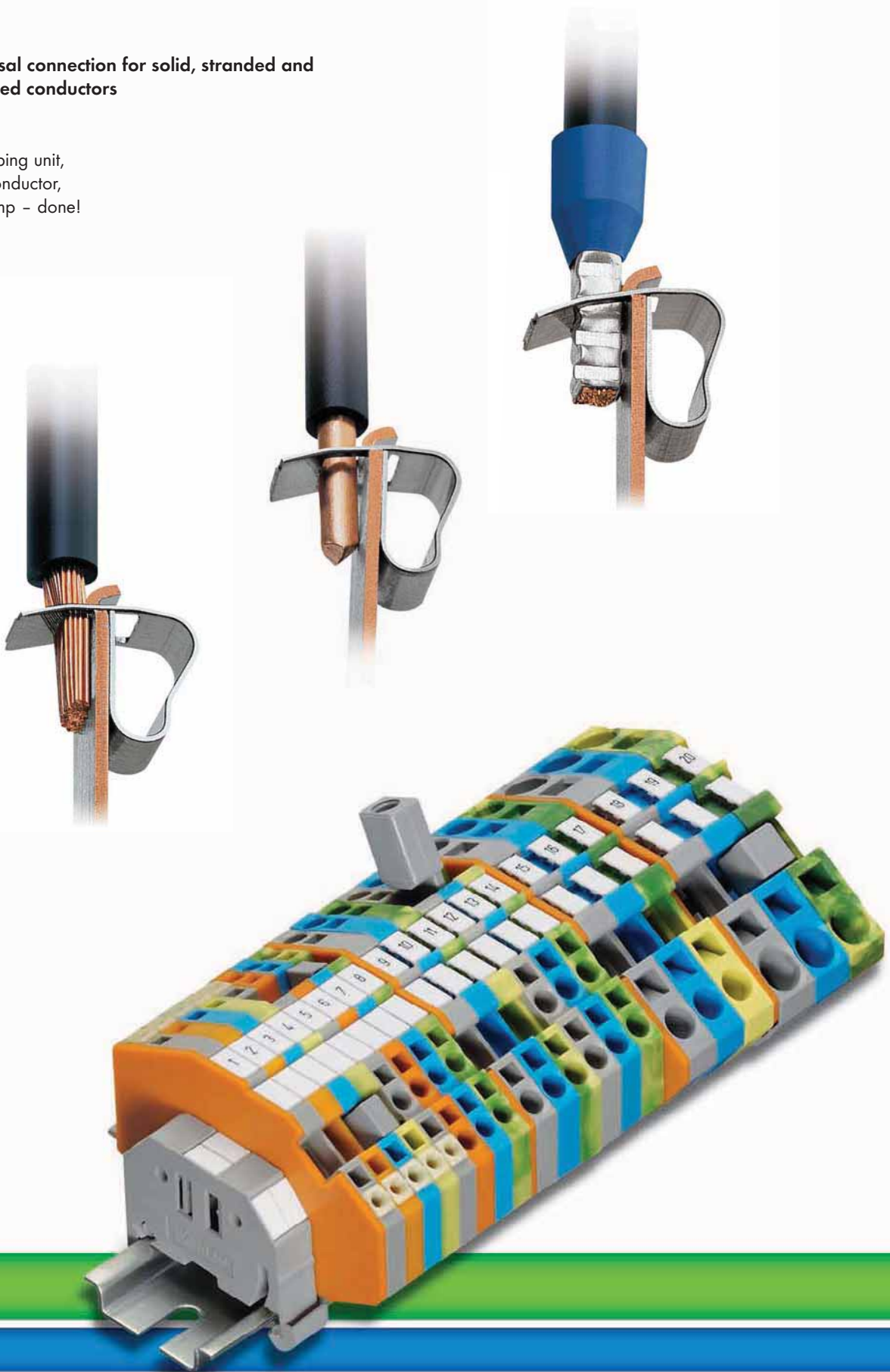
5

# CAGE CLAMP®

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

Handling:

Open clamping unit,  
insert the conductor,  
release clamp - done!



**5**



**Through, Ground Conductor and  
 Ex Terminal Blocks**  
 0.08 mm<sup>2</sup> to 35 mm<sup>2</sup> (AWG 28 - 2)

780 - 785 Series

295 – 298



**N-Conductor Disconnect and Power Distribution  
 Disconnect Terminal Blocks**  
 0.08 mm<sup>2</sup> to 35 mm<sup>2</sup> (AWG 28 - 2)

780 - 785 Series

299 – 301



**Accessories for Rail-Mounted Terminal Blocks**  
 - Banana Plugs  
 - Insulation Stops

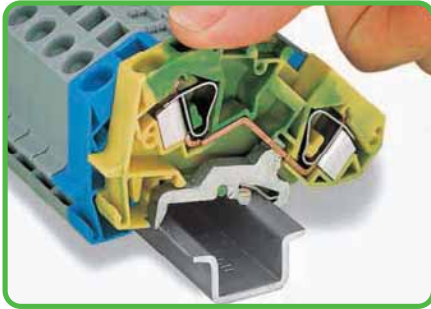
198  
 199



- Push-In Type Wire Jumpers  
 - Staggered Jumpers  
 - Comb-Style Jumper Bars  
 - Test Plug Modules

201  
 201  
 200  
 194 – 197

**Assembly**



By snapping a ground conductor terminal block onto the carrier rail, a direct electrical connection is automatically made to the rail.

**Removal**



Removing a terminal block from the assembly.

**Screwless disconnect slide link**



Operating an N-disconnect slide link.

**Commoning**

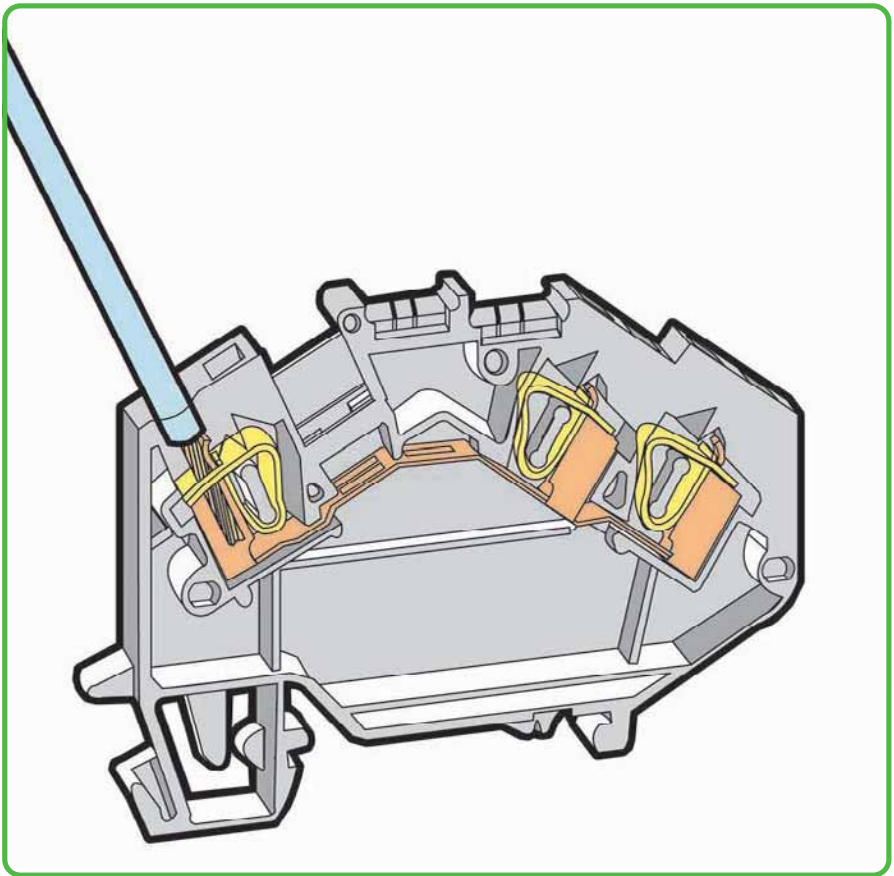


Commoning ground conductor terminal blocks with through terminal blocks is possible in one direction only (via rear side of terminal block) using adjacent jumpers. In addition to the required marking of these blocks, use yellow-green adjacent jumpers.

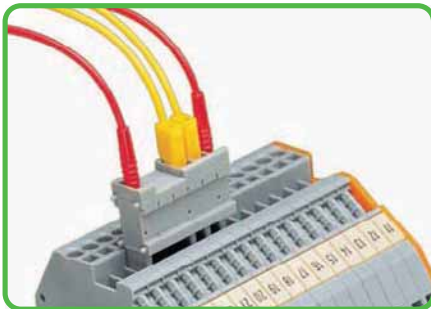
**Commoning**



Staggered jumpers for sophisticated circuit requirements. Push jumpers down firmly until fully inserted. For additional notes, see page 201.



**Testing**



Test plug module assembly. Combining test plug and spacer modules.

**Insulation stop**



Prevents conductor insulation from being pushed into the clamping unit. Available for terminal blocks up to 4 mm<sup>2</sup>/AWG 12.

**Marking**



Marking via WMB Multi markers and WFB continuous marking strips (see Section 13).

**CAGE CLAMP® clamps the following copper conductors:\***

- solid
- stranded

fine-stranded, also with tinned single strands

fine-stranded, tip-bonded

fine-stranded, with ferrule ❶ (gastight crimped)

fine-stranded, with pin terminal (gastight crimped)

\* For aluminum conductors, see notes in Section 14.

❶ When using ferruled conductors, it is necessary to use a terminal block one size larger than the nominal cross section of the wire.



# TOPJOB® Classic Through/Ground Conductor/Shield and Ex Terminal Blocks 2.5 mm<sup>2</sup> 780 Series

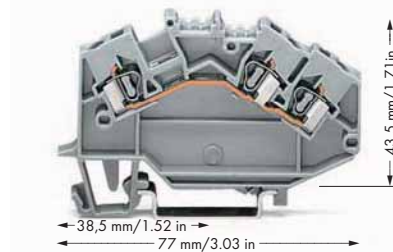
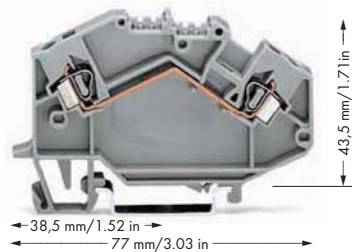
CAGE CLAMP®

5

295

0.08 - 2.5 mm <sup>2</sup> 1000 V/8 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 12 * 600 V, 20 A ④ 600 V, 20 A ⑤	0.08 - 2.5 mm <sup>2</sup> 1000 V/8 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 12 * 600 V, 20 A ④ 600 V, 25 A ⑤
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②		Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②	

- \* AWG 12: THHN, THWN
- ① 1000 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ Suitable for Ex e II applications  
0.2 mm<sup>2</sup> - 2.5 mm<sup>2</sup>/AWG 24 - 12\*  
690 V, 23 A  
(also see Section 14)  
Using staggered jumpers reduces the maximum rated voltage to 275 V.
- ⑤ See application notes for:  
Test plug modules, pages 194 - 196  
Banana plug, page 198  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200  
Staggered jumper, page 201  
Push-in type wire jumper, page 201



Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>2-conductor through terminal block</b>		<b>3-conductor through terminal block</b>		<b>Alternate comb-style jumper bar,</b> insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way <b>280-492</b> 200 (8x25)
gray <b>780-601</b> 50		gray <b>780-631</b> 50		
blue <b>780-604</b> ③ 50		blue <b>780-651</b> ③ 50		<b>Operating tool,</b> of insulating material ⑤ 2-way <b>280-432</b> 1 3-way <b>280-433</b> 1
orange <b>780-602</b> 50		orange <b>780-654</b> 50		
light gray ⑤ <b>780-992</b> ④ 50		light gray ⑤ <b>780-993</b> ④ 50		<b>Test plug module,</b> ⑤ can be snapped together, 5 mm wide gray <b>280-418</b> 100 (4x25)
<b>2-conductor ground terminal block</b>		<b>3-conductor ground terminal block</b>		
green-yellow <b>780-607</b> 50		green-yellow <b>780-637</b> 50		<b>Spacer module,</b> can be snapped together, 5 mm wide gray <b>280-419</b> 100 (4x25)
green-yellow ⑤ <b>780-607/999-950</b> ④ 50		green-yellow ⑤ <b>780-637/999-950</b> ④ 100		
<b>Other terminal blocks with the same profile:</b>		<b>3-conductor shield terminal block</b>		<b>Test plug adapter, 5 mm wide,</b> for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø gray <b>280-404</b> 100 (4x25)
N-disconnect <b>780-613</b> Page 299		white <b>780-640</b> 50		
<b>780 Series Accessories</b>				
Appropriate marking systems: WMB/WFB (see Section 13)				
<b>End and intermediate plate, 1.5 mm thick</b>		<b>Staggered jumper,</b>		<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
orange <b>780-317</b> 100 (4x25)		⑤ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A		
<b>Ex e/Ex i separator, orange,</b>		from 1 to 2 <b>780-452</b> 100 (4x25)		<b>Test plug adapter, 8.3 mm wide,</b> for terminal blocks 1.5 - 10 mm <sup>2</sup> , for test plug 4 mm Ø gray <b>209-170</b> 50 (2x25)
3 mm thick 125.5 mm <b>209-192</b> 50 (2x25)		from 1 to 3 <b>780-453</b> 100 (4x25)		
<b>Insulation stop,</b>		from 1 to 4 <b>780-454</b> 100 (4x25)		<b>Test plug adapter, 6 mm wide,</b> with CAGE CLAMP®, for 0.08 - 2.5 mm <sup>2</sup> I <sub>N</sub> 24 A <b>281-407</b> 100 (4x25)
⑤ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-s") white <b>280-470</b> 200 (8x25)		from 1 to 5 <b>780-455</b> 50 (2x25)		
<b>Insulation stop,</b>		from 1 to 6 <b>780-456</b> 50 (2x25)		<b>Banana plug,</b> ⑤ for socket 4 mm Ø, color mixed <b>215-111</b> 50
⑤ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>280-471</b> 200 (8x25)		from 1 to 7 <b>780-457</b> 50 (2x25)		
<b>Insulation stop,</b>		from 1 to 8 <b>780-458</b> 50 (2x25)		<b>TOPJOB® tool,</b> specially designed blade, suitable for all TOPJOB® terminal blocks <b>777-310</b> 1
⑤ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>280-472</b> 200 (8x25)		<b>Push-in type wire jumper,</b>		
<b>Adjacent jumper, insulated,</b>		⑤ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup>		<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)
I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b> 200 (8x25)		L = 60 mm <b>249-125</b> 10		
yellow-green <b>280-422</b> 200 (8x25)		L = 110 mm <b>249-126</b> 10		
<b>Alternate jumper, insulated,</b>		L = 250 mm <b>249-127</b> 10		<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-409</b> 100 (4x25)		<b>Protective warning marker,</b>		
		with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)		
		<b>Comb-style jumper bar, insulated,</b>		
		⑤ I <sub>N</sub> = I <sub>N</sub> terminal block		
		2-way <b>280-482</b> 200 (8x25)		
		3-way <b>280-483</b> 200 (8x25)		

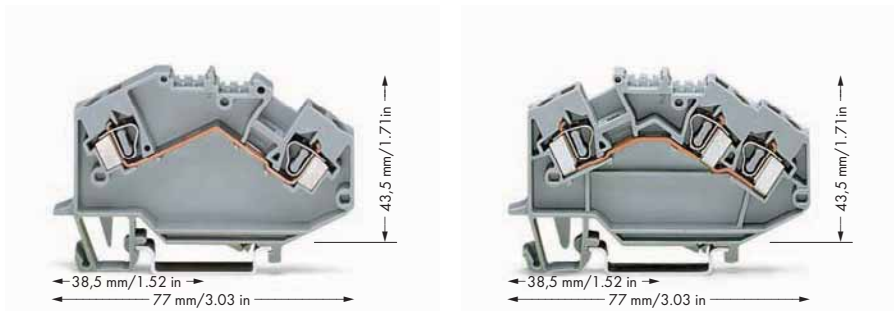
For list of approvals and user guide, see pages 634 to 637.

# TOPJOB® Classic Through/Ground Conductor and Ex Terminal Blocks 4 mm<sup>2</sup> 781 Series

**CAGE CLAMP®**

0.08 - 4 mm <sup>2</sup> 1000 V/8 kV/3 ① I <sub>N</sub> 32 A	AWG 28 - 12 600 V, 20 A ② 600 V, 20 A ③	0.08 - 4 mm <sup>2</sup> 1000 V/8 kV/3 ① I <sub>N</sub> 32 A	AWG 28 - 12 600 V, 20 A ② 600 V, 20 A ③
Terminal block width 6 mm / 0.236 in 9 - 10 mm / 0.37 in ②		Terminal block width 6 mm / 0.236 in 9 - 10 mm / 0.37 in ②	

- 1000 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- Strip length, see packaging or instructions.
- Suitable for Ex i applications
- Suitable for Ex e II applications  
0.2 mm<sup>2</sup> - 4 mm<sup>2</sup>/AWG 24 - 12  
690 V  
30 A for 2-conductor terminal blocks  
27 A for 3-conductor terminal blocks  
(also see Section 14)  
Using staggered jumpers reduces the maximum rated voltage to 275 V.
- See application notes for:  
Test plug modules, pages 194 - 196  
Banana plug, page 198  
Insulation stop, page 199  
Comb-style jumper bar, page 200  
Operating tool, page 200  
Staggered jumper, page 201  
Push-in type wire jumper, page 201



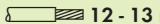
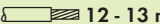
Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>2-conductor through terminal block</b>		<b>3-conductor through terminal block</b>		<b>Operating tool</b> , of insulating material ⑤ 2-way <b>280-432</b> 1 3-way <b>280-433</b> 1
gray <b>781-601</b> 50		gray <b>781-631</b> 50		
blue <b>781-604</b> ③ 50		blue <b>781-651</b> ③ 50		
light gray ④ <b>781-992</b> ④ 50		light gray ④ <b>781-993</b> ④ 50		
<b>2-conductor ground terminal block</b>		<b>3-conductor ground terminal block</b>		<b>Test plug module</b> , ⑤ can be snapped together, 6 mm wide gray <b>281-418</b> 100 (4x25)
green-yellow <b>781-607</b> 50		green-yellow <b>781-637</b> 50		
green-yellow ④ <b>781-607/999-950</b> ④ 50		green-yellow ④ <b>781-637/999-950</b> ④ 50		<b>Spacer module</b> , can be snapped together, 6 mm wide gray <b>281-419</b> 100 (4x25)
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		<b>Test plug adapter</b> , 5 mm wide, for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø gray <b>280-404</b> 100 (4x25)
N-disconnect <b>781-613</b> Page 299		N-disconnect <b>781-643</b> Page 299		
Potential <b>781-623</b> Page 299		Potential <b>781-653</b> Page 299		
<b>781 Series Accessories</b>				
Appropriate marking systems: WMB/WFB (see Section 13)				
<b>End and intermediate plate</b> , 1.5 mm thick orange <b>780-317</b> 100 (4x25)		<b>Staggered jumper</b> , ⑤ insulated, width 6 mm/0.236 in, I <sub>N</sub> 32 A from 1 to 2 <b>781-452</b> 100 (4x25) from 1 to 3 <b>781-453</b> 100 (4x25) from 1 to 4 <b>781-454</b> 100 (4x25) from 1 to 5 <b>781-455</b> 50 (2x25) from 1 to 6 <b>781-456</b> 50 (2x25)		<b>Test plug</b> , with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
<b>Ex e/Ex i separator</b> , orange, 3 mm thick 125.5 mm <b>209-192</b> 50 (2x25)				<b>Test plug adapter</b> , 8.3 mm wide, for terminal blocks 1.5 - 10 mm <sup>2</sup> , for test plug 4 mm Ø gray <b>209-170</b> 50 (2x25)
<b>Insulation stop</b> , ⑤ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "F-st") white <b>281-470</b> 200 (8x25)				<b>Test plug adapter</b> , 6 mm wide, with CAGE CLAMP®, for 0.08 - 2.5 mm <sup>2</sup> I <sub>N</sub> 24 A <b>281-407</b> 100 (4x25)
<b>Insulation stop</b> , ⑤ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>281-471</b> 200 (8x25)		<b>Push-in type wire jumper</b> , ⑤ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm <b>249-125</b> 10 L = 110 mm <b>249-126</b> 10 L = 250 mm <b>249-127</b> 10		<b>Banana plug</b> , ⑤ for socket 4 mm Ø, color mixed <b>215-111</b> 50
<b>Insulation stop</b> , ⑤ 5 pcs/strip, 0.25 - 1.5 mm <sup>2</sup> dark gray <b>281-472</b> 200 (8x25)				<b>TOPJOB® tool</b> , specially designed blade, suitable for all TOPJOB® terminal blocks <b>777-310</b> 1
<b>Adjacent jumper</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>281-402</b> 200 (8x25) yellow-green <b>281-422</b> 200 (8x25)		<b>Protective warning marker</b> , with high-voltage symbol, black, for 5 terminal blocks yellow <b>281-415</b> 100 (4x25)		<b>Screwless end stop</b> , for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
<b>Alternate jumper</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>281-409</b> 100 (4x25)		<b>Comb-style jumper bar</b> , insulated, ⑤ I <sub>N</sub> = I <sub>N</sub> terminal block 2-way <b>281-482</b> 100 (4x25) 3-way <b>281-483</b> 100 (4x25)		<b>Screwless end stop</b> , for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)
		<b>Alternate comb-style jumper bar</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way <b>281-492</b> 100 (4x25)		

# TOPJOB® Classic Through/Ground Conductor and Ex Terminal Blocks 6 mm<sup>2</sup> and 10 mm<sup>2</sup> 782 and 784 Series

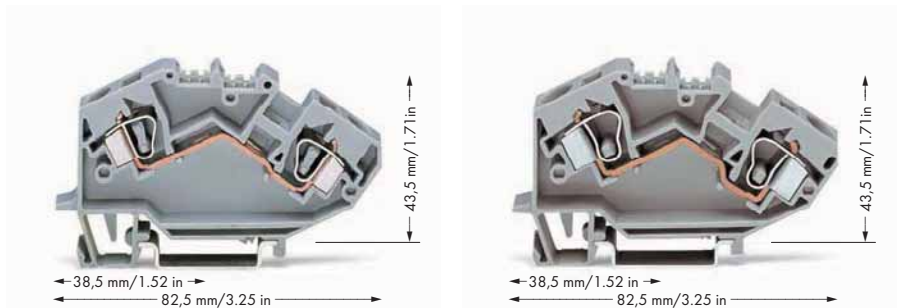
CAGE CLAMP®

5

297

<b>0.2 - 6 mm<sup>2</sup></b> 1000 V/8 kV/3 ② I <sub>N</sub> 41 A Terminal block width 8 mm / 0.315 in  12 - 13 mm / 0.49 in ③	<b>AWG 24 - 10</b> 600 V, 30 A ④ 600 V, 25 A ⑤	<b>0.2 - 10 (16) mm<sup>2</sup> ①</b> 1000 V/8 kV/3 ② I <sub>N</sub> 57 A Terminal block width 10 mm / 0.394 in  12 - 13 mm / 0.49 in ③	<b>AWG 24 - 6</b> 600 V, 50 A ④ 600 V, 35 A ⑤
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- ① Max. connector size: 16 mm<sup>2</sup>
- ② 1000 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ Suitable for Ex e II applications  
0.2 mm<sup>2</sup> - 6 mm<sup>2</sup>/AWG 24 - 10  
690 V, 39 A  
(also see Section 14)
- ⑥ Suitable for Ex e II applications  
0.2 mm<sup>2</sup> - 10 mm<sup>2</sup>/AWG 24 - 8  
690 V, 53 A  
(also see Section 14)
- ⑦ See application notes for:  
Test plug module, page 197  
Banana plug, page 198

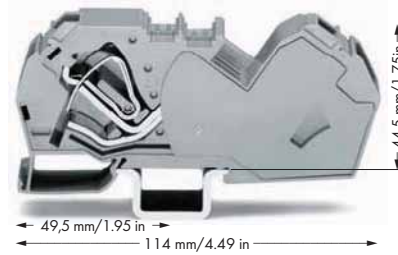
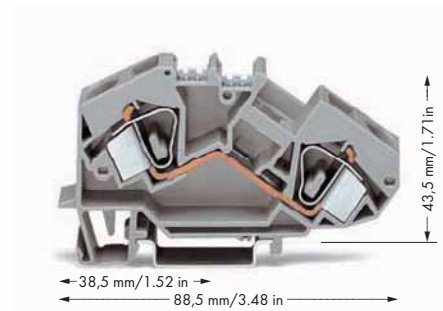


Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>2-conductor through terminal block</b>		<b>2-conductor through terminal block</b>		WMB/WFB (see Section 13)
gray 782-601 25		gray 784-601 25		
blue 782-604 ④ 25		blue 784-604 ④ 25		<b>End and intermediate plate</b> , 1.5 mm thick
light gray ⑤ 782-992 ⑤ 50		light gray ⑤ 784-992 ⑤ 25		orange 782-317 100 (4x25)
<b>2-conductor ground terminal block</b>		<b>2-conductor ground terminal block</b>		<b>Ex e/Ex i separator</b> , orange, 3 mm thick
green-yellow 782-607 25		green-yellow 784-607 25		125.5 mm 209-192 50 (2x25)
green-yellow ⑤ 782-607/999-950 ⑤ 50		green-yellow ⑤ 784-607/999-950 ⑤ 25		<b>Test plug adapter</b> , 8.3 mm wide, for terminal blocks 1.5 - 10 mm <sup>2</sup> , for test plug 4 mm Ø
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		gray 209-170 50 (2x25)
N-disconnect 782-613 Page 300		N-disconnect 784-613 Page 300		<b>Banana plug</b> ,
Potential 782-623 Page 300		Potential 784-623 Page 300		⑦ for socket 4 mm Ø, color mixed
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		215-111 50
<b>Adjacent jumper</b> , insulated, I <sub>N</sub> 41 A		<b>Adjacent jumper</b> , insulated, I <sub>N</sub> 57 A		<b>Busbar carrier</b> ,
gray 282-402 100 (4x25)		gray 284-402 100 (4x25)		with end stop function and detachable separator plate, for DIN 35 rail, 8 mm thick
yellow-green 282-422 100 (4x25)		yellow-green 284-422 100 (4x25)		blue 777-305 25
<b>Alternate jumper</b> , insulated, I <sub>N</sub> 41 A		<b>Alternate jumper</b> , insulated, I <sub>N</sub> 57 A		<b>WFB continuous marking strip</b> ,
gray 282-409 100 (4x25)		gray 284-409 50 (2x25)		1000 mm long
<b>Protective warning marker</b> ,		<b>Protective warning marker</b> ,		transparent 210-612 10
with high-voltage symbol, black, for 5 terminal blocks		with high-voltage symbol, black, for 5 terminal blocks		<b>Carrier for WFB continuous marking strip</b> ,
yellow 282-415 100 (4x25)		yellow 284-415 50 (2x25)		to be snapped into the marker slot
<b>B-type test plug module</b> ,		<b>B-type test plug module</b> ,		209-185 200 (8x25)
⑦ can be snapped together, 8 mm wide		⑦ can be snapped together, 8 mm wide		<b>TOPJOB® tool</b> , specially designed blade, suitable for all TOPJOB® terminal blocks
gray 709-310 100 (4x25)		gray 709-310 100 (4x25)		777-310 1
<b>B-type spacer module</b> ,		<b>B-type spacer module</b> ,		<b>Screwless end stop</b> ,
can be snapped together, 8 mm wide		can be snapped together, 8 mm wide		for DIN 35 rail, 6 mm wide
gray 709-311 100 (4x25)		gray 709-311 100 (4x25)		gray 249-116 100 (4x25)
<b>B-type spacer plate</b> ,		<b>B-type spacer plate</b> ,		<b>Screwless end stop</b> ,
can be snapped together, 2 mm wide		can be snapped together, 2 mm wide		for DIN 35 rail, 10 mm wide
gray 709-312 100 (4x25)		gray 709-312 100 (4x25)		gray 249-117 50 (2x25)
<b>Finger guard</b> ,		<b>Finger guard</b> ,		
touchproof cover protects unused conductor entries		touchproof cover protects unused conductor entries		
yellow 284-400 100 (4x25)		yellow 284-400 100 (4x25)		

For list of approvals and user guide, see pages 634 to 637.



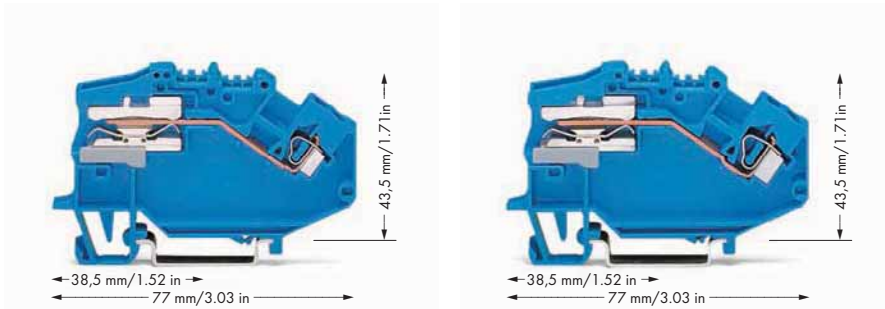
<p>0.2 - 16 mm<sup>2</sup> 1000 V/8 kV/3 ① I<sub>N</sub> 76 A</p> <p>AWG 24 - 6 600 V, 65 A<sup>Ⓜ</sup> 600 V, 50 A<sup>Ⓢ</sup></p> <p>Terminal block width 12 mm / 0.472 in 16 - 17 mm / 0.65 in ②</p>	<p>6 - 35 mm<sup>2</sup> 1000 V/8 kV/3 ① I<sub>N</sub> 125 A</p> <p>AWG 8 - 2 600 V, 115 A<sup>Ⓜ</sup> 600 V, 125 A<sup>Ⓢ</sup></p> <p>Terminal block width 16 mm / 0.63 in 23 mm / 0.91 in ②</p>
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- ① 1000 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ Suitable for Ex e II applications  
0.2 mm<sup>2</sup> - 16 mm<sup>2</sup>/AWG 24 - 6  
690 V, 68 A  
0.2 mm<sup>2</sup> - 10 mm<sup>2</sup>/AWG 24 - 8  
for ground conductor terminal blocks  
(also see Section 14)

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>2-conductor through terminal block</b>		<b>2-conductor through terminal block</b>		WMB/WFB (see Section 13)
gray 783-601	25	gray 785-601	15	
blue 783-604 ③	25	blue 785-604 ③	15	<b>Test plug adapter</b> , 11.6 mm wide, for 1.5 - 16 mm <sup>2</sup> terminal blocks, for test plug 4 mm Ø
light gray ④ 783-992 ④	25			gray 283-404 25
<b>2-conductor ground terminal block</b>		<b>2-conductor ground terminal block</b>		<b>Banana plug</b> , for socket 4 mm Ø, color mixed
green-yellow 783-607	25	green-yellow 785-607	15	215-111 50
green-yellow ④ 783-607/999-950 ④	25			<b>Busbar carrier</b> , with end stop function and detachable separator plate, for DIN 35 rail, 8 mm thick
<b>Other terminal blocks with the same profile:</b>		<b>Other terminal blocks with the same profile:</b>		blue 777-305 25
N-disconnect 783-613	Page 300	N-disconnect 785-613	Page 301	<b>WFB continuous marking strip</b> , 1000 mm long
Potential 783-623	Page 300	Potential 785-623	Page 301	transparent 210-612 10
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Carrier for WFB continuous marking strip</b> , to be snapped into the marker slot
<b>End and intermediate plate</b> , 1.5 mm thick		<b>Adjacent jumper</b> , insulated,		209-185 200 (8x25)
orange 783-317	100 (4x25)	I <sub>N</sub> 85 A		<b>TOPJOB® tool</b> , specially designed blade, suitable for all TOPJOB® terminal blocks
		gray 285-435	50 (2x25)	777-310 1
<b>Adjacent jumper</b> , insulated,		<b>Protective warning marker</b> ,		<b>Screwless end stop</b> , for DIN 35 rail, 6 mm wide
I <sub>N</sub> 70 A		with high-voltage symbol, black, for 5 terminal blocks		gray 249-116 100 (4x25)
gray 283-402	50 (2x25)	yellow 285-416	50 (2x25)	<b>Screwless end stop</b> , for DIN 35 rail, 10 mm wide
yellow-green 283-422	50 (2x25)			gray 249-117 50 (2x25)
<b>Alternate jumper</b> , insulated,		<b>Finger guard</b> ,		
I <sub>N</sub> 76 A		touchproof cover protects unused conductor entries		
gray 283-409	50 (2x25)	yellow 285-401	100	
<b>Protective warning marker</b> ,				
with high-voltage symbol, black, for 5 terminal blocks				
yellow 283-415	50 (2x25)			
<b>Finger guard</b> ,				
touchproof cover protects unused conductor entries				
yellow 283-400	100 (4x25)			

0.08 - 2.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 24 A Terminal block width 5 mm / 0.197 in ② 8 - 9 mm / 0.33 in	AWG 28 - 12 * 600 V, 20 A ③	0.08 - 4 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 32 A Terminal block width 6 mm / 0.236 in ② 9 - 10 mm / 0.37 in	AWG 28 - 12 600 V, 20 A ③
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- \* AWG 12: THHN, THWN
- ① 400 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ See page 300
- ④ See page 300

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>1-conductor N-disconnect terminal block</b> ● blue	<b>780-613</b> ③ 50	<b>1-conductor N-disconnect terminal block</b> ● blue	<b>781-613</b> ③ 50	WMB/WFB (see Section 13)
		<b>1-conductor power distribution disconnect terminal block</b> ● gray	<b>781-623</b> ④ 50	<b>End and intermediate plate, 1.5 mm thick</b> orange <b>780-317</b> 100 (4x25)
<b>Other terminal blocks with the same profile:</b> Through	<b>780-601</b> Page 295	<b>Other terminal blocks with the same profile:</b> Through	<b>781-601</b> Page 296	<b>Busbar carrier,</b> not suitable as end stop, for DIN 35 rail, 1.5 mm thick blue <b>780-321</b> 100 (4x25)
				<b>Busbar carrier,</b> with end stop function and detachable separator plate, for DIN 35 rail, 8 mm thick blue <b>777-305</b> 25
				<b>Straight busbar, Cu with tin plating,</b> 10 x 3 mm, 1000 mm long I <sub>N</sub> 140 A <b>210-133</b> 1
		<b>2-conductor N-disconnect terminal block</b> ● blue	<b>781-643</b> ③ 50	<b>Cover for N-busbar,</b> transparent, 1000 mm long <b>777-303</b> 1
		<b>2-conductor power distribution disconnect terminal block</b> ● gray	<b>781-653</b> ④ 50	<b>Connector,</b> for N-busbar, with blue cover, 2.5 - 16 mm <sup>2</sup> blue <b>210-281</b> 100 (2x50)
		<b>Other terminal blocks with the same profile:</b> Through	<b>781-631</b> Page 296	<b>Connector,</b> for N-busbar, 2.5 - 35 mm <sup>2</sup> unplated <b>209-105</b> 50
				<b>Lock-out, snap-on type,</b> prevents reclosing of slide link orange <b>777-300</b> 100 (4x25)
				<b>Step-down test plug,</b> from 4 mm socket to 2 mm plug red <b>210-297</b> 100 (4x25)

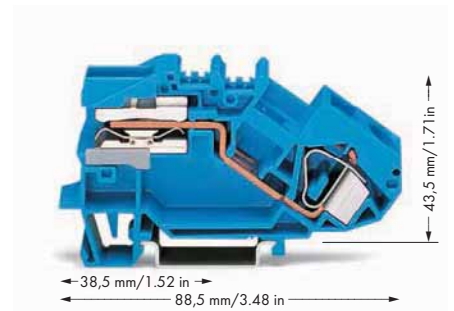
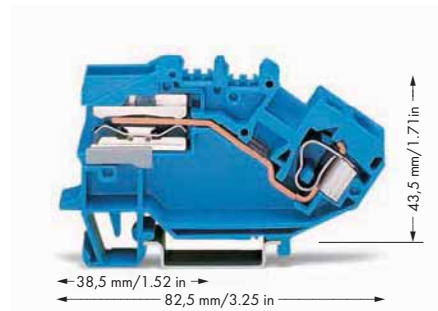
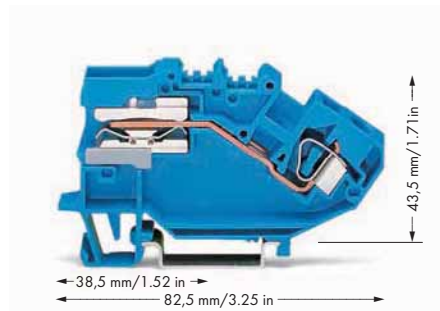
For list of approvals and user guide, see pages 634 to 637.




# TOPJOB® Classic

## N-Conductor Disconnect and Power Distribution Disconnect Terminal Blocks

### 6 mm<sup>2</sup>, 10 mm<sup>2</sup>, 16 mm<sup>2</sup> and 35 mm<sup>2</sup>, 782, 784, 783 and 785 Series
















0.2 - 6 mm <sup>2</sup> 400 V/6 kV/3 ② I <sub>N</sub> 41 A Terminal block width 8 mm / 0.315 in 12 - 13 mm / 0.49 in ③	AWG 24 - 10 600 V, 30 A ⑤	0.2 - 10 (16) mm <sup>2</sup> ① 400 V/6 kV/3 ② I <sub>N</sub> 57 A Terminal block width 10 mm / 0.394 in 12 - 13 mm / 0.49 in ③	AWG 24 - 6 400 V/6 kV/3 ② 600 V, 65 A ⑤ I <sub>N</sub> 68 A Terminal block width 12 mm / 0.472 in 16 - 17 mm / 0.65 in ③
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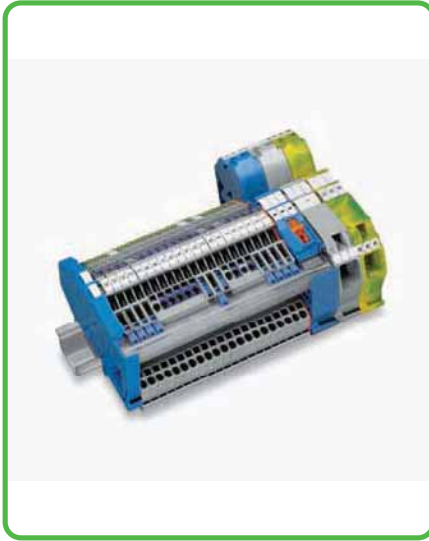
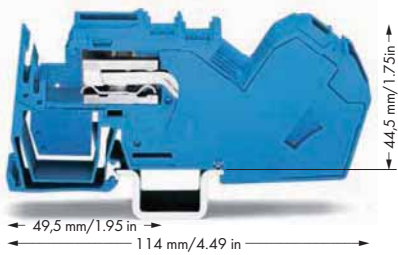
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>1-conductor N-disconnect terminal block</b> ● blue	<b>782-613</b> ④ 25	<b>1-conductor N-disconnect terminal block</b> ● blue	<b>784-613</b> ④ 25	<b>1-conductor N-disconnect terminal block</b> ● blue	<b>783-613</b> ④ 25
<b>1-conductor power distribution disconnect terminal block</b> ● gray	<b>782-623</b> ⑤ 25	<b>1-conductor power distribution disconnect terminal block</b> ● gray	<b>784-623</b> ⑤ 25	<b>1-conductor power distribution disconnect terminal block</b> ● gray	<b>783-623</b> ⑤ 25
<b>Other terminal blocks with the same profile:</b> Through	<b>782-601</b> Page 297	<b>Other terminal blocks with the same profile:</b> Through	<b>784-601</b> Page 297	<b>Other terminal blocks with the same profile:</b> Through	<b>783-601</b> Page 298
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>Busbar carrier,</b>  not suitable as end stop, for DIN 35 rail, 1.5 mm thick blue	<b>782-321</b> 100 (4x25)	<b>Busbar carrier,</b>  not suitable as end stop, for DIN 35 rail, 1.5 mm thick blue	<b>782-321</b> 100 (4x25)	<b>Busbar carrier,</b>  not suitable as end stop, for DIN 35 rail, 1.5 mm thick blue	<b>783-321</b> 100 (4x25)

#### Accessories

Appropriate marking systems:  
WMB/WFB (see Section 13)

<b>Busbar carrier,</b>  with end stop function and detachable separator plate, for DIN 35 rail, 8 mm thick blue	<b>777-305</b> 25	<b>Connector,</b>  for N-busbar, 2.5 - 35 mm <sup>2</sup> unplated orange	<b>209-105</b> 50	<b>WFB continuous marking strip,</b>  1000 mm long transparent	<b>210-612</b> 10
<b>Straight busbar, Cu with tin plating,</b>  10 x 3 mm, 1000 mm long I <sub>N</sub> 140 A	<b>210-133</b> 1	<b>Lock-out, snap-on type,</b>  prevents reclosing of slide link orange	<b>782-300</b> 100 (4x25)	<b>Carrier for WFB continuous marking strip,</b>  to be snapped into the marker slot	<b>209-185</b> 200 (8x25)
<b>Cover for N-busbar,</b>  transparent, 1000 mm long	<b>777-303</b> 1	<b>Test plug,</b>  with 500 mm cable, 2.3 mm Ø yellow	<b>210-137</b> 50	<b>TOPJOB® tool, specially designed blade,</b>  suitable for all TOPJOB® terminal blocks	<b>777-310</b> 1
<b>Connector,</b>  for N-busbar, with blue cover, 2.5 - 16 mm <sup>2</sup> blue	<b>210-281</b> 100 (2x50)	<b>Step-down test plug,</b>  from 4 mm socket to 2 mm plug red	<b>210-297</b> 100 (4x25)	<b>Screwless end stop,</b>  for DIN 35 rail, 6 mm wide gray	<b>249-116</b> 100 (4x25)
		<b>WMB Multi marking system,</b>  10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm plain	<b>793-501</b> 5	<b>Screwless end stop,</b>  for DIN 35 rail, 10 mm wide gray	<b>249-117</b> 50 (2x25)
		<b>WMB Multi marking system,</b>  10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain	<b>793-5501</b> 5		


6 - 35 mm <sup>2</sup>	AWG 8 - 2
400 V/6 kV/3 ②	
I <sub>N</sub> 125 A	600 V, 125 A ⑥
Terminal block width 16 mm / 0.63 in	
③ 23 mm / 0.91 in	

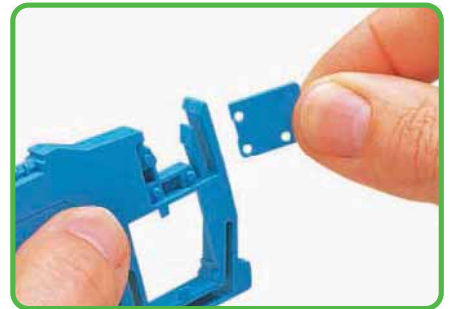
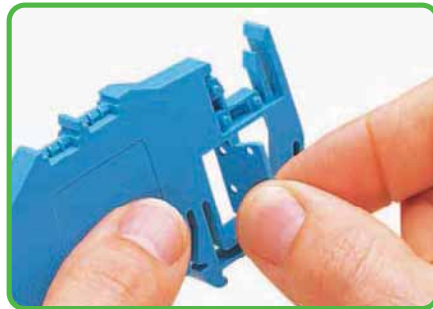


- ① Max. connector size: 16 mm<sup>2</sup>
- ② 400 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ See bottom of column 5
- ⑤ See bottom of column 6

Item No.	Pack. Unit
<b>1-conductor N-disconnect terminal block</b>	
● blue	785-613 ④ 15
<b>1-conductor power distribution disconnect terminal block</b>	
● gray	785-623 ⑤ 15
<b>Other terminal blocks with the same profile:</b>	
Through	785-601 Page 298

The new 35 mm<sup>2</sup>/AWG 2 terminal blocks are the latest addition to WAGO TOPJOB®, the professional range of rail-mounted terminal blocks for building installation. These terminal blocks, which include an end plate, are only 16 mm/0.63 in wide. Their compact design allows them to fit into standard distribution box. The lower conductor entry makes it much easier to terminate 35 mm<sup>2</sup>/AWG 2 conductors. Furthermore, the N-busbar holder is integrated in the terminal block, making any separate holder redundant.

Item-Specific Accessories	
<b>Busbar carrier,</b>	
	not suitable as end stop, for DIN 35 rail, 1.5 mm thick
● blue	783-321 100 (4x25)



④ For the construction and operation of power installations in fire hazardous locations or public buildings – such as conference centers, stores, hospitals, schools, theaters, hotels. – the DIN VDE 0100-710 or DIN VDE 0100-718 standards shall be observed. DIN VDE 0100-482 shall be observed for fire hazardous locations. These VDE mandate determine that every neutral conductor must be provided with a disconnection device so, e.g., insulation testing is possible for every circuit without disconnecting the N-conductor.

WAGO N-disconnect terminal blocks meet this requirement.

⑤ According to DIN VDE 0100-710 "Requirements for operating facilities, rooms and special installations – medical facilities", equipotential bonding conductors shall be run on a potential equalization busbar. The potential equalization busbar and the protective ground conductor busbar must be accommodated in a common housing and be connected by means of a disconnectable connection using a copper conductor with a minimum cross section of 16 mm<sup>2</sup>/AWG 6. Furthermore, all equipotential bonding conductors must be connected to the potential equalization busbar and clearly arranged so they can be disconnected individually and accessed at any time. Depending on their function, they must be provided with captive marking.

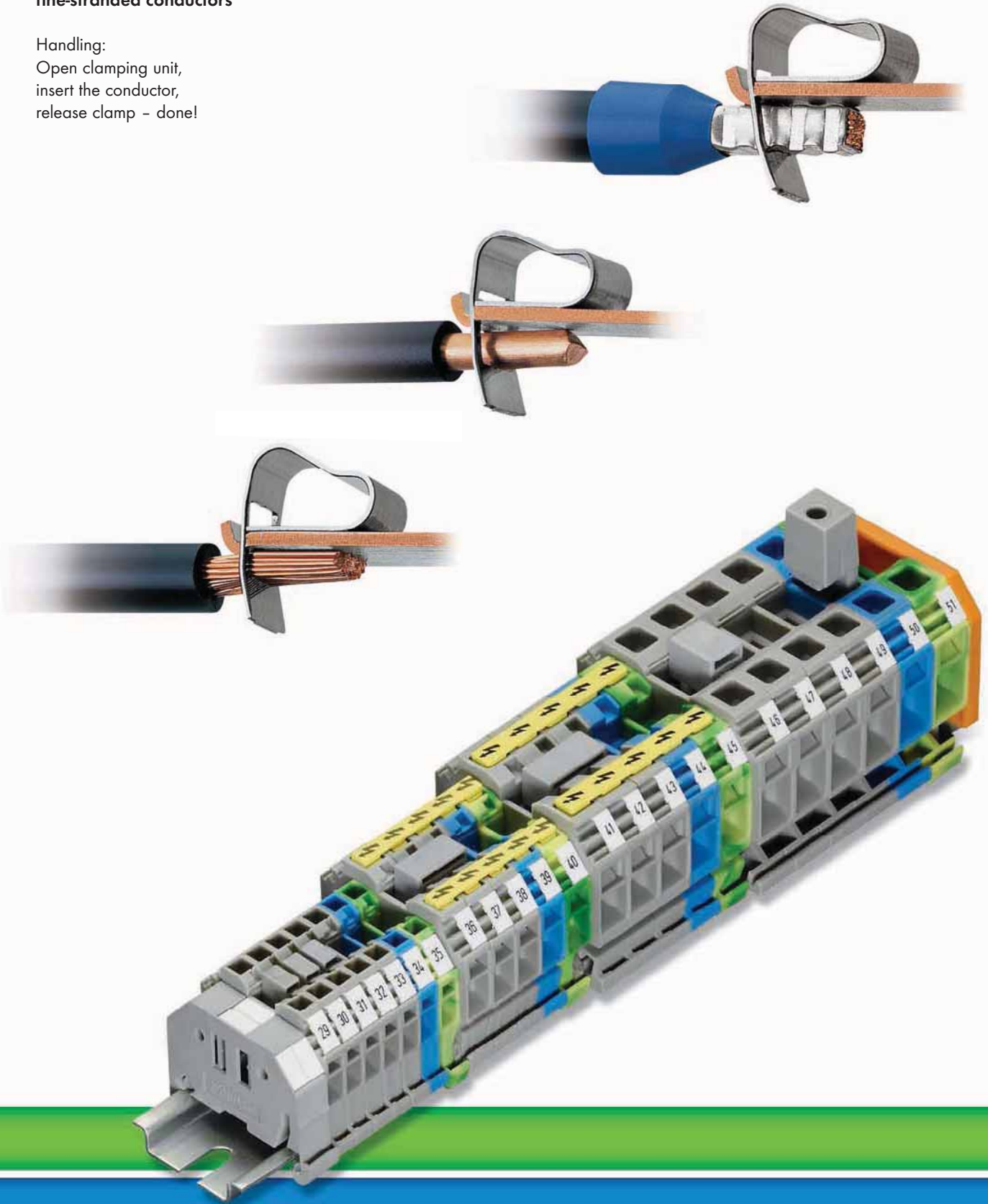
WAGO power distribution disconnect terminal blocks meet these requirements.

# CAGE CLAMP<sup>®</sup>

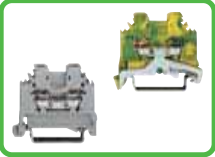
The universal connection for solid, stranded and fine-stranded conductors

Handling:

Open clamping unit,  
insert the conductor,  
release clamp - done!



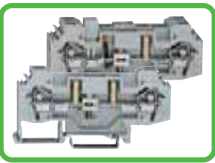




**Through and Ground Conductor Terminal Blocks**  
0.08 mm<sup>2</sup> to 16 mm<sup>2</sup> (AWG 28 - 6)

279 - 283 Series

306 – 308



**Disconnect Terminal Blocks for Test and Measurement, Ground Conductor Disconnect Terminal Blocks**  
– 6 mm<sup>2</sup> / AWG 10

282 Series

310



**Fuse Terminal Blocks**  
– 6 mm<sup>2</sup> / AWG 10

282 Series

312



**Accessories for Rail-Mounted Terminal Blocks**  
– Push-In Type Wire Jumpers  
– Step-Down Jumpers for Through Terminal Blocks  
– Staggered Jumpers  
– Test Plug Modules

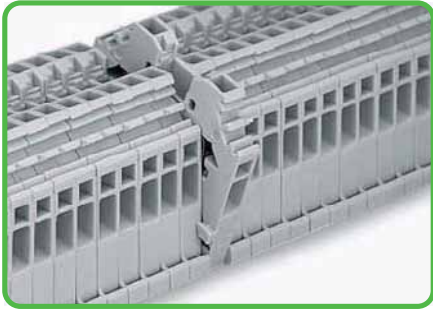
201  
309  
201  
194 – 197

# Rail-Mounted Terminal Blocks, Side-Entry 279 to 284 Series

## Assembly



Snapping side-entry rail-mounted terminal blocks onto the carrier rail.



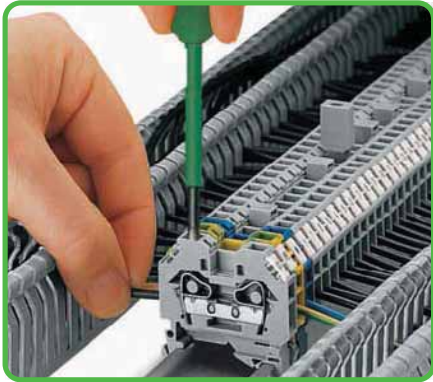
Quick assembly keys prevent reverse mounting.

## Removal



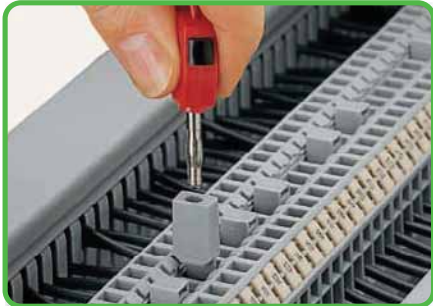
Removal from the carrier rail.

## CAGE CLAMP® connection

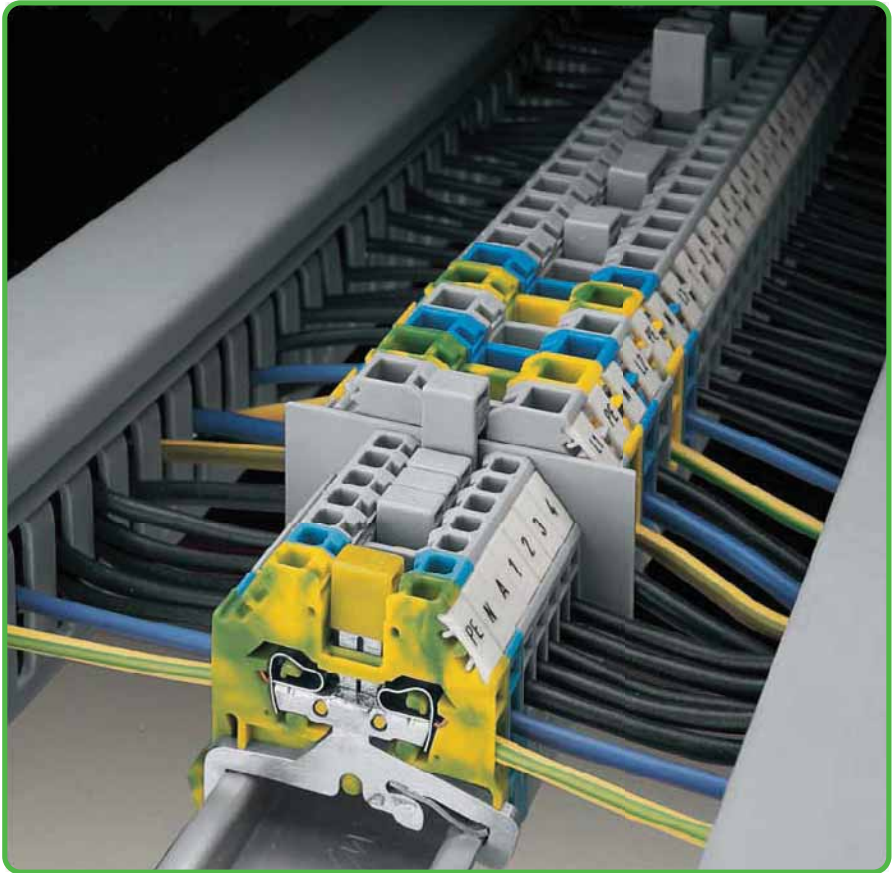


Conductor termination

## Testing



Testing with test plug adapter.



## Commoning



Commoning with adjacent jumpers.

## Commoning with step-down jumpers



Commoning side-entry rail-mounted terminal blocks with step-down jumpers.



CAGE CLAMP® clamps the following copper conductors:\*

solid



stranded



fine-stranded, also with tinned single strands

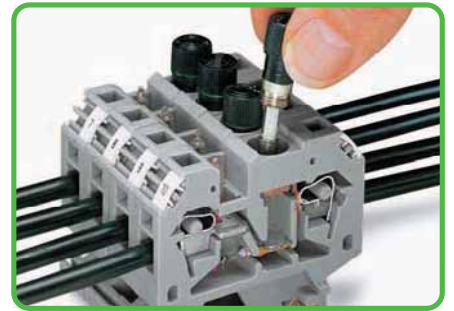
\* For aluminum conductors, see notes in Section 14.

- Description and Handling -



Suitable for all DIN 35 rails.

Fuse terminal blocks

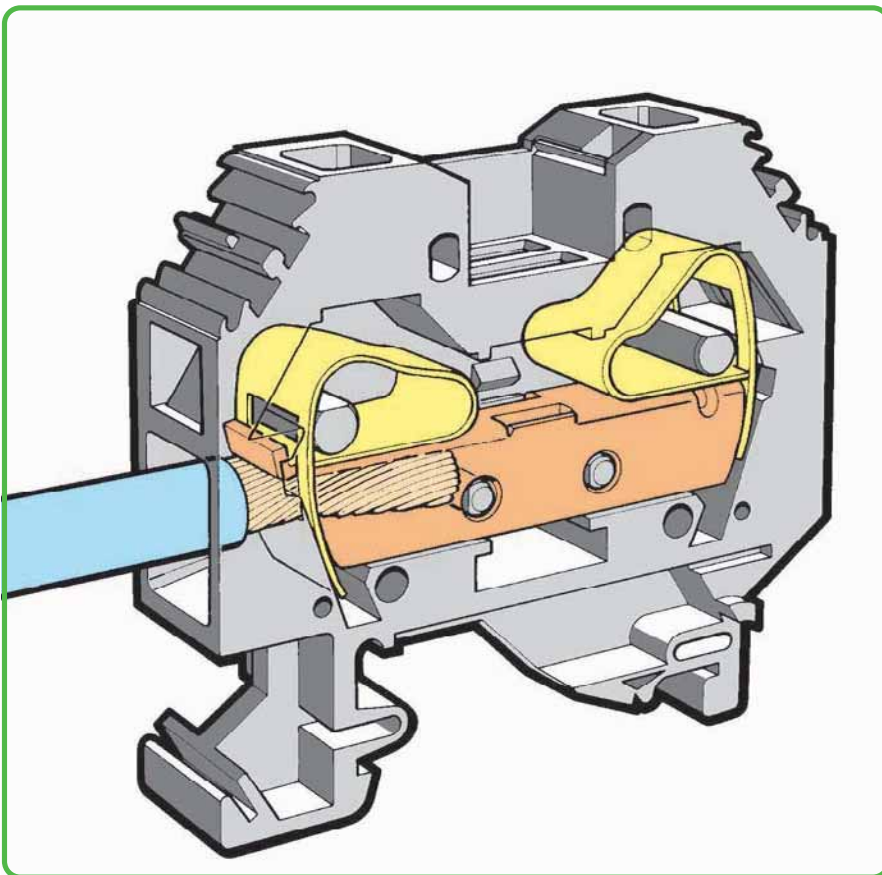


Replacing a fuse.

Disconnect terminal blocks for test and measurement



Shifting the disconnect slide link.



Marking



Marking with WMB Multi marking system.



fine-stranded, tip-bonded



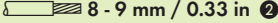
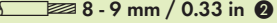
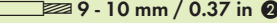
fine-stranded, with ferrule ❶ (gastight crimped)

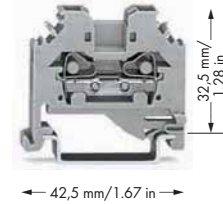
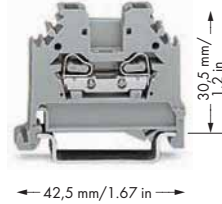
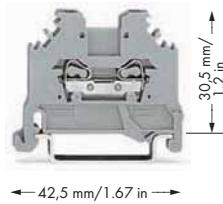





fine-stranded, with pin terminal (gastight crimped)

❶ When using ferruled conductors, it is necessary to use a terminal block one size larger than the nominal cross section of the wire.

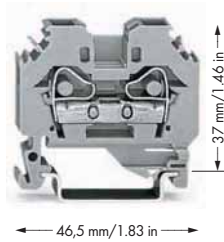
# Through and Ground Conductor Terminal Blocks 1.5 mm<sup>2</sup> to 6 mm<sup>2</sup> 279 to 282 Series

<b>0.08 - 1.5 mm<sup>2</sup></b> <b>800 V/8 kV/3 ①</b> <b>I<sub>N</sub> 18 A</b> <b>Terminal block width 4 mm / 0.157 in</b>  <b>8 - 9 mm / 0.33 in ②</b>	<b>AWG 28 - 16</b> <b>600 V, 10 A<sup>⚡</sup></b> <b>600 V, 15 A<sup>Ⓞ</sup></b>	<b>0.08 - 2.5 mm<sup>2</sup></b> <b>800 V/8 kV/3 ①</b> <b>I<sub>N</sub> 24 A</b> <b>Terminal block width 5 mm / 0.197 in</b>  <b>8 - 9 mm / 0.33 in ②</b>	<b>AWG 28 - 12 *</b> <b>600 V, 20 A<sup>⚡</sup></b> <b>600 V, 20 A<sup>Ⓞ</sup></b>	<b>0.08 - 4 mm<sup>2</sup></b> <b>800 V/8 kV/3 ①</b> <b>I<sub>N</sub> 32 A</b> <b>Terminal block width 6 mm / 0.236 in</b>  <b>9 - 10 mm / 0.37 in ②</b>	<b>AWG 28 - 12</b> <b>600 V, 20 A<sup>⚡</sup></b> <b>600 V, 25 A<sup>Ⓞ</sup></b>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>		<b>2-conductor through terminal block</b>		<b>2-conductor through terminal block</b>	
gray	<b>279-101</b> 100	gray	<b>280-101</b> 100	gray	<b>281-101</b> 100
blue	<b>279-104</b> ③ 100	blue	<b>280-104</b> ③ 100	blue	<b>281-104</b> ③ 100
<b>2-conductor ground terminal block</b>		<b>2-conductor ground terminal block</b>		<b>2-conductor ground terminal block</b>	
		green-yellow	<b>280-107</b> 100	green-yellow	<b>281-107</b> 100
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 3 mm thick</b>	
 orange	<b>280-302</b> 100 (4x25)	 orange	<b>280-302</b> 100 (4x25)	 orange	<b>281-302</b> 100 (4x25)
 gray	<b>280-301</b> 100 (4x25)	 gray	<b>280-301</b> 100 (4x25)	 gray	<b>281-301</b> 100 (4x25)
<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>	
 orange	<b>280-322</b> 100 (4x25)	 orange	<b>280-322</b> 100 (4x25)	 orange	<b>281-322</b> 100 (4x25)
 gray	<b>280-332</b> 100 (4x25)	 gray	<b>280-332</b> 100 (4x25)	 gray	<b>281-332</b> 100 (4x25)
<b>Adjacent jumper, insulated, I<sub>N</sub> 15 A</b>		<b>Adjacent jumper, insulated, I<sub>N</sub> = I<sub>N</sub> terminal block</b>		<b>Adjacent jumper, insulated, I<sub>N</sub> = I<sub>N</sub> terminal block</b>	
 gray	<b>279-402</b> 200 (8x25)	 gray	<b>280-402</b> 200 (8x25)	 gray	<b>281-402</b> 200 (8x25)
 yellow-green	<b>279-422</b> 200 (8x25)	 yellow-green	<b>280-422</b> 200 (8x25)	 yellow-green	<b>281-422</b> 200 (8x25)
<b>Alternate jumper, insulated, I<sub>N</sub> 15 A</b>		<b>Alternate jumper, insulated, I<sub>N</sub> = I<sub>N</sub> terminal block</b>		<b>Alternate jumper, insulated, I<sub>N</sub> = I<sub>N</sub> terminal block</b>	
 gray	<b>279-409</b> 100 (4x25)	 gray	<b>280-409</b> 100 (4x25)	 gray	<b>281-409</b> 100 (4x25)
<b>Step-down jumper, insulated, I<sub>N</sub> 15 A</b>		<b>Step-down jumper, insulated, I<sub>N</sub> 15 A</b>		<b>Step-down jumper, insulated, I<sub>N</sub> 15 A</b>	
 gray	<b>284-414</b> 50 (2x25)	 gray	<b>284-414</b> 50 (2x25)	 gray	<b>284-414</b> 50 (2x25)
<b>Intermediate plate, 1 mm thick</b>		<b>Intermediate plate, 1 mm thick</b>		<b>Intermediate plate, 1 mm thick</b>	
 gray	<b>281-333</b> 100 (4x25)	 gray	<b>281-333</b> 100 (4x25)	 gray	<b>281-333</b> 100 (4x25)
 orange	<b>281-336</b> 100 (4x25)	 orange	<b>281-336</b> 100 (4x25)	 orange	<b>281-336</b> 100 (4x25)
<b>Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks</b>		<b>Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks</b>		<b>Step-down jumper, insulated, I<sub>N</sub> 30 A</b>	
 yellow	<b>279-405</b> 100 (4x25)	 yellow	<b>280-405</b> 100 (4x25)	 gray	<b>284-413</b> 50 (2x25)
<b>Test plug adapter, 8.3 mm wide, for terminal blocks 1.5 - 10 mm<sup>2</sup>, for test plug 4 mm Ø</b>		<b>Test plug adapter, 8.3 mm wide, for terminal blocks 1.5 - 10 mm<sup>2</sup>, for test plug 4 mm Ø</b>		<b>Step-down jumper, insulated, I<sub>N</sub> 32 A</b>	
 gray	<b>209-170</b> 50 (2x25)	 gray	<b>209-170</b> 50 (2x25)	 gray	<b>283-414</b> 50 (2x25)
<b>Test plug adapter, 5 mm wide, for terminal blocks 1.5 - 4 mm<sup>2</sup>, for 210-137 test plug 2.3 mm Ø</b>		<b>Test plug adapter, 5 mm wide, for terminal blocks 1.5 - 4 mm<sup>2</sup>, for 210-137 test plug 2.3 mm Ø</b>		<b>Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks</b>	
 gray	<b>280-404</b> 100 (4x25)	 gray	<b>280-404</b> 100 (4x25)	 yellow	<b>281-405</b> 100 (4x25)
				<b>Test plug adapter, 8.3 mm wide, for terminal blocks 1.5 - 10 mm<sup>2</sup>, for test plug 4 mm Ø</b>	
				 gray	<b>209-170</b> 50 (2x25)

<b>0.2 - 6 mm<sup>2</sup></b>	<b>AWG 24 - 10</b>
<b>800 V/8 kV/3 ①</b>	<b>600 V, 30 A ②</b>
<b>I<sub>N</sub> 41 A</b>	<b>600 V, 10 A ③</b>
<b>Terminal block width 8 mm / 0.315 in</b>	
<b>12 - 13 mm / 0.49 in ④</b>	



Carrier rail	Item No.	Curre [A]	Acc. to mm <sup>2</sup> /AWG Cu
DIN 35 x 7.5 (steel)			
slotted	210-112	76	16/6
unslotted	210-113	76	16/6
DIN 35 x 15 (steel)			
1.5 mm thick	210-114	125	35/2
2.3 mm thick	210-118	125	35/2
DIN 35 x 7.5 (Al)			
unslotted	210-196	76	16/6
DIN 35 x 15 (Cu)			
2.3 mm thick	210-198	309	150/6/0

Current applies to rails of 1 m/3'3" length

If required to use standard carrier rails as ground conductor busbars, please refer to insert space between the **maximum current capacities** listed above. According to EN 60947-2 (VDE 0611, part 3), steel carrier rails shall not be used for PEN applications.

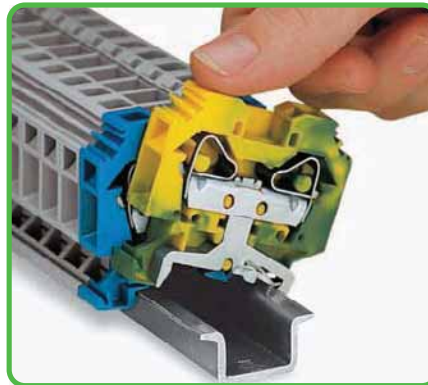
\* AWG 12: THHN, THWN

- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree

(also see Section 1.4)

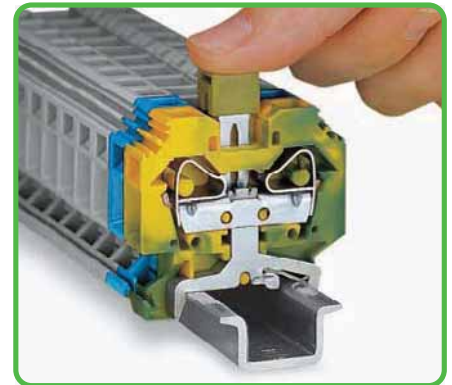
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ See application notes for:  
Step-down jumper, page 309  
Test plug module, page 197

	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>		
gray	282-101	50
blue	282-104 ③	50
<b>2-conductor ground terminal block</b>		
green-yellow	282-107	50
<b>Item-Specific Accessories</b>		
<b>End and intermediate plate, 4 mm thick</b>		
orange	282-302	100 (4x25)
gray	282-301	100 (4x25)
<b>Separator, oversized, 2 mm thick</b>		
orange	282-322	100 (4x25)
gray	282-332	100 (4x25)
<b>Adjacent jumper, insulated,</b>		
I <sub>N</sub> 41 A		
gray	282-402	100 (4x25)
yellow-green	282-422	100 (4x25)
<b>Alternate jumper, insulated,</b>		
I <sub>N</sub> 41 A		
gray	282-409	100 (4x25)
<b>Step-down jumper, insulated,</b>		
④ I <sub>N</sub> 30 A		
gray	284-413	50 (2x25)
<b>Cover plate,</b>		
1 mm thick		
gray	284-333	100 (4x25)
orange	284-343	100 (4x25)
<b>Protective warning marker,</b>		
with high-voltage symbol, black,		
for 5 terminal blocks		
yellow	282-405	100 (4x25)
<b>Test plug adapter, 8.3 mm wide,</b>		
for terminal blocks 1.5 - 10 mm <sup>2</sup> ,		
for test plug 4 mm Ø		
gray	209-170	50 (2x25)
<b>B-type test plug module,</b>		
④ can be snapped together,		
8 mm wide		
gray	709-310	100 (4x25)
<b>B-type spacer module,</b>		
can be snapped together,		
8 mm wide		
gray	709-311	100 (4x25)



**Snapping a terminal block onto the carrier rail.**

Ground conductor terminal blocks snap onto the rail in the same way as through terminal blocks, but automatically make a direct electrical connection to the rail. Sliding on the rail is not then possible.



**Push jumper down firmly until fully inserted.**

Commoning ground conductor terminal blocks with through terminal blocks is possible in one direction only (via rear side of terminal block) using adjacent jumpers. In addition to the required marking of these blocks, use yellow-green adjacent jumpers.



**Removal from the carrier rail.**

When mounting on the rail, ensure that open sides of terminal blocks face in the same direction. Both mounting feet and removal slots are on the same side for all terminal blocks, making it possible to visually ensure blocks are facing in same direction.

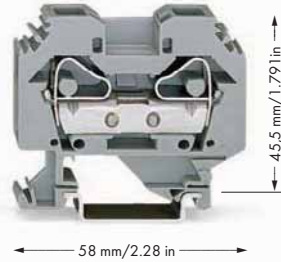
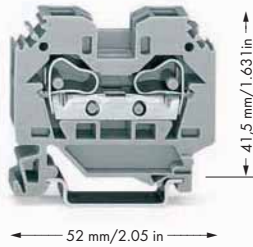
# Through and Ground Conductor Terminal Blocks

## 10 mm<sup>2</sup> and 16 mm<sup>2</sup>

### 284 and 283 Series

CAGE CLAMP®

0.2 - 10 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 57 A	AWG 24 - 8 600 V, 50 A ② 600 V, 65 A ③	0.2 - 16 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 76 A	AWG 24 - 6 600 V, 65 A ② 600 V, 90 A ③
Terminal block width 10 mm / 0.394 in 12 - 13 mm / 0.49 in ②		Terminal block width 12 mm / 0.472 in 16 - 17 mm / 0.65 in ②	



- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ See application notes for:  
Step-down jumper, page 309  
Test plug module, page 197

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b>		<b>2-conductor through terminal block</b>	
gray	284-101 50	gray	283-101 50
blue	284-104 50	blue	283-104 50
<b>2-conductor ground terminal block</b>		<b>2-conductor ground terminal block</b>	
green-yellow	284-107 50	green-yellow	283-107 50
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 2.5 mm thick</b>		<b>End and intermediate plate, 4 mm thick</b>	
orange	284-302 100 (4x25)	orange	283-302 50 (2x25)
gray	284-301 100 (4x25)	gray	283-301 50 (2x25)
<b>Separator, oversized, 2 mm thick</b>		<b>Separator, oversized, 2 mm thick</b>	
orange	284-322 100 (4x25)	orange	283-322 50 (2x25)
gray	284-332 100 (4x25)	gray	283-332 50 (2x25)
<b>Adjacent jumper, insulated, I<sub>N</sub> 57 A</b>		<b>Adjacent jumper, insulated, I<sub>N</sub> 70 A</b>	
gray	284-402 100 (4x25)	gray	283-402 50 (2x25)
yellow-green	284-422 100 (4x25)	yellow-green	283-422 50 (2x25)
<b>Alternate jumper, insulated, I<sub>N</sub> 57 A</b>		<b>Alternate jumper, insulated, I<sub>N</sub> 76 A</b>	
gray	284-409 50 (2x25)	gray	283-409 50 (2x25)
<b>Step-down jumper, insulated, I<sub>N</sub> 30 A</b>		<b>Step-down jumper, insulated, I<sub>N</sub> 32 A</b>	
gray	284-413 50 (2x25)	gray	283-414 50 (2x25)
<b>Cover plate, 1 mm thick</b>		<b>Cover plate, 1 mm thick</b>	
gray	284-333 100 (4x25)	gray	283-333 100 (4x25)
orange	284-343 100 (4x25)	orange	283-335 100 (4x25)
<b>Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks</b>		<b>Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks</b>	
yellow	284-405 50 (2x25)	yellow	283-405 50 (2x25)
<b>Test plug adapter, 8.3 mm wide, for terminal blocks 1.5 - 10 mm<sup>2</sup>, for test plug 4 mm Ø</b>		<b>Test plug adapter, 11.6 mm wide, for 1.5 - 16 mm<sup>2</sup> terminal blocks, for test plug 4 mm Ø</b>	
gray	209-170 50 (2x25)	gray	283-404 25
<b>B-type test plug module, can be snapped together, 8 mm wide</b>			
gray	709-310 100 (4x25)		
<b>B-type spacer plate, can be snapped together, 2 mm wide</b>			
gray	709-312 100 (4x25)		



Step-down jumpers may common terminal blocks of different sizes, without losing a conductor clamping point. This can be beneficial on long conductor runs where voltage drop can be a problem. A large conductor can be easily connected to smaller conductors at the distribution point. Step-down jumpers are simply pushed down for full insertion, similar to adjacent jumpers. Commoning may be made in either direction using the special thin end plate to cover the open side. Further terminal blocks of the smaller cross section may be commoned using standard adjacent jumpers. In this case, pay attention that:

1. The total current flowing does not exceed the rating of the step-down jumper.
2. The standard or special thin cover plate is installed on the open side of the larger block.

# Step-Down Jumpers for Side-Entry Through Terminal Blocks \*

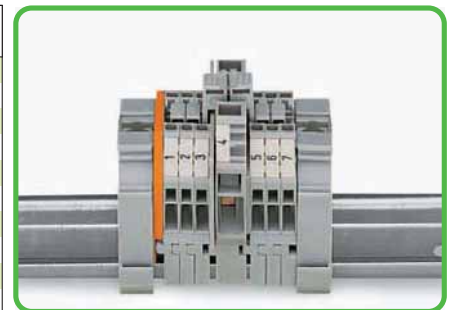
Step-down jumper	Step-down jumper
------------------	------------------



\* Terminal blocks for side-entry cannot be commoned with terminal blocks for front-entry. For commoning terminal blocks, front-entry via step-down jumpers, see pages 178 and 179

❶ Commoning from 10 mm<sup>2</sup> (284-101) to 2.5 mm<sup>2</sup> (280-101) or 1.5 mm<sup>2</sup> (279-101) terminal blocks via terminal block rear side is not possible (see example: terminal block A to 11).

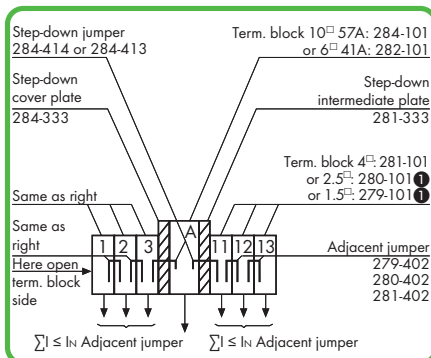
Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Step-down jumper, insulated,</b> from 10/6 mm <sup>2</sup> to 4/2.5/1.5 mm <sup>2</sup> , I <sub>N</sub> 15 A ○ gray		<b>Step-down jumper, insulated,</b> from 16 mm <sup>2</sup> to 4 mm <sup>2</sup> , I <sub>N</sub> 32 A ○ gray	
<b>284-414</b>	50 (2x25)	<b>283-414</b>	50 (2x25)
<b>Step-down jumper, insulated,</b> from 10/6 mm <sup>2</sup> to 6/4 mm <sup>2</sup> , I <sub>N</sub> 30 A ○ gray			
<b>284-413</b>	50 (2x25)		
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>Cover plate,</b> 1 mm thick gray orange		<b>Cover plate,</b> 1 mm thick gray orange	
<b>284-333</b>	100 (4x25)	<b>283-333</b>	100 (4x25)
<b>284-343</b>	100 (4x25)	<b>283-335</b>	100 (4x25)
<b>Intermediate plate,</b> 1 mm thick gray orange			
<b>281-333</b>	100 (4x25)		
<b>281-336</b>	100 (4x25)		



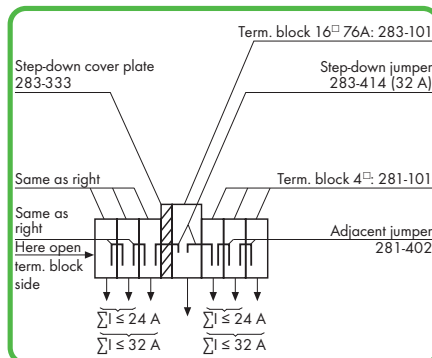
Commoning from 6 mm<sup>2</sup>/AWG 10 (282 Series) to 1.5 mm<sup>2</sup>/AWG 16 (279 Series) rail-mount terminal blocks.



Commoning from 16 mm<sup>2</sup>/AWG 6 (283 Series) to 4 mm<sup>2</sup>/AWG 12 (281 Series) rail-mount terminal blocks.



Example of assembly: "Commoning from 10/6 mm<sup>2</sup> (AWG 8/10) to 4/2.5/1.5 mm<sup>2</sup> (AWG 12/14/16) rail-mount terminal blocks with 284-414 step-down jumper."

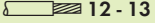
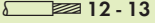



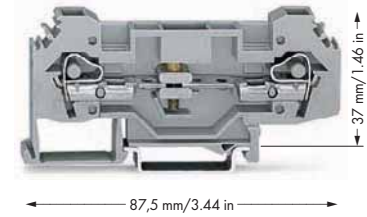
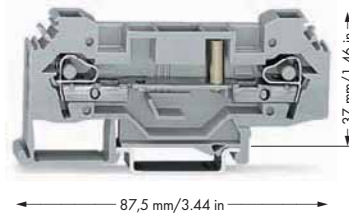
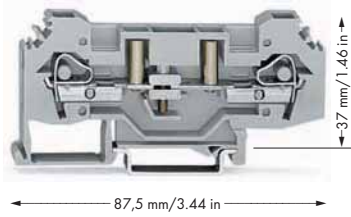
Example of assembly: "Commoning from 16 mm<sup>2</sup> (AWG 6) to 4 mm<sup>2</sup> (AWG 12) rail-mount terminal blocks with 283-414 step-down jumper."









# Disconnect Terminal Blocks for Test and Measurement, Ground Conductor

## Disconnect Terminal Blocks 6 mm<sup>2</sup>

### 282 Series

0.2 - 6 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 41 A	AWG 24 - 10 300 V, 30 A ② 300 V, 40 A ③	0.2 - 6 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 41 A	AWG 24 - 10 300 V, 30 A ② 300 V, 40 A ③	0.2 - 6 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 41 A	AWG 24 - 10 300 V, 30 A ② 300 V, 40 A ③
Terminal block width 8 mm / 0.315 in  12 - 13 mm / 0.49 in ②		Terminal block width 8 mm / 0.315 in  12 - 13 mm / 0.49 in ②		Terminal block width 8 mm / 0.315 in  12 - 13 mm / 0.49 in ②	

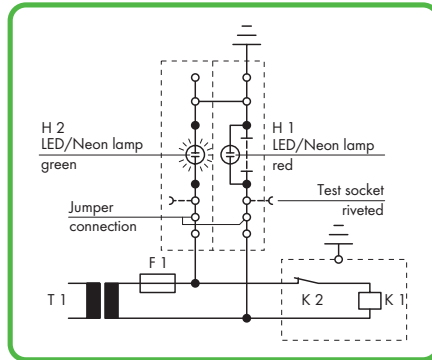
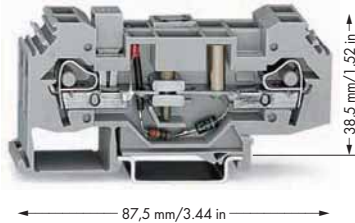


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Disconnect terminal block for test and measurement, with test sockets 4 mm Ø</b>		<b>Through terminal block</b>		<b>Disconnect terminal block for test and measurement, without test sockets</b>	
 gray	<b>282-131</b> 25	 gray	<b>282-133</b> 25	 gray	<b>282-135</b> 25
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>Alternate jumper, insulated, I<sub>N</sub> 41 A</b>		<b>Alternate jumper, insulated, I<sub>N</sub> 41 A</b>		<b>Alternate jumper, insulated, I<sub>N</sub> 41 A</b>	
 gray	<b>282-409</b> 100 (4x25)	 gray	<b>282-409</b> 100 (4x25)	 gray	<b>282-409</b> 100 (4x25)
<b>Lock-out, snap-in type, prevents reclosing of slide link</b>		<b>Lock-out, snap-in type, prevents reclosing of slide link</b>		<b>Lock-out, snap-in type, prevents reclosing of slide link</b>	
 orange	<b>282-137</b> 100 (4x25)	 orange	<b>282-137</b> 100 (4x25)	 orange	<b>282-137</b> 100 (4x25)
<b>282 Series Accessories</b>					
Appropriate marking system: WMB (see Section 13)					
<b>End and intermediate plate, 4 mm thick</b>		<b>B-type test plug module, ②</b>			
 orange	<b>282-315</b> 50 (2x25)	 gray	can be snapped together, 8 mm wide		
 gray	<b>282-314</b> 50 (2x25)	gray	<b>709-310</b> 100 (4x25)		
<b>Adjacent jumper, insulated, I<sub>N</sub> 41 A</b>		<b>B-type spacer module,</b>			
 gray	<b>282-402</b> 100 (4x25)	 gray	can be snapped together, 8 mm wide		
<b>Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks</b>		gray		<b>709-311</b> 100 (4x25)	
 yellow	<b>282-405</b> 100 (4x25)				
<b>Test plug adapter, 8.3 mm wide, for terminal blocks 1.5 - 10 mm<sup>2</sup>, for test plug 4 mm Ø</b>					
 gray	<b>209-170</b> 50 (2x25)				
<b>Screwless end stop, for DIN 35 rail, 6 mm wide</b>					
 gray	<b>249-116</b> 100 (4x25)				
<b>Screwless end stop, for DIN 35 rail, 10 mm wide</b>					
 gray	<b>249-117</b> 50 (2x25)				



0.2 - 6 mm<sup>2</sup> | AWG 24 - 10

Terminal block width 16 mm / 0.63 in  
 12 - 13 mm / 0.49 in ②



**Operating condition**  
 Slide link closed, auxiliary circuit grounded,  
 green lamp illuminates.

- ① 400 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)

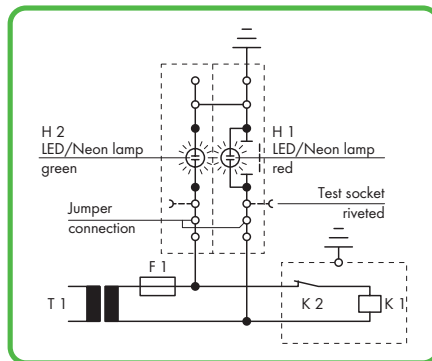
② Strip length, see packaging or instructions.

③ See application notes for:  
 Test plug module, page 197

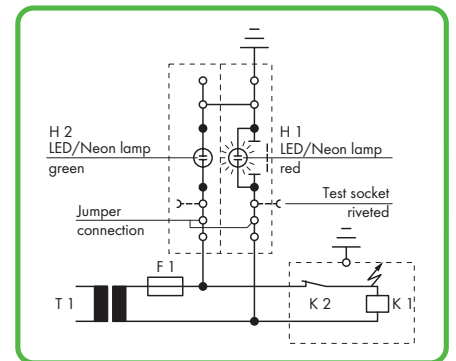
Item No.	Pack. Unit
<b>Ground conductor disconnect terminal block, gray</b>	
24 V	282-140 12
48 V	282-141 12
120 V	282-138 12
230 V	282-139 12

**Item-Specific Accessories**

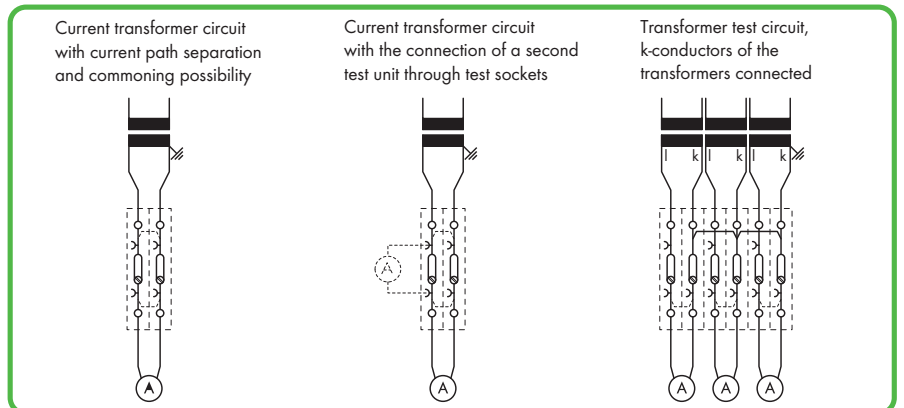
<b>Lock-out</b> , snap-in type, prevents reclosing of slide link		
	orange	282-137 100 (4x25)



**Test condition - no grounding**  
 Slide link open, auxiliary circuit not grounded.



**Test condition - grounding**  
 Slide link open, auxiliary circuit not grounded,  
 red lamp illuminates.



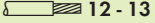
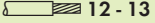

IEC 60204/DIN VDE 0113 "Electrical equipment of industrial machines, part 1: General requirements" 9.4.3.1: Ground faults on control circuits shall not cause unintentional starting, hazardous movements, or prevent stopping of the machine.

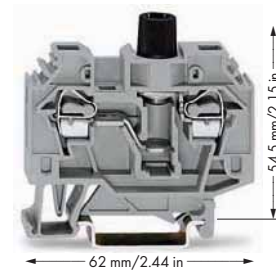
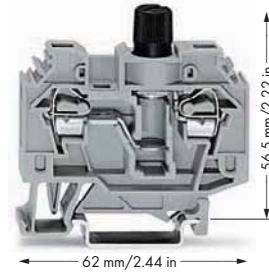
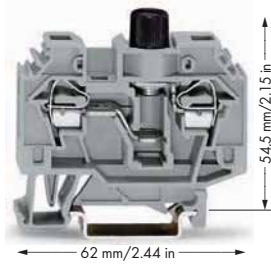
In order to fulfill this requirement, bonding to the protective bonding circuit shall be provided in accordance with 8.2 and the devices shall be connected as described in 9.1.4. Control circuits fed from a transformer and not connected to the protective bonding circuit shall be provided with an insulation monitoring device (e.g., residual current device) which either indicates a ground fault or interrupts the circuit automatically after a ground fault.













In the case of electronic circuits, the connection of one side of the control circuit to the protective bonding circuit in accordance with 9.1.4 can prevent unintentional operation. When this does not help, or if due to other reasons electronic circuits cannot be connected to the protective bonding circuit, other measures shall be taken to achieve the same level of safety.



Where the control circuit is directly connected between the phase conductors of the supply or between a phase conductor and a neutral conductor, which is either not grounded or grounded through a high impedance, multipole control switches which interrupt all live conductors shall be used for start or stop of those machine functions, which can cause a hazardous condition or damage to the machine or to the work in progress, in the event of unintentional starting or failure to stop.

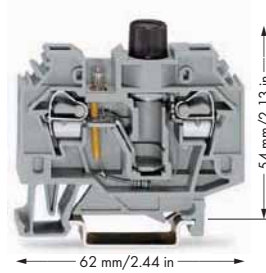
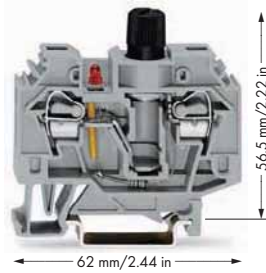
# Fuse Terminal Blocks 6 mm<sup>2</sup> 282 Series

0.2 - 6 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 10 A	AWG 24 - 10 600 V, 10 A ① 250 V, 10 A ②	0.2 - 6 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 10 A	AWG 24 - 10 250 V, 10 A ②	0.2 - 6 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 10 A	AWG 24 - 10 600 V, 10 A ① 250 V, 10 A ②
Terminal block width 13 mm / 0.512 in  12 - 13 mm / 0.49 in ②		Terminal block width 13 mm / 0.512 in  12 - 13 mm / 0.49 in ②		Terminal block width 13 mm / 0.512 in  12 - 13 mm / 0.49 in ②	



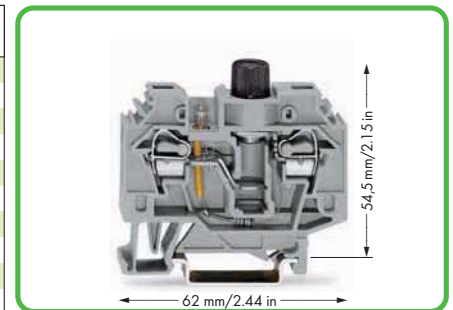
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor fuse terminal block</b> , without indicator, for miniature metric fuses 5 x 20 mm		<b>2-conductor fuse terminal block</b> , without indicator, for miniature metric fuses ¼" x 1"		<b>2-conductor fuse terminal block</b> , with indicator, for miniature metric fuses	
● gray	<b>282-122</b> 40	● gray	<b>282-120</b> 40	● gray	<b>282-126</b> 40
<b>2-conductor fuse terminal block</b> , without indicator, for miniature metric fuses ¼" x 1¼"					
	● gray	<b>282-128</b> 40			
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>Miniature metric fuse</b> , 5 x 20 mm, without indicator, 6.3 A/250 V, medium/slow  <b>282-451</b> 200 (20x10)		<b>Miniature metric fuse</b> , ¼" x 1", without indicator, 10 A/240 V, to BS 1362  <b>282-458</b> 200 (20x10)		<b>Miniature metric fuse</b> , 5 x 25 mm/0.197 x 0.975 in, with indicator, 6.3 A, medium/slow  <b>282-452</b> 200 (20x10)	
		<b>Miniature metric fuse</b> , ¼" x 1¼", without indicator, 10 A/250 V, medium/slow  <b>282-457</b> 200 (2x100)		<b>Miniature metric fuse</b> , 5 x 25 mm/0.197 x 0.975 in, with indicator, 10 A, fast acting  <b>282-453</b> 200 (20x10)	
		<b>Miniature metric fuse</b> , ¼" x 1¼", without indicator, 10 A/500 V, very fast acting  <b>282-454</b> 200 (20x10)			
<b>Accessories for Fuse Terminal Blocks</b>					
Appropriate marking system: WMB (see Section 13)					
<b>End and intermediate plate</b> , 4 mm thick orange <b>282-312</b> 50 (2x25) gray <b>282-311</b> 50 (2x25) 		<b>Test plug adapter</b> , 8.3 mm wide, for terminal blocks 1.5 - 10 mm <sup>2</sup> , for test plug 4 mm Ø gray <b>209-170</b> 50 (2x25) 			
<b>Adjacent jumper</b> , insulated, I <sub>N</sub> 41 A gray <b>282-402</b> 100 (4x25) 		<b>Test plug adapter</b> , 6 mm wide, with CAGE CLAMP®, for 0.08 - 2.5 mm <sup>2</sup> , I <sub>N</sub> 24 A <b>281-407</b> 100 (4x25) 			
<b>Protective warning marker</b> , with high-voltage symbol, black, for 5 terminal blocks yellow <b>282-405</b> 100 (4x25) 		<b>Plunger</b> , for 281, 282, 283 and 284 Series rail-mounted terminal blocks for side-entry <b>210-141</b> 1 			

0.2 - 6 mm <sup>2</sup>   AWG 24 - 10	0.2 - 6 mm <sup>2</sup>   AWG 24 - 10
Terminal block width 13 mm / 0.512 in  12 - 13 mm / 0.49 in ②	Terminal block width 13 mm / 0.512 in  12 - 13 mm / 0.49 in ②








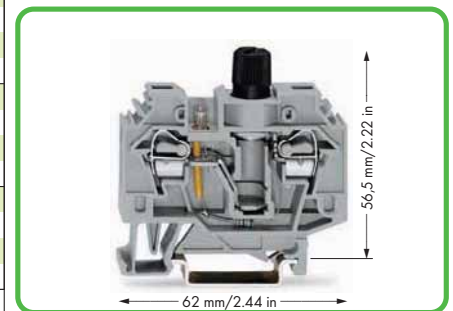
- ① 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)  
 Electrical ratings are given by the fuse.  
 For technical information, see pages 234 - 235
- ② Strip length, see packaging or instructions.

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor fuse terminal block,</b> with red LED, 24 VDC, for miniature metric fuses ¼" x 1 ¼"		<b>2-conductor fuse terminal block,</b> with neon lamp 250 VAC/220 VDC, for miniature metric fuses ¼" x 1 ¼"	
● gray	282-128/281-413	40	● gray
			282-128/281-417
			40
		<b>2-conductor fuse terminal block,</b> with neon lamp 250 VAC/220 VDC, for miniature metric fuses 5 x 20 mm	
			● gray
			282-124
			40
		<b>2-conductor fuse terminal block,</b> with neon lamp 120 V AC/DC, for miniature metric fuses ¼" x 1 ¼"	
			● gray
			282-128/281-418
			40



Dimensions  
Item No. 282-124

Item-Specific Accessories	Item-Specific Accessories
<b>Miniature metric fuse, ¼" x 1 ¼",</b> without indicator, 10 A/250 V, medium/slow  282-457 200 (2x100)	<b>Miniature metric fuse, 5 x 20 mm,</b> without indicator, 6.3 A/250 V, medium/slow  282-451 200 (20x10)
<b>Miniature metric fuse, ¼" x 1 ¼",</b> without indicator, 10 A/500 V, very fast acting  282-454 200 (20x10)	<b>Miniature metric fuse, ¼" x 1 ¼",</b> without indicator, 10 A/250 V, medium/slow  282-457 200 (2x100)
	<b>Miniature metric fuse, ¼" x 1 ¼",</b> without indicator, 10 A/500 V, very fast acting  282-454 200 (20x10)

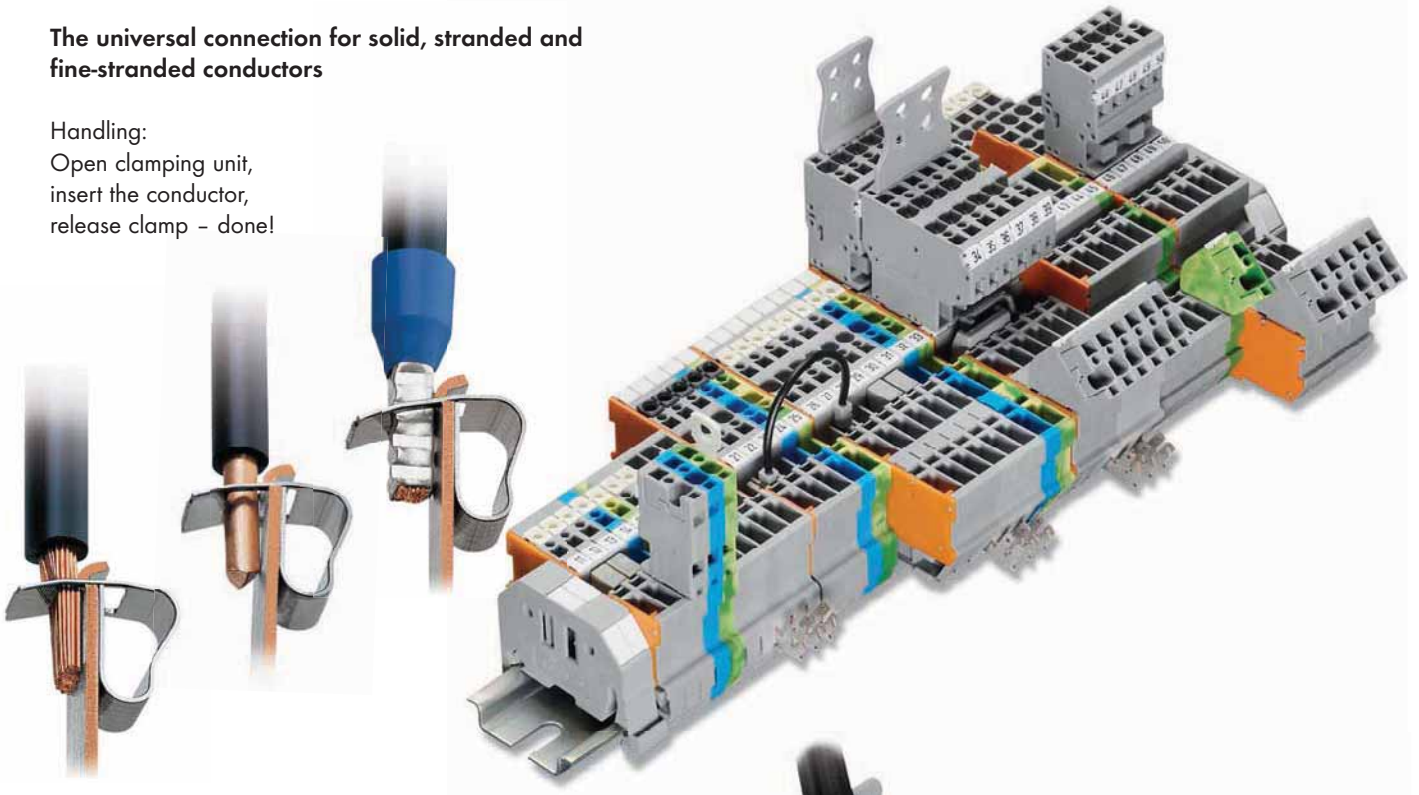


Dimensions  
Item No. 282-128/281-418

## CAGE CLAMP®

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

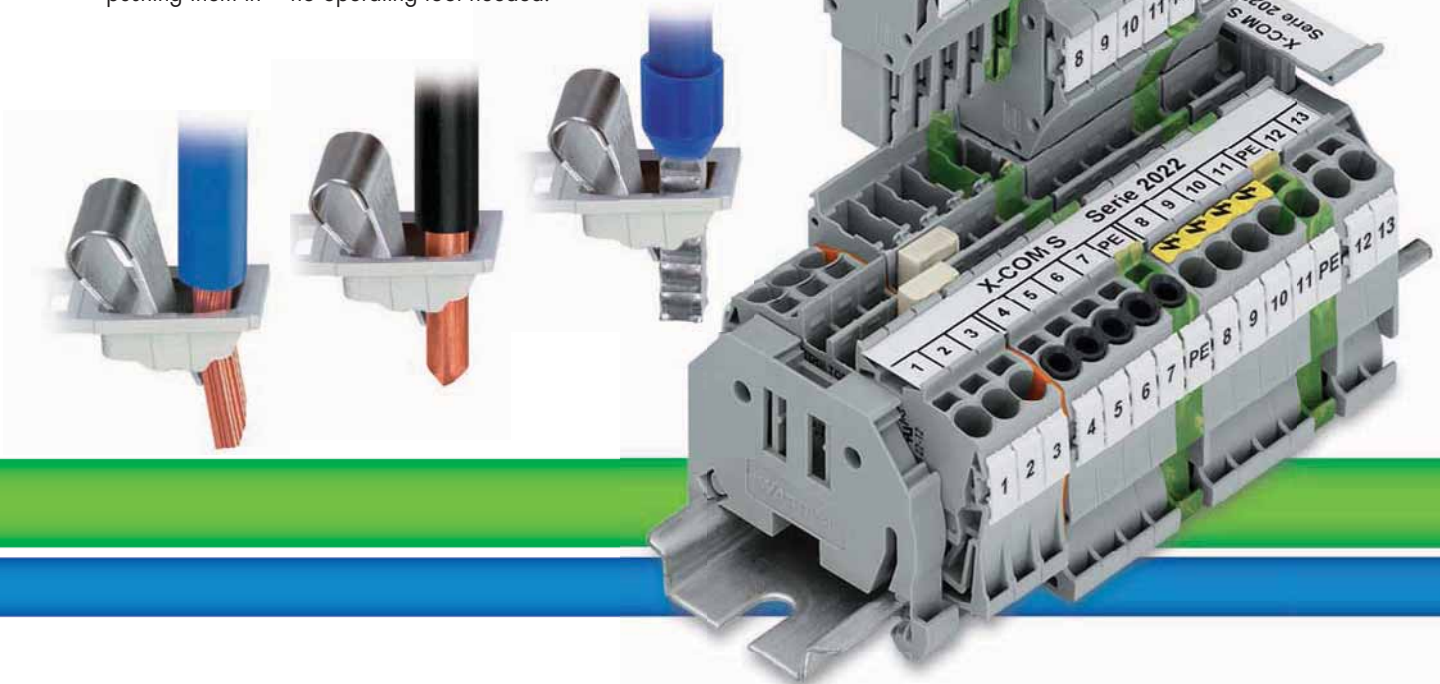
Handling:  
Open clamping unit,  
insert the conductor,  
release clamp - done!



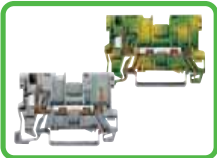
## CAGE CLAMP® S

The universal connection with "SPECIAL"

Handling:  
Open clamping unit, insert the conductor, release clamp - done!  
Terminate both solid and ferruled conductors by simply pushing them in - no operating tool needed.



7



Carrier Terminal Blocks  
Carrier Terminal Blocks with 3 Jumper Positions  
Disconnect Carrier Terminal Blocks with 2 Jumper Positions  
Carrier Terminal Blocks for Pluggable Modules  
Diode and LED Carrier Terminal Blocks

769 Series 322 – 330  
769 Series 332  
769 Series 334 – 342  
769 Series 344 – 348  
769 Series 336 – 339



Double-Deck Carrier Terminal Blocks

870 Series 352 – 356



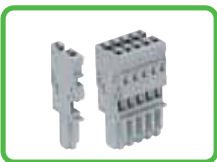
Male Connectors with CAGE CLAMP® Connection

769 Series 360 – 362



Male Headers with Solder Pins

769 Series 364 – 366



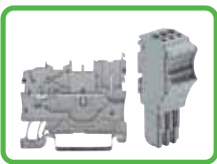
Female Plugs with and without Lateral Locking Levers  
Female Plugs for Self-Assembly  
3- and 5-Pole Female Plugs

769 Series 368 – 371  
769 Series 372  
769 Series 374



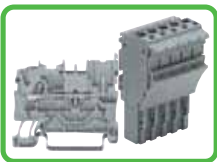
Strain Relief Housings

769 Series 375



X-COM®S-SYSTEM-MINI  
Carrier Terminal Blocks and Female Plugs

2020 Series 381 – 393



X-COM®S-SYSTEM  
Carrier Terminal Blocks and Female Plugs

2022 Series 394 – 405

## WAGO X-COM®-SYSTEM COM-bination of Connectors and Rail-Mounted Terminal Blocks

The WAGO X-COM® SYSTEM is a staple of switchgear and control applications.

It is designed for a **rated current up to 16/32A at  $V_N$  500V and 4mm<sup>2</sup> (AWG 12) rated cross section (up to 600V, 10A, and 12 AWG UL)**. This offers an alternative to heavy-duty rectangular and circular connectors used in power wiring applications where electrical compliance is more important than a high degree of protection.

X-COM® conveniently enables the use of pre-assembled connector systems and the following advantages:

- During manufacturing: Pre-assembled part or function assemblies can be tested before assembly.
- During assembly: Pre-assembled pluggable cable harnesses help solve time and space issues on site. Connector systems with protection against mismatching can be handled by installers of all skill levels.
- During servicing: Sub-assemblies can be replaced quickly and without failure.

The X-COM®-SYSTEM consists of carrier consists of rail-mounted terminal blocks, male connectors and female plugs with different mounting systems, as well as male headers with solder pins. Pin spacing is generally 5 mm/0.197 in.

### Protection Against Mismatching and Accidental Contact

The WAGO X-COM®-SYSTEM is **fully protected against accidental contact – even when plugs are disconnected**. This significantly simplifies the planning of power distribution. Furthermore, the whole system is **100% protected against mismatching**. Coded, without the loss of any poles, prevents mismatching of male connectors and female plugs having the same number of poles.

### Carrier Terminal Blocks

Carrier terminal blocks are available as through terminal blocks, double-deck terminal blocks, and ground conductor terminal blocks with automatic contact to the carrier rail.

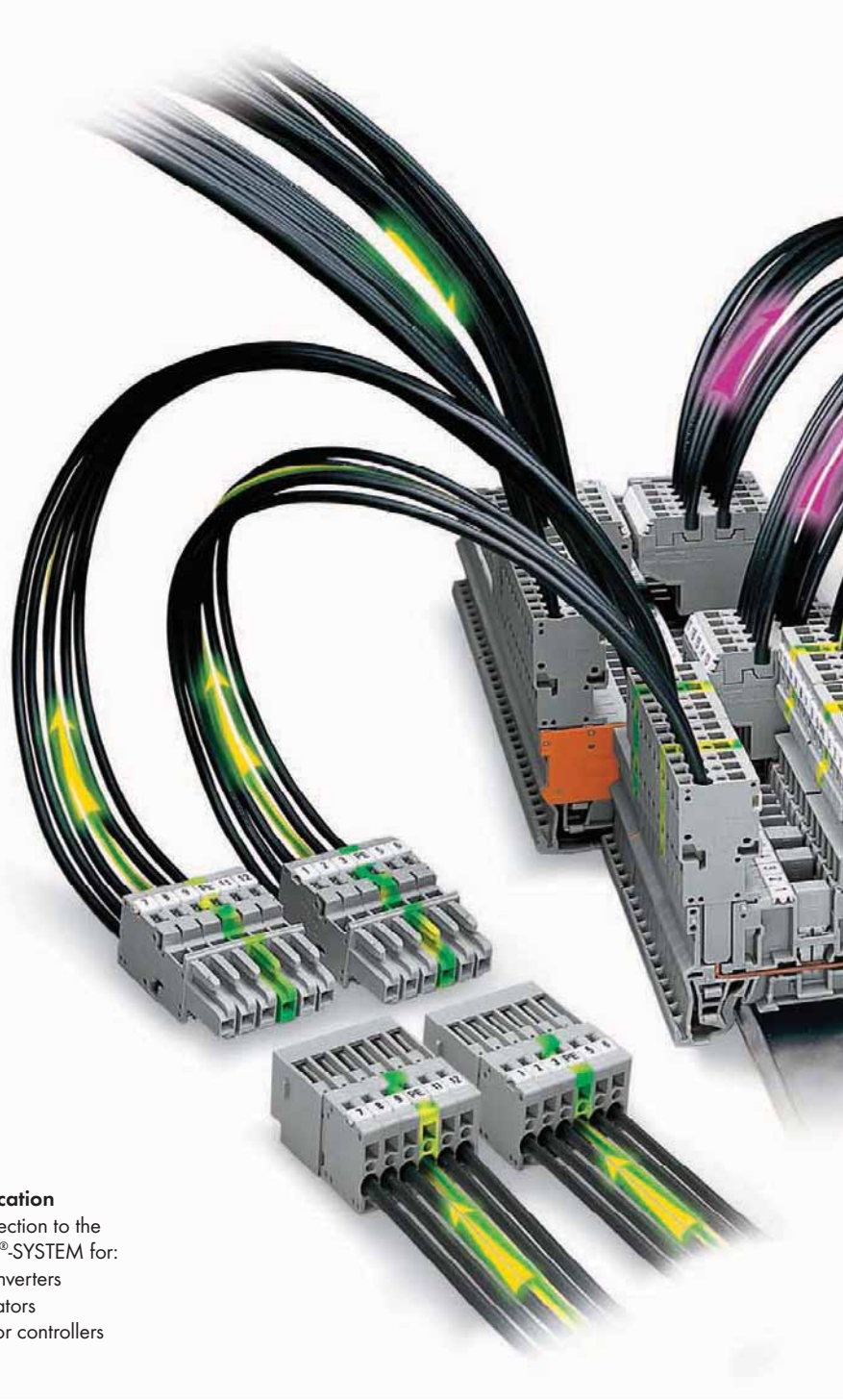
Carrier terminal blocks with specialty functions are available in disconnect, diode and LED versions. Carrier terminal blocks equipped with an additional socket can accommodate a wide range of pluggable electronic modules (e.g., relays, optocouplers, transducers).

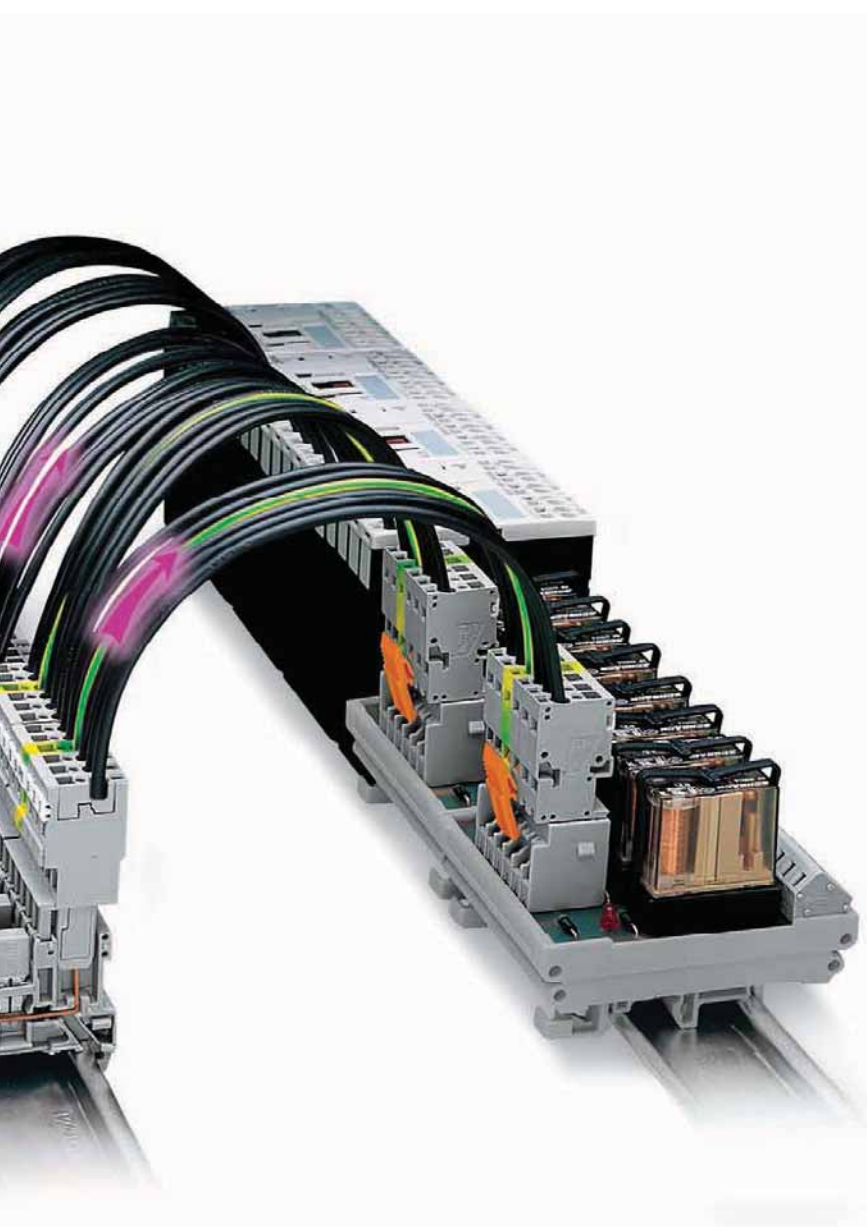
Depending on the type of terminal block, the carrier terminal blocks are equipped with one to three jumper positions for commoning signals via insulated push-in type jumpers.

### Types of Application

Equipment connection to the WAGO X-COM®-SYSTEM for:

- Frequency converters
- Thyristor actuators
- Soft start motor controllers
- Motors
- Phase filter
- Power sub-assemblies
- Power supply units
- Uninterruptible power supply (UPS)
- "Panel-to-door" wiring
- Pluggable high-current, feed-through connections
- Flying leads





### Female Plugs

The mating half of the carrier consists of terminal blocks modular 1- to 15-pole, 1-conductor and 2-conductor straight or angled female plugs. Angled female plugs combined with double-deck terminal blocks offer high-density wiring and reduce overall terminal block height. A jumper slot simplifies potential distribution – even on the female plugs.

This makes commoning supply lines particularly easy as the power supply of downstream sub-assemblies is maintained even after female plugs have been removed.

### 1-Pole Female Plugs

Special 1-pole female plugs can carry the full rated current of the terminal blocks for many applications:

- as test plug adapters
- as connectors for motor lead tests
- for all types of patchboard applications
- for the creation of multi-pole prototypes
- for phase selection in a three-phase network without interfering with the wiring
- for single-pole power supply in commercial or recreational vehicles. The grounding of all electrical components is connected through the chassis.

### Male Connectors and Male Headers

Male connectors are available with snap-in mounting feet for panel mounting, with fixing flanges for feed-through applications or without mounting elements for flying leads. Strain relief plates are available as accessories.

Sub-assemblies on printed circuit boards can be integrated into the system wiring using male headers with solder pins. As a result, parts can be exchanged quickly without wiring failures.

### Degree of Protection

In mated condition: IP20

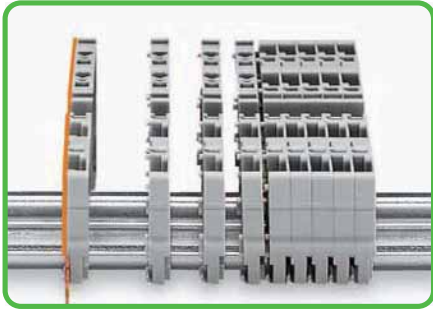
Unmated: IP20

Temperature range:

- 35°C to +100°C

# X-COM®-SYSTEM Carrier Terminal Blocks and Female Plugs, 769 Series

## Assembly



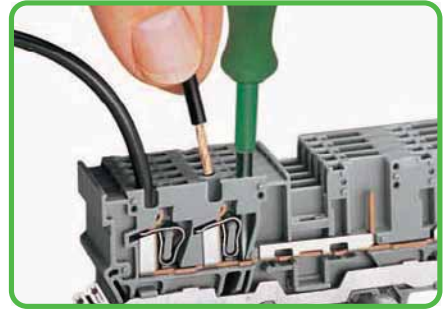
Snap individual carrier terminal blocks onto carrier rail and slide together.

## Removal



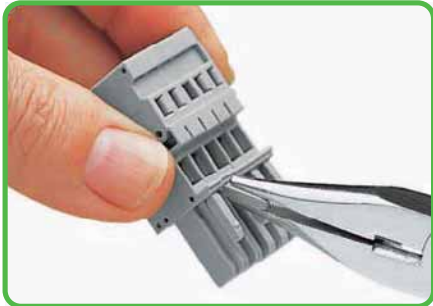
Unlock assembly with operating tool and remove terminal block via release lever.

## CAGE CLAMP® connection



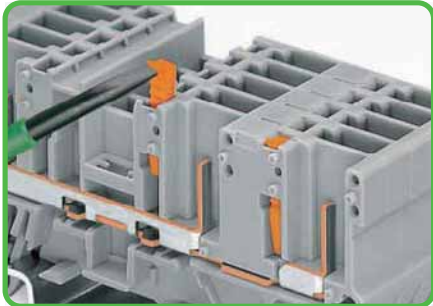
Carrier terminal block: connection/removal of conductor with (3.5 x 0.5) mm operating tool.

## Coding

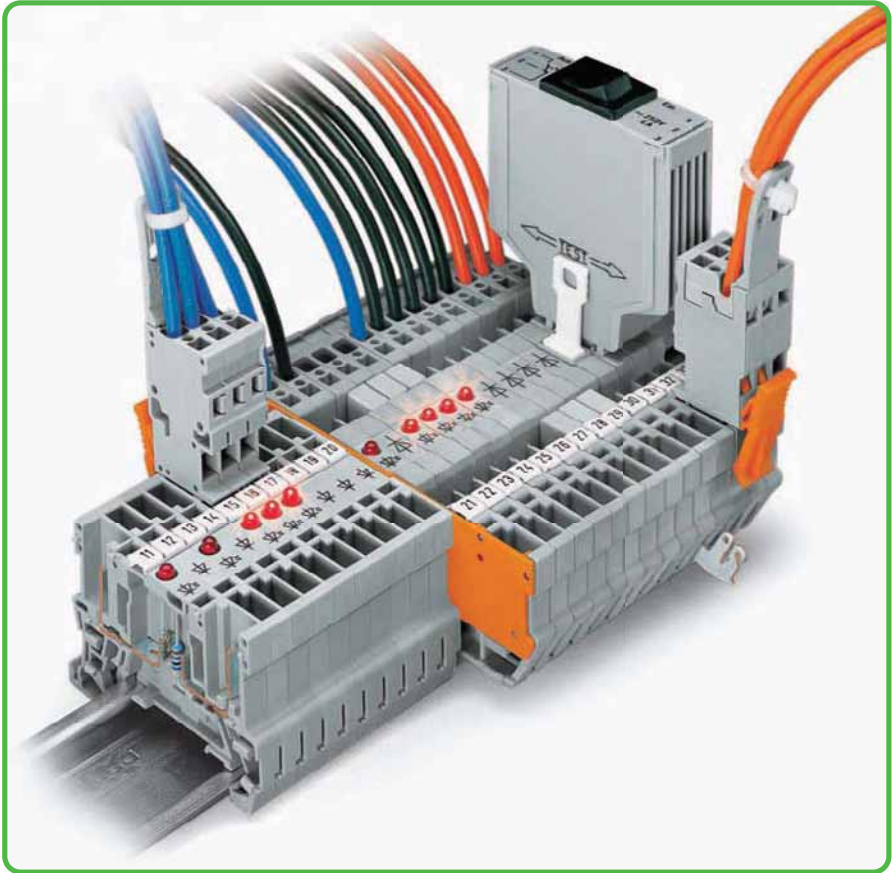


Coding a female plug - removal of coding finger(s). Do not break off the first and last latch position coding fingers!

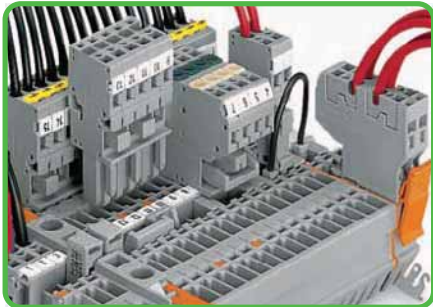
## Coding



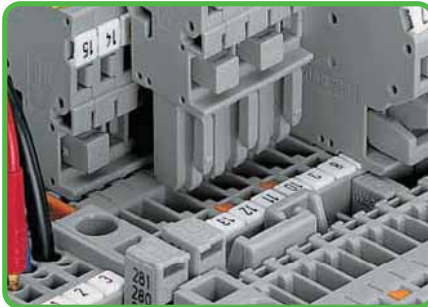
Snap coding pin in proper direction on carrier terminal block. Shown: Removal of a coding pin from carrier terminal block.



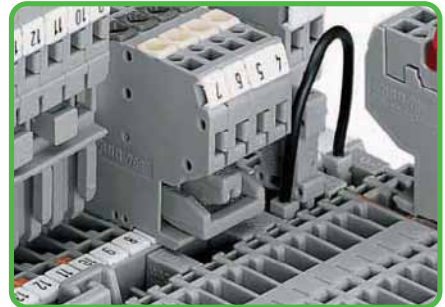
## Commoning



Commoning with adjacent or staggered jumpers. Push jumpers down firmly until fully inserted.



Commoning carrier terminal blocks with staggered jumpers.



Commoning 2-conductor female plug with staggered jumper and commoning carrier terminal block with adjacent jumper.



**CAGE CLAMP®**  
clamps the following  
copper conductors:\*

solid



stranded



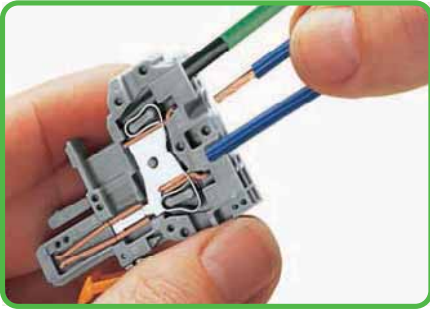
fine-stranded,  
also with tinned  
single strands

\* For aluminum conductors, see notes in Section 14.



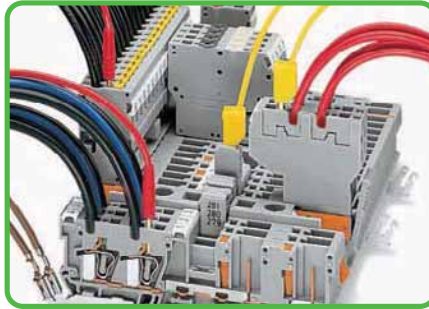
## - Description and Handling -

### CAGE CLAMP® connection



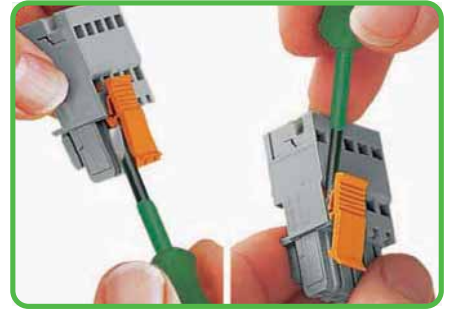
Female plug: termination/removal of conductor.  
Operation 90° to wire also possible.

### Testing



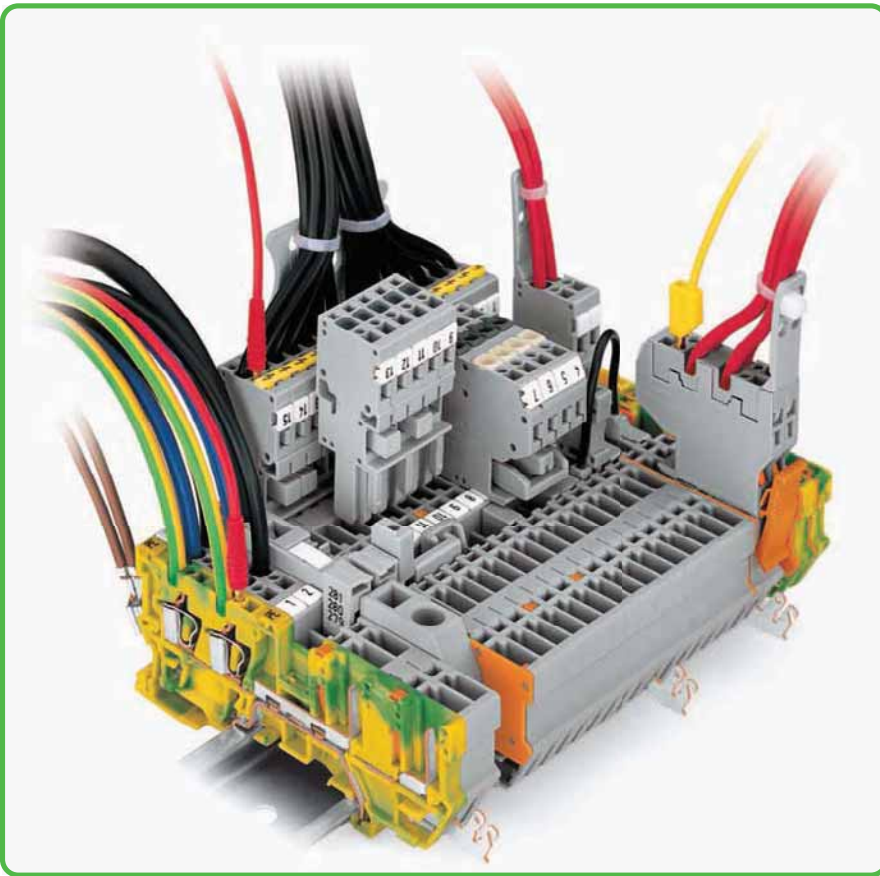
Testing with test plug 2 mm Ø (red) or 2.3 mm Ø (yellow).

### Locking lever

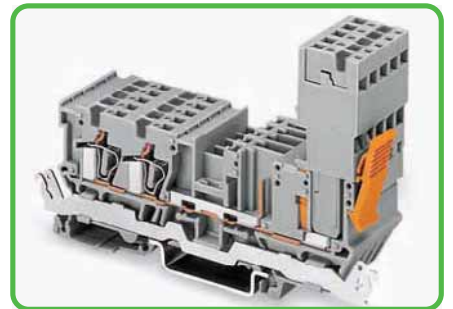


Snapping in/removal of locking lever.

**Note:** Connectors used according to the regulations shall not be connected or disconnected when live or under load.



### Locking lever



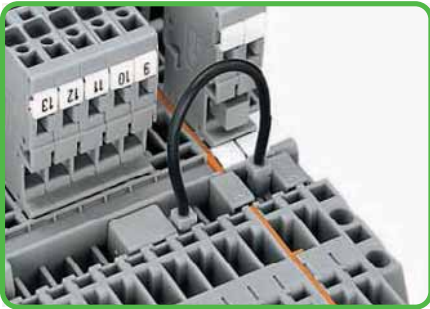
Female plug secured with locking lever in external area of carrier terminal block.

### Strain relief

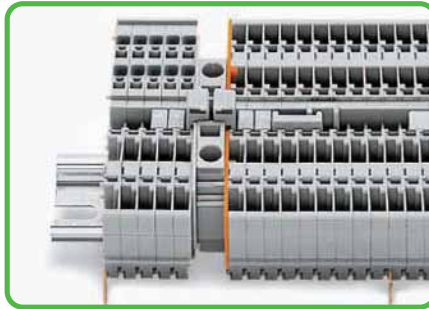


Removal of female plug, conductors provided with strain relief plate.

### Commoning



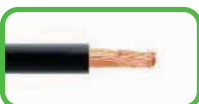
Commoning carrier terminal blocks with push-in type wire, or adjacent jumpers over the intermediate plate.



Step-down jumper used for commoning terminal blocks of different sizes (max. 10 mm<sup>2</sup>/AWG 8).



Commoning 1-conductor female plugs with miniature adjacent jumpers.



fine-stranded,  
tip-bonded



fine-stranded,  
with ferrule ①  
(gastight crimped)



fine-stranded,  
with pin terminal  
(gastight crimped)

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

## Range overview

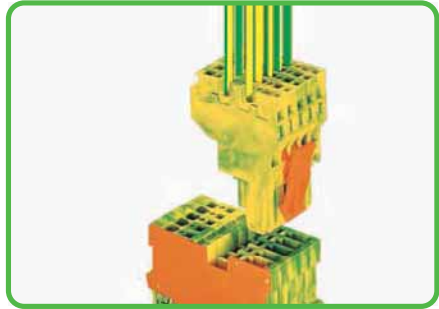


1-conductor/1-pin carrier terminal block  
1-conductor female plug, straight\*

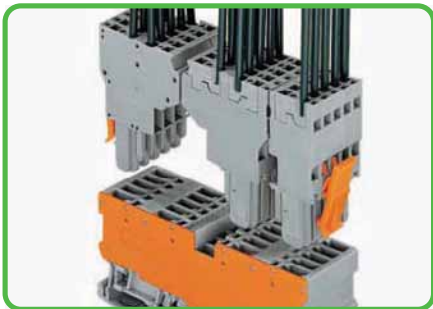
\* or 1-conductor female plug, angled



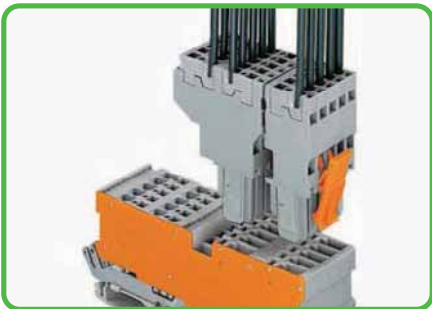
2-pin shield carrier terminal block  
2-conductor female plug  
1-conductor female plug, straight\*



1-conductor/1-pin ground carrier terminal block  
2-conductor female plug, green-yellow



4-pin carrier terminal block  
2-conductor female plug  
1-conductor female plug, straight



2-conductor/2-pin shield carrier terminal block  
2-conductor female plug  
1-conductor female plug, straight



4-pin ground carrier terminal block  
1-conductor female plug, straight  
2-conductor female plug

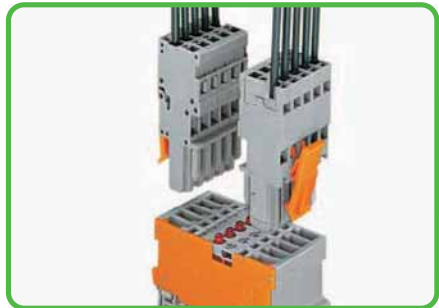


1-conductor/1-pin disconnect carrier terminal block  
1-conductor female plug, straight\*

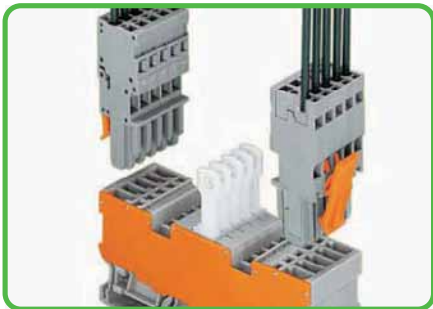
\* or 1-conductor female plug, angled



2-pin diode carrier terminal block  
1-conductor female plug, straight\*

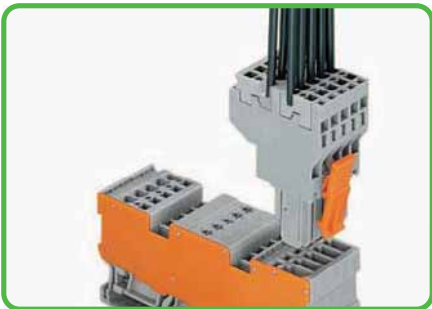


2-pin LED carrier terminal block  
1-conductor female plug, straight\*

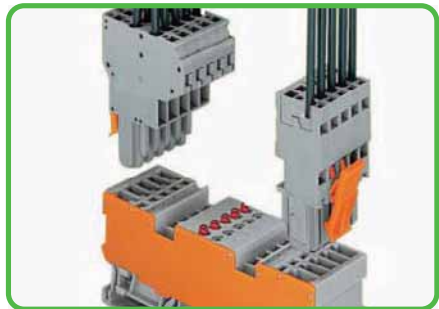


2-pin disconnect carrier terminal block  
with 2 jumper positions  
1-conductor female plug, straight\*

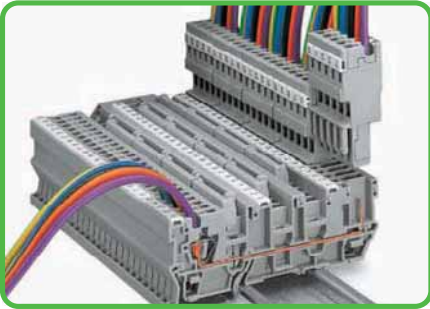
\* or 1-conductor female plug, angled



1-conductor/1-diode carrier terminal block  
with 2 jumper positions  
2-conductor female plug



2-pin LED carrier terminal block  
with 2 jumper positions  
2-conductor female plug  
1-conductor female plug, straight

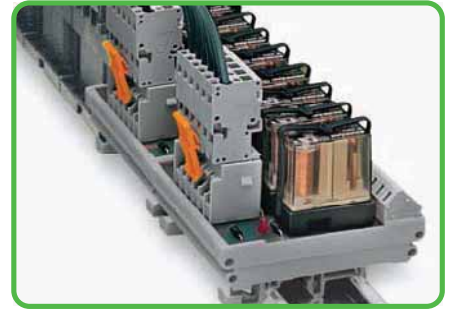


1-conductor/1-pin carrier terminal block with 3 jumper positions  
1-conductor female plug, straight\*

\* or 1-conductor female plug, angled



Male connector with CAGE CLAMP®  
1-conductor female plug, straight



Male header with straight solder pins  
1-conductor female plug, straight

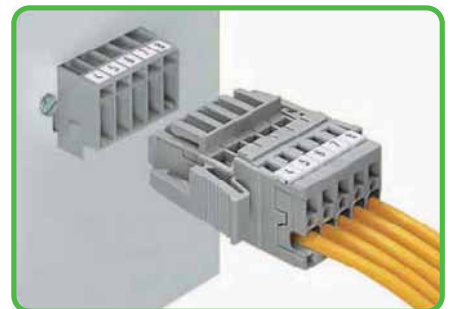


1-conductor/1-pin carrier terminal block with 2 jumper positions  
1-conductor female plug, straight\*  
Fuse plug, 6 mm/0.236 in wide (every other terminal block)

\* or 1-conductor female plug, angled



Male connector with CAGE CLAMP® connection and mounting feet  
1-conductor female plug, straight

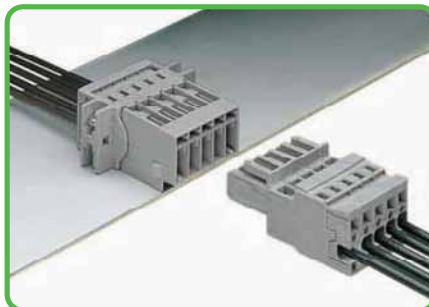


Male header with straight or angled solder pins and fixing flanges  
1-conductor female plug straight with lateral locking levers

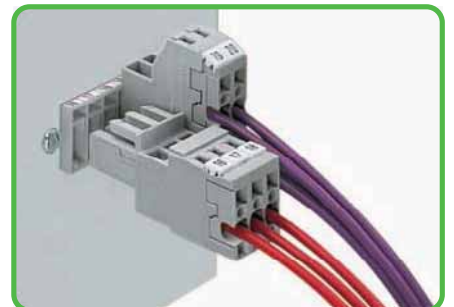


2-pin terminal block for pluggable modules with 2 jumper positions and separator plate  
1-conductor female plug, straight\*  
Relay plug 25 mm/0.984 in wide

\* or 1-conductor female plug, angled



Male connector with CAGE CLAMP® connection and fixing flanges  
1-conductor female plug, straight



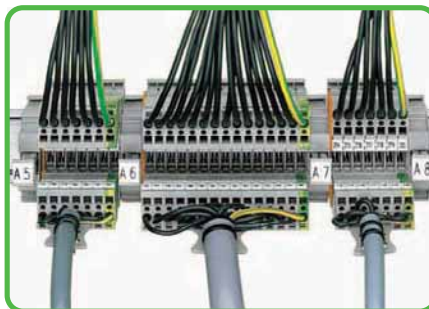
Male header with straight or angled solder pins and feed-through flanges  
1-conductor female plug, straight  
2-conductor female plug

**Application example: Cost-effective alternative**



1-conductor/1-pin double-deck carrier terminal block  
1-conductor female plug, angled\*

\* or 1-conductor female plug, straight



Installing cables in a switch cabinet.  
The cables are installed **with** the connected female plugs and are directly plugged in the carrier terminal blocks.



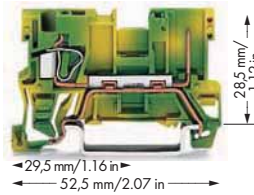
Cable entry in the base of the switch cabinet, with separate strain relief, movable IP54 bottom plates sealed with sponge rubber (e.g., by Rittal)

# 7 X-COM®-SYSTEM 1-Conductor/1-Pin Carrier Terminal Blocks

CAGE CLAMP®

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0.08 - 4 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 32 A ②	AWG 28 - 12 600 V, 20 A ③ 300 V, 20 A ③	0.08 - 4 mm <sup>2</sup>   AWG 28 - 12	
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③		Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③	



- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
250 V/4 kV/3 = Nominal voltage with shield contact (also see Section 14)
- ② See current-carrying capacity curve, page 376 and at www.wago.com
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
Test plug modules, pages 195 - 196  
Insulation stop, page 199  
Staggered jumper, page 201  
Push-in type wire jumper, page 201

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories	
<b>1-conductor/1-pin carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		<b>1-conductor/1-pin ground carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715			
gray	769-176 100	green-yellow	769-237 100	<b>Test plug,</b>	
blue	769-176/000-006 100			with 500 mm cable, 2 mm Ø red <b>210-136</b> 50	
<b>1-conductor/1-pin carrier terminal block with shield contact,</b> (no picture), for DIN 35 rail, acc. to EN 60715				<b>Test plug,</b>	
gray	769-231 ① 50			with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50	
<b>Item-Specific Accessories</b>				<b>Test plug adapter,</b> 5 mm wide, for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø gray <b>280-404</b> 100 (4x25)	
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)				<b>Pin cover,</b> with receptacle for miniature WSB gray <b>769-438</b> 100 (4x25) orange <b>769-439</b> 100 (4x25)	
<b>769 Series Accessories</b>					
Appropriate marking system: Miniature WSB (see Section 13)					
<b>End and intermediate plate,</b> 1.1 mm thick orange <b>769-308</b> 100 (4x25) gray <b>769-307</b> 100 (4x25)		<b>Staggered jumper,</b> ④ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A from 1 to 2 <b>780-452</b> 100 (4x25) from 1 to 3 <b>780-453</b> 100 (4x25) from 1 to 4 <b>780-454</b> 100 (4x25) from 1 to 5 <b>780-455</b> 50 (2x25) from 1 to 6 <b>780-456</b> 50 (2x25) from 1 to 7 <b>780-457</b> 50 (2x25) from 1 to 8 <b>780-458</b> 50 (2x25)		<b>1-conductor female plug,</b> straight gray <b>769-101</b> 200	
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "F-st") white <b>769-470</b> 200 (8x25)				<b>1-conductor female plug,</b> angled gray <b>769-101/022-000</b> 200	
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b> 200 (8x25)				<b>2-conductor female plug</b> gray <b>769-121</b> 100	
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b> 200 (8x25)				<b>Miniature WSB Quick marking system,</b> 10 strips with 10 markers per card, 5 mm wide markers plain <b>248-501</b> 5	
<b>Coding pin,</b> for coding female plugs orange <b>769-435</b> 100 (4x25)		<b>Push-in type wire jumper,</b> ④ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm <b>249-125</b> 10 L = 110 mm <b>249-126</b> 10 L = 250 mm <b>249-127</b> 10		<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)	
<b>Adjacent jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b> 200 (8x25)				<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)	
<b>Alternate jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-409</b> 100 (4x25)		<b>Test plug module,</b> ④ can be snapped together, 5 mm wide gray <b>280-418</b> 100 (4x25)			
		<b>Spacer module,</b> can be snapped together, 5 mm wide gray <b>280-419</b> 100 (4x25)			

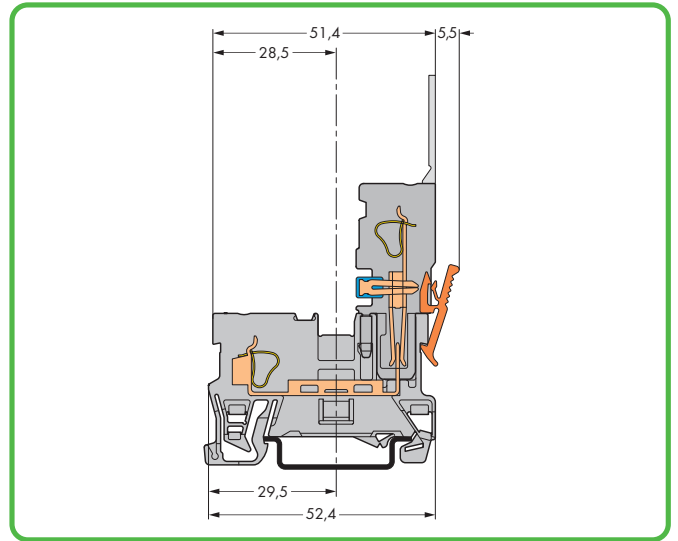
For list of approvals and user guide, see pages 634 to 637.

# Types of Assembly

## 1-Conductor/1-Pin Carrier Terminal Blocks and 1-/2-Conductor Female Plugs



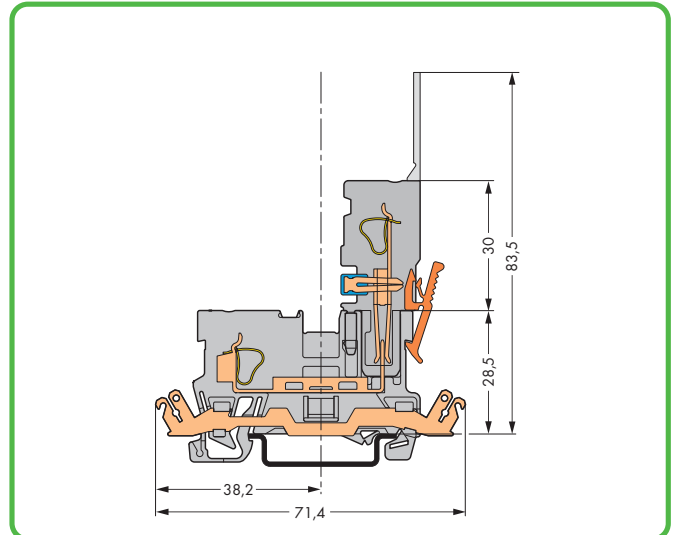
Pin cover with receptacle for miniature WSB



Carrier terminal block



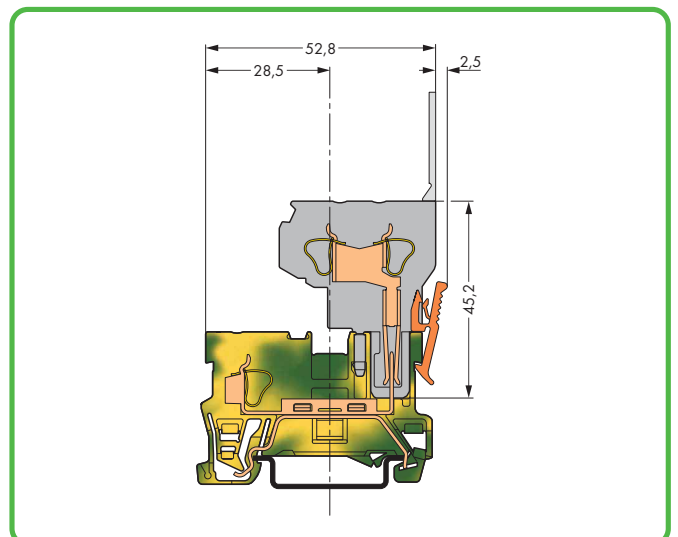
1-conductor female plug  
Commoning carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



Carrier terminal block with shield contact



2-conductor female plug  
Carrier terminal blocks can only be commoned via 280 Series adjacent and alternate jumpers.



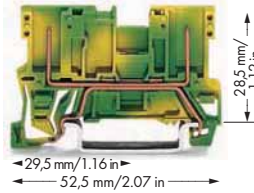
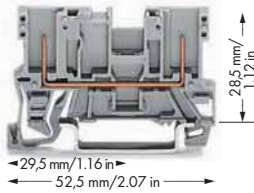
Ground carrier terminal block

# X-COM®-SYSTEM

## 2-Pin Carrier Terminal Blocks

500 V/6 kV/3 ① 300 V, 20 A ②  
 $I_N$  32 A ② 300 V, 20 A ②  
 Terminal block width 5 mm / 0.197 in

Terminal block width 5 mm / 0.197 in



- ① 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 250 V/4 kV/3 = Nominal voltage with shield contact (also see Section 14)
- ② See current-carrying capacity curve, page 376 and at [www.wago.com](http://www.wago.com)
- ③ See application notes for:  
 Test plug modules, pages 195 and 196  
 Staggered jumper, page 201  
 Push-in type wire jumper, page 201

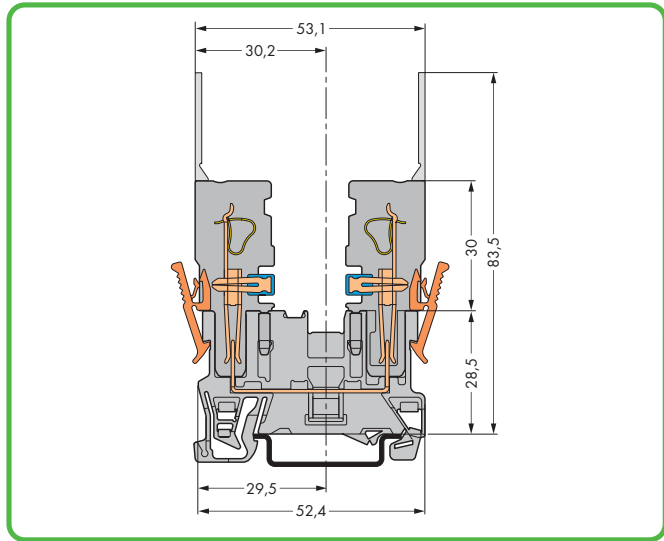
Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>2-pin carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		<b>2-pin ground carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		
○ gray <b>769-156</b>	100	● green-yellow <b>769-227</b>	100	<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
<b>2-pin carrier terminal block with shield contact,</b> (no picture), for DIN 35 rail, acc. to EN 60715				<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)
○ gray <b>769-221</b> ①	50			<b>Miniature WSB Quick marking system,</b> 10 strips with 10 markers per card, 5 mm wide markers plain <b>248-501</b> 5
<b>769 Series Accessories</b>				
Appropriate marking system: Miniature WSB (see Section 13)				
<b>End and intermediate plate,</b> 1.1 mm thick		<b>Test plug module,</b>		<b>Miniature WSB Quick marking system, plain,</b>
orange <b>769-306</b> 100 (4x25)		③ can be snapped together, 5 mm wide		10 strips with 10 markers per card, 5 mm wide markers
gray <b>769-305</b> 100 (4x25)		gray <b>280-418</b> 100 (4x25)		yellow <b>248-501/000-002</b>
<b>Coding pin,</b>		<b>Spacer module,</b>		red <b>248-501/000-005</b>
for coding female plugs		can be snapped together, 5 mm wide		blue <b>248-501/000-006</b>
orange <b>769-435</b> 100 (4x25)		gray <b>280-419</b> 100 (4x25)		gray <b>248-501/000-007</b>
<b>Adjacent jumper, insulated,</b>		<b>Test plug,</b>		orange <b>248-501/000-012</b>
$I_N = I_N$ terminal block		with 500 mm cable, 2.3 mm Ø		light green <b>248-501/000-017</b>
gray <b>280-402</b> 200 (8x25)		yellow <b>210-137</b> 50		green <b>248-501/000-023</b>
<b>Alternate jumper, insulated,</b>		<b>Test plug adapter, 5 mm wide,</b>		violet <b>248-501/000-024</b> 5
$I_N = I_N$ terminal block		for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø		
gray <b>280-409</b> 100 (4x25)		gray <b>280-404</b> 100 (4x25)		
<b>Staggered jumper,</b>		<b>1-conductor female plug,</b>		
③ insulated, width 5 mm/0.197 in, $I_N$ 24 A		straight		
from 1 to 2 <b>780-452</b> 100 (4x25)		gray <b>769-101</b> 200		
from 1 to 3 <b>780-453</b> 100 (4x25)		<b>1-conductor female plug,</b>		
from 1 to 4 <b>780-454</b> 100 (4x25)		angled		
from 1 to 5 <b>780-455</b> 50 (2x25)		gray <b>769-101/022-000</b>	200	
from 1 to 6 <b>780-456</b> 50 (2x25)		<b>2-conductor female plug</b>		
from 1 to 7 <b>780-457</b> 50 (2x25)		gray <b>769-121</b>	100	
from 1 to 8 <b>780-458</b> 50 (2x25)				
<b>Push-in type wire jumper,</b>		<b>Pin cover,</b>		
③ insulated, $I_N$ 9 A, wire size 0.75 mm <sup>2</sup>		with receptacle for miniature WSB		
L = 60 mm <b>249-125</b> 10		gray <b>769-438</b> 100 (4x25)		
L = 110 mm <b>249-126</b> 10		orange <b>769-439</b> 100 (4x25)		
L = 250 mm <b>249-127</b> 10				

# Types of Assembly

## 2-Pin Carrier Terminal Blocks and 1-/2-Conductor Female Plugs



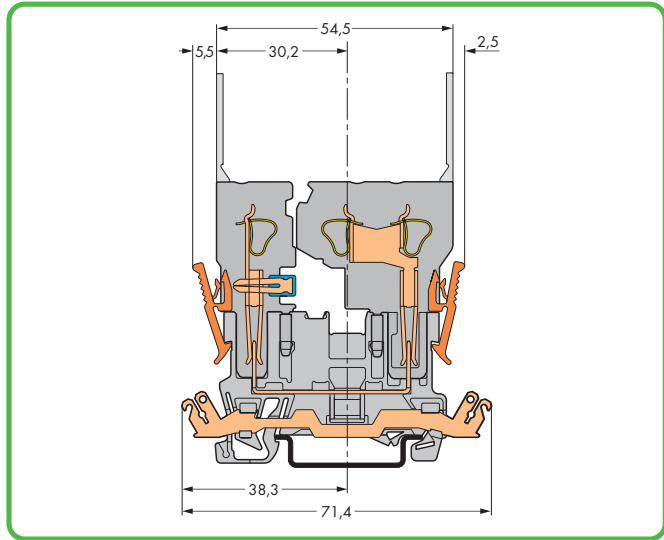
1-conductor female plug  
Commoning carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



Carrier terminal block



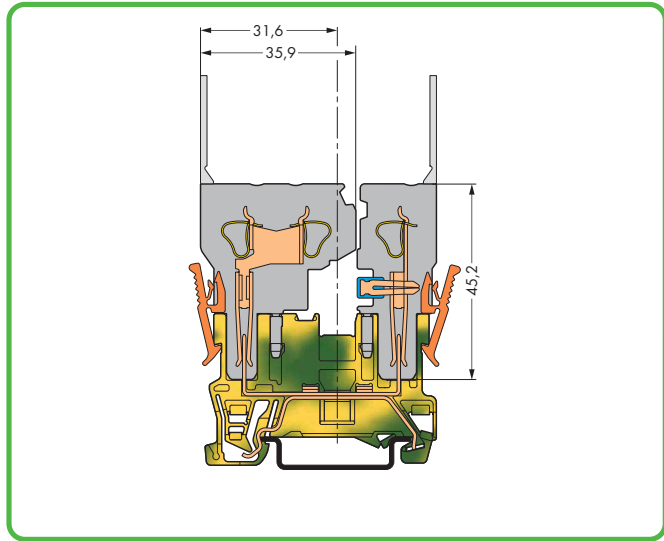
1-conductor female plug and 2-conductor female plug  
Carrier terminal blocks can only be commoned via 280 Series adjacent and alternate jumpers.



Carrier terminal block with shield contact



2-conductor female plug and 1-conductor female plug  
Carrier terminal blocks can be commoned via 280 and 780 Series jumpers.



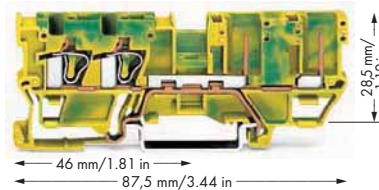
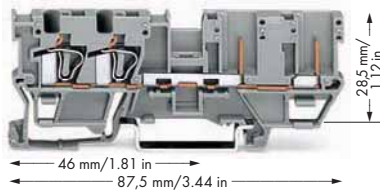
Ground carrier terminal block

# 7 X-COM®-SYSTEM 2-Conductor/2-Pin Carrier Terminal Blocks

CAGE CLAMP®

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0.08 - 4 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 32 A ②	AWG 28 - 12 600 V, 20 A ⑤ 300 V, 20 A ⑥	0.08 - 4 mm <sup>2</sup>   AWG 28 - 12	
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③		Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③	



- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
250 V/4 kV/3 = Nominal voltage with shield contact (also see Section 14)
- ② See current-carrying capacity curve, page 377 and at [www.wago.com](http://www.wago.com)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
Test plug modules, pages 194 - 196  
Insulation stop, page 199  
Staggered jumper, page 201  
Push-in type wire jumper, page 201
- ⑤ Note: 1-conductor female plug, angled is not suitable.

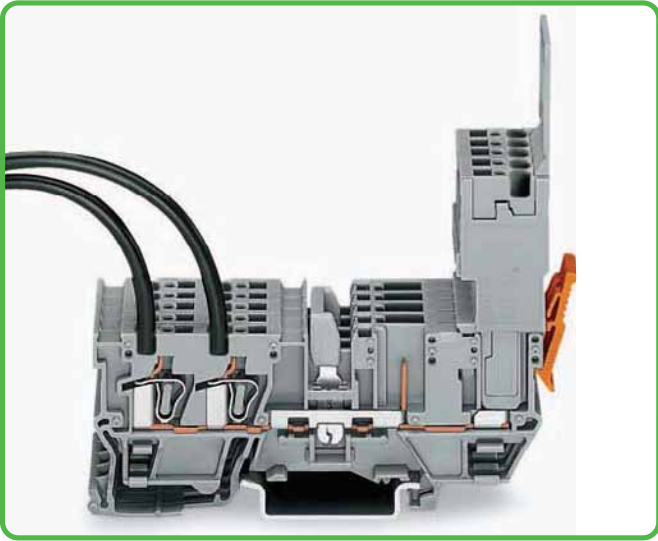
Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories		
<b>2-conductor/2-pin carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		<b>2-conductor/2-pin ground carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715				
gray	769-171	50	green-yellow	769-217	50	
blue	769-171/000-006	50				<b>Test plug,</b> with 500 mm cable, 2 mm Ø red
						<b>210-136</b>
						50
<b>2-conductor/2-pin carrier terminal block with shield contact,</b> (no picture), for DIN 35 rail, acc. to EN 60715				<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow	<b>210-137</b>	50
gray	769-211 ①	50				
<b>Item-Specific Accessories</b>				<b>Test plug adapter,</b> 5 mm wide, for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø gray	<b>280-404</b>	100 (4x25)
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow		<b>280-415</b>	100 (4x25)	<b>Pin cover,</b> with receptacle for miniature WSB gray	<b>769-438</b>	100 (4x25)
				orange	<b>769-439</b>	100 (4x25)
<b>769 Series Accessories</b>		Appropriate marking system: Miniature WSB (see Section 13)		<b>1-conductor female plug,</b> ⑤ straight gray	<b>769-101</b>	200
<b>End and intermediate plate,</b> 1.1 mm thick orange		<b>769-304</b>	100 (4x25)	<b>2-conductor female plug</b> gray	<b>769-121</b>	100
gray		<b>769-303</b>	100 (4x25)	<b>Miniature WSB Quick marking system,</b> 10 strips with 10 markers per card, 5 mm wide markers plain	<b>248-501</b>	5
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "F-st") white		<b>769-470</b>	200 (8x25)	<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray	<b>249-116</b>	100 (4x25)
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray		<b>769-471</b>	200 (8x25)	<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray	<b>249-117</b>	50 (2x25)
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray		<b>769-472</b>	200 (8x25)			
<b>Coding pin,</b> for coding female plugs orange		<b>769-435</b>	100 (4x25)			
<b>Adjacent jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray		<b>280-402</b>	200 (8x25)			
<b>Alternate jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray		<b>280-409</b>	100 (4x25)			
<b>Staggered jumper,</b> ④ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A from 1 to 2		<b>780-452</b>	100 (4x25)			
		from 1 to 3	<b>780-453</b>	100 (4x25)		
		from 1 to 4	<b>780-454</b>	100 (4x25)		
		from 1 to 5	<b>780-455</b>	50 (2x25)		
		from 1 to 6	<b>780-456</b>	50 (2x25)		
		from 1 to 7	<b>780-457</b>	50 (2x25)		
		from 1 to 8	<b>780-458</b>	50 (2x25)		
<b>Push-in type wire jumper,</b> ④ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm		<b>249-125</b>	10			
		L = 110 mm	<b>249-126</b>	10		
		L = 250 mm	<b>249-127</b>	10		
<b>Test plug module,</b> ④ can be snapped together, 5 mm wide gray		<b>280-418</b>	100 (4x25)			
<b>Spacer module,</b> can be snapped together, 5 mm wide gray		<b>280-419</b>	100 (4x25)			

For list of approvals and user guide, see pages 634 to 637.



# Types of Assembly

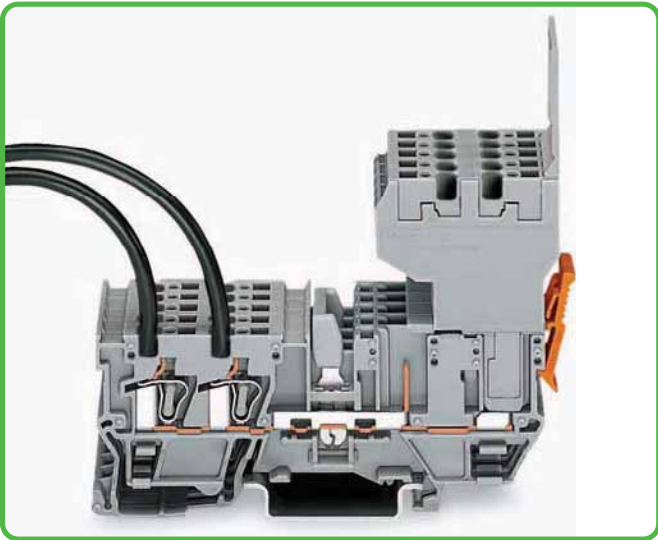
## 2-Conductor/2-Pin Carrier Terminal Blocks and 1-/2-Conductor Female Plugs



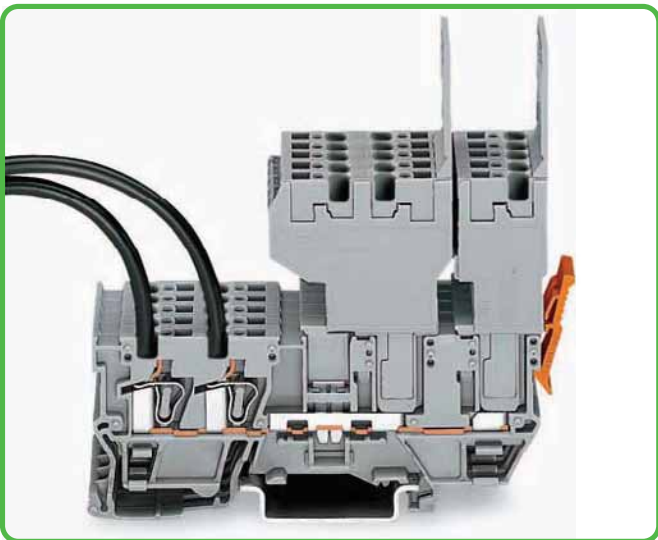
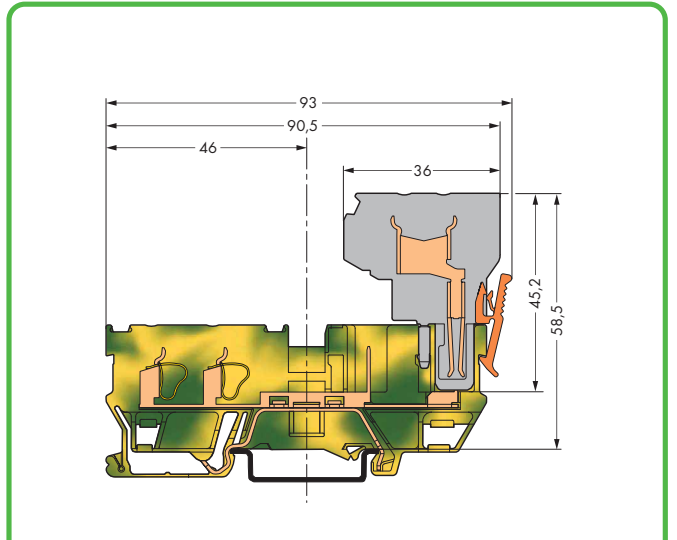
1-conductor female plug  
Commoning carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



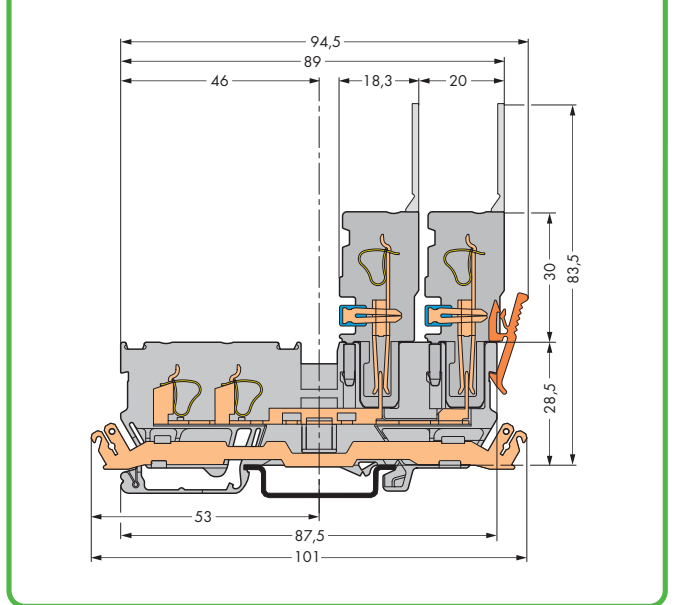
1-conductor female plug  
Commoning carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



2-conductor female plug  
Commoning carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



1-conductor female plug and 2-conductor female plug  
Carrier terminal blocks can only be commoned via 280 Series adjacent and alternate jumpers.



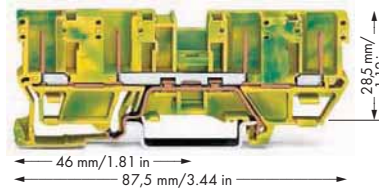
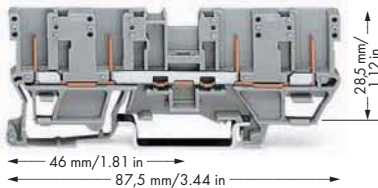
Ground carrier terminal block  
Carrier terminal block with shield contact

# X-COM®-SYSTEM

## 4-Pin Carrier Terminal Blocks

500 V/6 kV/3 ① 300 V, 20 A ②  
 $I_N$  32 A ② 300 V, 20 A ②  
 Terminal block width 5 mm / 0.197 in

Terminal block width 5 mm / 0.197 in



- ① 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 250 V/4 kV/3 = Nominal voltage with shield contact (also see Section 14)
- ② See current-carrying capacity curve, page 377 and at [www.wago.com](http://www.wago.com)
- ③ See application notes for:  
 Test plug modules, pages 195 and 196  
 Staggered jumper, page 201  
 Push-in type wire jumper, page 201
- ④ Note: 1-conductor female plug, angled is not suitable.

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>4-pin carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		<b>4-pin ground carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		
○ gray <b>769-151</b>	50	● green-yellow <b>769-207</b>	50	<b>Miniature WSB Quick marking system,</b> 10 strips with 10 markers per card, 5 mm wide markers plain <b>248-501</b> 5
<b>4-pin carrier terminal block with shield contact,</b> (no picture), for DIN 35 rail, acc. to EN 60715				<b>Miniature WSB Quick marking system, plain,</b> 10 strips with 10 markers per card, 5 mm wide markers yellow <b>248-501/000-002</b> red <b>248-501/000-005</b> blue <b>248-501/000-006</b> gray <b>248-501/000-007</b> orange <b>248-501/000-012</b> light green <b>248-501/000-017</b> green <b>248-501/000-023</b> violet <b>248-501/000-024</b> 5
○ gray <b>769-201</b> ①	50			
<b>769 Series Accessories</b>				
Appropriate marking system: Miniature WSB (see Section 13)				
<b>End and intermediate plate,</b> 1.1 mm thick		<b>Test plug module,</b>		
orange <b>769-302</b> 100 (4x25)		③ can be snapped together, 5 mm wide		
gray <b>769-301</b> 100 (4x25)		gray <b>280-418</b> 100 (4x25)		
<b>Coding pin,</b>		<b>Spacer module,</b>		<b>Screwless end stop,</b>
for coding female plugs		can be snapped together, 5 mm wide		for DIN 35 rail, 6 mm wide
orange <b>769-435</b> 100 (4x25)		gray <b>280-419</b> 100 (4x25)		gray <b>249-116</b> 100 (4x25)
<b>Adjacent jumper, insulated,</b>		<b>Test plug,</b>		<b>Screwless end stop,</b>
$I_N = I_N$ terminal block		with 500 mm cable, 2.3 mm Ø		for DIN 35 rail, 10 mm wide
gray <b>280-402</b> 200 (8x25)		yellow <b>210-137</b> 50		gray <b>249-117</b> 50 (2x25)
<b>Alternate jumper, insulated,</b>		<b>Test plug adapter,</b> 5 mm wide,		
$I_N = I_N$ terminal block		for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø		
gray <b>280-409</b> 100 (4x25)		gray <b>280-404</b> 100 (4x25)		
<b>Staggered jumper,</b>		<b>Pin cover,</b>		
③ insulated, width 5 mm/0.197 in, $I_N$ 24 A		with receptacle for miniature WSB		
from 1 to 2 <b>780-452</b> 100 (4x25)		gray <b>769-438</b> 100 (4x25)		
from 1 to 3 <b>780-453</b> 100 (4x25)		orange <b>769-439</b> 100 (4x25)		
from 1 to 4 <b>780-454</b> 100 (4x25)		<b>1-conductor female plug,</b>		
from 1 to 5 <b>780-455</b> 50 (2x25)		④ straight		
from 1 to 6 <b>780-456</b> 50 (2x25)		gray <b>769-101</b> 200		
from 1 to 7 <b>780-457</b> 50 (2x25)		<b>2-conductor female plug</b>		
from 1 to 8 <b>780-458</b> 50 (2x25)		gray <b>769-121</b> 100		
<b>Push-in type wire jumper,</b>				
③ insulated, $I_N$ 9 A, wire size 0.75 mm <sup>2</sup>				
L = 60 mm <b>249-125</b> 10				
L = 110 mm <b>249-126</b> 10				
L = 250 mm <b>249-127</b> 10				

# Types of Assembly

## 4-Pin Carrier Terminal Blocks and 1-/2-Conductor Female Plugs



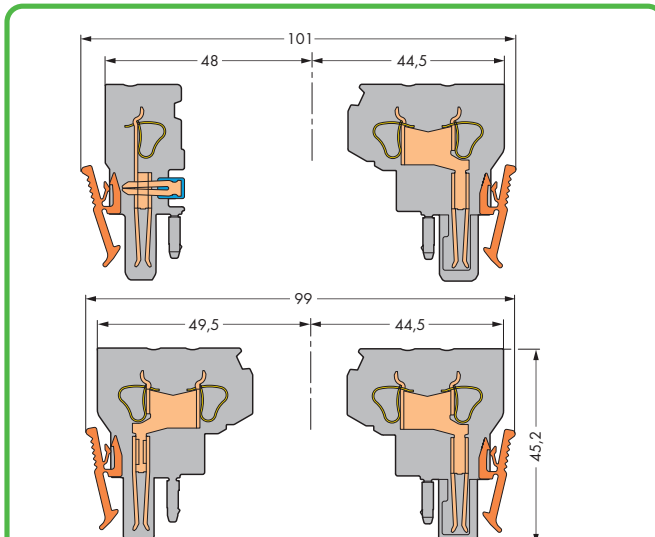
4 x 1-conductor female plugs - Commoning carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



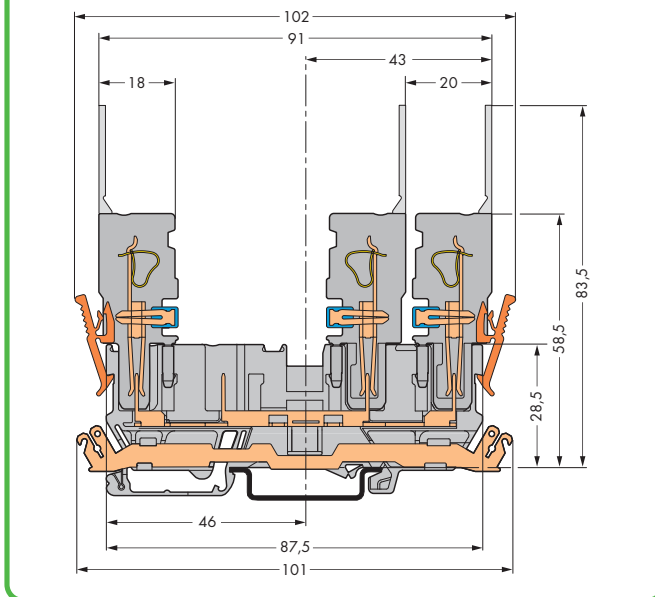
2 x 2-conductor female plugs - Commoning carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



2 x 1-conductor female plugs left 1 x 2-conductor female plugs right (also possible the other way around) - Commoning carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



1-conductor and 2-conductor female plugs 2-conductor female plugs right (also possible the other way around) - Carrier terminal blocks can only be commoned via 280 Series adjacent and alternate jumpers.



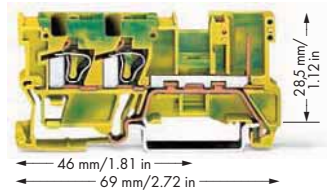
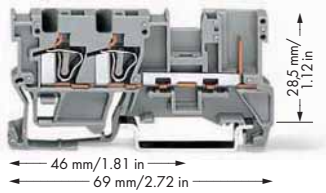
Carrier terminal block with shield contact

# 7 X-COM®-SYSTEM 2-Conductor/1-Pin Carrier Terminal Blocks

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0.08 - 4 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 32 A ②	AWG 28 - 12 600 V, 20 A ③ 300 V, 20 A ④	0.08 - 4 mm <sup>2</sup>   AWG 28 - 12	
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ⑤		Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ⑤	



- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② See current-carrying capacity curve at [www.wago.com](http://www.wago.com)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
Test plug modules, pages 194 - 196  
Insulation stop, page 199  
Staggered jumper, page 201  
Push-in type wire jumper, page 201

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>2-conductor/1-pin carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		<b>2-conductor/1-pin ground carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		
gray	769-251	50		
blue	769-251/000-006	50		
<b>Item-Specific Accessories</b>				<b>Pin cover,</b>
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow				with receptacle for miniature WSB gray 769-438 100 (4x25) orange 769-439 100 (4x25)
<b>769 Series Accessories</b>				<b>1-conductor female plug,</b> straight gray 769-101 200
Appropriate marking system: Miniature WSB (see Section 13)				<b>1-conductor female plug,</b> angled gray 769-101/022-000 200
<b>End and intermediate plate, 1.1 mm thick</b> orange 769-321 100 (4x25) gray 769-320 100 (4x25)		<b>Staggered jumper,</b> ④ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A		<b>2-conductor female plug</b> gray 769-121 100
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white 769-470 200 (8x25)		from 1 to 2 780-452 100 (4x25) from 1 to 3 780-453 100 (4x25) from 1 to 4 780-454 100 (4x25) from 1 to 5 780-455 50 (2x25)		<b>Miniature WSB Quick marking system,</b> 10 strips with 10 markers per card, 5 mm wide markers plain 248-501 5
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 769-471 200 (8x25)		from 1 to 6 780-456 50 (2x25) from 1 to 7 780-457 50 (2x25) from 1 to 8 780-458 50 (2x25)		<b>Miniature WSB Quick marking system, plain,</b> 10 strips with 10 markers per card, 5 mm wide markers yellow 248-501/000-002 red 248-501/000-005 blue 248-501/000-006 gray 248-501/000-007 orange 248-501/000-012 light green 248-501/000-017 green 248-501/000-023 violet 248-501/000-024 5
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray 769-472 200 (8x25)		<b>Test plug module,</b> ④ can be snapped together, 5 mm wide gray 280-418 100 (4x25)		
<b>Coding pin,</b> for coding female plugs orange 769-435 100 (4x25)		<b>Spacer module,</b> can be snapped together, 5 mm wide gray 280-419 100 (4x25)		
<b>Adjacent jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray 280-402 200 (8x25)		<b>B-type test plug module,</b> ④ can be snapped together, 5 mm wide gray 249-106 100 (4x25)		
<b>Alternate jumper, insulated,</b> ④ I <sub>N</sub> = I <sub>N</sub> terminal block gray 280-409 100 (4x25)		<b>Test plug,</b> with 500 mm cable, 2 mm Ø red 210-136 50		
<b>Push-in type wire jumper,</b> insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm 249-125 10 L = 110 mm 249-126 10 L = 250 mm 249-127 10		<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow 210-137 50		
		<b>Test plug adapter, 5 mm wide,</b> for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø gray 280-404 100 (4x25)		

For list of approvals and user guide, see pages 634 to 637.

# Types of Assembly

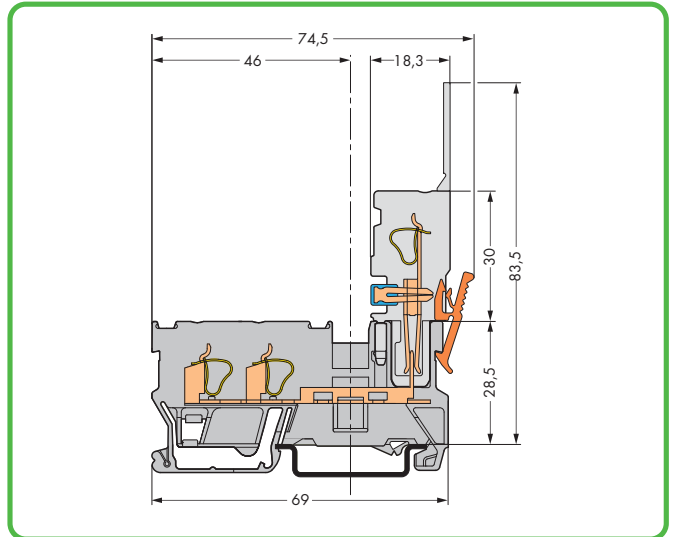
## 2-Conductor/1-Pin Carrier Terminal Blocks and 1-/2-Conductor Female Plugs



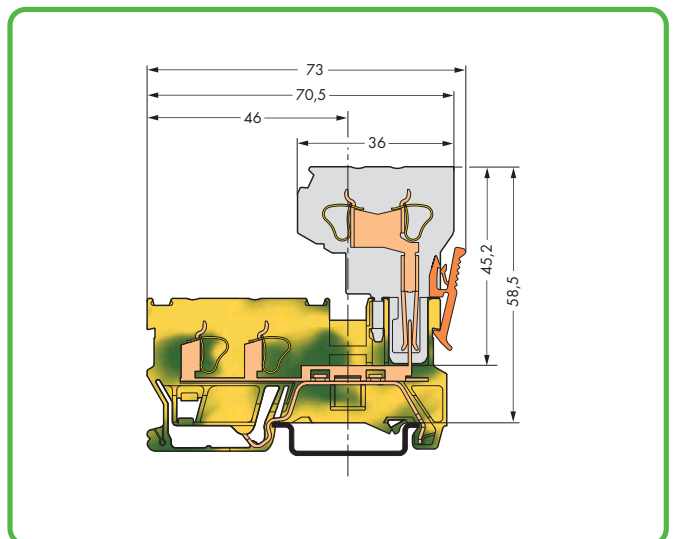
Pin cover with receptacle for miniature WSB



1-conductor female plug  
Commoning carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



Carrier terminal block



Ground carrier terminal block

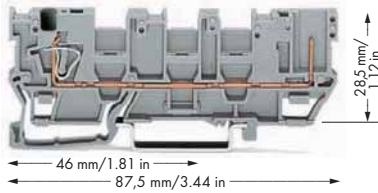


# 7 X-COM®-SYSTEM 1-Conductor/1-Pin Carrier Terminal Blocks with 3 Jumper Positions

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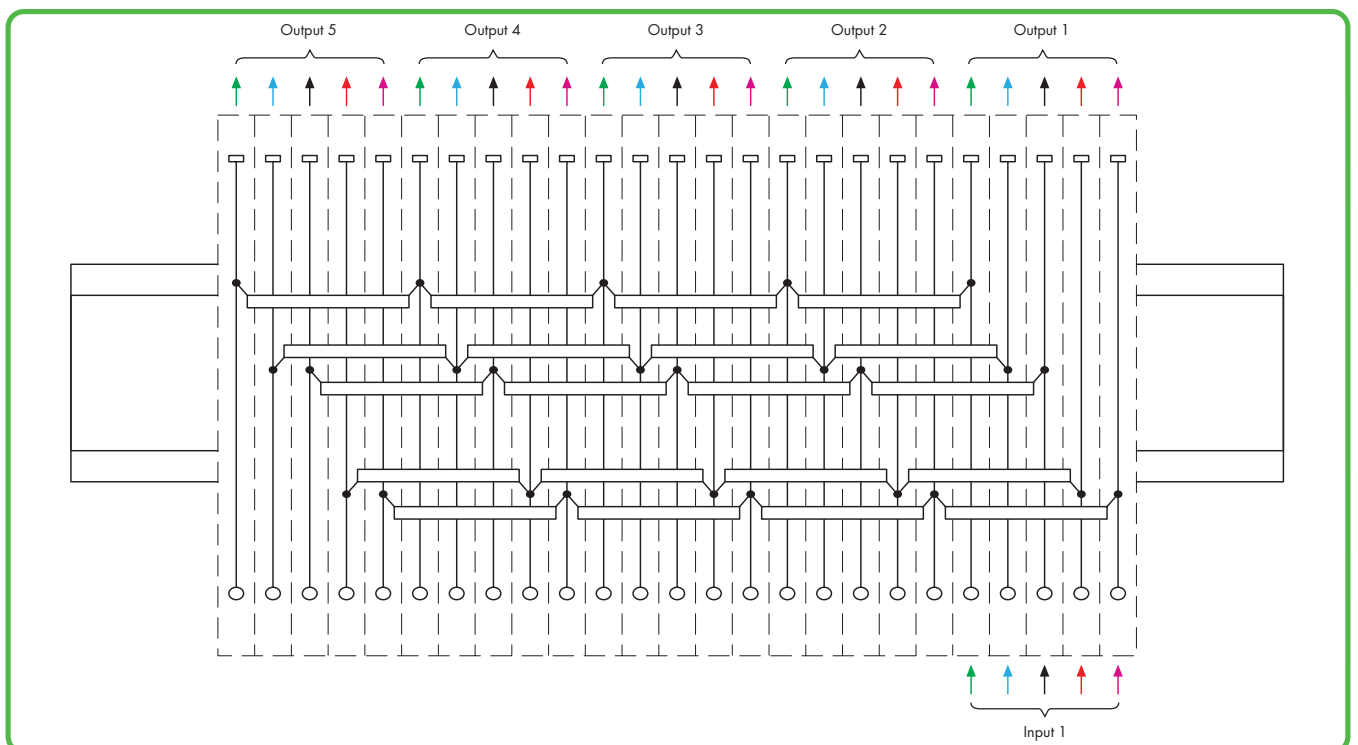
332

0.08 - 4 mm<sup>2</sup> AWG 28 - 12  
 500 V/6 kV/3 ① 300 V, 20 A ②  
 I<sub>N</sub> 32 A ② 300 V, 20 A ②  
 Terminal block width 5 mm / 0.197 in  
 8 - 9 mm / 0.33 in ③



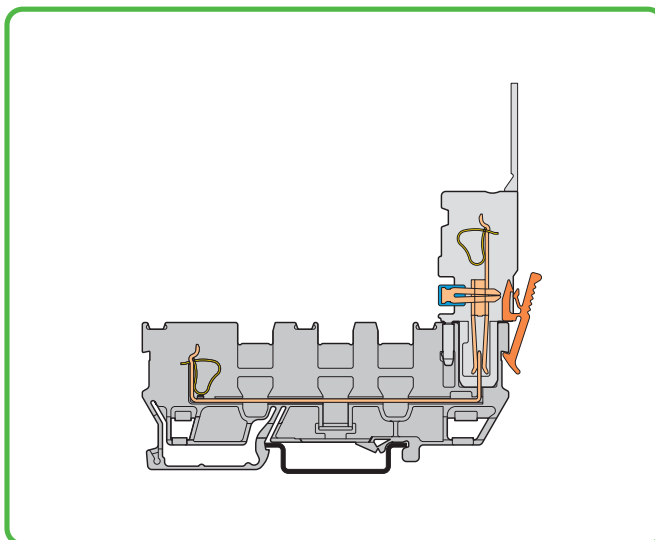
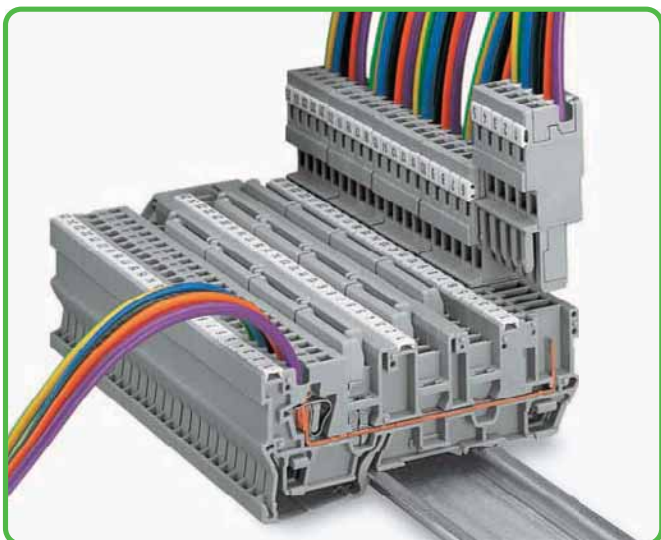
- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② See current-carrying capacity curve at [www.wago.com](http://www.wago.com)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for: Insulation stop, page 199

Item No.	Pack. Unit	Accessories
<b>1-conductor/1-pin carrier terminal block with 3 jumper positions,</b> for DIN 35 rail, acc. to EN 60715		
gray	769-214 50	
Full range of 769 Series accessories, see page 322		
<b>769 Series Accessories</b>		
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray		<b>Insulation stop,</b> ④ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray
	769-471 200 (8x25)	769-472 200 (8x25)
<b>End and intermediate plate, 1.1 mm thick</b>		<b>Adjacent jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block
orange	769-316 100 (4x25)	gray
gray	769-315 100 (4x25)	280-402 200 (8x25)
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")		<b>Alternate jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block
	white 769-470 200 (8x25)	gray 280-409 100 (4x25)
		<b>Coding pin,</b> for coding female plugs orange 769-435 100 (4x25)
		<b>1-conductor female plug,</b> straight gray 769-101 200
		<b>1-conductor female plug,</b> angled gray 769-101/022-000 200
		<b>2-conductor female plug</b> gray 769-121 100

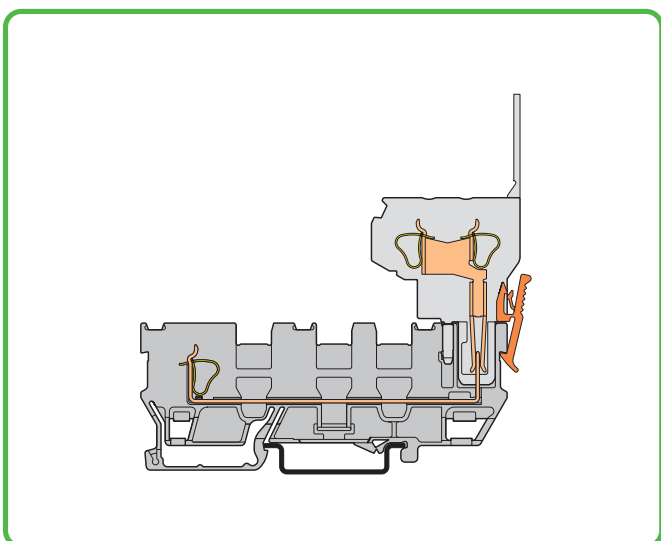




**1-conductor/1-pin carrier terminal blocks with 3 jumper positions**  
The 3 jumper positions allow up to six jumpering possibilities for staggered jumpers.




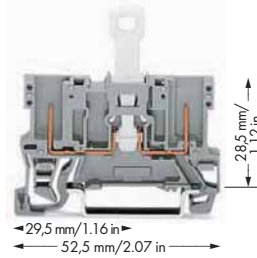
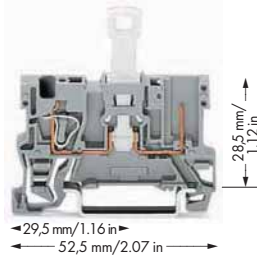
Carrier terminal block  
For dimensions, see page 326.



Carrier terminal block  
For dimensions, see page 326.

- Application examples:
- Multiplication of three-phase circuits L1-L2-L3-N-PE with pluggable outputs; e.g., use with motors, frequency converters, power units.
  - Voltage supplies to multiple locations  
± 15 V, 0 V, + 5 V, + 12 V, + 24 V
  - Various wire-to-wire interfacing possibilities

<p>0.08 - 4 mm<sup>2</sup>   AWG 28 - 12                  400 V/6 kV/3 ①   600 V, 20 A ②                  I<sub>N</sub> 16 A ②   300 V, 20 A ③</p> <p>Terminal block width 5 mm / 0.197 in   8 - 9 mm / 0.33 in ④</p>	<p>400 V/6 kV/3 ①   600 V, 20 A ②                  I<sub>N</sub> 16 A ②   300 V, 20 A ③</p> <p>Terminal block width 5 mm / 0.197 in</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------



- ① 400 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 250 V/4 kV/3 = Nominal voltage with shield contact (also see Section 14)
- ② 16 A, 85 °C upper temperature limit (see current-carrying capacity curve at www.wago.com)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for: Insulation stop, page 199
- ⑤ Note: 2-conductor female plug is not suitable.

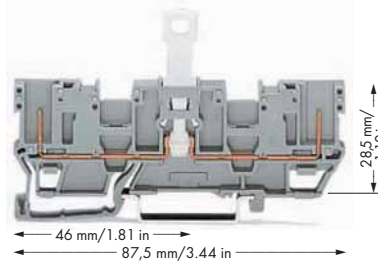
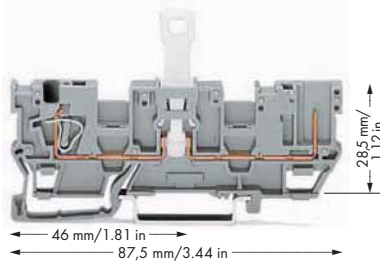
Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>1-conductor/1-pin disconnect carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715  gray	<b>769-232</b> 50	<b>2-pin disconnect carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715  gray	<b>769-222</b> 50	<b>Miniature WSB Quick marking system, plain,</b>  10 strips with 10 markers per card, 5 mm wide markers yellow <b>248-501/000-002</b> red <b>248-501/000-005</b> blue <b>248-501/000-006</b> gray <b>248-501/000-007</b> orange <b>248-501/000-012</b> light green <b>248-501/000-017</b> green <b>248-501/000-023</b> violet <b>248-501/000-024</b>
<b>1-conductor/1-pin disconnect carrier terminal block with shield contact, (no picture),</b> for DIN 35 rail, acc. to EN 60715  gray	<b>769-233</b> ① 50	<b>2-pin disconnect carrier terminal block with shield contact, (no picture),</b> for DIN 35 rail, acc. to EN 60715  gray	<b>769-223</b> ① 50	
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		
<b>End and intermediate plate, 1.1 mm thick</b> orange <b>769-308</b> 100 (4x25) gray <b>769-307</b> 100 (4x25)		<b>End and intermediate plate, 1.1 mm thick</b> orange <b>769-306</b> 100 (4x25) gray <b>769-305</b> 100 (4x25)		
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>769-470</b> 200 (8x25)				<b>Screwless end stop,</b> for DIN 35 rail,  6 mm wide gray <b>249-116</b> 100 (4x25)
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b> 200 (8x25)				<b>Screwless end stop,</b> for DIN 35 rail,  10 mm wide gray <b>249-117</b> 50 (2x25)
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b> 200 (8x25)				
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)				
<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50				
<b>769 Series Accessories</b>				
Appropriate marking system: Miniature WSB (see Section 13)				
<b>Coding pin,</b>  for coding female plugs orange <b>769-435</b> 100 (4x25)		<b>1-conductor female plug,</b> ⑤ straight gray <b>769-101</b> 200		
<b>Test plug,</b>  with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50		<b>1-conductor female plug,</b> angled gray <b>769-101/022-000</b> 200		
<b>Disconnect lock,</b>  for disconnect tab used on 280/281 and 769 Series disconnect terminal blocks red <b>709-170</b> 200 (8x25)		<b>Miniature WSB Quick marking system,</b>  10 strips with 10 markers per card, 5 mm wide markers plain <b>248-501</b> 5		



# X-COM®-SYSTEM

## 1-Conductor/1-Pin and 2-Pin Disconnect Carrier Terminal Blocks with 2 Jumper Positions

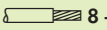
0.08 - 4 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 16 A ②	AWG 28 - 12 600 V, 20 A ③ 300 V, 20 A ④	400 V/6 kV/3 ①   300 V, 20 A ③ I <sub>N</sub> 16 A ②   300 V, 20 A ④
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ⑤		Terminal block width 5 mm / 0.197 in

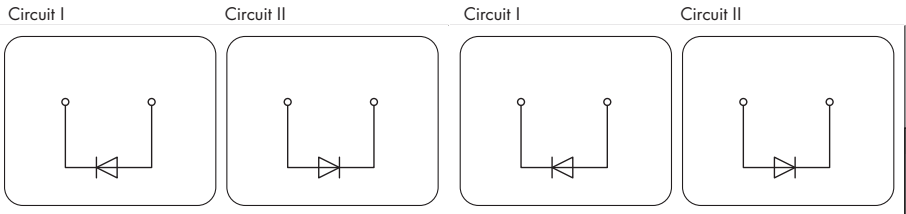


- ① 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
250 V/4 kV/3 = nominal voltage with shield contact (also see Section 14)
- ② 16 A, 85°C upper temperature limit (see current-carrying capacity curve at [www.wago.com](http://www.wago.com))
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
Test plug module, page 196  
Insulation stop, page 199  
Staggered jumper, page 201  
Push-in type wire jumper, page 201



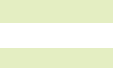

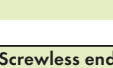



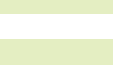


Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>1-conductor/1-pin disconnect carrier terminal block with 2 jumper positions,</b> for DIN 35 rail, acc. to EN 60715		<b>2-pin disconnect carrier terminal block with 2 jumper positions,</b> for DIN 35 rail, acc. to EN 60715		
gray 769-212	50	gray 769-202	50	<b>Adjacent jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray 280-402 200 (8x25)
<b>1-conductor/1-pin disconnect carrier terminal block with 2 jumper positions and with shield contact, (no picture),</b> for DIN 35 rail, acc. to EN 60715		<b>2-pin disconnect carrier terminal block with 2 jumper positions and with shield contact, (no picture),</b> for DIN 35 rail, acc. to EN 60715		<b>Alternate jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray 280-409 100 (4x25)
gray 769-213 ①	50	gray 769-203 ①	50	<b>Staggered jumper,</b> ④ insulated, Spacing: 5 mm, I <sub>N</sub> 24 A from 1 to 2 780-452 100 (4x25) from 1 to 3 780-453 100 (4x25) from 1 to 4 780-454 100 (4x25) from 1 to 5 780-455 50 (2x25) from 1 to 6 780-456 50 (2x25) from 1 to 7 780-457 50 (2x25) from 1 to 8 780-458 50 (2x25)
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		
<b>End and intermediate plate, 1.1 mm thick</b>		<b>End and intermediate plate, 1.1 mm thick</b>		
orange 769-312	100 (4x25)	orange 769-310	100 (4x25)	
gray 769-311	100 (4x25)	gray 769-309	100 (4x25)	
<b>Separator, oversized, 1.1 mm thick</b>		<b>Separator, oversized, 1.1 mm thick</b>		
orange 769-314	100 (4x25)	orange 769-313	100 (4x25)	
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-s") white 769-470				<b>Push-in type wire jumper,</b> ④ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm 249-125 10 L = 110 mm 249-126 10 L = 250 mm 249-127 10
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 769-471				<b>Test plug module,</b> ④ can be snapped together, 5 mm wide gray 280-418 100 (4x25)
<b>Insulation stop,</b> ④ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray 769-472				<b>Disconnect lock,</b> for disconnect tab used on 280/281 and 769 Series disconnect terminal blocks red 709-170 200 (8x25)
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow 280-415				<b>1-conductor female plug,</b> straight gray 769-101 200
<b>Test plug,</b> with 500 mm cable, 2 mm Ø red 210-136				<b>1-conductor female plug,</b> angled gray 769-101/022-000 200
<b>769 Series Accessories</b> Appropriate marking system: Miniature WSB (see Section 13)				<b>2-conductor female plug</b> gray 769-121 100
<b>Coding pin,</b> for coding female plugs orange 769-435		<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow 210-137		










For list of approvals and user guide, see pages 634 to 637.





<p><b>0.08 - 4 mm<sup>2</sup>   AWG 28 - 12</b>  <b>U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V</b>  <b>1N4007 - 0.5 A continuous current</b>  <b>Terminal block width 5 mm / 0.197 in</b>   <b>8 - 9 mm / 0.33 in ①</b></p>	<p><b>U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V</b>  <b>1N4007 - 0.5 A continuous current</b>  <b>Terminal block width 5 mm / 0.197 in</b></p>
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- ① Strip length, see packaging or instructions.
- ② See application notes for: Insulation stop, page 199
- ③ Note: 2-conductor female plug is not suitable.

Accessories	
	<p>Miniature WSB Quick marking system,                      10 strips with 10 markers per card,                      5 mm wide markers                      plain <b>248-501</b> 5</p>
	<p>Miniature WSB Quick marking system, plain,                      10 strips with 10 markers per card,                      5 mm wide markers                      yellow <b>248-501/000-002</b></p>
	<p>red <b>248-501/000-005</b></p>
	<p>blue <b>248-501/000-006</b></p>
	<p>gray <b>248-501/000-007</b></p>
	<p>orange <b>248-501/000-012</b></p>
	<p>light green <b>248-501/000-017</b></p>
	<p>green <b>248-501/000-023</b></p>
	<p>violet <b>248-501/000-024</b> 5</p>
	<p>Screwless end stop,                      for DIN 35 rail,                      6 mm wide                      gray <b>249-116</b> 100 (4x25)</p>
	<p>Screwless end stop,                      for DIN 35 rail,                      10 mm wide                      gray <b>249-117</b> 50 (2x25)</p>

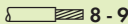
Item No.	Pack. Unit	Item No.	Pack. Unit
<b>1-conductor/1-pin diode carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		<b>2-pin diode carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715	
○ Anode right <b>769-238/281-411</b>	100	○ Anode right <b>769-228/281-411</b>	100
○ Anode left <b>769-238/281-410</b>	100	○ Anode left <b>769-228/281-410</b>	100
Item-Specific Accessories		Item-Specific Accessories	
<b>End and intermediate plate, 1.1 mm thick</b>		<b>End and intermediate plate, 1.1 mm thick</b>	
 orange <b>769-308</b>	100 (4x25)	 orange <b>769-306</b>	100 (4x25)
 gray <b>769-307</b>	100 (4x25)	 gray <b>769-305</b>	100 (4x25)
<b>Insulation stop,</b> ② 	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "F-st") white <b>769-470</b>		200 (8x25)
<b>Insulation stop,</b> ② 	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b>		200 (8x25)
<b>Insulation stop,</b> ② 	5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b>		200 (8x25)
<b>Protective warning marker,</b> 	with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b>		100 (4x25)
<b>Test plug,</b> 	with 500 mm cable, 2 mm Ø red <b>210-136</b>		50

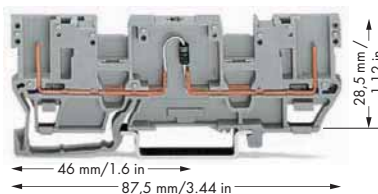
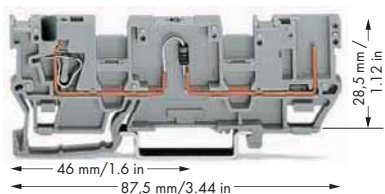
769 Series Accessories	
Appropriate marking system: Miniature WSB (see Section 13)	
<b>Coding pin,</b> 	for coding female plugs orange <b>769-435</b> 100 (4x25)
<b>Test plug,</b> 	with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
<b>1-conductor female plug,</b> ③ 	straight gray <b>769-101</b> 200
<b>1-conductor female plug,</b> 	angled gray <b>769-101/022-000</b> 200

For list of approvals and user guide, see pages 634 to 637.

# X-COM®-SYSTEM

## 1-Conductor/1-Pin and 2-Pin Diode Carrier Terminal Blocks with 2 Jumper Positions

<b>0.08 - 4 mm<sup>2</sup>   AWG 28 - 12</b> <b>U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V</b> <b>1N4007 - 0.5 A continuous current</b> Terminal block width 5 mm / 0.197 in  8 - 9 mm / 0.33 in ①	<b>U<sub>N</sub> 250 V, U<sub>RM</sub> 1000 V</b> <b>1N4007 - 0.5 A continuous current</b> Terminal block width 5 mm / 0.197 in
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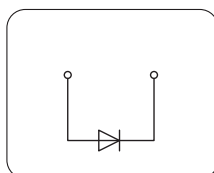
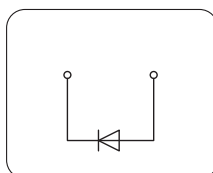
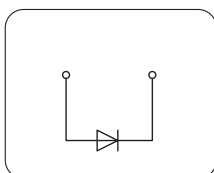
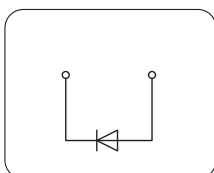


Circuit I

Circuit II

Circuit I

Circuit II

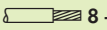


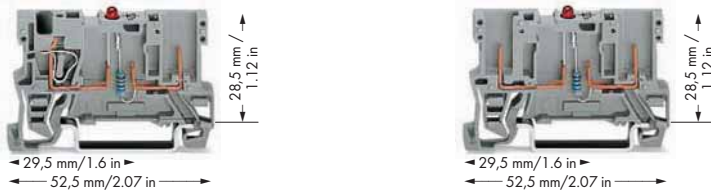
- ① Strip length, see packaging or instructions.
- ② See application notes for:  
 Test plug module, page 196  
 Insulation stop, page 199  
 Staggered jumper, page 201  
 Push-in type wire jumper, page 201

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>1-conductor/1-pin diode carrier terminal block with 2 jumper positions,</b> for DIN 35 rail, acc. to EN 60715 ● Anode right <b>769-218/281-411</b> 50 ● Anode left <b>769-218/281-410</b> 50		<b>2-pin diode carrier terminal block with 2 jumper positions,</b> for DIN 35 rail, acc. to EN 60715 ● Anode right <b>769-208/281-411</b> 50 ● Anode left <b>769-208/281-410</b> 50	
Full range of 769 Series accessories, see page 322		Full range of 769 Series accessories, see page 324	
Item-Specific Accessories		Item-Specific Accessories	
<b>End and intermediate plate, 1.1 mm thick</b> orange <b>769-312</b> 100 (4x25) gray <b>769-311</b> 100 (4x25)		<b>End and intermediate plate, 1.1 mm thick</b> orange <b>769-310</b> 100 (4x25) gray <b>769-309</b> 100 (4x25)	
<b>Separator, oversized, 1.1 mm thick</b> orange <b>769-314</b> 100 (4x25)		<b>Separator, oversized, 1.1 mm thick</b> orange <b>769-313</b> 100 (4x25)	
<b>Insulation stop,</b> ② 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>769-470</b> 200 (8x25)			
<b>Insulation stop,</b> ② 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b> 200 (8x25)			
<b>Insulation stop,</b> ② 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b> 200 (8x25)			
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)			
<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50			

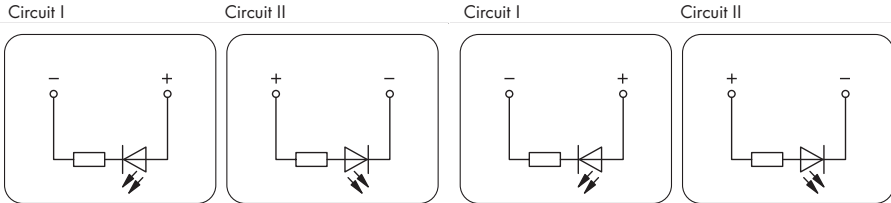
769 Series Accessories	
Appropriate marking system: Miniature WSB (see Section 13)	
<b>Coding pin,</b>	for coding female plugs orange <b>769-435</b> 100 (4x25)
<b>Test plug,</b>	with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
<b>Adjacent jumper, insulated,</b>	I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b> 200 (8x25)
<b>Staggered jumper,</b>	② insulated, Spacing: 5 mm, I <sub>N</sub> 24 A from 1 to 2 <b>780-452</b> 100 (4x25) from 1 to 3 <b>780-453</b> 100 (4x25) from 1 to 4 <b>780-454</b> 100 (4x25) from 1 to 5 <b>780-455</b> 50 (2x25) from 1 to 6 <b>780-456</b> 50 (2x25) from 1 to 7 <b>780-457</b> 50 (2x25) from 1 to 8 <b>780-458</b> 50 (2x25)
<b>Push-in type wire jumper,</b>	② insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm <b>249-125</b> 10 L = 110 mm <b>249-126</b> 10 L = 250 mm <b>249-127</b> 10
<b>Test plug module,</b>	② can be snapped together, 5 mm wide gray <b>280-418</b> 100 (4x25)
<b>1-conductor female plug,</b>	straight gray <b>769-101</b> 200
<b>1-conductor female plug,</b>	angled gray <b>769-101/022-000</b> 200
<b>2-conductor female plug</b>	gray <b>769-121</b> 100

For list of approvals and user guide, see pages 634 to 637.



<p>0.08 - 4 mm<sup>2</sup>   AWG 28 - 12</p> <p>24 VDC</p> <p>I<sub>F</sub> 0.025 A max.</p> <p>Terminal block width 5 mm / 0.197 in</p> <p> 8 - 9 mm / 0.33 in ①</p>	<p>24 VDC</p> <p>I<sub>F</sub> 0.025 A max.</p> <p>Terminal block width 5 mm / 0.197 in</p>
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- ① Strip length, see packaging or instructions.
- ② See application notes for: Insulation stop, page 199
- ③ Note: 2-conductor female plug is not suitable.



### Accessories





<b>Miniature WSB Quick marking system,</b>	
	10 strips with 10 markers per card, 5 mm wide markers plain <b>248-501</b> 5
<b>Miniature WSB Quick marking system, plain,</b>	
	10 strips with 10 markers per card, 5 mm wide markers yellow <b>248-501/000-002</b>
	red <b>248-501/000-005</b>
	blue <b>248-501/000-006</b>
	gray <b>248-501/000-007</b>
	orange <b>248-501/000-012</b>
	light green <b>248-501/000-017</b>
	green <b>248-501/000-023</b>
	violet <b>248-501/000-024</b>

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>1-conductor/1-pin LED carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		<b>2-pin LED carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715	
 Anode right <b>769-239/281-413</b>	100	 Anode right <b>769-229/281-413</b>	100
 Anode left <b>769-239/281-434</b>	100	 Anode left <b>769-229/281-434</b>	100
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 1.1 mm thick</b>		<b>End and intermediate plate, 1.1 mm thick</b>	
 orange <b>769-308</b>	100 (4x25)	 orange <b>769-306</b>	100 (4x25)
 gray <b>769-307</b>	100 (4x25)	 gray <b>769-305</b>	100 (4x25)
<b>Insulation stop,</b>		<b>Insulation stop,</b>	
 ② 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "F-st") white <b>769-470</b>	200 (8x25)		
 ② 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b>	200 (8x25)		
 ② 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b>	200 (8x25)		
<b>Protective warning marker,</b>			
 with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b>	100 (4x25)		
<b>Test plug,</b>			
 with 500 mm cable, 2 mm Ø red <b>210-136</b>	50		

<b>Screwless end stop,</b>	
 for DIN 35 rail, 6 mm wide gray <b>249-116</b>	100 (4x25)
<b>Screwless end stop,</b>	
 for DIN 35 rail, 10 mm wide gray <b>249-117</b>	50 (2x25)


### 769 Series Accessories

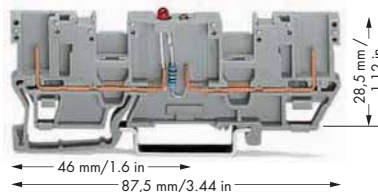
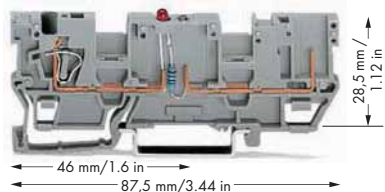
Appropriate marking system:  
Miniature WSB (see Section 13)

<b>Coding pin,</b>		<b>1-conductor female plug,</b>	
 for coding female plugs orange <b>769-435</b>	100 (4x25)	 ③ straight gray <b>769-101</b>	200
<b>Test plug,</b>		<b>1-conductor female plug,</b>	
 with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b>	50	 angled gray <b>769-101/022-000</b>	200

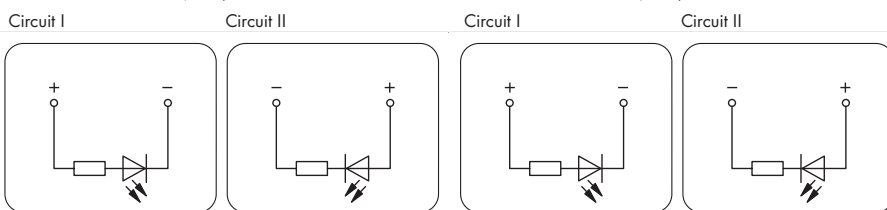
# X-COM®-SYSTEM

## 1-Conductor/1-Pin and 2-Pin LED Carrier Terminal Blocks with 2 Jumper Positions

<b>0.08 - 4 mm<sup>2</sup>   AWG 28 - 12</b> <b>24 VDC</b> <b>I<sub>F</sub> 0.025 A max.</b> Terminal block width 5 mm / 0.197 in  8 - 9 mm / 0.33 in ①	<b>24 VDC</b> <b>I<sub>F</sub> 0.025 A max.</b> Terminal block width 5 mm / 0.197 in
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- ① Strip length, see packaging or instructions.
- ② See application notes for:  
 Test plug module, page 196  
 Insulation stop, page 199  
 Staggered jumper, page 201  
 Push-in type wire jumper, page 201





Item No.	Pack. Unit	Item No.	Pack. Unit
<b>1-conductor/1-pin LED carrier terminal block with 2 jumper positions,</b> for DIN 35 rail, acc. to EN 60715		<b>2-pin LED carrier terminal block with 2 jumper positions,</b> for DIN 35 rail, acc. to EN 60715	
● Anode left	<b>769-219/281-434</b> 50	● Anode left	<b>769-209/281-434</b> 50
● Anode right	<b>769-219/281-413</b> 50	● Anode right	<b>769-209/281-413</b> 50


### 769 Series Accessories


Appropriate marking system:  
 Miniature WSB (see Section 13)


<b>Coding pin,</b>	
	for coding female plugs orange <b>769-435</b> 100 (4x25)


<b>Test plug,</b>	
	with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50


<b>Adjacent jumper, insulated,</b>	
	I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b> 200 (8x25)


<b>Staggered jumper,</b>	
	insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A
from 1 to 2	<b>780-452</b> 100 (4x25)
from 1 to 3	<b>780-453</b> 100 (4x25)
from 1 to 4	<b>780-454</b> 100 (4x25)
from 1 to 5	<b>780-455</b> 50 (2x25)
from 1 to 6	<b>780-456</b> 50 (2x25)
from 1 to 7	<b>780-457</b> 50 (2x25)
from 1 to 8	<b>780-458</b> 50 (2x25)

<b>Push-in type wire jumper,</b>	
	insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup>
L = 60 mm	<b>249-125</b> 10
L = 110 mm	<b>249-126</b> 10
L = 250 mm	<b>249-127</b> 10

<b>Test plug module,</b>	
	can be snapped together, 5 mm wide gray <b>280-418</b> 100 (4x25)

<b>1-conductor female plug,</b>	
	straight gray <b>769-101</b> 200


<b>1-conductor female plug,</b>	
	angled gray <b>769-101/022-000</b> 200


<b>2-conductor female plug</b>	
	gray <b>769-121</b> 100


### Item-Specific Accessories


<b>End and intermediate plate, 1.1 mm thick</b>	
orange	<b>769-312</b> 100 (4x25)
gray	<b>769-311</b> 100 (4x25)


<b>Separator, oversized, 1.1 mm thick</b>	
orange	<b>769-314</b> 100 (4x25)

<b>Insulation stop,</b>	
	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>769-470</b> 200 (8x25)

<b>Insulation stop,</b>	
	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b> 200 (8x25)

<b>Insulation stop,</b>	
	5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b> 200 (8x25)

<b>Protective warning marker,</b>	
	with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)

<b>Test plug,</b>	
	with 500 mm cable, 2 mm Ø red <b>210-136</b> 50

## Types of Assembly 1-Conductor/1-Pin and 2-Pin Carrier Terminal Blocks and 1-Conductor Female Plugs

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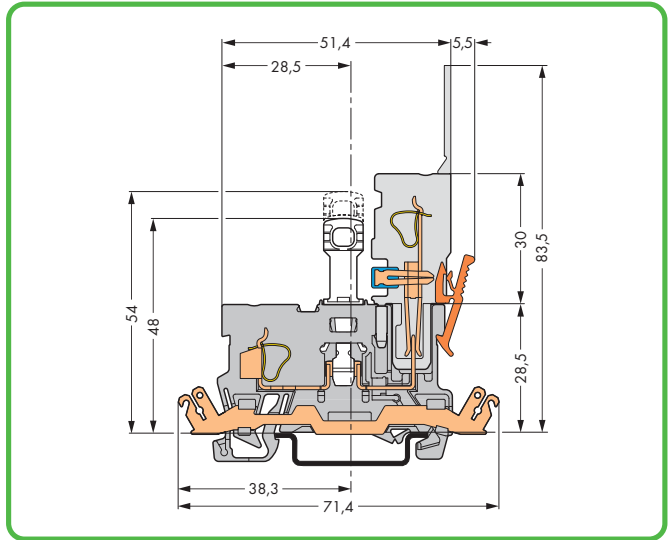
1-conductor female plug  
Jumpers cannot be fitted to disconnect carrier terminal blocks.



1-conductor female plug  
Jumpers cannot be fitted to disconnect carrier terminal blocks.



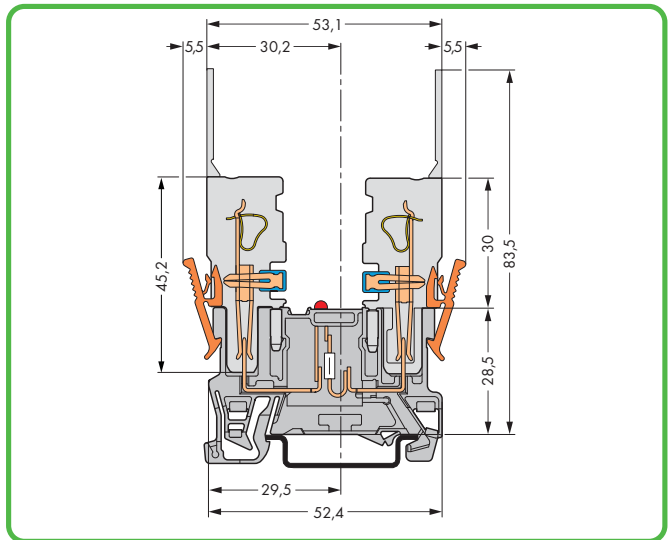
1-conductor female plug  
Jumpers cannot be fitted to diode carrier terminal blocks.



Disconnect carrier terminal block with shield contact



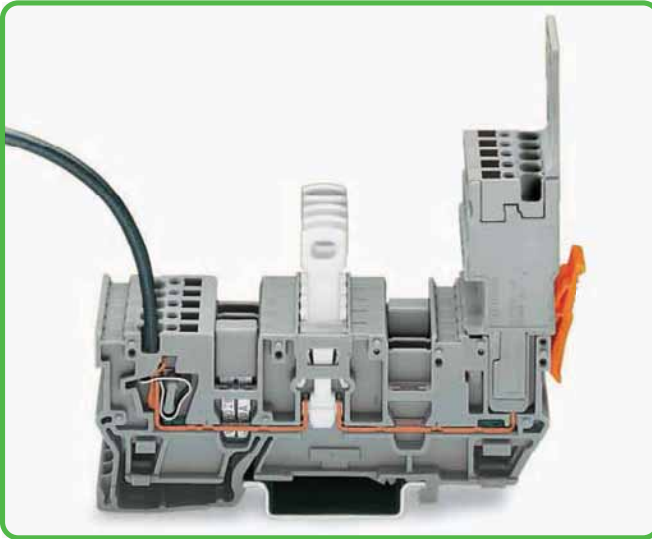
1-conductor female plug  
Jumpers cannot be fitted to LED carrier terminal blocks.



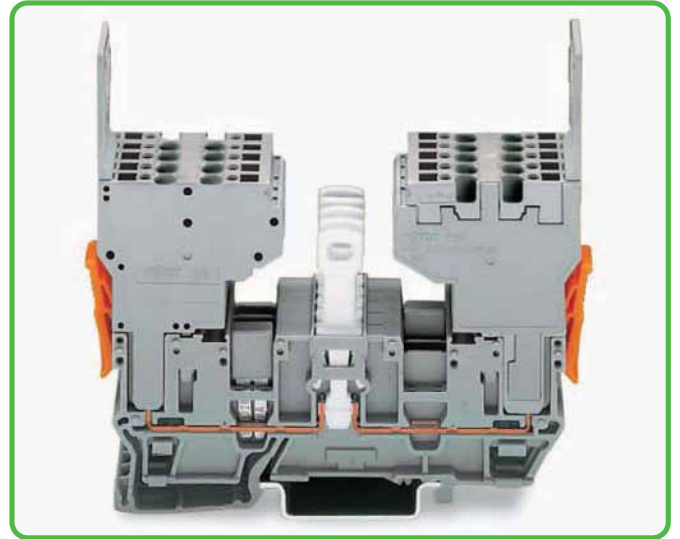
LED carrier terminal block

# Types of Assembly

## 1-Conductor/1-Pin and 2-Pin Carrier Terminal Blocks with 2 Jumper Positions and 1-/2-Conductor Female Plugs



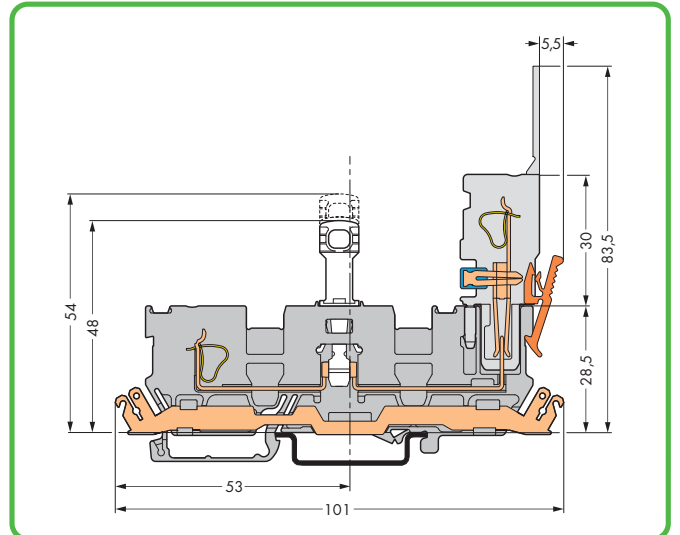
1-conductor female plug  
Commoning disconnect carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



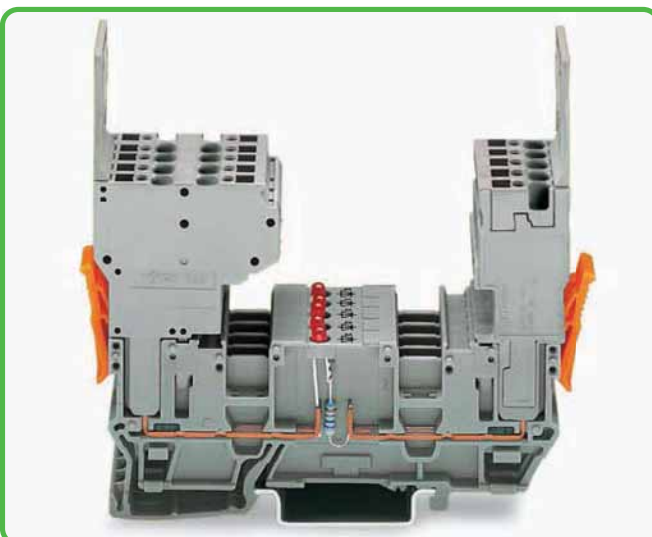
2-conductor female plug  
Commoning disconnect carrier terminal blocks via 280 and 780 Series jumpers.



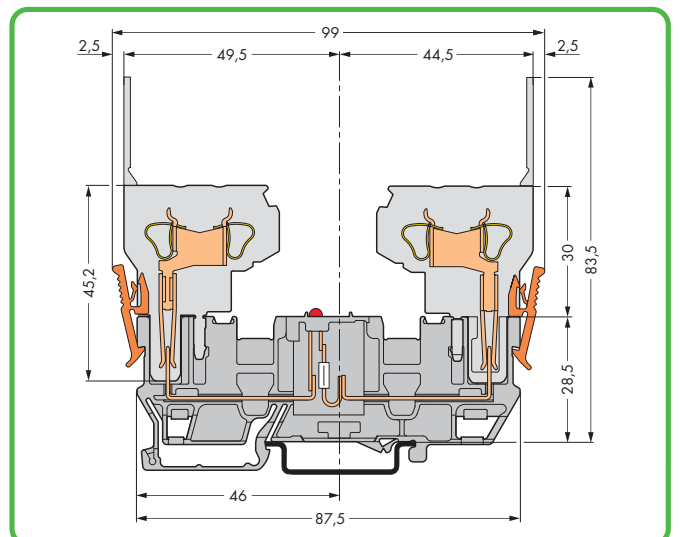
2-conductor female plug  
Commoning diode carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



Disconnect carrier terminal block with shield contact.  
For other dimensions, also see page 327.



2-conductor female plug and 1-conductor female (also possible the other way around)  
Commoning LED carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



LED carrier terminal block  
For other dimensions, also see page 329.

## X-COM®-SYSTEM

## 1-Conductor/1-Conductor Disconnect Carrier Terminal Blocks with 2 Jumper Positions

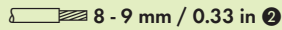
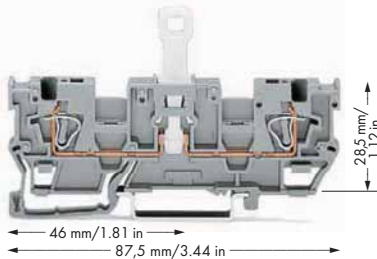
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0.08 - 4 mm<sup>2</sup> | AWG 28 - 12

400 V/6 kV/3 ①

I<sub>N</sub> 16 A

Terminal block width 5 mm / 0.197 in


 8 - 9 mm / 0.33 in ②


- ① 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
250 V/4 kV/3 = Nominal voltage with shield contact (also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ See application notes for:  
Test plug modules, pages 194 - 196  
Insulation stop, page 199  
Staggered jumper, page 201  
Push-in type wire jumper, page 201

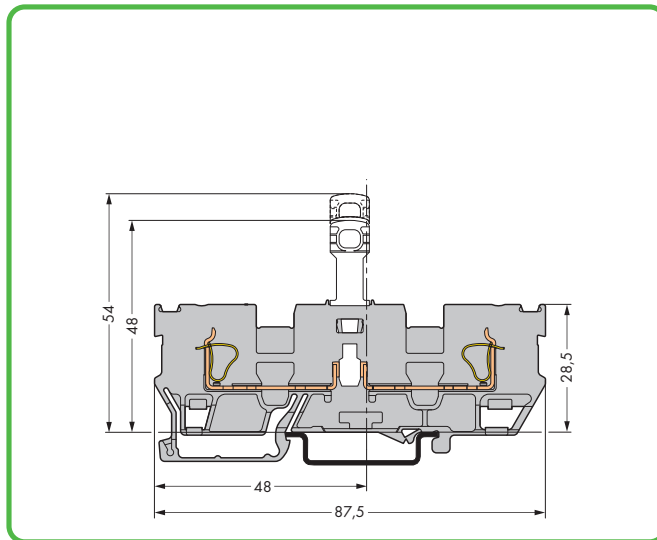
Item No.	Pack. Unit	Accessories
<b>1-conductor/1-conductor disconnect carrier terminal block with 2 jumper positions,</b> for DIN 35 rail, acc. to EN 60715 gray <b>769-242</b> 50		Appropriate marking system: Miniature WSB (see Section 13)
<b>1-conductor/1-conductor disconnect carrier terminal block with shield contact and with 2 jumper positions, (no picture),</b> for DIN 35 rail, acc. to EN 60715 gray <b>769-243 ①</b> 50		
<b>769 Series Accessories</b>		<b>Staggered jumper,</b> ③ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A from 1 to 2 <b>780-452</b> 100 (4x25) from 1 to 3 <b>780-453</b> 100 (4x25) from 1 to 4 <b>780-454</b> 100 (4x25) from 1 to 5 <b>780-455</b> 50 (2x25) from 1 to 6 <b>780-456</b> 50 (2x25) from 1 to 7 <b>780-457</b> 50 (2x25) from 1 to 8 <b>780-458</b> 50 (2x25)
<b>End and intermediate plate, 1.1 mm thick</b> orange <b>769-318</b> 100 (4x25) gray <b>769-317</b> 100 (4x25)		<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)
<b>Separator plate, oversized, 1.1 mm thick</b> orange <b>769-319</b> 100 (4x25)		<b>Disconnect lock,</b> for disconnect tab used on 280/281 and 769 Series disconnect terminal blocks red <b>709-170</b> 200 (8x25)
<b>Insulation stop,</b> ③ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>769-470</b> 200 (8x25)		<b>Test plug module,</b> ③ can be snapped together, 5 mm wide gray <b>280-418</b> 100 (4x25)
<b>Insulation stop,</b> ③ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b> 200 (8x25)		<b>Spacer module,</b> can be snapped together, 5 mm wide gray <b>280-419</b> 100 (4x25)
<b>Insulation stop,</b> ③ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b> 200 (8x25)		<b>Test plug adapter, 5 mm wide,</b> for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø gray <b>280-404</b> 100 (4x25)
<b>Adjacent jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b> 200 (8x25)		<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50
<b>Alternate jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-409</b> 100 (4x25)		<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
<b>Push-in type wire jumper,</b> ③ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm <b>249-125</b> 10 L = 110 mm <b>249-126</b> 10 L = 250 mm <b>249-127</b> 10		<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
		<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)

For list of approvals and user guide, see pages 634 to 637.





Commoning carrier terminal blocks via 280 and 780 Series jumpers and testing using 280-4.. test plug adapter.



Disconnect carrier terminal block

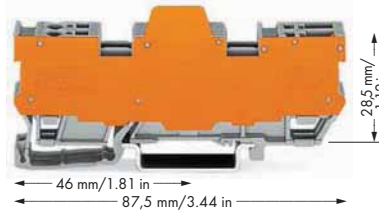
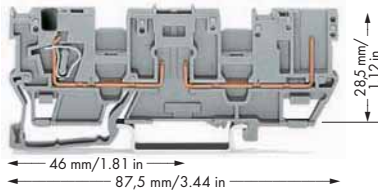
## X-COM®-SYSTEM

## 1-Conductor/1-Pin Carrier Terminal Blocks and Carrier

## Terminal Blocks for Pluggable Modules (Fuses, Relays, Optocouplers, etc.)

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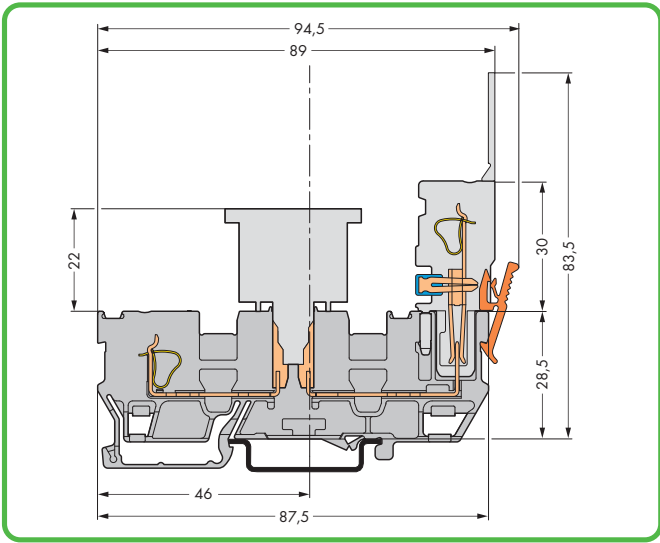
0.08 - 4 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 16 A ②	AWG 28 - 12 600 V, 20 A ⑤ 300 V, 20 A ⑥	0.08 - 4 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 16 A ②	AWG 28 - 12 600 V, 20 A ⑤ 300 V, 20 A ⑥
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③		8 - 9 mm / 0.33 in ③	



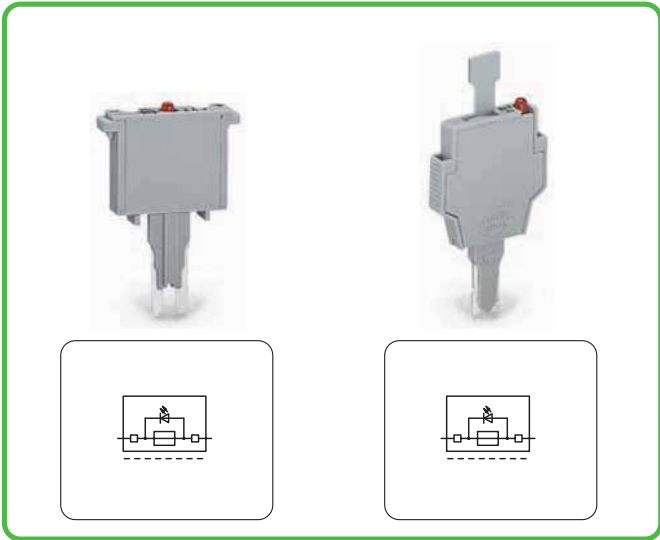
- ① 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② 16 A, 85 °C upper temperature limit (see current-carrying capacity curve at [www.wago.com](http://www.wago.com))
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
Test plug modules, page 196  
Insulation stop, page 199  
Staggered jumper, page 201  
Push-in type wire jumper, page 201
- ⑤ Note: 2-conductor female plug is not suitable.

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>1-conductor/1-pin carrier terminal block with 2 jumper positions,</b> for DIN 35 rail, acc. to EN 60715, gray		<b>1-conductor/1-pin carrier terminal block with 2 jumper positions and with orange separator plate,</b> for DIN 35 rail, acc. to EN 60715, gray		<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50  <b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50  <b>Test plug adapter, 5 mm wide,</b> for terminal blocks 1.5 - 4 mm <sup>2</sup> , for 210-137 test plug 2.3 mm Ø gray <b>280-404</b> 100 (4x25)
● 2-pole <b>769-181</b>	50	● 4-pole, 11.1 mm wide <b>769-182/769-314</b>	10	
		● 6-pole, 16.1 mm wide <b>769-183/769-314</b>	5	
		● 8-pole, 21.1 mm wide <b>769-184/769-314</b>	5	
		● 10-pole, 26.1 mm wide <b>769-185/769-314</b>	5	
<b>769 Series Accessories</b>				<b>1-conductor female plug,</b>
Appropriate marking system: Miniature WSB (see Section 13)				⑤ straight gray <b>769-101</b> 200
<b>End and intermediate plate, 1.1 mm thick</b>		<b>Staggered jumper,</b>		
orange <b>769-312</b>	100 (4x25)	④ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A		
gray <b>769-311</b>	100 (4x25)	from 1 to 2 <b>780-452</b>	100 (4x25)	
<b>Separator, oversized, 1.1 mm thick</b>		from 1 to 3 <b>780-453</b>	100 (4x25)	
orange <b>769-314</b>	100 (4x25)	from 1 to 4 <b>780-454</b>	100 (4x25)	
<b>Insulation stop,</b>		from 1 to 5 <b>780-455</b>	50 (2x25)	
④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "F-st") white <b>769-470</b>	200 (8x25)	from 1 to 6 <b>780-456</b>	50 (2x25)	
<b>Insulation stop,</b>		from 1 to 7 <b>780-457</b>	50 (2x25)	
④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b>	200 (8x25)	from 1 to 8 <b>780-458</b>	50 (2x25)	
<b>Insulation stop,</b>		<b>Push-in type wire jumper,</b>		
④ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b>	200 (8x25)	④ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup>		
<b>Coding pin,</b>		L = 60 mm <b>249-125</b>	10	
for coding female plugs orange <b>769-435</b>	100 (4x25)	L = 110 mm <b>249-126</b>	10	
<b>Adjacent jumper, insulated,</b>		L = 250 mm <b>249-127</b>	10	
I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b>	200 (8x25)	<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)		
<b>Alternate jumper, insulated,</b>		<b>Test plug module,</b>		
I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-409</b>	100 (4x25)	④ can be snapped together, 5 mm wide gray <b>280-418</b>	100 (4x25)	
		<b>Spacer module,</b>		
		can be snapped together, 5 mm wide gray <b>280-419</b>	100 (4x25)	

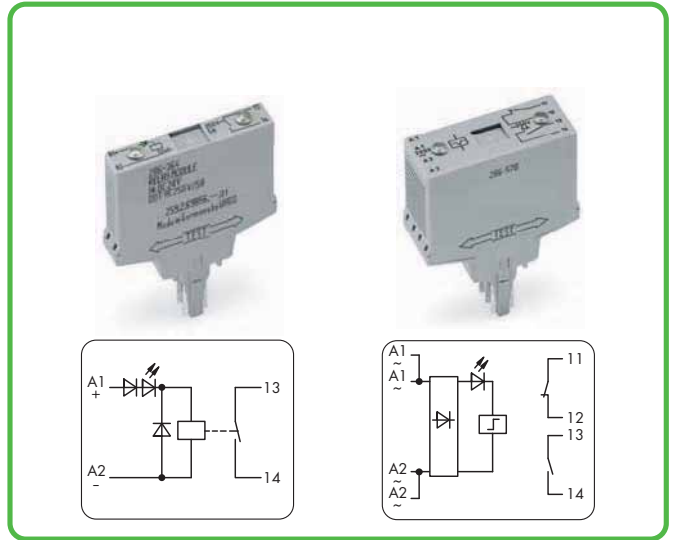
# Types of Assembly with 1-Conductor Female Plugs and Selection of Pluggable Modules



Carrier terminal block



Also see page 350.



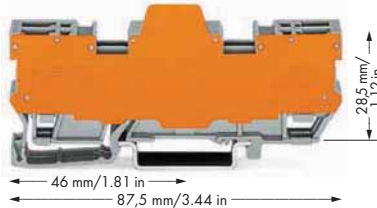
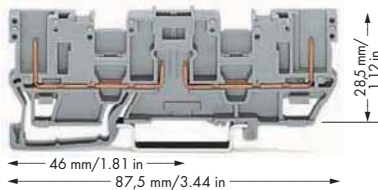
Also see page 351.

## X-COM®-SYSTEM


## 2-Pin Carrier Terminal Blocks and Carrier Terminal Blocks for Pluggable Modules (Fuses, Relays, Optocouplers, etc.)

400 V/6 kV/3 ① 300 V, 20 A ②  
 I<sub>N</sub> 16 A ② | 300 V, 20 A ③  
 Terminal block width 5 mm / 0.197 in

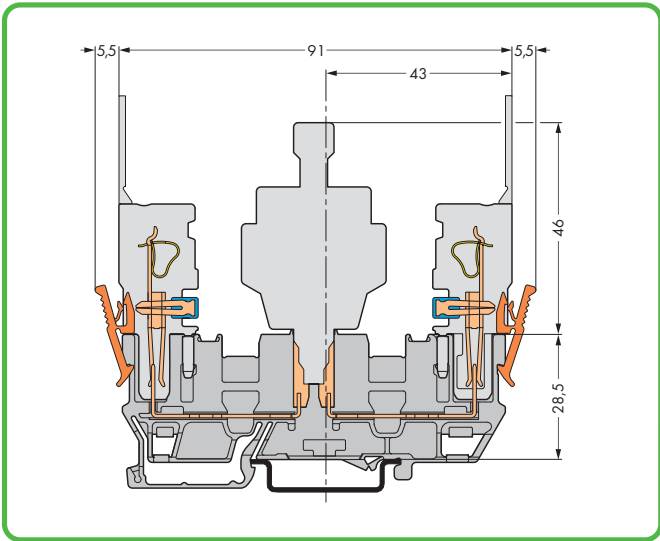
400 V/6 kV/3 ① 300 V, 20 A ②  
 I<sub>N</sub> 16 A ② | 300 V, 20 A ③



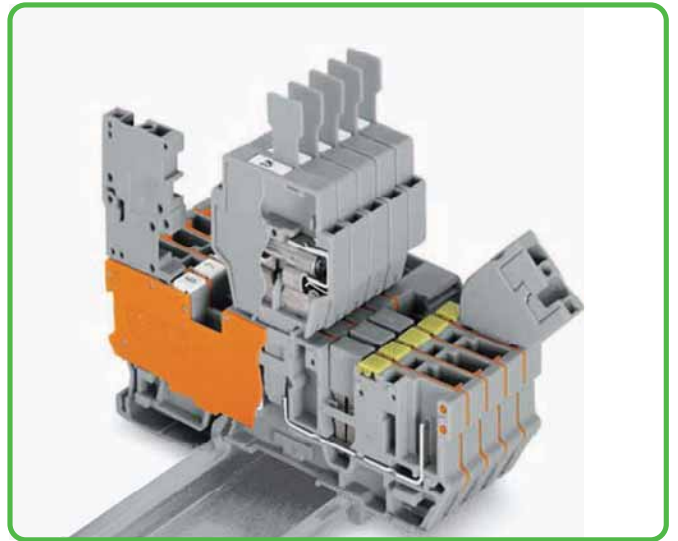
- ① 400 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)
- ② 16 A, 85 °C upper temperature limit (see current-carrying capacity curve at [www.wago.com](http://www.wago.com))
- ③ See application notes for:  
 Staggered jumper, page 201  
 Push-in type wire jumper, page 201
- ④ Note: 2-conductor female plug is not suitable.

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>2-pin carrier terminal block with 2 jumper positions,</b> for DIN 35 rail, acc. to EN 60715, gray		<b>2-pin carrier terminal block with 2 jumper positions and with orange separator plate,</b> for DIN 35 rail, acc. to EN 60715, gray		<b>Miniature WSB Quick marking system, plain,</b>  10 strips with 10 markers per card, 5 mm wide markers yellow <b>248-501/000-002</b> red <b>248-501/000-005</b> blue <b>248-501/000-006</b> gray <b>248-501/000-007</b> orange <b>248-501/000-012</b> light green <b>248-501/000-017</b> green <b>248-501/000-023</b> violet <b>248-501/000-024</b>
● 2-pole	<b>769-161</b> 50	● 4-pole, 11.1 mm wide	<b>769-162/769-313</b> 10	
		● 6-pole, 16.1 mm wide	<b>769-163/769-313</b> 5	
		● 8-pole, 21.1 mm wide	<b>769-164/769-313</b> 5	
		● 10-pole, 26.1 mm wide	<b>769-165/769-313</b> 5	
<b>769 Series Accessories</b>				
Appropriate marking system: Miniature WSB (see Section 13)				
<b>End and intermediate plate, 1.1 mm thick</b> orange <b>769-310</b> 100 (4x25) gray <b>769-309</b> 100 (4x25)		<b>Push-in type wire jumper,</b> ③ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm <b>249-125</b> 10 L = 110 mm <b>249-126</b> 10 L = 250 mm <b>249-127</b> 10		
<b>Separator, oversized, 1.1 mm thick</b> orange <b>769-313</b> 100 (4x25)				
<b>Adjacent jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b> 200 (8x25)		<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50		
<b>Alternate jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-409</b> 100 (4x25)		<b>1-conductor female plug,</b> ④ straight gray <b>769-101</b> 200		
<b>Staggered jumper,</b> ③ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A from 1 to 2 <b>780-452</b> 100 (4x25) from 1 to 3 <b>780-453</b> 100 (4x25) from 1 to 4 <b>780-454</b> 100 (4x25) from 1 to 5 <b>780-455</b> 50 (2x25) from 1 to 6 <b>780-456</b> 50 (2x25) from 1 to 7 <b>780-457</b> 50 (2x25) from 1 to 8 <b>780-458</b> 50 (2x25)		<b>1-conductor female plug,</b> angled gray <b>769-101/022-000</b> 200		
		<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)		
		<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)		
<b>Coding pin,</b> for coding female plugs orange <b>769-435</b> 100 (4x25)		<b>Miniature WSB Quick marking system,</b> 10 strips with 10 markers per card, 5 mm wide markers plain <b>248-501</b> 5		

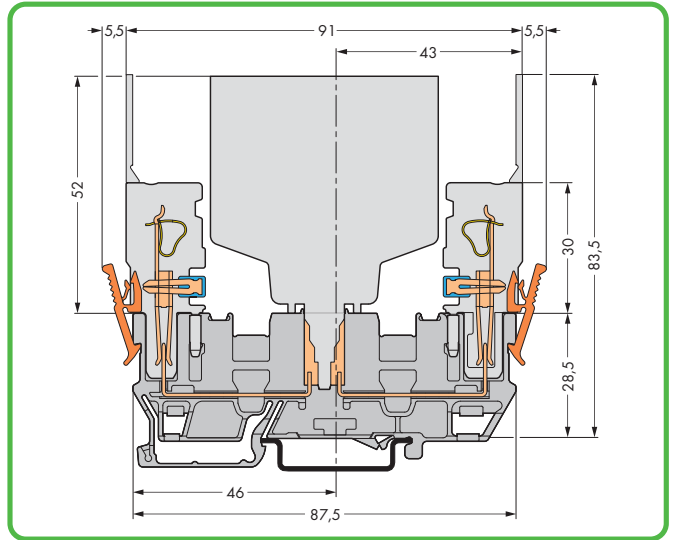
# Types of Assembly with 1-Conductor Female Plugs and Selection of Pluggable Modules



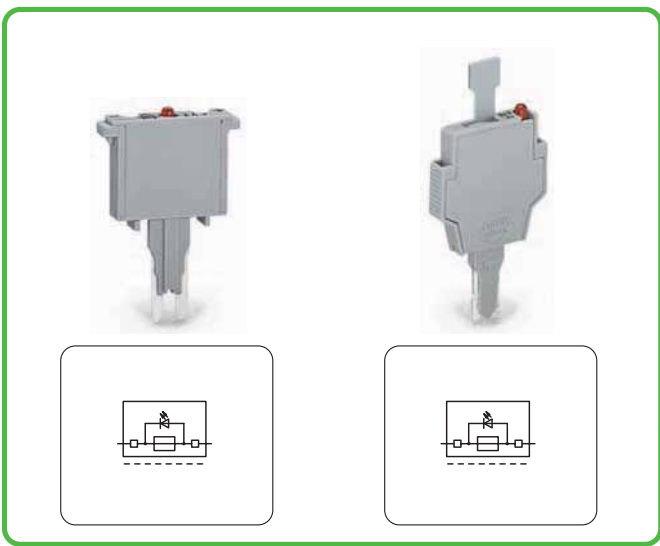
Carrier terminal block



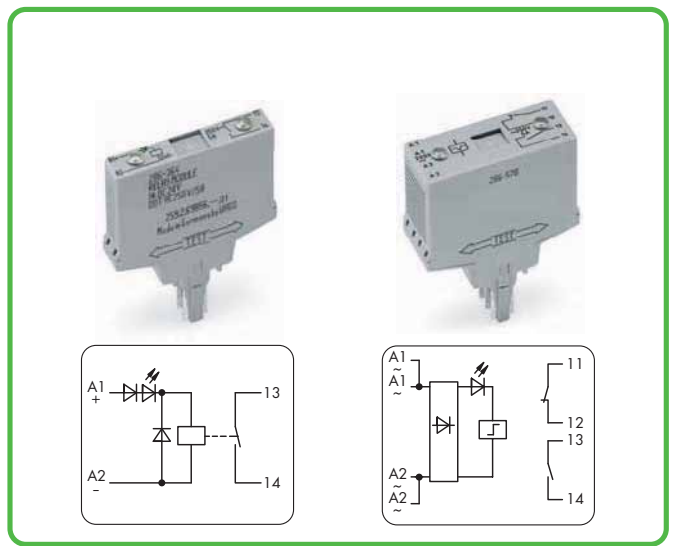
With 6mm-wide fuse plugs, only 1-pole female plugs can be used. Commoming is only possible using 280 Series adjacent jumpers and wire jumpers.



Carrier terminal block  
For dimensions, also see page 328.



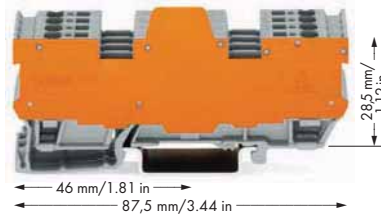
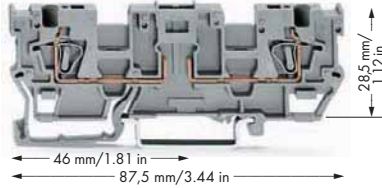
Also see page 350.






Also see page 351.

1-Conductor/1-Conductor Carrier Terminal Blocks and Carrier Terminal Blocks for Pluggable Modules (Fuses, Relays, Optocouplers, etc.)

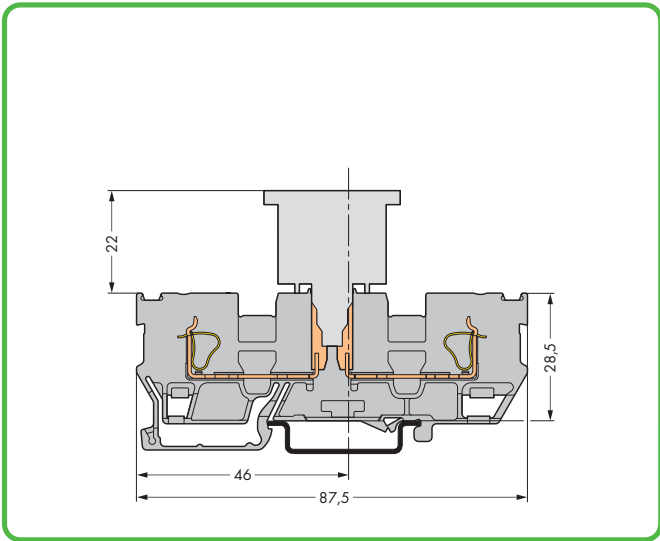
0.08 - 4 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 16 A ②	AWG 28 - 12 600 V, 20 A ③ 300 V, 20 A ④	0.08 - 4 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 16 A ②	AWG 28 - 12 300 V, 20 A ③ 300 V, 20 A ④
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ⑤		8 - 9 mm / 0.33 in ⑤	



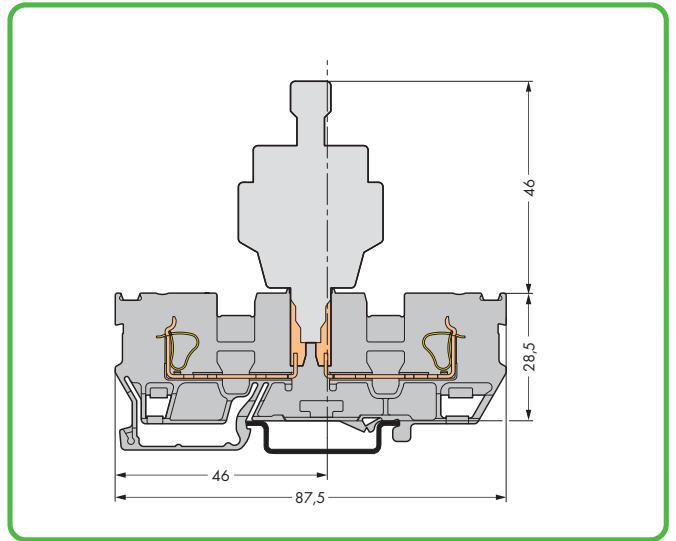
- ① 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② 16 A, 85°C upper temperature limit (see current-carrying capacity curve at www.wago.com)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
Insulation stop, page 199  
Staggered jumper, page 201  
Push-in type wire jumper, page 201

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>1-conductor/1-conductor carrier terminal block with 2 jumper positions,</b> for DIN 35 rail, acc. to EN 60715, gray		<b>1-conductor/1-conductor carrier terminal block with 2 jumper positions and with orange separator plate,</b> for DIN 35 rail, acc. to EN 60715, gray		<b>Miniature WSB Quick marking system, plain,</b>  10 strips with 10 markers per card, 5 mm wide markers yellow <b>248-501/000-002</b> red <b>248-501/000-005</b> blue <b>248-501/000-006</b> gray <b>248-501/000-007</b> orange <b>248-501/000-012</b> light green <b>248-501/000-017</b> green <b>248-501/000-023</b> violet <b>248-501/000-024</b>
○ 2-pole	<b>769-191</b> 50	○ 4-pole, 11.1 mm wide	<b>769-192/769-319</b> 10	
		○ 6-pole, 16.1 mm wide	<b>769-193/769-319</b> 5	
		○ 8-pole, 21.1 mm wide	<b>769-194/769-319</b> 5	
		○ 10-pole, 26.1 mm wide	<b>769-195/769-319</b> 5	
<b>769 Series Accessories</b>				<b>Screwless end stop,</b>  for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
Appropriate marking system: Miniature WSB (see Section 13)				
<b>End and intermediate plate, 1.1 mm thick</b>		<b>Staggered jumper,</b>		<b>Screwless end stop,</b>  for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)
orange <b>769-318</b> 100 (4x25)	gray <b>769-317</b> 100 (4x25)	④ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A		
<b>Separator plate, oversized, 1.1 mm thick</b>		from 1 to 2	<b>780-452</b> 100 (4x25)	
orange <b>769-319</b> 100 (4x25)		from 1 to 3	<b>780-453</b> 100 (4x25)	
<b>Insulation stop,</b>		from 1 to 4	<b>780-454</b> 100 (4x25)	
④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "F-st") white <b>769-470</b> 200 (8x25)		from 1 to 5	<b>780-455</b> 50 (2x25)	
<b>Insulation stop,</b>		from 1 to 6	<b>780-456</b> 50 (2x25)	
④ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b> 200 (8x25)		from 1 to 7	<b>780-457</b> 50 (2x25)	
<b>Insulation stop,</b>		from 1 to 8	<b>780-458</b> 50 (2x25)	
④ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b> 200 (8x25)		<b>Push-in type wire jumper,</b>		
<b>Protective warning marker,</b>		④ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup>		
with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)		L = 60 mm <b>249-125</b> 10		
<b>Adjacent jumper, insulated,</b>		L = 110 mm <b>249-126</b> 10		
I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b> 200 (8x25)		L = 250 mm <b>249-127</b> 10		
<b>Alternate jumper, insulated,</b>		<b>Test plug,</b>		
I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-409</b> 100 (4x25)		with 500 mm cable, 2 mm Ø red <b>210-136</b> 50		
		with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50		
		<b>Miniature WSB Quick marking system,</b>		
		10 strips with 10 markers per card, 5 mm wide markers plain <b>248-501</b> 5		

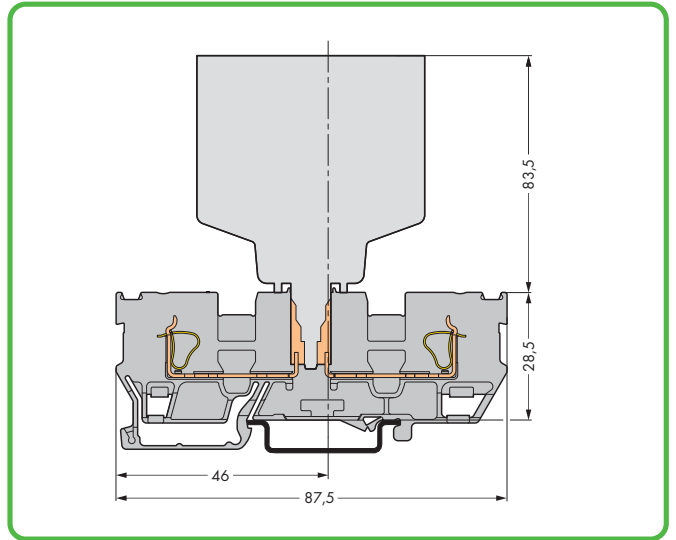
# Types of Assembly with Selection of Pluggable Modules



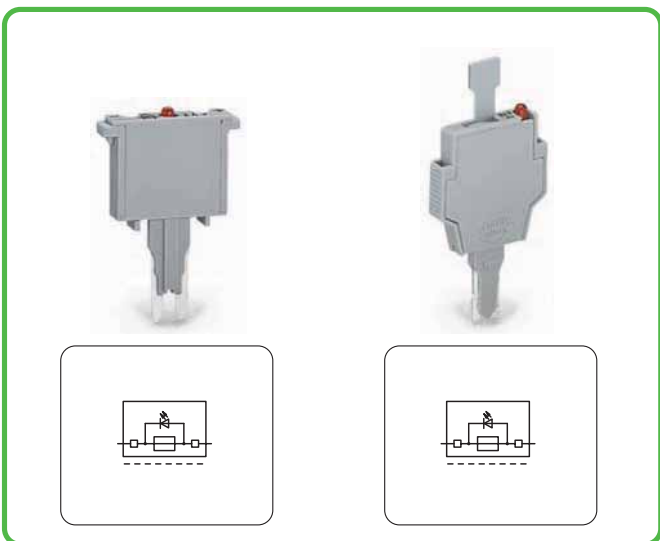
Carrier terminal block



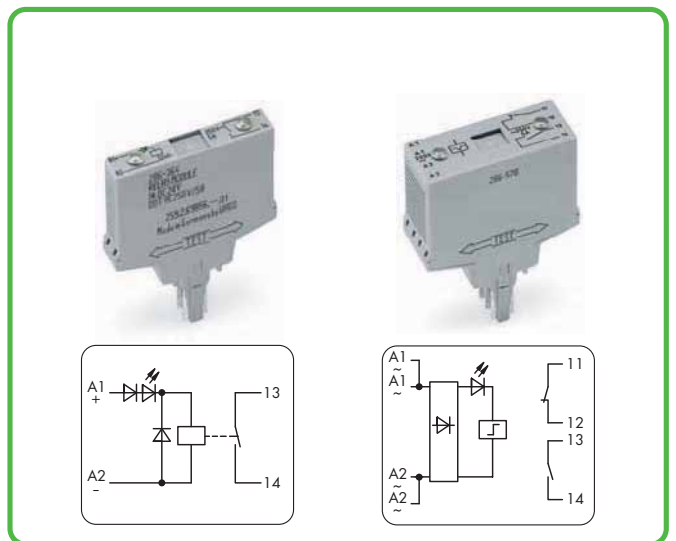
Carrier terminal block



Carrier terminal block













Also see page 350.



Also see page 351.

Fuse plugs	Diode modules	LED modules
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Item No.	Pack. unit	Item No.	Pack. unit	Item No.	Pack. unit
<b>Fuse plug, 5 mm wide,</b> with soldered miniature fuse		<b>Diode module, 5 mm wide,</b> with 1N4007 diode		<b>LED module, 5 mm wide,</b> with red LED	
					
250 mA FF <b>280-850</b>	100	<b>280-801/281-411</b>	100	24 VDC <b>280-801/281-413</b>	100
500 mA FF <b>280-852</b>	100			48 VDC <b>280-801/281-414</b>	100
1 A FF <b>280-854</b>	100				
2 A FF <b>280-856</b>	100				
<b>Fuse plug, 5 mm wide,</b> with soldered miniature fuse with indicator lamp, additionally LED, 15 - 30 VDC		<b>Diode module, 5 mm wide,</b> with recovery diode 1N4007, additional LED		<b>LED module, 5 mm wide,</b> with red LED	
					
Leakage current in case of blown fuse: 5 - 20 mA		24 VDC <b>280-801/281-420</b>	100	24 V AC/DC <b>280-801/281-415</b>	100
250 mA FF <b>280-850/281-413</b>	100	48 VDC <b>280-801/281-421</b>	100	48 V AC/DC <b>280-801/281-416</b>	100
500 mA FF <b>280-852/281-413</b>	100				
1 A FF <b>280-854/281-413</b>	100				
2 A FF <b>280-856/281-413</b>	100				
<b>Fuse plug with pull-tab, 6 mm wide,</b> for miniature metric fuses 5 x 20 mm and 5 x 25 mm				<b>Neon indicator module, 5 mm wide</b>	
					
<b>281-511</b>	50			120 V AC/DC <b>280-801/281-418</b>	100
with hole for one LED (for self-assembly)				230 V AC/DC <b>280-801/281-417</b>	100
<b>281-512</b>	50				
<b>Fuse plug with pull-tab, 6 mm wide,</b> for miniature metric fuses 5 x 20 mm and 5 x 25 mm, with LED indicator					
					
Leakage current in case of blown fuse: 5 - 20 mA					
Use in both switching directions					
24 V AC/DC <b>281-512/281-501</b>	50				
<b>Fuse plug with pull-tab, 6 mm wide,</b> for miniature metric fuses 5 x 20 mm and 5 x 25 mm with neon lamp					
					
Leakage current in case of blown fuse: Neon lamp < 0.4mA					
120 V AC/DC <b>281-512/281-418</b>	50				
230 V AC/DC <b>281-512/281-417</b>	50				

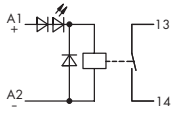
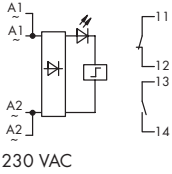
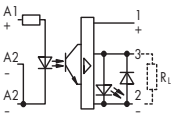
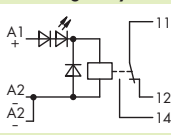
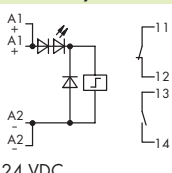
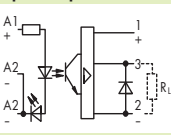
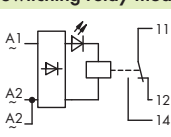
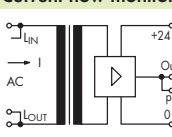
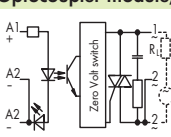
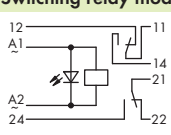
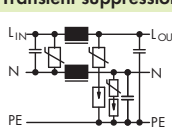
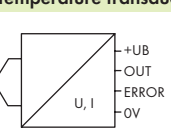
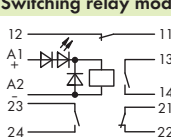
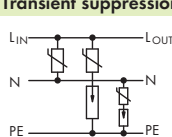
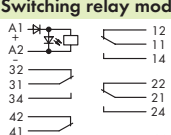
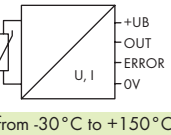


# Pluggable Modules


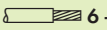

see also Interface Modules – Volume 4

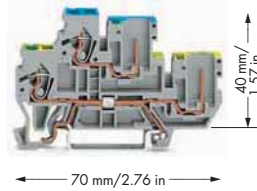
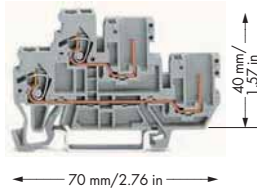
Switching relay modules	Pulse relay modules Transient suppression modules	Pluggable modules
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Item No.	Pack. unit	Item No.	Pack. unit	Item No.	Pack. unit
<b>Switching relay module,</b>  10 mm module width, Relay with 1 make contact (1a) 24 VDC <b>286-364</b>	1	<b>Pulse relay module,</b>  20 mm module width, relay with 1 break contact and 1 make contact (1ar) 230 VAC <b>286-570</b>	1	<b>Optocoupler module,</b>  positive switching, 15 mm module width, 24 VDC input, 24 VDC/500 mA output <b>286-752</b>	1
<b>Switching relay module,</b>  15 mm module width, Relay with 1 changeover contact (1u) 24 VDC <b>286-304</b>	1	<b>Pulse relay module,</b>  20 mm module width, relay with 1 break contact and 1 make contact (1ar) 24 VDC <b>286-571</b>	1	<b>Optocoupler module,</b>  positive switching, 15 mm module width, 24 VDC input, 24 VDC/4 A output <b>286-723</b>	1
<b>Switching relay module,</b>  15 mm module width, relay with 1 changeover contact (1u) 230 VDC <b>286-508</b>	1	<b>Current flow monitoring module,</b>  20 mm module width 24 VAC/80 mA - 6 A <b>286-661</b>	1	<b>Optocoupler module,</b>  15 mm module width, 24 VDC input, 230 VAC/50 mA - 1 A output <b>286-734</b>	1
<b>Switching relay module,</b>  20 mm module width, relay with 2 changeover contacts (2u) 24 VDC <b>286-312</b>	1	<b>Transient suppression module,</b>  25 mm module width 230 VDC ± 10 % <b>286-842</b>	1	<b>Temperature transducer module with wire break</b>  controlling (4-20 mA), 20 mm module width, Thermocouple J: 0 - 750 °C <b>286-867</b>	1
<b>Switching relay module,</b>  20 mm module width, relay with 2 changeover contacts (2u) 230 VDC <b>286-516</b>	1	<b>Transient suppression module,</b>  15 mm module width, completely with special base terminal block 230 VAC <b>286-835</b>	1	Thermocouple K: 0 - 1000 °C <b>286-868</b>	1
<b>Switching relay module,</b>  25 mm module width, relay with 2 break contacts and 2 make contacts (2ar) 24 VDC <b>286-336</b>	1			<b>Temperature transducer module,</b>  20 mm module width, from -30 °C to +150 °C (PT 100) <b>286-862/150-030</b>	1
				from 0 °C to +300 °C (PT 100) <b>286-862/000-300</b>	1
				from 0 °C to +100 °C (PT 1000) <b>286-875</b>	1

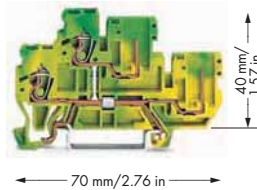
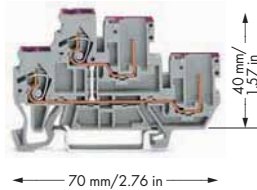






0.08 - 2.5 (4" f-st") mm <sup>2</sup> ① 500 V/6 kV/3 ② I <sub>N</sub> 16 A	AWG 28 - 12 300 V, 20 A: 	0.08 - 2.5 (4" f-st") mm <sup>2</sup> ① 500 V/6 kV/3 ② I <sub>N</sub> 16 A	AWG 28 - 12
Terminal block width 5 mm / 0.197 in  6 - 7 mm / 0.26 in ③		Terminal block width 5 mm / 0.197 in  6 - 7 mm / 0.26 in ③	



- ① Max. insulation diameter: 4.4 mm
- ② 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
Insulation stop, page 199
- ⑤ Note: 2-conductor female plug is not suitable.

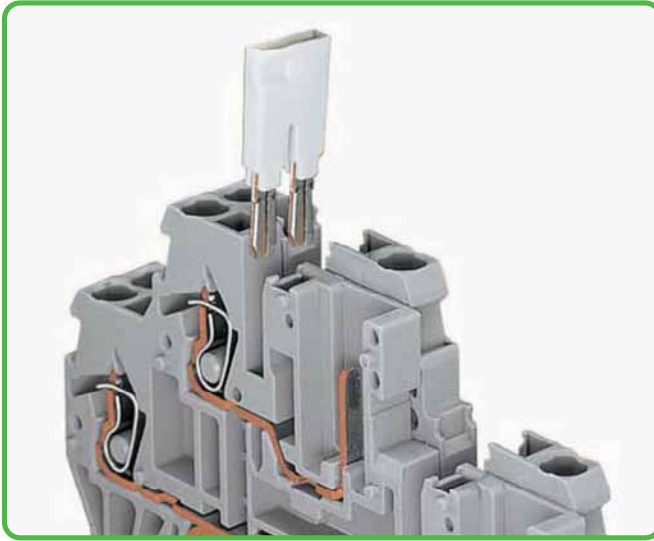
Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
1-conductor/1-pin double-deck carrier terminal block, through/through terminal block, gray housing		1-conductor/1-pin double-deck carrier terminal block, ground conductor/through terminal block, gray housing		Appropriate marking system: Miniature WSB/WMB (see Section 13)
○ L/L	870-101 50	○ PE/N	870-117 50	
○ N/L	870-102 50	○ PE/L	870-127 50	End and intermediate plate, 1 mm thick
○ L/N	870-103 50			 orange 870-119 100 (4x25)
1-conductor/1-pin double-deck carrier terminal block, through/through terminal block, blue housing				 gray 870-118 100 (4x25)
● N/N	870-104 50			Insulation stop,
Other terminal blocks with the same profile:				④ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")
Through	870-501 Page 278			white 280-470 200 (8x25)
				Push-in type jumper bar, insulated, I <sub>N</sub> 18 A,
				 light gray
				2-way 870-402 200 (8x25)
				3-way 870-403 200 (8x25)
				4-way 870-404 200 (8x25)
				5-way 870-405 100 (4x25)
				6-way 870-406 100 (4x25)
				7-way 870-407 100 (4x25)
				8-way 870-408 100 (4x25)
				9-way 870-409 100 (4x25)
				10-way 870-410 100 (4x25)
				Push-in type jumper bar, insulated, I <sub>N</sub> 18 A,
				 light gray
				from 1 to 3 870-433 200 (8x25)
				from 1 to 4 870-434 200 (8x25)
				from 1 to 5 870-435 100 (4x25)
				from 1 to 6 870-436 100 (4x25)
				from 1 to 7 870-437 100 (4x25)
				from 1 to 8 870-438 100 (4x25)
				from 1 to 9 870-439 100 (4x25)



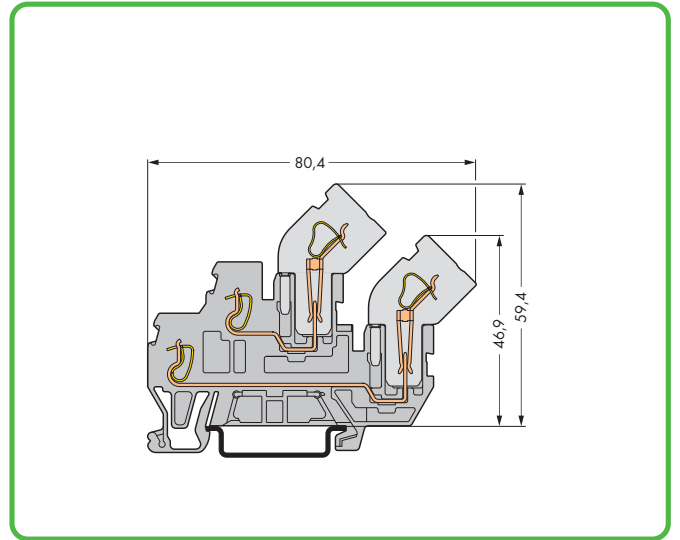
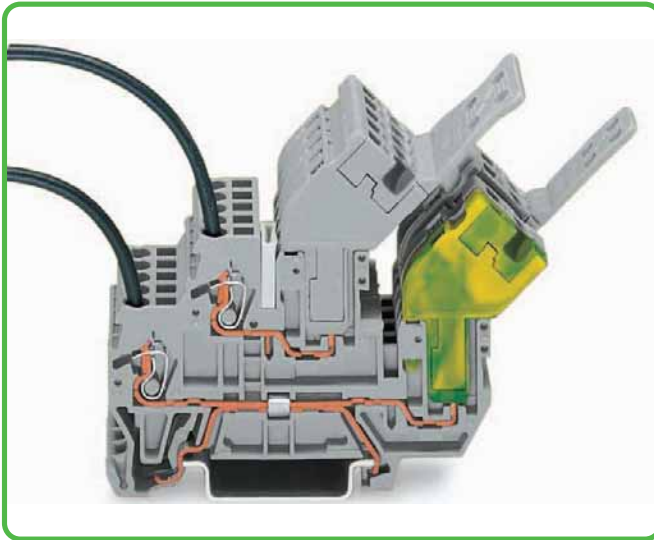
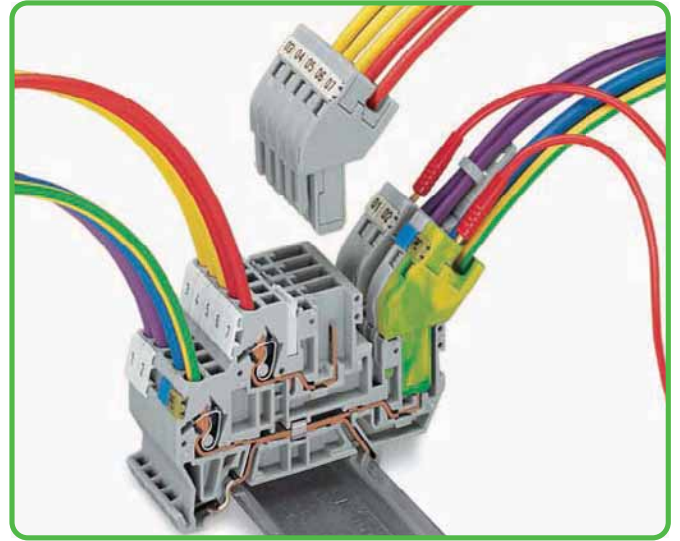
Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin through terminal block, internal commoning, female plug conductor entry with violet marking, gray housing		2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin ground conductor terminal block, internal commoning, green-yellow housing		Coding pin,  for coding female plugs orange 769-435 100 (4x25)
○ L	870-108 50	● PE	870-107 50	
2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin through terminal block, internal commoning, female plug conductor entry with violet marking, blue housing				Pin cover,  with receptacle for miniature WSB gray 769-438 100 (4x25) orange 769-439 100 (4x25)
● N	870-109 50			1-conductor female plug,  angled gray 769-101/022-000 200
				1-conductor female plug, ⑤  straight gray 769-101 200

# Types of Assembly

## 1-Conductor/1-Pin Double-Deck Carrier Terminal Blocks and 1-Conductor Female Plugs



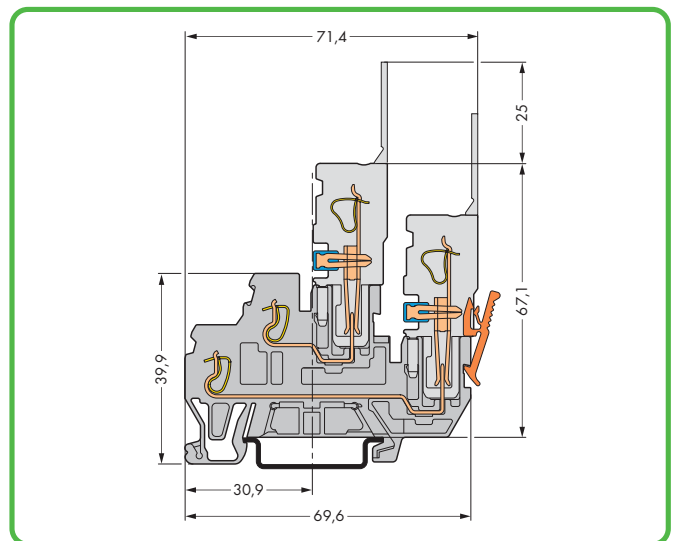
Commoning a 870-501 double-deck through terminal block with a 870-101 1-conductor/1-pin double-deck terminal block via push-in type jumper bar.



Carrier terminal block



Pin cover with receptacle for miniature WSB



Carrier terminal block

# 7 X-COM®-SYSTEM

## 2-Pin/2-Pin Double-Deck Carrier Terminal Blocks

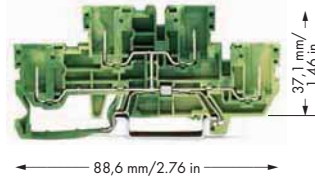
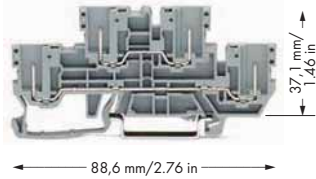
### 870 Series

354

500 V/6 kV/3 ①  
I<sub>N</sub> 16 A

Terminal block width 5 mm / 0.197 in

Terminal block width 5 mm / 0.197 in



① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)

② Note: 2-conductor female plug is not suitable.

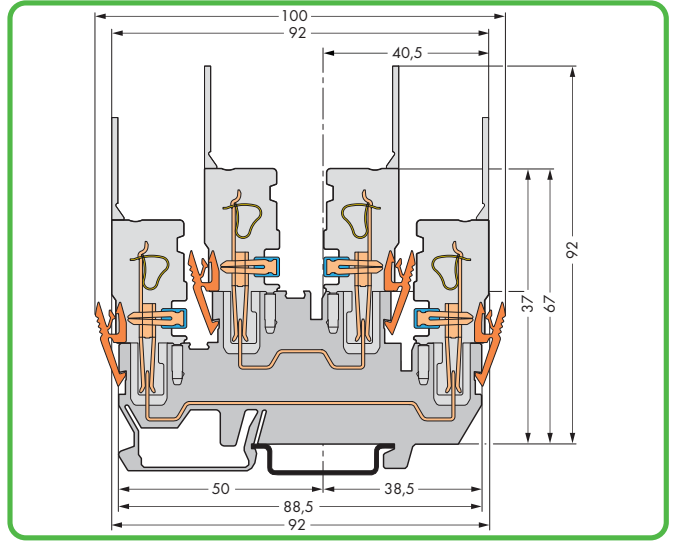
Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
2-pin/2-pin double-deck carrier terminal block, through/through terminal block, gray housing		4-pin double-deck carrier terminal block, 4-pin ground conductor terminal block, internal commoning, green-yellow housing		Appropriate marking system: Miniature WSB/WMB (see Section 13)
○ L/L	870-151 50	● PE	870-157 50	<b>End and intermediate plate</b> , 1 mm thick
				orange 870-169 100 (4x25)
				gray 870-168 100 (4x25)
				<b>Push-in type jumper bar</b> , insulated, I <sub>N</sub> 18 A, light gray
				2-way 870-402 200 (8x25)
				3-way 870-403 200 (8x25)
				4-way 870-404 200 (8x25)
				5-way 870-405 100 (4x25)
				6-way 870-406 100 (4x25)
				7-way 870-407 100 (4x25)
				8-way 870-408 100 (4x25)
				9-way 870-409 100 (4x25)
				10-way 870-410 100 (4x25)
				<b>Push-in type jumper bar</b> , insulated, I <sub>N</sub> 18 A, light gray
				from 1 to 3 870-433 200 (8x25)
				from 1 to 4 870-434 200 (8x25)
				from 1 to 5 870-435 100 (4x25)
				from 1 to 6 870-436 100 (4x25)
				from 1 to 7 870-437 100 (4x25)
				from 1 to 8 870-438 100 (4x25)
				from 1 to 9 870-439 100 (4x25)
				from 1 to 10 870-440 100 (4x25)
				<b>Coding pin</b> , for coding female plugs
				orange 769-435 100 (4x25)
				<b>Pin cover</b> , with receptacle for miniature WSB
				gray 769-438 100 (4x25)
				orange 769-439 100 (4x25)
				<b>1-conductor female plug</b> , straight
				gray 769-101 200
				<b>1-conductor female plug</b> , angled
				gray 769-101/022-000 200
				<b>Miniature WSB Quick marking system</b> , 10 strips with 10 markers per card, 5 mm wide markers
				plain 248-501 5

For list of approvals and user guide, see pages 634 to 637.

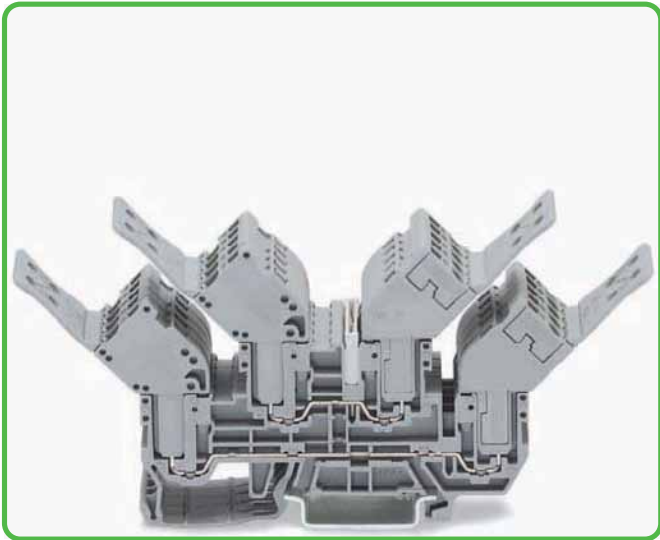
## Types of Assembly 2-Pin/2-Pin Double-Deck Carrier Terminal Blocks with Straight and Angled Female Plugs



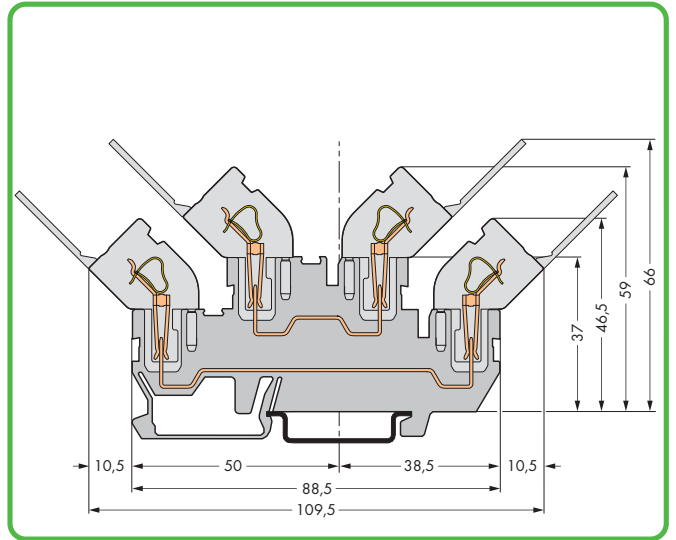
1-conductor female plug, straight  
Double-deck carrier terminal blocks can be commoned via 870 Series push-in type jumper bars. **Notice: 2-conductor female plugs cannot be used.**



Carrier terminal block



1-conductor female plug, angled  
Double-deck carrier terminal blocks can be commoned via 870 Series push-in type jumper bars.



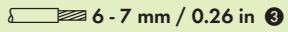
Carrier terminal block

# X-COM®-SYSTEM

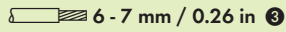
## 2-Conductor/2-Pin Double-Deck Carrier Terminal Blocks

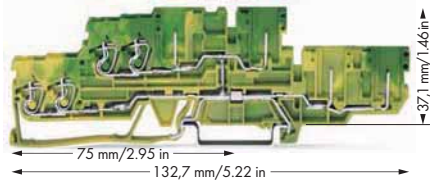
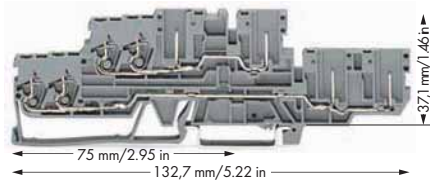
### 870 Series

0.08 - 2.5 (4" f-st") mm<sup>2</sup> ① AWG 28 - 12  
 500 V/6 kV/3 ②  
 I<sub>N</sub> 16 A





















Terminal block width 5 mm / 0.197 in  
 6 - 7 mm / 0.26 in ③

0.08 - 2.5 (4" f-st") mm<sup>2</sup> ① AWG 28 - 12

Terminal block width 5 mm / 0.197 in  
 6 - 7 mm / 0.26 in ③

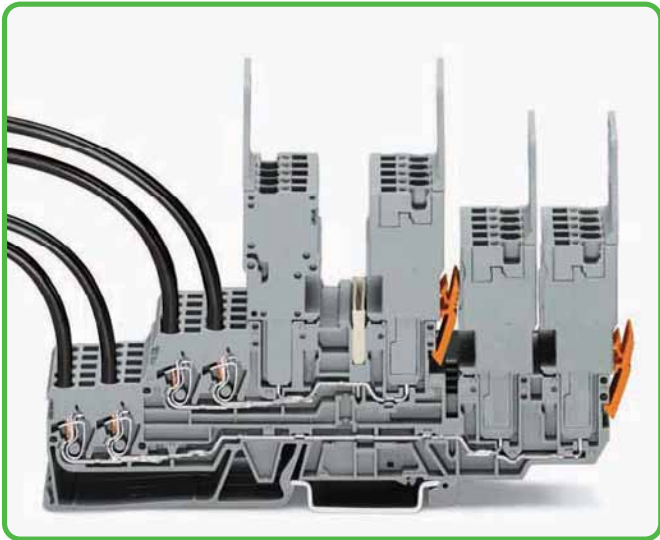


- ① Max. insulation diameter: 4.4 mm
- ② 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ See application notes for:  
 Insulation stop, page 199
- ⑤ Note: 2-conductor female plug and 1-conductor female plug, angled are not suitable.

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories																											
<b>2-conductor/2-pin double-deck carrier terminal block, through/through terminal block, gray housing</b>  L/L	870-131	40	<b>4-conductor/4-pin double-deck carrier terminal block, 4-conductor/4-pin ground conductor terminal block, internal commoning, green-yellow housing</b>  PE	Appropriate marking system: Miniature WSB/WMB (see Section 13)																											
				<b>End and intermediate plate, 1 mm thick</b>  <table border="0"> <tr> <td>orange</td> <td><b>870-149</b></td> <td>100 (4x25)</td> </tr> <tr> <td>gray</td> <td><b>870-148</b></td> <td>100 (4x25)</td> </tr> </table>	orange	<b>870-149</b>	100 (4x25)	gray	<b>870-148</b>	100 (4x25)																					
orange	<b>870-149</b>	100 (4x25)																													
gray	<b>870-148</b>	100 (4x25)																													
 L	870-131	40	 PE	<b>Insulation stop,</b>  <table border="0"> <tr> <td>5 pcs/strip, 0.08 - 0.2 mm<sup>2</sup> "s" (0.14 mm<sup>2</sup> "f-st")</td> <td></td> <td></td> </tr> <tr> <td>white</td> <td><b>280-470</b></td> <td>200 (8x25)</td> </tr> </table>	5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")			white	<b>280-470</b>	200 (8x25)																					
				5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st")																											
white	<b>280-470</b>	200 (8x25)																													
 L	870-131	40	 PE	<b>Push-in type jumper bar, insulated,</b>  I <sub>N</sub> 18 A, light gray <table border="0"> <tr> <td>2-way</td> <td><b>870-402</b></td> <td>200 (8x25)</td> </tr> <tr> <td>3-way</td> <td><b>870-403</b></td> <td>200 (8x25)</td> </tr> <tr> <td>4-way</td> <td><b>870-404</b></td> <td>200 (8x25)</td> </tr> <tr> <td>5-way</td> <td><b>870-405</b></td> <td>100 (4x25)</td> </tr> <tr> <td>6-way</td> <td><b>870-406</b></td> <td>100 (4x25)</td> </tr> <tr> <td>7-way</td> <td><b>870-407</b></td> <td>100 (4x25)</td> </tr> <tr> <td>8-way</td> <td><b>870-408</b></td> <td>100 (4x25)</td> </tr> <tr> <td>9-way</td> <td><b>870-409</b></td> <td>100 (4x25)</td> </tr> <tr> <td>10-way</td> <td><b>870-410</b></td> <td>100 (4x25)</td> </tr> </table>	2-way	<b>870-402</b>	200 (8x25)	3-way	<b>870-403</b>	200 (8x25)	4-way	<b>870-404</b>	200 (8x25)	5-way	<b>870-405</b>	100 (4x25)	6-way	<b>870-406</b>	100 (4x25)	7-way	<b>870-407</b>	100 (4x25)	8-way	<b>870-408</b>	100 (4x25)	9-way	<b>870-409</b>	100 (4x25)	10-way	<b>870-410</b>	100 (4x25)
				2-way	<b>870-402</b>	200 (8x25)																									
3-way	<b>870-403</b>	200 (8x25)																													
4-way	<b>870-404</b>	200 (8x25)																													
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10-way	<b>870-410</b>	100 (4x25)																													
<b>4-conductor/4-pin double-deck carrier terminal block, 4-conductor/4-pin through terminal block, internal commoning, female plug conductor entry with violet marking, gray housing</b>  L	870-138	40	 L	<b>Push-in type jumper bar, insulated,</b>  I <sub>N</sub> 18 A, light gray <table border="0"> <tr> <td>from 1 to 3</td> <td><b>870-433</b></td> <td>200 (8x25)</td> </tr> <tr> <td>from 1 to 4</td> <td><b>870-434</b></td> <td>200 (8x25)</td> </tr> <tr> <td>from 1 to 5</td> <td><b>870-435</b></td> <td>100 (4x25)</td> </tr> <tr> <td>from 1 to 6</td> <td><b>870-436</b></td> <td>100 (4x25)</td> </tr> <tr> <td>from 1 to 7</td> <td><b>870-437</b></td> <td>100 (4x25)</td> </tr> <tr> <td>from 1 to 8</td> <td><b>870-438</b></td> <td>100 (4x25)</td> </tr> <tr> <td>from 1 to 9</td> <td><b>870-439</b></td> <td>100 (4x25)</td> </tr> <tr> <td>from 1 to 10</td> <td><b>870-440</b></td> <td>100 (4x25)</td> </tr> </table>	from 1 to 3	<b>870-433</b>	200 (8x25)	from 1 to 4	<b>870-434</b>	200 (8x25)	from 1 to 5	<b>870-435</b>	100 (4x25)	from 1 to 6	<b>870-436</b>	100 (4x25)	from 1 to 7	<b>870-437</b>	100 (4x25)	from 1 to 8	<b>870-438</b>	100 (4x25)	from 1 to 9	<b>870-439</b>	100 (4x25)	from 1 to 10	<b>870-440</b>	100 (4x25)			
				from 1 to 3	<b>870-433</b>	200 (8x25)																									
from 1 to 4	<b>870-434</b>	200 (8x25)																													
from 1 to 5	<b>870-435</b>	100 (4x25)																													
from 1 to 6	<b>870-436</b>	100 (4x25)																													
from 1 to 7	<b>870-437</b>	100 (4x25)																													
from 1 to 8	<b>870-438</b>	100 (4x25)																													
from 1 to 9	<b>870-439</b>	100 (4x25)																													
from 1 to 10	<b>870-440</b>	100 (4x25)																													
 L	870-138	40	 L	<b>Coding pin,</b>  for coding female plugs orange <b>769-435</b> 100 (4x25)																											
				<b>Protective warning marker,</b>  with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-405</b> 100 (4x25)																											
 L	870-138	40	 L	<b>Pin cover,</b>  with receptacle for miniature WSB gray <b>769-438</b> 100 (4x25) orange <b>769-439</b> 100 (4x25)																											
				<b>1-conductor female plug,</b>  <table border="0"> <tr> <td>straight</td> <td></td> <td></td> </tr> <tr> <td>gray</td> <td><b>769-101</b></td> <td>200</td> </tr> </table>	straight			gray	<b>769-101</b>	200																					
straight																															
gray	<b>769-101</b>	200																													

# Types of Assembly

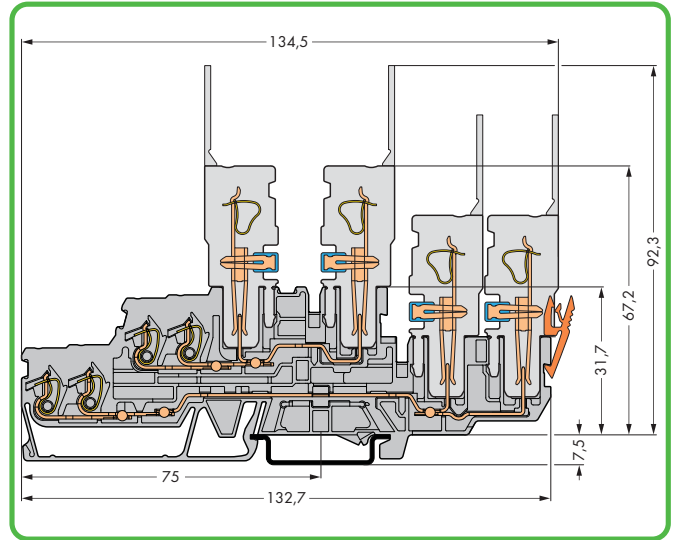
## 2-Conductor/2-Pin Double-Deck Carrier Terminal Blocks and 1-Conductor Female Plugs



1-conductor female plug  
Double-deck carrier terminal blocks can be commoned via 870 Series push-in type jumper bars.

**Notice:**

Female plugs must be opposing on the upper deck (see above).  
Angled 1-conductor female plugs and 2-conductor female plugs cannot be used.

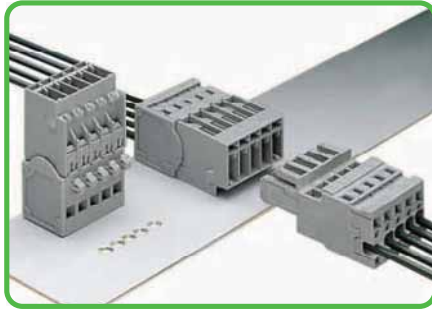


Carrier terminal block

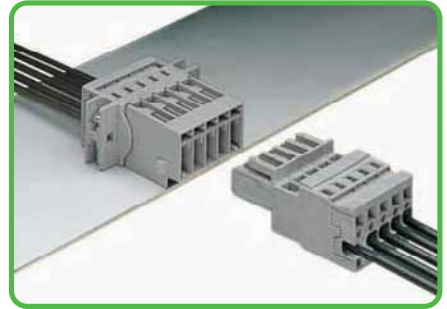
# 7 X-COM®-SYSTEM Male Headers and Male Connectors, 769 Series



Male connector with CAGE CLAMP®.  
1-conductor female plug, straight.



Male connector with CAGE CLAMP® connection and mounting feet.  
1-conductor female plug, straight.



Male connector with CAGE CLAMP® connection and fixing flanges.  
1-conductor female plug, straight.

## Male connector with snap-in flanges



Snap-in mounting without tools.



## Operating tool



Conductor termination - side-entry wiring (example shows a female plug).

## Strain relief plates

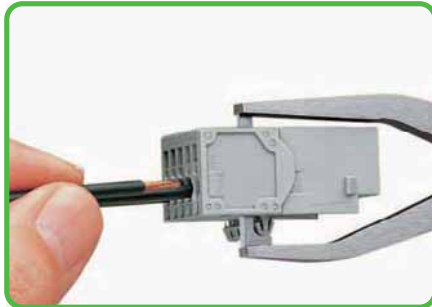


Can be snapped in male connector and female plug.

## Operating tool



Conductor termination with operating tool (example shows a male connector).



Can also be used with male connectors with snap-in mounting feet.

## Marking



Female connector with CAGE CLAMP® with miniature WSB quick marking system



CAGE CLAMP® clamps the following copper conductors:<sup>\*</sup>

solid



stranded



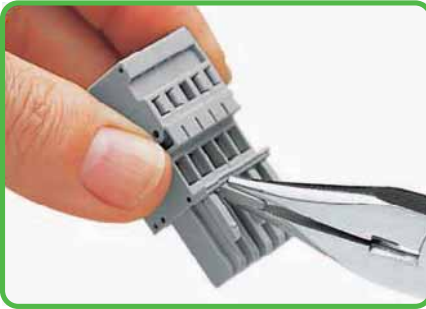
fine-stranded, also with tinned single strands

\* For aluminum conductors, see notes in Section 14.



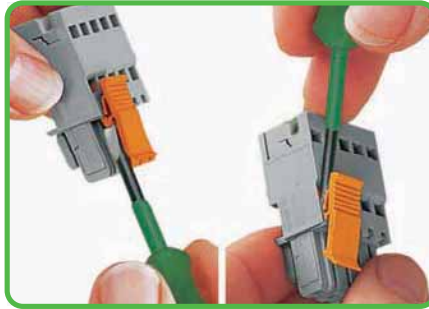
## - Description and Handling -

### Coding



Coding a female plug - removal of coding finger(s). Do not break off the first and last latch position coding fingers!

### Locking lever



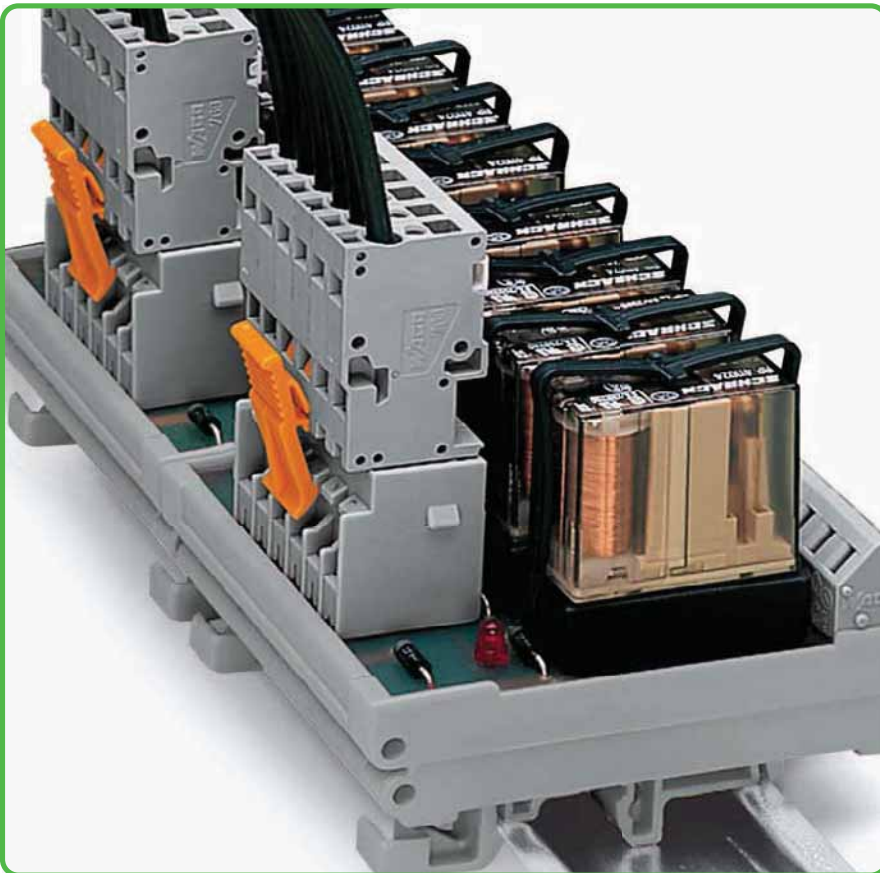
Snapping in/removal of locking lever.

### Commoning



Commoning 1-conductor female plugs with miniature adjacent jumpers.

**Note:** Connectors used according to the regulations shall not be connected or disconnected when live or under load.



### Plugging a female connector

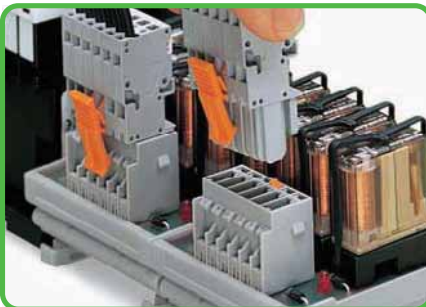


Male header and 1-conductor female plug with lateral locking levers.

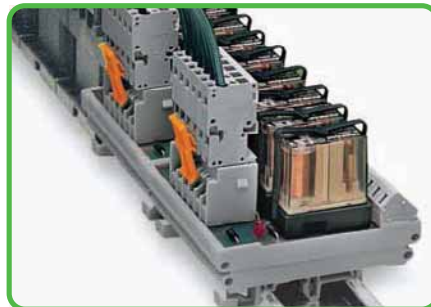


Male headers with solder pins for printed circuit boards.

### Pluggable PCB connection



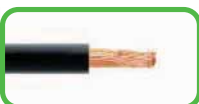
Connection to a relay module inside the switchgear cabinet.



Application example showing a relay module: Male headers with straight solder pins and 1-conductor female plugs.



Male headers with solder pins: Integration of PCB sub-assemblies into the system wiring.



fine-stranded, tip-bonded



fine-stranded, with ferrule ① (gas-tight crimped)





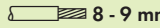
fine-stranded, with pin terminal (gas-tight crimped)




① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.




# X-COM®-SYSTEM

## Male Connectors




### Pin Spacing 5 mm

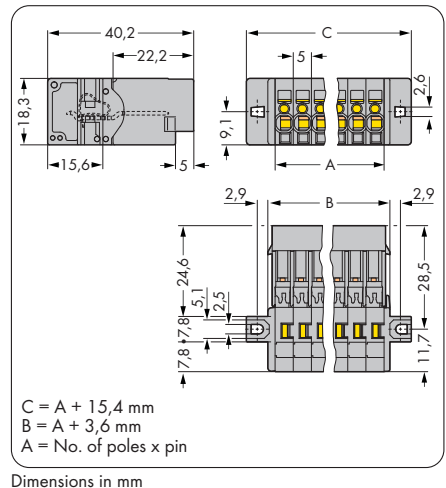
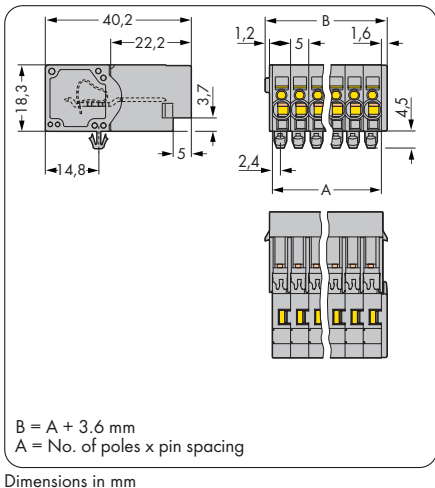
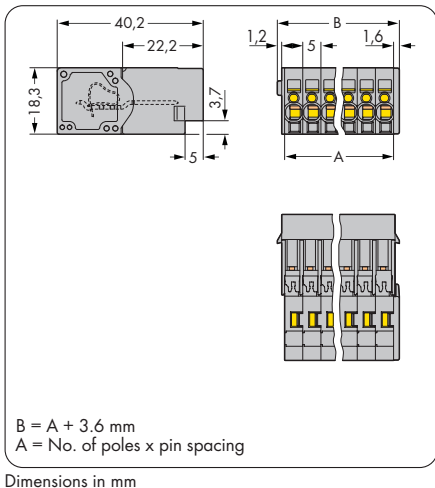
Pin spacing 5 mm / 0.197 in, gray  
 0.08 - 4 mm<sup>2</sup> AWG 28 - 12  
 500 V/6 kV/3 ① 300 V, 20 A   
 I<sub>N</sub> 32 A ② 300 V, 20 A   
 8 - 9 mm / 0.33 in ③

Pin spacing 5 mm / 0.197 in, gray  
 0.08 - 4 mm<sup>2</sup> AWG 28 - 12  
 500 V/6 kV/3 ① 600 V, 20 A   
 I<sub>N</sub> 32 A ② 300 V, 20 A   
 8 - 9 mm / 0.33 in ③

Pin spacing 5 mm / 0.197 in, gray  
 0.08 - 4 mm<sup>2</sup> AWG 28 - 12  
 500 V/6 kV/3 ① 300 V, 20 A   
 I<sub>N</sub> 32 A ② 300 V, 20 A   
 8 - 9 mm / 0.33 in ③



Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>Male connector with CAGE CLAMP® for flying leads, gray</b>			<b>Male connector with CAGE CLAMP® and snap-in mounting feet, for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, with 209-137 mounting adapter for DIN 35 rail, gray</b>			<b>Male connector with CAGE CLAMP® and fixing flanges, for screw or similar mounting types, for vertical or horizontal mounting, gray</b>		
● 2	769-602	100	● 2	769-602/001-000	100	● 2	769-602/002-000	100
● 3	769-603	100	● 3	769-603/001-000	100	● 3	769-603/002-000	50
● 4	769-604	100	● 4	769-604/001-000	50	● 4	769-604/002-000	50
● 5	769-605	50	● 5	769-605/001-000	50	● 5	769-605/002-000	50
● 6	769-606	50	● 6	769-606/001-000	50	● 6	769-606/002-000	50
● 7	769-607	25	● 7	769-607/001-000	25	● 7	769-607/002-000	25
● 8	769-608	25	● 8	769-608/001-000	25	● 8	769-608/002-000	25
● 9	769-609	25	● 9	769-609/001-000	25	● 9	769-609/002-000	25
● 10	769-610	25	● 10	769-610/001-000	25	● 10	769-610/002-000	25
● 11	769-611	25	● 11	769-611/001-000	25	● 11	769-611/002-000	25
● 12	769-612	25	● 12	769-612/001-000	25	● 12	769-612/002-000	25
● 13	769-613	25	● 13	769-613/001-000	15	● 13	769-613/002-000	15
● 14	769-614	15	● 14	769-614/001-000	15	● 14	769-614/002-000	10
● 15	769-615	10	● 15	769-615/001-000	20	● 15	769-615/002-000	20
<b>Item-Specific Accessories</b>			<b>Item-Specific Accessories</b>			<b>Item-Specific Accessories</b>		
<b>Strain relief plate, gray</b>			<b>Mounting adapter, for DIN 35 rail, can be used as end plate, 6.5 mm wide gray 209-137 25</b>			<b>Fixing screw M 2.5 x 16, and hexagon nut M 2.5 769-499 100 (4x25)</b>		
	2- to 3-pole 769-411 100 (4x25)							
	4- to 5-pole 769-412 100 (4x25)							
	6- to 9-pole 769-413 100 (4x25)							
	10- to 15-pole 769-414 100 (4x25)							



For list of approvals and user guide, see pages 634 to 637.

Pin spacing 5 mm / 0.197 in, gray  
 0.08 - 4 mm<sup>2</sup> AWG 28 - 12  
 500 V/6 kV/3 ① 300 V, 20 A ②  
 I<sub>N</sub> 32 A ② 300 V, 20 A ③  
 8 - 9 mm / 0.33 in ③

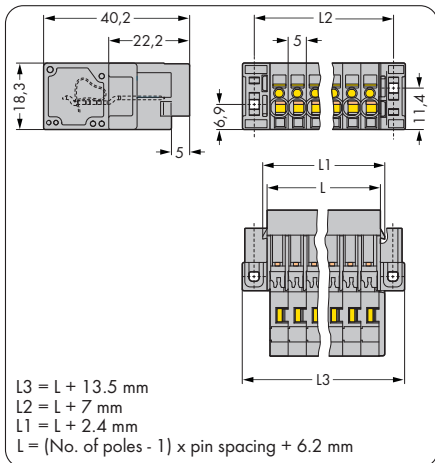


Male connector with CAGE CLAMP®.  
 1-conductor female plug, straight.



Male connector with CAGE CLAMP®.  
 with miniature WSB quick marking system

Pole No.	Item No.	Pack. Unit
<b>Male connector with CAGE CLAMP® and feedthrough flanges,</b> for screw or similar mounting types, for vertical or horizontal mounting, gray		
2	769-602/004-000	100
3	769-603/004-000	50
4	769-604/004-000	25
5	769-605/004-000	25
6	769-606/004-000	25
7	769-607/004-000	25
8	769-608/004-000	25
9	769-609/004-000	25
10	769-610/004-000	25
11	769-611/004-000	25
12	769-612/004-000	15
13	769-613/004-000	15
14	769-614/004-000	10
15	769-615/004-000	10



- ① 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)
- ② See current-carrying capacity curve, page 379 and at [www.wago.com](http://www.wago.com)
- ③ Strip length, see packaging or instructions.

**769 Series Accessories**

Appropriate marking system:  
 Miniature WSB (see Section 13)

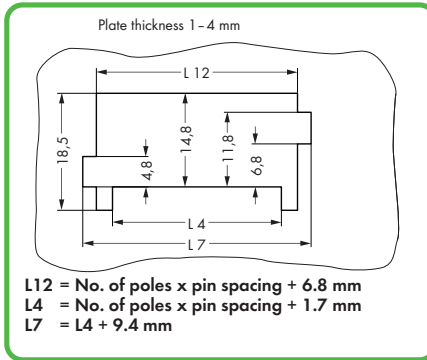
<b>1-conductor female plug,</b>			
	straight		
	gray	769-102	100
<b>1-conductor female plug,</b>			
	with lateral locking levers		
	gray	769-102/021-000	50
<b>2-conductor female plug</b>			
	gray	769-122	50
<b>Coding pin,</b>			
	for coding female plugs		
	orange	769-435	100 (4x25)
<b>Operating tool,</b>			
	for female and male connectors with CAGE CLAMP®		
		210-490	1
<b>Miniature WSB Quick marking system,</b>			
	10 strips with 10 markers per card, 5 mm wide markers		
	plain	248-501	5
<b>Operating lever, loose,</b>			
	for female plugs and male connectors with CAGE CLAMP®		
		769-434	2000 (20x100)

# X-COM®-SYSTEM

## Male Connectors with Snap-In Flanges

### Pin Spacing 5 mm/0.197 in

Pin spacing 5 mm / 0.197 in, gray  
 0.08 - 4 mm<sup>2</sup> AWG 28 - 12  
 500 V/6 kV/3 ① 300 V, 20 A<sup>②</sup>  
 I<sub>N</sub> 32 A ② 300 V, 20 A<sup>③</sup>  
 ③ 8 - 9 mm / 0.33 in



**Sheet metal cut-out**  
 Male connectors with CAGE CLAMP® connection and snap-in flanges

- ① 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)
- ② See current-carrying capacity curve, page 379 and at [www.wago.com](http://www.wago.com)
- ③ Strip length, see packaging or instructions.

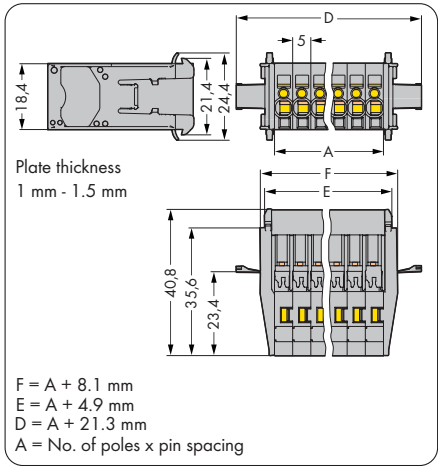
Pole No.	Item No.	Pack. Unit
<b>Male connector with CAGE CLAMP® and snap-in flanges,</b>		
for mounting without tools,		
gray		
2	769-602/005-000	50
3	769-603/005-000	25
4	769-604/005-000	25
5	769-605/005-000	25
6	769-606/005-000	25
7	769-607/005-000	25
8	769-608/005-000	20
9	769-609/005-000	20
10	769-610/005-000	20
11	769-611/005-000	15
12	769-612/005-000	15
13	769-613/005-000	15
14	769-614/005-000	10
15	769-615/005-000	10



Insert male connector into sheet metal cut-out.



Snap-in mounting without tools.



Dimensions in mm

For list of approvals and user guide, see pages 634 to 637.

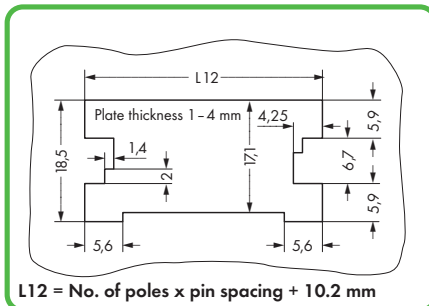
769 Series Accessories			
Appropriate marking system: Miniature WSB (see Section 13)			
<b>1-conductor female plug,</b>			
	straight		
	gray	769-102	100
<b>1-conductor female plug,</b>			
	with lateral locking levers		
	gray	769-102/021-000	50
<b>2-conductor female plug</b>			
	gray	769-122	50
<b>Coding pin,</b>			
	for coding female plugs		
	orange	769-435	100 (4x25)
<b>Operating tool,</b>			
	for female and male connectors with CAGE CLAMP®		
		210-490	1
<b>Miniature WSB Quick marking system,</b>			
	10 strips with 10 markers per card,		
	5 mm wide markers		
	plain	248-501	5
<b>Operating lever, loose,</b>			
	for female plugs and male connectors with CAGE CLAMP®		
		769-434	2000 (20x100)

# X-COM®-SYSTEM

## Male Connectors with Snap-In Flanges

### Pin Spacing 5 mm/0.197 in

Pin spacing 5 mm / 0.197 in, gray  
 0.08 - 4 mm<sup>2</sup> | AWG 28 - 12  
 500 V/6 kV/3  
 I<sub>N</sub> 32 A



Sheet metal cut-out (for female plugs without locking levers)  
 Male connectors with CAGE CLAMP® connection and snap-in flanges

- ① 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (see Section 14)
- ② See current-carrying capacity curve at [www.wago.com](http://www.wago.com)
- ③ Strip length, see packaging or instructions.

Pole No.	Item No.	Pack. Unit
<b>Male connector with CAGE CLAMP® and snap-in flanges,</b>		
for mounting without tools,		
gray		
2	769-602/006-000	100
3	769-603/006-000	100
4	769-604/006-000	50
5	769-605/006-000	25
6	769-606/006-000	25
7	769-607/006-000	25
8	769-608/006-000	25
9	769-609/006-000	20
10	769-610/006-000	25
11	769-611/006-000	25
12	769-612/006-000	25
13	769-613/006-000	15
14	769-614/006-000	15
15	769-615/006-000	10
Accessories see page 362.		



Insert male connector into sheet metal cut-out.



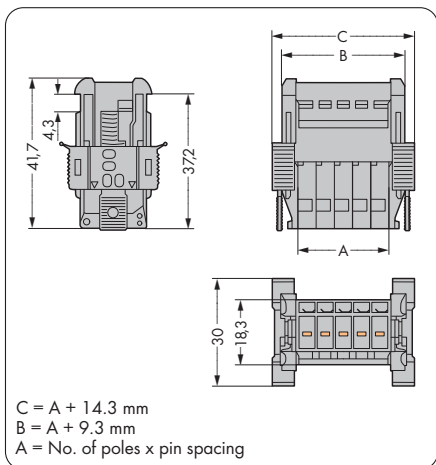
Fix snap-in flange.



For removal, insert operating tool (blade width 2.5 mm) into release slot.



Press center part of connector. Then remove snap-in flange.





Dimensions in mm



For list of approvals and user guide, see pages 634 to 637.

# X-COM®-SYSTEM

## Male Headers with Solder Pins

### Pin Spacing 5 mm

Pin spacing 5 mm / 0.197 in, gray  
 250 V/4 kV/3 ① | 600 V, 20 A   
 500 V/4 kV/2 ① | 300 V, 20 A   
 I<sub>N</sub> 32 A ②

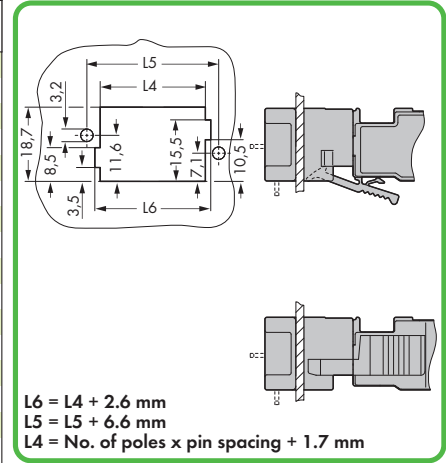
Pin spacing 5 mm / 0.197 in, gray  
 250 V/4 kV/3 ① | 600 V, 20 A   
 500 V/4 kV/2 ① | 300 V, 20 A   
 I<sub>N</sub> 32 A ②



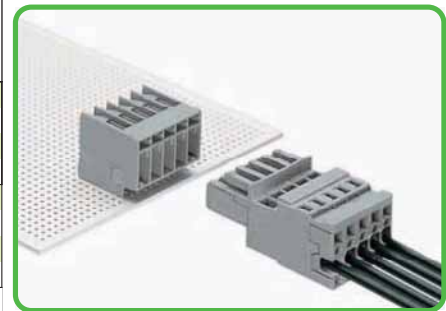
- ① 250 V/500 V = rated voltage  
 4 kV = rated surge voltage  
 3/2 = pollution degree  
 (also see Section 14)
- ② See current-carrying capacity curve, page 378 and at [www.wago.com](http://www.wago.com)

② See current-carrying capacity curve, page 378 and at [www.wago.com](http://www.wago.com)

Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>Male header with straight solder pins, 1 x 1 mm, gray</b>			<b>Male header with angled solder pins, 1 x 1 mm, gray</b>		
2	769-632	200	2	769-662	200
3	769-633	100	3	769-663	100
4	769-634	50	4	769-664	50
5	769-635	50	5	769-665	50
6	769-636	50	6	769-666	50
7	769-637	50	7	769-667	50
8	769-638	25	8	769-668	25
9	769-639	25	9	769-669	25
10	769-640	25	10	769-670	25
11	769-641	25	11	769-671	25
12	769-642	25	12	769-672	25
13	769-643	25	13	769-673	25
14	769-644	25	14	769-674	25
15	769-645	25	15	769-675	25





Sheet metal cut-out for male header




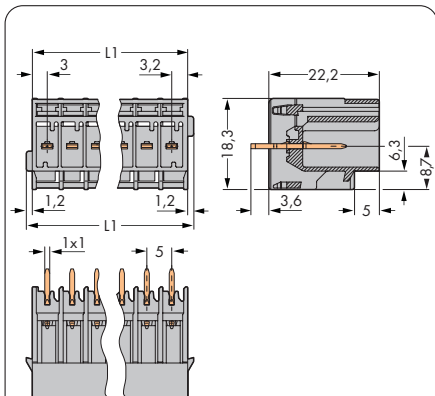
Male header with angled solder pins

### Accessories

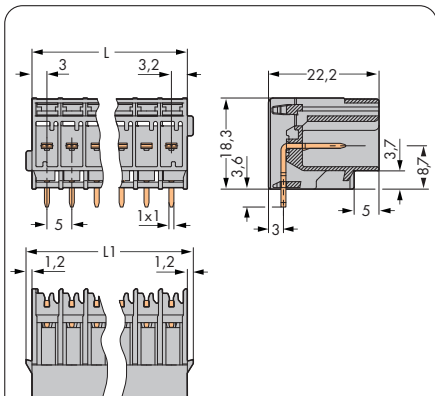
	straight		
	gray	769-102	100

	with lateral locking levers		
	gray	769-102/021-000	50

	for coding female plugs		
	orange	769-435	100 (4x25)



Dimensions in mm



Dimensions in mm

# X-COM®-SYSTEM

## Male Headers with Solder Pins and Fixing Flanges

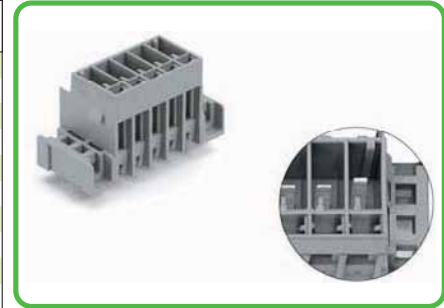
### Pin Spacing 5 mm

Pin spacing 5 mm / 0.197 in, gray 250 V/4 kV/3 ①   600 V, 20 A 500 V/4 kV/2 ①   300 V, 20 A I <sub>N</sub> 32 A ②	Pin spacing 5 mm / 0.197 in, gray 250 V/4 kV/3 ①   600 V, 20 A 500 V/4 kV/2 ①   300 V, 20 A I <sub>N</sub> 32 A ②
----------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------



- ① 250 V/500 V = rated voltage  
4 kV = rated surge voltage  
3/2 = pollution degree  
(also see Section 14)
- ② See current-carrying capacity curve, page 378 and at [www.wago.com](http://www.wago.com)

Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>Male header with straight solder pins and fixing flanges, 1 x 1 mm,</b>			<b>Male header with angled solder pins and fixing flanges, 1 x 1 mm,</b>		
gray			gray		
2	769-632/003-000	200	2	769-662/003-000	100
3	769-633/003-000	100	3	769-663/003-000	100
4	769-634/003-000	50	4	769-664/003-000	50
5	769-635/003-000	50	5	769-665/003-000	50
6	769-636/003-000	25	6	769-666/003-000	50
7	769-637/003-000	25	7	769-667/003-000	25
8	769-638/003-000	25	8	769-668/003-000	25
9	769-639/003-000	25	9	769-669/003-000	25
10	769-640/003-000	25	10	769-670/003-000	25
11	769-641/003-000	25	11	769-671/003-000	25
12	769-642/003-000	25	12	769-672/003-000	25
13	769-643/003-000	15	13	769-673/003-000	15
14	769-644/003-000	15	14	769-674/003-000	15
15	769-645/003-000	15	15	769-675/003-000	15



Male headers with preceding ground contact, with straight solder pins and fixing flanges  
 769-632/003-036  
 769-633/003-036  
 769-634/003-036  
 769-635/003-036  
 769-636/003-036

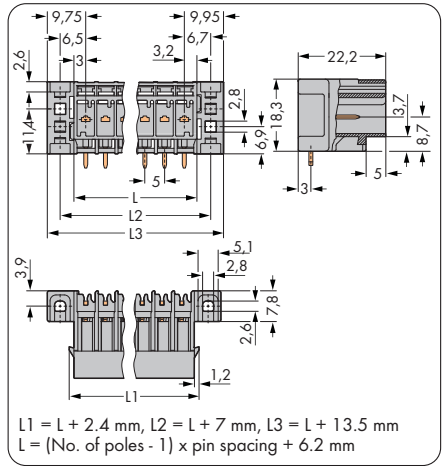
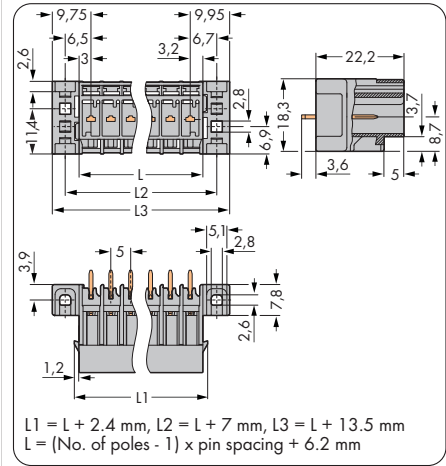


### Accessories

<b>1-conductor female plug,</b> straight gray <b>769-102</b> 100	<b>1-conductor female plug,</b> with lateral locking levers gray <b>769-102/021-000</b> 50
<b>Coding pin,</b> for coding female plugs orange <b>769-435</b> 100 (4x25)	



Male header and 1-conductor female plug with locking levers



Male header and 1-conductor female plug with lateral locking levers

For list of approvals and user guide, see pages 634 to 637.



# X-COM®-SYSTEM

## Male Headers with Solder Pins and Feedthrough Flanges

### Pin Spacing 5 mm

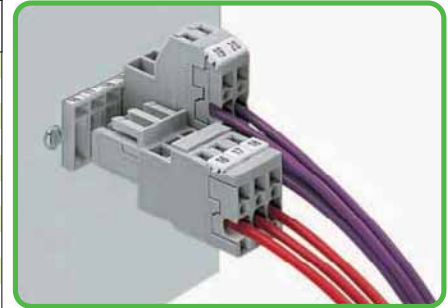
Pin spacing 5 mm / 0.197 in, gray  
 250 V/4 kV/3 ① | 300 V, 20 A ②  
 500 V/4 kV/2 ① | 300 V, 20 A ②  
 I<sub>N</sub> 32 A ②

Pin spacing 5 mm / 0.197 in, gray  
 250 V/4 kV/3 ① | 300 V, 20 A ②  
 500 V/4 kV/2 ① | 300 V, 20 A ②  
 I<sub>N</sub> 32 A ②

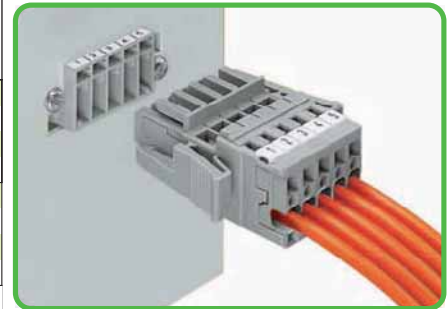


- ① 250 V/500 V = rated voltage  
     4 kV = rated surge voltage  
     3/2 = pollution degree  
 (also see Section 14)
- ② See current-carrying capacity curve, page 378 and at [www.wago.com](http://www.wago.com)

② See current-carrying capacity curve, page 378 and at [www.wago.com](http://www.wago.com)






Male header and 1- and 2-conductor female plugs

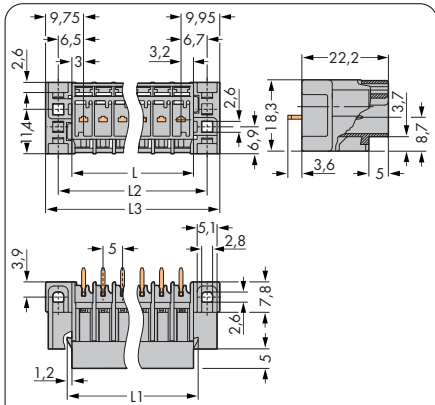


Male header and 1-conductor female plug with lateral locking levers

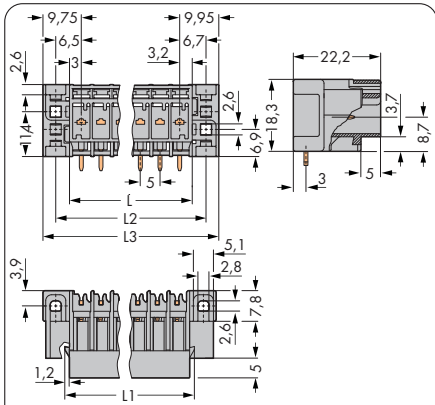
Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>Male header with straight solder pins and feedthrough flanges, 1 x 1 mm,</b>			<b>Male header with angled solder pins and feedthrough flanges, 1 x 1 mm,</b>		
gray			gray		
2	769-632/004-000	200	2	769-662/004-000	200
3	769-633/004-000	50	3	769-663/004-000	100
4	769-634/004-000	50	4	769-664/004-000	50
5	769-635/004-000	50	5	769-665/004-000	50
6	769-636/004-000	50	6	769-666/004-000	50
7	769-637/004-000	25	7	769-667/004-000	50
8	769-638/004-000	25	8	769-668/004-000	25
9	769-639/004-000	25	9	769-669/004-000	25
10	769-640/004-000	25	10	769-670/004-000	25
11	769-641/004-000	25	11	769-671/004-000	25
12	769-642/004-000	25	12	769-672/004-000	25
13	769-643/004-000	15	13	769-673/004-000	25
14	769-644/004-000	15	14	769-674/004-000	15
15	769-645/004-000	15	15	769-675/004-000	15

#### Accessories

<b>1-conductor female plug,</b>			<b>1-conductor female plug,</b>		
	straight			with lateral locking levers	
	gray	769-102 100		gray	769-102/021-000 50
<b>Coding pin,</b>					
	for coding female plugs				
	orange	769-435 100 (4x25)			



Dimensions in mm



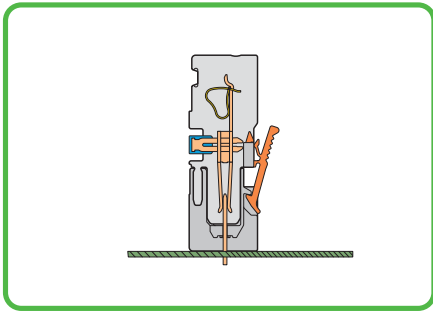
Dimensions in mm

For list of approvals and user guide, see pages 634 to 637.

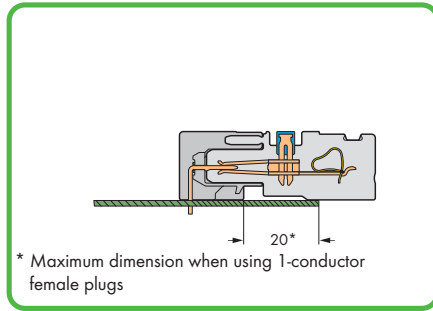


# Types of Assembly

## Male Headers with Solder Pins with 1-/2-Conductor Female Plugs

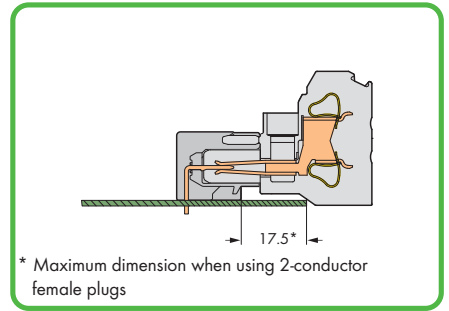


Male header with straight solder pins



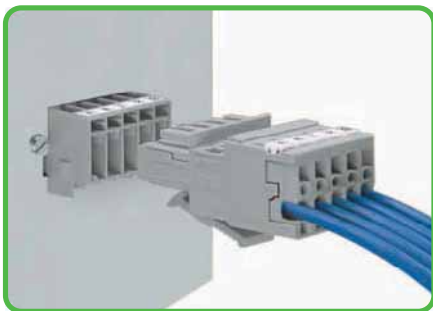
\* Maximum dimension when using 1-conductor female plugs

Male header with angled solder pins

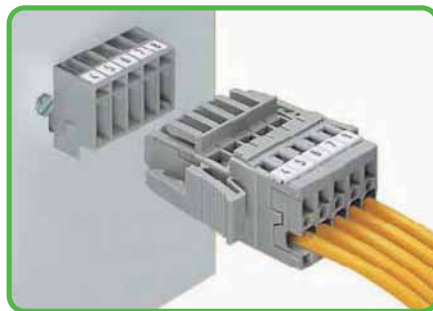


\* Maximum dimension when using 2-conductor female plugs

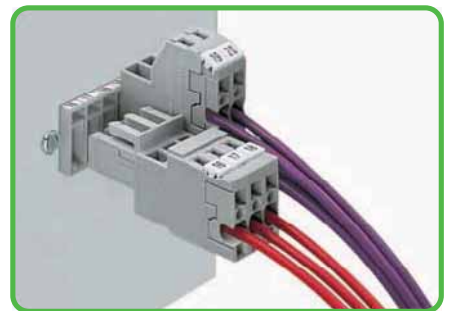
Male header with angled solder pins



Male header with fixing flanges  
1-conductor female plug with **bottom-mount** locking levers



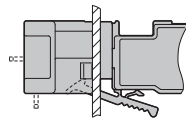
Male header with fixing flanges  
1-conductor female plug with **lateral** locking levers



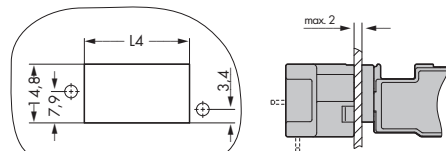
Male header with feedthrough flanges  
1-conductor female plug  
2-conductor female plug

### Cutouts for headers with fixing flanges for feedthrough applications and locking levers

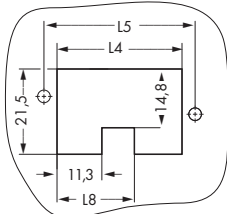
Female plugs with **bottom-mounted** locking levers



Female plug **without** locking levers

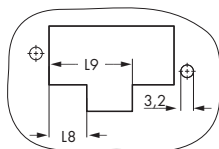
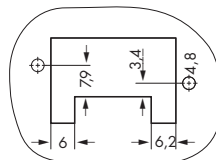


Cutouts for **2-pole** locking levers  
(2- to 15-pole female plugs)

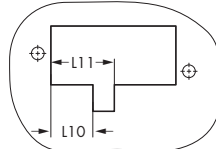


Layout for locking levers  
outer ...

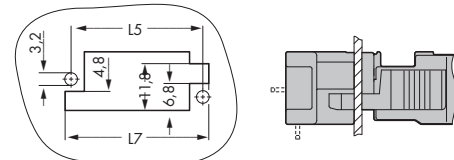
Cutouts for **single pole** locking levers



... inner



Female plug with **lateral** locking levers



$L4 = \text{No. of poles} \times \text{pin spacing} + 1.7 \text{ mm}$

$L5 = L4 + 6.6 \text{ mm}$

$L7 = L4 + 9.4 \text{ mm}$

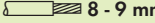
$L8 = \text{No. of poles} \times \text{pin spacing} - 0.3 \text{ mm}$

$L9 = L8 + 11.6 \text{ mm}$

$L10 = \text{No. of poles} \times \text{pin spacing} + 0.6 \text{ mm}$













$L11 = L10 + 5.4 \text{ mm}$

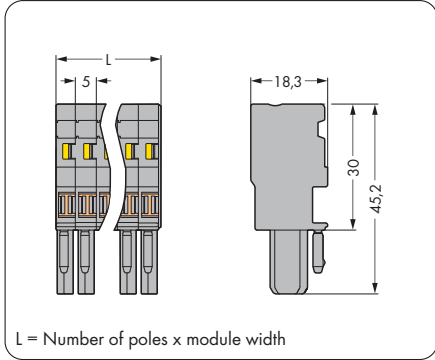
No. of poles V: Number of poles before the pole with the locking lever attached

0.08 - 4 mm<sup>2</sup> AWG 28 - 12  
 500 V/6 kV/3 ① 600 V, 20 A ④  
 I<sub>N</sub> 32 A ② 300 V, 20 A ④  
 module width 5 mm / 0.197 in  
 8 - 9 mm / 0.33 in ③



- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② See current-carrying capacity curve, pages 376 to 379 and at www.wago.com
- ③ Strip length, see packaging or instructions.
- ④ Item-no. suffix  
blue .../000-006  
green-yellow .../000-016
- ⑤ Application examples for 1-pole female plug:
  - Phase selection in three-phase network
  - Test plug with rated current capability
  - Simplified circuit expansion - addition of base circuits requires only female plugs to be plugged in
- ⑥ See page 375

Pole No.	Item No.	Pack. Unit	Accessories
<b>1-conductor female plug</b> , for insertion into carrier terminal blocks or male connectors, with coding fingers, gray, commoning possible with miniature adjacent jumpers			Appropriate marking system: Miniature WSB (see Section 13)
①	769-101	200	<b>Insulation stop</b> ,  5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "fst") white <b>769-470</b> 200 (8x25)
②	769-102	100	<b>Operating lever</b> , loose,  for female plugs and male connectors with CAGE CLAMP® <b>769-434</b> 2000 (20x100)
③	769-103	50	
④	769-104	50	<b>Locking lever</b> ,  female plugs with 1-pole gray <b>769-428</b> 100 (4x25) orange <b>769-429</b> 100 (4x25)
⑤	769-105	50	
⑥	769-106	25	<b>Locking lever</b> ,  female plugs with 2-poles or more orange <b>769-431</b> 100 (4x25) gray <b>769-430</b> 100
⑦	769-107	25	
⑧	769-108	25	<b>Strain relief plate</b> , gray  1-pole <b>769-410</b> 100 (4x25) 2- to 3-pole <b>769-411</b> 100 (4x25) 4- to 5-pole <b>769-412</b> 100 (4x25)
⑨	769-109	25	
⑩	769-110	25	<b>Strain relief plate</b> , gray  6- to 9-pole <b>769-413</b> 100 (4x25) 10- to 15-pole <b>769-414</b> 100 (4x25)
⑪	769-111	20	
⑫	769-112	20	<b>Snap-on type relief housing</b> ,  consisting of strain relief support/housing 5-pole <b>769-1605</b> 25
⑬	769-113	10	
⑭	769-114	10	<b>Miniature WSB Quick marking system</b> ,  10 strips with 10 markers per card, 5 mm wide markers plain <b>248-501</b> 5
⑮	769-115	10	
			<b>Miniature adjacent jumper</b> , insulated,  I <sub>N</sub> 24 A gray <b>769-402</b> 100 (4x25)
			<b>Jumper cover</b> , for 1-conductor female plugs, for 5 poles  gray <b>769-436</b> 100 (4x25)
			<b>Protective warning marker</b> , with high-voltage symbol, black, for 5 terminal blocks  yellow <b>280-415</b> 100 (4x25)
			<b>Miniature WSB Quick marking system</b> , plain,  10 strips with 10 markers per card, 5 mm wide markers yellow <b>248-501/000-002</b> red <b>248-501/000-005</b> blue <b>248-501/000-006</b> gray <b>248-501/000-007</b> orange <b>248-501/000-012</b> light green <b>248-501/000-017</b> green <b>248-501/000-023</b> violet <b>248-501/000-024</b>
			5



# X-COM®-SYSTEM

## 1-Conductor Female Plugs with Lateral Locking Levers

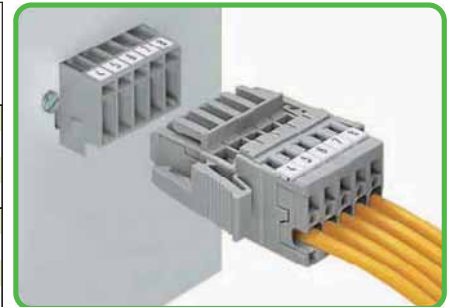
0.08 - 4 mm<sup>2</sup> AWG 28 - 12  
 500 V/6 kV/3 ① 300 V, 20 A ②  
 I<sub>N</sub> 32 A ② 300 V, 20 A ②  
 module width 5 mm / 0.197 in  
 ③ 8 - 9 mm / 0.33 in ③



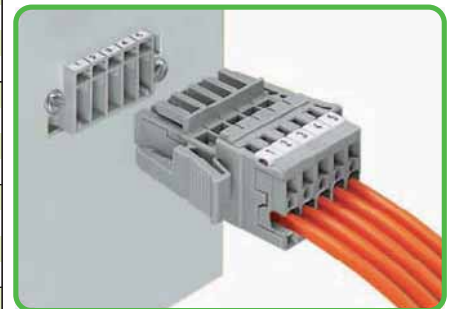
Jumper cover for 1-conductor female plugs

- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② See current-carrying capacity curve, pages 376 to 379 and at www.wago.com
- ③ Strip length, see packaging or instructions.
- ④ See page 375

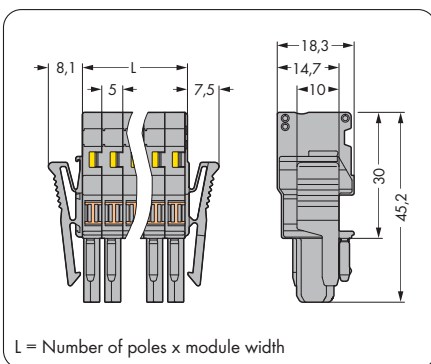
Pole No.	Item No.	Pack. Unit	Accessories
<b>1-conductor female plug with lateral locking levers,</b> with coding fingers, gray, commoning possible with miniature adjacent jumpers, only to be used with male connectors			Appropriate marking system: Miniature WSB (see Section 13)
2	769-102/021-000	50	<b>Insulation stop,</b> 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>769-470</b> 200 (8x25)
3	769-103/021-000	25	<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b> 200 (8x25)
4	769-104/021-000	25	
5	769-105/021-000	25	<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b> 200 (8x25)
6	769-106/021-000	25	
7	769-107/021-000	25	<b>Miniature adjacent jumper, insulated,</b> I <sub>N</sub> 24 A gray <b>769-402</b> 100 (4x25)
8	769-108/021-000	20	
9	769-109/021-000	20	<b>Jumper cover, for 1-conductor female plugs,</b> for 5 poles gray <b>769-436</b> 100 (4x25)
10	769-110/021-000	10	
11	769-111/021-000	10	<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)
12	769-112/021-000	10	
13	769-113/021-000	10	<b>Operating lever, loose,</b> for female plugs and male connectors with CAGE CLAMP® <b>769-434</b> 2000 (20x100)
14	769-114/021-000	10	
15	769-115/021-000	10	<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50
			<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
			<b>Strain relief plate,</b> gray 2- to 3-pole <b>769-411</b> 100 (4x25) 4- to 5-pole <b>769-412</b> 100 (4x25)
			<b>Strain relief plate, gray</b> 6- to 9-pole <b>769-413</b> 100 (4x25) 10- to 15-pole <b>769-414</b> 100 (4x25)
			<b>Snap-on type relief housing,</b> consisting of strain relief support/housing 5-pole <b>769-1605</b> 25



Male connector with fixing flanges and 1-conductor female plug with lateral locking levers

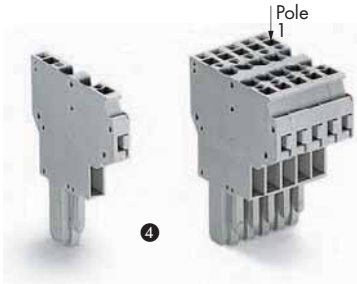


Male connector and 1-conductor female plug with lateral locking levers
















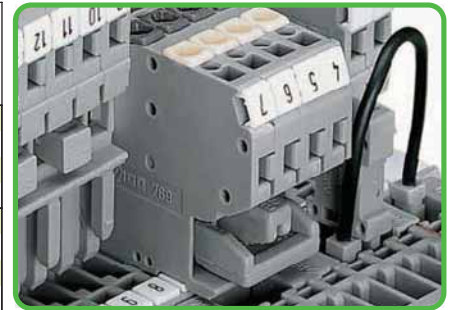
For list of approvals and user guide, see pages 634 to 637.

0.08 - 4 mm<sup>2</sup> AWG 28 - 12  
 500 V/6 kV/3 ① 600 V, 20 A ②  
 I<sub>N</sub> 32 A ② 300 V, 20 A ③  
 module width 5 mm / 0.197 in  
 8 - 9 mm / 0.33 in ⑤



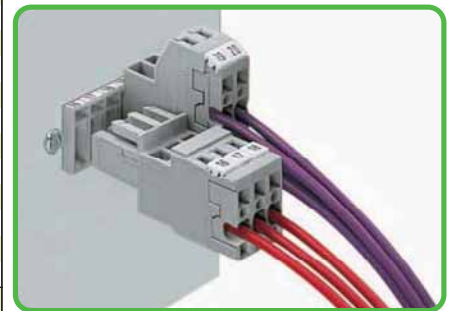
- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② See current-carrying capacity curve at [www.wago.com](http://www.wago.com)
- ③ Strip length, see packaging or instructions.
- ④ Item-no. suffix  
blue .../000-006  
green-yellow .../000-016
- ⑤ See application notes for:  
Staggered jumper, page 201

Pole No.	Item No.	Pack. Unit	Accessories
<b>2-conductor female plug</b> , for insertion into carrier terminal blocks or male connectors, with coding fingers, gray, commoning possible with adjacent jumpers and staggered jumpers			Appropriate marking system: Miniature WSB (see Section 13)
<b>Insulation stop</b> ,  5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "fst") white <b>769-470</b> 200 (8x25)			
<b>Insulation stop</b> ,  5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b> 200 (8x25)			
<b>Insulation stop</b> ,  5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b> 200 (8x25)			
<b>Adjacent jumper, insulated</b> ,  I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b> 200 (8x25)			
<b>Staggered jumper</b> ,  ⑤ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A			
○ 1	<b>769-121</b>	100	from 1 to 2 <b>780-452</b> 100 (4x25)
○ 2	<b>769-122</b>	50	from 1 to 3 <b>780-453</b> 100 (4x25)
○ 3	<b>769-123</b>	25	from 1 to 4 <b>780-454</b> 100 (4x25)
○ 4	<b>769-124</b>	25	from 1 to 5 <b>780-455</b> 50 (2x25)
○ 5	<b>769-125</b>	20	from 1 to 6 <b>780-456</b> 50 (2x25)
○ 6	<b>769-126</b>	10	from 1 to 7 <b>780-457</b> 50 (2x25)
○ 7	<b>769-127</b>	10	from 1 to 8 <b>780-458</b> 50 (2x25)
○ 8	<b>769-128</b>	10	
○ 9	<b>769-129</b>	10	
○ 10	<b>769-130</b>	10	
○ 11	<b>769-131</b>	5	
○ 12	<b>769-132</b>	5	
○ 13	<b>769-133</b>	5	
○ 14	<b>769-134</b>	5	
○ 15	<b>769-135</b>	5	
<b>Protective warning marker</b> ,  with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)			
<b>Locking lever</b> ,  female plugs with 1-pole gray <b>769-428</b> 100 (4x25) orange <b>769-429</b> 100 (4x25)			
<b>Locking lever</b> ,  female plugs with 2-poles or more orange <b>769-431</b> 100 (4x25) gray <b>769-430</b> 100			
<b>Strain relief plate, gray</b>  1-pole <b>769-410</b> 100 (4x25)  2- to 3-pole <b>769-411</b> 100 (4x25)  4- to 5-pole <b>769-412</b> 100 (4x25)			
<b>Strain relief plate, gray</b>  6- to 9-pole <b>769-413</b> 100 (4x25)  10- to 15-pole <b>769-414</b> 100 (4x25)			



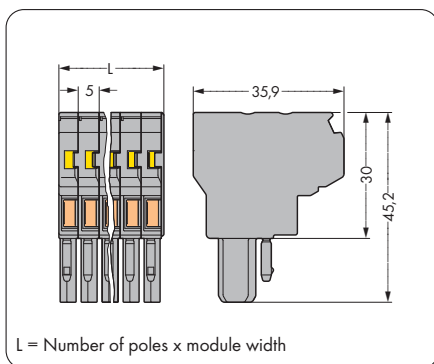
### Commoning possibility of female plugs

- After removal, commoned potentials still remain commoned
- Use of plug-in jumpers instead of additional wired jumpers
- Can be used as a "hardware" key for safety lockout
- Can also be used as a commoning jumper for sensor circuits or machine programming



### 2-conductor female plugs

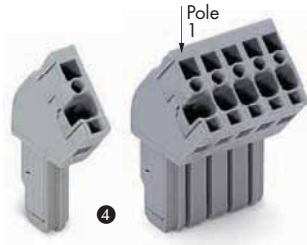
- Commoning signals from one sub-assembly to the other (bus structure)
- Can be used as a T-wire branch tap connection (e.g., for lighting wiring)
- Enables a higher number of connection possibilities



# X-COM®-SYSTEM

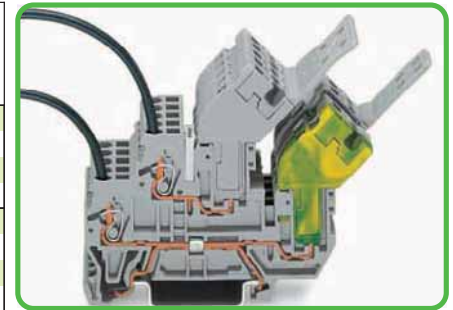
## 1-Conductor Female Plugs, Angled

0.08 - 4 mm<sup>2</sup> AWG 28 - 12  
 500 V/6 kV/3 ① 600 V, 20 A ②  
 I<sub>N</sub> 32 A ② 300 V, 20 A ③  
 module width 5 mm / 0.197 in  
 8 - 9 mm / 0.33 in ③



- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② See current-carrying capacity curve at [www.wago.com](http://www.wago.com)
- ③ Strip length, see packaging or instructions.
- ④ Item-no. suffix  
blue ... /000-006  
green-yellow ... /000-016
- ⑤ See page 375

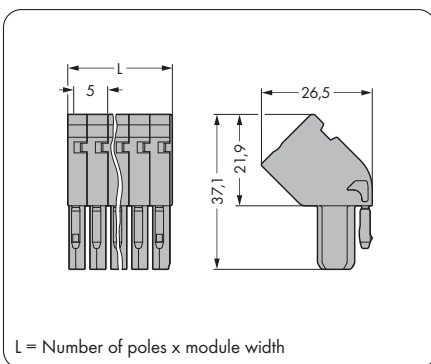
Pole No.	Item No.	Pack. Unit	Accessories
1-conductor female plug, angled, for insertion into carrier terminal blocks or male connectors, with coding fingers, gray			Appropriate marking system: Miniature WSB (see Section 13)
1	769-101/022-000	200	<b>Insulation stop,</b> 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>769-470</b> 200 (8x25)
2	769-102/022-000	100	<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b> 200 (8x25)
3	769-103/022-000	50	<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b> 200 (8x25)
4	769-104/022-000	50	<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)
5	769-105/022-000	50	<b>Operating lever, loose,</b> for female plugs and male connectors with CAGE CLAMP® <b>769-434</b> 2000 (20x100)
6	769-106/022-000	25	<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50
7	769-107/022-000	25	<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
8	769-108/022-000	25	<b>Strain relief plate, gray</b> 1-pole <b>769-410</b> 100 (4x25) 2- to 3-pole <b>769-411</b> 100 (4x25) 4- to 5-pole <b>769-412</b> 100 (4x25)
9	769-109/022-000	25	<b>Strain relief plate, gray</b> 6- to 9-pole <b>769-413</b> 100 (4x25) 10- to 15-pole <b>769-414</b> 100 (4x25)
10	769-110/022-000	25	<b>Snap-on type relief housing,</b> consisting of strain relief support/housing 5-pole <b>769-1605</b> 25
11	769-111/022-000	20	<b>Miniature WSB Quick marking system,</b> 10 strips with 10 markers per card, 5 mm wide markers plain <b>248-501</b> 5
12	769-112/022-000	20	
13	769-113/022-000	10	
14	769-114/022-000	10	
15	769-115/022-000	10	



Angled female plugs provide reduced installation height.



Angled female plugs installed on double-deck terminal block.

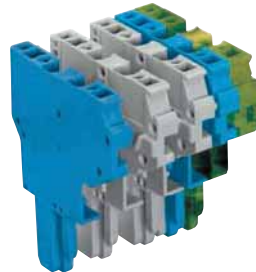


For list of approvals and user guide, see pages 634 to 637.

# X-COM®-SYSTEM

## Female Plugs for Self-Assembly

0.08 - 4 mm <sup>2</sup>   AWG 28 - 12 500 V/6 kV/3 ① I <sub>N</sub> 32 A ② module width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③	0.08 - 4 mm <sup>2</sup>   AWG 28 - 12 500 V/6 kV/3 ① I <sub>N</sub> 32 A ② module width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③	0.08 - 4 mm <sup>2</sup>   AWG 28 - 12 500 V/6 kV/3 ① I <sub>N</sub> 32 A ② module width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ③
-------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>1-conductor end module</b> , with coding fingers, commoning possible with miniature adjacent jumpers		<b>2-conductor end module</b> , with coding fingers, commoning possible with adjacent jumpers and staggered jumpers		<b>1-conductor end module</b> , angled, with coding fingers	
gray 769-503	250	gray 769-506	250	gray 769-515	250
blue 769-503/000-006	250	blue 769-506/000-006	250	blue 769-515/000-006	250
green-yellow 769-503/000-016	250	green-yellow 769-506/000-016	250	green-yellow 769-515/000-016	250
<b>1-conductor center module</b> , with coding fingers, commoning possible with miniature adjacent jumpers		<b>2-conductor center module</b> , with coding fingers, commoning possible with adjacent jumpers and staggered jumpers		<b>1-conductor center module</b> , angled, with coding fingers	
gray 769-502	250	gray 769-505	250	gray 769-513	250
blue 769-502/000-006	250	blue 769-505/000-006	250	blue 769-513/000-006	250
green-yellow 769-502/000-016	250	green-yellow 769-505/000-016	250	green-yellow 769-513/000-016	250
<b>1-conductor base module</b> , with integrated end plate, with coding fingers, commoning possible with miniature adjacent jumpers		<b>2-conductor base module</b> , with integrated end plate, with coding fingers, commoning possible with adjacent jumpers and staggered jumpers		<b>1-conductor base module</b> , angled, with integrated end plate, with coding fingers	
gray 769-501	250	gray 769-504	250	gray 769-512	250
blue 769-501/000-006	250	blue 769-504/000-006	250	blue 769-512/000-006	250
green-yellow 769-501/000-016	250	green-yellow 769-504/000-016	250	green-yellow 769-512/000-016	250
<b>Item-Specific Accessories</b>			<b>Item-Specific Accessories</b>		
<b>Miniature adjacent jumper</b> , insulated, I <sub>N</sub> 24 A			<b>Adjacent jumper</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block		
gray 769-402	100 (4x25)	gray 280-402	200 (8x25)		

### Accessories for Female Plugs

Appropriate marking system:  
Miniature WSB (see Section 13)

<b>Insulation stop</b> , 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white 769-470 200 (8x25)	<b>Locking lever</b> , female plugs with 2-poles or more orange 769-431 100 (4x25) gray 769-430 100	<b>Strain relief plate</b> , gray 1-pole 769-410 100 (4x25) 2- to 3-pole 769-411 100 (4x25) 4- to 5-pole 769-412 100 (4x25)
<b>Insulation stop</b> , 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray 769-471 200 (8x25)	<b>Test plug</b> , with 500 mm cable, 2 mm Ø red 210-136 50	<b>Strain relief plate</b> , gray 6- to 9-pole 769-413 100 (4x25) 10- to 15-pole 769-414 100 (4x25)
<b>Insulation stop</b> , 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray 769-472 200 (8x25)	<b>Test plug</b> , with 500 mm cable, 2.3 mm Ø yellow 210-137 50	
<b>Protective warning marker</b> , with high-voltage symbol, black, for 5 terminal blocks yellow 280-415 100 (4x25)	<b>Operating lever</b> , loose, for female plugs and male connectors with CAGE CLAMP® 769-434 2000 (20x100)	
<b>Locking lever</b> , female plugs with 1-pole gray 769-428 100 (4x25) orange 769-429 100 (4x25)	<b>Miniature WSB Quick marking system</b> , 10 strips with 10 markers per card, 5 mm wide markers plain 248-501 5	

**Self-assembly of individual female plugs:**

Using modular female plugs from the X-COM®-SYSTEM, female plugs can be customized for applications requiring varying numbers of poles (e.g., when designing prototypes).

**Modules and pole numbers:**

A self-assembled female plug consists of: Base module with integrated end plate, up to 13 center modules (corresponding to a 15-pole female plug = maximum number of poles), end module.

**Intended use:**

According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.

**Assembly:**

The appropriate mounting tool shall be used to guarantee that the individual modules are properly attached to each other without damaging the locking latches.

- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② See current-carrying capacity curve at [www.wago.com](http://www.wago.com)
- ③ Strip length, see packaging or instructions.



End module

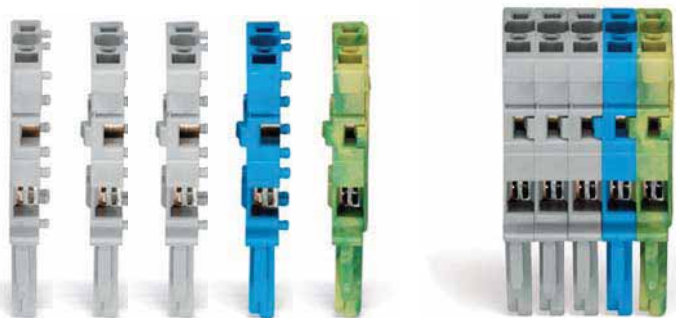


Center module



Base module

**Example: 5-Pole, 1-Conductor Female Plug**



Base module with integrated end plate  
769-501/000-016

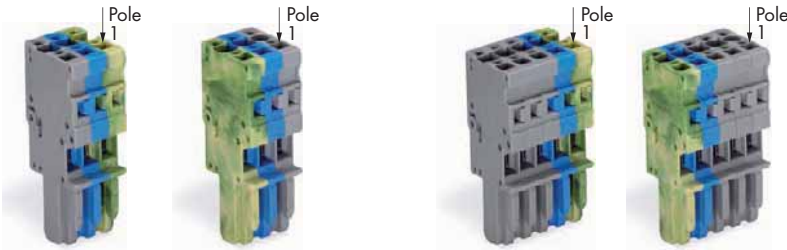
Center module  
769-502/000-006

Center modules  
769-502

End module  
769-503

0.08 - 4 mm<sup>2</sup> | AWG 28 - 12  
 500 V/6 kV/3 ①  
 I<sub>N</sub> 32 A ②  
 module width 5 mm / 0.197 in  
 8 - 9 mm / 0.33 in ③

0.08 - 4 mm<sup>2</sup> | AWG 28 - 12  
 500 V/6 kV/3 ①  
 I<sub>N</sub> 32 A ②  
 module width 5 mm / 0.197 in  
 8 - 9 mm / 0.33 in ③



- ① 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)
- ② See current-carrying capacity curve at [www.wago.com](http://www.wago.com)
- ③ Strip length, see packaging or instructions.

Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>1-conductor female plug with ground base module (green-yellow)</b> , for insertion into carrier terminal blocks or male connectors, with coding fingers, commoning possible with miniature adjacent jumpers 3 <b>769-103/000-038</b> 50			<b>1-conductor female plug with ground base module (green-yellow)</b> , for insertion into carrier terminal blocks or male connectors, with coding fingers, commoning possible with miniature adjacent jumpers 5 <b>769-105/000-038</b> 50		
<b>1-conductor female plug with ground end module (green-yellow)</b> , for insertion into carrier terminal blocks or male connectors, with coding fingers, commoning possible with miniature adjacent jumpers 3 <b>769-103/000-039</b> 50			<b>1-conductor female plug with ground end module (green-yellow)</b> , for insertion into carrier terminal blocks or male connectors, with coding fingers, commoning possible with miniature adjacent jumpers 5 <b>769-105/000-039</b> 50		

### Accessories for 1-Conductor Female Plugs

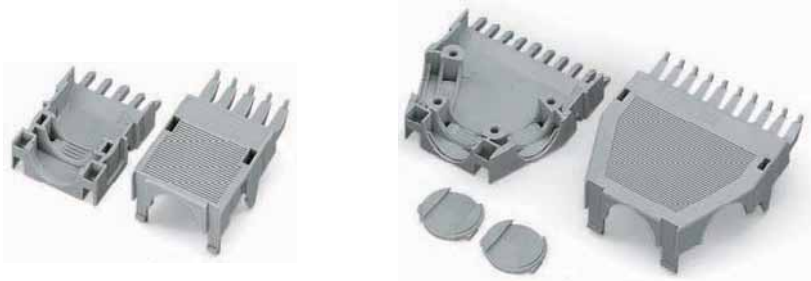
Appropriate marking system:  
 Miniature WSB (see Section 13)

<b>Insulation stop,</b> 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>769-470</b> 200 (8x25)	<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>769-471</b> 200 (8x25)	<b>Strain relief plate,</b> gray 2- to 3-pole <b>769-411</b> 100 (4x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>769-472</b> 200 (8x25)	<b>Strain relief plate,</b> gray 4- to 5-pole <b>769-412</b> 100 (4x25)
<b>Miniature adjacent jumper, insulated,</b> I <sub>N</sub> 24 A gray <b>769-402</b> 100 (4x25)	<b>Snap-on type relief housing,</b> consisting of strain relief support/housing 3-pole <b>769-1603</b> 25
<b>Locking lever,</b> female plugs with 1-pole gray <b>769-428</b> 100 (4x25) orange <b>769-429</b> 100 (4x25)	<b>Snap-on type relief housing,</b> consisting of strain relief support/housing 5-pole <b>769-1605</b> 25
<b>Locking lever,</b> female plugs with 2-poles or more orange <b>769-431</b> 100 (4x25) gray <b>769-430</b> 100	<b>Operating lever, loose,</b> for female plugs and male connectors with CAGE CLAMP® <b>769-434</b> 2000 (20x100)
<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50	<b>Miniature WSB Quick marking system,</b> 10 strips with 10 markers per card, 5 mm wide markers plain <b>248-501</b> 5
<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50	



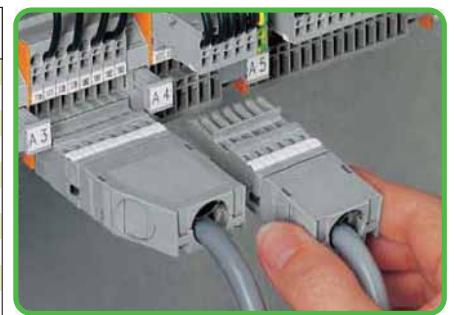
# Snap-on Type Strain Relief Housings for 769 Series Female Plugs and Male Connectors with CAGE CLAMP® Connection

Snap-on type relief housing	Snap-on type relief housing
-----------------------------	-----------------------------



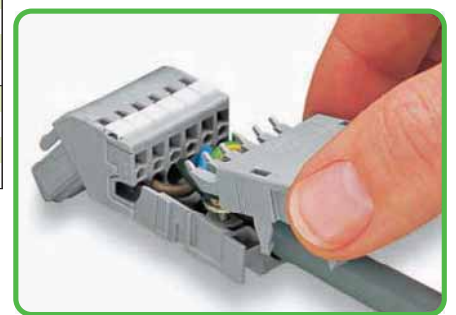
- ❶ 1 cable outlet rear, 2- to 5-pole only suitable for cable ties (Fa. Hellermann – not offered by WAGO) not for cable clamp
- ❷ 1 cable outlet rear
- ❸ 2 cable outlets, 1 cover
- ❹ 3 cable outlets, 2 covers

Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>Snap-on type relief housing</b> , consisting of strain relief support/housing, gray			<b>Snap-on type relief housing</b> , consisting of strain relief support/housing, gray		
2	769-1602	❶ 25	6	769-1606	❷ 25
3	769-1603	❶ 25	7	769-1607	❷ 25
4	769-1604	❶ 25	8	769-1608	❸ 25
5	769-1605	❶ 25	9	769-1609	❸ 25
			10	769-1610	❹ 25
			11	769-1611	❹ 25
			12	769-1612	❹ 25
			13	769-1613	❹ 25
			14	769-1614	❹ 25
			15	769-1615	❹ 25

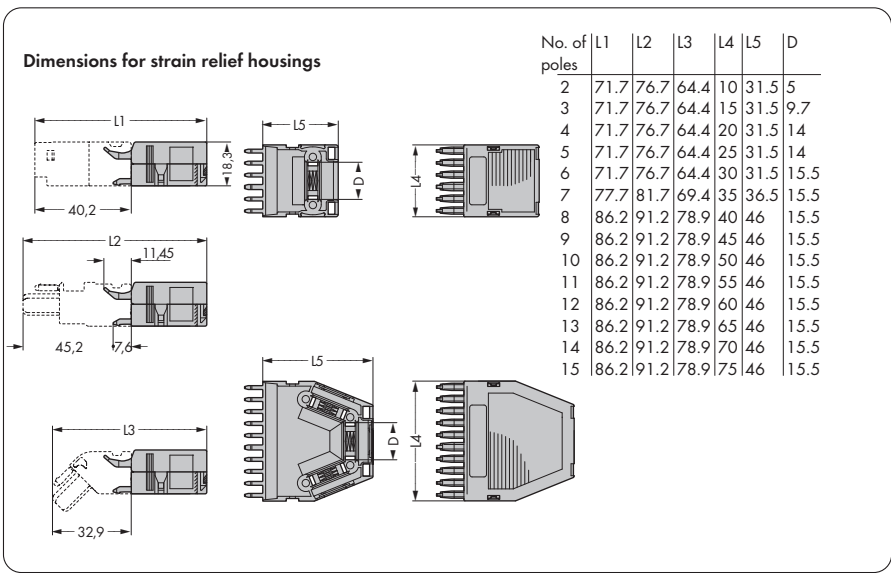


Application

Item-Specific Accessories			Item-Specific Accessories		
<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm plain <b>209-501</b> 5			<b>Cable clamp</b> , for strain relief from 7-pole and on <b>209-174</b> 25		
			<b>Fixing screw</b> , for cable clamp for 7 or more poles <b>209-173</b> 50		



Snapping on strain relief housing

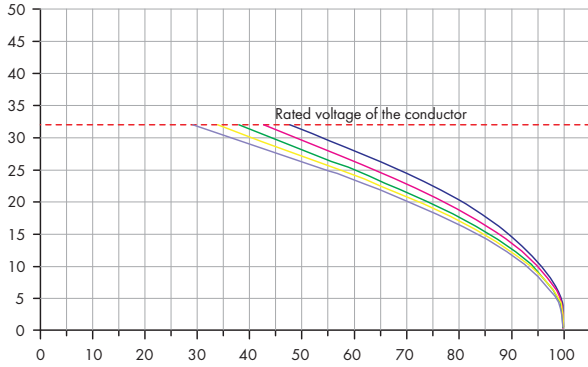


Dimensions in mm

# Current-Carrying Capacity Curves for 1-Conductor/1-Pin and 2-Pin Carrier Terminal Blocks and 1-Conductor Female Plugs

CAGE CLAMP®

Test current (A)



Ambient operating temperature (°C)

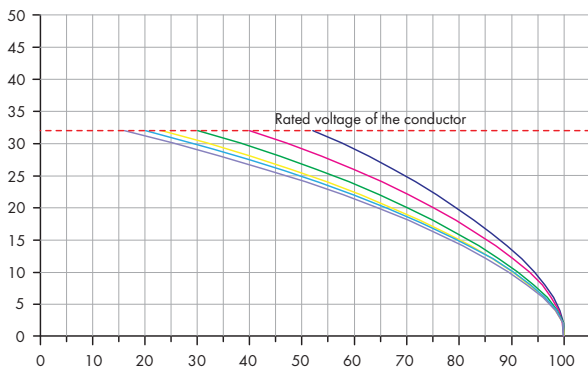
- 2-pole
- 4-pole
- 5-pole
- 6-pole
- 15-pole



1-conductor/1-pin carrier terminal block: 769-176  
Conductor cross section: 4 mm<sup>2</sup>/AWG 12

1-conductor female plugs: 769-102 to 769-115  
Conductor cross section: 4 mm<sup>2</sup>/AWG 12  
Conductor length: 1 m

Test current (A)



Ambient operating temperature (°C)

- 2-pole
- 4-pole
- 5-pole
- 6-pole
- 10-pole
- 15-pole

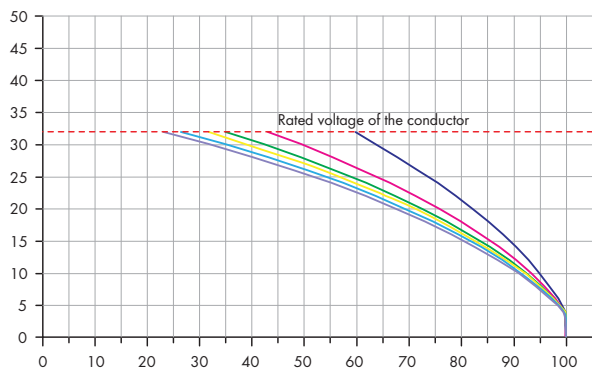


2-pin carrier terminal block: 769-156

1-conductor female plugs: 769-102 to 769-115  
Conductor cross section: 4 mm<sup>2</sup>/AWG 12  
Conductor length: 1 m

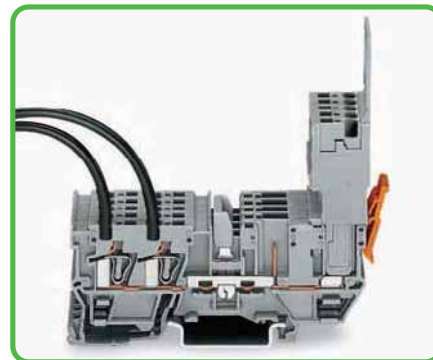
# Current-Carrying Capacity Curves for 2-Conductor/2-Pin and 4-Pin Carrier Terminal Blocks and 1-Conductor Female Plugs

Test current (A)



- 2-pole
- 4-pole
- 5-pole
- 6-pole
- 10-pole
- 15-pole

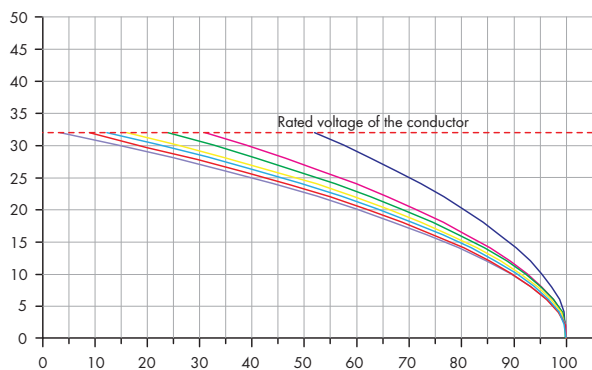
Ambient operating temperature (°C)



2-conductor/2-pin carrier terminal block: 769-171  
Conductor cross section: 4 mm<sup>2</sup>/AWG 12

1-conductor female plugs: 769-102 to 769-115  
Conductor cross section: 4 mm<sup>2</sup>/AWG 12  
Conductor length: 1 m

Test current (A)



- 2-pole
- 4-pole
- 5-pole
- 6-pole
- 10-pole
- 12-pole
- 15-pole

Ambient operating temperature (°C)

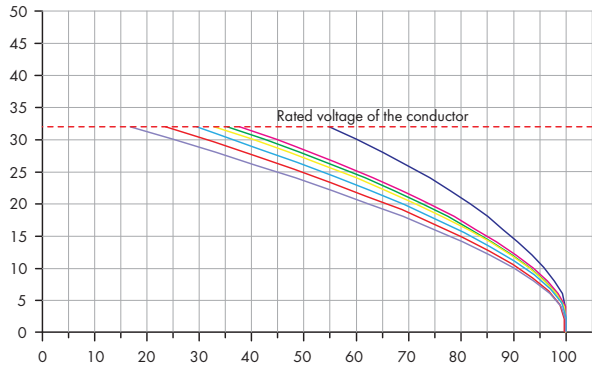


4-pin carrier terminal block: 769-151

1-conductor female plugs: 769-102 to 769-115  
Conductor cross section: 4 mm<sup>2</sup>/AWG 12  
Conductor length: 1 m

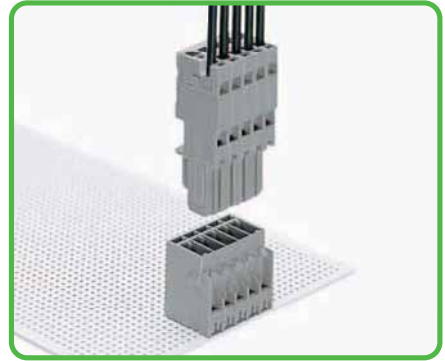
## Current-Carrying Capacity Curves for Male Headers with Straight and Right-Angle Solder Pins 1-Conductor Female Plugs

Test current (A)



Ambient operating temperature (°C)

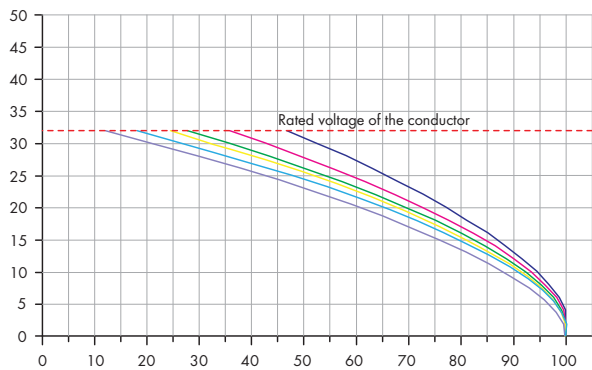
- 2-pole
- 4-pole
- 5-pole
- 6-pole
- 10-pole
- 12-pole
- 15-pole



Male headers with straight solder pins: 769-632 to 769-645

1-conductor female plugs: 769-102 to 769-115  
Conductor cross section: 4 mm<sup>2</sup>/AWG 12  
Conductor length: 1 m

Test current (A)



Ambient operating temperature (°C)

- 2-pole
- 4-pole
- 5-pole
- 6-pole
- 10-pole
- 15-pole

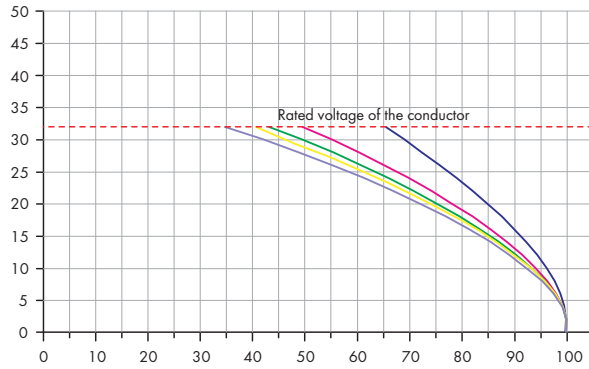


Male headers with angled solder pins: 769-662 to 769-675

1-conductor female plugs: 769-102 to 769-115  
Conductor cross section: 4 mm<sup>2</sup>/AWG 12  
Conductor length: 1 m

# Current-Carrying Capacity Curves for Male Connectors with CAGE CLAMP® Termination and 1-Conductor Female Plugs

Test current (A)



- 2-pole
- 4-pole
- 5-pole
- 6-pole
- 15-pole

Ambient operating temperature (°C)

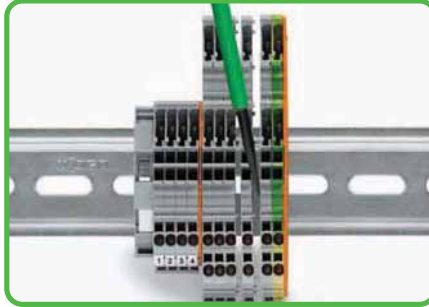


Male connectors with CAGE CLAMP® connection: 769-602 to 769-615  
Conductor cross section: 4 mm<sup>2</sup>/AWG 12

1-conductor female plugs: 769-102 to 769-115  
Conductor cross section: 4 mm<sup>2</sup>/AWG 12  
Conductor length: 1 m

**Touchproof protection**

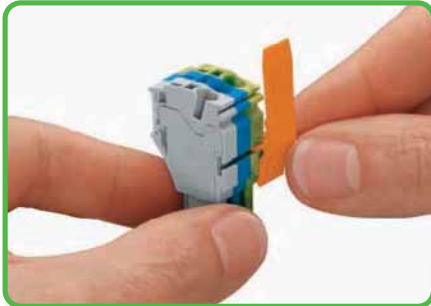

Carrier terminal blocks and female plugs are protected against accidental contact.

**Removal**


Separate terminal block assembly and slide individual terminal blocks laterally using an operating tool.

**Testing**

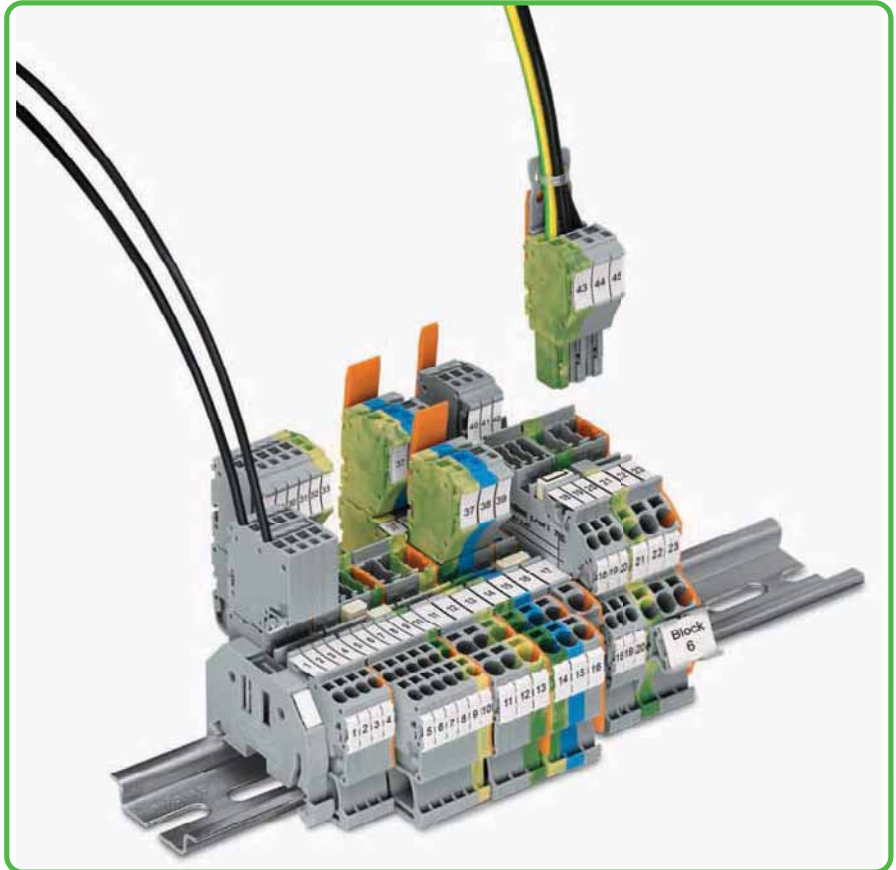
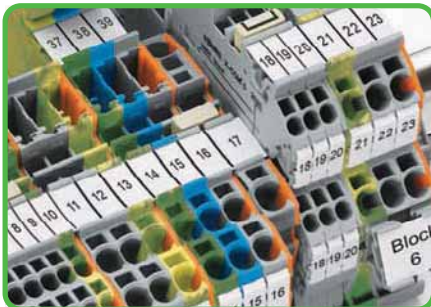

Test plug adapter for 4mm test plugs or banana plugs – also suitable for X-COM®S MINI terminal blocks.

**Locking lever**


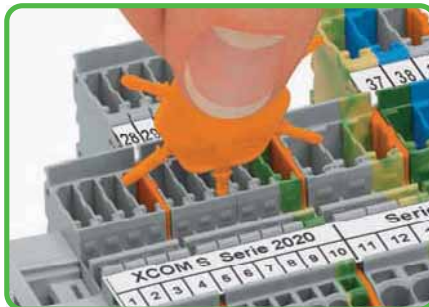
Slide locking lever into position.



Females plugs can be locked individually.


**Commoning**


X-COM®S terminal blocks can be commoned using jumpers for TOPJOB®S terminal blocks. An end plate provides connection to TOPJOB®S terminal blocks. Combining 2020 Series with 2022 Series terminal blocks. Jumper slots are on the same level for both series.

**Coding**


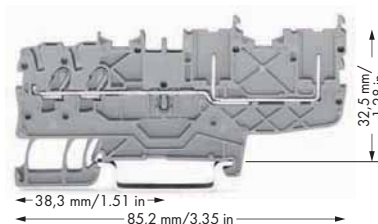
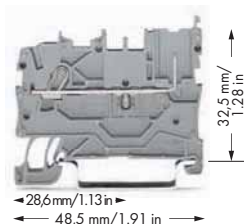
Insert coding pin into the corresponding slot and twist it off.

**Coding**


Remove coding finger with a cutting tool.

1-Conductor/1-Pin Carrier Terminal Blocks;  
2-Conductor/2-Pin Carrier Terminal Blocks, 2020 Series

0.14 - 1 (1.5) mm <sup>2</sup> ①   AWG 24 - 16 500 V/6 kV/3 ② I <sub>N</sub> 13.5 A ③ Terminal block width 3.5 mm / 0.138 in ④ 9 - 11 mm / 0.39 in	0.14 - 1 (1.5) mm <sup>2</sup> ①   AWG 24 - 16 500 V/6 kV/3 ② I <sub>N</sub> 13.5 A ③ Terminal block width 3.5 mm / 0.138 in ④ 9 - 11 mm / 0.39 in
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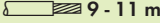


- ① Conductor sizes: 0.14 mm<sup>2</sup> - 1.5 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.5 mm<sup>2</sup> - 1.5 mm<sup>2</sup> "s"  
and 0.5 mm<sup>2</sup> - 0.75 mm<sup>2</sup> "insulated ferrule, 10 mm"
- ② 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ③ Current-carrying capacity curves upon request
- ④ Strip length, see packaging or instructions.

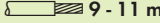
Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>1-conductor/1-pin carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715 ● gray 2020-1201 50 ● blue 2020-1204 50		<b>2-conductor/2-pin carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715 ● gray 2020-1401 50 ● blue 2020-1404 50		<b>Test plug adapter,</b> for test plug 4 mm Ø ● gray 2009-174 100 (4x25)
<b>1-conductor/1-pin ground carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715 ● green-yellow 2020-1207 50		<b>2-conductor/2-pin ground carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715 ● green-yellow 2020-1407 50		
<b>Notice:</b> An end plate must be applied to the carrier terminal blocks after each female plug.		<b>Notice:</b> An end plate must be applied to the carrier terminal blocks after each female plug.		<b>Banana plug,</b> for socket 4 mm Ø, color mixed 215-111 50
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		
<b>End and intermediate plate, 1 mm thick</b> ● orange 2020-1292 100 (4x25) ● gray 2020-1291 100 (4x25)		<b>End and intermediate plate, 1 mm thick</b> ● orange 2020-1492 100 (4x25) ● gray 2020-1491 100 (4x25)		<b>Testing tap,</b> for max. 2.5 mm <sup>2</sup> ● gray 2009-182 100 (4x25)
<b>2020 Series Accessories</b> Appropriate marking systems: WMB/Marking strips (see Section 13)				
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 14 A, light gray 2-way 2000-402 200 (8x25) 3-way 2000-403 200 (8x25) 4-way 2000-404 200 (8x25) 5-way 2000-405 100 (4x25) 6-way 2000-406 100 (4x25) 7-way 2000-407 100 (4x25) 8-way 2000-408 100 (4x25) 9-way 2000-409 100 (4x25) 10-way 2000-410 100 (4x25)		<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow 2000-115 100 (4x25)		<b>Marking strip, plain,</b> 11 mm wide, 50 m roll white 2009-110 1
<b>Carrier with 6 coding pins,</b> for coding female plugs orange 2020-100 100 (4x25)		<b>Test pin,</b> 1 mm Ø 859-500 1		
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 14 A, light gray from 1 to 3 2000-433 200 (8x25) from 1 to 4 2000-434 200 (8x25) from 1 to 5 2000-435 100 (4x25) from 1 to 6 2000-436 100 (4x25) from 1 to 7 2000-437 100 (4x25) from 1 to 8 2000-438 100 (4x25) from 1 to 9 2000-439 100 (4x25) from 1 to 10 2000-440 100 (4x25)		<b>1-conductor female plug</b> gray 2020-102 100		<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, for 3.5 mm terminal block width plain 793-3501 5
<b>Delta jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block, light gray 1-2 3-4 5-6 2000-406/020-000 100 (4x25)		<b>2-conductor female plug</b> gray 2020-202 100		
				<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray 249-116 100 (4x25)
				<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray 249-117 50 (2x25)

For list of approvals and user guide, see pages 634 to 637.


0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③

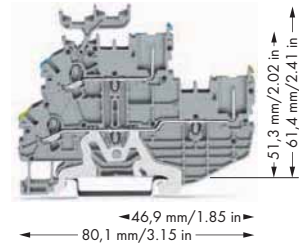
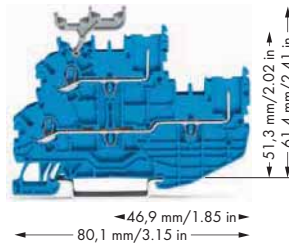
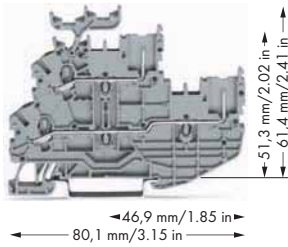
Terminal block width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ④













0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③

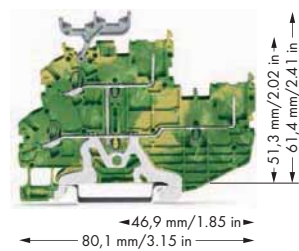
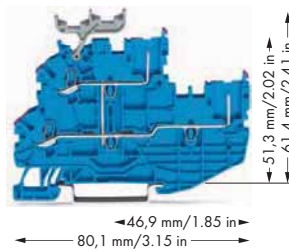
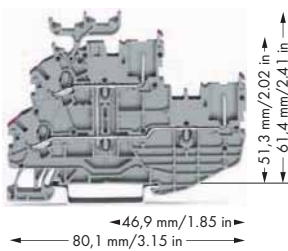
Terminal block width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ④







0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③

Terminal block width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ④











Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
1-conductor/1-pin double-deck carrier terminal block, through/through terminal block, with marker carrier, gray housing		1-conductor/1-pin double-deck carrier terminal block, through/through terminal block, with marker carrier, blue housing		1-conductor/1-pin double-deck carrier terminal block, ground conductor/through terminal block, with marker carrier, gray housing	
 L/L	2020-2231 50	 N/N	2020-2234 50	 PE/N	2020-2247 50
 N/L	2020-2232 50			 PE/L	2020-2257 50
 L/N	2020-2233 50				
1-conductor/1-pin double-deck carrier terminal block, through/through terminal block, without marker carrier, gray housing		1-conductor/1-pin double-deck carrier terminal block, through/through terminal block, without marker carrier, blue housing		1-conductor/1-pin double-deck carrier terminal block, ground conductor/through terminal block, without marker carrier, gray housing	
 L/L	2020-2201 50	 N/N	2020-2204 50	 PE/N	2020-2217 50
 N/L	2020-2202 50			 PE/L	2020-2227 50
 L/N	2020-2203 50				



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin through terminal block, with marker carrier, internal commoning, female plug conductor entry with violet marking, gray housing		2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin through terminal block, with marker carrier, internal commoning, female plug conductor entry with violet marking, blue housing		2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin ground conductor terminal block, with marker carrier, internal commoning, green-yellow housing	
 L	2020-2238 50	 N	2020-2239 50	 PE	2020-2237 50
2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin through terminal block, without marker carrier, internal commoning, female plug conductor entry with violet marking, gray housing		2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin through terminal block, without marker carrier, internal commoning, female plug conductor entry with violet marking, blue housing		2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin ground conductor terminal block, without marker carrier, internal commoning, green-yellow housing	
 L	2020-2208 50	 N	2020-2209 50	 PE	2020-2207 50



- ① Conductor sizes: 0.14 mm<sup>2</sup> – 1.5 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.5 mm<sup>2</sup> – 1.5 mm<sup>2</sup> "s"  
and 0.5 mm<sup>2</sup> – 0.75 mm<sup>2</sup>  
"insulated ferrule, 10 mm"
- ② 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ③ Current-carrying capacity curves upon request
- ④ Strip length, see packaging or instructions.

2020 Series Accessories			
Appropriate marking systems: WMB/Marking strips (see Section 13)			
	End and intermediate plate, 1 mm thick		
	orange <b>2020-2292</b> 25	Test plug adapter,	
	gray <b>2020-2291</b> 25	for test plug 4 mm Ø	
		gray <b>2009-174</b> 100 (4x25)	
	Push-in type jumper bar, insulated, I <sub>N</sub> 14 A, light gray	Banana plug,	
	2-way <b>2000-402</b> 200 (8x25)	for socket 4 mm Ø, color mixed	
	3-way <b>2000-403</b> 200 (8x25)		<b>215-111</b> 50
	4-way <b>2000-404</b> 200 (8x25)	Testing tap,	
	5-way <b>2000-405</b> 100 (4x25)	for max. 2.5 mm <sup>2</sup>	
	6-way <b>2000-406</b> 100 (4x25)	gray <b>2009-182</b> 100 (4x25)	
	7-way <b>2000-407</b> 100 (4x25)	Test plug,	
	8-way <b>2000-408</b> 100 (4x25)	with 500 mm cable, 2 mm Ø	
	9-way <b>2000-409</b> 100 (4x25)	red <b>210-136</b> 50	
	10-way <b>2000-410</b> 100 (4x25)	Test plug,	
		with 500 mm cable, 2.3 mm Ø	
		yellow <b>210-137</b> 50	
	Push-in type jumper bar, insulated, I <sub>N</sub> 14 A, light gray	Double-deck marker carrier,	
	from 1 to 3 <b>2000-433</b> 200 (8x25)	pivoting	
	from 1 to 4 <b>2000-434</b> 200 (8x25)	gray <b>2000-121</b> 50 (2x25)	
	from 1 to 5 <b>2000-435</b> 100 (4x25)	WMB Multi marking system,	
	from 1 to 6 <b>2000-436</b> 100 (4x25)	10 strips with 10 markers per card, for 3.5 mm terminal block width	
	from 1 to 7 <b>2000-437</b> 100 (4x25)	plain <b>793-3501</b> 5	
	from 1 to 8 <b>2000-438</b> 100 (4x25)	Marking strip, plain,	
	from 1 to 9 <b>2000-439</b> 100 (4x25)	11 mm wide, 50 m roll	
	from 1 to 10 <b>2000-440</b> 100 (4x25)	white <b>2009-110</b> 1	
	Protective warning marker, with high-voltage symbol, black, for 5 terminal blocks		
	yellow <b>2000-115</b> 100 (4x25)		
	Carrier with 6 coding pins, for coding female plugs		
	orange <b>2020-100</b> 100 (4x25)		
	Test pin, 1 mm Ø		
	<b>859-500</b> 1		
	1-conductor female plug		
	gray <b>2020-102</b> 100		
	2-conductor female plug		
	gray <b>2020-202</b> 100		

0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③  
module width 3.5 mm / 0.138 in  
9 - 11 mm / 0.39 in ④

0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③  
module width 3.5 mm / 0.138 in  
9 - 11 mm / 0.39 in ④

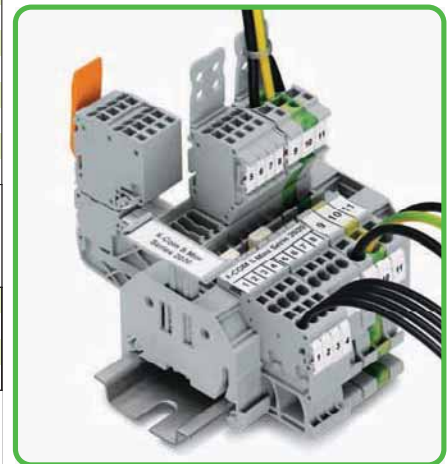


- ① Conductor sizes: 0.14 mm<sup>2</sup> - 1.5 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.5 mm<sup>2</sup> - 1.5 mm<sup>2</sup> "s" and 0.5 mm<sup>2</sup> - 0.75 mm<sup>2</sup> "insulated ferrule, 10 mm"
- ② 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ③ Current-carrying capacity curves upon request
- ④ Strip length, see packaging or instructions.
- ⑤ Item-no. suffix  
blue .../000-006  
green-yellow .../000-016

Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
1-conductor female plug, for insertion into carrier terminal blocks, with coding fingers, gray According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.			2-conductor female plug, for insertion into carrier terminal blocks, with coding fingers, gray According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.		
2	2020-102	100	2	2020-202	100
3	2020-103	50	3	2020-203	50
4	2020-104	50	4	2020-204	50
5	2020-105	50	5	2020-205	50
6	2020-106	25	6	2020-206	25
7	2020-107	25	7	2020-207	25
8	2020-108	25	8	2020-208	25
9	2020-109	25	9	2020-209	25
10	2020-110	25	10	2020-210	25
11	2020-111	20	11	2020-211	20
12	2020-112	20	12	2020-212	20
13	2020-113	10	13	2020-213	10
14	2020-114	10	14	2020-214	10
15	2020-115	10	15	2020-215	10
<b>Notice:</b> An end plate must be applied to the carrier terminal blocks after each female plug.			<b>Notice:</b> An end plate must be applied to the carrier terminal blocks after each female plug.		



X-COM®S-SYSTEM terminal block assembly



X-COM®S-SYSTEM terminal block assembly

Accessories Female Plugs

Appropriate marking systems: WMB/Marking strips  
(see Section 13)

Locking lever,

4.8 mm wide



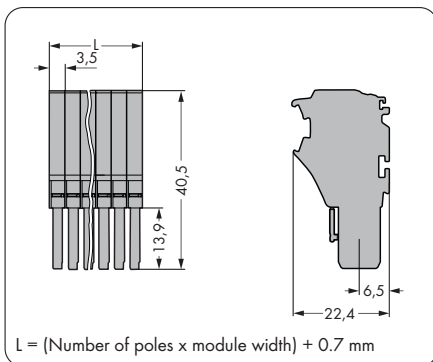
orange 2022-142 100 (4x25)  
gray 2022-141 100 (4x25)

Locking lever,

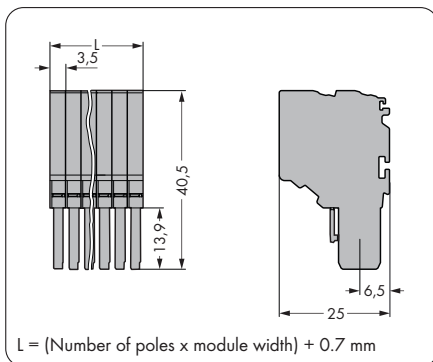
9.6 mm wide



orange 2022-152 100 (4x25)  
gray 2022-151 100 (4x25)



Dimensions in mm



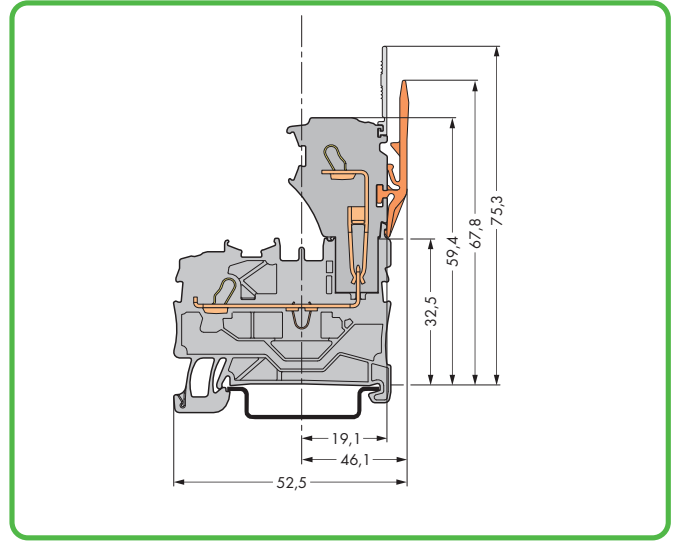
Dimensions in mm

# Types of Assembly

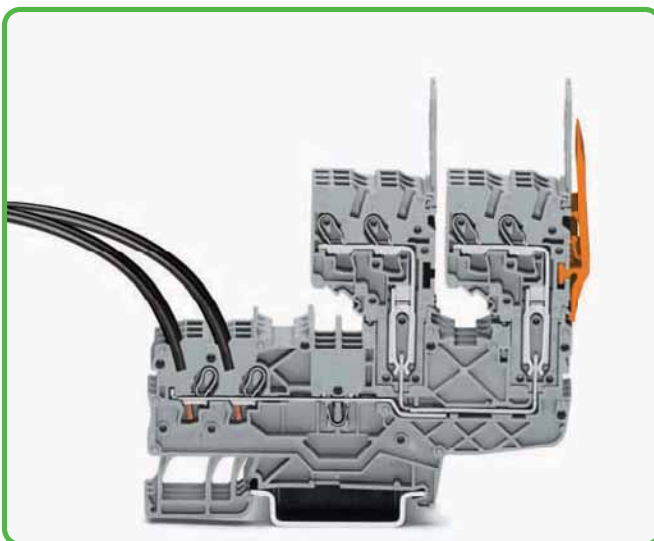
## 1-Conductor/1-Pin Carrier Terminal Blocks and 1-Conductor Female Plug



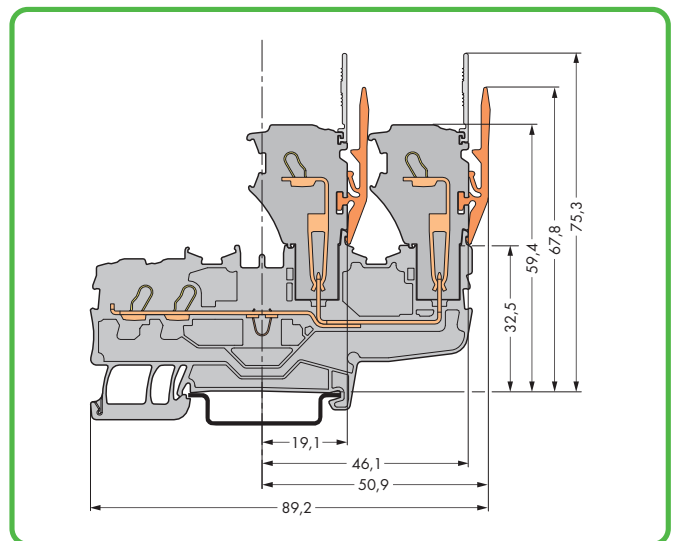
1-conductor female plug  
Commoning option of carrier terminal blocks with 2000 Series push-in type jumper bars and testing option with 859-500 test pin



Carrier terminal block with 1-conductor female plug



2-conductor female plug  
Commoning option of carrier terminal blocks with 2000 Series push-in type jumper bars and testing option with 859-500 test pin



Carrier terminal block with two 1-conductor female plugs

# X-COM® -SYSTEM-MINI


## Female Plugs for Self-Assembly

### 2020 Series













0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③

Terminal block width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ④

0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③







Terminal block width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ④



Item No.	Pack. Unit	Item No.	Pack. Unit
<b>1-conductor end module,</b> with coding fingers		<b>2-conductor end module,</b> with coding fingers	
 gray	<b>2020-181</b> 250	 gray	<b>2020-281</b> 250
 blue	<b>2020-184</b> 250	 blue	<b>2020-284</b> 250
 green-yellow	<b>2020-187</b> 250	 green-yellow	<b>2020-287</b> 250
<b>1-conductor base module with end plate,</b> with coding fingers		<b>2-conductor base module with end plate,</b> with coding fingers	
 gray	<b>2020-161</b> 250	 gray	<b>2020-261</b> 250
 blue	<b>2020-164</b> 250	 blue	<b>2020-264</b> 250
 green-yellow	<b>2020-167</b> 250	 green-yellow	<b>2020-267</b> 250

#### Accessories Female Plugs

Appropriate marking systems: WMB/Marking strips  
(see Section 13)

<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks  yellow	<b>2000-115</b> 100 (4x25)
<b>Locking lever,</b> 9.6 mm wide  orange	<b>2022-152</b> 100 (4x25)
gray	<b>2022-151</b> 100 (4x25)
<b>Locking lever,</b> 4.8 mm wide  orange	<b>2022-142</b> 100 (4x25)
gray	<b>2022-141</b> 100 (4x25)
<b>Strain relief plate, gray</b>  35 mm width	<b>734-326</b> 100 (4x25)
6 mm wide	<b>734-327</b> 100 (4x25)
12.5 mm width	<b>734-328</b> 100 (4x25)
25 mm wide	<b>734-329</b> 100 (4x25)
<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, for 3.5 mm terminal block width  plain	<b>793-3501</b> 5
<b>Marking strip, plain,</b> 11 mm wide, 50 m roll  white	<b>2009-110</b> 1

**Self-Assembly of Individual Female Plugs**

Using modular female plugs from the X-COM®S-SYSTEM, female plugs can be customized for applications requiring varying numbers of poles (e.g., when designing prototypes).

**Modules and Pole Numbers**

A self-assembled female plug consists of: Base module with end plate and **max. 14** end modules.

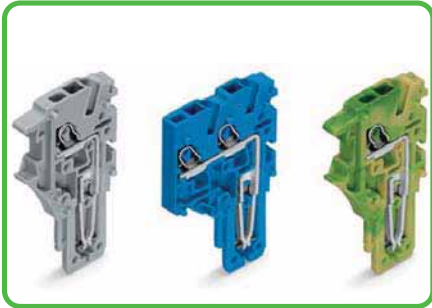
**Intended Use**

According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.

**Assembly**

The appropriate mounting tool shall be used to guarantee that the individual modules are properly attached to each other without damaging the locking latches.

- ❶ Conductor sizes: 0.14 mm<sup>2</sup> – 1.5 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.5 mm<sup>2</sup> – 1.5 mm<sup>2</sup> "s" and 0.5 mm<sup>2</sup> – 0.75 mm<sup>2</sup> "insulated ferrule, 10 mm"
- ❷ 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ❸ Current-carrying capacity curves upon request
- ❹ Strip length, see packaging or instructions.



End Module



Base Module

**Example: 5-Pole, 1-Conductor Female Plug**



Base module with end plate  
2020-167

End module  
2020-184

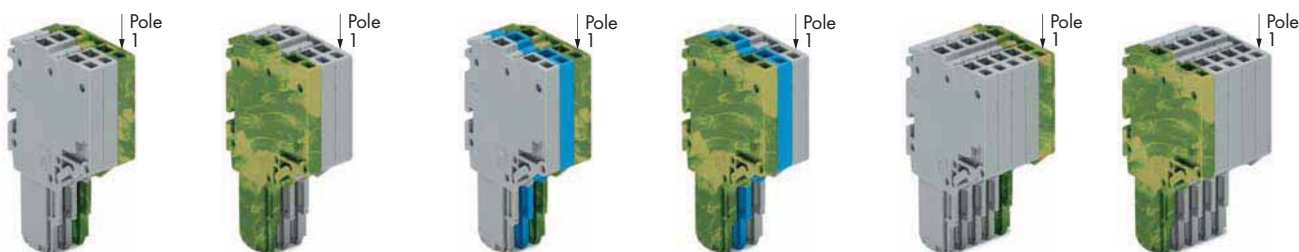
End modules  
2020-181

# X-COM® S-SYSTEM-MINI

## Pre-Assembled Female Plugs

### 2020 Series

0.14 - 1 (1.5) mm <sup>2</sup> ①   AWG 24 - 16 500 V/6 kV/3 ② I <sub>N</sub> 13.5 A ③ module width 3.5 mm / 0.138 in 9 - 11 mm / 0.39 in ④	0.14 - 1 (1.5) mm <sup>2</sup> ①   AWG 24 - 16 500 V/6 kV/3 ② I <sub>N</sub> 13.5 A ③ module width 3.5 mm / 0.138 in 9 - 11 mm / 0.39 in ④	0.14 - 1 (1.5) mm <sup>2</sup> ①   AWG 24 - 16 500 V/6 kV/3 ② I <sub>N</sub> 13.5 A ③ module width 3.5 mm / 0.138 in 9 - 11 mm / 0.39 in ④
--------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------



Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
2-conductor female plug with ground base module (green-yellow), for insertion into carrier terminal blocks, with coding fingers			2-conductor female plug with ground base module (green-yellow), for insertion into carrier terminal blocks, with coding fingers, gray, blue, green-yellow			2-conductor female plug with ground base module (green-yellow), for insertion into carrier terminal blocks, with coding fingers		
3	2020-203/000-036	50	3	2020-203/000-038	50	5	2020-205/000-036	50
2-conductor female plug with ground end module (green-yellow), for insertion into carrier terminal blocks, with coding fingers			2-conductor female plug with ground end module (green-yellow), for insertion into carrier terminal blocks, with coding fingers, green-yellow, blue, gray			2-conductor female plug with ground end module (green-yellow), for insertion into carrier terminal blocks, with coding fingers		
3	2020-203/000-037	50	3	2020-203/000-039	50	5	2020-205/000-037	50
For other lengths up to maximum 15 poles, please contact factory.			For other lengths up to maximum 15 poles, please contact factory.			For other lengths up to maximum 15 poles, please contact factory.		

### Accessories Female Plugs


Appropriate marking systems: WMB/Marking strips  
(see Section 13)

<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow 2000-115 100 (4x25)		
<b>Locking lever,</b> 9.6 mm wide orange 2022-152 100 (4x25) gray 2022-151 100 (4x25)		
<b>Locking lever,</b> 4.8 mm wide orange 2022-142 100 (4x25) gray 2022-141 100 (4x25)		
<b>Strain relief plate, gray</b> 35 mm width 734-326 100 (4x25) 6 mm wide 734-327 100 (4x25) 12.5 mm width 734-328 100 (4x25) 25 mm wide 734-329 100 (4x25)		
<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, for 3.5 mm terminal block width plain 793-3501 5		
<b>Marking strip, plain,</b> 11 mm wide, 50 m roll white 2009-110 1		

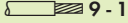


X-COM® -SYSTEM-MINI1-Conductor Female Plugs with Locking Levers and Strain Relief Plates  
Series 2020

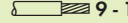
0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③

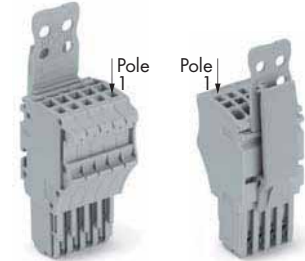
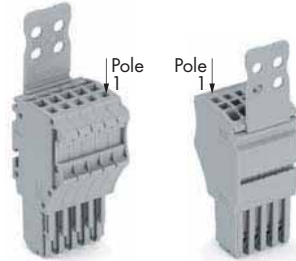
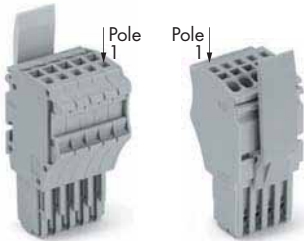
module width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ④

0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③

module width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ④

0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③

module width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ④



Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
1-conductor female plug with locking lever, for insertion into carrier terminal blocks, with coding fingers, gray According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.			1-conductor female plug with strain relief plate, for insertion into carrier terminal blocks, with coding fingers, gray According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.			1-conductor female plug with strain relief plate and locking lever, for insertion into carrier terminal blocks, with coding fingers, gray According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.		
2	2020-102/122-000	100	2	2020-102/132-000	100	2	2020-102/142-000	100
3	2020-103/122-000	50	3	2020-103/132-000	50	3	2020-103/142-000	50
4	2020-104/124-000	50	4	2020-104/133-000	50	4	2020-104/143-000	50
5	2020-105/124-000	50	5	2020-105/133-000	50	5	2020-105/143-000	50
6	2020-106/124-000	25	6	2020-106/133-000	25	6	2020-106/143-000	25
7	2020-107/124-000	25	7	2020-107/134-000	25	7	2020-107/144-000	25
8	2020-108/124-000	25	8	2020-108/134-000	25	8	2020-108/144-000	25
9	2020-109/124-000	25	9	2020-109/134-000	25	9	2020-109/144-000	25
10	2020-110/125-000	25	10	2020-110/135-000	25	10	2020-110/145-000	25
11	2020-111/125-000	20	11	2020-111/135-000	20	11	2020-111/145-000	20
12	2020-112/125-000	20	12	2020-112/135-000	20	12	2020-112/145-000	20
13	2020-113/125-000	10	13	2020-113/135-000	10	13	2020-113/145-000	10
14	2020-114/125-000	10	14	2020-114/135-000	10	14	2020-114/145-000	10
15	2020-115/125-000	10	15	2020-115/135-000	10	15	2020-115/145-000	10

## Accessories Female Plugs

Appropriate marking systems: WMB/Marking strips  
(see Section 13)

<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>2000-115</b> 100 (4x25)	<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, for 3.5 mm terminal block width plain <b>793-3501</b> 5
<b>Locking lever,</b> 9.6 mm wide orange <b>2022-152</b> 100 (4x25) gray <b>2022-151</b> 100 (4x25)	<b>Marking strip, plain,</b> 11 mm wide, 50 m roll white <b>2009-110</b> 1
<b>Locking lever,</b> 4.8 mm wide orange <b>2022-142</b> 100 (4x25) gray <b>2022-141</b> 100 (4x25)	
<b>Strain relief plate, gray</b> 35 mm width <b>734-326</b> 100 (4x25) 6 mm width <b>734-327</b> 100 (4x25) 12.5 mm width <b>734-328</b> 100 (4x25) 25 mm width <b>734-329</b> 100 (4x25)	

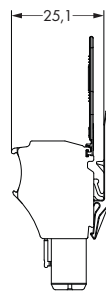
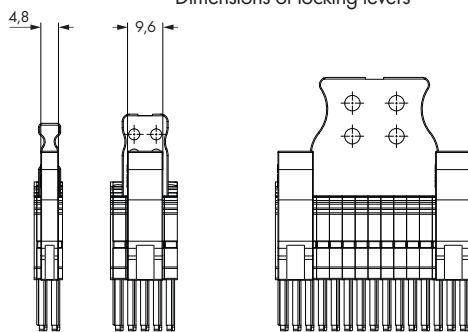


- ❶ Conductor sizes: 0.14 mm<sup>2</sup> – 1.5 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.5 mm<sup>2</sup> – 1.5 mm<sup>2</sup> "s"  
and 0.5 mm<sup>2</sup> – 0.75 mm<sup>2</sup>  
"insulated ferrule, 10 mm"
- ❷ 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ❸ Current-carrying capacity curves upon request
- ❹ Strip length, see packaging or instructions.

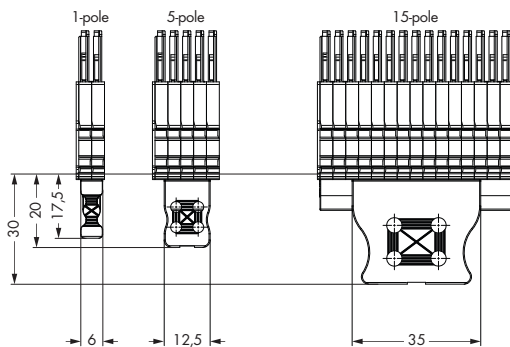
Strain Relief Plate (SRP), Gray				Locking Levers (LL), Gray				SRP and LL, Gray
Assembled				Assembled				Assembled
SRP				Pole No.	Quantity	1-way	2-way	
Item No. Suffix				Item No. Suffix				Item No. Suffix
Item No.	Color	Width						
734-327	gray	6mm	/132-0xx	2 to 3	1	/122-0xx	-	/142-0xx
734-328	gray	12.5mm	/133-0xx	4 to 6	1	-	/124-0xx	/143-0xx
734-329	gray	25mm	/134-0xx	7 to 9	1	-	/124-0xx	/144-0xx
734-326	gray	35mm	/135-0xx	10 to 15	2	-	/125-0xx	/145-0xx

For colored female plugs, the item number suffix "xx" must be replaced by the blue "-006" and the green-yellow "-016" color suffix.

Dimensions of locking levers




Description	Color	Item No.	Suffix No.
1-conductor female plug	gray	2020-102	none
2 to 15-pole	blue	to	/000-006
	green-yellow	2020-115	/000-016



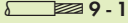
Dimensions of strain relief plates

X-COM®  -SYSTEM-MINI2-Conductor Female Plugs with Locking Levers and Strain Relief Plates  
Series 2020

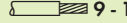
0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③

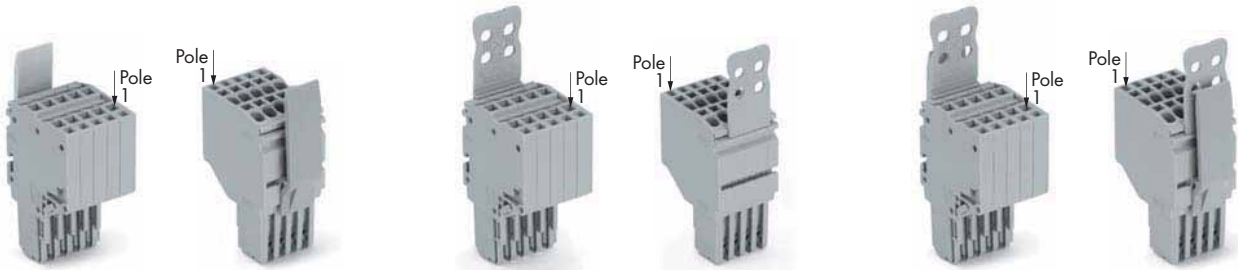
module width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ④

0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③

module width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ④

0.14 - 1 (1.5) mm<sup>2</sup> ① | AWG 24 - 16  
500 V/6 kV/3 ②  
I<sub>N</sub> 13.5 A ③

module width 3.5 mm / 0.138 in  
 9 - 11 mm / 0.39 in ④



Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
2-conductor female plug with locking lever, for insertion into carrier terminal blocks, with coding fingers, gray According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.			2-conductor female plug with strain relief plate, for insertion into carrier terminal blocks, with coding fingers, gray According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.			2-conductor female plug with strain relief plate and locking lever, for insertion into carrier terminal blocks, with coding fingers, gray According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.		
2	2020-202/122-000	100	2	2020-202/132-000	100	2	2020-202/142-000	100
3	2020-203/122-000	50	3	2020-203/132-000	50	3	2020-203/142-000	50
4	2020-204/124-000	50	4	2020-204/133-000	50	4	2020-204/143-000	50
5	2020-205/124-000	50	5	2020-205/133-000	50	5	2020-205/143-000	50
6	2020-206/124-000	25	6	2020-206/133-000	25	6	2020-206/143-000	25
7	2020-207/124-000	25	7	2020-207/134-000	25	7	2020-207/144-000	25
8	2020-208/124-000	25	8	2020-208/134-000	25	8	2020-208/144-000	25
9	2020-209/124-000	25	9	2020-209/134-000	25	9	2020-209/144-000	25
10	2020-210/125-000	25	10	2020-210/135-000	25	10	2020-210/145-000	25
11	2020-211/125-000	20	11	2020-211/135-000	20	11	2020-211/145-000	20
12	2020-212/125-000	20	12	2020-212/135-000	20	12	2020-212/145-000	20
13	2020-213/125-000	10	13	2020-213/135-000	10	13	2020-213/145-000	10
14	2020-214/125-000	10	14	2020-214/135-000	10	14	2020-214/145-000	10
15	2020-215/125-000	10	15	2020-215/135-000	10	15	2020-215/145-000	10

## Accessories Female Plugs

Appropriate marking systems: WMB/Marking strips  
(see Section 13)

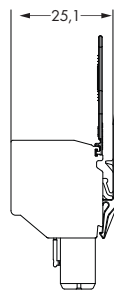
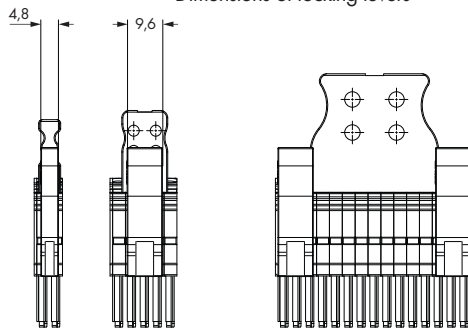
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>2000-115</b> 100 (4x25)	<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, for 3.5 mm terminal block width plain <b>793-3501</b> 5
<b>Locking lever,</b> 9.6 mm wide orange <b>2022-152</b> 100 (4x25) gray <b>2022-151</b> 100 (4x25)	<b>Marking strip, plain,</b> 11 mm wide, 50 m roll white <b>2009-110</b> 1
<b>Locking lever,</b> 4.8 mm wide orange <b>2022-142</b> 100 (4x25) gray <b>2022-141</b> 100 (4x25)	
<b>Strain relief plate, gray</b> 35 mm width <b>734-326</b> 100 (4x25) 25 mm wide <b>734-329</b> 100 (4x25) 6 mm wide <b>734-327</b> 100 (4x25) 12.5 mm width <b>734-328</b> 100 (4x25)	

- ❶ Conductor sizes: 0.14 mm<sup>2</sup> – 1.5 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.5 mm<sup>2</sup> – 1.5 mm<sup>2</sup> "s"  
and 0.5 mm<sup>2</sup> – 0.75 mm<sup>2</sup> "insulated ferrule, 10 mm"
- ❷ 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ❸ Current-carrying capacity curves upon request
- ❹ Strip length, see packaging or instructions.

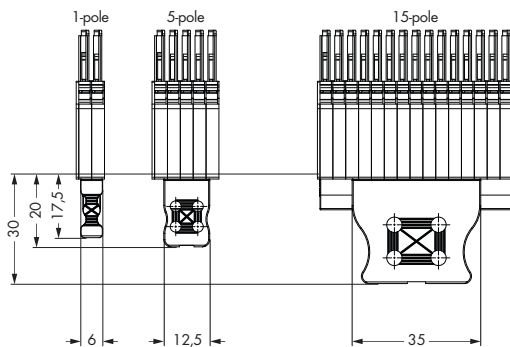
Strain Relief Plate (SRP), Gray				Locking Levers (LL), Gray				SRP and LL, Gray
Assembled				Assembled				Assembled
SRP				Pole No.	Quantity	1-way	2-way	
Item No. Suffix				Item No. Suffix				Item No. Suffix
Item No.	Color	Width						
734-327	gray	6mm	/132-0xx	2 to 3	1	/122-0xx	-	/142-0xx
734-328	gray	12.5mm	/133-0xx	4 to 6	1	-	/124-0xx	/143-0xx
734-329	gray	25mm	/134-0xx	7 to 9	1	-	/124-0xx	/144-0xx
734-326	gray	35mm	/135-0xx	10 to 15	2	-	/125-0xx	/145-0xx

For colored female plugs, the item number suffix "xx" must be replaced by the blue "-006" and the green-yellow "-016" color suffix.

Dimensions of locking levers



Description	Color	Item No.	Suffix No.
1-conductor female plug	gray	2020-202	none
2 to 15-pole	blue	to	/000-006
	green-yellow	2020-215	/000-016



Dimensions of strain relief plates

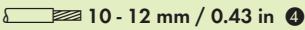
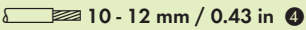
# 7 X-COM® S-SYSTEM

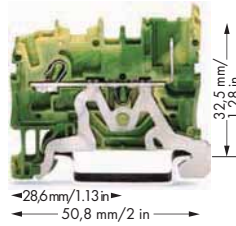
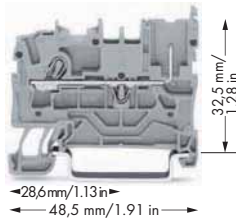
## 1-Conductor/1-Pin Carrier Terminal Blocks

### 2022 Series











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<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b>   AWG 22 - 12 <b>690 V/6 kV/3 ②</b> <b>I<sub>N</sub> 24 A (32 A) ③</b> Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ④	<b>0.25 - 2.5 (4) mm<sup>2</sup> ①</b>   AWG 22 - 12  Terminal block width 5.2 mm / 0.205 in  10 - 12 mm / 0.43 in ④
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

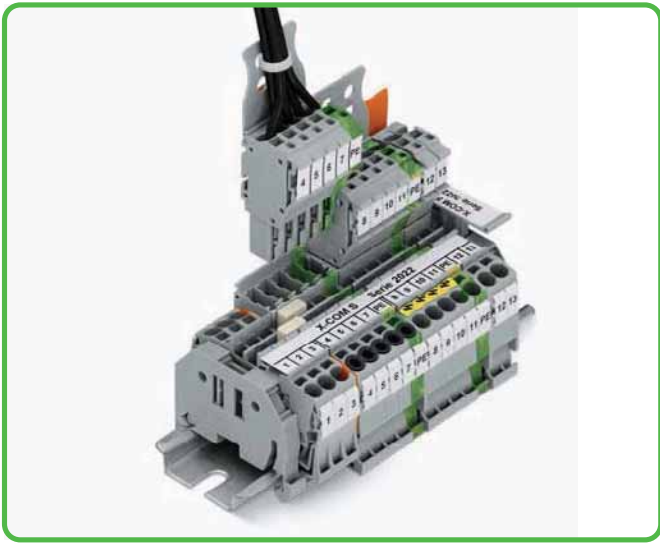


- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 690 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ See "Current-carrying capacity curves upon request"
- ④ Strip length, see packaging or instructions.
- ⑤ See application notes for:  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Push-in type wire jumper, page 140

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>1-conductor/1-pin carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		<b>1-conductor/1-pin ground carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		
gray	<b>2022-1201</b> 100	green-yellow	<b>2022-1207</b> 100	
blue	<b>2022-1204</b> 100			
<b>Item-Specific Accessories</b>				
<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks				
	yellow	<b>2002-115</b>	100 (4x25)	
<b>2022 Series Accessories</b>				
WMB/WMB Inline/Marking strips (see Section 13)				
<b>End and intermediate plate, 1 mm thick</b>		<b>Staggered jumper,</b>		
	orange	<b>2022-1292</b>	100 (4x25)	
	gray	<b>2022-1291</b>	100 (4x25)	
<b>Insulation stop,</b>		 ⑤ insulated, I <sub>N</sub> 25 A, light gray		
	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>	2-way	<b>2002-472</b> 100 (4x25)	
	light gray	3-way	<b>2002-473</b> 100 (4x25)	
		4-way	<b>2002-474</b> 100 (4x25)	
<b>Insulation stop,</b>		5-way	<b>2002-475</b> 50 (2x25)	
	5 pcs/strip, 0.75 - 1 mm <sup>2</sup>	6-way	<b>2002-476</b> 50 (2x25)	
	dark gray	7-way	<b>2002-477</b> 50 (2x25)	
		8-way	<b>2002-478</b> 50 (2x25)	
<b>Push-in type jumper bar, insulated,</b>		9-way	<b>2002-479</b> 50 (2x25)	
 ⑤	I <sub>N</sub> 25 A, light gray	10-way	<b>2002-480</b> 50 (2x25)	
	2-way	11-way	<b>2002-481</b> 50 (2x25)	
	3-way	12-way	<b>2002-482</b> 50 (2x25)	
	4-way	<b>Push-in type wire jumper,</b>		
	5-way	⑤ insulated, I <sub>N</sub> 16 A, wire size 1.5 mm <sup>2</sup>		
	6-way	L = 60 mm	<b>2009-412</b> 100 (10x10)	
	7-way	L = 110 mm	<b>2009-414</b> 100 (10x10)	
	8-way	L = 250 mm	<b>2009-416</b> 100 (10x10)	
	9-way	<b>Carrier with 6 coding pins,</b>		
	10-way	⑤ I <sub>N</sub> 25 A, light gray for coding female plugs		
		orange	<b>2022-100</b> 100 (4x25)	
<b>Push-in type jumper bar, insulated,</b>				
	I <sub>N</sub> 25 A, light gray	<b>Test pin,</b>		
	from 1 to 3	⑤ 1 mm Ø		
	from 1 to 4			
	from 1 to 5	<b>859-500</b> 1		
	from 1 to 6	<b>1-conductor female plug</b>		
	from 1 to 7	gray		
	from 1 to 8	<b>2022-101</b>	200	
	from 1 to 9			
	from 1 to 10			
<b>WMB Multi marking system,</b>				
10 strips with 10 markers per card, stretchable 5 - 5.2 mm				
plain				<b>793-5501</b> 5
<b>WMB Multi marking system, plain,</b>				
10 strips with 10 markers per card, stretchable 5 - 5.2 mm				
yellow				<b>793-5501/000-002</b>
red				<b>793-5501/000-005</b>
blue				<b>793-5501/000-006</b>
gray				<b>793-5501/000-007</b>
orange				<b>793-5501/000-012</b>
light green				<b>793-5501/000-017</b>
green				<b>793-5501/000-023</b>
violet				<b>793-5501/000-024</b> 5
<b>WMB Inline, plain,</b>				
stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll				
white				<b>2009-115</b> 1
<b>Marking strip, plain,</b>				
11 mm wide, 50 m roll				
white				<b>2009-110</b> 1
<b>Screwless end stop,</b>				
for DIN 35 rail, 6 mm wide				
gray				<b>249-116</b> 100 (4x25)

# Types of Assembly

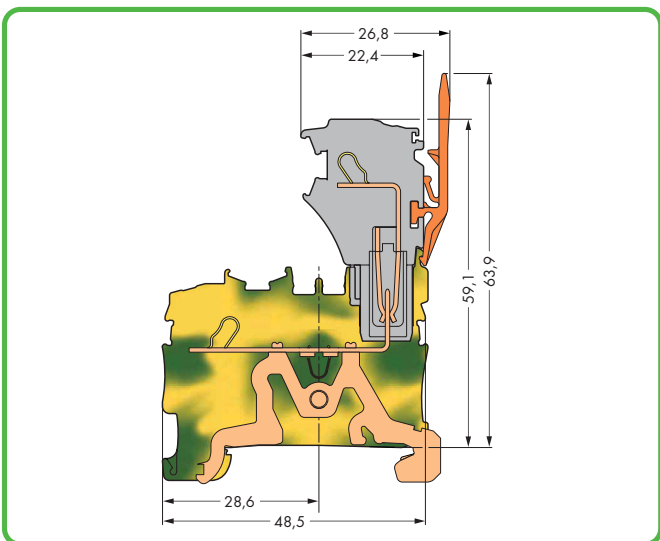
## 1-Conductor/1-Pin Carrier Terminal Blocks and 1-Conductor Female Plugs



X-COM®S terminal block assembly



1-conductor female plug  
Carrier terminal blocks can be commoned via 2002 Series push-in type jumper bars.

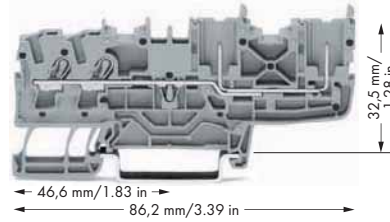
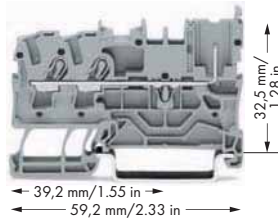


Ground carrier terminal block



0.25 - 2.5 (4) mm <sup>2</sup> ①   AWG 22 - 12 690 V/6 kV/3 ② I <sub>N</sub> 24 A (32 A) ③ Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ④
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0.25 - 2.5 (4) mm <sup>2</sup> ①   AWG 22 - 12 690 V/6 kV/3 ② I <sub>N</sub> 24 A (28 A) ③ Terminal block width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ④
----------------------------------------------------------------------------------------------------------------------------------------------------------------------



- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 690 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ③ Current-carrying capacity curves upon request
- ④ Strip length, see packaging or instructions.
- ⑤ See application notes for:  
Colored push-in type jumper bars, page 139  
Staggered jumper, page 141  
Push-in type wire jumper, page 140  
Marker carrier, page 145

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>2-conductor/1-pin carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		<b>2-conductor/2-pin carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>2002-115</b> 100 (4x25)
gray <b>2022-1301</b> 100	blue <b>2022-1304</b> 100	gray <b>2022-1401</b> 50	blue <b>2022-1404</b> 50	
<b>2-conductor/1-pin ground carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		<b>2-conductor/2-pin ground carrier terminal block,</b> for DIN 35 rail, acc. to EN 60715		<b>1-conductor female plug</b> gray <b>2022-101</b> 200
green-yellow <b>2022-1307</b> 100	green-yellow <b>2022-1407</b> 50	<b>Item-Specific Accessories</b>		<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>WMB Multi marking system, plain,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm yellow <b>793-5501/000-002</b> red <b>793-5501/000-005</b> blue <b>793-5501/000-006</b> gray <b>793-5501/000-007</b> orange <b>793-5501/000-012</b> light green <b>793-5501/000-017</b> green <b>793-5501/000-023</b> violet <b>793-5501/000-024</b> 5
<b>End and intermediate plate, 1 mm thick</b> orange <b>2022-1392</b> 100 (4x25) gray <b>2022-1391</b> 100 (4x25)		<b>End and intermediate plate, 1 mm thick</b> orange <b>2022-1492</b> 100 (4x25) gray <b>2022-1491</b> 100 (4x25)		<b>WMB Inline, plain,</b> stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white <b>2009-115</b> 1
<b>2022 Series Accessories</b> Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)				<b>Marking strip, plain,</b> 11 mm wide, 50 m roll white <b>2009-110</b> 1
<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>2002-171</b> 200 (8x25)	<b>Staggered jumper,</b> ⑤ insulated, I <sub>N</sub> 25 A, light gray 2-way <b>2002-472</b> 100 (4x25) 3-way <b>2002-473</b> 100 (4x25) 4-way <b>2002-474</b> 100 (4x25) 5-way <b>2002-475</b> 50 (2x25) 6-way <b>2002-476</b> 50 (2x25) 7-way <b>2002-477</b> 50 (2x25) 8-way <b>2002-478</b> 50 (2x25) 9-way <b>2002-479</b> 50 (2x25) 10-way <b>2002-480</b> 50 (2x25) 11-way <b>2002-481</b> 50 (2x25) 12-way <b>2002-482</b> 50 (2x25)			<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>2002-172</b> 200 (8x25)	<b>Push-in type wire jumper,</b> ⑤ insulated, I <sub>N</sub> 16 A, wire size 1.5 mm <sup>2</sup> L = 60 mm <b>2009-412</b> 100 (10x10) L = 110 mm <b>2009-414</b> 100 (10x10) L = 250 mm <b>2009-416</b> 100 (10x10)			
<b>Push-in type jumper bar, insulated,</b> ⑤ I <sub>N</sub> 25 A, light gray 2-way <b>2002-402</b> 200 (8x25) 3-way <b>2002-403</b> 200 (8x25) 4-way <b>2002-404</b> 200 (8x25) 5-way <b>2002-405</b> 100 (4x25) 6-way <b>2002-406</b> 100 (4x25) 7-way <b>2002-407</b> 100 (4x25) 8-way <b>2002-408</b> 100 (4x25) 9-way <b>2002-409</b> 100 (4x25) 10-way <b>2002-410</b> 100 (4x25)	<b>Carrier with 6 coding pins,</b> for coding female plugs orange <b>2022-100</b> 100 (4x25)			
<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 25 A, light gray from 1 to 3 <b>2002-433</b> 200 (8x25) from 1 to 4 <b>2002-434</b> 200 (8x25) from 1 to 5 <b>2002-435</b> 100 (4x25) from 1 to 6 <b>2002-436</b> 100 (4x25) from 1 to 7 <b>2002-437</b> 100 (4x25) from 1 to 8 <b>2002-438</b> 100 (4x25) from 1 to 9 <b>2002-439</b> 100 (4x25) from 1 to 10 <b>2002-440</b> 100 (4x25)	<b>Test pin,</b> 1 mm Ø <b>859-500</b> 1			




Insert coding pin into the corresponding slot and twist it off.




Carrier terminal blocks and female plugs are protected against accidental contact.

X-COM® -SYSTEM1-Conductor/1-Pin Double-Deck Carrier Terminal Blocks  
2022 Series


0.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12  
690 V/6 kV/3 ②  
I<sub>N</sub> 24 A (28 A) ③

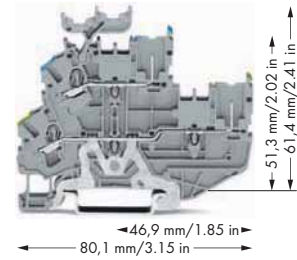
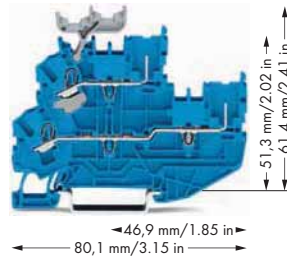
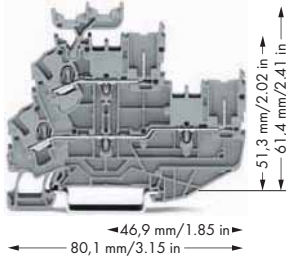
Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ④

0.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12  
690 V/6 kV/3 ②  
I<sub>N</sub> 24 A (28 A) ③

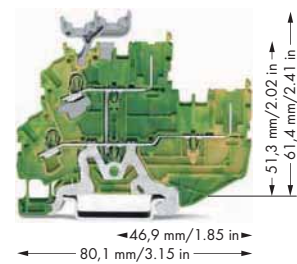
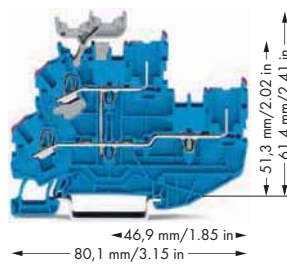
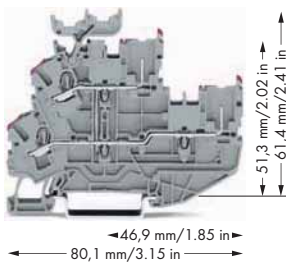
Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ④

0.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12  
690 V/6 kV/3 ②  
I<sub>N</sub> 24 A (28 A) ③

Terminal block width 5.2 mm / 0.205 in  
 10 - 12 mm / 0.43 in ④







Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
1-conductor/1-pin double-deck carrier terminal block, through/through terminal block, with marker carrier, gray housing		1-conductor/1-pin double-deck carrier terminal block, through/through terminal block, with marker carrier, blue housing		1-conductor/1-pin double-deck carrier terminal block, ground conductor/through terminal block, with marker carrier, gray housing	
<input type="radio"/> L/L	2022-2231 50	<input type="radio"/> N/N	2022-2234 50	<input type="radio"/> PE/N	2022-2247 50
<input type="radio"/> N/L	2022-2232 50			<input type="radio"/> PE/L	2022-2257 50
<input type="radio"/> L/N	2022-2233 50				
1-conductor/1-pin double-deck carrier terminal block, through/through terminal block, without marker carrier, gray housing		1-conductor/1-pin double-deck carrier terminal block, through/through terminal block, without marker carrier, blue housing		1-conductor/1-pin double-deck carrier terminal block, ground conductor/through terminal block, without marker carrier, gray housing	
<input type="radio"/> L/L	2022-2201 50	<input type="radio"/> N/N	2022-2204 50	<input type="radio"/> PE/N	2022-2217 50
<input type="radio"/> N/L	2022-2202 50			<input type="radio"/> PE/L	2022-2227 50
<input type="radio"/> L/N	2022-2203 50				

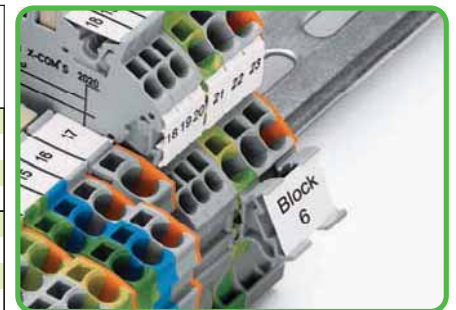


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin through terminal block, with marker carrier, internal commoning, female plug conductor entry with violet marking, gray housing		2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin through terminal block, with marker carrier, internal commoning, female plug conductor entry with violet marking, blue housing		2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin ground conductor terminal block, with marker carrier, internal commoning, green-yellow housing	
<input type="radio"/> L	2022-2238 50	<input type="radio"/> N	2022-2239 50	<input type="radio"/> PE	2022-2237 50
2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin through terminal block, without marker carrier, internal commoning, female plug conductor entry with violet marking, gray housing		2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin through terminal block, without marker carrier, internal commoning, female plug conductor entry with violet marking, blue housing		2-conductor/2-pin double-deck carrier terminal block, 2-conductor/2-pin ground conductor terminal block, without marker carrier, internal commoning, green-yellow housing	
<input type="radio"/> L	2022-2208 50	<input type="radio"/> N	2022-2209 50	<input type="radio"/> PE	2022-2207 50



- ❶ Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-sl";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup>  
"insulated ferrule, 12 mm"
- ❷ 690 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ❸ Current-carrying capacity curves upon request
- ❹ Strip length, see packaging or instructions.
- ❺ See application notes for:  
Colored push-in type jumper bars, page 139  
Vertical jumper, page 142

2022 Series Accessories				
Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)				
<b>End and intermediate plate, 1 mm thick</b> 	orange	2022-2292	100 (4x25)	
	gray	2022-2291	100 (4x25)	
<b>1-conductor female plug</b> 	gray	2022-101	200	
<b>Insulation stop,</b> 	5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup>			
	light gray	2002-171	200 (8x25)	
<b>Protective warning marker,</b> 	with high-voltage symbol, black, for 5 terminal blocks			
	yellow	2002-115	100 (4x25)	
<b>Insulation stop,</b> 	5 pcs/strip, 0.75 - 1 mm <sup>2</sup>			
	dark gray	2002-172	200 (8x25)	
<b>Double-deck marker carrier,</b> 	pivoting			
	gray	2002-121	50 (2x25)	
<b>Push-in type jumper bar, insulated,</b> 	❺ I <sub>N</sub> 25 A, light gray			
	2-way	2002-402	200 (8x25)	
	3-way	2002-403	200 (8x25)	
	4-way	2002-404	200 (8x25)	
	5-way	2002-405	100 (4x25)	
	6-way	2002-406	100 (4x25)	
	7-way	2002-407	100 (4x25)	
	8-way	2002-408	100 (4x25)	
	9-way	2002-409	100 (4x25)	
	10-way	2002-410	100 (4x25)	
<b>WMB Multi marking system,</b> 	10 strips with 10 markers per card, stretchable 5 - 5.2 mm			
	plain	793-5501	5	
	<b>WMB Multi marking system, plain,</b> 	10 strips with 10 markers per card, stretchable 5 - 5.2 mm		
		yellow	793-5501/000-002	
		red	793-5501/000-005	
		blue	793-5501/000-006	
		gray	793-5501/000-007	
		orange	793-5501/000-012	
		light green	793-5501/000-017	
		green	793-5501/000-023	
violet	793-5501/000-024	5		
<b>Push-in type jumper bar, insulated,</b> 	I <sub>N</sub> 25 A, light gray			
	from 1 to 3	2002-433	200 (8x25)	
	from 1 to 4	2002-434	200 (8x25)	
	from 1 to 5	2002-435	100 (4x25)	
	from 1 to 6	2002-436	100 (4x25)	
	from 1 to 7	2002-437	100 (4x25)	
	from 1 to 8	2002-438	100 (4x25)	
	from 1 to 9	2002-439	100 (4x25)	
	from 1 to 10	2002-440	100 (4x25)	
	<b>WMB Inline, plain,</b> 	stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll		
white		2009-115	1	
<b>Marking strip, plain,</b> 	11 mm wide, 50 m roll			
	white	2009-110	1	
<b>Double-deck vertical jumper, insulated,</b> 	❺ I <sub>N</sub> 24 A, light gray	2002-492	100 (4x25)	
<b>Carrier with 6 coding pins,</b> 	for coding female plugs			
	orange	2022-100	100 (4x25)	
<b>Test pin,</b> 	1 mm Ø			
		859-500	1	



Marking with marker strip 2009-198

# X-COM® S-SYSTEM 1-Conductor Female Plugs 2022 Series

0.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12  
690 V/6 kV/3 ②  
I<sub>N</sub> 24 A (32 A) ③  
Terminal block width 5.2 mm / 0.205 in  
10 - 12 mm / 0.43 in ④

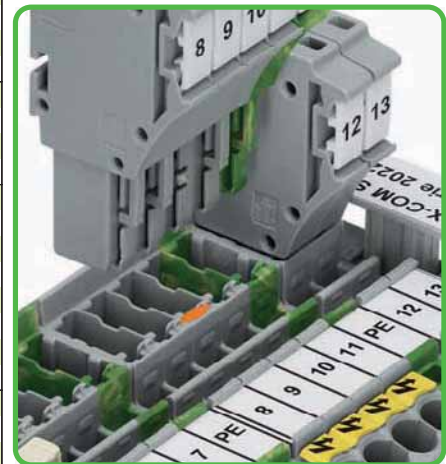


- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 690 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Current-carrying capacity curves upon request
- ④ Strip length, see packaging or instructions.
- ⑤ Item-no. suffix  
blue .../000-006

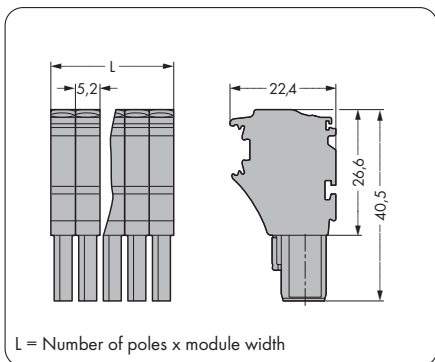
Pole No.	Item No.	Pack. Unit	Accessories
<b>1-conductor female plug</b> , for insertion into carrier terminal blocks, with coding fingers, gray According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.			Appropriate marking system: (see Section 13)
① 1    2022-101    200 ② 2    2022-102    200 ③ 3    2022-103    100 ④ 4    2022-104    100 ⑤ 5    2022-105    50 ⑥ 6    2022-106    50 ⑦ 7    2022-107    50 ⑧ 8    2022-108    50 ⑨ 9    2022-109    50 ⑩ 10   2022-110   25 ⑪ 11   2022-111   25 ⑫ 12   2022-112   25 ⑬ 13   2022-113   25 ⑭ 14   2022-114   25 ⑮ 15   2022-115   25			<b>Insulation stop</b> , 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray    2002-171    200 (8x25)
<b>1-conductor female plug</b> , for insertion into carrier terminal blocks, with coding fingers, green-yellow According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.			<b>Insulation stop</b> , 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray    2002-172    200 (8x25)
① 1    2022-101/000-016    200 ② 2    2022-102/000-016    200			<b>Locking lever</b> , 4.8 mm wide orange    2022-142    100 (4x25) gray    2022-141    100 (4x25)
			<b>Locking lever</b> , 9.6 mm wide orange    2022-152    100 (4x25) gray    2022-151    100 (4x25)
			<b>Protective warning marker</b> , with high-voltage symbol, black, for 5 terminal blocks yellow    2002-115    100 (4x25)
			<b>Carrier with 6 coding pins</b> , for coding female plugs orange    2022-100    100 (4x25)
			<b>Strain relief plate</b> , gray 35 mm width    734-326    100 (4x25) 6 mm wide    734-327    100 (4x25) 12.5 mm width    734-328    100 (4x25) 25 mm wide    734-329    100 (4x25) 55 mm width    734-430    50 (2x25) 75 mm width    734-431    50 (2x25)
			<b>WMB Multi marking system</b> , 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain    793-5501    5
			<b>WMB Inline</b> , plain, stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white    2009-115    1
			<b>Marking strip</b> , plain, 11 mm wide, 50 m roll white    2009-110    1



To code a female plug, remove the desired coding finger using a suitable tool.



Insert a 2022-100 coding pin into the corresponding location of the carrier terminal block.



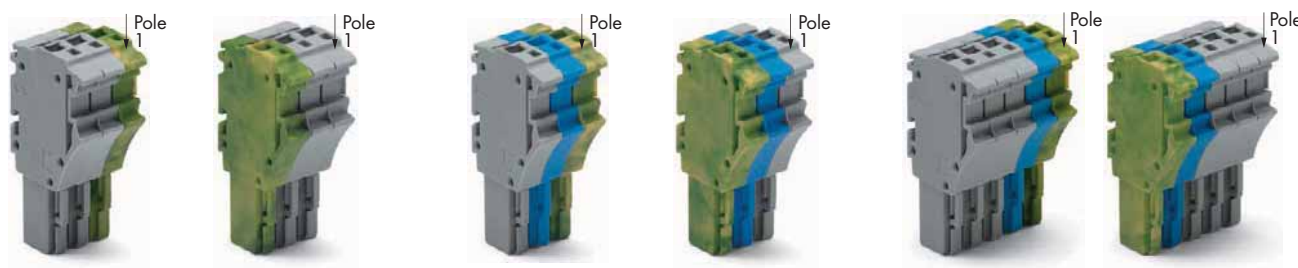
Dimensions in mm

# X-COM® S-SYSTEM

## Pre-Assembled Female Plugs

### 2022 Series










0.25 - 2.5 (4) mm <sup>2</sup> ①   AWG 22 - 12 690 V/6 kV/3 ② I <sub>N</sub> 24 A (32 A) ③ module width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ④	0.25 - 2.5 (4) mm <sup>2</sup> ①   AWG 22 - 12 690 V/6 kV/3 ② I <sub>N</sub> 24 A (32 A) ③ module width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ④	0.25 - 2.5 (4) mm <sup>2</sup> ①   AWG 22 - 12 690 V/6 kV/3 ② I <sub>N</sub> 24 A (32 A) ③ module width 5.2 mm / 0.205 in 10 - 12 mm / 0.43 in ④
--------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------



Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
1-conductor female plug with ground base module (green-yellow), for insertion into carrier terminal blocks, with coding fingers			1-conductor female plug with ground base module (green-yellow), for insertion into carrier terminal blocks, with coding fingers, gray, blue, green-yellow			1-conductor female plug with ground base module (green-yellow), for insertion into carrier terminal blocks, with coding fingers, gray, blue, green-yellow		
3	2022-103/000-036	100	3	2022-103/000-038	100	5	2022-105/000-038	50
1-conductor female plug with ground end module (green-yellow), for insertion into carrier terminal blocks, with coding fingers			1-conductor female plug with ground end module (green-yellow), for insertion into carrier terminal blocks, with coding fingers, green-yellow, blue, gray			1-conductor female plug with ground end module (green-yellow), for insertion into carrier terminal blocks, with coding fingers, green-yellow, blue, gray		
3	2022-103/000-037	100	3	2022-103/000-039	100	5	2022-105/000-039	50
For other lengths up to maximum 15 poles, please contact factory.			For other lengths up to maximum 15 poles, please contact factory.			For other lengths up to maximum 15 poles, please contact factory.		

#### Accessories Female Plugs

Appropriate marking systems: WMB/Marking strips/WMB Inline  
(see Section 13)

<b>Insulation stop,</b>  5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>2002-171</b> 200 (8x25)	<b>WMB Multi marking system,</b>  10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5
<b>Insulation stop,</b>  5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>2002-172</b> 200 (8x25)	<b>WMB Inline, plain,</b>  stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white <b>2009-115</b> 1
<b>Locking lever,</b>  4.8 mm wide orange <b>2022-142</b> 100 (4x25) gray <b>2022-141</b> 100 (4x25)	<b>Marking strip, plain,</b>  11 mm wide, 50 m roll white <b>2009-110</b> 1
<b>Locking lever,</b>  9.6 mm wide orange <b>2022-152</b> 100 (4x25) gray <b>2022-151</b> 100 (4x25)	
<b>Protective warning marker,</b>  with high-voltage symbol, black, for 5 terminal blocks yellow <b>2002-115</b> 100 (4x25)	
<b>Strain relief plate, gray</b>  35 mm width <b>734-326</b> 100 (4x25) 6 mm wide <b>734-327</b> 100 (4x25) 12.5 mm width <b>734-328</b> 100 (4x25) 25 mm wide <b>734-329</b> 100 (4x25) 55 mm width <b>734-430</b> 50 (2x25) 75 mm width <b>734-431</b> 50 (2x25)	

For list of approvals and user guide, see pages 634 to 637.

# X-COM® -SYSTEM

## Female Plugs for Self-Assembly


### 2022 Series

0.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12




















690 V/6 kV/3 ②

I<sub>N</sub> 24 A (32 A) ③

Terminal block width 5.2 mm / 0.205 in

 10 - 12 mm / 0.43 in ④



Item No.	Pack. Unit	
<b>1-conductor end module,</b>		
with coding fingers		
 gray	<b>2022-181</b>	250
 blue	<b>2022-184</b>	250
 green-yellow	<b>2022-187</b>	250
<b>1-conductor center module,</b>		
with coding fingers		
 gray	<b>2022-171</b>	250
 blue	<b>2022-174</b>	250
 green-yellow	<b>2022-177</b>	250
<b>1-conductor base module, with integrated end plate,</b>		
with coding fingers		
 gray	<b>2022-161</b>	250
 blue	<b>2022-164</b>	250
 green-yellow	<b>2022-167</b>	250
<b>Accessories Female Plugs</b>		
Appropriate marking systems: WMB/Marking strips/WMB Inline (see Section 13)		
<b>Insulation stop,</b>		<b>WMB Multi marking system,</b>
 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray	<b>2002-171</b>	200 (8x25)
		 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain
		<b>793-5501</b>
		5
<b>Insulation stop,</b>		<b>WMB Multi marking system, plain,</b>
 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray	<b>2002-172</b>	200 (8x25)
		 10 strips with 10 markers per card, stretchable 5 - 5.2 mm yellow
		<b>793-5501/000-002</b>
		red
		<b>793-5501/000-005</b>
		blue
		<b>793-5501/000-006</b>
		gray
		<b>793-5501/000-007</b>
		orange
		<b>793-5501/000-012</b>
		light green
		<b>793-5501/000-017</b>
		green
		<b>793-5501/000-023</b>
		violet
		<b>793-5501/000-024</b>
		5
<b>Locking lever,</b>		<b>WMB Inline, plain,</b>
 4.8 mm wide orange	<b>2022-142</b>	100 (4x25)
 gray	<b>2022-141</b>	100 (4x25)
		stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white
		<b>2009-115</b>
		1
<b>Locking lever,</b>		<b>Marking strip, plain,</b>
 9.6 mm wide orange	<b>2022-152</b>	100 (4x25)
 gray	<b>2022-151</b>	100 (4x25)
		11 mm wide, 50 m roll white
		<b>2009-110</b>
		1
<b>Protective warning marker,</b>		
 with high-voltage symbol, black, for 5 terminal blocks yellow	<b>2002-115</b>	100 (4x25)
<b>Strain relief plate, gray</b>		
 35 mm width	<b>734-326</b>	100 (4x25)
6 mm wide	<b>734-327</b>	100 (4x25)
12.5 mm width	<b>734-328</b>	100 (4x25)
25 mm wide	<b>734-329</b>	100 (4x25)
55 mm width	<b>734-430</b>	50 (2x25)
75 mm width	<b>734-431</b>	50 (2x25)

**Self-Assembly of Individual Female Plugs**

Using modular female plugs from the X-COM®S-SYSTEM, female plugs can be customized for applications requiring varying numbers of poles (e.g., when designing prototypes).

**Modules and Pole Numbers**

A self-assembled female plug consists of: Base module with integrated end plate up to 13 center modules (corresponding to a 15-pole female plug = maximum number of poles) end module.

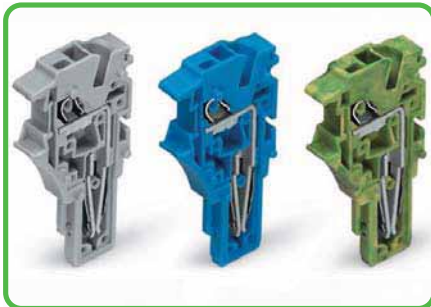
**Intended Use**

According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.

**Assembly**

The appropriate mounting tool shall be used to guarantee that the individual modules are properly attached to each other without damaging the locking latches.

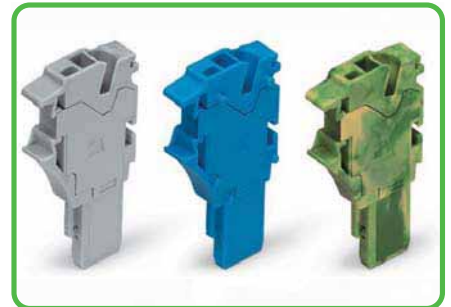
- ① Conductor sizes: 0.25 mm<sup>2</sup> - 4 mm<sup>2</sup> "s + f-st"; Push-in conductor sizes: 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> "s" and 0.75 mm<sup>2</sup> - 2.5 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ② 690 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ③ Current-carrying capacity curves upon request
- ④ Strip length, see packaging or instructions.



End Module

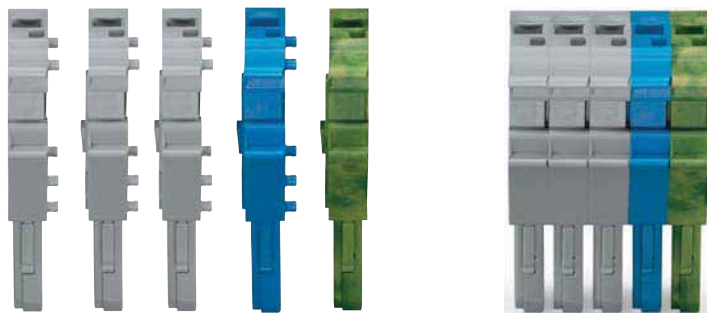


Center Module



Base Module

**Example: 5-Pole, 1-Conductor Female Plug**



Base module with integrated end plate  
2022-167

Center module  
2022-174

Center modules  
2022-171

End module  
2022-181

X-COM® -SYSTEM1-Conductor Female Plugs with Locking Levers and Strain Relief Plates  
Series 20220.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12

690 V/6 kV/3 ②

I<sub>N</sub> 24 A (32 A) ③


module width 5.2 mm / 0.205 in

 10 - 12 mm / 0.43 in ④0.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12

690 V/6 kV/3 ②

I<sub>N</sub> 24 A (32 A) ③


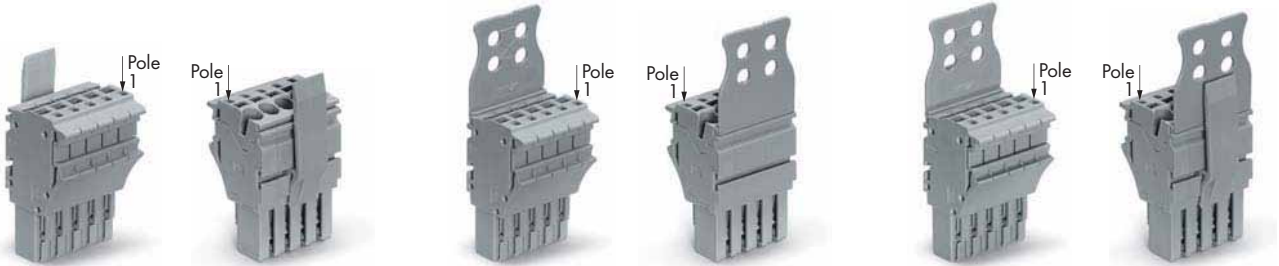
module width 5.2 mm / 0.205 in

 10 - 12 mm / 0.43 in ④0.25 - 2.5 (4) mm<sup>2</sup> ① | AWG 22 - 12

690 V/6 kV/3 ②

I<sub>N</sub> 24 A (32 A) ③








module width 5.2 mm / 0.205 in

 10 - 12 mm / 0.43 in ④

Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
1-conductor female plug with locking lever, for insertion into carrier terminal blocks, with coding fingers, gray According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.			1-conductor female plug with strain relief plate, for insertion into carrier terminal blocks, with coding fingers, gray According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.			1-conductor female plug with strain relief plate and locking lever, for insertion into carrier terminal blocks, with coding fingers, gray According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.		
1	2022-101/122-000	200	1	2022-101/132-000	200	1	2022-101/142-000	200
2	2022-102/122-000	100	2	2022-102/132-000	100	2	2022-102/142-000	100
3	2022-103/123-000	100	3	2022-103/133-000	100	3	2022-103/143-000	100
4	2022-104/123-000	50	4	2022-104/133-000	50	4	2022-104/143-000	50
5	2022-105/123-000	50	5	2022-105/134-000	50	5	2022-105/144-000	50
6	2022-106/123-000	50	6	2022-106/134-000	50	6	2022-106/144-000	50
7	2022-107/123-000	25	7	2022-107/135-000	25	7	2022-107/145-000	25
8	2022-108/123-000	25	8	2022-108/135-000	25	8	2022-108/145-000	25
9	2022-109/123-000	25	9	2022-109/135-000	25	9	2022-109/145-000	25
10	2022-110/123-000	25	10	2022-110/135-000	25	10	2022-110/145-000	25
11	2022-111/126-000	25	11	2022-111/136-000	25	11	2022-111/146-000	25
12	2022-112/126-000	20	12	2022-112/136-000	20	12	2022-112/146-000	20
13	2022-113/126-000	20	13	2022-113/136-000	20	13	2022-113/146-000	20
14	2022-114/126-000	15	14	2022-114/136-000	15	14	2022-114/146-000	15
15	2022-115/127-000	15	15	2022-115/137-000	15	15	2022-115/147-000	15
1-conductor female plug with locking lever, for insertion into carrier terminal blocks, with coding fingers, According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.			1-conductor female plug with strain relief plate, for insertion into carrier terminal blocks, with coding fingers, According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.			1-conductor female plug with strain relief plate and locking lever, for insertion into carrier terminal blocks, with coding fingers, According to EN 61984, connectors without current interrupting capacity shall not be mated and unmated when live or under load.		
1 blue	2022-101/122-006	200	1 blue	2022-101/132-006	200	1 blue	2022-101/142-006	200
1 green-yellow	2022-101/122-016	200	1 green-yellow	2022-101/132-016	200	1 green-yellow	2022-101/142-016	200

## Accessories Female Plugs

Appropriate marking systems: WMB/Marking strips/WMB Inline  
(see Section 13)

<b>Insulation stop,</b>  5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>2002-171</b> 200 (8x25)	<b>WMB Multi marking system,</b>  10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5	<b>WMB Inline, plain,</b>  stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white <b>2009-115</b> 1
<b>Insulation stop,</b>  5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>2002-172</b> 200 (8x25)	<b>WMB Multi marking system, plain,</b>  10 strips with 10 markers per card, stretchable 5 - 5.2 mm yellow <b>793-5501/000-002</b> red <b>793-5501/000-005</b> blue <b>793-5501/000-006</b> gray <b>793-5501/000-007</b> orange <b>793-5501/000-012</b> light green <b>793-5501/000-017</b> green <b>793-5501/000-023</b> violet <b>793-5501/000-024</b>	<b>Marking strip, plain,</b>  11 mm wide, 50 m roll white <b>2009-110</b> 1
<b>Protective warning marker,</b>  with high-voltage symbol, black, for 5 terminal blocks yellow <b>2002-115</b> 100 (4x25)		

5

- ❶ Conductor sizes: 0.25 mm<sup>2</sup> – 4 mm<sup>2</sup> "s + f-st";  
Push-in conductor sizes: 0.75 mm<sup>2</sup> – 4 mm<sup>2</sup> "s"  
and 0.75 mm<sup>2</sup> – 2.5 mm<sup>2</sup> "insulated ferrule, 12 mm"
- ❷ 690 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(see Section 14)
- ❸ Current-carrying capacity curves upon request
- ❹ Strip length, see packaging or instructions.

Strain Relief Plate (SRP), Gray				Locking Levers (LL), Gray				SRP and LL, Gray
Assembled				Assembled				Assembled
SRP				Pole No.	Quantity	1-way	2-way	
Item No. Suffix				Item No. Suffix				Item No. Suffix
Item No.	Color	Width						
734-327	gray	6mm	/132-0xx	1 to 2	1	/122-0xx	-	/142-0xx
734-328	gray	12.5mm	/133-0xx	3 to 4	1	-	/123-0xx	/143-0xx
734-329	gray	25mm	/134-0xx	5 to 6	1	-	/123-0xx	/144-0xx
734-326	gray	35mm	/135-0xx	7 to 10	1	-	/123-0xx	/145-0xx
734-430	gray	55mm	/136-0xx	11 to 14	2	-	/123-0xx	/144-0xx
734-431	gray	75mm	/137-0xx	15	2	-	/123-0xx	/145-0xx

For colored female plugs, the item number suffix "xx" must be replaced by the blue "-006" and the green-yellow "-016" color suffix.

Dimensions of locking levers

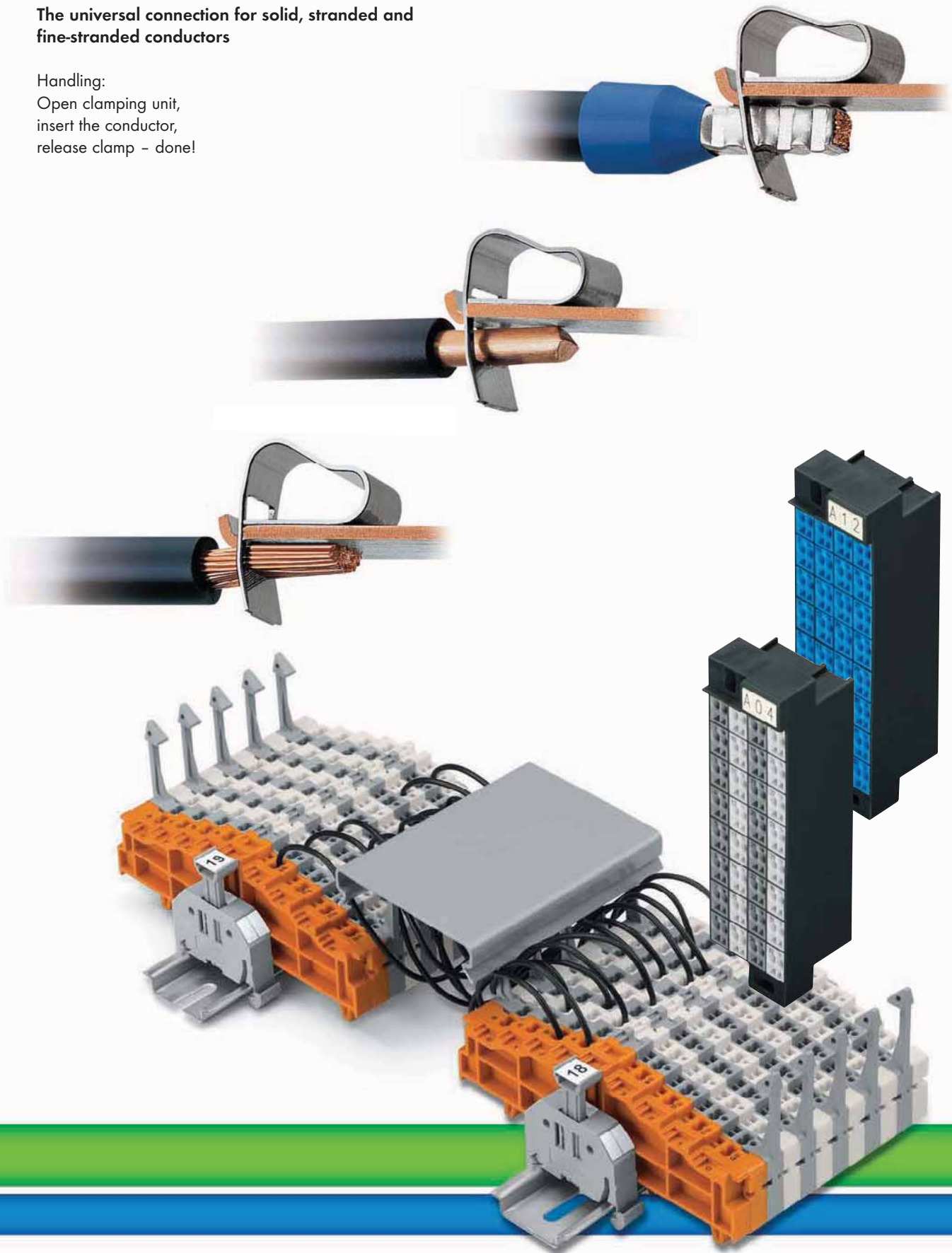
Description	Color	Item No.	Suffix No.
1-conductor female plug	gray	2022-101	none
1 to 15-pole	blue	to	/000-006
	green-yellow	2022-115	/000-016

Dimensions of strain relief plates

# CAGE CLAMP®

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

Handling:  
Open clamping unit,  
insert the conductor,  
release clamp - done!





8



Matrix Patchboards

726 Series

410 – 413



Common Potential Matrix Patchboards  
– Marking on the Patchboard Side  
– Marking on the Supply Side

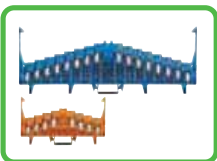
726 Series

414  
415



Matrix Patchboard Accessories  
– Decade Marker Carrier  
– Insulation Stops  
– Additional Modules

416  
417  
418



Terminal Blocks for Matrix Patching and Common Potential Terminal Blocks 1.5 mm<sup>2</sup>/AWG 16

727 Series

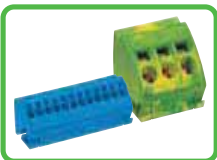
420 – 423



3-Conductor Double-Potential Terminal Blocks 2.5 mm<sup>2</sup>/AWG 12

280 Series

425



Busbar Terminal Blocks

812 Series

427

# Matrix Patchboards 726 Series

## CAGE CLAMP® connection



Conductor termination with 210-719 operating tool (2.5 x 0.4) mm.

## Marking modules



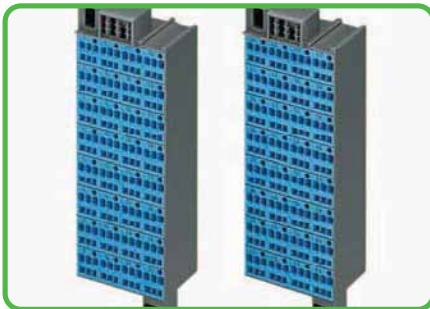
Marking modules (factory marked)  
Side 1: 1, 2, 3, 4 ...

## Testing



Testing with 2.3 mm Ø test plug (210-137).

## Ex i versions

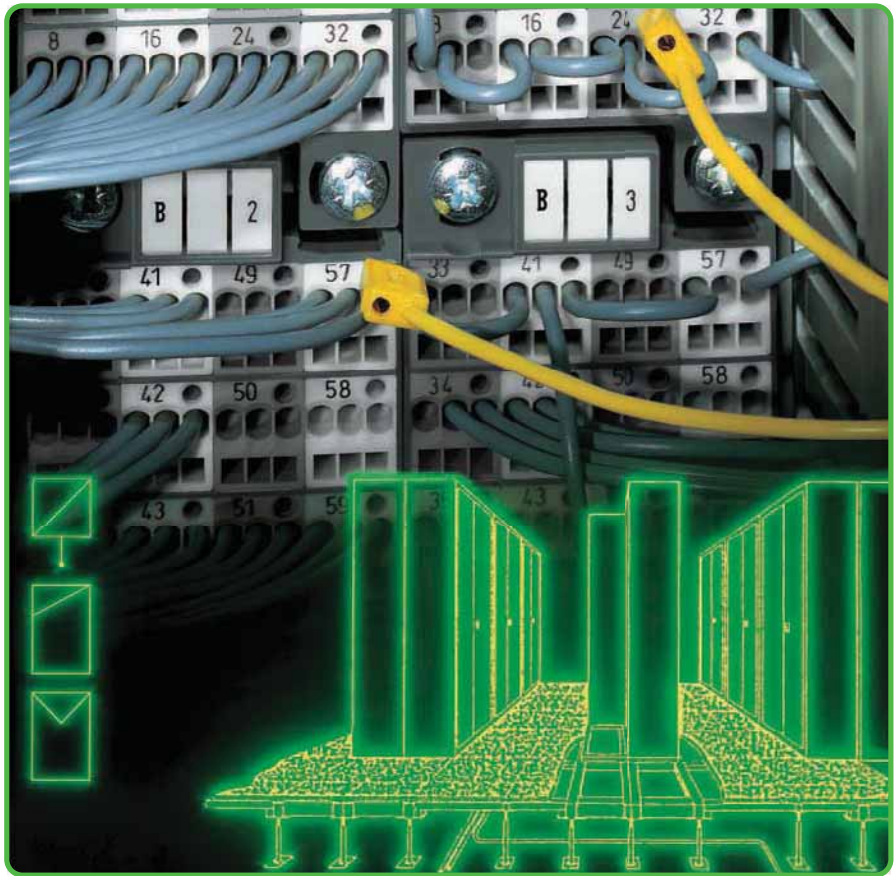


Blue matrix patchboards are suitable for Ex i applications.

## Marking



WFB Continuous marking strip. Fits into the marker slot and the group marker carrier of the matrix patchboard.



## Marking



Individual group marking with WSB Quick marking system.

## Installation examples



Matrix patchboards in a frame.



Matrix patchboards in 19" rack



**CAGE CLAMP®**  
clamps the following  
copper conductors:\*

solid



stranded



fine-stranded,  
also with tinned  
single strands

\* For aluminum conductors, see notes in Section 14.

## - Description and Handling -

### Common potential matrix assembly



Example shown here with (white) supply terminal block.

### Space saver



Slimline matrix patchboard (lower right), mounted upside down.

### Additional module

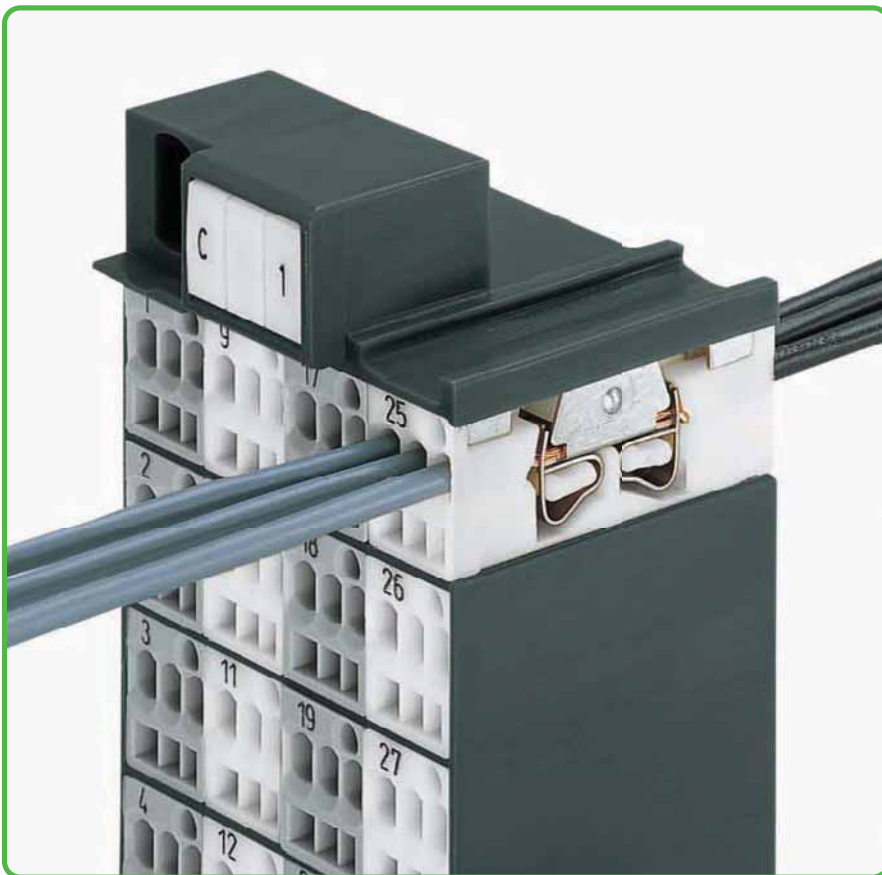


Snapping on an additional module with contact to mounting frame.

### Additional module



Assembly of a matrix patchboard with additional module snapped on. Direct connection to the mounting frame via contact plate.



### Ferrules ①

	Max. conductor cross section (mm <sup>2</sup> /AWG) without ferrule	Max. conductor cross section (mm <sup>2</sup> /AWG) with ferrule			
		insulated		uninsulated	
Side 2	1.5	0.75	Item No./Color <b>216-202/grey</b>	1	Item No. <b>216-123</b>
Side 1	1.5	0.75	<b>216-202/grey</b>	1	<b>216-123</b>
Side 2	2.5	1.5	<b>216-204/black</b>	1.5	<b>216-104</b>
Side 1	1.5	0.75	<b>216-202/grey</b>	1	<b>216-123</b>



Terminating ferruled conductors.



fine-stranded, tip-bonded



fine-stranded, with ferrule ① (gastight crimped)



fine-stranded, with pin terminal (gastight crimped)

Side 1: 3x 0.08 - 1.5 mm <sup>2</sup> Side 2: 3x 0.08 - 1.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 10 A 8 - 10 mm / 0.35 in ②	AWG 28 - 16 AWG 28 - 16 300 V, 10 A ③ 300 V, 10 A ③	Side 1: 3x 0.08 - 1.5 mm <sup>2</sup> Side 2: 2x 0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 10 A 8 - 10 mm / 0.35 in ②	AWG 28 - 16 AWG 28 - 14 300 V, 10 A ③ 300 V, 10 A ③
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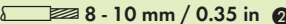
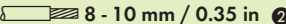
- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ See application notes for:  
Decade marker carrier, page 416  
Insulation stop, page 417

Item No.	Pack. Unit	Item No.	Pack. Unit	Matrix Patchboard Accessories
<b>Matrix patchboard</b> , dark gray frame, white/gray modules, module marking on sides 1 and 2 arranged vertically		<b>Matrix patchboard</b> , dark gray frame, white/gray modules, module marking on sides 1 and 2 arranged vertically		<b>Wire commoning chain</b> , insulated, 31 connections, I <sub>N</sub> 6 A, max. 50 V, 0.5 mm <sup>2</sup> gray <b>709-107</b> 1
marking 1-32 <b>726-121</b> 20	marking 33-64 <b>726-122</b> 20	marking 1-32 <b>726-221</b> 20	marking 33-64 <b>726-222</b> 20	
<b>Matrix patchboard</b> , dark gray frame, blue modules, module marking on sides 1 and 2 arranged vertically		<b>Matrix patchboard</b> , dark gray frame, blue modules, module marking on sides 1 and 2 arranged vertically		<b>Group marker carrier for side 2</b> dark gray <b>726-902</b> 50
marking 1-32 <b>726-141</b> ③ 20	marking 33-64 <b>726-142</b> ③ 20	marking 1-32 <b>726-241</b> ③ 20	marking 33-64 <b>726-242</b> ③ 20	
<b>Matrix Patchboard Accessories</b>				<b>WFB continuous marking strip</b> , 1000 mm long transparent <b>210-612</b> 10
<b>Insulation stop</b> , ④ 4 x 3 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>726-901</b> 200 (8x25)		<b>Insulation stop</b> , ④ 4 x 3 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> "s+f-st" dark gray <b>726-907</b> 200 (8x25)		<b>Carrier for WFB continuous marking strip</b> , to be snapped into the marker slot <b>209-185</b> 200 (8x25)
<b>Insulation stop</b> , ④ 4 x 3 pcs/strip, 0.25 mm <sup>2</sup> "s" 0.14 - 0.25 mm <sup>2</sup> "f-st" light gray <b>726-906</b> 200 (8x25)		<b>Test plug</b> , with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50		<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm plain <b>209-501</b> 5
				<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, horizontal marking 1 ... 10 (10x) <b>209-502</b> 5
				<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, horizontal marking 1 ... 50 (2x) <b>209-566</b> 5
				<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, horizontal marking X (100x) <b>209-500/209-035</b> 5
				<b>Decade marker carrier</b> , ④ for matrix patchboards dark gray <b>726-905</b> 10
				<b>Operating tool with partially insulated shaft</b> , type 1, (2.5 x 0.4) mm blade <b>210-719</b> 1

Dimensions in mm

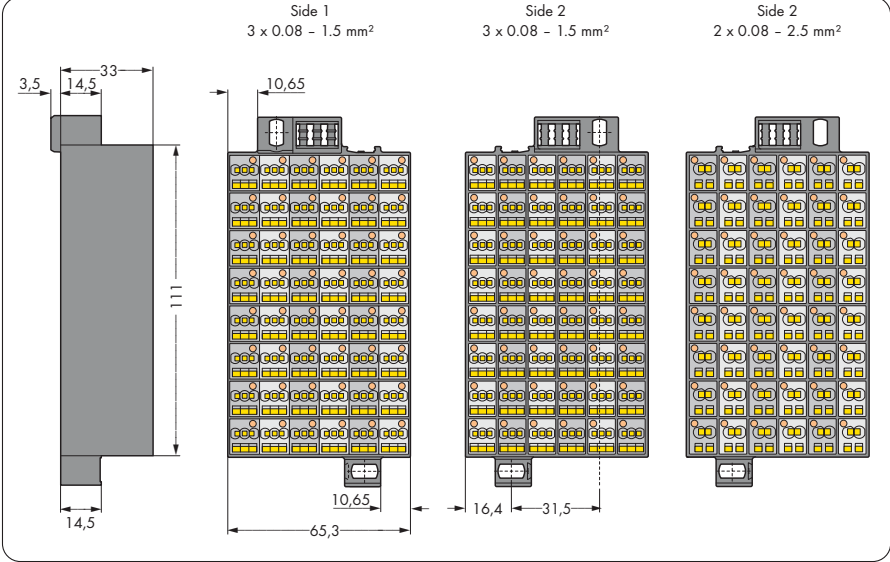
For list of approvals and user guide, see pages 634 to 637.

# Matrix Patchboards, 48-Pole 726 Series

Side 1: 3x 0.08 - 1.5 mm <sup>2</sup> Side 2: 3x 0.08 - 1.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 10 A  8 - 10 mm / 0.35 in ②	AWG 28 - 16 AWG 28 - 16 300 V, 10 A ③ 300 V, 10 A ③	Side 1: 3x 0.08 - 1.5 mm <sup>2</sup> Side 2: 2x 0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 10 A  8 - 10 mm / 0.35 in ②	AWG 28 - 16 AWG 28 - 14 300 V, 10 A ③ 300 V, 10 A ③
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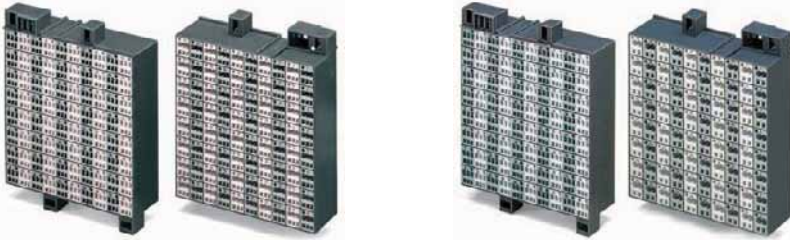
- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ See application notes for:  
Decade marker carrier, page 416  
Insulation stop, page 417

Item No.	Pack. Unit	Item No.	Pack. Unit	Matrix Patchboard Accessories
<b>Matrix patchboard</b> , dark gray frame, white/gray modules, module marking on sides 1 and 2 arranged vertically marking 1-48	<b>726-421</b> 10	<b>Matrix patchboard</b> , dark gray frame, white/gray modules, module marking on sides 1 and 2 arranged vertically marking 1-48	<b>726-521</b> 10	<b>WFB continuous marking strip</b> , 1000 mm long transparent <b>210-612</b> 10
<b>Matrix patchboard</b> , dark gray frame, blue modules, module marking on sides 1 and 2 arranged vertically marking 1-48	<b>726-441</b> ③ 10	<b>Matrix patchboard</b> , dark gray frame, blue modules, module marking on sides 1 and 2 arranged vertically marking 1-48	<b>726-541</b> ③ 10	<b>Carrier for WFB continuous marking strip</b> , to be snapped into the marker slot <b>209-185</b> 200 (8x25)
<b>Matrix Patchboard Accessories</b>				<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm plain <b>209-501</b> 5
<b>Insulation stop</b> , ④ 4 x 3 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>726-901</b> 200 (8x25)		<b>Test plug</b> , with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50		<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, horizontal marking 1 ... 10 (10x) <b>209-502</b> 5
<b>Insulation stop</b> , ④ 4 x 3 pcs/strip, 0.25 mm <sup>2</sup> "s" 0.14 - 0.25 mm <sup>2</sup> "f-st" light gray <b>726-906</b> 200 (8x25)		<b>Wire commoning chain</b> , insulated, 31 connections, I <sub>N</sub> 6 A, max. 50 V, 0.5 mm <sup>2</sup> gray <b>709-107</b> 1		<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, horizontal marking 1 ... 50 (2x) <b>209-566</b> 5
<b>Insulation stop</b> , ④ 4 x 3 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> "s+f-st" dark gray <b>726-907</b> 200 (8x25)		<b>Group marker carrier for side 2</b> dark gray <b>726-902</b> 50		<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, horizontal marking X (100x) <b>209-500/209-035</b> 5
				<b>Decade marker carrier</b> , ④ for matrix patchboards dark gray <b>726-905</b> 10
<b>Operating tool with partially insulated shaft</b> , type 1, (2.5 x 0.4) mm blade <b>210-719</b> 1				

Dimensions in mm

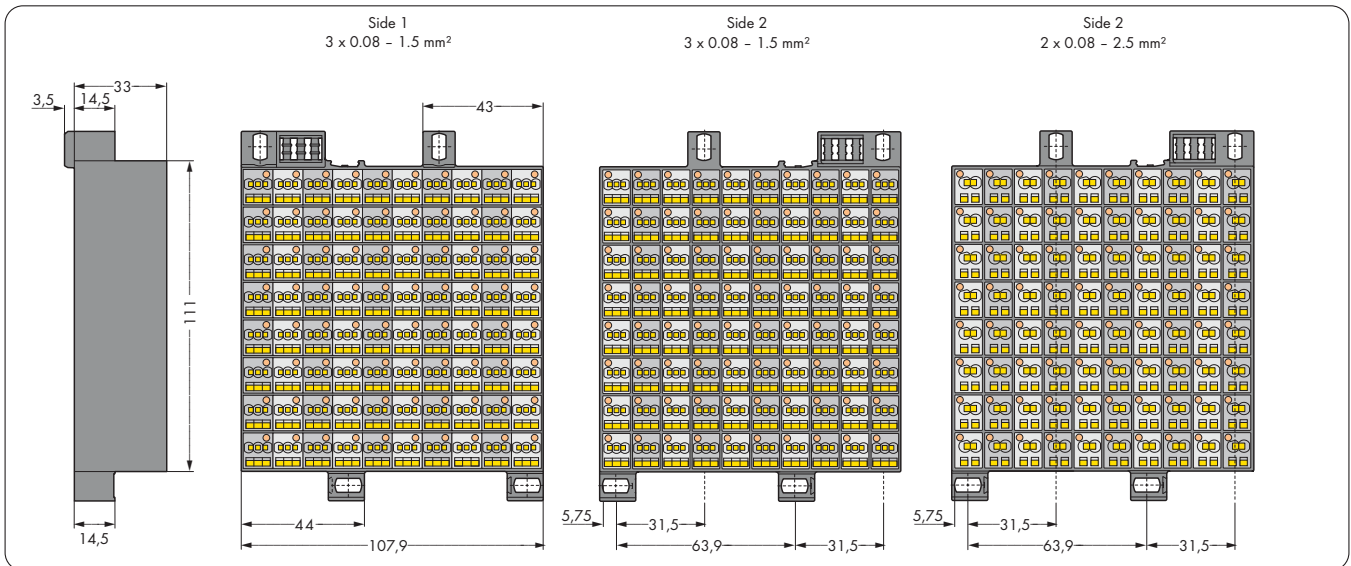
For list of approvals and user guide, see pages 634 to 637.

Side 1: 3x 0.08 - 1.5 mm <sup>2</sup> Side 2: 3x 0.08 - 1.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 10 A 8 - 10 mm / 0.35 in ②	AWG 28 - 16 AWG 28 - 16 300 V, 10 A ③ 300 V, 10 A ④	Side 1: 3x 0.08 - 1.5 mm <sup>2</sup> Side 2: 2x 0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 10 A 8 - 10 mm / 0.35 in ②	AWG 28 - 16 AWG 28 - 14 300 V, 10 A ③ 300 V, 10 A ④
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- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ See application notes for:  
Decade marker carrier, page 416  
Insulation stop, page 417

Item No.	Pack. Unit	Item No.	Pack. Unit	Matrix Patchboard Accessories
<b>Matrix patchboard</b> , dark gray frame, white/gray modules, module marking on sides 1 and 2 arranged vertically marking 1-80	<b>726-721</b> 8	<b>Matrix patchboard</b> , dark gray frame, white/gray modules, module marking on sides 1 and 2 arranged vertically marking 1-80	<b>726-821</b> 8	<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, horizontal marking 1 ... 10 (10x) <b>209-502</b> 5
<b>Matrix patchboard</b> , dark gray frame, blue modules, module marking on sides 1 and 2 arranged vertically marking 1-80	<b>726-741</b> ③ 8	<b>Matrix patchboard</b> , dark gray frame, blue modules, module marking on sides 1 and 2 arranged vertically marking 1-80	<b>726-841</b> ③ 8	<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, horizontal marking 1 ... 50 (2x) <b>209-566</b> 5
<b>Matrix Patchboard Accessories</b>				<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, horizontal marking X (100x) <b>209-500/209-035</b> 5
<b>Insulation stop</b> , ④ 4 x 3 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white	<b>726-901</b> 200 (8x25)	<b>WFB continuous marking strip</b> , 1000 mm long transparent	<b>210-612</b> 10	
<b>Insulation stop</b> , ④ 4 x 3 pcs/strip, 0.25 mm <sup>2</sup> "s" 0.14 - 0.25 mm <sup>2</sup> "f-st" light gray	<b>726-906</b> 200 (8x25)	<b>Carrier for WFB continuous marking strip</b> , to be snapped into the marker slot	<b>209-185</b> 200 (8x25)	<b>Decade marker carrier</b> , ④ for matrix patchboards dark gray <b>726-905</b> 10
<b>Insulation stop</b> , ④ 4 x 3 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> "s+f-st" dark gray	<b>726-907</b> 200 (8x25)	<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm plain	<b>209-501</b> 5	<b>Operating tool with partially insulated shaft</b> , type 1, (2.5 x 0.4) mm blade <b>210-719</b> 1





Dimensions in mm

For list of approvals and user guide, see pages 634 to 637.

# Matrix Patchboards, 32-Pole – Slimline Version, for 19" Racks

## 726 Series


Side 1: 2x 0.08 - 1.5 mm <sup>2</sup> Side 2: 2x 0.08 - 1.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 10 A  8 - 10 mm / 0.35 in ②	AWG 28 - 16 AWG 28 - 16 300 V, 10 A ③ 300 V, 10 A ③	Side 1: 2x 0.08 - 1.5 mm <sup>2</sup> Side 2: 2x 0.08 - 1.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 10 A  8 - 10 mm / 0.35 in ②	AWG 28 - 16 AWG 28 - 16 300 V, 10 A ③ 300 V, 10 A ③
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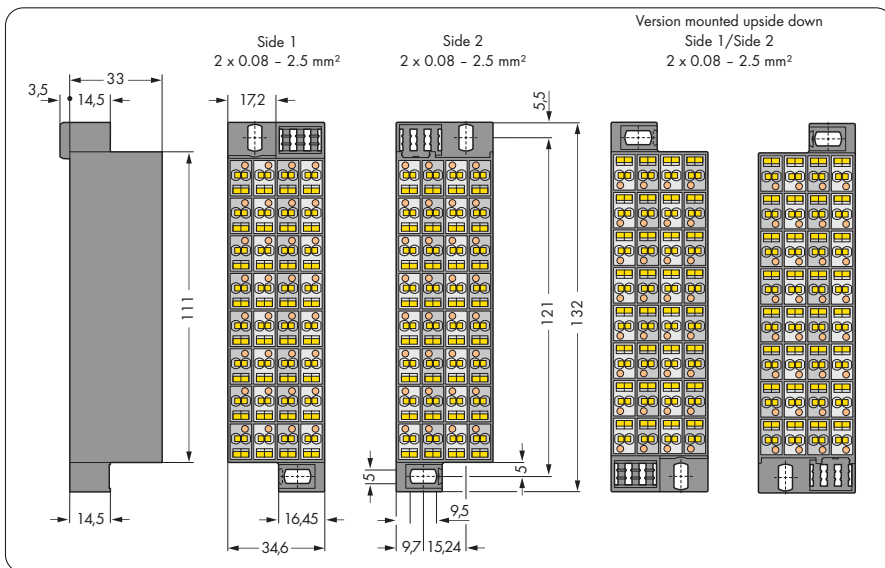


- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree

(also see Section 14)

- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ See application notes for:  
Decade marker carrier, page 416  
Insulation stop, page 417

Item No.	Pack. Unit	Item No.	Pack. Unit	Matrix Patchboard Accessories
<b>Matrix patchboard</b> , dark gray frame, white/gray modules, module marking on sides 1 and 2 arranged vertically		<b>Matrix patchboard</b> , mounted upside down, dark gray frame, white/gray modules, module marking on sides 1 and 2 arranged vertically		<b>Carrier for WFB continuous marking strip</b> , to be snapped into the marker slot  <b>209-185</b> 200 (8x25)
marking 1-32	<b>726-321</b> 24	marking 1-32	<b>726-325</b> 24	
marking 33-64	<b>726-322</b> 24	marking 33-64	<b>726-326</b> 24	
<b>Matrix patchboard</b> , dark gray frame, blue modules, module marking on sides 1 and 2 arranged vertically		<b>Matrix patchboard</b> , mounted upside down, dark gray frame, blue modules, module marking on sides 1 and 2 arranged vertically		
marking 1-32	<b>726-341</b> ③ 24	marking 1-32	<b>726-345</b> ③ 24	<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm plain <b>209-501</b> 5
marking 33-64	<b>726-342</b> ③ 24	marking 33-64	<b>726-346</b> ③ 24	
<b>Matrix Patchboard Accessories</b>				<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, horizontal marking 1 ... 10 (10x) <b>209-502</b> 5
<b>Insulation stop</b> , ④ 4 x 3 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>726-901</b> 200 (8x25)		<b>Insulation stop</b> , ④ 4 x 3 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> "s+f-st" dark gray <b>726-907</b> 200 (8x25)		
<b>Insulation stop</b> , ④ 4 x 3 pcs/strip, 0.25 mm <sup>2</sup> "s" 0.14 - 0.25 mm <sup>2</sup> "f-st" light gray <b>726-906</b> 200 (8x25)		<b>WFB continuous marking strip</b> , 1000 mm long transparent <b>210-612</b> 10		<b>WSB Quick marking system</b> , 10 strips with 10 markers per card, horizontal marking 1 ... 50 (2x) <b>209-566</b> 5
<b>Decade marker carrier</b> , ④ for matrix patchboards dark gray <b>726-905</b> 10				
<b>Operating tool with partially insulated shaft</b> , type 1, (2.5 x 0.4) mm blade <b>210-719</b> 1				



Dimensions in mm

For list of approvals and user guide, see pages 634 to 637.

# Common Potential Matrix Patchboards – Slimline Version, for 19" Racks

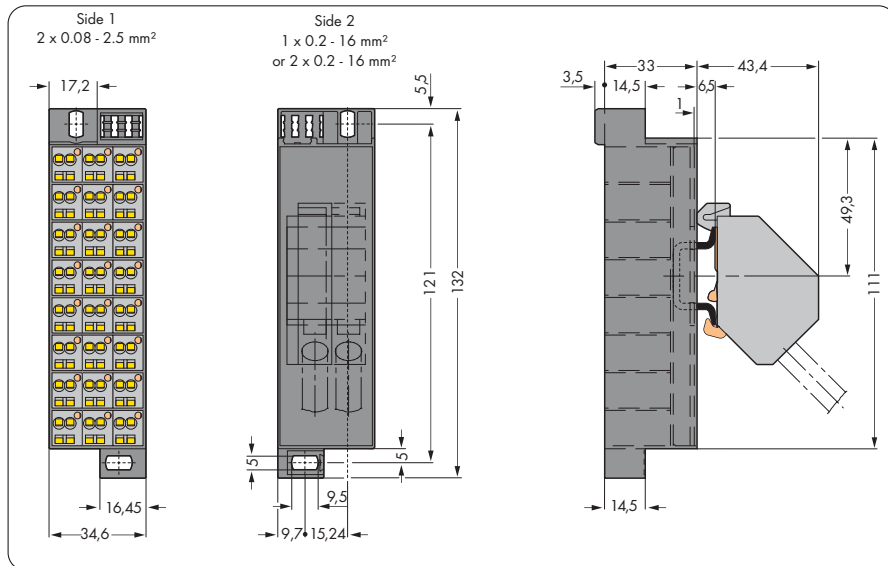
## 726 Series



Side 1: I <sub>N</sub> 24 A 24x 2x 0.08 - 2.5 mm <sup>2</sup> 8 - 10 mm / 0.35 in Side 2: I <sub>N</sub> 76 A 1x or 2x 0.2 - 16 mm <sup>2</sup>   AWG 24 - 6 16 - 17 mm / 0.65 in	300 V, 10 A AWG 28 - 14	Side 1: I <sub>N</sub> 24 A 24x 2x 0.08 - 2.5 mm <sup>2</sup> 8 - 10 mm / 0.35 in Side 2: I <sub>N</sub> 76 A 1x or 2x 0.2 - 16 mm <sup>2</sup>   AWG 24 - 6 16 - 17 mm / 0.65 in	300 V, 10 A AWG 28 - 14	Side 1: I <sub>N</sub> 24 A 24x 2x 0.08 - 2.5 mm <sup>2</sup>   AWG 28 - 14 8 - 10 mm / 0.35 in Side 2: I <sub>N</sub> 76 A 1x or 2x 0.2 - 16 mm <sup>2</sup>   AWG 24 - 6 16 - 17 mm / 0.65 in
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Common potential matrix patchboard, dark gray frame,</b> gray module, module marking on sides 1 and 2 arranged vertically, 1-24 marking, with 1 supply terminal block incl. end plate	<b>726-601</b> 10	<b>Common potential matrix patchboard, dark gray frame,</b> white module, module marking on sides 1 and 2 arranged vertically, 1-24 marking, with 1 supply terminal block incl. end plate	<b>726-611</b> 10	<b>Common potential matrix patchboard for ground conductor, dark gray frame,</b> green-yellow module, module marking on sides 1 and 2 arranged vertically, 1-24 marking, with 1 supply terminal block incl. end plate	<b>726-621</b> 10
<b>Common potential matrix patchboard, dark gray frame,</b> gray module, module marking on sides 1 and 2 arranged vertically, 1-24 marking, with 2 input terminal blocks incl. end plate	<b>726-602</b> 10	<b>Common potential matrix patchboard, dark gray frame,</b> white module, module marking on sides 1 and 2 arranged vertically, 1-24 marking, with 2 input terminal blocks incl. end plate	<b>726-612</b> 10	<b>Common potential matrix patchboard for ground conductor, dark gray frame,</b> green-yellow module, module marking on sides 1 and 2 arranged vertically, 1-24 marking, with 2 input terminal blocks incl. end plate	<b>726-622</b> 10
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>Additional supply terminal block</b> gray	<b>283-611</b> 25	<b>Additional supply terminal block</b> white	<b>283-610</b> 25	<b>Additional supply terminal block</b> green-yellow	<b>283-609</b> 25
<b>Operating tool with partially insulated shaft,</b> type 3, (5.5 x 0.8) mm blade	<b>210-721</b> 1	<b>Operating tool with partially insulated shaft,</b> type 3, (5.5 x 0.8) mm blade	<b>210-721</b> 1	<b>Operating tool with partially insulated shaft,</b> type 3, (5.5 x 0.8) mm blade	<b>210-721</b> 1











Dimensions in mm

For list of approvals and user guide, see pages 634 to 637.









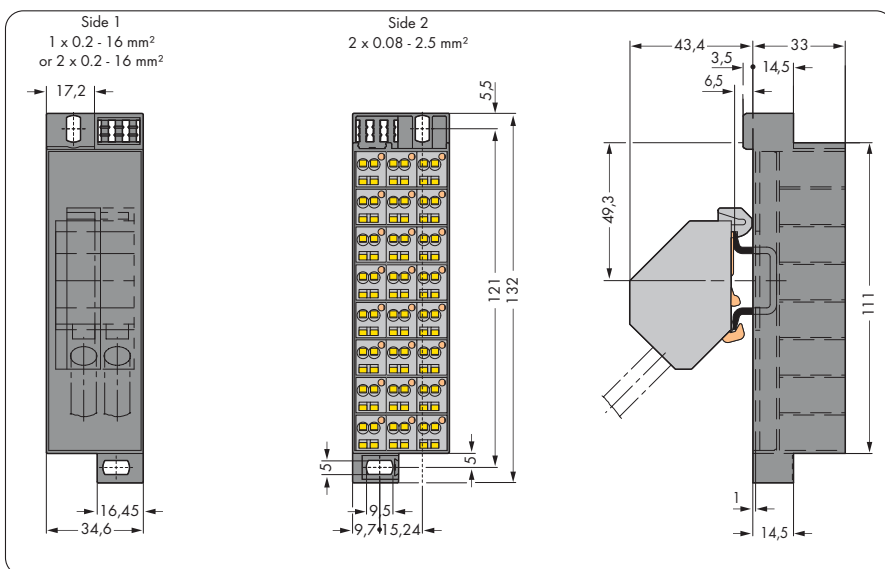
# Common Potential Matrix Patchboards – Slimline Version, for 19" Racks, Supply Side/Patchboard Side 726 Series

CAGE CLAMP®

Side 1: I <sub>N</sub> 76 A 1x or 2x 0.2 - 16 mm <sup>2</sup>  16 - 17 mm / 0.65 in Side 2: I <sub>N</sub> 24 A 24x 2x 0.08 - 2.5 mm <sup>2</sup>   AWG 28 - 14  8 - 10 mm / 0.35 in	300V, 10A  AWG 24 - 6	Side 1: I <sub>N</sub> 76 A 1x or 2x 0.2 - 16 mm <sup>2</sup>  16 - 17 mm / 0.65 in Side 2: I <sub>N</sub> 24 A 24x 2x 0.08 - 2.5 mm <sup>2</sup>   AWG 28 - 14  8 - 10 mm / 0.35 in	300V, 10A  AWG 24 - 6	Side 1: I <sub>N</sub> 76 A 1x or 2x 0.2 - 16 mm <sup>2</sup>   AWG 24 - 6  16 - 17 mm / 0.65 in Side 2: I <sub>N</sub> 24 A 24x 2x 0.08 - 2.5 mm <sup>2</sup>   AWG 28 - 14  8 - 10 mm / 0.35 in
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Common potential matrix patchboard, dark gray frame,</b> with 1 supply terminal block incl. end plate, gray module, module marking on sides 1 and 2 arranged vertically, 1-24 marking <b>726-651</b> 10		<b>Common potential matrix patchboard, dark gray frame,</b> with 1 supply terminal block incl. end plate, white module, module marking on sides 1 and 2 arranged vertically, 1-24 marking <b>726-661</b> 10		<b>Common potential matrix patchboard for ground conductor, dark gray frame,</b> with 1 supply terminal block incl. end plate, green-yellow module, module marking on sides 1 and 2 arranged vertically, 1-24 marking <b>726-671</b> 10	
<b>Common potential matrix patchboard, dark gray frame,</b> with 2 input terminal blocks incl. end plate, gray module, module marking on sides 1 and 2 arranged vertically, 1-24 marking <b>726-652</b> 10		<b>Common potential matrix patchboard, dark gray frame,</b> with 2 input terminal blocks incl. end plate, white module, module marking on sides 1 and 2 arranged vertically, 1-24 marking <b>726-662</b> 10		<b>Common potential matrix patchboard for ground conductor, dark gray frame,</b> with 2 input terminal blocks incl. end plate, green-yellow module, module marking on sides 1 and 2 arranged vertically, 1-24 marking <b>726-672</b> 10	
Item-Specific Accessories		Item-Specific Accessories		Item-Specific Accessories	
<b>Additional supply terminal block</b>  gray <b>283-611</b> 25		<b>Additional supply terminal block</b>  white <b>283-610</b> 25		<b>Additional supply terminal block</b>  green-yellow <b>283-609</b> 25	
<b>Operating tool with partially insulated shaft,</b> type 3, (5.5 x 0.8) mm blade  <b>210-721</b> 1		<b>Operating tool with partially insulated shaft,</b> type 3, (5.5 x 0.8) mm blade  <b>210-721</b> 1		<b>Operating tool with partially insulated shaft,</b> type 3, (5.5 x 0.8) mm blade  <b>210-721</b> 1	



Dimensions in mm



Common potential matrix patchboard

For list of approvals and user guide, see pages 634 to 637.

0.08 - 4 mm <sup>2</sup> 0.08 - 2.5 mm <sup>2</sup> 500 V/4 kV/3 ① I <sub>N</sub> 10 A 9 mm / 0.35 in ②	AWG 28 - 12 AWG 28 - 14	Decade marker carrier
---------------------------------------------------------------------------------------------------------------------	----------------------------	-----------------------



- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.

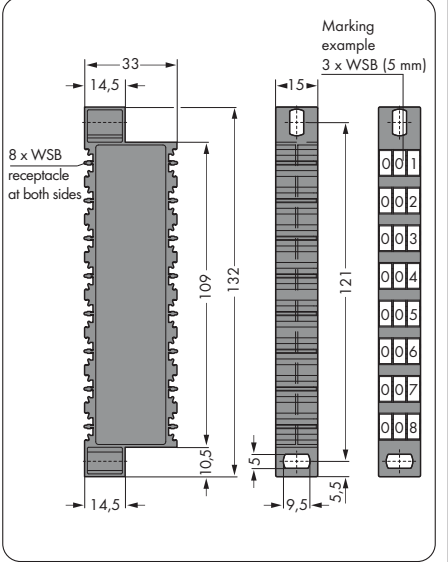
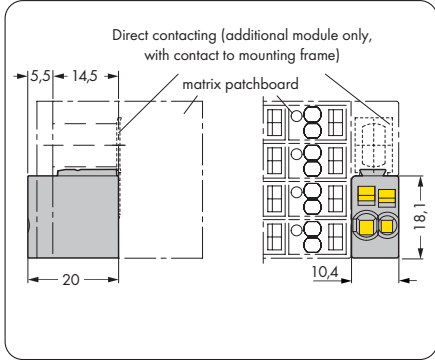
Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Additional modules for matrix patchboards,</b> for snap-on fixing to the lower fixing element, with CAGE CLAMP®, additional module with contact to mounting frame		<b>Decade marker carrier, for matrix patchboards</b>	
○ white	<b>726-903</b> 25	● dark gray	<b>726-905</b> 10
<b>Additional modules for matrix patchboards,</b> for snap-on fixing to the lower fixing element, with CAGE CLAMP®			
● gray	<b>726-904</b> 25		



Snapping on an additional module with contact to mounting frame.



Additional module, insulated.





# Terminal Blocks for Matrix Patching and Common Potential Terminal Blocks 727 Series

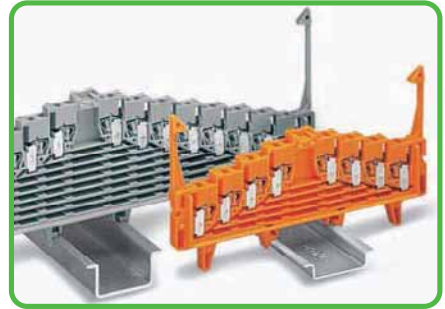
## Assembly



Snap individual 4- or 8-level terminal blocks onto the carrier rail.



Terminal blocks slide together.



Terminal blocks for DIN 35 x 7.5 mm or DIN 35 x 15 mm rails are available.

## Assembly / Removal

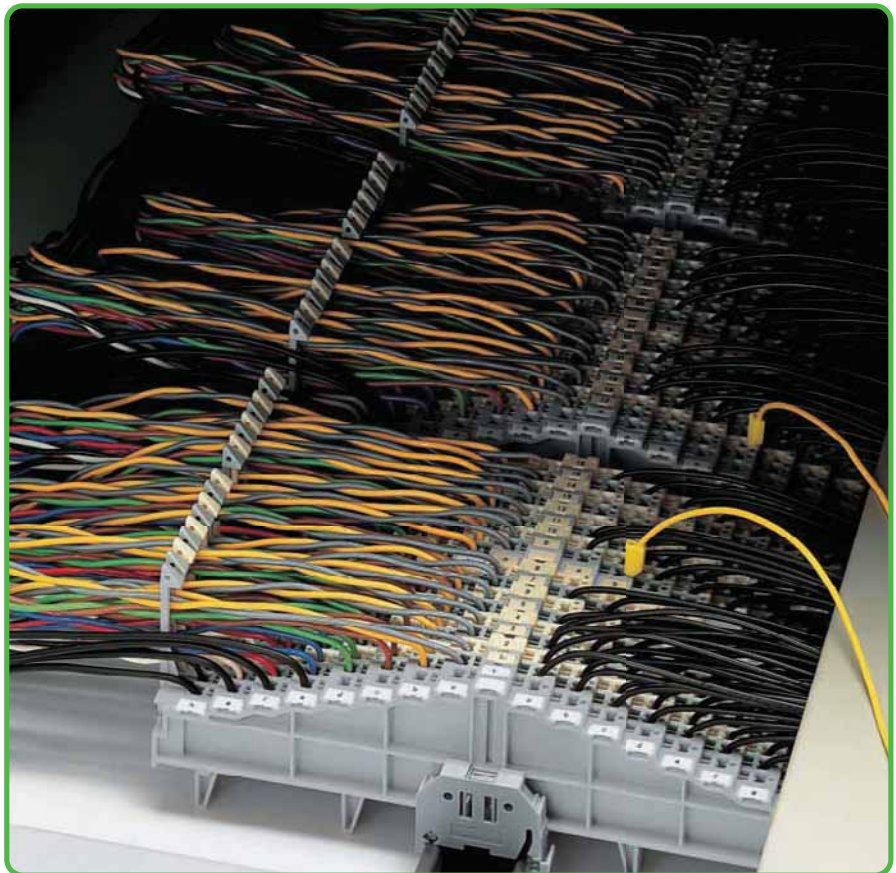


Grip end plate at both sides and:  
 - push down (assembly)  
 - pull up (removal)

## Removal



Open the assembly by laterally sliding a block via (2.5 x 0.4) mm operating tool.



## Removal



Slide terminal block and remove from the rail with a levering action.

## Marking



Marking clamping units by direct printing.



**CAGE CLAMP®** clamps the following copper conductors:\*

solid



stranded

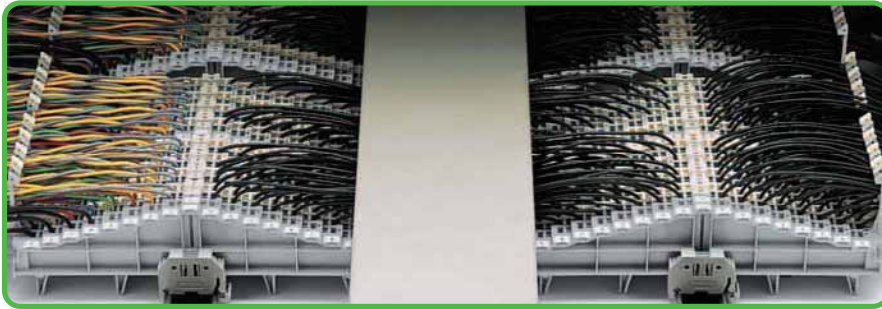


fine-stranded, also with tinned single strands

\* For aluminum conductors, see notes in Section 14.

## - Description and Handling -

### Matrix patching assembly

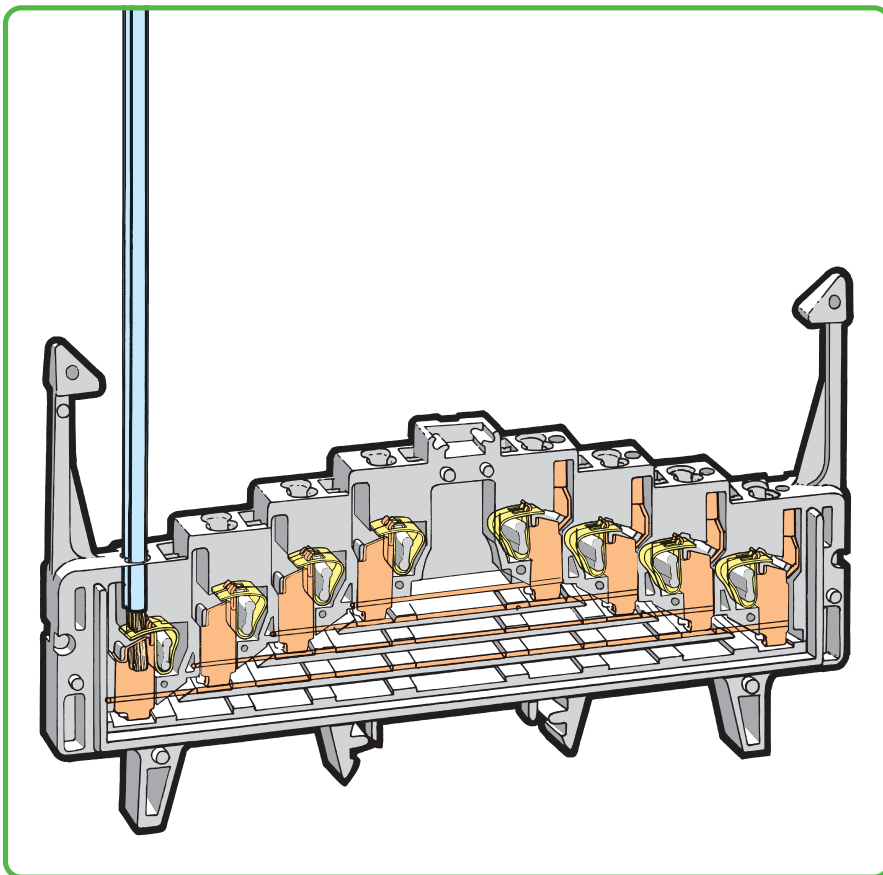


Example  
 left: Main cables fed through locking clips on the field side  
 right: Control cables fed between locking clips  
 center: Wiring of the patching sides

### Wiring space



Using terminal blocks with locking clips, the wiring space between the terminal strips can be covered with a wiring duct cover.



### CAGE CLAMP® connection



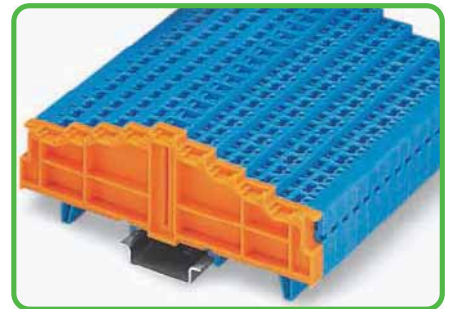
Terminating/removing conductors with (2.5 x 0.4) mm operating tool.

### Testing

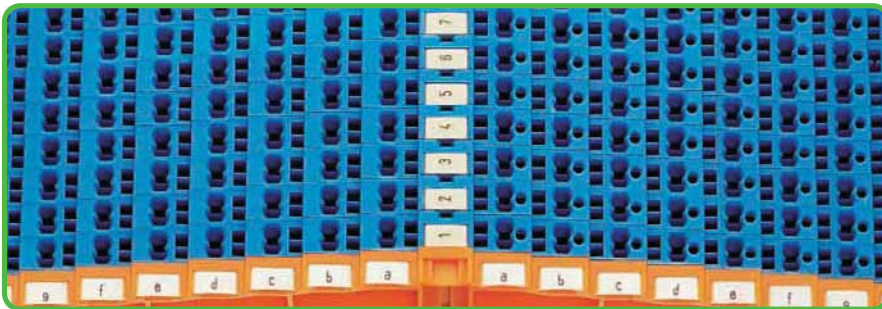


Special test contact for test plug 2.3 mm Ø.

### Ex i versions



Blue terminal blocks for matrix patching are suitable for Ex i applications.



Marking coordinates via WMB Multi marking system.



fine-stranded,  
tip-bonded



fine-stranded,  
with ferrule ①  
(gastight crimped)





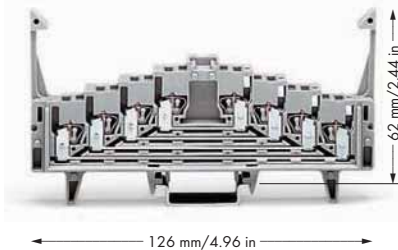
fine-stranded,  
with pin terminal  
(gastight crimped)

① Max. cross section for uninsulated ferrules 1 mm<sup>2</sup>/AWG 18, for insulated ferrules 0.75 mm<sup>2</sup>/AWG 20.

















# 4-Level Terminal Blocks for Matrix Patching 1.5 mm<sup>2</sup> 727 Series

**CAGE CLAMP®**

0.08 - 1.5 mm <sup>2</sup> 250 V/4 kV/3 ① I <sub>N</sub> 12 A	AWG 28 - 16 300 V, 10 A <sup>②</sup> 300 V, 10 A <sup>③</sup>	0.08 - 1.5 mm <sup>2</sup> 250 V/4 kV/3 ① I <sub>N</sub> 12 A	AWG 28 - 16 300 V, 10 A <sup>②</sup> 300 V, 10 A <sup>③</sup>
Terminal block width 7.62 mm / 0.3 in  8 - 10 mm / 0.35 in ②		Terminal block width 7.62 mm / 0.3 in  8 - 10 mm / 0.35 in ②	

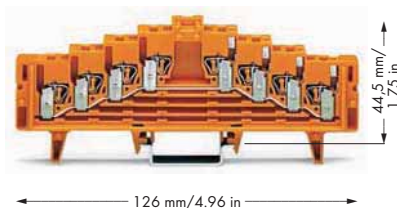
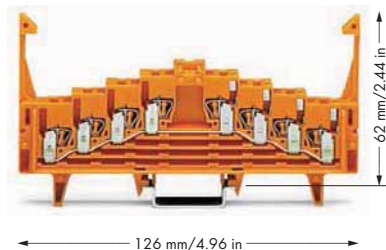


- ① 250 V = rated voltage  
4 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications  
60 V = peak value (table 4, EN 50020)  
if approved by the works expert
- ④ See application notes for:  
Wire harness support, page 424

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>4-level terminal block for matrix patching with locking clips,</b> 4 x pairs of contacts on each level, for DIN 35 x 7.5 rail acc. to EN 60715		<b>4-level terminal block for matrix patching without locking clips,</b> 4 x pairs of contacts on each level, for DIN 35 x 7.5 rail acc. to EN 60715		<b>Double marker carrier, 4 mm wide,</b> for I/O markings in the terminal block  center gray <b>209-128</b> 200 (2x100)
○ gray <b>727-219</b> 50 ○ white <b>727-221</b> 50 ● blue <b>727-223</b> ③ 50		○ gray <b>727-220</b> 50 ○ white <b>727-222</b> 50 ● blue <b>727-224</b> ③ 50		
<b>4-level terminal block for matrix patching with locking clips,</b> 4 x pairs of contacts on each level, for DIN 35 x 15 rail acc. to EN 60715		<b>4-level terminal block for matrix patching without locking clips,</b> 4 x pairs of contacts on each level, for DIN 35 x 15 rail acc. to EN 60715		<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide  gray <b>249-116</b> 100 (4x25)
○ gray <b>727-229</b> 50 ○ white <b>727-231</b> 50 ● blue <b>727-233</b> ③ 50		○ gray <b>727-230</b> 50 ○ white <b>727-232</b> 50 ● blue <b>727-234</b> ③ 50		<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide  gray <b>249-117</b> 50 (2x25)
<b>Item no. suffixes for terminal blocks with marking:</b> 0-1-2-3-3-2-1-0 .../021-000 a-b-c-d-d-c-b-a .../022-000 3-2-1-0-0-1-2-3 .../023-000 d-c-b-a-a-b-c-d .../024-000		<b>Item no. suffixes for terminal blocks with marking:</b> 0-1-2-3-3-2-1-0 .../021-000 a-b-c-d-d-c-b-a .../022-000 3-2-1-0-0-1-2-3 .../023-000 d-c-b-a-a-b-c-d .../024-000		<b>Operating tool with partially insulated shaft,</b>  type 1, (2.5 x 0.4) mm blade <b>210-719</b> 1
<b>727 Series Accessories</b>				
Appropriate marking system: WMB (see Section 13)				
<b>4-level end plate, 7.62 mm thick,</b> without marking  orange <b>727-217</b> 25		<b>Insulation stop,</b>  8 pieces/strip, 0.25 mm <sup>2</sup> "s" 0.14 - 0.25 mm <sup>2</sup> "s+f-st" light gray <b>727-198</b> 200 (8x25)		
<b>4-level end plate, 7.62 mm thick,</b> numeric marking, marking: 0-1-2-3-3-2-1-0  orange <b>727-205</b> 25		<b>Insulation stop,</b>  8 pieces/strip, 0.25 - 0.5 mm <sup>2</sup> "s+f-st" dark gray <b>727-199</b> 200 (8x25)		
<b>4-level end plate, 7.62 mm thick,</b> alphanumeric marking, marking: a-b-c-d-d-c-b-a  orange <b>727-206</b> 25		<b>Wire commoning chain, insulated,</b>  31 connections, I <sub>N</sub> 6 A, max. 50 V, 0.5 mm <sup>2</sup> gray <b>709-107</b> 1		
<b>4-level end plate, 7.62 mm thick,</b> numeric marking, marking: 3-2-1-0-0-1-2-3  orange <b>727-207</b> 25		<b>Test plug,</b>  with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50		
<b>4-level end plate, 7.62 mm thick,</b> alphanumeric marking, marking: d-c-b-a-a-b-c-d  orange <b>727-208</b> 25		<b>Step-down test plug,</b>  from 4 mm socket to 2 mm plug red <b>210-297</b> 100 (4x25)		
<b>Insulation stop,</b>  8 pieces/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>727-197</b> 200 (8x25)		<b>Wire harness support</b> ④  gray <b>249-109</b> 50		

# 4-Level Common Potential Terminal Blocks 1.5 mm<sup>2</sup> 727 Series



0.08 - 1.5 mm <sup>2</sup> 250 V/4 kV/3 ① I <sub>N</sub> 18 A	AWG 28 - 16 300 V, 10 A <sup>②</sup> 300 V, 10 A <sup>③</sup>	0.08 - 1.5 mm <sup>2</sup> 250 V/4 kV/3 ① I <sub>N</sub> 18 A	AWG 28 - 16 300 V, 10 A <sup>②</sup> 300 V, 10 A <sup>③</sup>
Terminal block width 7.62 mm / 0.3 in 8 - 10 mm / 0.35 in ②		Terminal block width 7.62 mm / 0.3 in 8 - 10 mm / 0.35 in ②	



- ① 250 V = rated voltage  
4 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ See application notes for:  
Wire harness support, page 424

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>4-level common potential terminal block with locking clips,</b> all clamping units are connected to the same current bar, for DIN 35 x 7.5 rail acc. to EN 60715		<b>4-level common potential terminal block without locking clips,</b> all clamping units are connected to the same current bar, for DIN 35 x 7.5 rail acc. to EN 60715		<b>Double marker carrier,</b> 4 mm wide, for I/O markings in the terminal block center gray <b>209-128</b> 200 (2x100)
● orange <b>727-225</b> 50	○ light gray <b>727-227</b> 50	● orange <b>727-226</b> 50	○ light gray <b>727-228</b> 50	
<b>4-level common potential terminal block with locking clips,</b> all clamping units are connected to the same current bar, for DIN 35 x 15 rail acc. to EN 60715		<b>4-level common potential terminal block without locking clips,</b> all clamping units are connected to the same current bar, for DIN 35 x 15 rail acc. to EN 60715		<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
● orange <b>727-235</b> 50	○ light gray <b>727-237</b> 50	● orange <b>727-236</b> 50	○ light gray <b>727-238</b> 50	<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)
<b>Item no. suffixes for terminal blocks with marking:</b> 0-1-2-3-3-2-1-0 .../ <b>021-000</b> a-b-c-d-d-c-b-a .../ <b>022-000</b> 3-2-1-0-0-1-2-3 .../ <b>023-000</b> d-c-b-a-a-b-c-d .../ <b>024-000</b>		<b>Item no. suffixes for terminal blocks with marking:</b> 0-1-2-3-3-2-1-0 .../ <b>021-000</b> a-b-c-d-d-c-b-a .../ <b>022-000</b> 3-2-1-0-0-1-2-3 .../ <b>023-000</b> d-c-b-a-a-b-c-d .../ <b>024-000</b>		<b>Operating tool with partially insulated shaft,</b> type 1, (2.5 x 0.4) mm blade <b>210-719</b> 1
<b>727 Series Accessories</b>				
Appropriate marking system: WMB (see Section 13)				
<b>4-level end plate, 7.62 mm thick,</b> without marking orange <b>727-217</b> 25		<b>Insulation stop,</b> 8 pieces/strip, 0.25 mm <sup>2</sup> "s" 0.14 - 0.25 mm <sup>2</sup> "s+f-st" light gray <b>727-198</b> 200 (8x25)		
<b>4-level end plate, 7.62 mm thick,</b> numeric marking, marking: 0-1-2-3-3-2-1-0 orange <b>727-205</b> 25		<b>Insulation stop,</b> 8 pieces/strip, 0.25 - 0.5 mm <sup>2</sup> "s+f-st" dark gray <b>727-199</b> 200 (8x25)		
<b>4-level end plate, 7.62 mm thick,</b> alphanumeric marking, marking: a-b-c-d-d-c-b-a orange <b>727-206</b> 25		<b>Wire commoning chain, insulated,</b> 31 connections, I <sub>N</sub> 6 A, max. 50 V, 0.5 mm <sup>2</sup> gray <b>709-107</b> 1		
<b>4-level end plate, 7.62 mm thick,</b> numeric marking, marking: 3-2-1-0-0-1-2-3 orange <b>727-207</b> 25		<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50		
<b>4-level end plate, 7.62 mm thick,</b> alphanumeric marking, marking: d-c-b-a-a-b-c-d orange <b>727-208</b> 25		<b>Step-down test plug,</b> from 4 mm socket to 2 mm plug red <b>210-297</b> 100 (4x25)		
<b>Insulation stop,</b> 8 pieces/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>727-197</b> 200 (8x25)		<b>Wire harness support</b> ③ gray <b>249-109</b> 50		

















For list of approvals and user guide, see pages 634 to 637.

<b>0.08 - 1.5 mm<sup>2</sup></b> <b>250 V/4 kV/3 ①</b> <b>I<sub>N</sub> 10 A</b>  <b>Terminal block width 7.62 mm / 0.3 in</b>  <b>8 - 10 mm / 0.35 in ②</b>	<b>AWG 28 - 16</b> <b>300 V, 10 A<sup>Ⓜ</sup></b> <b>300 V, 10 A<sup>Ⓢ</sup></b>	<b>0.08 - 1.5 mm<sup>2</sup></b> <b>250 V/4 kV/3 ①</b> <b>I<sub>N</sub> 10 A</b>  <b>Terminal block width 7.62 mm / 0.3 in</b>  <b>8 - 10 mm / 0.35 in ②</b>	<b>AWG 28 - 16</b> <b>300 V, 10 A<sup>Ⓜ</sup></b> <b>300 V, 10 A<sup>Ⓢ</sup></b>
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- ① 250 V = rated voltage  
4 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications  
60 V = peak value (table 4, EN 50020)  
if approved by the works expert
- ④ See application notes for:  
Wire harness support, page 424

**Note:** Only combine terminal blocks and end plates that are colored gray/white/light gray or orange/blue!

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>8-level terminal block for matrix patching with locking clips,</b> 8 x pairs of contacts on each level, for DIN 35 x 7.5 rail acc. to EN 60715 ● gray <b>727-119</b> 25 ○ white <b>727-121</b> 25 ● blue <b>727-123</b> ③ 25		<b>8-level terminal block for matrix patching without locking clips,</b> 8 x pairs of contacts on each level, for DIN 35 x 7.5 rail acc. to EN 60715 ● gray <b>727-120</b> 25 ○ white <b>727-122</b> 25 ● blue <b>727-124</b> ③ 25		<b>Insulation stop,</b>  8 pieces/strip, 0.25 - 0.5 mm <sup>2</sup> "s+f-st" dark gray <b>727-199</b> 200 (8x25)
<b>8-level terminal block for matrix patching with locking clips,</b> 8 x pairs of contacts on each level, for DIN 35 x 15 rail acc. to EN 60715 ● gray <b>727-129</b> 25 ○ white <b>727-131</b> 25 ● blue <b>727-133</b> ③ 25		<b>8-level terminal block for matrix patching without locking clips,</b> 8 x pairs of contacts on each level, for DIN 35 x 15 rail acc. to EN 60715 ● gray <b>727-130</b> 25 ○ white <b>727-132</b> 25 ● blue <b>727-134</b> ③ 25		<b>Wire commoning chain, insulated,</b>  31 connections, I <sub>N</sub> 6 A, max. 50 V, 0.5 mm <sup>2</sup> gray <b>709-107</b> 1
<b>Item no. suffixes for terminal blocks with marking:</b> 0-1-2-3-4-5-6-7-7-6-5-4-3-2-1-0 .../001-000 a-b-c-d-e-f-g-h-h-g-f-e-d-c-b-a .../002-000 7-6-5-4-3-2-1-0-0-1-2-3-4-5-6-7 .../003-000 h-g-f-e-d-c-b-a-a-b-c-d-e-f-g-h .../004-000		<b>Item no. suffixes for terminal blocks with marking:</b> 0-1-2-3-4-5-6-7-7-6-5-4-3-2-1-0 .../001-000 a-b-c-d-e-f-g-h-h-g-f-e-d-c-b-a .../002-000 7-6-5-4-3-2-1-0-0-1-2-3-4-5-6-7 .../003-000 h-g-f-e-d-c-b-a-a-b-c-d-e-f-g-h .../004-000		<b>Test plug,</b>  with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
<b>727 Series Accessories</b> Appropriate marking system: WMB (see Section 13)				<b>Step-down test plug,</b>  from 4 mm socket to 2 mm plug red <b>210-297</b> 100 (4x25)
<b>8-level end plate, 7.62 mm thick, without marking</b>  orange <b>727-117</b> 25 gray <b>727-113</b> 25 blue <b>727-114</b> 25 white <b>727-115</b> 25 light gray <b>727-116</b> 25		<b>8-level end plate, 7.62 mm thick, numeric marking,</b>  marking: 7-6-5-4-3-2-1-0-0-1-2-3-4-5-6-7 orange <b>727-107</b> 25 gray <b>727-157</b> 25 blue <b>727-161</b> 25 white <b>727-165</b> 25 light gray <b>727-169</b> 25		<b>Wire harness support</b> ④ gray <b>249-109</b> 50
<b>8-level end plate, 7.62 mm thick, alphanumeric marking,</b>  marking: 0-1-2-3-4-5-6-7-7-6-5-4-3-2-1-0 orange <b>727-105</b> 25 gray <b>727-155</b> 25 blue <b>727-159</b> 25 white <b>727-163</b> 25 light gray <b>727-167</b> 25		<b>8-level end plate, 7.62 mm thick, alphanumeric marking,</b>  marking: h-g-f-e-d-c-b-a-a-b-c-d-e-f-g-h orange <b>727-108</b> 25 gray <b>727-158</b> 25 blue <b>727-162</b> 25 white <b>727-166</b> 25 light gray <b>727-170</b> 25		<b>Double marker carrier, 4 mm wide,</b>  for I/O markings in the terminal block center gray <b>209-128</b> 200 (2x100)
<b>8-level end plate, 7.62 mm thick, alphanumeric marking,</b>  marking: a-b-c-d-e-f-g-h-h-g-f-e-d-c-b-a orange <b>727-106</b> 25 gray <b>727-156</b> 25 blue <b>727-160</b> 25 white <b>727-164</b> 25 light gray <b>727-168</b> 25		<b>Insulation stop,</b>  8 pieces/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>727-197</b> 200 (8x25)		<b>WMB Multi marking system,</b>  for terminal widths 5 - 17.5 mm, for PLC input marking white <b>793-933</b> 5
		<b>Insulation stop,</b>  8 pieces/strip, 0.25 mm <sup>2</sup> "s" 0.14 - 0.25 mm <sup>2</sup> "s+f-st" light gray <b>727-198</b> 200 (8x25)		<b>Screwless end stop,</b>  for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
				<b>Screwless end stop,</b>  for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)
				<b>Operating tool with partially insulated shaft,</b>  type 1, (2.5 x 0.4) mm blade <b>210-719</b> 1



# 8-Level Common Potential Terminal Blocks 1.5 mm<sup>2</sup> 727 Series

0.08 - 1.5 mm <sup>2</sup> 250 V/4 kV/3 ① I <sub>N</sub> 18 A	AWG 28 - 16 300 V, 10 A <sup>②</sup> 300 V, 10 A <sup>③</sup>	0.08 - 1.5 mm <sup>2</sup> 250 V/4 kV/3 ① I <sub>N</sub> 18 A	AWG 28 - 16 300 V, 10 A <sup>②</sup> 300 V, 10 A <sup>③</sup>
Terminal block width 7.62 mm / 0.3 in 8 - 10 mm / 0.35 in ②		Terminal block width 7.62 mm / 0.3 in 8 - 10 mm / 0.35 in ②	


















- ① 250 V = rated voltage  
4 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)

② Strip length, see packaging or instructions.

③ See application notes for:  
Wire harness support, page 424

**Note:** Only combine terminal blocks and end plates that are colored gray/white/light gray or orange/blue!

Item No.	Pack. Unit	Item No.	Pack. Unit	Accessories
<b>8-level common potential terminal block with locking clips,</b> all clamping units are connected to the same current bar, for DIN 35 x 7.5 rail acc. to EN 60715		<b>8-level common potential terminal block without locking clips,</b> all clamping units are connected to the same current bar, for DIN 35 x 7.5 rail acc. to EN 60715		<b>Insulation stop,</b>  8 pieces/strip, 0.25 - 0.5 mm <sup>2</sup> "s+f-st" dark gray <b>727-199</b> 200 (8x25)
● orange <b>727-125</b> 25	○ light gray <b>727-127</b> 25	● orange <b>727-126</b> 25	○ light gray <b>727-128</b> 25	
<b>8-level common potential terminal block with locking clips,</b> all clamping units are connected to the same current bar, for DIN 35 x 15 rail acc. to EN 60715		<b>8-level common potential terminal block without locking clips,</b> all clamping units are connected to the same current bar, for DIN 35 x 15 rail acc. to EN 60715		<b>Wire commoning chain, insulated,</b>  31 connections, I <sub>N</sub> 6 A, max. 50 V, 0.5 mm <sup>2</sup> gray <b>709-107</b> 1
● orange <b>727-135</b> 25	○ light gray <b>727-137</b> 25	● orange <b>727-136</b> 25	○ light gray <b>727-138</b> 25	
<b>Item no. suffixes for terminal blocks with marking:</b> 0-1-2-3-4-5-6-7-7-6-5-4-3-2-1-0 .../001-000 a-b-c-d-e-f-g-h-h-g-f-e-d-c-b-a .../002-000 7-6-5-4-3-2-1-0-0-1-2-3-4-5-6-7 .../003-000 h-g-f-e-d-c-b-a-a-b-c-d-e-f-g-h .../004-000		<b>Item no. suffixes for terminal blocks with marking:</b> 0-1-2-3-4-5-6-7-7-6-5-4-3-2-1-0 .../001-000 a-b-c-d-e-f-g-h-h-g-f-e-d-c-b-a .../002-000 7-6-5-4-3-2-1-0-0-1-2-3-4-5-6-7 .../003-000 h-g-f-e-d-c-b-a-a-b-c-d-e-f-g-h .../004-000		<b>Test plug,</b>  with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
<b>727 Series Accessories</b>				<b>Step-down test plug,</b>  from 4 mm socket to 2 mm plug red <b>210-297</b> 100 (4x25)
Appropriate marking system: WMB (see Section 13)				
<b>8-level end plate, 7.62 mm thick, without marking</b>  orange <b>727-117</b> 25 gray <b>727-113</b> 25 blue <b>727-114</b> 25 white <b>727-115</b> 25 light gray <b>727-116</b> 25		<b>8-level end plate, 7.62 mm thick, numeric marking,</b>  marking: 7-6-5-4-3-2-1-0-0-1-2-3-4-5-6-7 orange <b>727-107</b> 25 gray <b>727-157</b> 25 blue <b>727-161</b> 25 white <b>727-165</b> 25 light gray <b>727-169</b> 25		<b>Double marker carrier, 4 mm wide,</b>  for I/O markings in the terminal block center gray <b>209-128</b> 200 (2x100)
<b>8-level end plate, 7.62 mm thick, alphanumeric marking,</b>  marking: 0-1-2-3-4-5-6-7-7-6-5-4-3-2-1-0 orange <b>727-105</b> 25 gray <b>727-155</b> 25 blue <b>727-159</b> 25 white <b>727-163</b> 25 light gray <b>727-167</b> 25		<b>8-level end plate, 7.62 mm thick, alphanumeric marking,</b>  marking: h-g-f-e-d-c-b-a-a-b-c-d-e-f-g-h orange <b>727-108</b> 25 gray <b>727-158</b> 25 blue <b>727-162</b> 25 white <b>727-166</b> 25 light gray <b>727-170</b> 25		
<b>8-level end plate, 7.62 mm thick, alphanumeric marking,</b>  marking: a-b-c-d-e-f-g-h-h-g-f-e-d-c-b-a orange <b>727-106</b> 25 gray <b>727-156</b> 25 blue <b>727-160</b> 25 white <b>727-164</b> 25 light gray <b>727-168</b> 25		<b>Insulation stop,</b>  8 pieces/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>727-197</b> 200 (8x25)		<b>Screwless end stop,</b>  for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
		<b>Insulation stop,</b>  8 pieces/strip, 0.25 mm <sup>2</sup> "s" 0.14 - 0.25 mm <sup>2</sup> "s+f-st" light gray <b>727-198</b> 200 (8x25)		
				<b>Screwless end stop,</b>  for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)
				<b>Operating tool with partially insulated shaft,</b>  type 1, (2.5 x 0.4) mm blade <b>210-719</b> 1

For list of approvals and user guide, see pages 634 to 637.

# Rail-Mounted Terminal Blocks for Matrix Patching, 280 Series – Description and Handling –



Terminal blocks for matrix patching. Conductor termination/removal on the terminal block's side-entry.

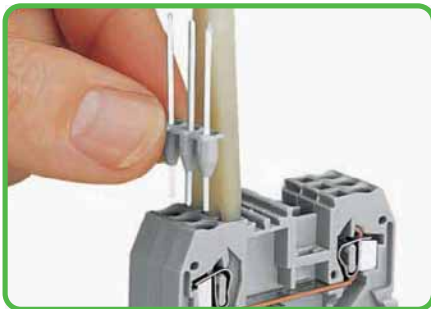


Terminal blocks for matrix patching. Conductor termination/removal in center of the terminal block.



Used as disconnect terminal block. Inserting disconnect jumpers.

## Pin modules

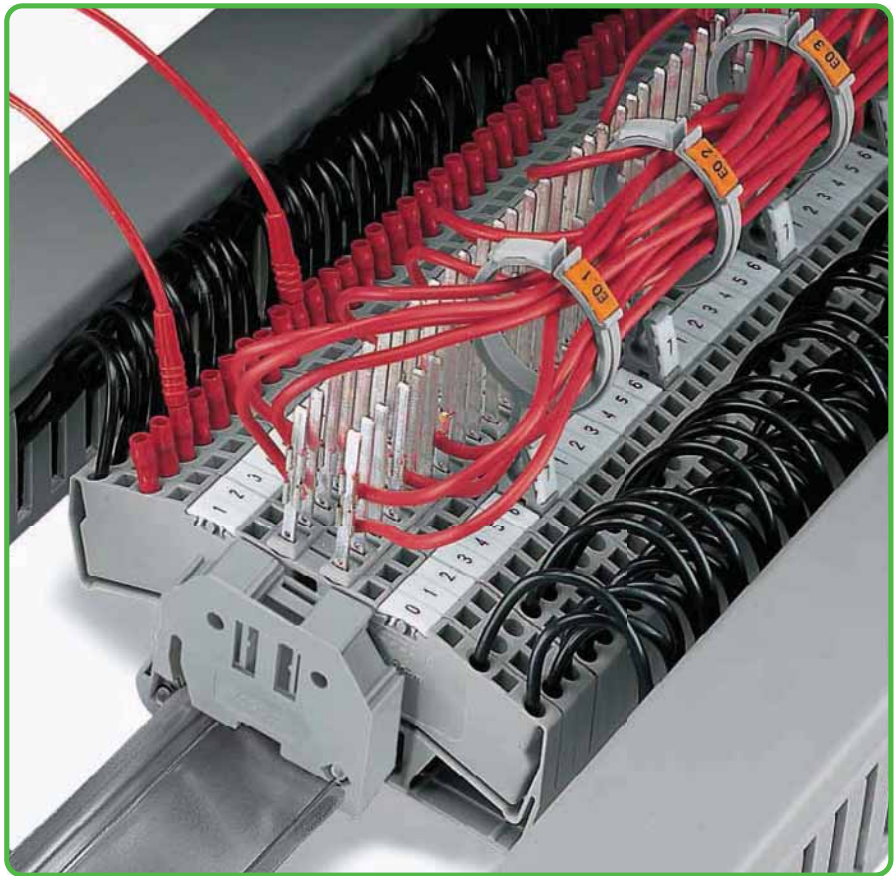


Inserting a pin module shown with 280 Series terminal blocks.

## Comb-style jumper bars



Used as potential multiplication. Inserting a 10-way, comb-style jumper bar (only possible in the center).



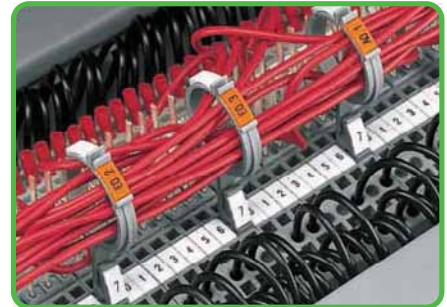
## Wire harness support



Clipping wire harness support onto the marker slot.



Inserting a cable into the wire harness support.



2 x group marking on top  
1 x terminal block marking at the bottom

**CAGE CLAMP® clamps the following copper conductors:\***

- solid
- stranded

fine-stranded, also with tinned single strands

fine-stranded, tip-bonded

fine-stranded, with ferrule ① (gastight crimped)

fine-stranded, with pin terminal (gastight crimped)

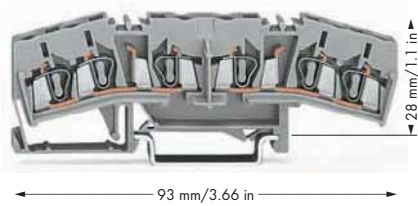
\* For aluminum conductors, see notes in Section 14.

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

# Rail-Mounted Terminal Blocks for Matrix Patching 2.5 mm<sup>2</sup> 280 Series

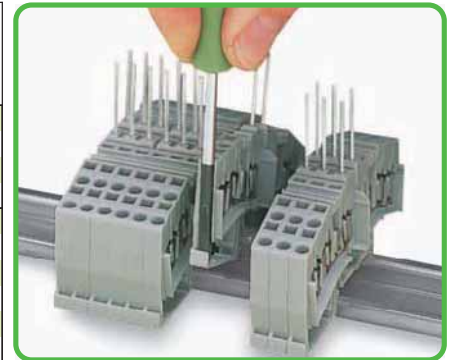
0.08 - 2.5 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 18 A	AWG 28 - 12 * 600 V, 10 A I <sub>N</sub> 18 A
Terminal block width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②	

In measurement and control technology, matrix patchboards are essential to process automation systems. Particularly beneficial to these applications is the use of the WAGO wire harness support, which simplifies wiring. WAGO 280 Series 3-conductor, front-entry, double-potential terminal blocks (with or without the addition of Wire-Wrap® or TERMI-POINT® pins) are also ideal for this type of application. They can be used for linking incoming field wires from items such as measuring devices or servos etc., with central process controllers, e.g., control consoles, panelboards or PLCs via matrix connections. The WAGO wire harness support elements are pushed into the terminal blocks (approx. every 8th unit) to form an additional "cable-duct" above the wiring level of the terminal blocks. Two marker slots are provided in each, the top ones may be used for group marking, and the lower slot for marking the terminal block.



- \* AWG 12: THHN, THWN
- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)  
500 V/6 kV/3 between both current bars  
(if used as disconnect terminal block or potential multiplier)
  - ② Strip length, see packaging or instructions.
  - ③ See application notes for:  
Isolierungsstopp Seite 199  
Brückungskamm Seite 200  
Betätigungswerkzeug Seite 200

Item No.	Pack. Unit	Accessories
<b>3-conductor double-potential terminal block</b> or <b>Rail-mounted terminal block for matrix patching,</b> Notice: This 3-conductor double-potential terminal block cannot be commoned via adjacent jumpers.		<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)
③ gray <b>280-675</b>	50	<b>Pin module, 2-pole,</b> for assembly on all front-entry 280 Series rail-mounted terminal blocks, for Wire-Wrap®, 1 x 1 mm <b>280-477</b> 100
<b>Accessories</b> Appropriate marking system: WMB (see Section 13)		<b>Pin module, 2-pole, for TERMI-POINT®,</b> 0.8 x 1.6 mm <b>280-475</b> 100
<b>End and intermediate plate, 5 mm thick</b> orange <b>280-333</b> 25 gray <b>280-325</b> 25		<b>Pin module, 2-pole, for TERMI-POINT®,</b> 0.8 x 2.4 mm <b>280-473</b> 100
<b>Insulation stop,</b> ③ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-s") white <b>280-470</b> 200 (8x25)		<b>Pin module, 3-pole, for Wire-Wrap®,</b> 1 x 1 mm <b>280-478</b> 100
<b>Insulation stop,</b> ③ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>280-471</b> 200 (8x25)		<b>Pin module, 3-pole, for TERMI-POINT®,</b> 0.8 x 1.6 mm <b>280-476</b> 100
<b>Insulation stop,</b> ③ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>280-472</b> 200 (8x25)		<b>Pin module, 3-pole, for TERMI-POINT®,</b> 0.8 x 2.4 mm <b>280-474</b> 100
<b>Alternate comb-style jumper bar,</b> insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way <b>280-492</b> 200 (8x25)		<b>Wire harness support</b> gray <b>249-109</b> 50
<b>Comb-style jumper bar, insulated,</b> ③ I <sub>N</sub> = I <sub>N</sub> terminal block 2-way <b>280-482</b> 200 (8x25) 3-way <b>280-483</b> 200 (8x25)		
<b>Comb-style jumper bar, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block 10-way <b>280-490</b> 50 (2x25)		
<b>Disconnect jumper with pull-tab,</b> orange, I <sub>N</sub> = I <sub>N</sub> of terminal block 2-way <b>280-494</b> 200 (8x25)		
<b>Operating tool, of insulating material</b> 2-way <b>280-432</b> 1 3-way <b>280-433</b> 1		
<b>Operating tool, of insulating material</b> 10-way <b>280-440</b> 1		



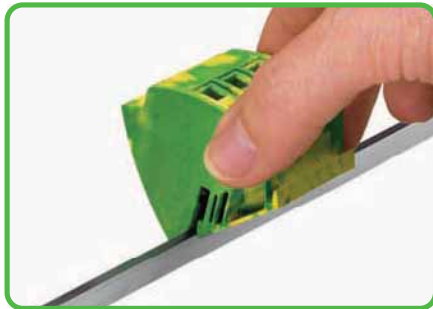
Removal: Separate terminal strip, slide terminal block to disconnect and then remove from the carrier rail.



For 5 mm/0.197 in wide double-potential front-entry terminal blocks, two 3-conductor through terminal blocks are offered in one insulating housing on one level. On each side of the terminal block are marker slots for WAGO markers. Via of the available accessories, these terminal blocks can also be used as 4-conductor disconnect terminal blocks or multipliers of potential. During mounting/dis-mounting using DIN carrier rail, please note that due to the protruding webs, the terminal blocks can only be inserted or removed from the assembly after having displaced the adjacent terminal blocks (also see picture above).

For list of approvals and user guide, see pages 634 to 637.

# Busbar Terminal Blocks, 812 Series - Description and Handling -



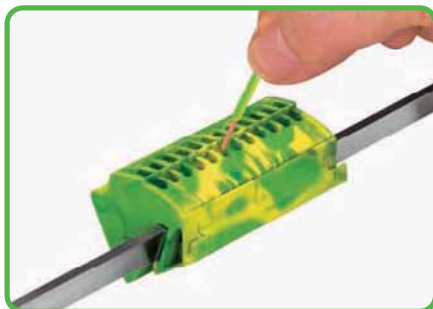
Snapping a ground busbar terminal block onto the N-busbar.



Unlock right and left positions to remove the ground busbar terminal block. Then pull up the block from the busbar.

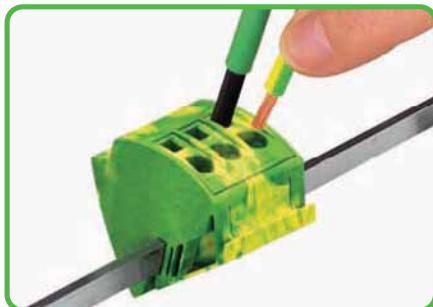
Using the 812 Series Busbar Terminal Blocks in switchgear cabinets and distribution boards permits simple and safe potential distribution on standard 10 x 3 mm (0.394 x 0.118 in) busbars. Tool-free snapping of self-locking busbar terminal blocks onto the busbar enables quick and easy assembly, as well as subsequent extension. The busbar terminal blocks are available in two different versions for conductors 1.5 - 16 mm<sup>2</sup> (AWG 16 - 6). Current-carrying capacity: With a maximum total current of 96A, the clamping units of the busbar terminal block can be loaded with the rated current of the conductor cross sections approved. This only applies when 10 x 3 mm (0.394 x 0.118 in) busbars are used.

## 4 mm<sup>2</sup>/AWG 12 conductor termination



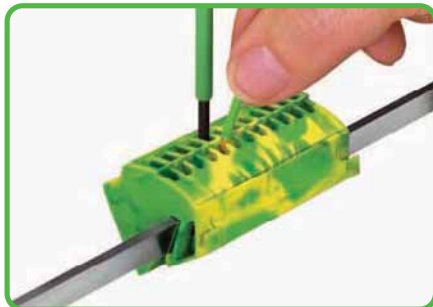
With CAGE CLAMP<sup>®</sup>S, solid conductors can be inserted directly into the 12 x 4 mm<sup>2</sup>/AWG 12 busbar terminal block, significantly reducing wiring time.

## 16 mm<sup>2</sup>/AWG 6 conductor termination



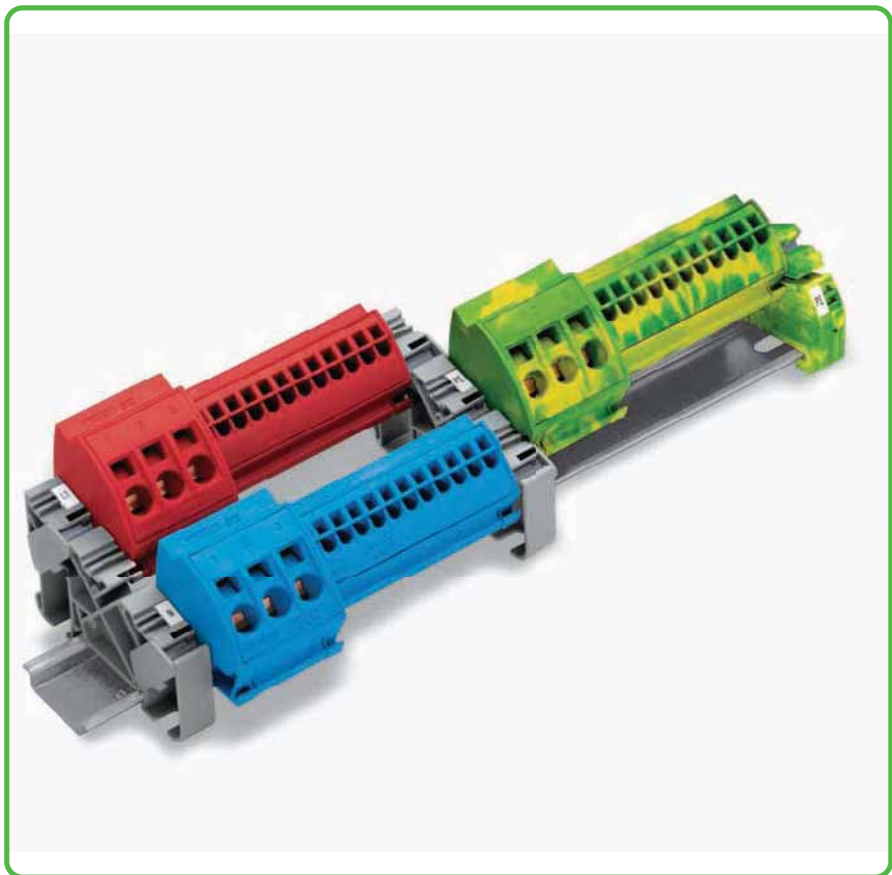
Open the clamping unit with an operating tool when terminating solid, stranded and fine-stranded conductors.

## 4 mm<sup>2</sup>/AWG 12 and 16 mm<sup>2</sup>/AWG 6 conductor removal



Open the clamping unit using an operating tool.

## Mixed 4 mm<sup>2</sup> (AWG 12) and 16 mm<sup>2</sup> (AWG 6) busbar terminal blocks

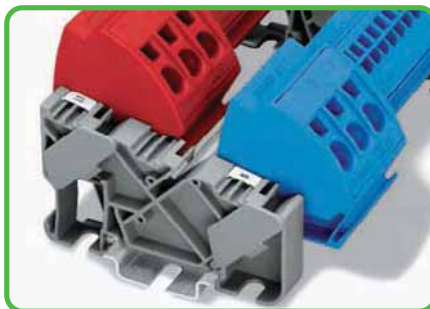


CAGE CLAMP<sup>®</sup> and CAGE CLAMP<sup>®</sup>S clamps the following copper conductors:  
solid

stranded

\* For aluminum conductors, see notes in Section 14.

## 812-140 Busbar Carrier



Carrier with 3 receptacles for 10 x 3 mm busbars with locking device for easy mounting of the busbars. The carriers can be snapped onto DIN 35 rail or screwed on a panel.

fine-stranded, also with tinned single strands

fine-stranded, tip-bonded

## 812-141 Ground Busbar Carrier



Carrier including a receptacle with locking device for 10 x 3 mm busbar. Contact between the busbar and rail is made automatically by simply snapping the carrier onto the DIN 35 rail. One end of the busbar is mounted onto the ground busbar carrier, the other end is inserted into the middle position of the insulated busbar carrier.

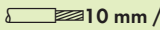


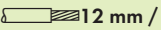


# Busbar Terminal Blocks 4 mm<sup>2</sup> and 16 mm<sup>2</sup> 812 Series

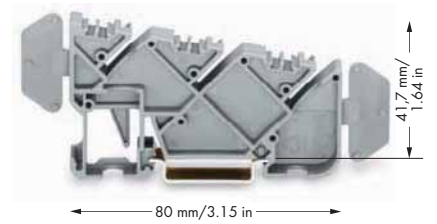
CAGE CLAMP® S


CAGE CLAMP®

8

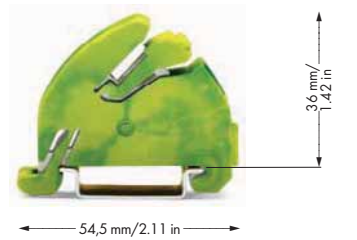
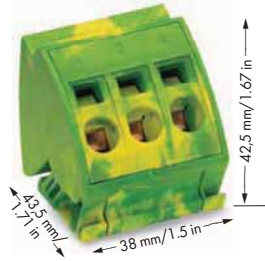
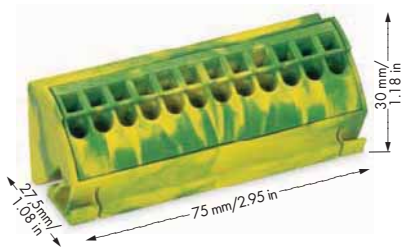
427







<b>0.5 - 4 mm<sup>2</sup></b> 1000 V/6 kV/3 I <sub>N</sub> 96 A  Terminal block width 75 mm / 2.953 in  10 mm / 0.38 in	<b>AWG 20 - 12</b> 600 V, 20 A  600 V, 95 A 	<b>1.5 - 16 mm<sup>2</sup></b> 1000 V/6 kV/3 I <sub>N</sub> 96 A  Terminal block width 38 mm / 1.496 in  12 mm / 0.47 in	<b>AWG 14 - 6</b> 600 V, 20 A  600 V, 95 A 	Insulated busbar carrier
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Busbar terminal block 4 mm<sup>2</sup>/AWG 12, with CAGE CLAMP®S</b>		<b>Busbar terminal block 16 mm<sup>2</sup>/AWG 6, with CAGE CLAMP®</b>		<b>Insulated busbar carrier, 12 mm wide</b>	
 blue	812-104 10	 blue	812-114 12	 gray	812-140 25
 light gray	812-101 10	 light gray	812-111 12		
 dark gray	812-102 10	 dark gray	812-112 12		
 red	812-103 10	 red	812-113 12		
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>			
<b>Straight busbar, Cu with tin plating, 10 x 3 mm, 1000 mm long, I<sub>N</sub> 140 A</b>		<b>Straight busbar, Cu with tin plating, 10 x 3 mm, 1000 mm long, I<sub>N</sub> 140 A</b>			
	210-133 1		210-133 1		
		<b>Finger guard, touchproof cover protects unused conductor entries</b>			
			284-400 100 (4x25)		

8



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Ground busbar terminal block 4 mm<sup>2</sup>/AWG 12, with CAGE CLAMP®S</b>		<b>Ground busbar terminal block 16 mm<sup>2</sup>/AWG 6, with CAGE CLAMP®</b>		<b>Ground busbar carrier with contact to DIN 35 rail, 11 mm wide</b>	
 green-yellow	812-100 10	 green-yellow	812-110 12	 green-yellow	812-141 25
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>			
<b>Straight busbar, Cu with tin plating, 10 x 3 mm, 1000 mm long, I<sub>N</sub> 140 A</b>		<b>Straight busbar, Cu with tin plating, 10 x 3 mm, 1000 mm long, I<sub>N</sub> 140 A</b>			
	210-133 1		210-133 1		
		<b>Finger guard, touchproof cover protects unused conductor entries</b>			
			284-400 100 (4x25)		

For list of approvals and user guide, see pages 634 to 637.



# CAGE CLAMP<sup>®</sup>

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

Handling:

Open clamping unit,  
insert the conductor,  
release clamp - done!



# 9



**Modular Terminal Blocks and Terminal Strips  
with Fixing Flanges or Snap-In Mounting Feet  
Front-Entry Wiring**  
2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") / AWG 12

869 Series

431 – 433



2.5 mm<sup>2</sup> / AWG 12

264 Series

436 – 439



**Side-Entry Wiring**  
0.08 mm<sup>2</sup> to 1.5 mm<sup>2</sup> (AWG 28 - 16) /  
2.5 mm<sup>2</sup>/4 mm<sup>2</sup> (AWG 14/12)

260/261/262 Series

442 – 455



**With Push-Buttons on One or Both Sides**  
1.5 mm<sup>2</sup> / AWG 16

261 Series

446 – 449



**With Additional, Miniature WSB, Side Marker Slot  
With Push-Buttons on One or Both Sides**  
1.5 mm<sup>2</sup> / AWG 16

261 Series

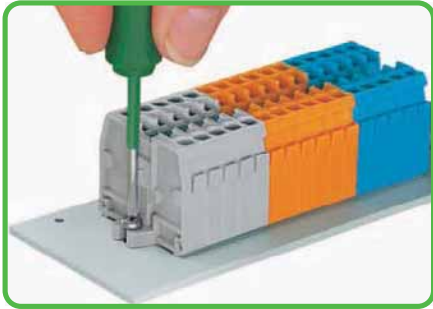
450 – 451



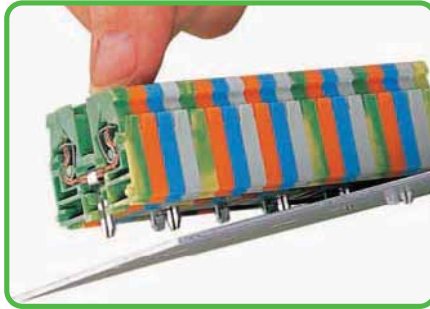
**Test Plug Modules for 260/261/262 Series Terminal  
Strips**

456

Fixing



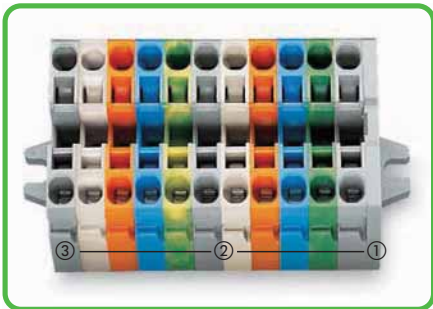
Terminal strip with fixing flanges, screw mount.



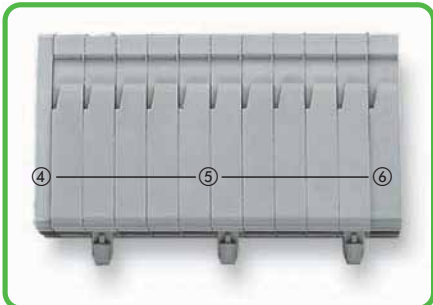
Terminal strip with snap-in mounting feet, mounting in holes.



Terminal strip with snap-in mounting feet, mounting onto special aluminum rail.



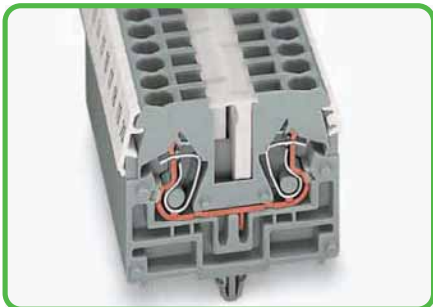
Terminal strip with fixing flanges, consisting of:  
End plate with fixing flange ①  
Center terminal blocks ②  
End terminal block with fixing flange ③



Terminal strip with mounting feet, consisting of:  
End plate ④ / Center terminal blocks with/without snap-in mounting feet ⑤ / End terminal block with/without snap-in mounting foot ⑥



Marking



WAGO WMB Multi marking system or WAGO miniature WSB Quick marking system.

Push-in type jumper bar system



Push jumper bars down firmly until fully inserted! When using multipole bars, push alternately on right and then left side, until installed.

CAGE CLAMP® clamps the following copper conductors:\*

- solid
- stranded

\* For aluminum conductors, see notes in Section 14.

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

fine-stranded, also with tinned single strands

fine-stranded, tip-bonded

fine-stranded, with ferrule ① (gastight crimped)

fine-stranded, with pin terminal (gastight crimped)



# Compact Terminal Strips 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") with Fixing Flanges or Snap-in Mounting Feet 869 Series

CAGE CLAMP®

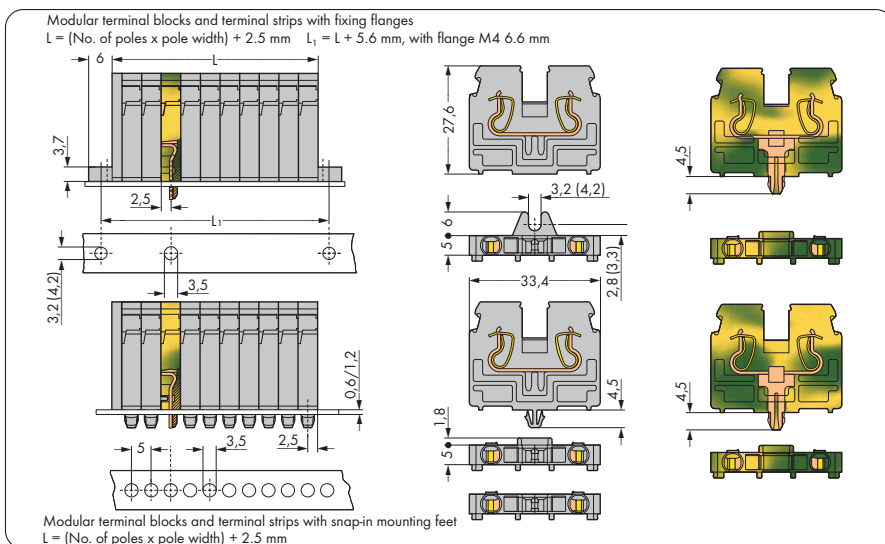
9

431

0.08 - 2.5 (4 "f-st") mm <sup>2</sup> 500 V/6 kV/3 I <sub>N</sub> 24 A Pole width 5 mm / 0.197 in 6 - 7 mm / 0.26 in	AWG 28 - 12 300V, 20A <sub>c</sub>	0.08 - 2.5 (4 "f-st") mm <sup>2</sup> 500 V/6 kV/3 I <sub>N</sub> 24 A Pole width 5 mm / 0.197 in 6 - 7 mm / 0.26 in	AWG 28 - 12 300V, 20A <sub>c</sub>	0.08 - 2.5 (4 "f-st") mm <sup>2</sup> 500 V/6 kV/3 I <sub>N</sub> 24 A Pole width 5 mm / 0.197 in 6 - 7 mm / 0.26 in	AWG 28 - 12 300V, 20A <sub>c</sub>
----------------------------------------------------------------------------------------------------------------------------------	---------------------------------------	----------------------------------------------------------------------------------------------------------------------------------	---------------------------------------	----------------------------------------------------------------------------------------------------------------------------------	---------------------------------------



Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>Compact terminal strip with fixing flanges M 3, for screw or similar mounting types, fixing hole 3.2 mm Ø, gray</b>			<b>Compact terminal strip with fixing flanges M 4, for screw or similar mounting types, fixing hole 4.2 mm Ø, gray</b>			<b>Compact terminal strip with snap-in mounting feet, for plate thickness 0.6-1.2 mm, fixing hole 3.5+0.1 mm Ø, gray</b>		
2	869-102	100	2	869-202	100	2	869-152	100
3	869-103	100	3	869-203	100	3	869-153	100
4	869-104	100	4	869-204	100	4	869-154	100
5	869-105	100	5	869-205	100	5	869-155	100
6	869-106	50	6	869-206	50	6	869-156	50
7	869-107	50	7	869-207	50	7	869-157	50
8	869-108	50	8	869-208	50	8	869-158	50
9	869-109	50	9	869-209	50	9	869-159	50
10	869-110	50	10	869-210	25	10	869-160	25
11	869-111	25	11	869-211	25	11	869-161	25
12 ①	869-112	25	12 ①	869-212	25	12 ①	869-162	25
<b>light gray</b>			<b>light gray</b>			<b>light gray</b>		
2	869-132	100	2	869-232	100	2	869-182	100
3	869-133	100	3	869-233	100	3	869-183	100
4	869-134	100	4	869-234	100	4	869-184	100
5	869-135	100	5	869-235	100	5	869-185	100
6	869-136	50	6	869-236	50	6	869-186	50
7	869-137	50	7	869-237	50	7	869-187	50
8	869-138	50	8	869-238	50	8	869-188	50
9	869-139	50	9	869-239	50	9	869-189	50
10	869-140	25	10	869-240	25	10	869-190	25
11	869-141	25	11	869-241	25	11	869-191	25
12 ①	869-142	25	12 ①	869-242	25	12 ①	869-192	25



① For longer strips and /or assemblies of different colors, please contact factory

**Item no. suffixes for terminal strips:**

869-102 to 869-112  
869-202 to 869-212  
869-152 to 869-162




blue .../000-006 ②  
green-yellow .../000-016

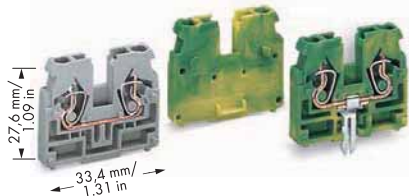
② Terminal blocks with blue insulation are suitable for Ex i applications



Dimensions in mm

For list of approvals and user guide, see pages 634 to 637.

# Modular Terminal Blocks 2.5 mm<sup>2</sup> (4 mm<sup>2</sup> "f-st") with Fixing Flanges or Snap-in Mounting Feet 869 Series

0.08 - 2.5 (4"f-st")mm <sup>2</sup> ① 500 V/6 kV/3 ② I <sub>N</sub> 24 A Terminal block width 5 mm / 0.197 in 6 - 7 mm / 0.26 in ③	AWG 28 - 12 300 V, 20 A 	0.08 - 2.5 (4"f-st")mm <sup>2</sup> ① 500 V/6 kV/3 ② I <sub>N</sub> 24 A Terminal block width 5 mm / 0.197 in 6 - 7 mm / 0.26 in ③	AWG 28 - 12 300 V, 20 A 	0.08 - 2.5 (4"f-st")mm <sup>2</sup> ① 500 V/6 kV/3 ② I <sub>N</sub> 24 A Terminal block width 5 mm / 0.197 in 6 - 7 mm / 0.26 in ③	AWG 28 - 12 300 V, 20 A 
------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------




Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit
<b>Center terminal block without snap-in mounting foot, required for terminal strips with fixing flanges between end plate and end terminal block</b>			<b>End terminal block with fixing flange M 3, for screw or similar mounting types, fixing hole 3.2 mm Ø</b>			<b>End terminal block with snap-in mounting foot, for plate thickness 0.6 - 1.2 mm, fixing hole Ø: 3.5 + 0.1 mm</b>		
gray	869-321	100	gray	869-301	100	gray	869-331	100
blue	869-324 ④	100	blue	869-304 ④	100	blue	869-334 ④	100
orange	869-326	100	green-yellow	869-307	100	green-yellow	869-337	100
green-yellow	869-327	100	light gray	869-309	100	light gray	869-339	100
light gray	869-329	100						
<b>Center terminal block with direct ground contact, diameter of hole 3.5 + 0.1 mm, Notice: Terminal block cannot be commoned.</b>			<b>End terminal block with fixing flange M 4, for screw or similar mounting types, fixing hole 4.2 mm Ø</b>			<b>End terminal block without snap-in mounting foot, for plate thickness 0.6-1.2 mm</b>		
green-yellow	869-328	100	gray	869-351	100	gray	869-341	100
			blue	869-354 ④	100	blue	869-344 ④	100
			green-yellow	869-357	100	green-yellow	869-347	100
			light gray	869-359	100	light gray	869-349	100
						<b>Item-Specific Accessories</b>		
						<b>Aluminum carrier rail,</b> 1000 mm long, 18 mm wide, 7 mm high  <b>210-154</b> 1		
						<b>End stop, for WSB Quick markers,</b> for 210-154 aluminum rail, 6 mm wide  <b>209-122</b> 25		


## 869 Series Accessories

Appropriate marking systems: WMB/Miniature WSB  
(see Section 13)

End plate with fixing flange M 3, 2.5 mm thick	End plate with fixing flange M 4, 2.5 mm thick	End plate, for terminal blocks with snap-in mounting foot, 2.5 mm thick
gray <b>869-385</b> 100 (4x25)	gray <b>869-395</b> 100 (4x25)	gray <b>869-375</b> 100 (4x25)
blue <b>869-388</b> 100 (4x25)	blue <b>869-398</b> 100 (4x25)	blue <b>869-378</b> 100 (4x25)
green-yellow <b>869-389</b> 100 (4x25)	green-yellow <b>869-399</b> 100 (4x25)	green-yellow <b>869-379</b> 100 (4x25)
light gray <b>869-387</b> 100 (4x25)	light gray <b>869-397</b> 100 (4x25)	light gray <b>869-377</b> 100 (4x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>280-470</b> 200 (8x25)	<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 18 A, light gray 2-way <b>870-402</b> 200 (8x25) 3-way <b>870-403</b> 200 (8x25) 4-way <b>870-404</b> 200 (8x25) 5-way <b>870-405</b> 100 (4x25) 6-way <b>870-406</b> 100 (4x25) 7-way <b>870-407</b> 100 (4x25) 8-way <b>870-408</b> 100 (4x25) 9-way <b>870-409</b> 100 (4x25) 10-way <b>870-410</b> 100 (4x25)	<b>Push-in type jumper bar, insulated,</b> I <sub>N</sub> 18 A, light gray from 1 to 3 <b>870-433</b> 200 (8x25) from 1 to 4 <b>870-434</b> 200 (8x25) from 1 to 5 <b>870-435</b> 100 (4x25) from 1 to 6 <b>870-436</b> 100 (4x25) from 1 to 7 <b>870-437</b> 100 (4x25) from 1 to 8 <b>870-438</b> 100 (4x25) from 1 to 9 <b>870-439</b> 100 (4x25) from 1 to 10 <b>870-440</b> 100 (4x25)
<b>Insulation stop,</b> 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>280-471</b> 200 (8x25)		
<b>Insulation stop,</b> 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>280-472</b> 200 (8x25)		

For list of approvals and user guide, see pages 634 to 637.

0.08 - 2.5 (4" f-st") mm<sup>2</sup> ① AWG 28 - 12  
 500 V/6 kV/3 ② 300 V, 20 A:   
 I<sub>N</sub> 24 A






Terminal block width 5 mm / 0.197 in  
 6 - 7 mm / 0.26 in ③



Terminal strips with M3 or M4 fixing flanges, for screw or similar mounting types  
 3.2 mm Ø M3 flange  
 4.2 mm Ø M4 flange



- ① Max. insulation diameter: 4.4 mm
- ② 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 1.4)
- ③ Strip length, see packaging or instructions.
- ④ Suitable for Ex i applications
- ⑤ See application notes for:  
 Insulation stop, page 199  
 Group marker carrier, page 281

Color	Item No.	Pack. Unit
<b>Center terminal block with snap-in mounting foot,</b> for plate thickness 0.6 - 1.2 mm, fixing hole Ø: 3.5 +0,1 mm		
 gray	869-311	100
 blue	869-314 ④	100
 orange	869-316	100
 green-yellow	869-317	100
 light gray	869-319	100





Terminal strips with snap-in mounting feet, for plate thickness 0.6 - 1.2 mm (0.02 - 0.047 in), fixing hole 3.5 +0,1 mm Ø





Insert insulation stop into conductor entry holes of terminal strip.


**Item-Specific Accessories**


**Aluminum carrier rail,**  
 1000 mm long, 18 mm wide,  
 7 mm high  
**210-154** 1

**End stop, for WSB Quick markers,**  
 for 210-154 aluminum rail,  
 6 mm wide  
**209-122** 25

**Marking strip, plain,**  
 7.5 mm wide,  
 1 m/3'3" long  
 translucent **709-196** 1

**Protective warning marker,**  
 with high-voltage symbol, black,  
 for 5 terminal blocks  
 yellow **280-405** 100 (4x25)

**Group marker carrier,**  
 ⑤ fits into terminal block jumper slots  
 gray **870-184** 50 (2x25)

**Test plug,**  
 with 500 mm cable,  
 2 mm Ø  
 red **210-136** 50



Protective warning markers (280-405), with black high-voltage symbols.

Wiring programmable logic controllers and microprocessor-operated control circuits often relies on very small cross sections of fine-stranded conductors. These small conductors are highly flexible, and they deform when pushed against the conductor stop in terminal blocks. As a result, the conductor insulation – not the copper conductor – may be clamped, causing intermittent contact or no contact at all. Common to all terminal block types currently offered, this problem creates unnecessary downtime for troubleshooting.

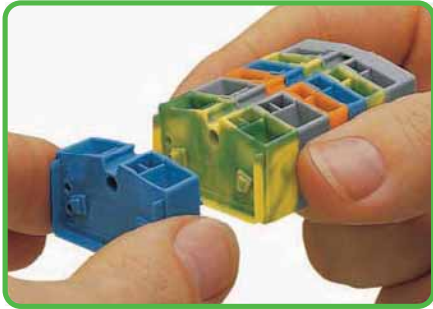
The solution: an insulation stop for compact terminal blocks. Insulation stops automatically bundle the cores of fine-stranded conductors when inserted into the clamping unit, preventing splicing. This also limits the conductor entry to a defined cross sectional area – ensuring the actual conductor, not the insulation, will enter the clamping unit.

The insulation stop is available as dividable 5-pole strip for the 869 Series terminal strips.

Insulation stop usage will not affect the conductor strip lengths for the aforementioned terminal strips.



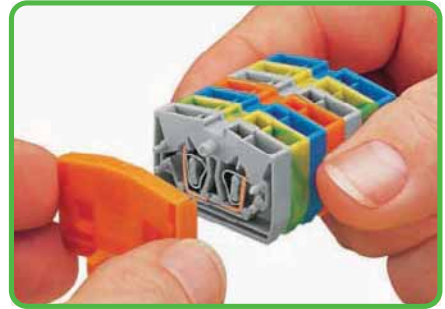
## Assembly



Assembling modular terminal blocks into terminal strips.



Mounting an "end terminal block" with fixing flange.



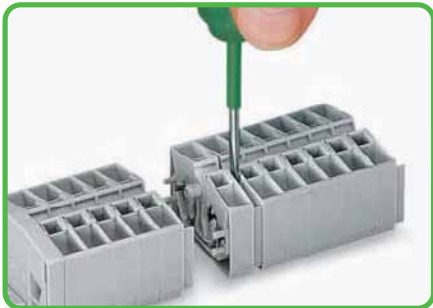
Mounting an end plate.

## CAGE CLAMP® connection

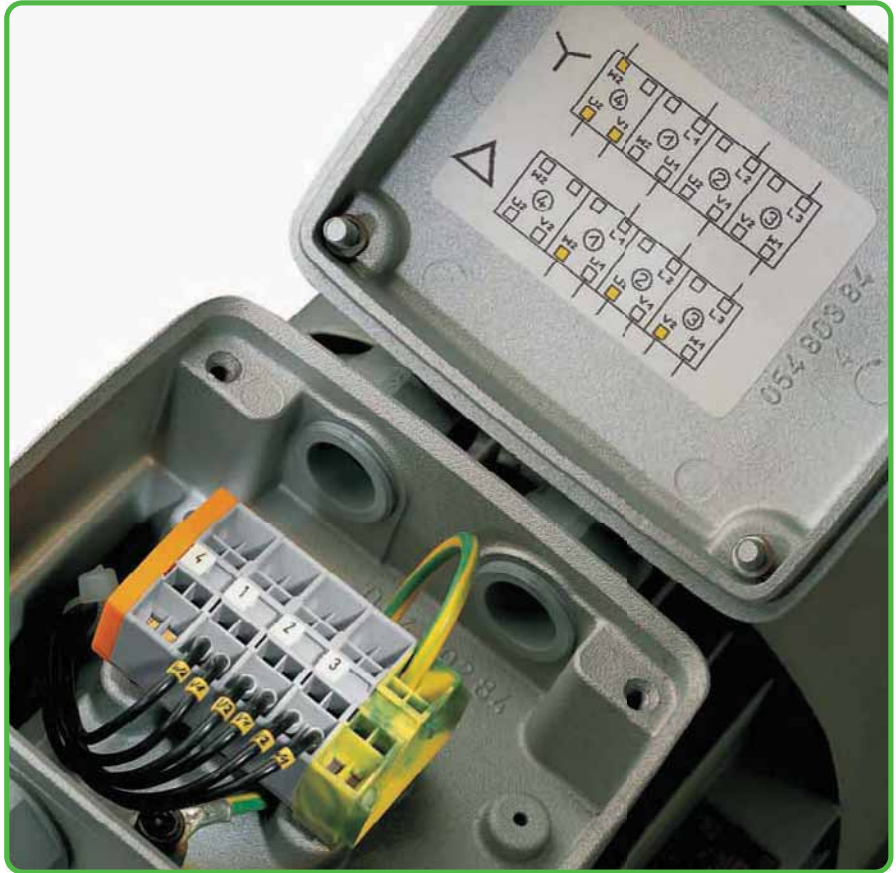


Conductor termination

## Removal



Removing a terminal block.



## Commoning



Commoning with comb-style jumper bar.

## Marking



T marker tag (Item No. 209-290)



Marking with miniature WSB Quick marking system.



CAGE CLAMP® clamps the following copper conductors:\*

solid



stranded



fine-stranded,  
also with tinned  
single strands

\* For aluminum conductors, see notes in Section 14.

- Description and Handling -

Fixing



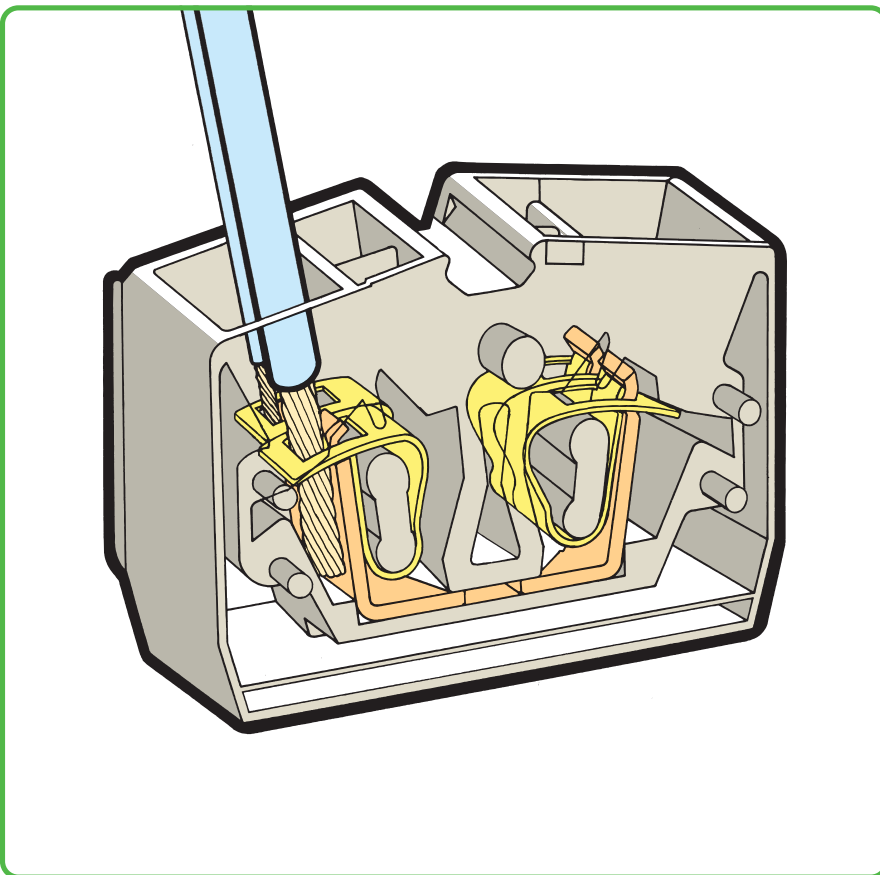
Terminal strip with fixing flanges, screw mount.



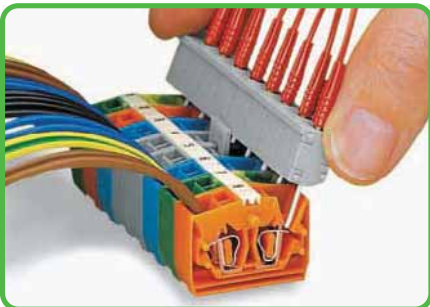
Terminal strip with snap-in mounting feet, mounting in holes.



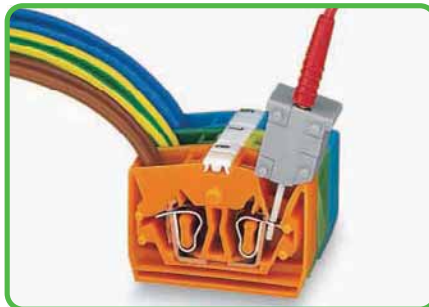
Terminal strip with snap-in mounting feet, mounting onto special aluminum rail.



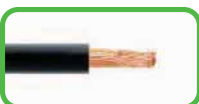
Testing



Testing with test plug module assembly - touch contact.



Testing with test plug module - fully clamped by CAGE CLAMP®.



fine-stranded, tip-bonded



fine-stranded, with ferrule ① (gastight crimped)



fine-stranded, with pin terminal (gastight crimped)

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

0.08 - 2.5 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 12 * 300 V, 20 A ② 600 V, 20 A ③	0.08 - 2.5 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 12 * 300 V, 20 A ② 600 V, 20 A ③
Terminal block width 6 mm / 0.236 in 8 - 9 mm / 0.33 in ②		Terminal block width 10 mm / 0.394 in 8 - 9 mm / 0.33 in ②	



\* AWG 12: THHN, THWN

- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ Suitable for Ex e II applications  
0.5 mm<sup>2</sup> - 2.5 mm<sup>2</sup>/AWG 20 - 12\*  
690 V, 23 A  
(also see Section 14)
- ⑤ See application notes for:  
Alternate comb-style jumper bar, page 200  
Test plug module, page 456  
Miniature WSB, page 556

Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit
<b>2-conductor center terminal block</b> , required between end plate and end terminal block for terminal strips with fixing flanges			<b>4-conductor center terminal block</b> , required for terminal strips with fixing flanges between end plate and end terminal block		
gray	264-321	100	gray	264-351	100
blue	264-324 ③	100	blue	264-354 ③	100
orange	264-326	100	orange	264-356	100
green-yellow	264-327	100	green-yellow	264-357	100
light gray ⑤	264-131 ④	100	light gray ⑤	264-231 ④	100
<b>2-conductor end terminal block with fixing flange</b> , for screw or similar mounting types, fixing hole 3.2 mm Ø			<b>4-conductor end terminal block with fixing flange</b> , for screw or similar mounting types, fixing hole 3.2 mm Ø		
gray	264-301	100	gray	264-331	100
blue	264-304 ⑤	100	blue	264-334 ⑤	100
orange	264-306	100	orange	264-336	100
green-yellow	264-307	100	green-yellow	264-337	100
light gray ⑤	264-130 ④	100	light gray ⑤	264-230 ④	100
<b>Item-Specific Accessories</b>			<b>Item-Specific Accessories</b>		
<b>Alternate comb-style jumper bar</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block			<b>Alternate comb-style jumper bar</b> , insulated, I <sub>N</sub> = I <sub>N</sub> terminal block		
⑤		2-way 281-492 100 (4x25)	⑤		2-way 280-492 200 (8x25)
<b>Test plug module</b> , can be snapped together, 6 mm wide			<b>Test plug module</b> , can be snapped together, 10 mm wide		
⑤		gray 249-136 100 (4x25)	⑤		gray 249-139 100 (4x25)
<b>Miniature WSB Quick marking system</b> , 10 strips with 10 markers per card, 5 mm wide markers			<b>Miniature WSB Quick marking system</b> , 10 strips with 10 markers per card, 5 mm wide markers		
⑤		plain 248-501 5	⑤		264-900 5
<b>264 Series Accessories</b> Appropriate marking systems: Miniature WSB/T-marker tag (see Section 13)					
<b>End plate with fixing flange</b> , 4 mm thick			<b>Test plug</b> , with 500 mm cable, 2 mm Ø		
	gray 264-361 25	orange 264-364 25		red 210-136 50	
<b>Comb-style jumper bar</b> , insulated, I <sub>N</sub> 16 A, gray, reduces maximum conductor size to 1.5 mm <sup>2</sup> /AWG 16			<b>Test plug</b> , with 500 mm cable, 2.3 mm Ø		
	2-way 264-402 200 (8x25)			yellow 210-137 50	
<b>Operating tool</b> , of insulating material			<b>T marker tag</b> , 30 markers each tag, up to 6 characters per marker		
	2-way 280-432 1			plain 209-290 50	



Terminal strip with fixing flanges, consisting of:  
- End plate with fixing flange  
- Center terminal blocks  
- End terminal block with fixing flange

# Modular Terminal Blocks with Snap-In Mounting Foot

## 2.5 mm<sup>2</sup>

### 264 Series

0.08 - 2.5 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 12 * 300 V, 20 A ② 600 V, 20 A ③	0.08 - 2.5 mm <sup>2</sup> 800 V/8 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 12 * 300 V, 20 A ② 600 V, 20 A ③
Terminal block width 6 mm / 0.236 in 8 - 9 mm / 0.33 in ②		Terminal block width 10 mm / 0.394 in 8 - 9 mm / 0.33 in ②	



- \* AWG 12: THHN, THWN
- ① 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
  - ② Strip length, see packaging or instructions.
  - ③ Suitable for Ex i applications
  - ④ Suitable for Ex e II applications  
0.5 mm<sup>2</sup> - 2.5 mm<sup>2</sup>/AWG 20 - 12\*  
690 V, 23 A  
(also see Section 14)
  - ⑤ See application notes for:  
Alternate comb-style jumper bar, page 200  
Test plug module, page 456  
Miniature WSB, page 556

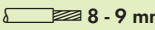
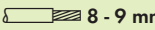
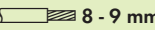
Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit
<b>2-conductor terminal block with snap-in mounting foot,</b> for plate thickness 0.6-1.2 mm fixing hole 3.5 mm Ø			<b>4-conductor terminal block with snap-in mounting foot,</b> for plate thickness 0.6-1.2 mm fixing hole 3.5 mm Ø		
gray	264-311	100	gray	264-341	100
blue	264-314 ③	100	blue	264-344 ③	100
orange	264-316	100	orange	264-346	100
green-yellow	264-317	100	green-yellow	264-347	100
light gray ⑤	264-180 ④	100	light gray ⑤	264-280 ④	100
<b>Item-Specific Accessories</b>			<b>Item-Specific Accessories</b>		
<b>Alternate comb-style jumper bar,</b> ⑤ insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way			<b>Alternate comb-style jumper bar,</b> ⑤ insulated, I <sub>N</sub> = I <sub>N</sub> terminal block 2-way		
	281-492	100 (4x25)		280-492	200 (8x25)
<b>Test plug module,</b> ⑤ can be snapped together, 6 mm wide			<b>Test plug module,</b> ⑤ can be snapped together, 10 mm wide		
	249-136	100 (4x25)		249-139	100 (4x25)
<b>Miniature WSB Quick marking system,</b> ⑤ 10 strips with 10 markers per card, 5 mm wide markers			<b>Miniature WSB Quick marking system,</b> ⑤ 10 strips with 10 markers per card, 5 mm wide markers		
	248-501	5		264-900	5
<b>264 Series Accessories</b> Appropriate marking systems: Miniature WSB/T-marker tag (see Section 13)					
<b>End plate,</b> for terminal blocks with snap-in mounting foot			<b>End stop,</b> for WSB Quick markers,		
	gray	264-371 25		for 210-154 aluminum rail, 6 mm wide	
	orange	264-374 25		209-122	25
	light gray	264-373 25			
<b>Comb-style jumper bar,</b> insulated, I <sub>N</sub> 16 A, gray, reduces maximum conductor size to 1.5 mm <sup>2</sup> /AWG 16			<b>T marker tag,</b>		
	2-way	264-402 200 (8x25)		30 markers each tag, up to 6 characters per marker	
				plain	209-290 50
<b>Operating tool,</b> of insulating material			<b>Operating tool with partially insulated shaft,</b>		
	2-way	280-432 1		type 2, (3.5 x 0.5) mm blade	
				210-720	1
<b>Test plug,</b>					
	with 500 mm cable, 2 mm Ø				
	red	210-136 50			
<b>Test plug,</b>					
	with 500 mm cable, 2.3 mm Ø				
	yellow	210-137 50			
<b>Aluminum carrier rail,</b>					
	1000 mm long, 18 mm wide, 7 mm high				
	210-154	1			



Terminal strip with snap-in mounting feet, consisting of:  
- End plate  
- 4-conductor term. block with snap-in mounting foot<sup>1)</sup>  
- Center terminal blocks  
- 2-conductor term. block with snap-in mounting foot<sup>1)</sup>

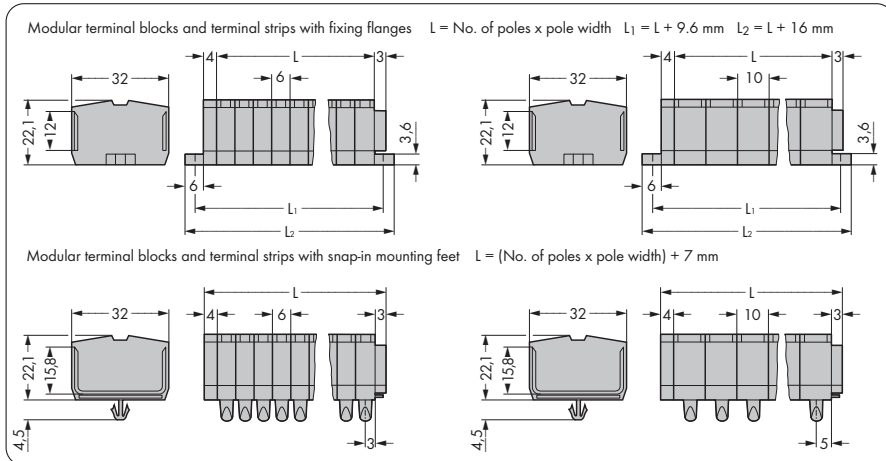
<sup>1)</sup> at every 4th or 5th terminal block on the strip

# Terminal Strips with Fixing Flanges or Snap-in Mounting Feet 264 Series

<b>0.08 - 2.5 mm<sup>2</sup></b> <b>800 V/8 kV/3 ①</b> <b>I<sub>N</sub> 24 A</b>  <b>Pole width 6 mm / 0.236 in</b>  <b>8 - 9 mm / 0.33 in ③</b>	<b>AWG 28 - 12 *</b> <b>300 V, 20 A ④</b> <b>600 V, 20 A ⑤</b>	<b>0.08 - 2.5 mm<sup>2</sup></b> <b>800 V/8 kV/3 ①</b> <b>I<sub>N</sub> 24 A</b>  <b>Pole width 10 mm / 0.394 in</b>  <b>8 - 9 mm / 0.33 in ③</b>	<b>AWG 28 - 12 *</b> <b>300 V, 20 A ④</b> <b>600 V, 20 A ⑤</b>	<b>0.5 - 2.5 mm<sup>2</sup></b> <b>690 V ②</b> <b>I<sub>N</sub> 23 A</b>  <b>Pole width 6 mm / 0.236 in</b>  <b>8 - 9 mm / 0.33 in ③</b>	<b>AWG 20 - 12 *</b> <b>300 V, 20 A ④</b> <b>600 V, 20 A ⑤</b>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------



Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>2-conductor terminal strip with fixing flanges, for screw or similar mounting types, fixing hole 3.2 mm Ø, gray</b>			<b>4-conductor terminal strip with fixing flanges, for screw or similar mounting types, fixing hole 3.2 mm Ø, gray</b>			<b>2-conductor Ex e II terminal strip with fixing flanges, for screw or similar mounting types, fixing hole 3.2 mm Ø, light gray</b>		
2	264-102	100	2	264-202	100	2	264-132	100
3	264-103	100	3	264-203	100	3	264-133	100
4	264-104	100	4	264-204	100	4	264-134	100
5	264-105	100	5	264-205	100	5	264-135	100
6	264-106	100	6	264-206	100	6	264-136	100
7	264-107	100	7	264-207	100	7	264-137	100
8	264-108	100	8	264-208	100	8	264-138	100
9	264-109	50	9	264-209	50	9	264-139	50
10	264-110	50	10	264-210	50	10	264-140	50
11	264-111	50	11	264-211	25	11	264-141	25
12 ④	264-112	25	12 ④	264-212	25	12 ④	264-142	25
<b>2-conductor terminal strip with snap-in mounting feet, for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, gray</b>			<b>4-conductor terminal strip with snap-in mounting feet, for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, gray</b>			<b>2-conductor Ex e II terminal strip with snap-in mounting feet, for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, light gray</b>		
2	264-152	100	2	264-252	100	2	264-182	100
3	264-153	100	3	264-253	100	3	264-183	100
4	264-154	100	4	264-254	100	4	264-184	100
5	264-155	100	5	264-255	100	5	264-185	100
6	264-156	50	6	264-256	50	6	264-186	50
7	264-157	50	7	264-257	50	7	264-187	50
8	264-158	50	8	264-258	50	8	264-188	50
9	264-159	50	9	264-259	50	9	264-189	50
10	264-160	25	10	264-260	25	10	264-190	25
11	264-161	25	11	264-261	25	11	264-191	25
12 ④	264-162	25	12 ④	264-262	25	12 ④	264-192	25



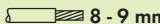
Dimensions in mm

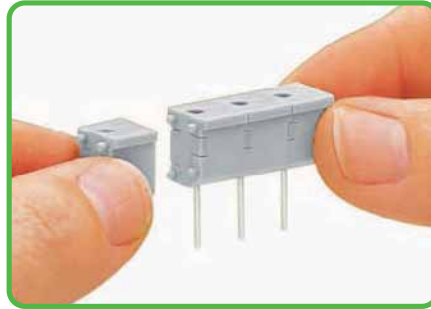


Ex e II terminal strip with fixing flanges



0.5 - 2.5 mm<sup>2</sup>    AWG 20 - 12 \*  
 690 V ②            300 V, 20 A ④  
 I<sub>N</sub> 23 A            600 V, 20 A ④

Pole width 10 mm / 0.394 in  
 8 - 9 mm / 0.33 in ③



Snapping together individual modules to assemble a multi-pole test plug module.

\* AWG 12: THHN, THWN

- ① 800 V = rated voltage  
    8 kV = rated surge voltage  
    3 = pollution degree  
    (also see Section 14)
- ② Suitable for Ex e II applications  
    (also see Section 14)
- ③ Strip length, see packaging or instructions.
- ④ For longer strips and/or assemblies of different colors, please contact factory



Pole No.	Item No.	Pack. Unit
<b>4-conductor Ex e II terminal strip with fixing flanges,</b> for screw or similar mounting types, fixing hole 3.2 mm Ø, light gray		
○ 2	264-232	100
○ 3	264-233	100
○ 4	264-234	100
○ 5	264-235	100
○ 6	264-236	100
○ 7	264-237	100
○ 8	264-238	100
○ 9	264-239	50
○ 10	264-240	50
○ 11	264-241	100
○ 12 ④	264-242	25
<b>4-conductor Ex e II terminal strip with snap-in mounting feet,</b> for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, light gray		
○ 2	264-282	100
○ 3	264-283	100
○ 4	264-284	100
○ 5	264-285	100
○ 6	264-286	100
○ 7	264-287	50
○ 8	264-288	50
○ 9	264-289	50
○ 10	264-290	25
○ 11	264-291	25
○ 12 ④	264-292	25



Item no. suffixes for gray terminal strips with fixing flanges:  
 264-102 to 264-112  
 264-202 to 264-212

blue . . . /000-006  
 Terminal blocks with blue insulation are suitable for Ex i applications.



Item no. suffixes for gray terminal strips with snap-in mounting feet:  
 264-152 to 264-162  
 264-252 to 264-262

blue . . . /000-006  
 Terminal blocks with blue insulation are suitable for Ex i applications.



Terminal strip with fixing flanges, for screw or similar mounting types, fixing hole 3.2 mm Ø.



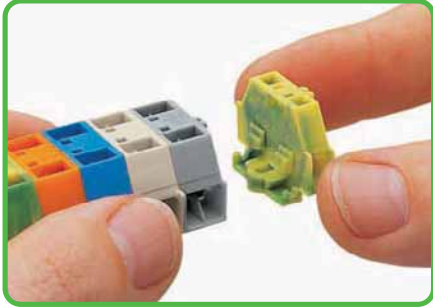
Terminal strip with snap-in mounting feet, for plate thickness 0.6 mm - 1.2 mm (0.02 in - 0.047 in), fixing hole 3.5 mm Ø.



Ex e II terminal strip with snap-in mounting feet

# Modular Terminal Blocks and Terminal Strips 260 to 262 Series

## Assembly

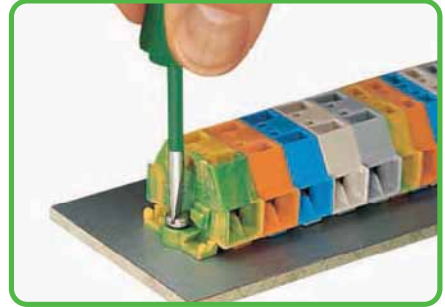


Assembling modular terminal blocks into terminal strips.



Mounting an end plate.

## Fixing



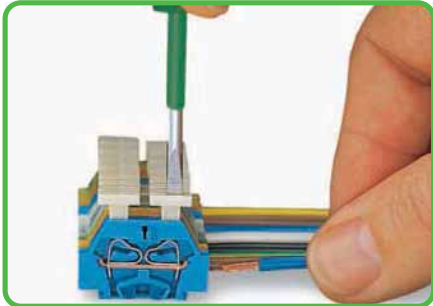
Terminal strip with fixing flanges, screw mount.

## CAGE CLAMP® connection

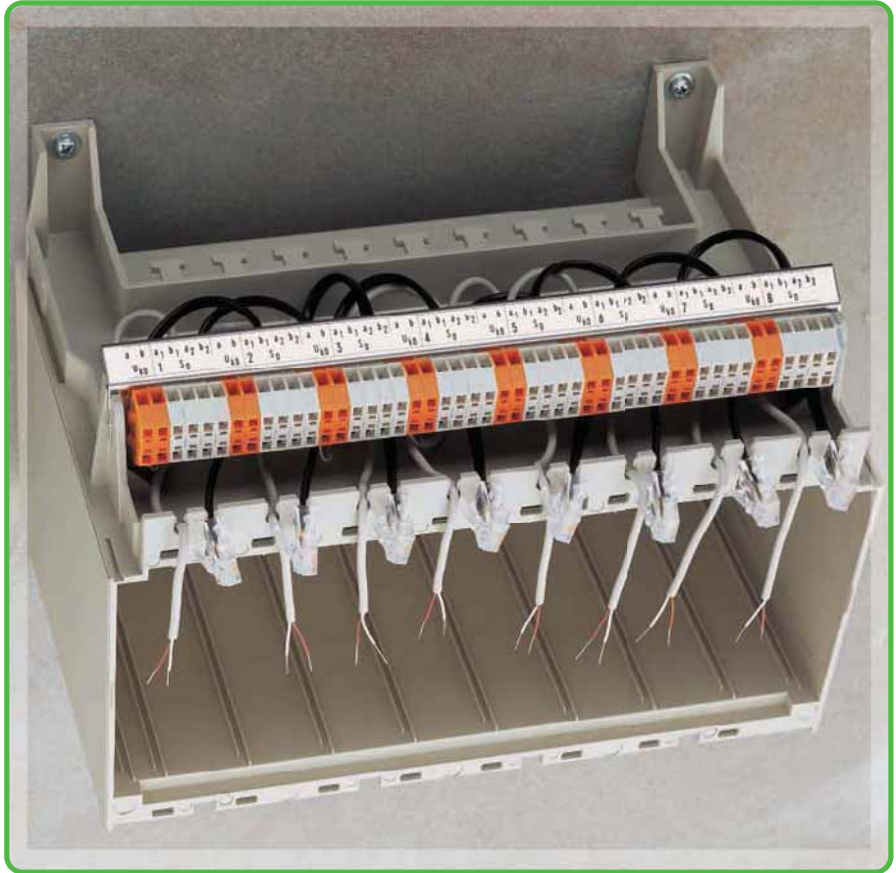


Conductor termination

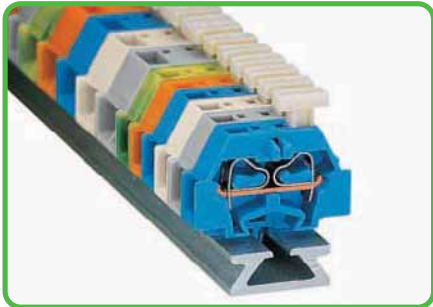
## CAGE CLAMP® connection



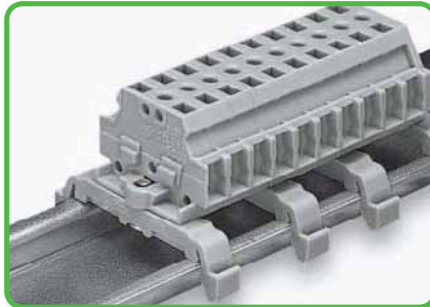
Conductor termination via push-button.



## Types

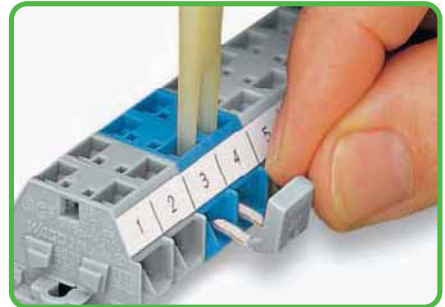


Terminal strip with push-buttons on one side.



Terminal strip with marker slot for miniature WSB Quick marking system.

## Commoning



Commoning with comb-style jumper bar.



CAGE CLAMP® clamps the following copper conductors:\*

solid



stranded



fine-stranded, also with tinned single strands

\* For aluminum conductors, see notes in Section 14.

## - Description and Handling -

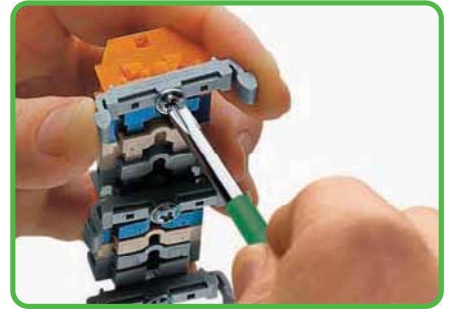
### Fixing



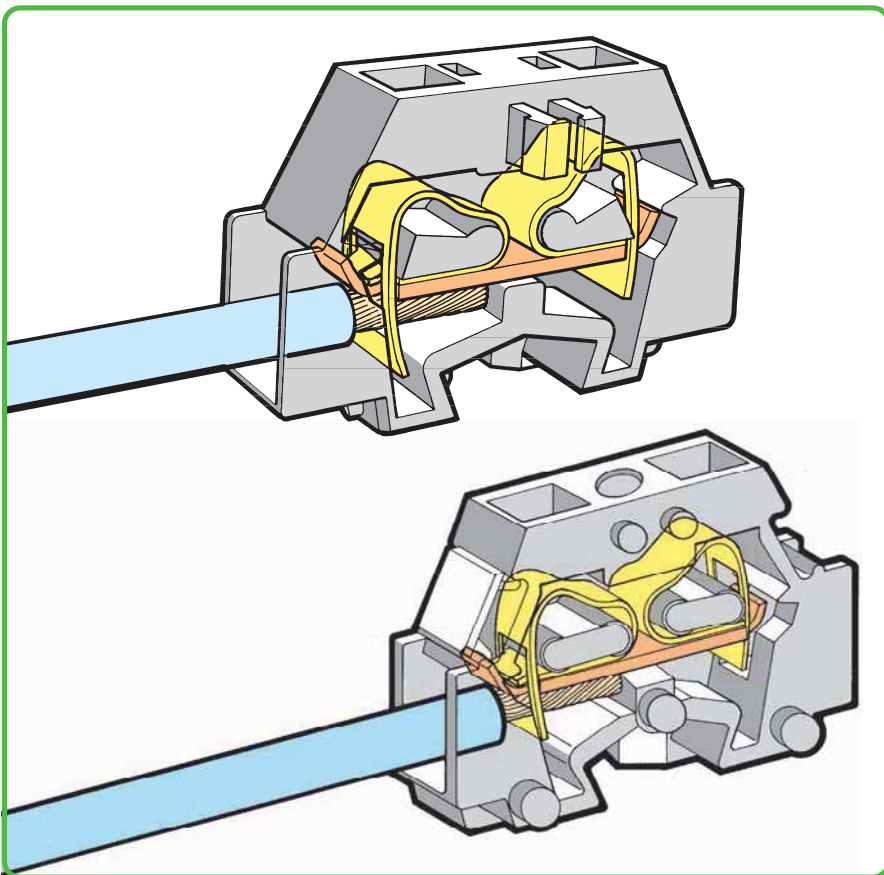
Terminal strip with snap-in mounting feet, mounting in holes.



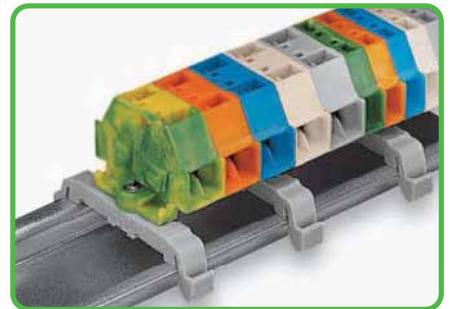
Terminal strip with snap-in mounting feet, mounting onto special aluminum rail.



Terminal strip with fixing flanges, screw mounting of 209-123 mounting adapter (The distance between mounting adapters should be 35 - 40 mm / 1.378 - 1.575 in max.).

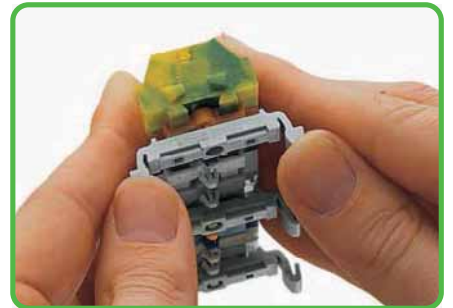


### Fixing



Terminal strip with fixing flanges, on DIN 35 rail.

### Fixing



Terminal strip with snap-in mounting feet, connecting to 209-123 mounting adapter (The distance between mounting adapters should be 35 - 40 mm / 1.378 - 1.575 in max.).

### Marking

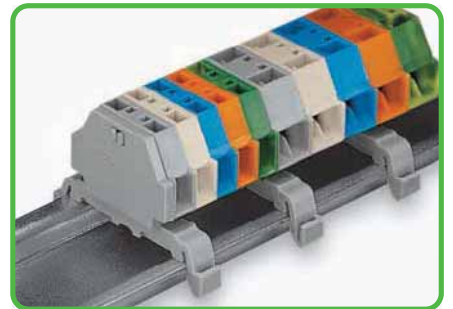


Marking with self-adhesive marker strips.

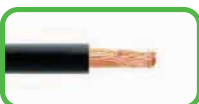


Marking by direct printing (on request).

### Fixing



Terminal strip with snap-in mounting feet, on DIN 35 rail.



fine-stranded, tip-bonded



fine-stranded, with ferrule ① (gastight crimped)

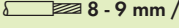
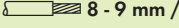


fine-stranded, with pin terminal (gastight crimped)

① When using ferruled conductors, it is necessary to use a terminal block one size larger than the nominal cross section of the wire.
















# Modular Terminal Blocks with Fixing Flange or Snap-In Mounting Foot 1.5 mm<sup>2</sup> 260 Series

CAGE CLAMP®

0.08 - 1.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 18 A	AWG 28 - 16 300 V, 10 A <sup>②</sup> 300 V, 15 A <sup>③</sup>	0.08 - 1.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 18 A	AWG 28 - 16 300 V, 10 A <sup>②</sup> 300 V, 15 A <sup>③</sup>
Terminal block width 5 mm / 0.197 in  8 - 9 mm / 0.33 in ②		Terminal block width 8 mm / 0.315 in  8 - 9 mm / 0.33 in ②	

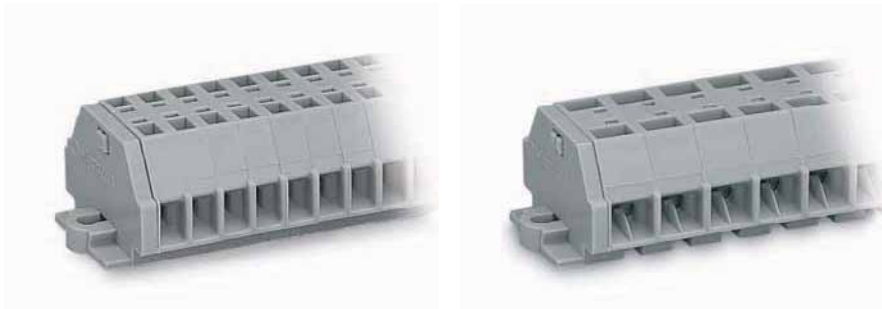


- ① 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ See application notes for:  
Test plug module, page 456

Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit	260 Series Accessories
<b>2-conductor terminal block with fixing flange</b> , for screw or similar mounting types, fixing hole 3.2 mm Ø, with 209-123 mounting adapter also for DIN 35 rail ● gray <b>260-301</b> 300 (6x50) ○ light gray <b>260-303</b> 300 (6x50) ● blue <b>260-304</b> 300 (6x50) ● orange <b>260-306</b> 300 (6x50) ● green-yellow <b>260-307</b> 300 (6x50)			<b>4-conductor terminal block with fixing flange</b> , for screw or similar mounting types, fixing hole 3.2 mm Ø, with 209-123 mounting adapter also for DIN 35 rail ● gray <b>260-331</b> 300 (6x50) ○ light gray <b>260-333</b> 300 (6x50) ● blue <b>260-334</b> 300 (6x50) ● orange <b>260-336</b> 300 (6x50) ● green-yellow <b>260-337</b> 300 (6x50)			
<b>2-conductor terminal block with snap-in mounting foot</b> , for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail ● gray <b>260-311</b> 300 (6x50) ○ light gray <b>260-313</b> 300 (6x50) ● blue <b>260-314</b> 300 (6x50) ● orange <b>260-316</b> 300 (6x50) ● green-yellow <b>260-317</b> 300 (6x50)			<b>4-conductor terminal block with snap-in mounting foot</b> , for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail ● gray <b>260-341</b> 300 (6x50) ○ light gray <b>260-343</b> 300 (6x50) ● blue <b>260-344</b> 300 (6x50) ● orange <b>260-346</b> 300 (6x50) ● green-yellow <b>260-347</b> 300 (6x50)			<b>End stop</b> , for WSB Quick markers, for 210-154 aluminum rail, 6 mm wide  <b>209-122</b> 25
<b>2-conductor end terminal block</b> , without fixing foot, for terminal strips with snap-in mounting feet ● gray <b>260-321</b> 300 (6x50) ○ light gray <b>260-323</b> 300 (6x50) ● blue <b>260-324</b> 300 (6x50) ● orange <b>260-326</b> 300 (6x50) ● green-yellow <b>260-327</b> 300 (6x50)			<b>4-conductor end terminal block</b> , without fixing foot, for terminal strips with snap-in mounting feet ● gray <b>260-351</b> 300 (6x50) ○ light gray <b>260-353</b> 300 (6x50) ● blue <b>260-354</b> 300 (6x50) ● orange <b>260-356</b> 300 (6x50) ● green-yellow <b>260-357</b> 300 (6x50)			<b>Mounting foot</b> , for DIN 35 rail, can be snapped on terminal blocks with snap-in mounting foot, 6.4 mm wide  <b>209-120</b> 25
<b>Item-Specific Accessories</b>			<b>Item-Specific Accessories</b>			<b>Mounting foot with screw</b> , for DIN 35 rail, can be screwed on terminal blocks with fixing flange, 6.4 mm wide  gray <b>209-123</b> 25
<b>Test plug module</b> ,  can be snapped together, 5 mm wide gray <b>249-135</b> 100 (4x25)			<b>Test plug module</b> ,  can be snapped together, 8 mm wide gray <b>249-138</b> 100 (4x25)			<b>Mounting adapter</b> , for DIN 35 rail, can be used as end plate, 6.5 mm wide  gray <b>209-137</b> 25
<b>Test plug module with locking levers</b> ,  can be snapped together, 5 mm wide gray <b>260-404</b> 100 (4x25)			<b>Test plug module with locking levers</b> ,  can be snapped together, 8 mm wide gray <b>260-405</b> 100 (4x25)			<b>Test plug</b> ,  with 500 mm cable, 2 mm Ø, red <b>210-136</b> 50
<b>260 Series Accessories</b>  For marking accessories, see Section 13						<b>Test plug</b> ,  with 500 mm cable, 2.3 mm Ø, yellow <b>210-137</b> 50
<b>End plate with fixing flange</b>  gray <b>260-361</b> 300 (6x50)			<b>Comb-style jumper bar</b> , insulated, I <sub>N</sub> 10 A, gray, reduces maximum conductor size to 1 mm <sup>2</sup> /AWG 16  2-way <b>260-402</b> 25			<b>Operating tool with partially insulated shaft</b> ,  type 2, (3.5 x 0.5) mm blade <b>210-720</b> 1
<b>End plate with snap-in mounting foot</b>  gray <b>260-371</b> 300 (6x50)			<b>Operating tool</b> , of insulating material, for inserting comb-style jumper bars  2-way <b>209-132</b> 1			

# Terminal Strips with Fixing Flanges or Snap-in Mounting Feet 1.5 mm<sup>2</sup> 260 Series

0.08 - 1.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 18 A	AWG 28 - 16 300 V, 10 A ② 300 V, 15 A ③	0.08 - 1.5 mm <sup>2</sup> 400 V/6 kV/3 ① I <sub>N</sub> 18 A	AWG 28 - 16 300 V, 10 A ② 300 V, 15 A ③
Pole width 5 mm / 0.197 in 8 - 9 mm / 0.33 in ②		Pole width 8 mm / 0.315 in 8 - 9 mm / 0.33 in ②	



- ① 400 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ For longer strips and/or assemblies of different colors, please contact factory

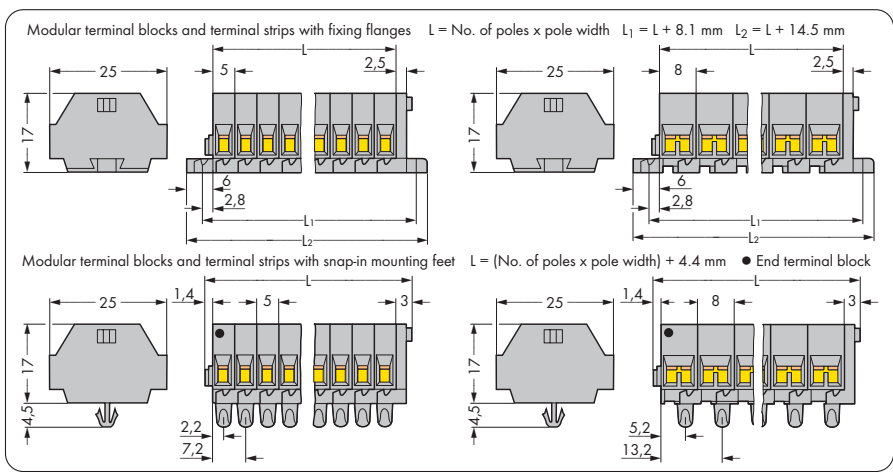
Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>2-conductor terminal strip with fixing flanges, gray</b>			<b>4-conductor terminal strip with fixing flanges, gray</b>		
2	260-102	100	2	260-202	100
3	260-103	100	3	260-203	100
4	260-104	100	4	260-204	100
5	260-105	100	5	260-205	100
6	260-106	50	6	260-206	50
7	260-107	50	7	260-207	50
8	260-108	50	8	260-208	50
9	260-109	50	9	260-209	50
10	260-110	25	10	260-210	25
11	260-111	25	11	260-211	25
12 ③	260-112	25	12 ③	260-212	25
<b>2-conductor terminal strip with snap-in mounting feet, gray</b>			<b>4-conductor terminal strip with snap-in mounting feet, gray</b>		
2	260-152	100	2	260-252	100
3	260-153	100	3	260-253	100
4	260-154	100	4	260-254	100
5	260-155	100	5	260-255	100
6	260-156	50	6	260-256	50
7	260-157	50	7	260-257	50
8	260-158	50	8	260-258	50
9	260-159	50	9	260-259	50
10	260-160	25	10	260-260	25
11	260-161	25	11	260-261	25
12 ③	260-162	25	12 ③	260-262	25



Terminal strip with fixing flanges, for screw or similar mounting types, fixing hole 3.2 mm Ø (with 209-123 mounting adapter also for DIN 35 rail)



Terminal strip with snap-in mounting feet, for plate thickness 0.6 mm - 1.2 mm (0.02 in - 0.047 in), fixing hole 3.5 mm Ø (fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail)

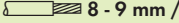
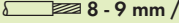


For list of approvals and user guide, see pages 634 to 637.

# Modular Terminal Blocks with Fixing Flange or Snap-In Mounting Foot 2.5 mm<sup>2</sup>














































## 261 Series

CAGE CLAMP®

0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 14 300 V, 15 A <sup>②</sup> 300 V, 20 A <sup>③</sup>	0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 14 300 V, 15 A <sup>②</sup> 300 V, 20 A <sup>③</sup>
Terminal block width 6 mm / 0.236 in  8 - 9 mm / 0.33 in ②		Terminal block width 10 mm / 0.394 in  8 - 9 mm / 0.33 in ②	

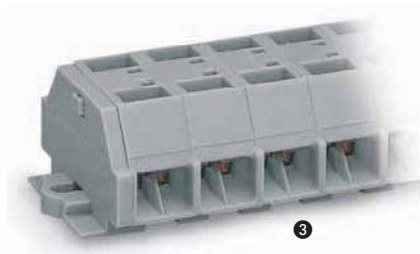
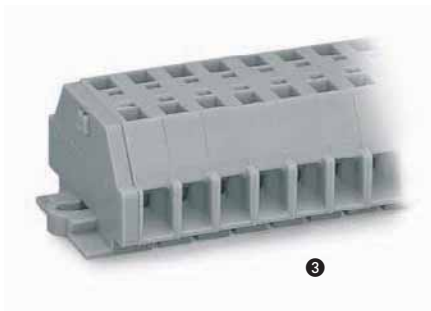


- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ See application notes for:  
Test plug module, page 456

Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit	261 Series Accessories
<b>2-conductor terminal block with fixing flange</b> , for screw or similar mounting types, fixing hole 3.2 mm Ø, with 209-123 mounting adapter also for DIN 35 rail			<b>4-conductor terminal block with fixing flange</b> , for screw or similar mounting types, fixing hole 3.2 mm Ø, with 209-123 mounting adapter also for DIN 35 rail			
 gray  light gray  blue  orange  green-yellow	<b>261-301</b> <b>261-303</b> <b>261-304</b> ③ <b>261-306</b> <b>261-307</b>	200 (4x50) 200 (4x50) 200 (4x50) 200 (4x50) 200 (4x50)	 gray  light gray  blue  orange  green-yellow	<b>261-331</b> <b>261-333</b> <b>261-334</b> ③ <b>261-336</b> <b>261-337</b>	200 (4x50) 200 (4x50) 200 (4x50) 200 (4x50) 200 (4x50)	<b>End stop</b> , for WSB Quick markers, for 210-154 aluminum rail, 6 mm wide  <b>209-122</b> 25
<b>2-conductor terminal block with snap-in mounting foot</b> , for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail			<b>4-conductor terminal block with snap-in mounting foot</b> , for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail			<b>Mounting foot</b> , for DIN 35 rail, can be snapped on terminal blocks with snap-in mounting foot, 6.4 mm wide  <b>209-120</b> 25
 gray  light gray  blue  orange  green-yellow	<b>261-311</b> <b>261-313</b> <b>261-314</b> ③ <b>261-316</b> <b>261-317</b>	200 (4x50) 200 (4x50) 200 (4x50) 200 (4x50) 200 (4x50)	 gray  light gray  blue  orange  green-yellow	<b>261-341</b> <b>261-343</b> <b>261-344</b> ③ <b>261-346</b> <b>261-347</b>	200 (4x50) 200 (4x50) 200 (4x50) 200 (4x50) 200 (4x50)	<b>Mounting foot with screw</b> , for DIN 35 rail, can be screwed on terminal blocks with fixing flange, 6.4 mm wide  <b>209-123</b> 25
<b>2-conductor end terminal block</b> , without fixing foot, for terminal strips with snap-in mounting feet			<b>4-conductor end terminal block</b> , without fixing foot, for terminal strips with snap-in mounting feet			<b>Mounting adapter</b> , for DIN 35 rail, can be used as end plate, 6.5 mm wide  <b>209-137</b> 25
 gray  light gray  blue  orange  green-yellow	<b>261-321</b> <b>261-323</b> <b>261-324</b> ③ <b>261-326</b> <b>261-327</b>	200 (4x50) 200 (4x50) 200 (4x50) 200 (4x50) 200 (4x50)	 gray  light gray  blue  orange  green-yellow	<b>261-351</b> <b>261-353</b> <b>261-354</b> ③ <b>261-356</b> <b>261-357</b>	200 (4x50) 200 (4x50) 200 (4x50) 200 (4x50) 200 (4x50)	<b>Test plug</b> , with 500 mm cable, 2 mm Ø  <b>210-136</b> 50
<b>Item-Specific Accessories</b>			<b>Item-Specific Accessories</b>			<b>Test plug</b> , with 500 mm cable, 2.3 mm Ø  <b>210-137</b> 50
<b>Test plug module</b> , can be snapped together, 6 mm wide  <b>249-136</b> 100 (4x25)			<b>Test plug module</b> , can be snapped together, 10 mm wide  <b>249-139</b> 100 (4x25)			<b>Operating tool with partially insulated shaft</b> , type 2, (3.5 x 0.5) mm blade  <b>210-720</b> 1
<b>Test plug module with locking levers</b> , can be snapped together, 6 mm wide  <b>261-404</b> 100 (4x25)			<b>Test plug module with locking levers</b> , can be snapped together, 10 mm wide  <b>261-405</b> 100 (4x25)			
<b>261 Series Accessories</b> For marking accessories, see Section 13						
<b>End plate with fixing flange</b>  gray <b>261-361</b> 300 (6x50)			<b>Comb-style jumper bar</b> , insulated, I <sub>N</sub> 16 A, gray, reduces maximum conductor size to 1.5 mm <sup>2</sup> /AWG 16  2-way <b>261-402</b> 25			
<b>End plate with snap-in mounting foot</b>  gray <b>261-371</b> 300 (6x50)			<b>Operating tool</b> , of insulating material, for inserting comb-style jumper bars  2-way <b>209-132</b> 1			

# Terminal Strips with Fixing Flanges or Snap-in Mounting Feet 2.5 mm<sup>2</sup> 261 Series

0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 14 300 V, 15 A ③ 300 V, 20 A ④	0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 14 300 V, 15 A ③ 300 V, 20 A ④
Pole width 6 mm / 0.236 in 8 - 9 mm / 0.33 in ②		Pole width 10 mm / 0.394 in 8 - 9 mm / 0.33 in ②	



- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Terminal blocks with blue insulation are suitable for Ex i applications  
Item no. suffix .../000-006
- ④ For longer strips and/or assemblies of different colors, please contact factory

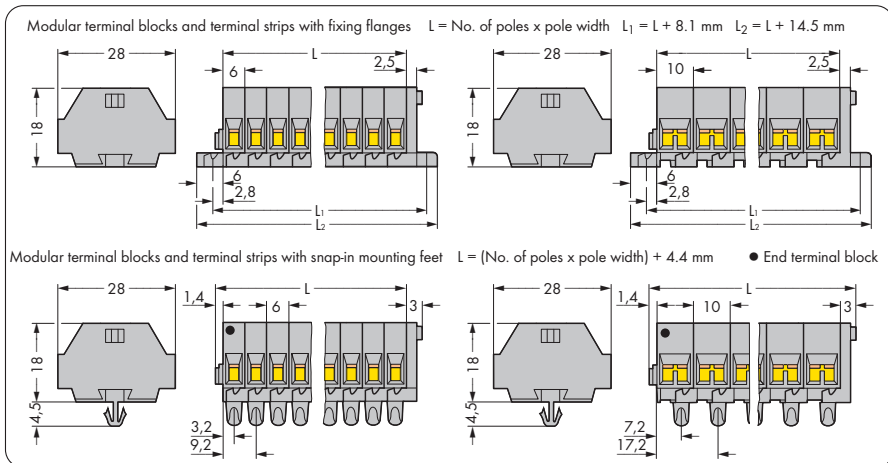
Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>2-conductor terminal strip with fixing flanges, gray</b>			<b>4-conductor terminal strip with fixing flanges, gray</b>		
2	261-102	100	2	261-202	100
3	261-103	100	3	261-203	100
4	261-104	100	4	261-204	100
5	261-105	200	5	261-205	100
6	261-106	50	6	261-206	50
7	261-107	50	7	261-207	50
8	261-108	50	8	261-208	50
9	261-109	50	9	261-209	50
10	261-110	25	10	261-210	25
11	261-111	25	11	261-211	25
12 ④	261-112	25	12 ④	261-212	25
<b>2-conductor terminal strip with snap-in mounting feet, gray</b>			<b>4-conductor terminal strip with snap-in mounting feet, gray</b>		
2	261-152	100	2	261-252	100
3	261-153	100	3	261-253	100
4	261-154	100	4	261-254	100
5	261-155	100	5	261-255	100
6	261-156	50	6	261-256	50
7	261-157	50	7	261-257	50
8	261-158	50	8	261-258	50
9	261-159	50	9	261-259	50
10	261-160	25	10	261-260	25
11	261-161	25	11	261-261	25
12 ④	261-162	25	12 ④	261-262	25



Terminal strip with fixing flanges, for screw or similar mounting types, fixing hole 3.2 mm Ø (with 209-123 mounting adapter also for DIN 35 rail)



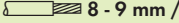
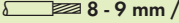
Terminal strip with snap-in mounting feet, for plate thickness 0.6 mm - 1.2 mm (0.02 in - 0.047 in), fixing hole 3.5 mm Ø (fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail)



For list of approvals and user guide, see pages 634 to 637.

# Modular Terminal Blocks with Push-Buttons on One Side, Fixing Flange or Snap-In Mounting Foot 2.5 mm<sup>2</sup> 261 Series

**CAGE CLAMP®**
















0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 14 300 V, 15 A <sup>②</sup> 300 V, 20 A <sup>③</sup>	0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 14 300 V, 15 A <sup>②</sup> 300 V, 20 A <sup>③</sup>
Terminal block width 6 mm / 0.236 in  8 - 9 mm / 0.33 in ②		Terminal block width 10 mm / 0.394 in  8 - 9 mm / 0.33 in ②	



- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)

② Strip length, see packaging or instructions.

③ Suitable for Ex i applications

Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit	261 Series Accessories
<b>2-conductor terminal block with push-button on one side and with fixing flange</b> , for screw or similar mounting types, fixing hole 3.2 mm Ø, with 209-123 mounting adapter also for DIN 35 rail 			<b>4-conductor terminal block with push-buttons on one side and with fixing flange</b> , for screw or similar mounting types, fixing hole 3.2 mm Ø, with 209-123 mounting adapter also for DIN 35 rail 			
gray	<b>261-301/331-000</b>	200 (4x50)	gray	<b>261-331/332-000</b>	200 (4x50)	<b>Operating tool with partially insulated shaft</b> , type 2, (3.5 x 0.5) mm blade  <b>210-720</b> 1
light gray	<b>261-303/331-000</b>	200 (4x50)	light gray	<b>261-333/332-000</b>	200 (4x50)	
blue	<b>261-304/331-000</b> ③	200 (4x50)	blue	<b>261-334/332-000</b> ③	200 (4x50)	
orange	<b>261-306/331-000</b>	200 (4x50)	orange	<b>261-336/332-000</b>	200 (4x50)	
green-yellow	<b>261-307/331-000</b>	200 (4x50)	green-yellow	<b>261-337/332-000</b>	200 (4x50)	
<b>2-conductor terminal block with push-button on one side and with snap-in mounting foot</b> , for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail 			<b>4-conductor terminal block with push-buttons on one side and with snap-in mounting foot</b> , for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail 			
gray	<b>261-311/331-000</b>	200 (4x50)	gray	<b>261-341/332-000</b>	200 (4x50)	
light gray	<b>261-313/331-000</b>	200 (4x50)	light gray	<b>261-343/332-000</b>	200 (4x50)	
blue	<b>261-314/331-000</b> ③	200 (4x50)	blue	<b>261-344/332-000</b> ③	200 (4x50)	
orange	<b>261-316/331-000</b>	200 (4x50)	orange	<b>261-346/332-000</b>	200 (4x50)	
green-yellow	<b>261-317/331-000</b>	200 (4x50)	green-yellow	<b>261-347/332-000</b>	200 (4x50)	
<b>2-conductor end terminal block with push-button on one side</b> , without fixing foot, for terminal strips with snap-in mounting feet 			<b>4-conductor end terminal block with push-buttons on one side</b> , without fixing foot, for terminal strips with snap-in mounting feet 			
gray	<b>261-321/331-000</b>	200 (4x50)	gray	<b>261-351/332-000</b>	200 (4x50)	
light gray	<b>261-323/331-000</b>	200 (4x50)	light gray	<b>261-353/332-000</b>	200 (4x50)	
blue	<b>261-324/331-000</b> ③	200 (4x50)	blue	<b>261-354/332-000</b> ③	200 (4x50)	
orange	<b>261-326/331-000</b>	200 (4x50)	orange	<b>261-356/332-000</b>	200 (4x50)	
green-yellow	<b>261-327/331-000</b>	200 (4x50)	green-yellow	<b>261-357/332-000</b>	200 (4x50)	
<b>261 Series Accessories</b> For marking accessories, see Section 13						
<b>End plate with fixing flange</b>  gray <b>261-361</b> 300 (6x50)			<b>Aluminum carrier rail</b> , 1000 mm long, 18 mm wide, 7 mm high  <b>210-154</b> 1			
<b>End plate with snap-in mounting foot</b>  gray <b>261-371</b> 300 (6x50)			<b>End stop</b> , for WSB Quick markers, for 210-154 aluminum rail, 6 mm wide  <b>209-122</b> 25			
<b>Comb-style jumper bar</b> , insulated, I <sub>N</sub> 16 A, gray, reduces maximum conductor size to 1.5 mm <sup>2</sup> /AWG 16  2-way <b>261-402</b> 25			<b>Mounting foot</b> , for DIN 35 rail, can be snapped on terminal blocks with snap-in mounting foot, 6.4 mm wide  gray <b>209-120</b> 25			
<b>Operating tool</b> , of insulating material, for inserting comb-style jumper bars  2-way <b>209-132</b> 1			<b>Mounting foot with screw</b> , for DIN 35 rail, can be screwed on terminal blocks with fixing flange, 6.4 mm wide  gray <b>209-123</b> 25			



# Terminal Strips with Push-Buttons on One Side, Fixing Flanges or Snap-in Mounting Feet 2.5 mm<sup>2</sup> 261 Series

0.08 - 2.5 mm <sup>2</sup>   AWG 28 - 14 500 V/6 kV/3 ① I <sub>N</sub> 24 A Pole width 6 mm / 0.236 in 8 - 9 mm / 0.33 in ②	0.08 - 2.5 mm <sup>2</sup>   AWG 28 - 14 500 V/6 kV/3 ① I <sub>N</sub> 24 A Pole width 10 mm / 0.394 in 8 - 9 mm / 0.33 in ②
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- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Terminal blocks with blue insulation are suitable for Ex i applications  
Item no. suffix .../000-006
- ④ For longer strips and/or assemblies of different colors, please contact factory

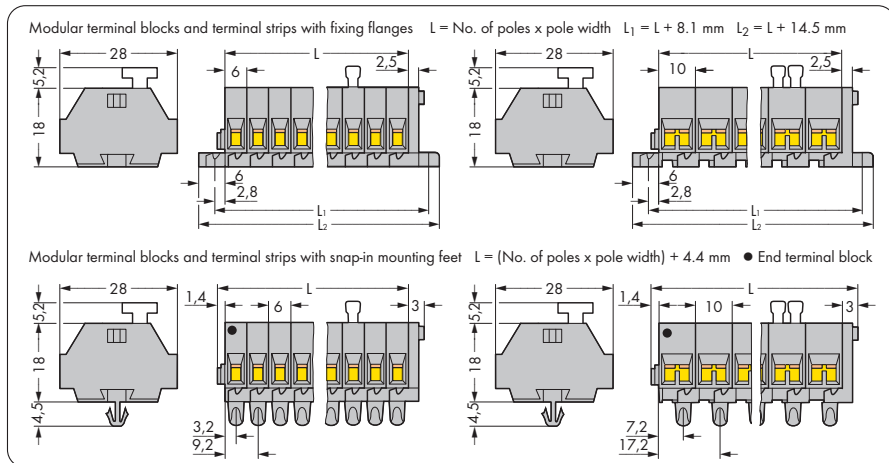
Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>2-conductor terminal strip with push-buttons on one side and with fixing flanges, gray</b>			<b>4-conductor terminal strip with push-buttons on one side and with fixing flanges, gray</b>		
2	261-102/331-000	100	2	261-202/332-000	100
3	261-103/331-000	100	3	261-203/332-000	100
4	261-104/331-000	100	4	261-204/332-000	100
5	261-105/331-000	200	5	261-205/332-000	100
6	261-106/331-000	50	6	261-206/332-000	50
7	261-107/331-000	50	7	261-207/332-000	50
8	261-108/331-000	50	8	261-208/332-000	50
9	261-109/331-000	50	9	261-209/332-000	50
10	261-110/331-000	25	10	261-210/332-000	50
11	261-111/331-000	25	11	261-211/332-000	25
12 ④	261-112/331-000	25	12 ④	261-212/332-000	25
<b>2-conductor terminal strip with push-buttons on one side and with snap-in mounting feet, gray</b>			<b>4-conductor terminal strip with push-buttons on one side and with snap-in mounting feet, gray</b>		
2	261-152/331-000	100	2	261-252/332-000	100
3	261-153/331-000	100	3	261-253/332-000	100
4	261-154/331-000	100	4	261-254/332-000	100
5	261-155/331-000	100	5	261-255/332-000	100
6	261-156/331-000	50	6	261-256/332-000	50
7	261-157/331-000	50	7	261-257/332-000	50
8	261-158/331-000	50	8	261-258/332-000	50
9	261-159/331-000	50	9	261-259/332-000	50
10	261-160/331-000	25	10	261-260/332-000	25
11	261-161/331-000	25	11	261-261/332-000	100
12 ④	261-162/331-000	25	12 ④	261-262/332-000	25



Terminal strip with fixing flanges, for screw or similar mounting types, fixing hole 3.2 mm Ø (with 209-123 mounting adapter also for DIN 35 rail)



Terminal strip with snap-in mounting feet, for plate thickness 0.6 mm - 1.2 mm (0.02 in - 0.047 in), fixing hole 3.5 mm Ø (fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail)

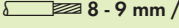
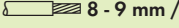


Dimensions in mm

For list of approvals and user guide, see pages 634 to 637.


# Modular Terminal Blocks with Push-Buttons on Both Sides, Fixing Flange or Snap-In Mounting Foot 2.5 mm<sup>2</sup> 261 Series

CAGE CLAMP®

0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 14 300 V, 15 A <sup>②</sup> 300 V, 20 A <sup>③</sup>	0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 14 300 V, 15 A <sup>②</sup> 300 V, 20 A <sup>③</sup>
Terminal block width 6 mm / 0.236 in  8 - 9 mm / 0.33 in ②		Terminal block width 10 mm / 0.394 in  8 - 9 mm / 0.33 in ②	

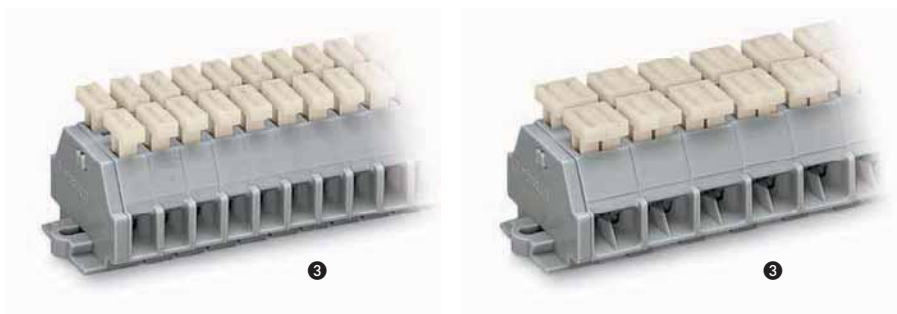


- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications

Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit	261 Series Accessories
<b>2-conductor terminal block with push-buttons on both sides and with fixing flange</b> , for screw or similar mounting types, fixing hole 3.2 mm Ø, with 209-123 mounting adapter also for DIN 35 rail			<b>4-conductor terminal block with push-buttons on both sides and with fixing flange</b> , for screw or similar mounting types, fixing hole 3.2 mm Ø, with 209-123 mounting adapter also for DIN 35 rail			
gray	261-301/341-000	200 (4x50)	gray	261-331/342-000	200 (4x50)	<b>Mounting adapter</b> , for DIN 35 rail, can be used as end plate, 6.5 mm wide gray <b>209-137</b> 25  <b>Operating tool with partially insulated shaft</b> , type 2, (3.5 x 0.5) mm blade  <b>210-720</b> 1
light gray	261-303/341-000	200 (4x50)	light gray	261-333/342-000	200 (4x50)	
blue	261-304/341-000 ③	200 (4x50)	blue	261-334/342-000 ③	200 (4x50)	
orange	261-306/341-000	200 (4x50)	orange	261-336/342-000	200 (4x50)	
green-yellow	261-307/341-000	200 (4x50)	green-yellow	261-337/342-000	200 (4x50)	
<b>2-conductor terminal block with push-buttons on both sides and with snap-in mounting foot</b> , for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail			<b>4-conductor terminal block with push-buttons on both sides and with snap-in mounting foot</b> , for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail			
gray	261-311/341-000	200 (4x50)	gray	261-341/342-000	200 (4x50)	
light gray	261-313/341-000	200 (4x50)	light gray	261-343/342-000	200 (4x50)	
blue	261-314/341-000 ③	200 (4x50)	blue	261-344/342-000 ③	200 (4x50)	
orange	261-316/341-000	200 (4x50)	orange	261-346/342-000	200 (4x50)	
green-yellow	261-317/341-000	200 (4x50)	green-yellow	261-347/342-000	200 (4x50)	
<b>2-conductor end terminal block with push-buttons on both sides</b> , without fixing foot, for terminal strips with snap-in mounting feet			<b>4-conductor end terminal block with push-buttons on both sides</b> , without fixing foot, for terminal strips with snap-in mounting feet			
gray	261-321/341-000	200 (4x50)	gray	261-351/342-000	200 (4x50)	
light gray	261-323/341-000	200 (4x50)	light gray	261-353/342-000	200 (4x50)	
blue	261-324/341-000 ③	200 (4x50)	blue	261-354/342-000 ③	200 (4x50)	
orange	261-326/341-000	200 (4x50)	orange	261-356/342-000	200 (4x50)	
green-yellow	261-327/341-000	200 (4x50)	green-yellow	261-357/342-000	200 (4x50)	
<b>261 Series Accessories</b>						
For marking accessories, see Section 13						
<b>End plate with fixing flange</b> gray <b>261-361</b> 300 (6x50)			<b>Aluminum carrier rail</b> , 1000 mm long, 18 mm wide, 7 mm high <b>210-154</b> 1			
<b>End plate with snap-in mounting foot</b> gray <b>261-371</b> 300 (6x50)			<b>End stop</b> , for WSB Quick markers, for 210-154 aluminum rail, 6 mm wide <b>209-122</b> 25			
<b>Comb-style jumper bar</b> , insulated, I <sub>N</sub> 16 A, gray, reduces maximum conductor size to 1.5 mm <sup>2</sup> /AWG 16 2-way <b>261-402</b> 25			<b>Mounting foot</b> , for DIN 35 rail, can be snapped on terminal blocks with snap-in mounting foot, 6.4 mm wide gray <b>209-120</b> 25			
<b>Operating tool</b> , of insulating material, for inserting comb-style jumper bars 2-way <b>209-132</b> 1			<b>Mounting foot with screw</b> , for DIN 35 rail, can be screwed on terminal blocks with fixing flange, 6.4 mm wide gray <b>209-123</b> 25			

# Terminal Strips with Push-Buttons on Both Sides, Fixing Flanges or Snap-in Mounting Feet 2.5 mm<sup>2</sup> 261 Series

0.08 - 2.5 mm <sup>2</sup>   AWG 28 - 14 500 V/6 kV/3 ① I <sub>N</sub> 24 A Pole width 6 mm / 0.236 in 8 - 9 mm / 0.33 in ②	0.08 - 2.5 mm <sup>2</sup>   AWG 28 - 14 500 V/6 kV/3 ① I <sub>N</sub> 24 A Pole width 10 mm / 0.394 in 8 - 9 mm / 0.33 in ②
-----------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------



- ① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Terminal blocks with blue insulation are suitable for Ex i applications  
Item no. suffix .../000-006
- ④ For longer strips and/or assemblies of different colors, please contact factory

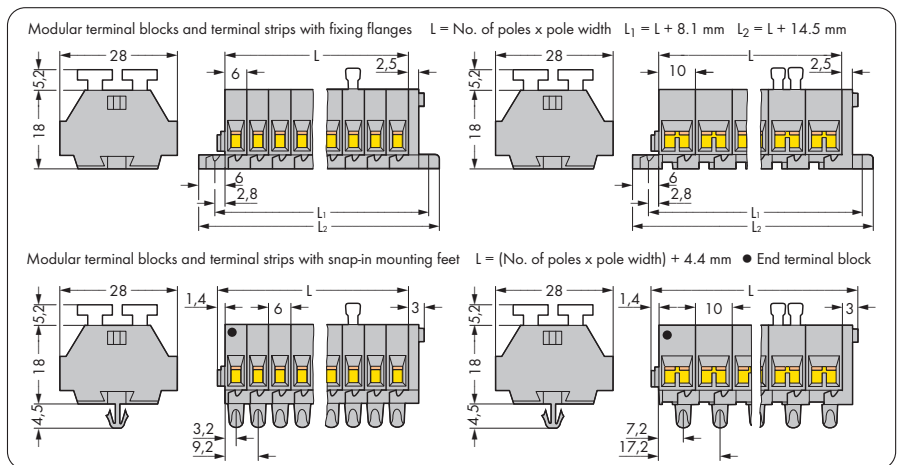
Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>2-conductor terminal strip with push-buttons on both sides and with fixing flanges, gray</b>			<b>4-conductor terminal strip with push-buttons on both sides and with fixing flanges, gray</b>		
2	261-102/341-000	100	2	261-202/342-000	100
3	261-103/341-000	100	3	261-203/342-000	100
4	261-104/341-000	50	4	261-204/342-000	100
5	261-105/341-000	100	5	261-205/342-000	100
6	261-106/341-000	25	6	261-206/342-000	50
7	261-107/341-000	50	7	261-207/342-000	50
8	261-108/341-000	50	8	261-208/342-000	100
9	261-109/341-000	100	9	261-209/342-000	50
10	261-110/341-000	25	10	261-210/342-000	25
11	261-111/341-000	25	11	261-211/342-000	25
12 ④	261-112/341-000	25	12 ④	261-212/342-000	50
<b>2-conductor terminal strip with push-buttons on both sides and with snap-in mounting feet, gray</b>			<b>4-conductor terminal strip with push-buttons on both sides and with snap-in mounting feet, gray</b>		
2	261-152/341-000	100	2	261-252/342-000	100
3	261-153/341-000	100	3	261-253/342-000	100
4	261-154/341-000	50	4	261-254/342-000	100
5	261-155/341-000	100	5	261-255/342-000	100
6	261-156/341-000	100	6	261-256/342-000	50
7	261-157/341-000	50	7	261-257/342-000	50
8	261-158/341-000	50	8	261-258/342-000	50
9	261-159/341-000	50	9	261-259/342-000	50
10	261-160/341-000	25	10	261-260/342-000	25
11	261-161/341-000	25	11	261-261/342-000	100
12 ④	261-162/341-000	100	12 ④	261-262/342-000	25



Terminal strip with fixing flanges, for screw or similar mounting types, fixing hole 3.2 mm Ø (with 209-123 mounting adapter also for DIN 35 rail)



Terminal strip with snap-in mounting feet, for plate thickness 0.6 mm - 1.2 mm (0.02 in - 0.047 in), fixing hole 3.5 mm Ø (fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail)



Dimensions in mm

For list of approvals and user guide, see pages 634 to 637.

# Modular Terminal Blocks with Fixing Flange 2.5 mm<sup>2</sup>, with Miniature WSB Quick Marker Slot 261 Series

CAGE CLAMP®

0.08 - 2.5 mm<sup>2</sup> AWG 28 - 14  
 500 V/6 kV/3 ① 300 V, 15 A<sup>1</sup>  
 I<sub>N</sub> 24 A 300 V, 20 A<sup>2</sup>

Terminal block width 6 mm / 0.236 in  
 ② 8 - 9 mm / 0.33 in



Marking with miniature WSB Quick marking system.

- ① 500 V = rated voltage  
 6 kV = rated surge voltage  
 3 = pollution degree  
 (also see Section 14)
- ② Strip length, see packaging or instructions.

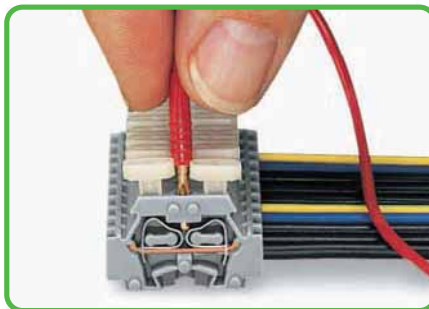
Color	Item No.	Pack. Unit
<b>2-conductor terminal block with fixing flange</b>		
gray	261-411	200 (4x50)
<b>2-conductor terminal block with push-button on one side and with fixing flange</b>		
gray	261-411/331-000	200 (4x50)
<b>2-conductor terminal block with push-buttons on both sides and with fixing flange</b>		
gray	261-411/341-000	200 (4x50)
<b>261 Series Accessories</b>		
Appropriate marking system: Miniature WSB (see Section 13)		
<b>End plate with fixing flange</b>		
gray	261-410	300 (6x50)
<b>Comb-style jumper bar, insulated, I<sub>N</sub> 16 A, gray, reduces maximum conductor size to 1.5 mm<sup>2</sup>/AWG 16</b>		
2-way	261-402	25
<b>Operating tool, of insulating material, for inserting comb-style jumper bars</b>		
2-way	209-132	1
<b>Mounting foot with screw, for DIN 35 rail, can be screwed on terminal blocks with fixing flange, 6.4 mm wide</b>		
gray	209-123	25
<b>Mounting adapter, for DIN 35 rail, can be used as end plate, 6.5 mm wide</b>		
gray	209-137	25
<b>Test plug,</b>		
with 500 mm cable, 2 mm Ø red	210-136	50
<b>Miniature WSB Quick marking system,</b>		
10 strips with 10 markers per card, 5 mm wide markers plain	248-501	5
<b>Operating tool with partially insulated shaft,</b>		
type 2, (3.5 x 0.5) mm blade	210-720	1



Conductor termination via push-button.



**Terminal block with fixing flange,**  
 for screw or similar mounting types,  
 fixing hole 3.2 mm Ø  
 (with 209-123 mounting adapter also for DIN 35 rail)  
 Lateral marking facility for miniature WSB Quick marking  
 system, test slot.



Touch contacting with test plug 2 mm Ø.

# Terminal Strips with Fixing Flanges 2.5 mm<sup>2</sup>, with Miniature WSB Quick Marker Slot 261 Series

0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 14 300 V, 15 A <sup>VA</sup> 300 V, 20 A <sup>Ⓔ</sup>	0.08 - 2.5 mm <sup>2</sup> 500 V/6 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 14 300 V, 15 A <sup>VA</sup> 300 V, 20 A <sup>Ⓔ</sup>
Pole width 6 mm / 0.236 in 8 - 9 mm / 0.33 in ②		Pole width 6 mm / 0.236 in 8 - 9 mm / 0.33 in ②	



① 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)

② Strip length, see packaging or instructions.

③ For custom lengths, please contact factory

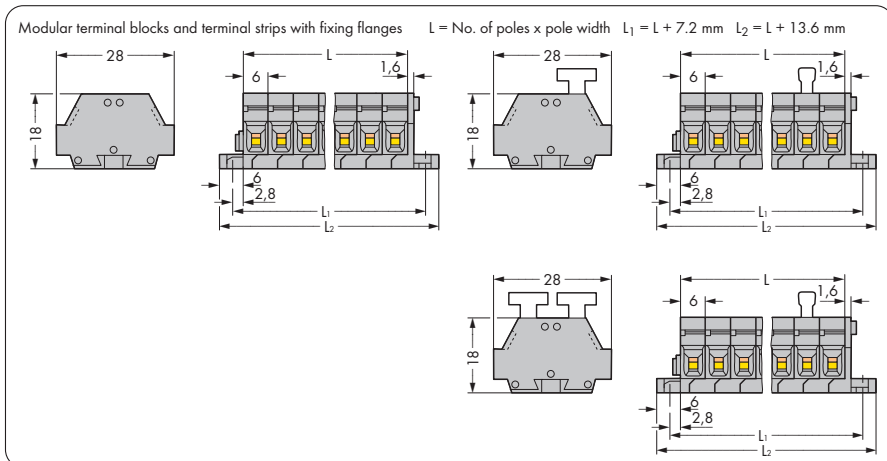
Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>2-conductor terminal strip with fixing flanges, gray</b>			<b>2-conductor terminal strip with push-buttons on one side and with fixing flanges, gray</b>		
Ⓐ 2	261-422	100	Ⓐ 2	261-422/331-000	100
Ⓐ 3	261-423	100	Ⓐ 3	261-423/331-000	100
Ⓐ 4	261-424	100	Ⓐ 4	261-424/331-000	100
Ⓐ 5	261-425	100	Ⓐ 5	261-425/331-000	100
Ⓐ 6	261-426	50	Ⓐ 6	261-426/331-000	50
Ⓐ 7	261-427	50	Ⓐ 7	261-427/331-000	50
Ⓐ 8	261-428	50	Ⓐ 8	261-428/331-000	50
Ⓐ 9	261-429	50	Ⓐ 9	261-429/331-000	50
Ⓐ 10	261-430	25	Ⓐ 10	261-430/331-000	25
Ⓐ 11	261-431	25	Ⓐ 11	261-431/331-000	25
Ⓐ 12 ③	261-432	25	Ⓐ 12 ③	261-432/331-000	25
<b>2-conductor terminal strip with push-buttons on both sides and with fixing flanges, gray</b>					
Ⓐ 2	261-422/341-000	100	Ⓐ 2	261-422/341-000	100
Ⓐ 3	261-423/341-000	100	Ⓐ 3	261-423/341-000	100
Ⓐ 4	261-424/341-000	100	Ⓐ 4	261-424/341-000	100
Ⓐ 5	261-425/341-000	100	Ⓐ 5	261-425/341-000	100
Ⓐ 6	261-426/341-000	50	Ⓐ 6	261-426/341-000	50
Ⓐ 7	261-427/341-000	50	Ⓐ 7	261-427/341-000	50
Ⓐ 8	261-428/341-000	50	Ⓐ 8	261-428/341-000	50
Ⓐ 9	261-429/341-000	50	Ⓐ 9	261-429/341-000	50
Ⓐ 10	261-430/341-000	25	Ⓐ 10	261-430/341-000	25
Ⓐ 11	261-431/341-000	25	Ⓐ 11	261-431/341-000	25
Ⓐ 12 ③	261-432/341-000	25	Ⓐ 12 ③	261-432/341-000	25



**Terminal strip with fixing flanges,**  
for screw or similar mounting types,  
fixing hole 3.2 mm Ø  
(with 209-123 mounting adapter also for DIN 35 rail)



**Terminal strip with fixing flanges,**  
**with push-buttons on one or both sides of the strip,**  
for screw or similar mounting types,  
fixing hole 3.2 mm Ø (with 209-123 mounting adapter  
also for DIN 35 rail)

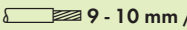
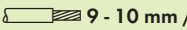


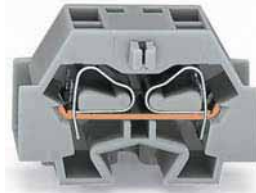
Dimensions in mm

For list of approvals and user guide, see pages 634 to 637.







































# Modular Terminal Blocks with Fixing Flange or Snap-In Mounting Foot 4 mm<sup>2</sup> 262 Series

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0.08 - 4 mm <sup>2</sup> 630 V/8 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 12 300 V, 20 A <sup>②</sup> 300 V, 20 A <sup>③</sup>	0.08 - 4 mm <sup>2</sup> 630 V/8 kV/3 ① I <sub>N</sub> 32 A	AWG 28 - 12 300 V, 20 A <sup>②</sup> 300 V, 20 A <sup>③</sup>
Terminal block width 7 mm / 0.276 in  9 - 10 mm / 0.37 in ②		Terminal block width 12 mm / 0.472 in  9 - 10 mm / 0.37 in ②	

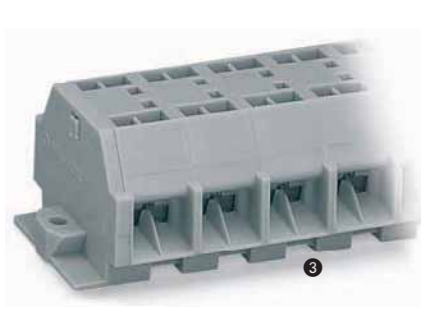
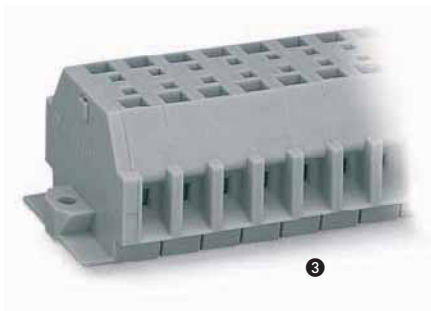


- ① 630 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Suitable for Ex i applications
- ④ See application notes for:  
Test plug module, page 456

Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit	262 Series Accessories
2-conductor terminal block with fixing flange, for screw or similar mounting types, fixing hole 3.2 mm Ø, with 209-123 mounting adapter also for DIN 35 rail			4-conductor terminal block with fixing flange, for screw or similar mounting types, fixing hole 3.2 mm Ø, with 209-123 mounting adapter also for DIN 35 rail			
	262-301	100 (2x50)		262-331	100 (2x50)	 can be used as end plate, 6.5 mm wide gray <b>209-137</b> 25
	262-304 ③	100 (2x50)		262-334 ③	100 (2x50)	
	262-306	100 (2x50)		262-336	100 (2x50)	
	262-307	100 (2x50)		262-337	100 (2x50)	
2-conductor terminal block with snap-in mounting foot, for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail			4-conductor terminal block with snap-in mounting foot, for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail			 with 500 mm cable, 2 mm Ø red <b>210-136</b> 50
	262-311	100 (2x50)		262-341	100 (2x50)	 with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50
	262-314 ③	100 (2x50)		262-344 ③	100 (2x50)	
	262-316	100 (2x50)		262-346	100 (2x50)	
	262-317	100 (2x50)		262-347	100 (2x50)	
2-conductor end terminal block, without fixing foot, for terminal strips with snap-in mounting feet			4-conductor end terminal block, without fixing foot, for terminal strips with snap-in mounting feet			 Operating tool with partially insulated shaft, type 2, (3.5 x 0.5) mm blade <b>210-720</b> 1
	262-321	100 (2x50)		262-351	100 (2x50)	
	262-324 ③	100 (2x50)		262-354 ③	100 (2x50)	
	262-326	100 (2x50)		262-356	100 (2x50)	
	262-327	100 (2x50)		262-357	100 (2x50)	
<b>Item-Specific Accessories</b>			<b>Item-Specific Accessories</b>			
<b>Test plug module,</b> ④  can be snapped together, 7 mm wide gray <b>249-137</b> 100 (4x25)			<b>Test plug module,</b> ④  can be snapped together, 12 mm wide gray <b>249-140</b> 100 (4x25)			
<b>262 Series Accessories</b>						
For marking accessories, see Section 13						
<b>End plate with fixing flange</b>  gray <b>262-361</b> 50			<b>Aluminum carrier rail,</b>  1000 mm long, 18 mm wide, 7 mm high <b>210-154</b> 1			
<b>End plate with snap-in mounting foot</b>  gray <b>262-371</b> 50			<b>End stop,</b> for WSB Quick markers,  for 210-154 aluminum rail, 6 mm wide <b>209-122</b> 25			
<b>Comb-style jumper bar,</b> insulated, I <sub>N</sub> 16 A, gray,  reduces maximum conductor size to 2.5 mm <sup>2</sup> /AWG 14 2-way <b>262-402</b> 25			<b>Mounting foot,</b> for DIN 35 rail, can be snapped on  terminal blocks with snap-in mounting foot, 6.4 mm wide gray <b>209-120</b> 25			
<b>Operating tool,</b> of insulating material,  for inserting comb-style jumper bars 2-way <b>209-132</b> 1			<b>Mounting foot with screw,</b> for DIN 35 rail, can be  screwed on terminal blocks with fixing flange, 6.4 mm wide gray <b>209-123</b> 25			

# Terminal Strips with Fixing Flanges or Snap-in Mounting Feet 4 mm<sup>2</sup> 262 Series

0.08 - 4 mm <sup>2</sup> 630 V/8 kV/3 ① I <sub>N</sub> 24 A	AWG 28 - 12 300 V, 20 A ③ 300 V, 20 A ③	0.08 - 4 mm <sup>2</sup> 630 V/8 kV/3 ① I <sub>N</sub> 32 A	AWG 28 - 12 300 V, 20 A ③ 300 V, 20 A ③
Pole width 7 mm / 0.276 in 9 - 10 mm / 0.37 in ②		Pole width 12 mm / 0.472 in 9 - 10 mm / 0.37 in ②	



- ① 630 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Terminal blocks with blue insulation are suitable for Ex i applications  
Item no. suffix .../000-006
- ④ For longer strips and/or assemblies of different colors, please contact factory

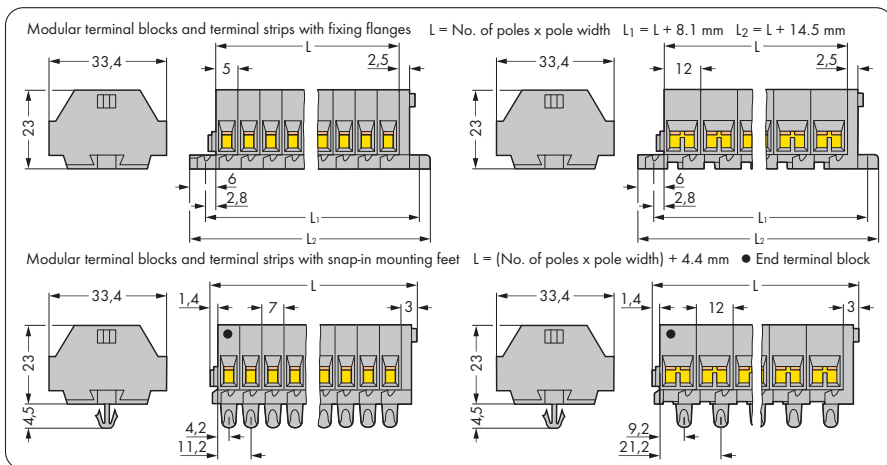
Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>2-conductor terminal strip with fixing flanges, gray</b>			<b>4-conductor terminal strip with fixing flanges, gray</b>		
2	262-102	100	2	262-202	100
3	262-103	100	3	262-203	100
4	262-104	100	4	262-204	100
5	262-105	100	5	262-205	100
6	262-106	100	6	262-206	50
7	262-107	100	7	262-207	50
8	262-108	100	8	262-208	50
9	262-109	50	9	262-209	50
10	262-110	25	10	262-210	25
11	262-111	25	11	262-211	25
12 ④	262-112	25	12 ④	262-212	25
<b>2-conductor terminal strip with snap-in mounting feet, gray</b>			<b>4-conductor terminal strip with snap-in mounting feet, gray</b>		
2	262-152	100	2	262-252	100
3	262-153	100	3	262-253	100
4	262-154	100	4	262-254	100
5	262-155	100	5	262-255	100
6	262-156	50	6	262-256	50
7	262-157	50	7	262-257	50
8	262-158	50	8	262-258	50
9	262-159	50	9	262-259	50
10	262-160	25	10	262-260	25
11	262-161	25	11	262-261	25
12 ④	262-162	25	12 ④	262-262	25



Terminal strip with fixing flanges, for screw or similar mounting types, fixing hole 3.2 mm Ø (with 209-123 mounting adapter also for DIN 35 rail)



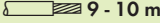
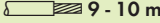
Terminal strip with snap-in mounting feet, for plate thickness 0.6 mm - 1.2 mm (0.02 in - 0.047 in), fixing hole 3.5 mm Ø (fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail)

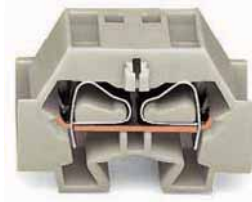


Dimensions in mm

For list of approvals and user guide, see pages 634 to 637.

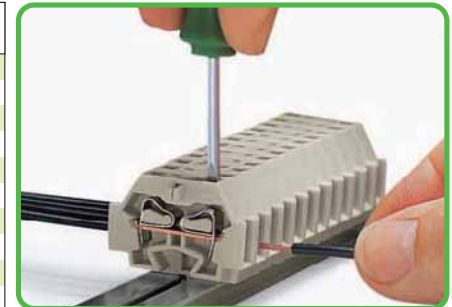
# Ex Modular Terminal Blocks with Fixing Flange or Snap-In Mounting Foot 4 mm<sup>2</sup> 262 Series

0.5 - 4 mm <sup>2</sup> ① 550 V I <sub>N</sub> 23 A	AWG 20 - 12 300 V, 20 A <sup>VA</sup> 300 V, 20 A <sup>CE</sup>	0.5 - 4 mm <sup>2</sup> ① 550 V I <sub>N</sub> 30 A	AWG 20 - 12 300 V, 20 A <sup>VA</sup> 300 V, 20 A <sup>CE</sup>
Terminal block width 7 mm / 0.276 in  9 - 10 mm / 0.37 in ②		Terminal block width 12 mm / 0.472 in  9 - 10 mm / 0.37 in ②	



- ① Using crimped ferrules for corrosion protection, the rated cross section is reduced by one size. For conductor types and conductor preparation, see Section 14 "Electrical Equipment for Hazardous Environments."
- ② Strip length, see packaging or instructions.

Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit
<b>2-conductor Ex e II terminal block with fixing flange,</b> for screw or similar mounting types, fixing hole 3.2 mm Ø, with 209-123 mounting adapter also for DIN 35 rail			<b>4-conductor Ex e II terminal block with fixing flange,</b> for screw or similar mounting types, fixing hole 3.2 mm Ø, with 209-123 mounting adapter also for DIN 35 rail		
○ light gray ☉	<b>262-130</b>	100 (2x50)	○ light gray ☉	<b>262-230</b>	100 (2x50)
<b>2-conductor Ex e II terminal block with snap-in mounting foot,</b> for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail			<b>4-conductor Ex e II terminal block with snap-in mounting foot,</b> for plate thickness 0.6-1.2 mm, fixing hole 3.5 mm Ø, fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail		
○ light gray ☉	<b>262-180</b>	100 (2x50)	○ light gray ☉	<b>262-280</b>	100 (2x50)
<b>2-conductor Ex e II space-saving end terminal block,</b> without fixing foot, for terminal strips with snap-in mounting feet			<b>4-conductor Ex e II space-saving end terminal block,</b> without fixing foot, for terminal strips with snap-in mounting feet		
○ light gray ☉	<b>262-181</b>	100 (2x50)	○ light gray ☉	<b>262-281</b>	100 (2x50)



"Side-entry" conductor termination

## 262 Series Accessories

For marking accessories, see Section 13

<b>End plate with fixing flange</b> light gray <b>262-363</b> 50	<b>Mounting foot with screw,</b> for DIN 35 rail, can be screwed on terminal blocks with fixing flange, 6.4 mm wide gray <b>209-123</b> 25
<b>End plate with snap-in mounting foot</b> light gray <b>262-373</b> 50	<b>Mounting adapter,</b> for DIN 35 rail, can be used as end plate, 6.5 mm wide gray <b>209-137</b> 25
<b>Comb-style jumper bar,</b> insulated, I <sub>N</sub> 16 A, gray, reduces maximum conductor size to 2.5 mm <sup>2</sup> /AWG 14 2-way <b>262-402</b> 25	<b>Operating tool with partially insulated shaft,</b> type 2, (3.5 x 0.5) mm blade <b>210-720</b> 1
<b>Operating tool,</b> of insulating material, for inserting comb-style jumper bars 2-way <b>209-132</b> 1	
<b>Aluminum carrier rail,</b> 1000 mm long, 18 mm wide, 7 mm high <b>210-154</b> 1	
<b>End stop,</b> for WSB Quick markers, for 210-154 aluminum rail, 6 mm wide <b>209-122</b> 25	
<b>Mounting foot,</b> for DIN 35 rail, can be snapped on terminal blocks with snap-in mounting foot, 6.4 mm wide gray <b>209-120</b> 25	



Commoning with comb-style jumper bar.



# Ex Terminal Strips with Fixing Flanges or Snap-in Mounting Feet 4 mm<sup>2</sup> 262 Series

0.5 - 4 mm <sup>2</sup> ① 550 V I <sub>N</sub> 23 A	AWG 20 - 12 300 V, 20 A ① 300 V, 20 A ②	0.5 - 4 mm <sup>2</sup> ① 550 V I <sub>N</sub> 30 A	AWG 20 - 12 300 V, 20 A ① 300 V, 20 A ②
Pole width 7 mm / 0.276 in 9 - 10 mm / 0.37 in ②		Pole width 12 mm / 0.472 in 9 - 10 mm / 0.37 in ②	



- ① Using crimped ferrules for corrosion protection, the rated cross section is reduced by one size. For conductor types and conductor preparation, see Section 14 "Electrical Equipment for Hazardous Environments."
- ② Strip length, see packaging or instructions.
- ③ For custom lengths, please contact factory

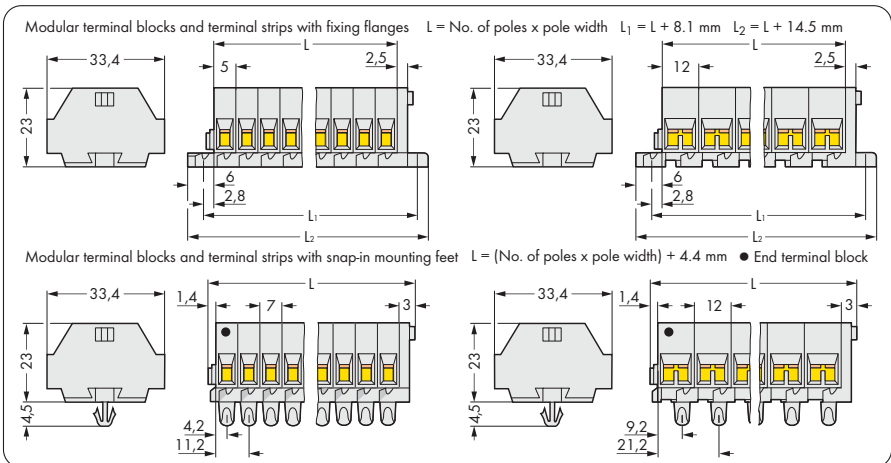
Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>2-conductor Ex e II terminal strip with fixing flanges, light gray</b>			<b>4-conductor Ex e II terminal strip with fixing flanges, light gray</b>		
○ 2	262-132	100	○ 2	262-232	100
○ 3	262-133	100	○ 3	262-233	100
○ 4	262-134	100	○ 4	262-234	100
○ 5	262-135	100	○ 5	262-235	100
○ 6	262-136	100	○ 6	262-236	50
○ 7	262-137	50	○ 7	262-237	50
○ 8	262-138	50	○ 8	262-238	50
○ 9	262-139	50	○ 9	262-239	50
○ 10	262-140	25	○ 10	262-240	25
○ 11	262-141	25	○ 11	262-241	25
○ 12 ③	262-142	25	○ 12 ③	262-242	25
<b>2-conductor Ex e II terminal strip with snap-in mounting feet, light gray</b>			<b>4-conductor Ex e II terminal strip with snap-in mounting feet, light gray</b>		
○ 2	262-182	100	○ 2	262-282	100
○ 3	262-183	100	○ 3	262-283	100
○ 4	262-184	100	○ 4	262-284	100
○ 5	262-185	100	○ 5	262-285	100
○ 6	262-186	50	○ 6	262-286	50
○ 7	262-187	50	○ 7	262-287	50
○ 8	262-188	50	○ 8	262-288	50
○ 9	262-189	50	○ 9	262-289	50
○ 10	262-190	25	○ 10	262-290	25
○ 11	262-191	25	○ 11	262-291	25
○ 12 ③	262-192	25	○ 12 ③	262-292	25



Terminal strip with fixing flanges, for screw or similar mounting types, fixing hole 3.2 mm Ø (with 209-123 mounting adapter also for DIN 35 rail)



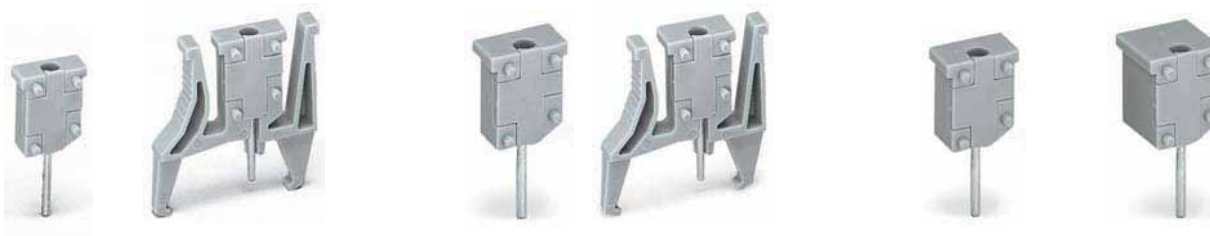
Terminal strip with snap-in mounting feet, for plate thickness 0.6 mm - 1.2 mm (0.02 in - 0.047 in), fixing hole 3.5 mm Ø (fits 210-154 aluminum rail or with 209-120 mounting adapter for DIN 35 rail)



For list of approvals and user guide, see pages 634 to 637.



## Test Plug Modules for Terminal Strips without Push-Button 260, 261 and 262 Series

<p>Suitable for 260 Series Test voltage 250 V/500 V ① ② Test current 0.5 A/6 A ③ Average contact pressure 2.2 N per pin</p>	<p>Suitable for 261 Series (also 264 Series) Test voltage 400 V/800 V ① ② Test current 0.5 A/6 A ③ Average contact pressure 2.2 N per pin</p>	<p>Suitable for 262 Series Test voltage 500 V/800 V ① ② Test current 0.5 A/6 A ③ Average contact pressure 2.2 N per pin</p>
-----------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Test plug module without locking levers,</b> can be snapped together, module width 5 mm, for 2-conductor terminal blocks		<b>Test plug module without locking levers,</b> can be snapped together, module width 6 mm, for 2-conductor terminal blocks		<b>Test plug module without locking levers,</b> can be snapped together, module width 7 mm, for 2-conductor terminal blocks	
● gray <b>249-135</b> 100 (4x25)		● gray <b>249-136</b> 100 (4x25)		● gray <b>249-137</b> 100 (4x25)	
<b>Test plug module without locking levers,</b> can be snapped together, module width 8 mm, for 4-conductor terminal blocks		<b>Test plug module without locking levers,</b> can be snapped together, module width 10 mm, for 4-conductor terminal blocks		<b>Test plug module without locking levers,</b> can be snapped together, module width 12 mm, for 4-conductor terminal blocks	
● gray <b>249-138</b> 100 (4x25)		● gray <b>249-139</b> 100 (4x25)		● gray <b>249-140</b> 100 (4x25)	
<b>Test plug module with locking levers,</b> can be snapped together, module width 5 mm, for 2-conductor terminal blocks		<b>Test plug module with locking levers,</b> can be snapped together, module width 6 mm, for 2-conductor terminal blocks			
● gray <b>260-404</b> 100 (4x25)		● gray <b>261-404</b> 100 (4x25)			
<b>Test plug module with locking levers,</b> can be snapped together, module width 8 mm, for 4-conductor terminal blocks		<b>Test plug module with locking levers,</b> can be snapped together, module width 10 mm, for 4-conductor terminal blocks			
● gray <b>260-405</b> 100 (4x25)		● gray <b>261-405</b> 100 (4x25)			

### Accessories for Test Plug Modules

<p><b>Test plug,</b>  with 500 mm cable, 2 mm Ø red      <b>210-136</b>      50</p>		
<p><b>Test plug,</b>  with 500 mm cable, 2.3 mm Ø yellow      <b>210-137</b>      50</p>		

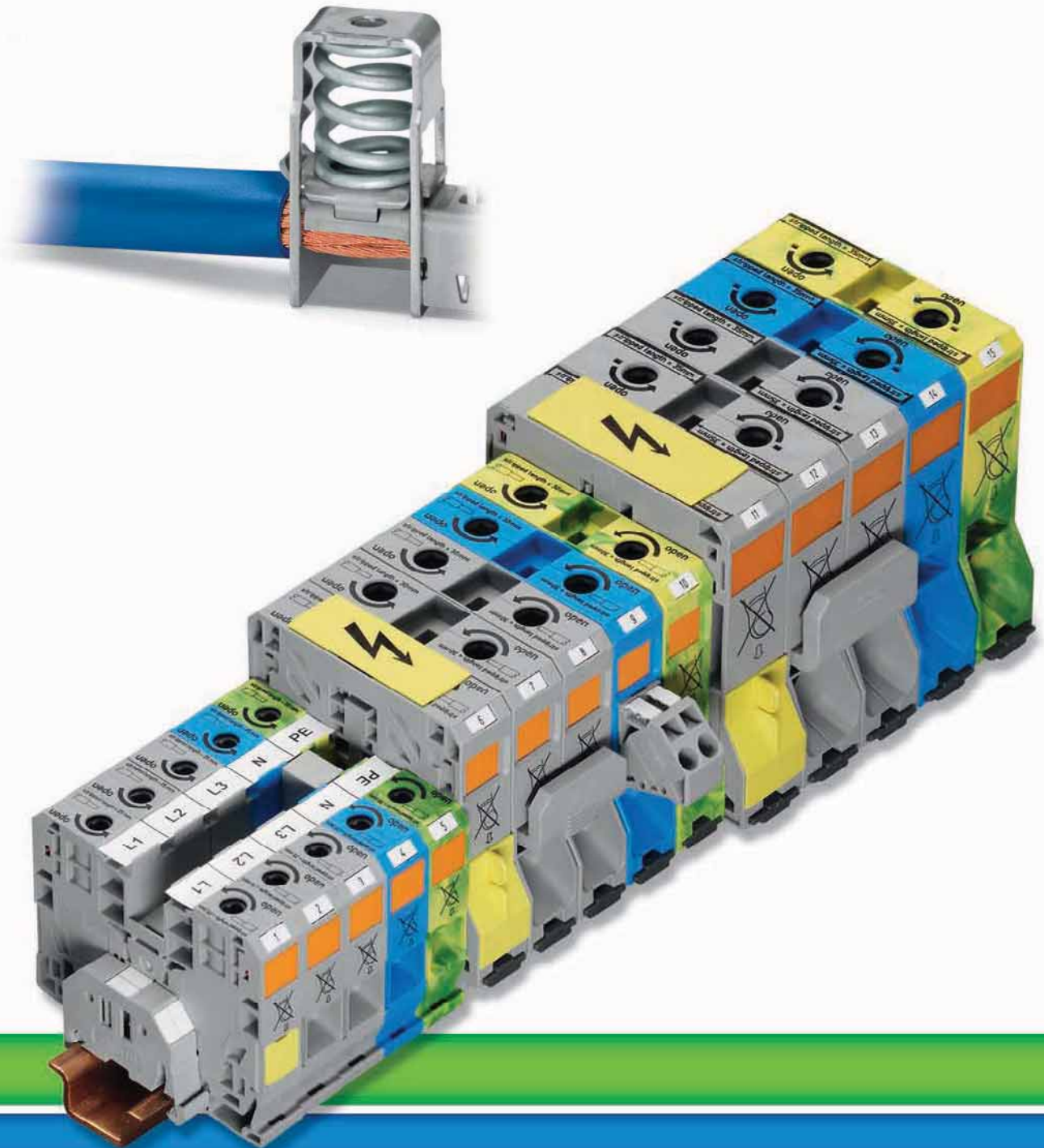


# POWER CAGE CLAMP®

The universal connection for conductors larger than 6 AWG (16 mm<sup>2</sup>)

Handling:

- Open clamping unit by turning a hex wrench (approx. 5.5 mm) or appropriate screwdriver counter-clockwise.
- Press integrated latch to open clamping unit for hands-free wiring.
- Insert conductor until it hits backstop.
- A small, counter-clockwise rotation closes the clamp, securing conductor.



# 10



Through Terminal Blocks, Ground Conductor Terminal Blocks  
6 mm<sup>2</sup> to 35 mm<sup>2</sup> (AWG 10 - 2)

285 Series

462



Voltage Tap for 35 mm<sup>2</sup>/AWG 2 Terminal Blocks  
0.2 mm<sup>2</sup> to 6 mm<sup>2</sup> (AWG 24 - 10)

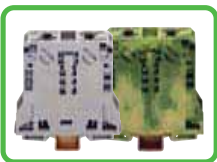
285 Series

462

Step-down Jumper for 35 mm<sup>2</sup>/AWG 2 Terminal Blocks to TOPJOB'S Terminal Blocks (10/16 mm<sup>2</sup>/AWG 8/10)

285 Series

462



Through Terminal Blocks, Ground Conductor Terminal Blocks  
10 mm<sup>2</sup> to 50 mm<sup>2</sup> (70 mm<sup>2</sup>) / AWG 8 - 1

285 Series

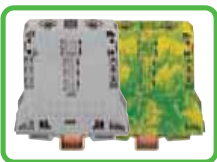
463



Voltage Tap for 50 mm<sup>2</sup>/AWG 1 Terminal Blocks  
0.2 mm<sup>2</sup> to 6 mm<sup>2</sup> (AWG 24 - 10)

285 Series

463



Through Terminal Blocks, ground conductor and Ex Terminal Blocks  
25 mm<sup>2</sup> to 95 mm<sup>2</sup> (AWG 2 - 000)

285 Series

466



Voltage Tap for 95 mm<sup>2</sup> (AWG 4/0) Terminal Blocks  
0.2 mm<sup>2</sup> to 10 mm<sup>2</sup> (AWG 24 - 8)

285 Series

466



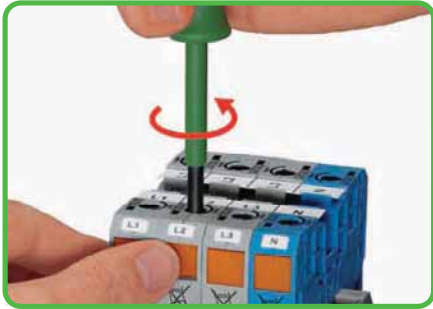
Male and Female Connectors  
6 mm<sup>2</sup> to 35 mm<sup>2</sup> (AWG 8 - 2)

834 Series

469

# High-Current, Rail-Mounted Terminal Blocks 35 mm<sup>2</sup> 285 Series

## Conductor termination



Insert operating tool and turn counterclockwise. Then push in orange locking tab for handsfree wiring.

## Commoning



Commoning adjacent terminal blocks using centrally positioned adjacent jumpers.



Slide the marking strip laterally to remove the jumper.

## Conductor termination

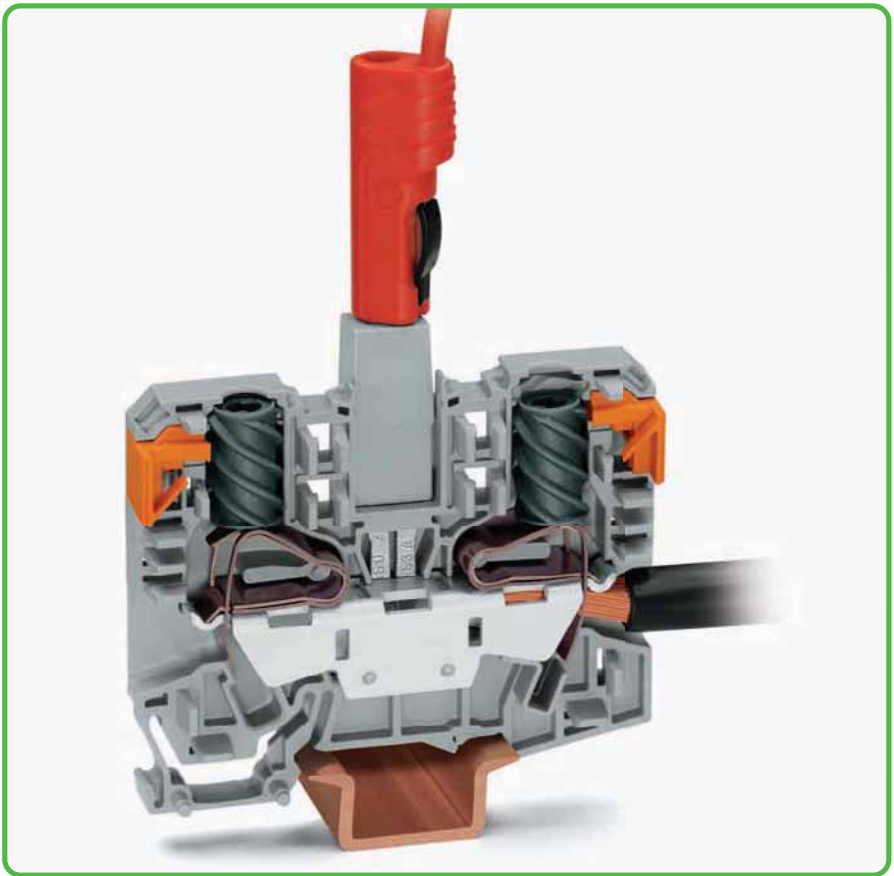


Insert stripped conductor into the clamping unit until it hits backstop; hold conductor in position.

## Conductor termination



Unlock the locking tab with a short counterclockwise turn of the operating tool ①, when unlocked allow operating tool to rotate clockwise ② to securely terminate the conductor.



Side-entry wiring means that even larger conductors, which offer limited flexibility, can be easily connected.



**POWER CAGE CLAMP** clamps the following copper conductors:\*  
solid



stranded



fine-stranded, also with tinned single strands

\* For aluminum conductors, see notes in Section 14.

## - Description and Handling -

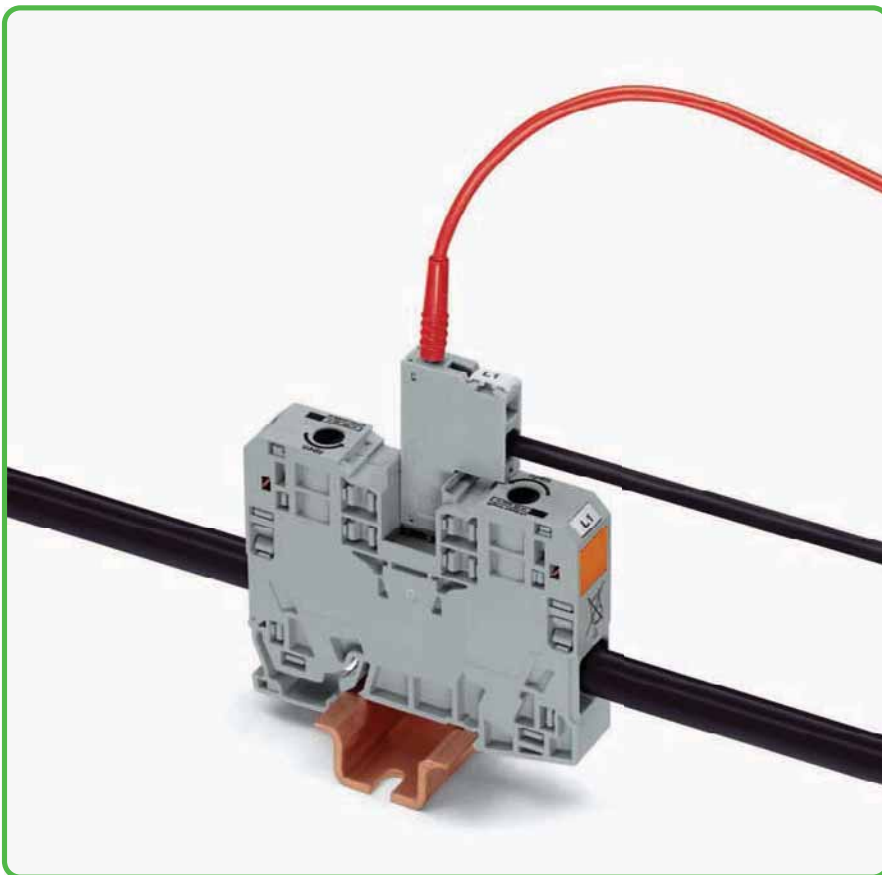


Rail-mounted, high-current terminal blocks 35 mm²/AWG 2 and 50 mm²/AWG 1

### Testing



Testing with touch-proof test sockets 4 mm Ø. (not offered by WAGO - e.g., mfd by Multi-Contact Deutschland GmbH)



### Testing



The voltage tap is inserted into the jumper contact slot. It can be fitted with a strain relief plate and provides a testing option for test plug 2 mm Ø.

### Marking



In addition to the WMB marking system, custom marking strips can also be used.

### Marking



Adapter for marking strips or 2 x WMB

### Commoning with step-down jumpers



Commoning from 35 mm²/AWG 2 POWER CAGE CLAMP terminal blocks to 10/16 mm² (AWG 8/10) TOPJOB® terminal blocks

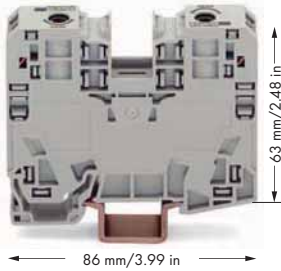


fine-stranded, with ferrule (gastight crimped)

# High-Current, Through and Ground Conductor Terminal Blocks 35 mm<sup>2</sup> 285 Series

POWER  
CAGE CLAMP®

6 - 35 mm <sup>2</sup> 1000 V/8 kV/3 ① I <sub>N</sub> 125 A Terminal block width 16 mm / 0.63 in 25 mm / 0.98 in ③	AWG 10 - 2 600 V, 115 A <sup>Ⓜ</sup> 600 V, 115 A <sup>Ⓢ</sup>	0.2 - 6 mm <sup>2</sup> 800 V/8 kV/3 ② I <sub>N</sub> 32 A module width 8 mm / 0.315 in 12 - 13 mm / 0.49 in ③	AWG 24 - 10 600 V, 30 A <sup>Ⓜ</sup> 600 V, 32 A <sup>Ⓢ</sup>
--------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------



- ① 1000 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② 800 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b> , to be used exclusively on DIN 35 x 15 rail		<b>Voltage tap</b> , for 35 mm <sup>2</sup> high-current terminal blocks	
gray	285-135 15	gray	285-427 5
blue	285-134 15		
<b>2-conductor ground terminal block</b> , to be used exclusively on DIN 35 x 15 rail; 2.3 mm thick			
green-yellow	285-137 15		
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>Adjacent jumper</b> , insulated, I <sub>N</sub> 85 A		<b>Strain relief plate</b> , gray	
gray	285-435 50 (2x25)	1-pole	769-410 100 (4x25)
<b>Step-down jumper</b> , insulated, I <sub>N</sub> 90 A		<b>Test plug</b> ,	
gray	285-430 50 (2x25)	with 500 mm cable, 2 mm Ø	
<b>Protective warning marker</b> , with high-voltage symbol, black		red	210-136 50
yellow	285-420 100 (4x25)	<b>WMB Multi marking system</b> ,	
<b>Finger guard</b> , touchproof cover protects unused conductor entries		10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm	
yellow	285-421 100 (4x25)	plain	793-501 5
<b>Test plug adapter</b> , 11.6 mm wide, for 1.5 - 16 mm <sup>2</sup> terminal blocks, for test plug 4 mm Ø		10 strips with 10 markers per card, stretchable 5 - 5.2 mm	
gray	283-404 25	plain	793-5501 5
<b>Operating tool with partially insulated shaft</b> , type 3, (5.5 x 0.8) mm blade			
	210-721 1		
<b>Three-phase set</b> , with 35mm <sup>2</sup> high-current terminal blocks			
	285-139 1		
<b>Marking strip</b> , plain, 11 mm wide, 50 m roll			
white	2009-110 1		
<b>Marker carrier</b> , for POWER CAGE CLAMP 35/50/95 mm <sup>2</sup> , 5 mm wide			
gray	285-442 25		
<b>Copper carrier rail</b> , acc. to EN 60715, 35 x 15 mm, 2.3 mm, 2 m/6'6" long			
unslotted	210-198 10		



Commoning from 35 mm<sup>2</sup>/AWG 2 POWER CAGE CLAMP terminal blocks to 10/16 mm<sup>2</sup> (AWG 8/10) TOPJOB® terminal blocks

Step-down jumpers may common terminal blocks of different sizes, without losing a conductor clamping point. This can be beneficial on long conductor runs where voltage drop can be a problem. A large conductor can be easily connected to smaller conductors at the distribution point.

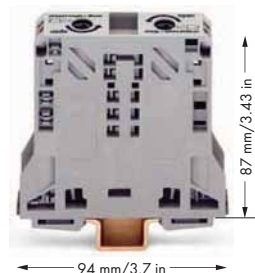
Step-down jumpers are simply pushed down for full insertion, in the same way as all other push-in jumpers. Commoning may be made in either direction using the special thin end plate to cover the open side. Further terminal blocks of the smaller cross section may be commoned using standard push-in type jumper bars.

In this case, pay attention that:  
The total current flowing does not exceed the rating of the step-down jumper.



# High-Current, Through and Ground Conductor Terminal Blocks 50 (70 "f-st") mm<sup>2</sup> 285 Series

10 - 50 (70 "f-st") mm <sup>2</sup> 1000 V/8 kV/3 ① I <sub>N</sub> 150 A Terminal block width 20 mm / 0.787 in 30 mm / 1.18 in ②	AWG 8 - 1 600 V, 150 A ③ 600 V, 150 A ③	0.2 - 6 mm <sup>2</sup> 1000 V/8 kV/3 ① I <sub>N</sub> 41 A module width 16 mm / 0.63 in 12 - 13 mm / 0.49 in ②	AWG 24 - 10 600 V, 30 A ③ 600 V, 41 A ③
----------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------



- ① 1000 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.
- ③ Jumper can only be removed or inserted when the clamp is in closed position.

Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block</b> , to be used exclusively on DIN 35 x 15 rail		<b>Voltage tap</b> , for 50 mm <sup>2</sup> high-current terminal blocks	
gray	285-150 5	gray	285-447 5
blue	285-154 5		
<b>2-conductor ground terminal block</b> , to be used exclusively on DIN 35 x 15 rail; 2.3 mm thick, copper			
green-yellow	285-157 5		
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>Adjacent jumper</b> , insulated, ③ I <sub>N</sub> 150 A for 1 jumper, I <sub>N</sub> 130 A for 2 - 4 jumpers		<b>Protective warning marker</b> , with high-voltage symbol, black, for 5 terminal blocks	
gray	285-450 100 (4x25)	yellow	284-415 50 (2x25)
<b>Protective warning marker</b> , with high-voltage symbol, black		<b>WMB Multi marking system</b> , 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm	
yellow	285-440 50 (2x25)	plain	793-501 5
<b>Finger guard</b> , touchproof cover protects unused conductor entries and jumper slots		<b>WMB Multi marking system</b> , 10 strips with 10 markers per card, stretchable 5 - 5.2 mm	
yellow	285-441 100 (4x25)	plain	793-5501 5
<b>Allen wrench with partially insulated shaft</b>			
	285-172 1		
<b>Three-phase set</b> , with 50 mm <sup>2</sup> high-current terminal blocks			
	285-159 1		
<b>WMB Multi marking system</b> , 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm			
	plain 793-501 5		
<b>WMB Multi marking system</b> , 10 strips with 10 markers per card, stretchable 5 - 5.2 mm			
	plain 793-5501 5		
<b>Marking strip</b> , plain, 11 mm wide, 50 m roll			
	white 2009-110 1		
<b>Marker carrier</b> , for POWER CAGE CLAMP 35/50/95 mm <sup>2</sup> , 5 mm wide			
	gray 285-442 25		
<b>Copper carrier rail</b> , acc. to EN 60715, 35 x 15 mm, 2.3 mm, 2 m/6'6" long			
	unslotted 210-198 10		

Description and handling see pages 464 and 465



Adapter for marking strips or 2 x WMB

# High-Current, Rail-Mounted Terminal Blocks 95 mm<sup>2</sup> 285 Series

## Conductor termination



Insert Allen wrench and rotate counterclockwise. The push in orange locking tab for hands free wiring.

## Commoning



Commoning adjacent terminal blocks with adjacent jumper. Tool-free insertion of jumper above the conductor entry hole. Rated cross section is still 95 mm<sup>2</sup>/AWG 4/0.

## Testing



Testing with touch-proof test sockets 4 mm Ø. (not offered by WAGO - e.g., mfd by Multi-Contact Deutschland GmbH)

## Conductor termination



Insert stripped conductor until it hits backstop; hold this in position.

## Conductor termination



Unlock the locking tab with a short counterclockwise turn of the Allen wrench ①. When unlocked (click), allow Allen wrench to rotate clockwise (automatic) ② to securely terminate the conductor.



**POWER CAGE CLAMP** clamps the following copper conductors: \* solid



## Assembly



Snapping a terminal block onto the carrier rail. From the left or from the right.

## Removal



Removing a terminal block from the assembly. To the left or to the right.



stranded



fine-stranded, also with tinned single strands

\* For aluminum conductors, see notes in Section 14.

## - Description and Handling -

### Safety notes



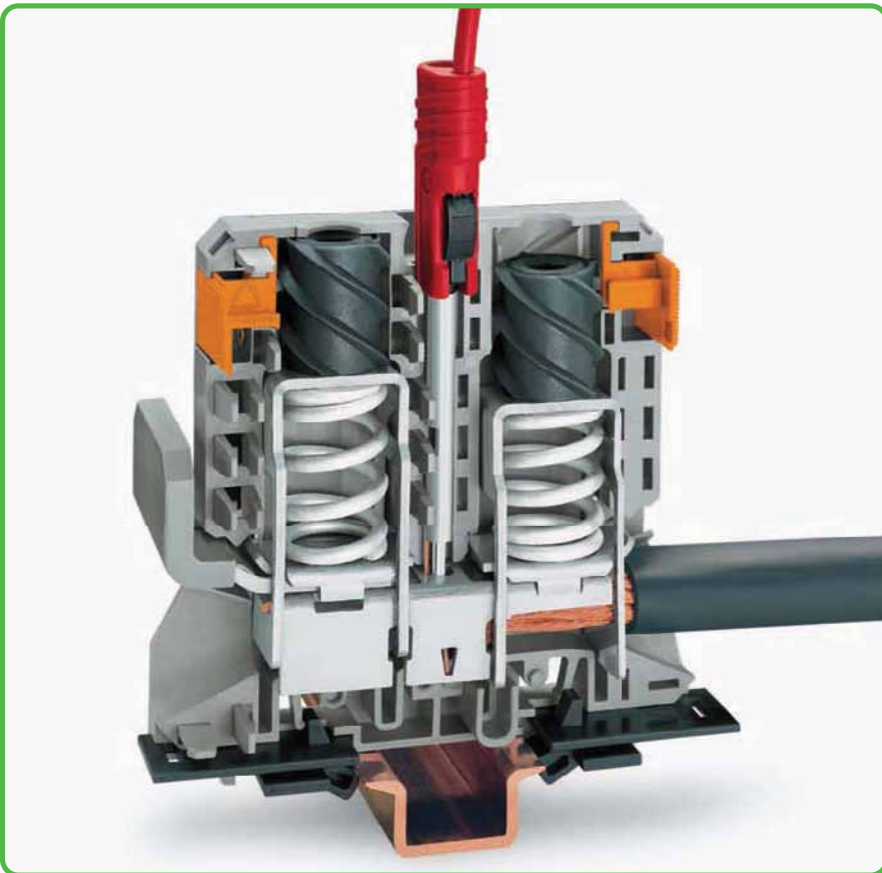
Bend the conductor before stripping!  
Conductor end has to be straight!  
Note: Strip length 35 mm/1.38 in.



Caution! Health hazard!  
Keep your fingers out of the conductor entry hole!



Protective warning marker may indicate:  
Caution! Power is still on even after switching off the main switch!



### Grounding foot



Contact pressure is distributed evenly among all defined contact zones.  
Short circuit currents of more than 11,400A per second are grounded safely.

### Ground conductor terminal blocks



Firmly snap ground conductor terminal block onto the carrier rail. The grounding foot makes an automatic contact to the rail.

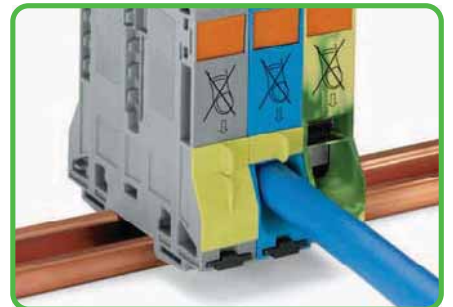
### Voltage tap



Reliably and easily tap directly onto the power supply. Insert the unwired tap before opening the pressure spring.



### Touchproof protection



Covers provide touchproof safety by shielding unused conductor entries and jumper contact slots (detach the cover of the jumper contact slot from the touchproof cover of the conductor entry).

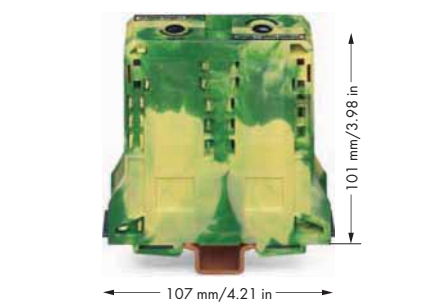


fine-stranded,  
with ferrule  
(gastight crimped)

# High-Current Through/Ground Conductor and Ex Terminal Blocks

## 95 mm<sup>2</sup> 285 Series

<p>25 - 95 mm<sup>2</sup> 1000 V/8 kV/3 ② I<sub>N</sub> 232 A</p> <p>Terminal block width 25 mm / 0.98 in 35 mm / 1.38 in ③</p>	<p>AWG 4 - 4/0 600 V, 200 A ④ 600 V, 210 A ⑥</p>	<p>25 - 95 mm<sup>2</sup>   AWG 4 - 000</p> <p>Terminal block width 25 mm / 0.98 in 35 mm / 1.38 in ③</p>	<p>0.2 - 10 mm<sup>2</sup> ①   AWG 24 - 8 1000 V/8 kV/3 ② I<sub>N</sub> 57 A</p> <p>module width 20 mm / 0.787 in 12 - 13 mm / 0.49 in ③</p>
---------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------	---------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>2-conductor through terminal block,</b> to be used exclusively on DIN 35 x 15 rail ○ gray <b>285-195</b> 5 ● blue <b>285-194</b> 5 ○ light gray ⑥ <b>285-995</b> ④ 5		<b>2-conductor ground terminal block,</b> to be used exclusively on DIN 35 x 15 rail; 2.3 mm thick, copper ● green-yellow <b>285-197</b> 5 ● green-yellow ⑥ <b>285-197/999-950</b> ④ 5		<b>Voltage tap,</b> for 95 mm <sup>2</sup> high-current terminal blocks ○ gray <b>285-407</b> 5	
<b>Item-Specific Accessories</b> <b>Adjacent jumper, insulated,</b> I <sub>N</sub> 232 A for 1 jumper, I <sub>N</sub> 130 A for 2 - 4 jumpers gray <b>285-495</b> 25		<b>Item-Specific Accessories</b> <b>Adjacent jumper, insulated,</b> I <sub>N</sub> 232 A for 1 jumper, I <sub>N</sub> 130 A for 2 - 4 jumpers gray <b>285-495</b> 25		<b>Item-Specific Accessories</b> <b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>284-415</b> 50 (2x25)	
<b>Protective warning marker,</b> with high-voltage symbol, black yellow <b>285-170</b> 50 (2x25)		<b>Protective warning marker,</b> with high-voltage symbol, black yellow <b>285-170</b> 50 (2x25)		<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm plain <b>793-501</b> 5	
<b>Finger guard,</b> touchproof cover protects unused conductor entries and jumper slots yellow <b>285-169</b> 25		<b>Finger guard,</b> touchproof cover protects unused conductor entries and jumper slots yellow <b>285-169</b> 25		<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5	
<b>Allen wrench with partially insulated shaft</b> <b>285-172</b> 1		<b>Allen wrench with partially insulated shaft</b> <b>285-172</b> 1			
<b>Three-phase set,</b> with 95mm <sup>2</sup> high-current terminal blocks <b>285-199</b> 1		<b>Three-phase set,</b> with 95mm <sup>2</sup> high-current terminal blocks <b>285-199</b> 1			
<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm plain <b>793-501</b> 5		<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, for terminal widths 5 - 17.5 mm plain <b>793-501</b> 5			
<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5		<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5			
<b>Steel carrier rail, acc. to EN 60715,</b> 35 x 15 mm, 2.3 mm, 2 m/6'6" long unslotted <b>210-118</b> 10		<b>Copper carrier rail, acc. to EN 60715,</b> 35 x 15 mm, 2.3 mm, 2 m/6'6" long unslotted <b>210-198</b> 10			
<b>Copper carrier rail, acc. to EN 60715,</b> 35 x 15 mm, 2.3 mm, 2 m/6'6" long unslotted <b>210-198</b> 10					
<b>Marker carrier, for POWER CAGE CLAMP 35/50/95</b> mm <sup>2</sup> , 5 mm wide gray <b>285-442</b> 25					

For list of approvals and user guide, see pages 634 to 637.

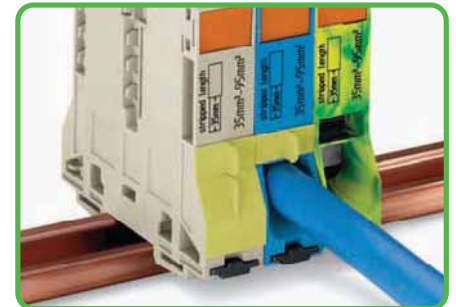
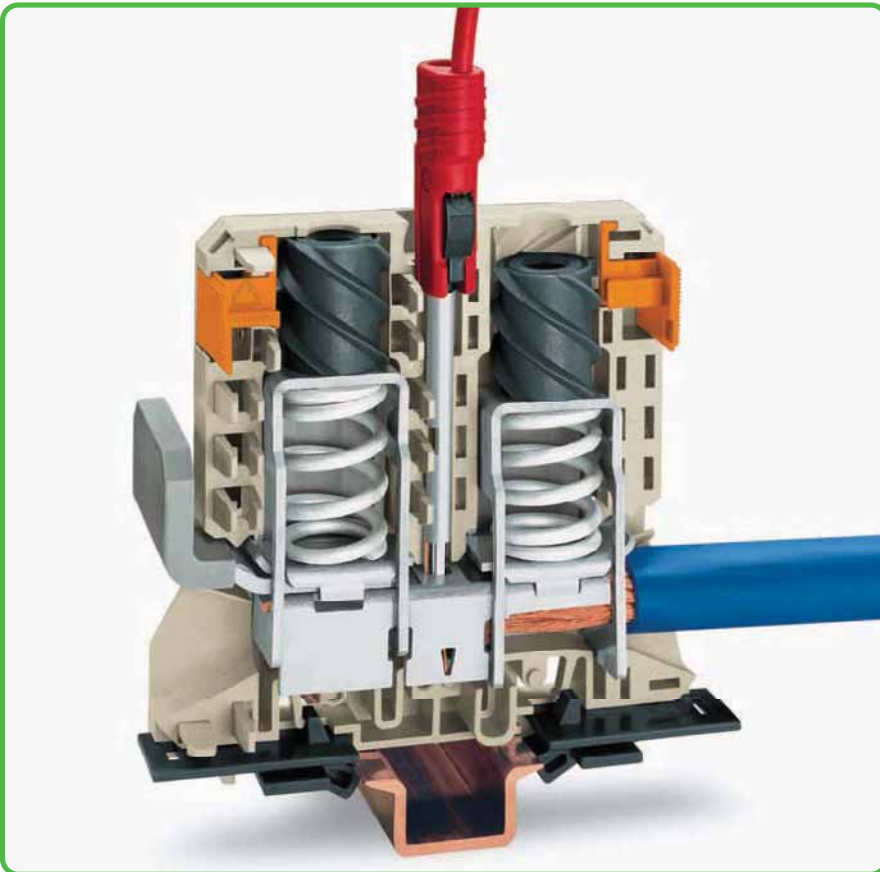


Protective warning marker may indicate:  
Caution! Power is still on even after switching off the main switch!



Caution! Health hazard!  
Keep your fingers out of the conductor entry hole!

- 1 Max. connector size: 16 mm<sup>2</sup>
- 2 1000 V = rated voltage  
8 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- 3 Strip length, see packaging or instructions.
- 4 Suitable for Ex e II applications  
25 - 95 mm<sup>2</sup>/AWG 4 - 4/0  
880 V, 211 A  
1 jumper 211 A  
2 - 4 jumpers 175 A  
35 - 70 mm<sup>2</sup>/AWG 2 - 2/0  
for ground conductor terminal blocks  
(see Section 14)



Covers provide touchproof safety by shielding unused conductor entries and jumper contact slots (detach the cover of the jumper contact slot from the touchproof cover of the conductor entry).



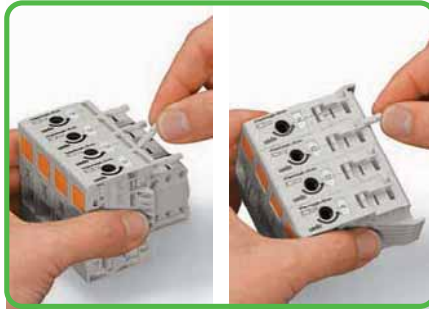
Adapter for marking strips or 2 x WMB

# High-Current Connectors 35 mm<sup>2</sup>, 834 Series – Description and Handling –

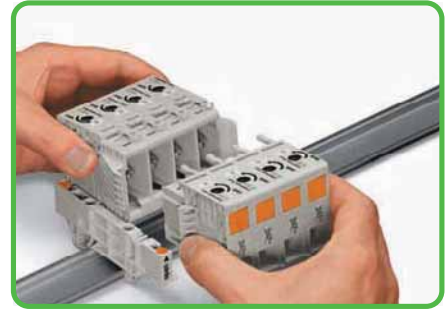
POWER  
CAGE CLAMP®



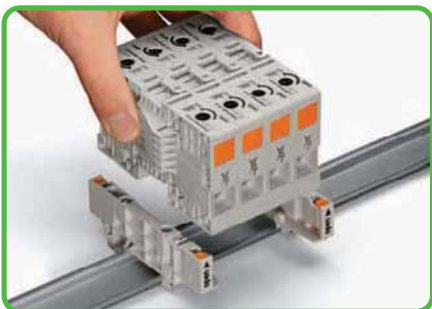
Position the mounting adapter and secure it using locking screw ①.  
Screw down locking device ② to the stop.



Coding male and female connectors:  
Coding pins removed from the female connector can be used to code the male connector.



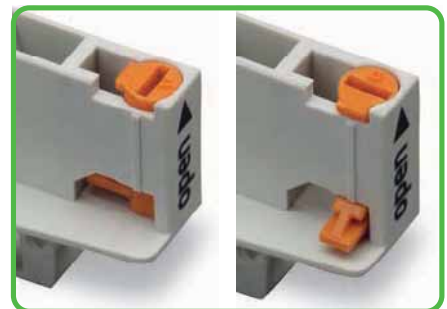
Connecting:  
Secure the male connector to the mounting adapters.  
Tilt the male connector to plug the female connector.



Mounting a male and female connector assembly:  
Fit the assembly between the mounting adapters.



Fixing the assembly:  
Turn the latch on the mounting adapters from the **open** to the **closed** position using an operating tool.



Latch in **open** position (left)  
Latch in **closed** position (right)



Removing the assembly:  
Turn the mounting adapter latches to the **open** position.  
Lift the assembly between the mounting adapters and remove it.



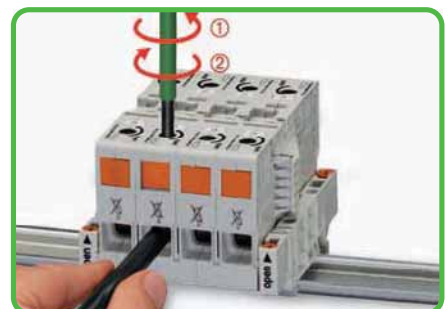
Removing the assembly:  
Insert two operating tools into the separator slots between male and female connectors and unlatch the assembly.



Insert operating tool and turn counterclockwise. Then push in orange locking tab for handsfree wiring.



Conductor termination:  
Insert stripped conductor until it hits backstop; hold this in position.



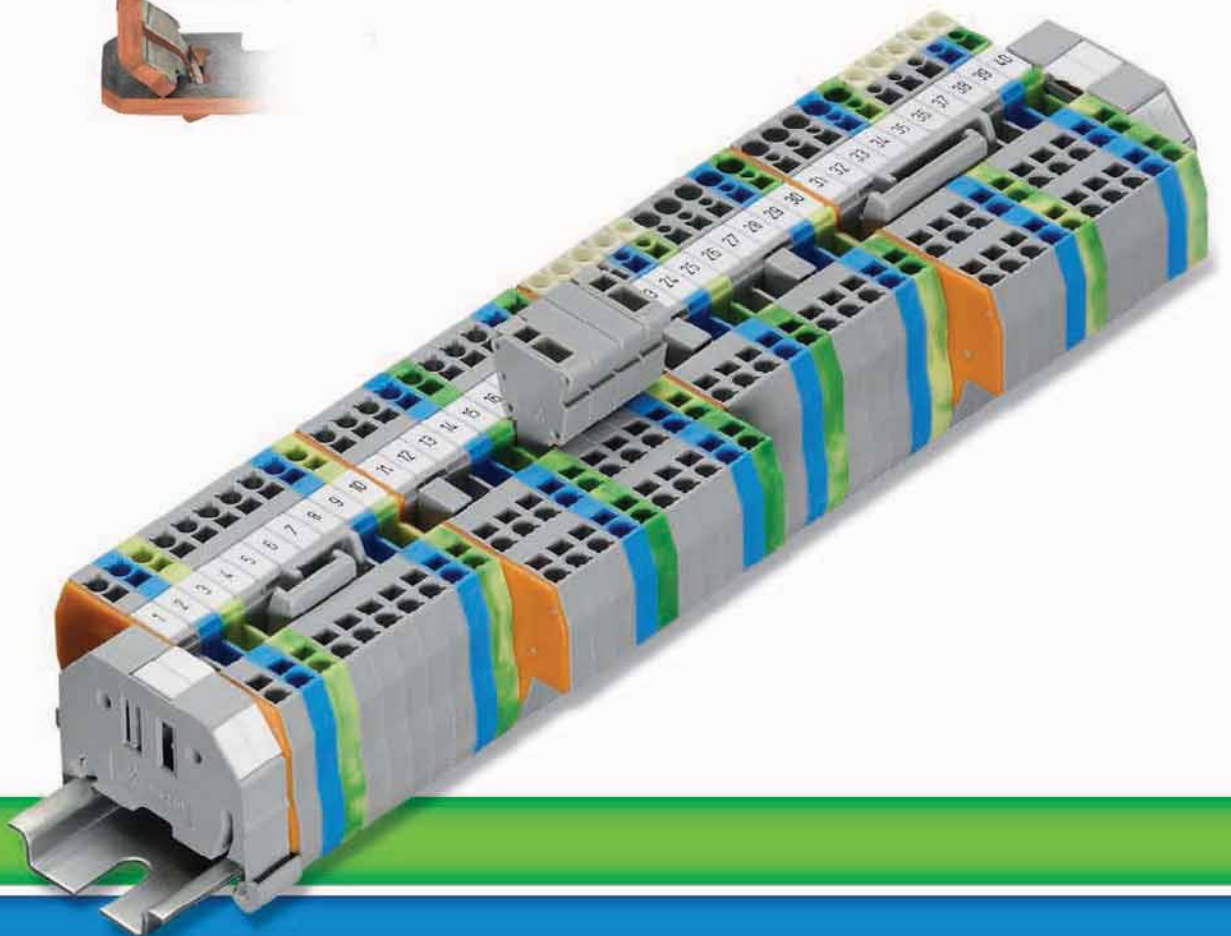
Unlock the locking tab with a short counterclockwise turn of the operating tool ①, when unlocked allow operating tool to rotate clockwise ② to securely terminate the conductor.



# FIT CLAMP®

## Insulation Displacement Connection (IDC)

Handling:  
Insert unstripped conductor into the clamping unit. Press on the IDC contact using a screwdriver until fully engaged.



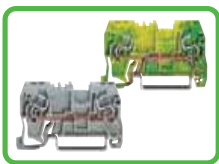




Through Terminal Blocks and Ground Conductor Terminal Blocks with CAGE CLAMP®/FIT CLAMP®

290 Series

474



Through Terminal Blocks and Ground Conductor Terminal Blocks with FIT CLAMP® Connection

290 Series

476



Accessories for Rail-Mounted Terminal Blocks  
 - Banana Plugs  
 - Insulation Stops

198  
199



- Comb-Style Jumper Bars  
 - Push-In Type Wire Jumpers  
 - Staggered Jumpers  
 - Test Plug Modules

200  
201  
201  
194 – 196

# Rail-Mounted Terminal Blocks 290 Series

## Assembly



Snap terminal blocks onto the DIN rail slide together.

## Removal



Unlock assembly with an operating tool and remove terminal block from the rail.

## FIT CLAMP® connection



FIT CLAMP® terminations do not require stripping.

## Types of conductors



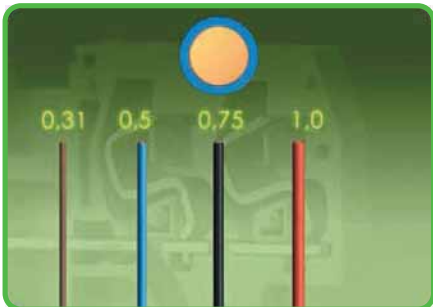
PVC (e.g., H05V) or TPE (e.g., H05Z) conductors will be safely connected (contact factory for other conductor types).

## Types of conductors

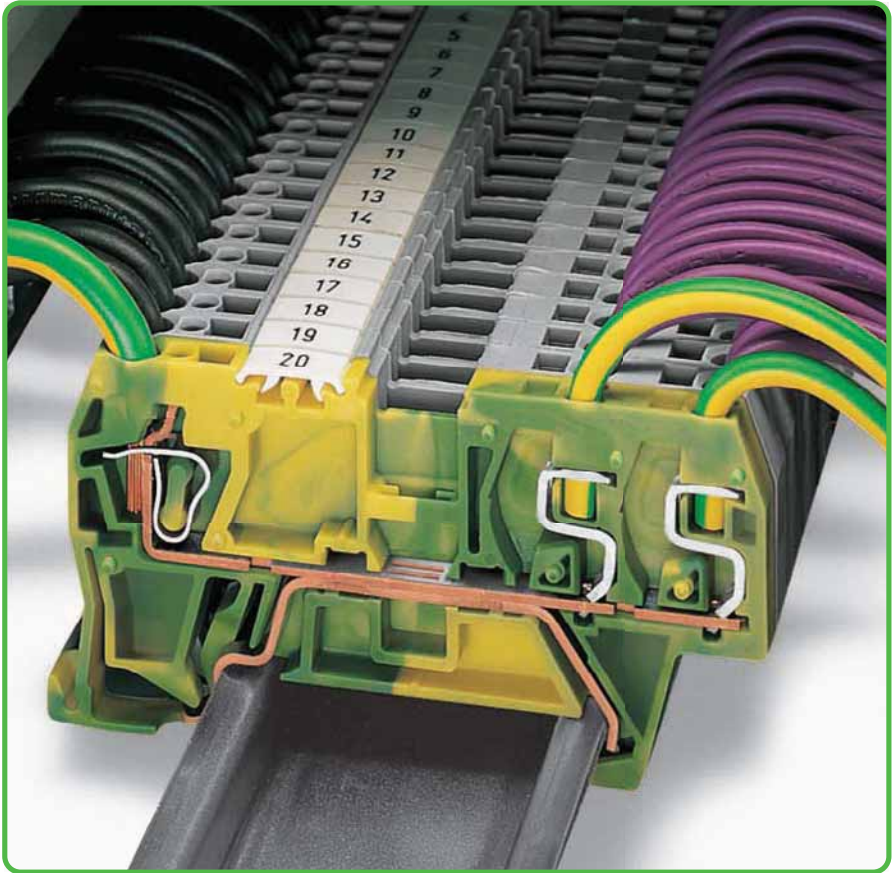


Fine-stranded conductors from 0.34 mm<sup>2</sup>/AWG 22 up to 1.5 mm<sup>2</sup>/AWG 16 can be used.

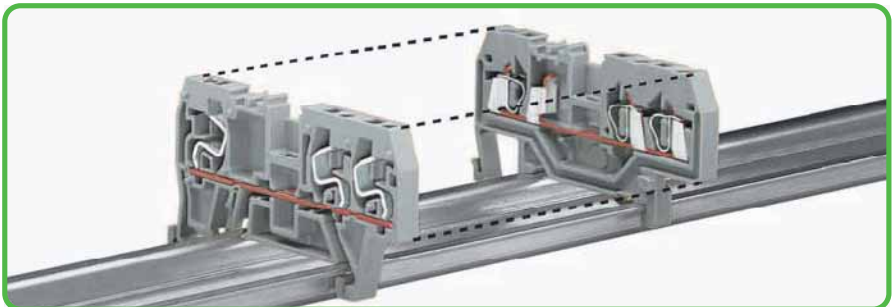
## Types of conductors



Solid conductors from 0.31 mm<sup>2</sup>/AWG 22 up to 1 mm<sup>2</sup>/AWG 18 can be used.



## Same profile

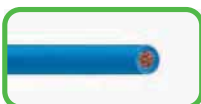


290 Series terminal blocks with FIT CLAMP® connection have the same dimensions as 280 Series terminal blocks with CAGE CLAMP® connection. They have the same terminal block width: 5 mm/0.197 in.



FIT CLAMP® clamps the following copper conductors:\*

solid



fine-stranded

\* For aluminum conductors, see notes in Section 14.

## - Description and Handling -

### FIT CLAMP® connection



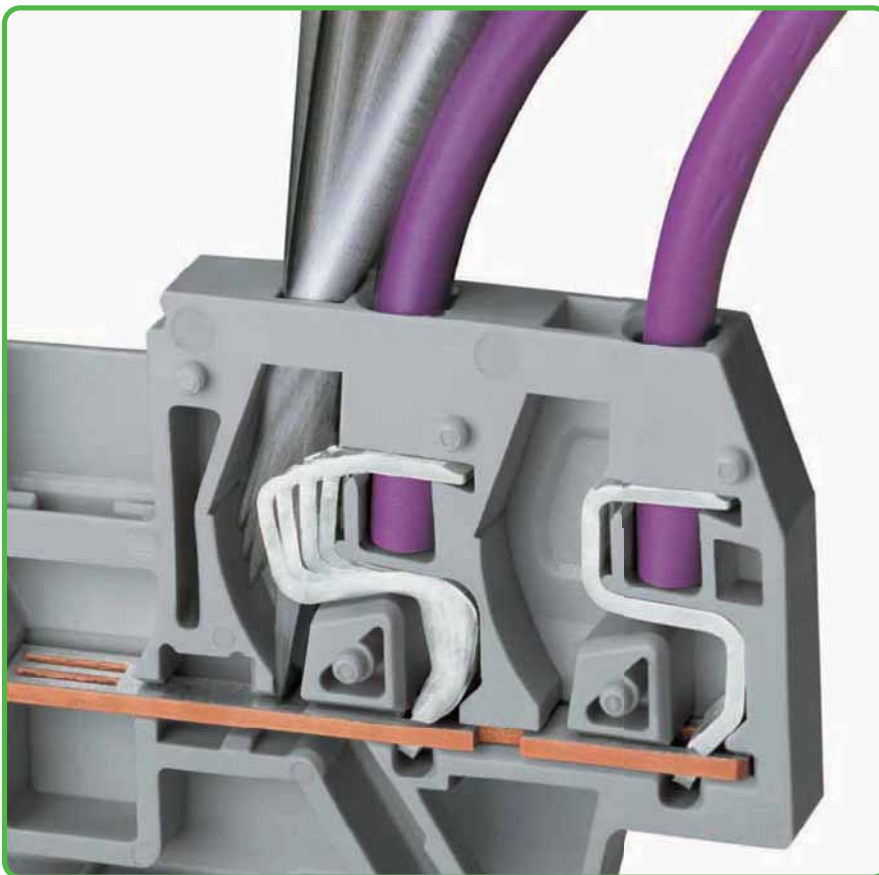
**Conductor termination.**  
Insert the conductor into the clamping unit until it hits backstop. Then insert the operating tool (blade width 3.5 mm/0.138 in) into the operating slot, directing the blade away from the conductor, and slide it until fully inserted.



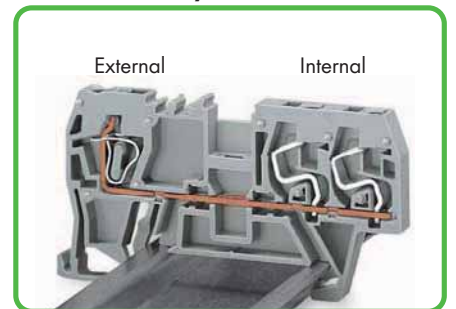
**Conductor removal.**  
Insert the operating tool into the operating slot, directing the blade toward the conductor until it makes contact with the corner of the FIT CLAMP®. Then press on the FIT contact and pivot the operating tool toward the conductor.



If the connected conductor is to be re-used, the conductor end should be cut square. To re-connect use only the same type of conductors with the same cross section.



### Mixed assembly



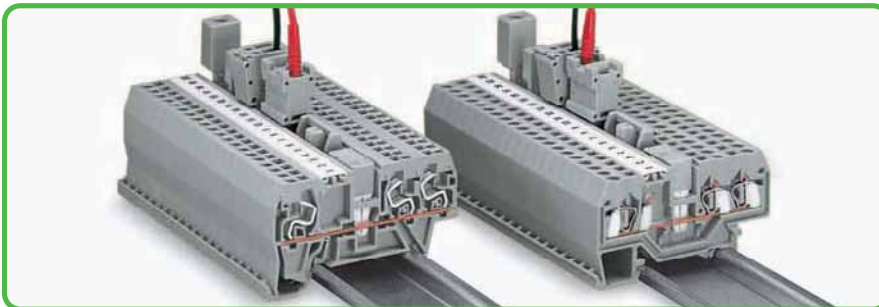
External = CAGE CLAMP®  
Internal = FIT CLAMP® (factory wiring)

### Mixed assembly



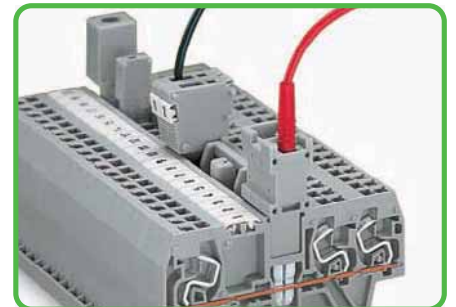
Depending on the connection system there are different conductor entry holes.

### Accessories



280 Series accessories (e.g., jumpers and test plug adapters) can be used.

### Testing



Testing using 280 Series accessories.

**CAGE CLAMP® clamps the following copper conductors:\***

solid

stranded

fine-stranded, also with tinned single strands

fine-stranded, tip-bonded

fine-stranded, with ferrule ① (gastight crimped)

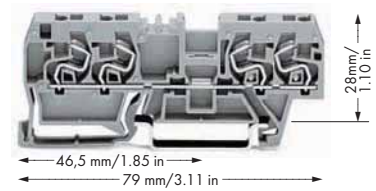
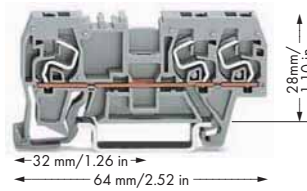
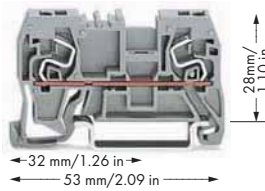
fine-stranded, with pin terminal (gastight crimped)

\* For aluminum conductors, see notes in Section 14.

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

# Through and Ground Conductor Terminal Blocks 290 Series

0.34 - 1.5 mm <sup>2</sup> "f-st" <sup>①</sup> 0.31 - 1 mm <sup>2</sup> "s" <sup>①</sup> 500 V/6 kV/3 <sup>②</sup> I <sub>N</sub> 13.5 A Terminal block width 5 mm / 0.197 in	AWG 22-16"f-st" AWG 22-18"s"	0.34 - 1.5 mm <sup>2</sup> "f-st" <sup>①</sup> 0.31 - 1 mm <sup>2</sup> "s" <sup>①</sup> 500 V/6 kV/3 <sup>②</sup> I <sub>N</sub> 13.5 A Terminal block width 5 mm / 0.197 in	AWG 22-16"f-st" AWG 22-18"s"	0.34 - 1.5 mm <sup>2</sup> "f-st" <sup>①</sup> 0.31 - 1 mm <sup>2</sup> "s" <sup>①</sup> 500 V/6 kV/3 <sup>②</sup> I <sub>N</sub> 13.5 A Terminal block width 5 mm / 0.197 in	AWG 22-16"f-st" AWG 22-18"s"
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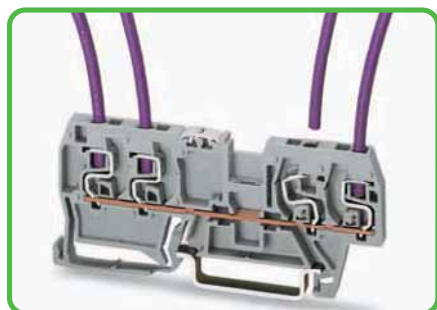
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Through terminal block, 1 FIT CLAMP® / 1 FIT CLAMP®</b>		<b>Through terminal block, 1 FIT CLAMP® / 2 FIT CLAMP®</b>		<b>Through terminal block, 2 FIT CLAMP®/2 FIT CLAMP®</b>	
gray 290-961	100	gray 290-661	100	gray 290-861	100
blue 290-964 ③	100	blue 290-664 ③	100	blue 290-864 ③	100
<b>Ground conductor terminal block, 1 FIT CLAMP® / 1 FIT CLAMP®</b>		<b>Ground conductor terminal block, 1 FIT CLAMP® / 2 FIT CLAMP®</b>		<b>Ground conductor terminal block, 2 FIT CLAMP®/2 FIT CLAMP®</b>	
green-yellow 290-967	100	green-yellow 290-667	100	green-yellow 290-867	100
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
<b>End and intermediate plate, 1 mm thick</b>		<b>End and intermediate plate, 1.1 mm thick</b>		<b>End and intermediate plate, 1.1 mm thick</b>	
orange 290-306	100 (4x25)	orange 290-302	100 (4x25)	orange 290-310	100 (4x25)
gray 290-305	100 (4x25)	gray 290-301	100 (4x25)	gray 290-309	100 (4x25)

## 290 Series Accessories

Appropriate marking systems: WMB/WFB  
(see Section 13)

<b>Adjacent jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray 280-402 200 (8x25) yellow-green 280-422 200 (8x25)	<b>Spacer module,</b> can be snapped together, 5 mm wide gray 280-419 100 (4x25)	<b>WMB Multi marking system, plain,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm yellow 793-5501/000-002 red 793-5501/000-005 blue 793-5501/000-006 gray 793-5501/000-007 orange 793-5501/000-012 light green 793-5501/000-017 green 793-5501/000-023 violet 793-5501/000-024
<b>Alternate jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray 280-409 100 (4x25)	<b>B-type test plug module,</b> can be snapped together, 5 mm wide gray 249-106 100 (4x25)	
<b>Staggered jumper,</b> ④ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A from 1 to 2 780-452 100 (4x25) from 1 to 3 780-453 100 (4x25) from 1 to 4 780-454 100 (4x25) from 1 to 5 780-455 50 (2x25) from 1 to 6 780-456 50 (2x25) from 1 to 7 780-457 50 (2x25) from 1 to 8 780-458 50 (2x25)	<b>B-type spacer module,</b> can be snapped together, 5 mm wide gray 249-107 100 (4x25)	
	<b>Test plug,</b> with 500 mm cable, 2 mm Ø red 210-136 50	<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray 249-116 100 (4x25)
	<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow 210-137 50	<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray 249-117 50 (2x25)
<b>Push-in type wire jumper,</b> ④ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm 249-125 10 L = 110 mm 249-126 10 L = 250 mm 249-127 10	<b>WMB Inline, plain,</b> stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white 2009-115 1	
	<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain 793-5501 5	
<b>Test plug module,</b> ④ can be snapped together, 5 mm wide gray 280-418 100 (4x25)		

For list of approvals and user guide, see pages 634 to 637.



FIT CLAMP® terminates conductors without stripping.

AWG	sol.	str.	in/mm
22	4 A	2 A	0.67/1.7 ⑤
20	6 A	4 A	0.75/1.9 ⑤
18	9 A	6 A	0.87/2.2 ⑤
16	-	9 A	0.98/2.5 ⑤

**Conductors required:**

**PVC** insulated conductors  
(e.g., H05V, UL Style 1007/1569.1061)

**TPE** insulated conductors  
(e.g., H05Z, UL Style 3199.3265.3266)

**AWG conductors**  
stranded = 26 individual cores

Conductor insulation:

**PVC**

^DIN/VDE 0281/HD 21.1 S3

**TPE**

^DIN/VDE 0282/HD 22.1 S3

Shore hardness A (standard value):

70 - 90

Temperature range for conductor termination:

10 - 40 °C

- ① FIT CLAMP® connection for factory wiring
- ② 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ③ Suitable for Ex i applications
- ④ See application notes for:  
Test plug modules, pages 194 - 196  
Staggered jumper, page 201  
Push-in type wire jumper, page 201
- ⑤ Max. overall diameter of conductor insulation  
0.017 in / 0.43 mm

Nominal cross section  mm <sup>2</sup>	Types of conductors and reduced rated currents		Overall diameter of the conductor insulation up to  mm
	s	f-st	
0.31	4 A	-	2
0.34	-	2 A	2
0.5	6 A	4 A	2
0.75	9 A	6 A	2.5
1	13.5 A	9 A	2.6
1.5	-	13.5 A	3

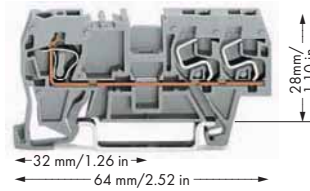
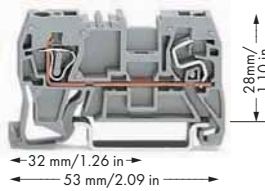
**In accordance with test specification DIN EN 60998-2-3, to re-connect use only the same type of conductors with the same cross section within the rated cross section range.**

The terminal block profile is similar to WAGO 280 Series rail-mount terminal blocks with CAGE CLAMP® connection up to 2.5 mm<sup>2</sup>/AWG 12. Accessories for the 280 Series, including jumpers, can also shared with FIT CLAMP® 290 Series rail-mount terminal blocks.

FIT CLAMP® connection is designed to be factory-wired but is also approved for field wiring by UL and CSA. In order to achieve a terminal block width of only 5 mm, there is a small reduction of the rated current of the respective wire cross section (see table).

# Through and Ground Conductor Terminal Blocks 290 Series

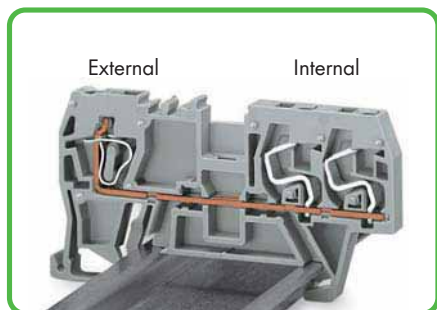
0.08 - 2.5 mm <sup>2</sup> ① 0.34 - 1.5mm <sup>2</sup> "f-st" ② 0.31 - 1 mm <sup>2</sup> "s" ②	AWG 28-12 * AWG 22-16"f-st" AWG 22-18"s"	0.08 - 2.5 mm <sup>2</sup> ① 0.34 - 1.5mm <sup>2</sup> "f-st" ② 0.31 - 1 mm <sup>2</sup> "s" ②	AWG 28-12 * AWG 22-16"f-st" AWG 22-18"s"
500 V/6 kV/3 ③ I <sub>N</sub> 24 A / 13.5 A ① ② ④		500 V/6 kV/3 ③ I <sub>N</sub> 24 A / 13.5 A ① ② ④	
Terminal block width 5 mm / 0.197 in		Terminal block width 5 mm / 0.197 in	



Item No.	Pack. Unit	Item No.	Pack. Unit	290 Series Accessories
<b>Through terminal block, 1 CAGE CLAMP® / 1 FIT CLAMP®</b>		<b>Through terminal block, 1 CAGE CLAMP® / 2 FIT CLAMP®</b>		<b>WMB Multi marking system,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm plain <b>793-5501</b> 5
gray 290-901 100 blue 290-904 ⑤ 100		gray 290-681 100 blue 290-684 ⑤ 100		
<b>Ground terminal block, 1 CAGE CLAMP® / 1 FIT CLAMP®</b>		<b>Ground terminal block, 1 CAGE CLAMP® / 2 FIT CLAMP®</b>		<b>WMB Multi marking system, plain,</b> 10 strips with 10 markers per card, stretchable 5 - 5.2 mm yellow <b>793-5501/000-002</b> red <b>793-5501/000-005</b> blue <b>793-5501/000-006</b> gray <b>793-5501/000-007</b> orange <b>793-5501/000-012</b> light green <b>793-5501/000-017</b> green <b>793-5501/000-023</b> violet <b>793-5501/000-024</b> 5
green-yellow 290-907 100		green-yellow 290-687 100		
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		
<b>End and intermediate plate, 1 mm thick</b>		<b>End and intermediate plate, 1.1 mm thick</b>		
orange 290-306 100 (4x25) gray 290-305 100 (4x25)		orange 290-302 100 (4x25) gray 290-301 100 (4x25)		
<b>290 Series Accessories</b> Appropriate marking systems: WMB/WFB (see Section 13)				
<b>Insulation stop,</b> ⑥ 5 pcs/strip, 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st") white <b>280-470</b> 200 (8x25)		<b>Push-in type wire jumper,</b> ⑥ insulated, I <sub>N</sub> 9 A, wire size 0.75 mm <sup>2</sup> L = 60 mm <b>249-125</b> 10 L = 110 mm <b>249-126</b> 10 L = 250 mm <b>249-127</b> 10		<b>Screwless end stop,</b> for DIN 35 rail, 6 mm wide gray <b>249-116</b> 100 (4x25)
<b>Insulation stop,</b> ⑥ 5 pcs/strip, 0.25 - 0.5 mm <sup>2</sup> light gray <b>280-471</b> 200 (8x25)				
<b>Insulation stop,</b> ⑥ 5 pcs/strip, 0.75 - 1 mm <sup>2</sup> dark gray <b>280-472</b> 200 (8x25)		<b>Protective warning marker,</b> with high-voltage symbol, black, for 5 terminal blocks yellow <b>280-415</b> 100 (4x25)		<b>Screwless end stop,</b> for DIN 35 rail, 10 mm wide gray <b>249-117</b> 50 (2x25)
<b>Adjacent jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-402</b> 200 (8x25) yellow-green <b>280-422</b> 200 (8x25)		<b>Test plug module,</b> ⑥ can be snapped together, 5 mm wide gray <b>280-418</b> 100 (4x25)		
<b>Alternate jumper, insulated,</b> I <sub>N</sub> = I <sub>N</sub> terminal block gray <b>280-409</b> 100 (4x25)		<b>Spacer module,</b> can be snapped together, 5 mm wide gray <b>280-419</b> 100 (4x25)		
<b>Staggered jumper,</b> ⑥ insulated, width 5 mm/0.197 in, I <sub>N</sub> 24 A from 1 to 2 <b>780-452</b> 100 (4x25) from 1 to 3 <b>780-453</b> 100 (4x25) from 1 to 4 <b>780-454</b> 100 (4x25) from 1 to 5 <b>780-455</b> 50 (2x25) from 1 to 6 <b>780-456</b> 50 (2x25) from 1 to 7 <b>780-457</b> 50 (2x25) from 1 to 8 <b>780-458</b> 50 (2x25)		<b>Test plug,</b> with 500 mm cable, 2 mm Ø red <b>210-136</b> 50		
		<b>Test plug,</b> with 500 mm cable, 2.3 mm Ø yellow <b>210-137</b> 50		
		<b>WMB Inline, plain,</b> stretchable 5 - 5.2 mm, 1,500 WMB markers, 5 mm, on roll white <b>2009-115</b> 1		

For list of approvals and user guide, see pages 634 to 637.

# Application Criteria for WAGO FIT CLAMP® Connection



External = CAGE CLAMP®  
Internal = FIT CLAMP® (factory wiring)

AWG	sol.	str.	in/mm
22	4 A	2 A	0.67/1.7 ⑦
20	6 A	4 A	0.75/1.9 ⑦
18	9 A	6 A	0.87/2.2 ⑦
16	-	9 A	0.98/2.5 ⑦

**Conductors required:**  
**PVC** insulated conductors  
 (e.g., H05V, UL Style 1007/1569.1061)  
**TPE** insulated conductors  
 (e.g., H05Z, UL Style 3199.3265.3266)  
**AWG conductors**  
 stranded = 26 individual cores

Conductor insulation:  
**PVC**  
 ^DIN/VDE 0281/HD 21.1 S3  
**TPE**  
 ^DIN/VDE 0282/HD 22.1 S3

Shore hardness A (standard value):  
 70 - 90

Temperature range for conductor termination:  
 10 - 40 °C

- \* AWG 12: THHN, THWN
- ① CAGE CLAMP® connection for factory wiring
- ② FIT CLAMP® connection for external wiring
- ③ 500 V = rated voltage  
6 kV = rated surge voltage  
3 = pollution degree  
(also see Section 14)
- ④ Strip length 8 - 9 mm / 0.33 in  
(also see packaging or instructions)
- ⑤ Suitable for Ex i applications
- ⑥ See application notes for:  
Test plug modules, pages 194 - 196  
Insulation stop, page 199  
Staggered jumper, page 201  
Push-in type wire jumper, page 201
- ⑦ Max. overall diameter of conductor insulation  
0.017 in / 0.43 mm

Nominal cross section	Types of conductors and reduced rated currents		Overall diameter of the conductor insulation up to
	s	f-st	
mm²			mm
0.31	4 A	-	2
0.34	-	2 A	2
0.5	6 A	4 A	2
0.75	9 A	6 A	2.5
1	13.5 A	9 A	2.6
1.5	-	13.5 A	3

**In accordance with test specification DIN EN 60998-2-3, to re-connect use only the same type of conductors with the same cross section within the rated cross section range.**

The terminal block profile is similar to WAGO 280 Series rail-mount terminal blocks with CAGE CLAMP® connection up to 2.5 mm²/AWG 12. Accessories for the 280 Series, including jumpers, can also shared with FIT CLAMP® 290 Series rail-mount terminal blocks.

FIT CLAMP® connection is designed to be factory-wired but is also approved for field wiring by UL and CSA. In order to achieve a terminal block width of only 5 mm, there is a small reduction of the rated current of the respective wire cross section (see table).

# PUSH WIRE®

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

Handling:

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





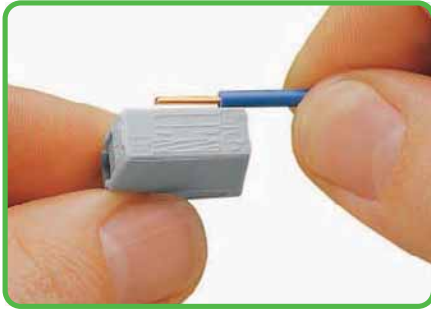
**Lighting Connectors**  
**PUSH WIRE® Connectors for Junction Boxes**  
**Compact Splicing Connectors**

# 12

	<b>Lighting Connectors</b> – 2.5 mm <sup>2</sup> / AWG 12	224 Series	481
	<b>Luminaire Disconnect Connectors</b>	873 Series	482 – 483
	<b>Power Supply Connectors</b> – 2.5 mm <sup>2</sup> /AWG 12	294 Series	489 – 496
	<b>MICRO PUSH WIRE® Connectors for Junction Boxes</b> – 0.8 mm Ø / AWG 20	243 Series	504 – 505
	<b>Mounting Carriers</b>	243 Series	505
	<b>COMPACT PUSH WIRE® Connectors for Junction Boxes</b> – 2.5 mm <sup>2</sup> /AWG 14	2273 Series	507
	<b>Mounting Carriers</b>	2273 Series	507
	<b>PUSH WIRE® Connectors for Junction Boxes</b> – 1.5 mm <sup>2</sup> / 2.5 mm <sup>2</sup> and 4 mm <sup>2</sup> (AWG 16/12 and 10)	273 Series	510
	<b>Mounting Carriers</b>	273 Series	512
	<b>PUSH WIRE® Connectors for Junction Boxes</b> – 2.5 mm <sup>2</sup> and 6 mm <sup>2</sup> (AWG 12 and 10)	773 Series	514
	<b>PUSH WIRE® Connectors for Junction Boxes</b> – 2.5 mm <sup>2</sup> and 6 mm <sup>2</sup> (AWG 12 and 10)	773 Series	516
	<b>Compact Splicing Connectors</b> – 2.5 mm <sup>2</sup> / AWG 14	222 Series	519
	<b>Mounting Carriers</b>	222 Series	521

Lighting side

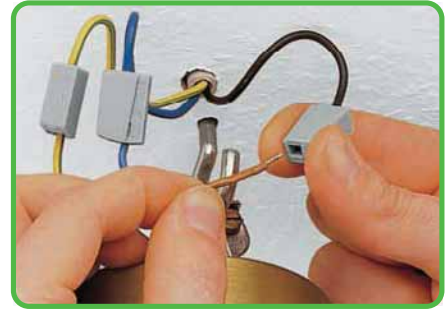
**PUSH WIRE®**  
**CAGE CLAMP®**



Strip conductor to 9 - 11 mm / 0.39 in.

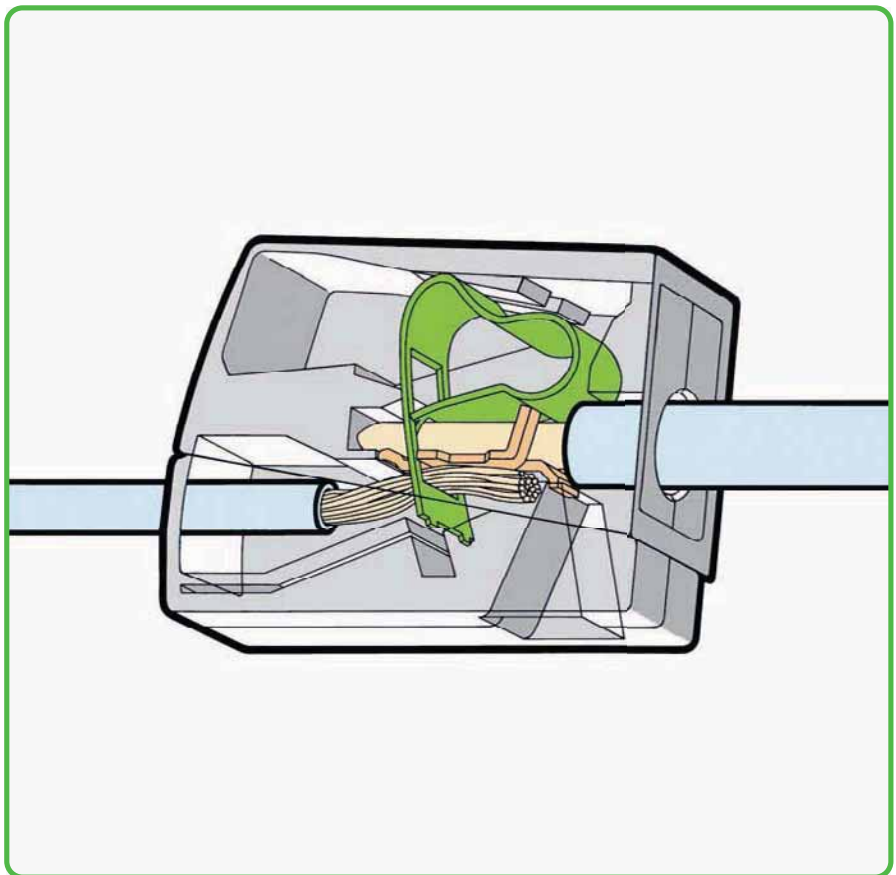


To connect: Press button fully and insert stripped conductor into square entry until it hits backstop and release.



To remove: Press button and withdraw conductor.

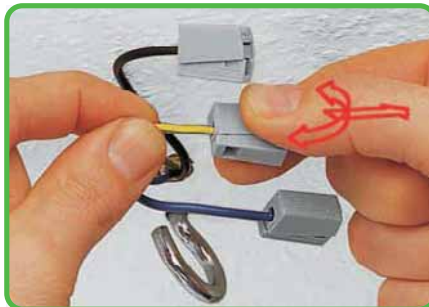
**CAGE CLAMP® clamps the following copper conductors: \***



Installation side



To connect: Insert stripped solid conductor into circular entry and push until it hits the backstop.



To remove: Hold conductor to be removed and twist alternately left and right while pulling the connector.



Testing through separate test slot.



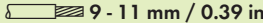
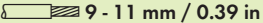
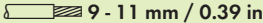
**PUSH WIRE® clamps the following copper conductors: \***

solid

\* Use contact paste "Alu-Plus" when connecting aluminum conductors  
Item No. 249-130

# Lighting and "Service" Connectors 224 Series


**PUSH WIRE®**  
**CAGE CLAMP®**

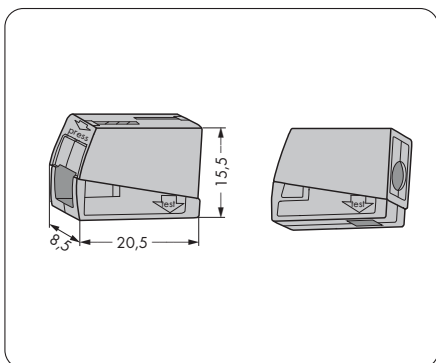
<b>Installation side</b> 1 - 2.5 mm <sup>2</sup> "s"   AWG 14 - 12 <b>Lighting side</b> 0.5 - 2.5 mm <sup>2</sup> "s+f-st"   AWG 20 - 16 400 V/4 kV/2; 24 A   300 V, 20 A <sup>Ⓢ</sup>  9 - 11 mm / 0.39 in	<b>Installation side</b> 1 - 2.5 mm <sup>2</sup> "s"   AWG 14 - 12 <b>Lighting side</b> 0.5 - 2.5 mm <sup>2</sup> "s+f-st"   AWG 20 - 16 400 V/4 kV/2; 24 A   300 V, 20 A <sup>Ⓢ</sup>  9 - 11 mm / 0.39 in	<b>0.5 - 2.5 mm<sup>2</sup> "s+f-st"</b>   AWG 20 - 16 400 V/4 kV/2   300 V, 20 A <sup>Ⓢ</sup> I <sub>N</sub> 24 A  9 - 11 mm / 0.39 in
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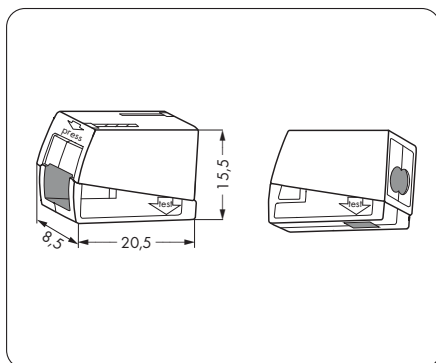
Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit
<b>Lighting connector, standard version, continuous service temperature 105 °C</b>			<b>2-conductor lighting connector, standard version, continuous service temperature 105 °C</b>			<b>"Service" connector</b>		
● gray	224-101	1000	○ white	224-112	1000	● gray	224-201	50
<b>Lighting connector, version for increased continuous service temperature of 120 °C</b>			<b>2-conductor lighting connector, version for increased continuous service temperature of 120 °C</b>					
● black	224-104	100	● black	224-114	100			

## 224 Series Accessories

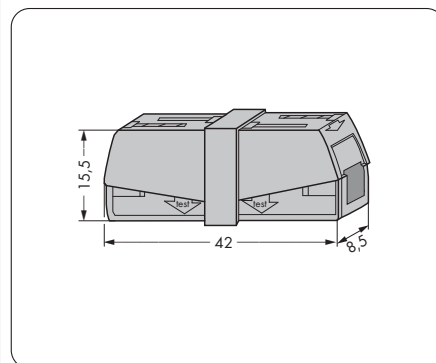
<b>Syringe,</b>  contents: 20 ml "Alu-Plus" contact paste <b>249-130</b>   20 (4x5)		
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Dimensions in mm


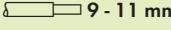
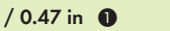

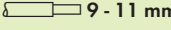
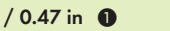


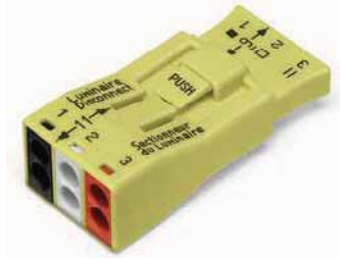
Dimensions in mm



Dimensions in mm

For list of approvals and user guide, see pages 634 to 637.

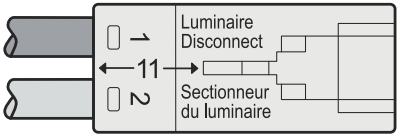
<b>2-conductor plug ①</b> AWG 18 - 12 "s" AWG 16 - 12 "st"  11 - 13 mm / 0.47 in ①  9 - 11 mm / 0.39 in ②	<b>1-conductor socket ②</b> AWG 18 "s" 600 V, 6 A (60) 	<b>2-conductor plug ①</b> AWG 18 - 12 "s" AWG 16 - 12 "st"  11 - 13 mm / 0.47 in ①  9 - 11 mm / 0.39 in ②	<b>1-conductor socket ②</b> AWG 18 "s" 600 V, 6 A (60) 
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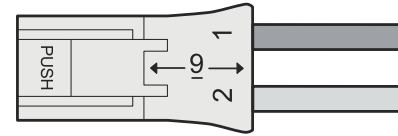
- ① 2-conductor plug
- ② 1-conductor socket

Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
<b>Luminaire disconnect connector</b>			<b>Luminaire disconnect connector</b>		
2	873-902	40	3	873-903	20

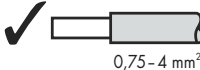
Touchproof connectors are required for ballast supply cables in the USA and Canada.  
When exchanging a ballast:  
**1.** The touchproof plug-in connection is disconnected first  
**2.** The ballast is replaced  
**3.** Network connection is restored by plugging the connection.  
 This streamlines ballast replacement while enhancing safety by safeguarding the installer from electric shock.  
 The 873 Series connectors are approved according to UL 2459 and CSA 22.2 for this type of application.



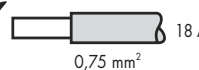
Luminaire Disconnect  
Sectionneur du luminaire



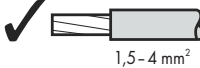
PUSH



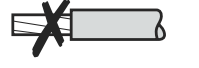
✓ 18-12 AWG CU, SOL, UL/CSA  
0,75 - 4 mm<sup>2</sup>




✓ 18 AWG CU, SOL, UL/CSA  
0,75 mm<sup>2</sup>



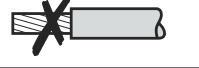
✓ 16-12 AWG (≤ 19 str.) CU, UL  
1,5 - 4 mm<sup>2</sup>  
One-time use only - Do not reuse  
N'utiliser qu'une seule fois



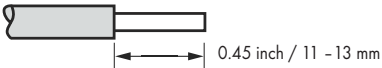
✗



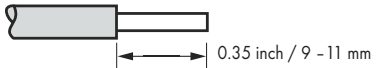
✗



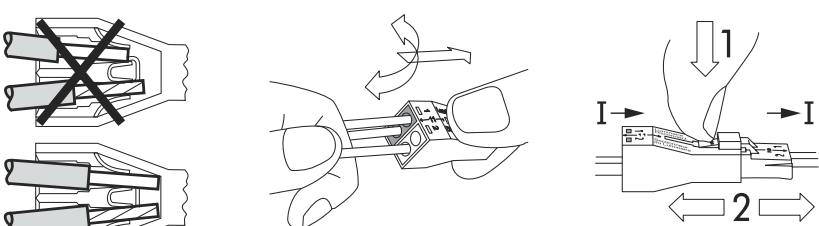
✗



0.45 inch / 11 - 13 mm



0.35 inch / 9 - 11 mm



**Correct method of solid wire removal**  
Hold wire to be removed in one hand, the connector in the other - twist slightly while pulling the connector.

**Déconnexion correcte du conducteur rigide**  
Tenir d'une main le conducteur à déconnecter et de l'autre main le connecteur - Opérer une légère torsion du conducteur tout en tirant sur le connecteur.

The 873 Series is approved to:

**EN 60998**  
0.2 mm<sup>2</sup> - 0.5 mm<sup>2</sup> solid, 6A for female part  
1.5 mm<sup>2</sup> - 4 mm<sup>2</sup> solid, 32A for male part  
400 V/4 kV/2

**EN 61984**  
0.75 mm<sup>2</sup> solid, 6A for female part  
0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> solid, 32A for male part  
400 V/4 kV/2

# Luminaire Disconnect Connectors (US Version Only) 873 Series

<b>2-conductor plug ①</b> AWG 18 - 12 "s" AWG 16 - 12 "st" 11 - 13 mm / 0.47 in ① 9 - 11 mm / 0.39 in ②	<b>1-conductor socket ②</b> AWG 18 "s" 600 V, 6 A <sup>①</sup> 11 - 13 mm / 0.47 in ① 9 - 11 mm / 0.39 in ②
---------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------



- ① 2-conductor plug
- ② 1-conductor socket

Pole No.	Item No.	Pack. Unit
<b>Luminaire disconnect connector,</b>		
preceding ground contact in center position		
3	873-953	500

Touchproof connectors are required for ballast supply cables in the USA and Canada.  
When exchanging a ballast:  
**1.** The touchproof plug-in connection is disconnected first  
**2.** The ballast is replaced  
**3.** Network connection is restored by plugging the connection.  
 This streamlines ballast replacement while enhancing safety by safeguarding the installer from electric shock.  
 The 873 Series connectors are approved according to UL 2459 and CSA 22.2 for this type of application.

<p>18-12 AWG CU, SOL, UL/CSA 0,75 - 4 mm<sup>2</sup></p>	<p>18 AWG CU, SOL, UL/CSA 0,75 mm<sup>2</sup></p>
<p>16-12 AWG (≤19 str.) CU, UL 1,5 - 4 mm<sup>2</sup></p> <p>One-time use only - Do not reuse N'utiliser qu'une seule fois</p>	
<p>0.45 inch / 11 - 13 mm</p>	<p>0.35 inch / 9 - 11 mm</p>

**Correct method of solid wire removal**  
Hold wire to be removed in one hand, the connector in the other - twist slightly while pulling the connector.

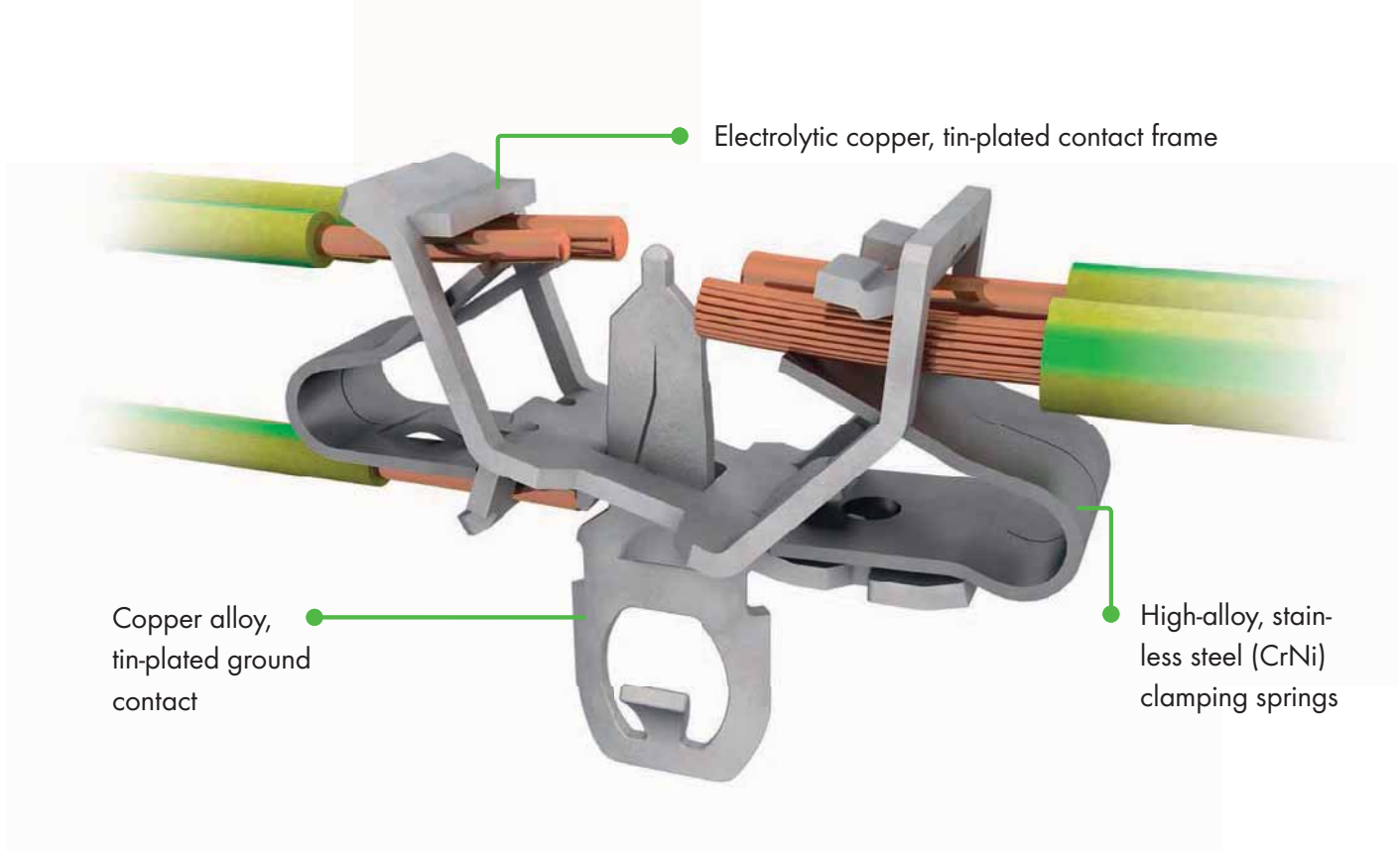
**Déconnexion correcte du conducteur rigide**  
Tenir d'une main le conducteur à déconnecter et de l'autre main le connecteur - Opérer une légère torsion du conducteur tout en tirant sur le connecteur.

873 Series approvals acc. to EN:  
**EN 60998**  
 0.2 mm<sup>2</sup> - 0.5 mm<sup>2</sup> solid, 6A for female part  
 1.5 mm<sup>2</sup> - 4 mm<sup>2</sup> solid, 32A for male part  
 400 V/4 kV/2  
**EN 61984**  
 0.75 mm<sup>2</sup> solid, 6A for female part  
 0.75 mm<sup>2</sup> - 4 mm<sup>2</sup> solid, 32A for male part  
 400 V/4 kV/2

For list of approvals and user guide, see pages 634 to 637.

## For Connecting Lighting and Equipment Anywhere in the World

### Contact Technology:



#### Internal connection:

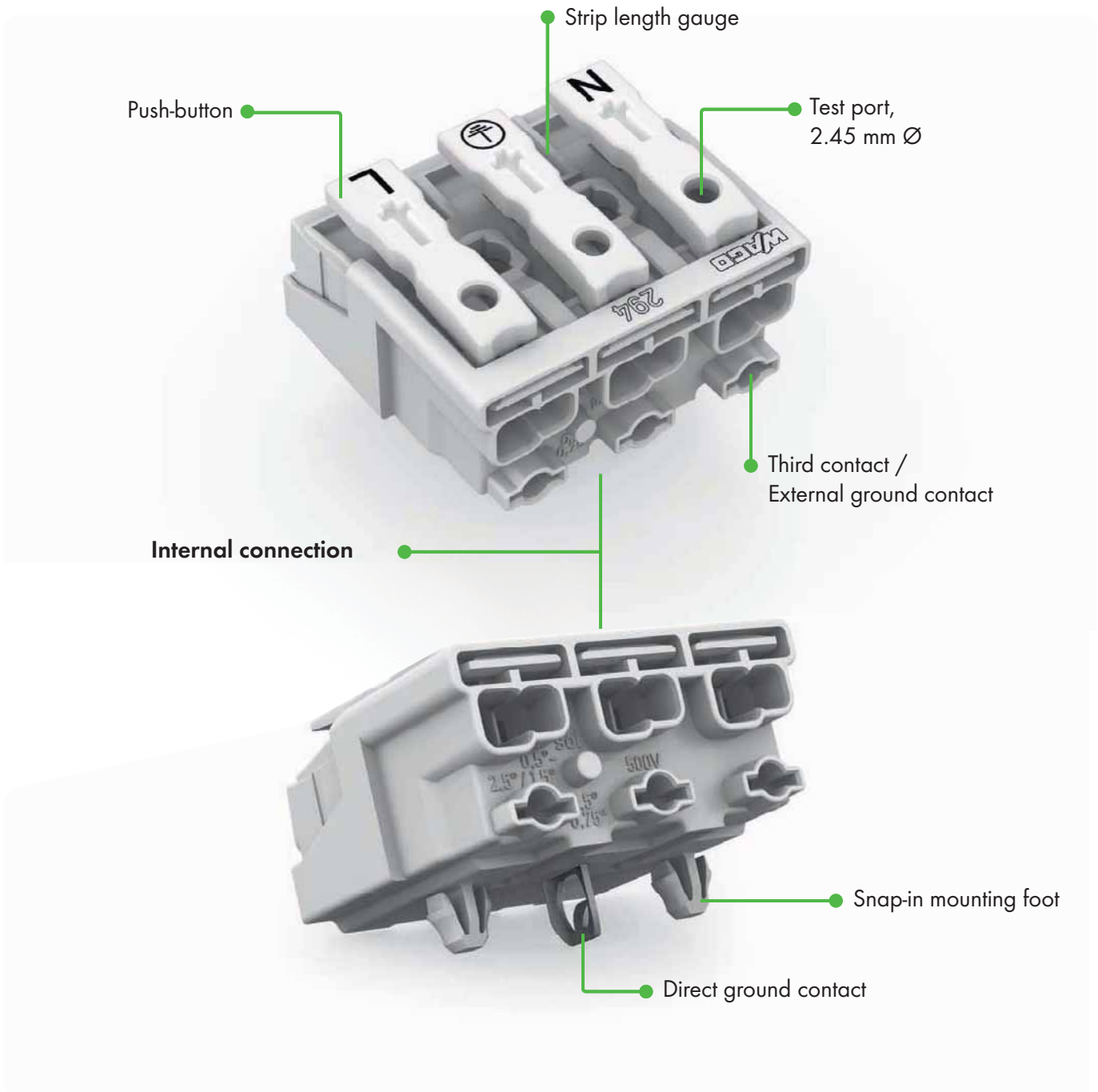
PUSH WIRE® for internal wiring with solid conductors.

EUROPE
1 x 0.5 - 2.5 mm <sup>2</sup> "s"
1 x 0.5 - 1.5 mm <sup>2</sup> "s"
1 x 0.5 - 0.75 mm <sup>2</sup> "s"
AMERIKA
1 x AWG 18 - 14 "s"
1 x AWG 18 - 16 "s"
1 x AWG 18 "s"
JAPAN
1 x 0.8 - 1,6 mm Ø "s"
1 x 0.8 - 1 mm Ø "s"
1 x 0.8 mm Ø "s"

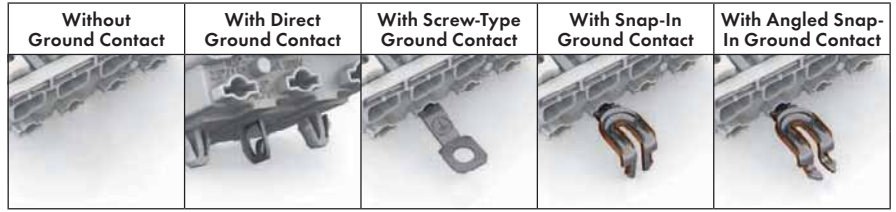
#### External connection:

CAGE CLAMP®S for power supply connections for all conductor types.


EUROPE
2 x 0.5 - 2.5 mm <sup>2</sup> "sol., str., f-str."
AMERIKA
2 x AWG 18 - 12 "s"
2 x AWG 18 - 14 "str., f-str."
JAPAN
2 x 0.8 - 2 mm Ø "s"
2 x 0.5 - 2 mm <sup>2</sup> "str., f-str."





# Power Supply Connectors With Two Snap-In Mounting Feet 294 Series



Pole No.	Marking	Item No.	Item No.	Item No.	Item No.	Item No.
2 	without	294-5002	- - -	- - -	- - -	- - -
	N L	294-5012	- - -	- - -	- - -	- - -
	N' L'	294-5022	- - -	- - -	- - -	- - -
	DA- DA+	294-5032	- - -	- - -	- - -	- - -
	- +	294-5072	- - -	- - -	- - -	- - -
	1 N	294-5052	- - -	- - -	- - -	- - -
2 1	294-5042	- - -	- - -	- - -	- - -	

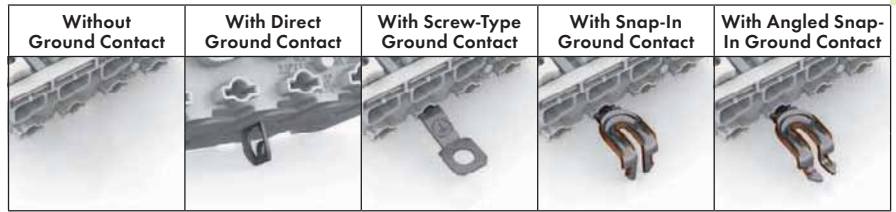
3 	without	294-5003	- - -	- - -	- - -	- - -
	N ⊕ L	294-5013	294-5113	294-5413	294-5213	294-5313
	N' ⊕ L'	294-5023	294-5123	294-5423	294-5223	294-5323
	1 ⊕ N	294-5053	294-5153	294-5453	294-5253	294-5353
	3 2 1	294-5043	- - -	- - -	- - -	- - -


4 	without	294-5004	- - -	- - -	- - -	- - -
	1/L' 2/L ⊕ N	294-5024	294-5124	294-5424	294-5224	294-5324
	1 2 ⊕ N	294-5014	294-5114	294-5414	294-5214	294-5314
	4 3 2 1	294-5044	- - -	- - -	- - -	- - -


5 	without	294-5005	- - -	- - -	- - -	- - -
	L3 L2 L1 ⊕ N	294-5015	- - -	294-5415	294-5215	294-5315
	L' N' L ⊕ N	294-5025	- - -	294-5425	294-5225	294-5325
	DA+ DA- L ⊕ N	294-5035	- - -	294-5435	294-5235	294-5335
	DA- N ⊕ L DA+	294-5075	294-5175	294-5475	294-5275	294-5375
	3 N ⊕ 1 2	294-5055	294-5155	294-5455	294-5255	294-5355
	5 4 3 2 1	294-5045	- - -	- - -	- - -	- - -





# Power Supply Connectors Without Snap-In Mounting Feet 294 Series





Pole No.	Marking	Item No.	Item No.	Item No.	Item No.	Item No.
2 	without	294-4002	- - -	- - -	- - -	- - -
	N L	294-4012	- - -	- - -	- - -	- - -
	N' L'	294-4022	- - -	- - -	- - -	- - -
	DA- DA+	294-4032	- - -	- - -	- - -	- - -
	- +	294-4072	- - -	- - -	- - -	- - -
	1 N	294-4052	- - -	- - -	- - -	- - -
	2 1	294-4042	- - -	- - -	- - -	- - -

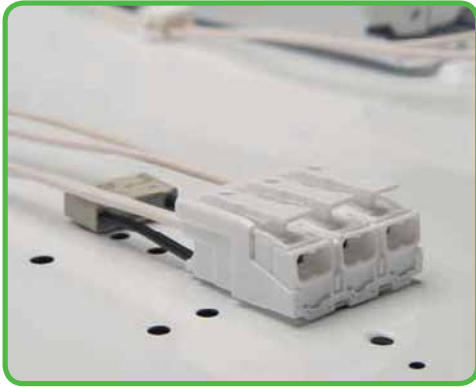
3 	without	294-4003	- - -	- - -	- - -	- - -
	N ⊕ L	294-4013	- - -	294-4413	294-4213	294-4313
	N' ⊕ L'	294-4023	- - -	294-4423	294-4223	294-4323
	1 ⊕ N	294-4053	- - -	294-4453	294-4253	294-4353
	3 2 1	294-4043	- - -	- - -	- - -	- - -

4 	without	294-4004	- - -	- - -	- - -	- - -
	1/L' 2/L ⊕ N	294-4024	- - -	294-4424	294-4224	294-4324
	1 2 ⊕ N	294-4014	- - -	294-4414	294-4214	294-4314
	4 3 2 1	294-4044	- - -	- - -	- - -	- - -

5 	without	294-4005	- - -	- - -	- - -	- - -
	L3 L2 L1 ⊕ N	294-4015	- - -	294-4415	294-4215	294-4315
	L' N' L ⊕ N	294-4025	- - -	294-4425	294-4225	294-4325
	DA+ DA- L ⊕ N	294-4035	- - -	294-4435	294-4235	294-4335
	DA- N ⊕ L DA+	294-4075	- - -	294-4475	294-4275	294-4375
	3 N ⊕ 1 2	294-4055	- - -	294-4455	294-4255	294-4355
	5 4 3 2 1	294-4045	- - -	- - -	- - -	- - -

6 	without	294-4006	- - -	- - -	- - -	- - -

7 	without	294-4007	- - -	- - -	- - -	- - -



- External connection of solid, stranded and fine-stranded connectors
- Universal conductor termination (AWG, metric)
- Third contact located at the bottom of internal connector end
- Strain relief plate can be retrofitted

#### Technical data

	IEC/EN 60998-1	IEC/EN 60998-2-2	
Rating per	II	II	
Overvoltage category	II	II	
Pollution degree	2	2	
Rated voltage	500 V	500 V	
Rated surge voltage	4 kV	4 kV	
Nominal current	24 A	24 A	
Temperature rating	T 85	T 85	

#### Conductor data (external connection):

Connection technology	CAGE CLAMP®S
Conductor size: solid, stranded or fine-stranded	2 x 0.5 - 2.5 mm <sup>2</sup>
Conductor size: with ferrule	2 x 0.5 - 1.5 mm <sup>2</sup>
AWG: solid	2 x 18 - 12
AWG: fine-stranded and stranded	2 x 18 - 14
Strip length	8 - 9 mm / 0.31 - 0.35 in

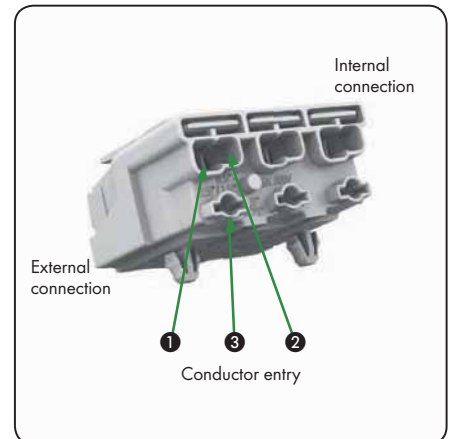
#### Conductor data (internal connection):

Connection technology	PUSH WIRE®
<b>Conductor entry ①</b>	
Conductor size: solid	0.5 - 2.5 mm <sup>2</sup>
Conductor size: fine-stranded	0.5 - 1.5 mm <sup>2</sup> (with uninsulated ferrule)
Conductor size: fine-stranded	0.5 - 1 mm <sup>2</sup> (with insulated ferrule)
AWG: solid	18 - 14
Strip length	8 - 9 mm / 0.31 - 0.35 in
<b>Conductor entry ②</b>	
Conductor size: solid	0.5 - 1.5 mm <sup>2</sup>
Conductor size: fine-stranded	0.5 - 1 mm <sup>2</sup> (with uninsulated ferrule)
Conductor size: fine-stranded	0.5 - 0.75 mm <sup>2</sup> (with insulated ferrule)
AWG: solid	18 - 16
Strip length	8 - 9 mm / 0.31 - 0.35 in
<b>Conductor entry ③</b>	
Conductor size: solid	0.5 - 0.75 mm <sup>2</sup>
AWG: solid	18
Strip length	8 - 9 mm / 0.31 - 0.35 in

#### Material data:

Material group	IIIa
Insulating material	Polycarbonate (PC)
Temperature stability	Relative temperature index (RTI) of 125°C
Flammability rating per UL 94	VO
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E <sub>Cu</sub> )
Contact plating	tin-plated

16 mm-high versions are available upon request.

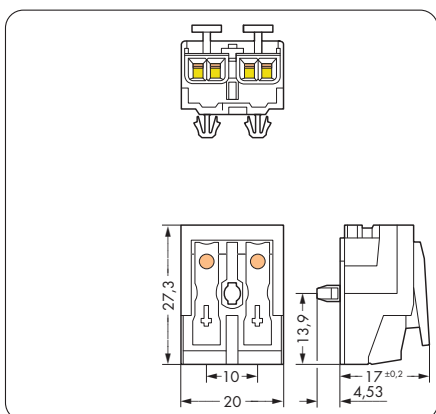


# Power Supply Connectors, 2-Pole 294 Series

without ground contact



	Item No.	Pack. Unit
<b>Terminal block for field connection without ground contact,</b>		
with snap-in mounting feet,		
2-pole, white		
<input type="radio"/> N-L	294-5012	1000
<input type="radio"/> N'-L'	294-5022	1000
<input type="radio"/> DA- DA+	294-5032	1000
<input type="radio"/> - +	294-5072	1000
<input type="radio"/> 2-1	294-5042	1000
<input type="radio"/> 1-N	294-5052	1000
<input type="radio"/> plain	294-5002	1000
<b>Terminal block for field connection without ground contact,</b>		
without snap-in mounting feet,		
2-pole, white		
<input type="radio"/> N-L	294-4012	1000
<input type="radio"/> N'-L'	294-4022	1000
<input type="radio"/> DA- DA+	294-4032	1000
<input type="radio"/> - +	294-4072	1000
<input type="radio"/> 2-1	294-4042	1000
<input type="radio"/> 1-N	294-4052	1000
<input type="radio"/> plain	294-4002	1000



Dimensions in mm

For list of approvals and user guide, see pages 634 to 637.

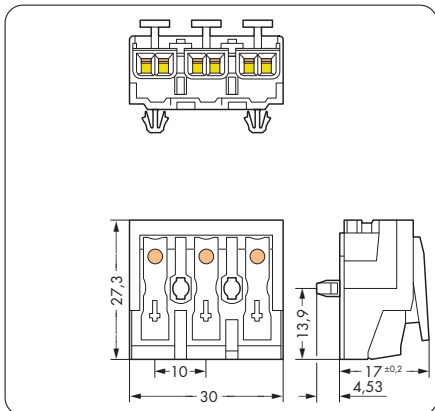
without ground contact

with direct ground contact

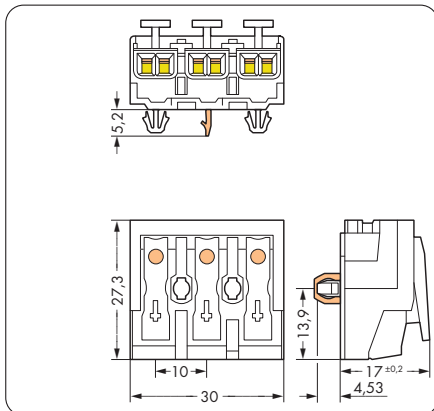
with screw-type ground contact



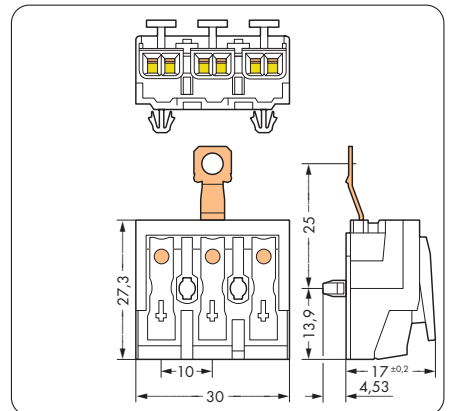
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for field connection without ground contact,</b>		<b>Terminal block for field connection with direct ground contact,</b>		<b>Terminal block for field connection with screw-type ground contact,</b>	
with snap-in mounting feet,		with snap-in mounting feet,		with snap-in mounting feet,	
3-pole, white		3-pole, white		3-pole, white	
<input type="radio"/> N-PE-L	294-5013 500	<input type="radio"/> N-PE-L	294-5113 500	<input type="radio"/> N-PE-L	294-5413 500
<input type="radio"/> N'-PE-L'	294-5023 500	<input type="radio"/> N'-PE-L'	294-5123 500	<input type="radio"/> N'-PE-L'	294-5423 500
<input type="radio"/> 1-PE-N	294-5053 500	<input type="radio"/> 1-PE-N	294-5153 500	<input type="radio"/> 1-PE-N	294-5453 500
<input type="radio"/> 3-2-1	294-5043 500				
<input type="radio"/> plain	294-5003 500				
<b>Terminal block for field connection without ground contact,</b>		<b>Terminal block for field connection with screw-type ground contact,</b>			
without snap-in mounting feet,		without snap-in mounting feet,			
3-pole, white		3-pole, white			
<input type="radio"/> N-PE-L	294-4013 500	<input type="radio"/> N-PE-L	294-4413 500		
<input type="radio"/> N'-PE-L'	294-4023 500	<input type="radio"/> N'-PE-L'	294-4423 500		
<input type="radio"/> 1-PE-N	294-4053 500	<input type="radio"/> 1-PE-N	294-4453 500		
<input type="radio"/> 3-2-1	294-4043 500				
<input type="radio"/> plain	294-4003 500				



Dimensions in mm



Dimensions in mm



Dimensions in mm

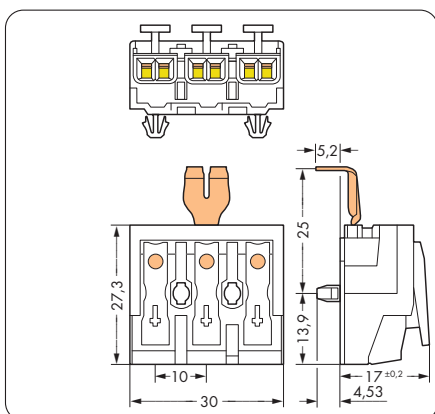
with snap-in ground contact	with angled snap-in ground contact
-----------------------------	------------------------------------



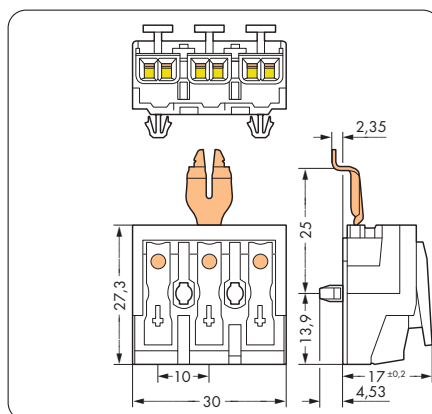
Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for field connection with snap-in ground contact,</b> with snap-in mounting feet, 3-pole, white		<b>Terminal block for field connection with angled snap-in ground contact,</b> with angled snap-in mounting feet, 3-pole, white	
○ N-PE-L	294-5213 500	○ N-PE-L	294-5313 500
○ N'-PE-L'	294-5223 500	○ N'-PE-L'	294-5323 500
○ 1-PE-N	294-5253 500	○ 1-PE-N	294-5353 500
<b>Terminal block for field connection with snap-in ground contact,</b> without snap-in mounting feet, 3-pole, white		<b>Terminal block for field connection with angled snap-in ground contact,</b> without snap-in mounting feet, 3-pole, white	
○ N-PE-L	294-4213 500	○ N-PE-L	294-4313 500
○ N'-PE-L'	294-4223 500	○ N'-PE-L'	294-4323 500
○ 1-PE-N	294-4253 500	○ 1-PE-N	294-4353 500



Mounting of strain relief plate by simple insertion into the lighting connector, 294 Series.



Dimensions in mm



Dimensions in mm

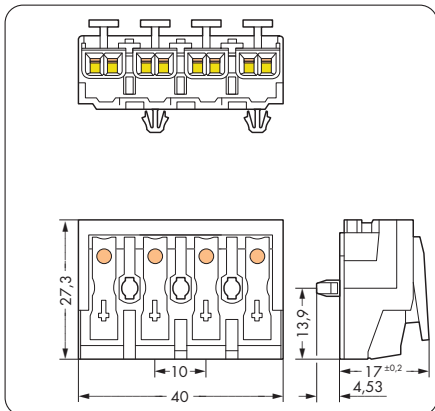
without ground contact

with direct ground contact

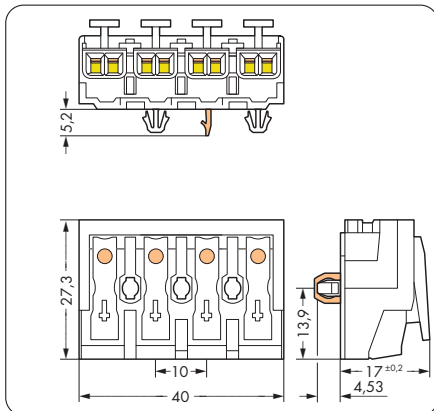
with screw-type ground contact



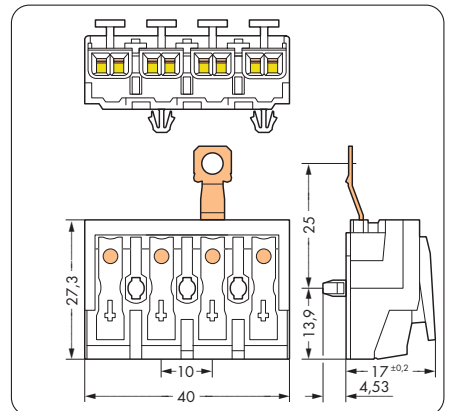
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for field connection without ground contact,</b> with snap-in mounting feet, 4-pole, white		<b>Terminal block for field connection with direct ground contact,</b> with snap-in mounting feet, 4-pole, white		<b>Terminal block for field connection with screw-type ground contact,</b> with snap-in mounting feet, 4-pole, white	
○ 1/L'-2/L-PE-N	<b>294-5024</b> 500	○ 1/L'-2/L-PE-N	<b>294-5124</b> 500	○ 1/L'-2/L-PE-N	<b>294-5424</b> 500
○ 1-2-PE-N	<b>294-5014</b> 500	○ 1-2-PE-N	<b>294-5114</b> 500	○ 1-2-PE-N	<b>294-5414</b> 500
○ 4-3-2-1	<b>294-5044</b> 500				
○ plain	<b>294-5004</b> 500				
<b>Terminal block for field connection without ground contact,</b> without snap-in mounting feet, 4-pole, white				<b>Terminal block for field connection with screw-type ground contact,</b> without snap-in mounting feet, 4-pole, white	
○ 1/L'-2/L-PE-N	<b>294-4024</b> 500			○ 1/L'-2/L-PE-N	<b>294-4424</b> 500
○ 1-2-PE-N	<b>294-4014</b> 500			○ 1-2-PE-N	<b>294-4414</b> 500
○ 4-3-2-1	<b>294-4044</b> 500				
○ plain	<b>294-4004</b> 500				



Dimensions in mm



Dimensions in mm

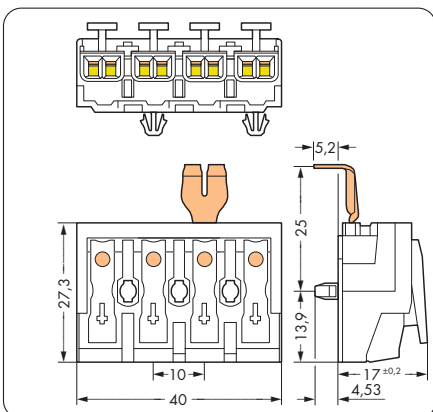


Dimensions in mm

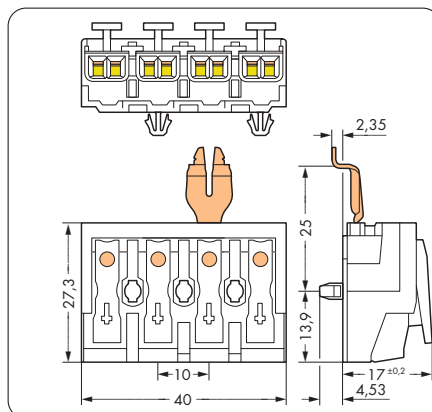
with snap-in ground contact	with angled snap-in ground contact
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Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for field connection with snap-in ground contact,</b> with snap-in mounting feet, 4-pole, white		<b>Terminal block for field connection with angled snap-in ground contact,</b> with snap-in mounting feet, 4-pole, white	
○ 1/L'-2/L-PE-N	<b>294-5224</b> 500	○ 1/L'-2/L-PE-N	<b>294-5324</b> 500
○ 1-2-PE-N	<b>294-5214</b> 500	○ 1-2-PE-N	<b>294-5314</b> 500
<b>Terminal block for field connection without snap-in ground contact,</b> without snap-in mounting feet, 4-pole, white		<b>Terminal block for field connection with angled snap-in ground contact,</b> without snap-in mounting feet, 4-pole, white	
○ 1/L'-2/L-PE-N	<b>294-4224</b> 500	○ 1/L'-2/L-PE-N	<b>294-4324</b> 500
○ 1-2-PE-N	<b>294-4214</b> 500	○ 1-2-PE-N	<b>294-4314</b> 500



Dimensions in mm



Dimensions in mm

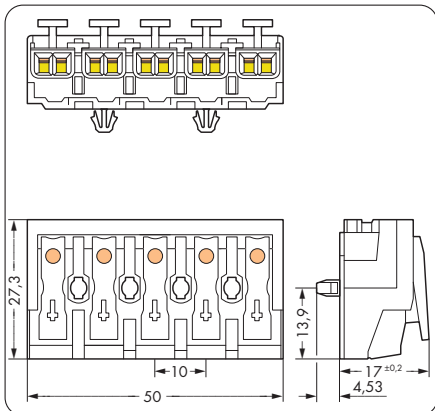
without ground contact

with direct ground contact

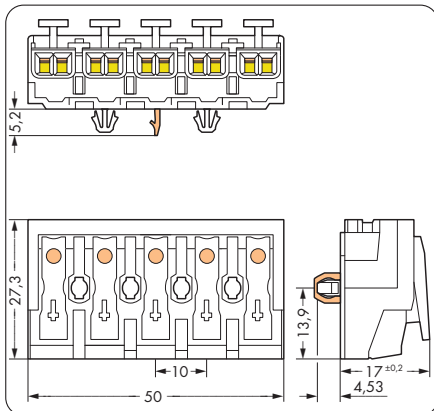
with screw-type ground contact



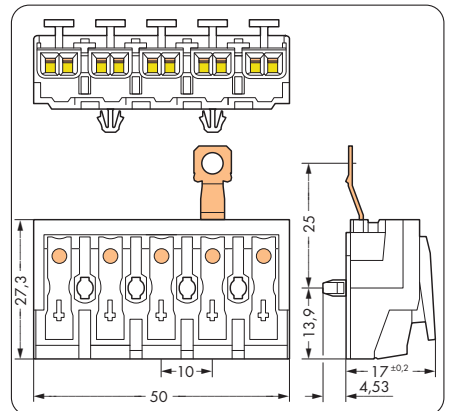
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for field connection without ground contact,</b>		<b>Terminal block for field connection with direct ground contact,</b>		<b>Terminal block for field connection with screw-type ground contact,</b>	
with snap-in mounting feet,		with snap-in mounting feet,		with snap-in mounting feet,	
5-pole, white		5-pole, white		5-pole, white	
<input type="radio"/> L'-N'-L-PE-N	<b>294-5025</b> 250	<input type="radio"/> DA- N PE L DA+	<b>294-5175</b> 250	<input type="radio"/> L'-N'-L-PE-N	<b>294-5425</b> 250
<input type="radio"/> L3-L2-L1-PE-N	<b>294-5015</b> 250	<input type="radio"/> 3-N-PE-1-2	<b>294-5155</b> 250	<input type="radio"/> L3-L2-L1-PE-N	<b>294-5415</b> 250
<input type="radio"/> DA+ DA- L PE N	<b>294-5035</b> 250			<input type="radio"/> DA+ DA- L PE N	<b>294-5435</b> 250
<input type="radio"/> DA- N PE L DA+	<b>294-5075</b> 250			<input type="radio"/> DA- N PE L DA+	<b>294-5475</b> 250
<input type="radio"/> 3-N-PE-1-2	<b>294-5055</b> 250			<input type="radio"/> 3-N-PE-1-2	<b>294-5455</b> 250
<input type="radio"/> 5-4-3-2-1	<b>294-5045</b> 250				
<input type="radio"/> plain	<b>294-5005</b> 250				
<b>Terminal block for field connection without ground contact,</b>		<b>Terminal block for field connection with screw-type ground contact,</b>		<b>Terminal block for field connection with screw-type ground contact,</b>	
without snap-in mounting feet,		without snap-in mounting feet,		without snap-in mounting feet,	
5-pole, white		5-pole, white		5-pole, white	
<input type="radio"/> L'-N'-L-PE-N	<b>294-4025</b> 250			<input type="radio"/> L'-N'-L-PE-N	<b>294-4425</b> 250
<input type="radio"/> L3-L2-L1-PE-N	<b>294-4015</b> 250			<input type="radio"/> L3-L2-L1-PE-N	<b>294-4415</b> 250
<input type="radio"/> DA+ DA- L PE N	<b>294-4035</b> 250			<input type="radio"/> DA+ DA- L PE N	<b>294-4435</b> 250
<input type="radio"/> DA- N PE L DA+	<b>294-4075</b> 250			<input type="radio"/> DA- N PE L DA+	<b>294-4475</b> 250
<input type="radio"/> 3-N-PE-1-2	<b>294-4055</b> 250			<input type="radio"/> 3-N-PE-1-2	<b>294-4455</b> 250
<input type="radio"/> 5-4-3-2-1	<b>294-4045</b> 250				
<input type="radio"/> plain	<b>294-4005</b> 250				



Dimensions in mm



Dimensions in mm



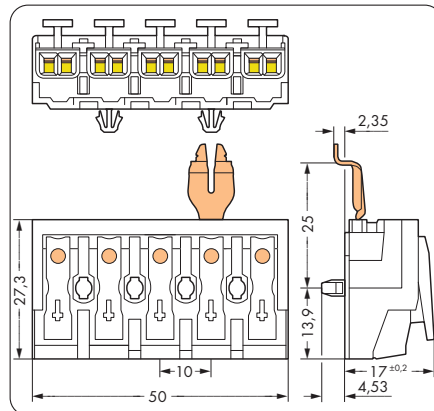
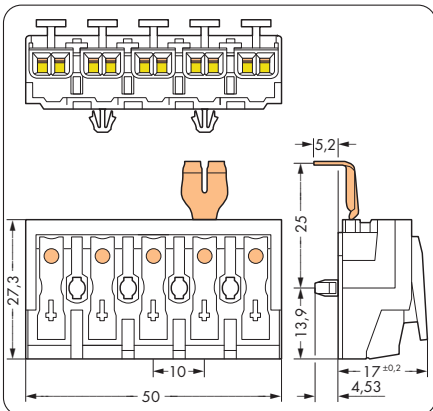
Dimensions in mm



with snap-in ground contact	with angled snap-in ground contact
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Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Terminal block for field connection with snap-in ground contact, with snap-in mounting feet, 5-pole, white</b>		<b>Terminal block for field connection with angled snap-in ground contact, with snap-in mounting feet, 5-pole, white</b>	
<input type="radio"/> L'-N'-L-PE-N	294-5225 250	<input type="radio"/> L'-N'-L-PE-N	294-5325 250
<input type="radio"/> L3-L2-L1-PE-N	294-5215 250	<input type="radio"/> L3-L2-L1-PE-N	294-5315 250
<input type="radio"/> DA+ DA- L PE N	294-5235 250	<input type="radio"/> DA+ DA- L PE N	294-5335 250
<input type="radio"/> DA- N PE L DA+	294-5275 250	<input type="radio"/> DA- N PE L DA+	294-5375 250
<input type="radio"/> 3-N-PE-1-2	294-5255 250	<input type="radio"/> 3-N-PE-1-2	294-5355 250
<b>Terminal block for field connection with snap-in ground contact, without snap-in mounting feet, 5-pole, white</b>		<b>Terminal block for field connection with angled snap-in ground contact, without snap-in mounting feet, 5-pole, white</b>	
<input type="radio"/> L'-N'-L-PE-N	294-4225 250	<input type="radio"/> L'-N'-L-PE-N	294-4325 250
<input type="radio"/> L3-L2-L1-PE-N	294-4215 250	<input type="radio"/> L3-L2-L1-PE-N	294-4315 250
<input type="radio"/> DA+ DA- L PE N	294-4235 250	<input type="radio"/> DA+ DA- L PE N	294-4335 250
<input type="radio"/> DA- N PE L DA+	294-4275 250	<input type="radio"/> DA- N PE L DA+	294-4375 250
<input type="radio"/> 3-N-PE-1-2	294-4255 250	<input type="radio"/> 3-N-PE-1-2	294-4355 250



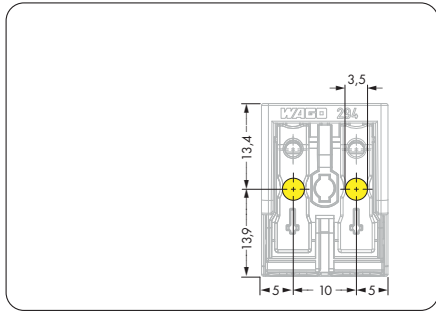




# Drilled Hole Drawings for Attachment with Snap-In Mounting Feet

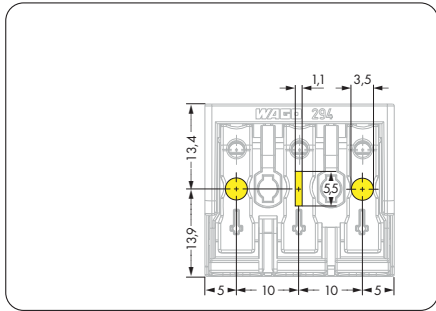
## 294 Series

### 2-pole



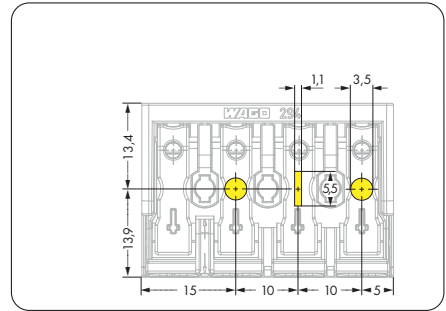
without ground contact

### 3-pole



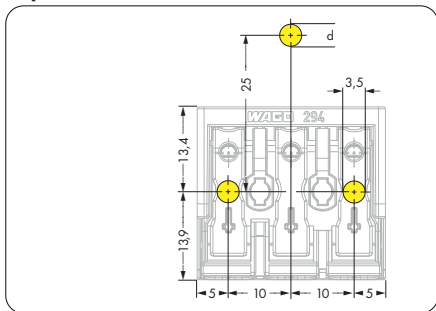
with direct ground contact

### 4-pole



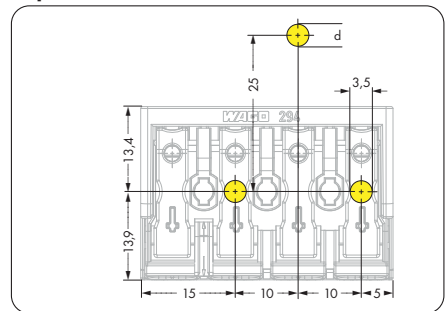
with direct ground contact

### 3-pole



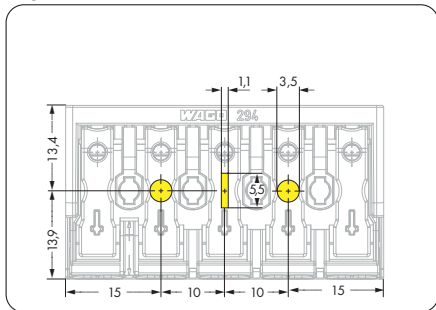
with snap-in ground contact  $d = 4.9$  mm  
with screw-type ground contact  $d \leq 4.1$  mm

### 4-pole



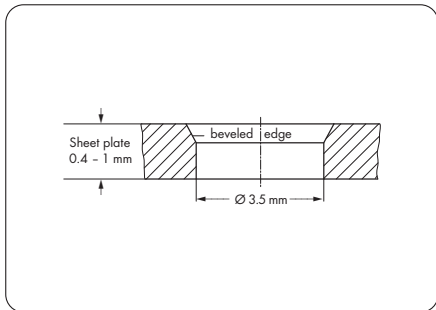
with snap-in ground contact  $d = 4.9$  mm  
with screw-type ground contact  $d \leq 4.1$  mm

### 5-pole

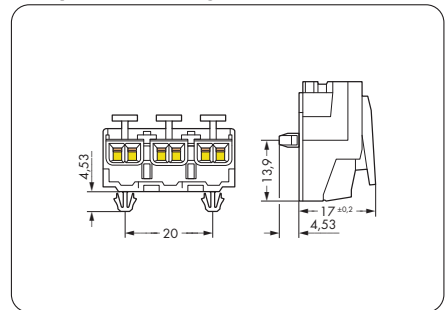


with direct ground contact

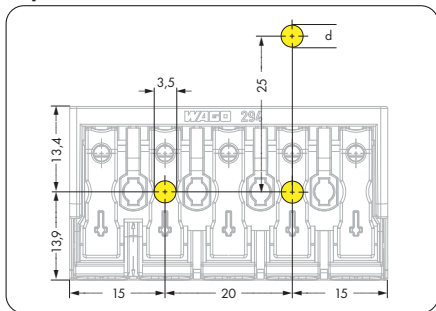
### Drilled hole for snap-in mounting feet



### Snap-in mounting foot



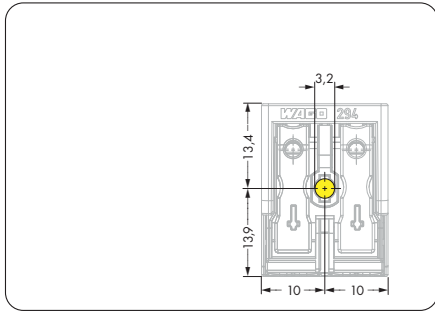
### 5-pole



with snap-in ground contact  $d = 4.9$  mm  
with screw-type ground contact  $d \leq 4.1$  mm

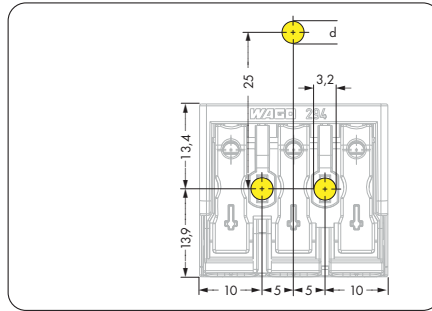
# Drilled Hole Drawings for Attachment Using Screws 294 Series

## 2-pole



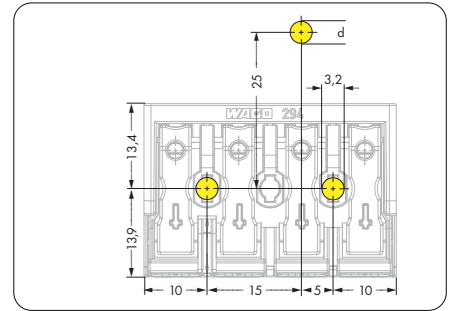
without ground contact

## 3-pole



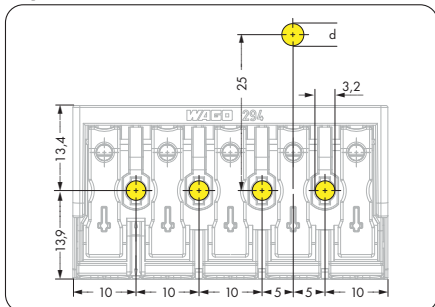
with snap-in ground contact  $d = 4.9$  mm  
with screw-type ground contact  $d \leq 4.1$  mm

## 4-pole



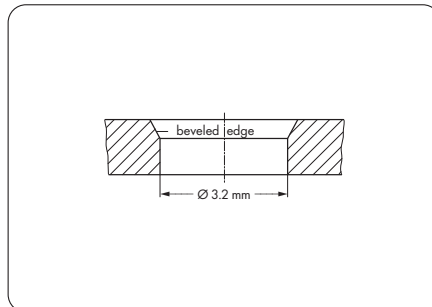
with snap-in ground contact  $d = 4.9$  mm  
with screw-type ground contact  $d \leq 4.1$  mm

## 5-pole



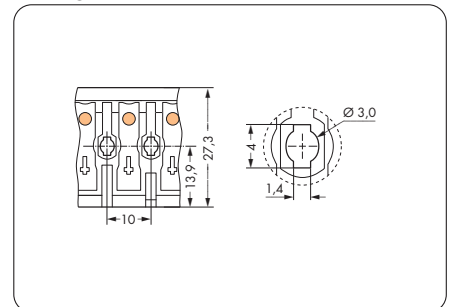
with snap-in ground contact  $d = 4.9$  mm  
with screw-type ground contact  $d \leq 4.1$  mm

## Drilled hole for screw



**Attention!**  
Maximum thread diameter for self-tapping screws: 3 mm.

## Fixing hole for screw



**Attention!**  
Maximum thread diameter for self-tapping screws: 3 mm.

# Connection System with Phase Selection for Fluorescent Lighting Fixtures

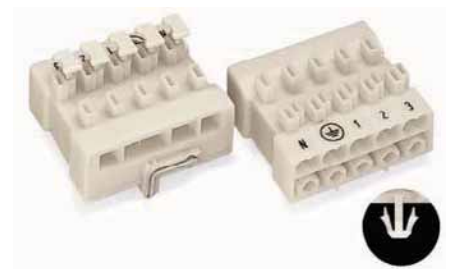
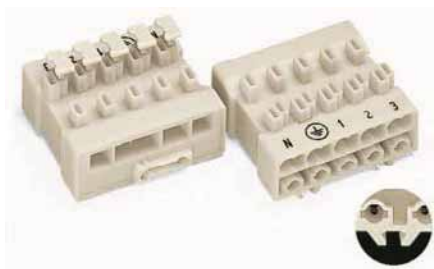
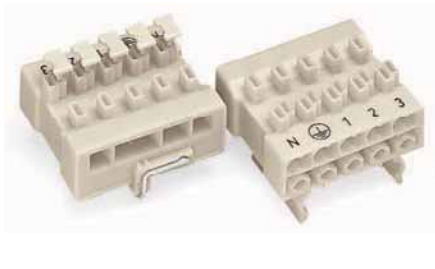
## Power Supply Connectors

### 293 Series

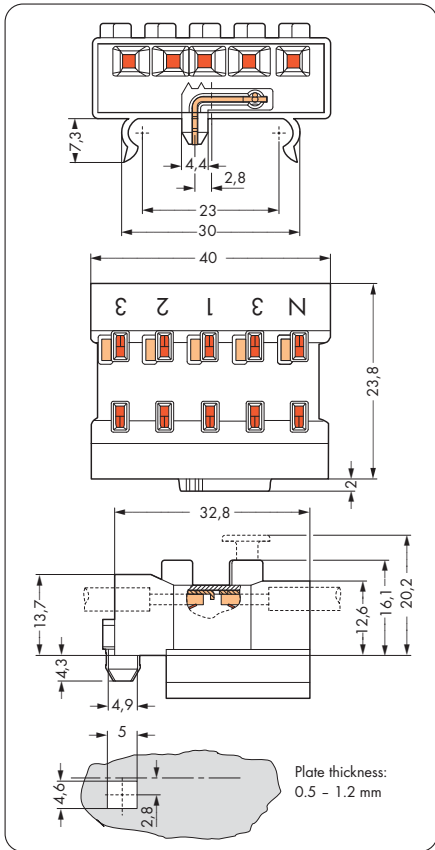
0.5 - 2.5 mm<sup>2</sup> "s" ① AWG 20 - 14 "s"  
 0.5 - 0.75 mm<sup>2</sup> "s" ① AWG 20 - 18 "s"  
 2.5 mm<sup>2</sup> "s" ② AWG 12 "s"  
 500 V/4 kV/2 ③  
 I<sub>N</sub> 20 A  
 8 - 9 mm / 0.33 in ④

0.5 - 2.5 mm<sup>2</sup> "s" ① AWG 20 - 14 "s"  
 0.5 - 0.75 mm<sup>2</sup> "s" ① AWG 20 - 18 "s"  
 2.5 mm<sup>2</sup> "s" ② AWG 12 "s"  
 500 V/4 kV/2 ③  
 I<sub>N</sub> 20 A  
 8 - 9 mm / 0.33 in ④

0.5 - 2.5 mm<sup>2</sup> "s" ① AWG 20 - 14 "s"  
 0.5 - 0.75 mm<sup>2</sup> "s" ① AWG 20 - 18 "s"  
 2.5 mm<sup>2</sup> "s" ② AWG 12 "s"  
 500 V/4 kV/2 ③  
 I<sub>N</sub> 20 A  
 8 - 9 mm / 0.33 in ④

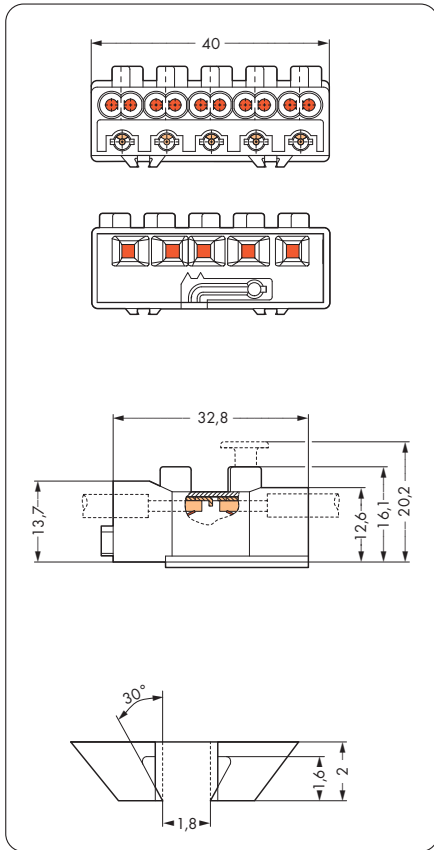


Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
Terminal block for field connection with snap-in foot and direct ground contact, white, with push-buttons on the field side			Terminal block for field connection with dovetail and without direct ground contact, white, with push-buttons on the field side			Terminal block for field connection with snap-in mounting feet and direct ground contact, white, with push-buttons on the field side		
○ 5	293-325	250	○ 5	293-220	250	○ 5	293-222	250
without push-button			without push-button			without push-button		
○ 5	293-225	250	○ 5	293-219	250	○ 5	293-221	250

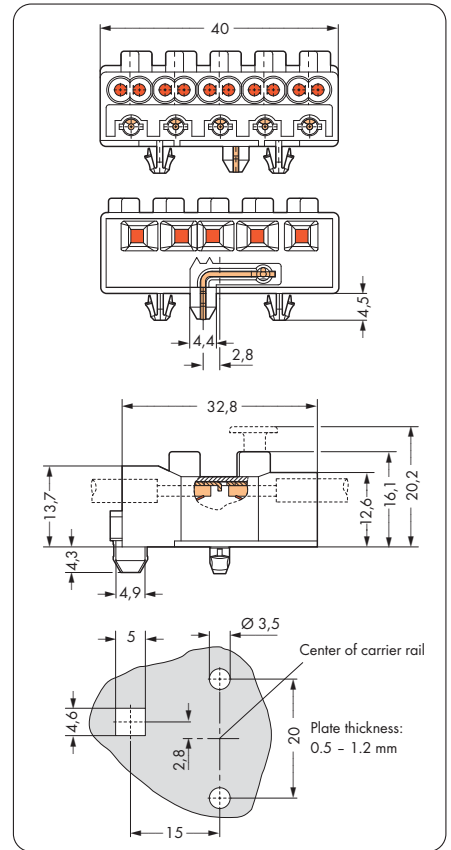


Dimensions in mm

Metal plate cutout for direct ground contact must be free of varnish and oxide films.  
 Equipped with varnished metal plates upon request.



Dimensions in mm



Dimensions in mm

Metal plate cutout for direct ground contact must be free of varnish and oxide films.  
 Equipped with varnished metal plates upon request.

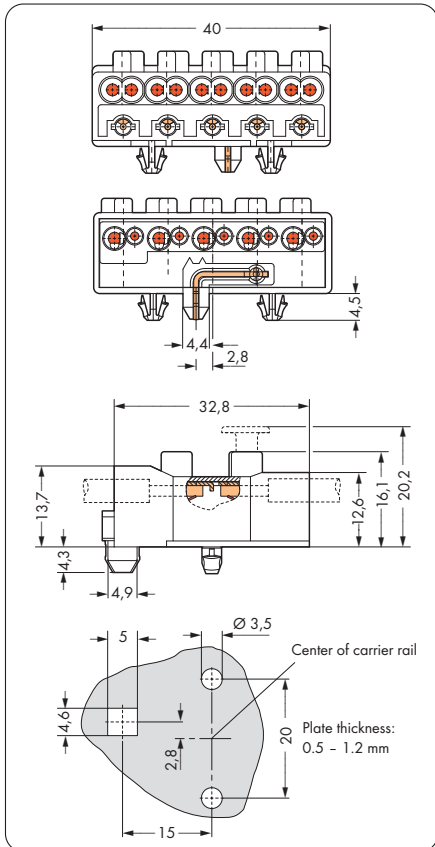
0.5 - 2.5 mm<sup>2</sup> "s" ① AWG 20 - 14 "s"  
 0.5 - 0.75 mm<sup>2</sup> "s" ① AWG 20 - 18 "s"  
 2.5 mm<sup>2</sup> "s" ② AWG 12 "s"  
 500 V/4 kV/2 ③  
 I<sub>N</sub> 20 A  
 8 - 9 mm / 0.33 in ④



Power supply connector with custom foot, with and without direct ground contact, white, with and without push-buttons on the power supply side

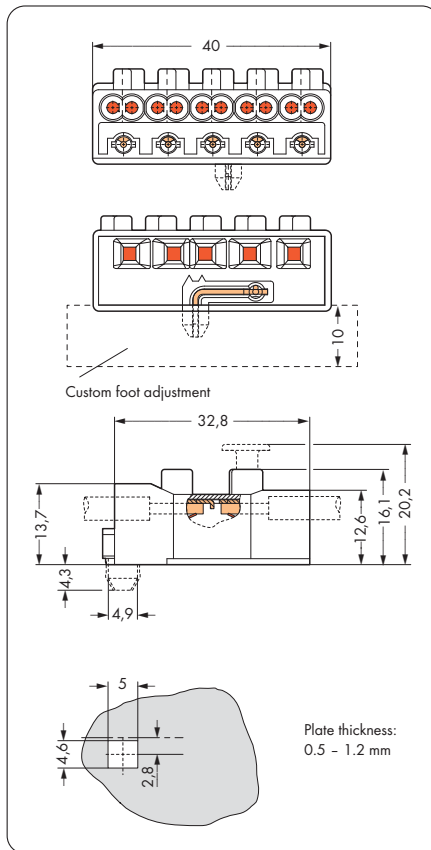
- ① Power supply side
- ② Lighting side
- ③ 500 V = rated voltage  
4 kV = rated surge voltage  
2 = pollution degree  
(also see Section 14)
- ④ Strip length, see packaging or instructions.

Pole No.	Item No.	Pack. Unit
<b>Terminal block for field connection (round conductor entry) with snap-in mounting feet and direct ground contact,</b>		
white,		
with push-buttons on the field side		
○ 5	293-230	250
without push-button		
○ 5	293-228	250



Dimensions in mm

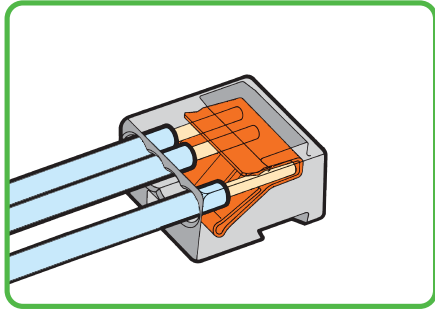
Metal plate cutout for direct ground contact must be free of varnish and oxide films. Equipped with varnished metal plates upon request.



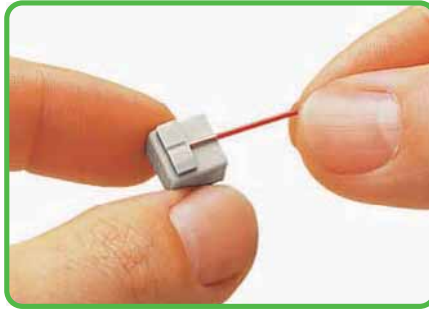
Dimensions in mm

Metal plate cutout for direct ground contact must be free of varnish and oxide films. Equipped with varnished metal plates upon request.

# MICRO PUSH WIRE® Connectors for Junction Boxes, 243 Series – Description and Handling –



Strip length



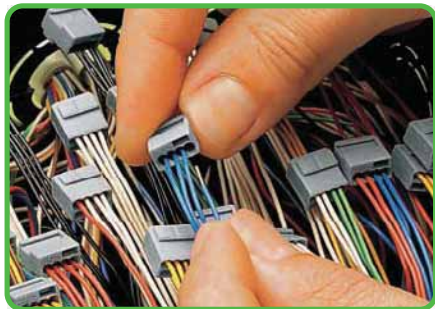
Strip solid conductor to 5 - 6 mm / 0.22 in.

Connector strips



Assembly of modular connectors to connector strips.

## PUSH WIRE® connection



Termination: Insert stripped conductor fully.

## PUSH WIRE® connection



Removal: Hold conductor to be removed and twist alternately left and right while pulling the connector.



## Testing



Testing

## Commoning



Commoned connector strips

## Packing units



Box for use on site (example)  
Contents of 243 Series: 50 pcs 8-conductor  
100 pcs 4-conductor



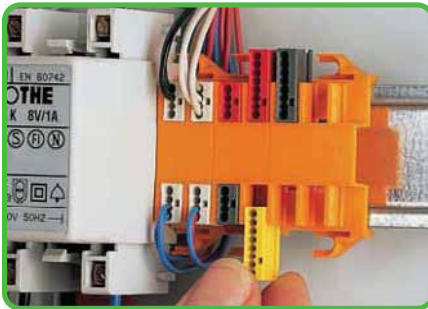
**PUSH WIRE®** clamps the following copper conductors:\*

solid

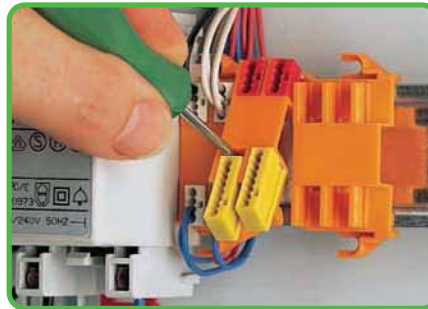
\* Use contact paste "Alu-Plus" when connecting aluminum conductors  
Item No. 249-130



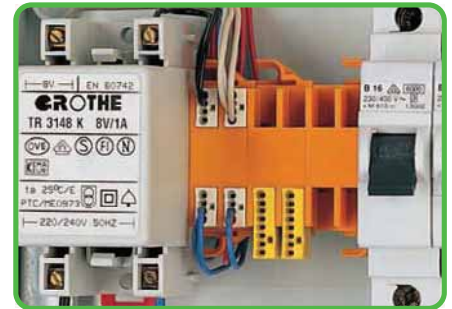
## Mounting Carrier for MICRO PUSH WIRE® Connectors for DIN 35 Rail or Screw Mount, 243 Series



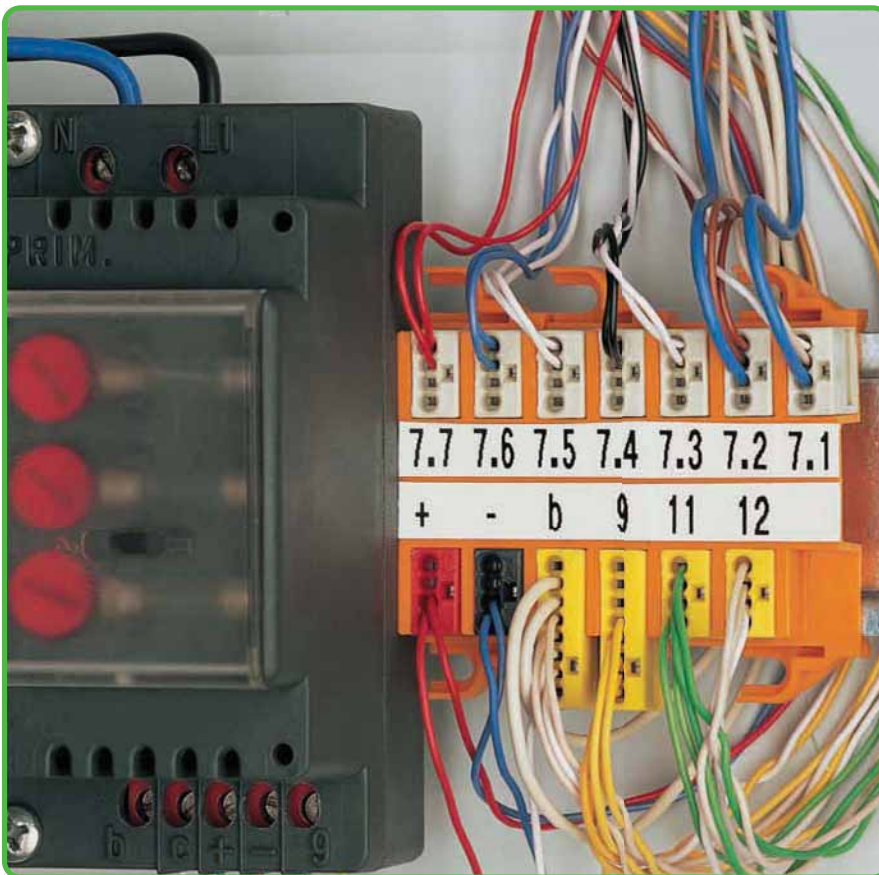
Inserting a MICRO PUSH WIRE® connector for junction boxes into the carrier.



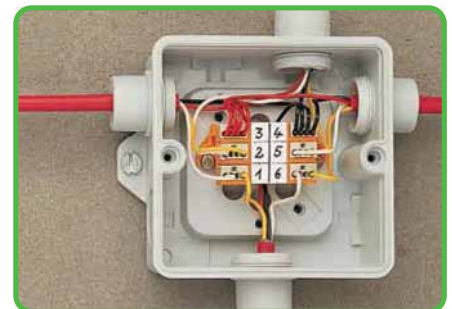
Removing a MICRO PUSH WIRE® connector from the carrier.



Example of residential door bell application - mounted on DIN 35 rail



Example of residential (home) communication application



Typical application in a terminal box for burglar alarm - screw mount



### Quick fix mounting

Realizing MICRO PUSH WIRE® connectors are ideal for DIN-rail mount panel applications, electrical installers have requested the ability to use them in distribution panels. MICRO PUSH WIRE® connectors provide easy connections for smaller conductors used in low-current applications. They are well-suited to terminating telephone-style conductors for connecting alarms, bells, door sensors, communication systems, etc.

The mounting carrier WAGO's Professional Solution. It is available with mounting slots for 4 or 6 connectors.





Depending on the number of conductors, each mounting slot can accommodate a 4- or 8-conductor MICRO connector. The connectors simply snap into the mounting slots and are removable, allowing conductors to be exchanged during changeover.

The carrier is designed for easy mounting directly to the DIN 35 rail, or to a panel, via the screw-mount flanges provided. A large marking surface is provided for clear circuit identification. This may be directly marked with a felt-tip pen, or via pre-printed self-adhesive marker strips.

0.6 - 0.8 mm Ø "s" ① 100 V/1.5 kV/2 ② I <sub>N</sub> 6 A	AWG 22 - 20 "s" 150 V, 7 A <sup>⚡</sup> 150 V, 7 A <sup>Ⓜ</sup>	0.6 - 0.8 mm Ø "s" ① 100 V/1.5 kV/2 ② I <sub>N</sub> 6 A	AWG 22 - 20 "s" 150 V, 7 A <sup>⚡</sup> 150 V, 7 A <sup>Ⓜ</sup>
 5 - 6 mm / 0.22 in ③		 5 - 6 mm / 0.22 in ③	



- ① When using conductors with the same diameter, 0.5 mm/AWG 24 or 1 mm/AWG 18 diameters are also possible.
- ② 100 V = rated voltage  
1.5 kV = rated surge voltage  
2 = pollution degree  
(also see Section 14)
- ③ Strip length, see packaging or instructions.

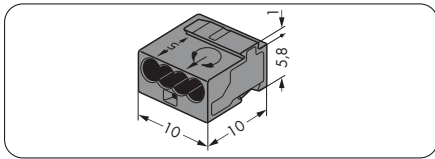
Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit
MICRO PUSH WIRE® connector for junction boxes, 4-conductor connector			MICRO PUSH WIRE® connector for junction boxes, 8-conductor connector		
	243-204	1000 (10x100)		243-208	500 (10x50)
	243-804	1000 (10x100)		243-808	500 (10x50)

The 243 Series of WAGO PUSH WIRE® connectors can be used in both communication and alarm systems according to the VdS (German Association of Property Insurers) guidelines.

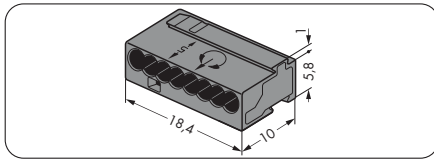
No general approval is given to push-wire connectors by the VdS association. The connectors must be tested together with the different parts of the system.

The requirements for connectors are specified in the VdS guidelines for junction boxes (VdS 2116) in section 8.7: "The junction box connectors must be designed to guarantee a reliable and stable connection".

The verification of the fulfillment of these requirements is documented in the VDE test report No. 2574-1440-4031 for the 243 Series of insulated PUSH WIRE® connectors.







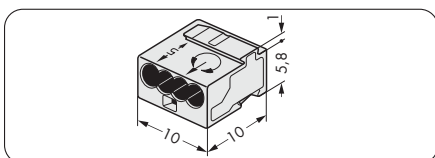
Dimensions in mm



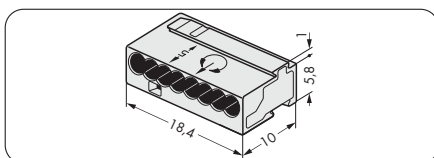
Dimensions in mm



Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit
MICRO PUSH WIRE® connector for junction boxes, 4-conductor connector			MICRO PUSH WIRE® connector for junction boxes, 8-conductor connector		
	243-304	1000 (10x100)		243-308	500 (10x50)
	243-504	1000 (10x100)		243-508	500 (10x50)



Dimensions in mm



Dimensions in mm



# COMPACT PUSH WIRE® Connectors for Junction Boxes and Solid Conductors – Series 2273 Series

PUSH WIRE®

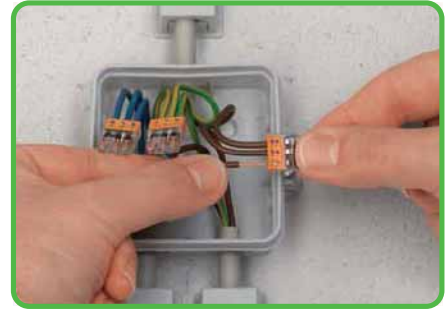


### Stripped length



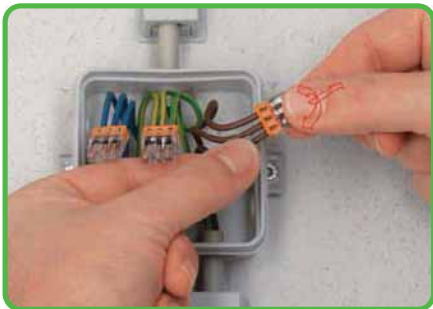
Strip solid conductor to 11 mm / 0.43 in (see marking).

### PUSH WIRE® connection



Termination: Insert stripped conductor until it hits back-stop.

### PUSH WIRE® connection



Removal: Hold conductor to be removed and alternately twist left and right while pulling the connector.

### Mounting carrier



The mounting carrier is suitable for both connector profiles.



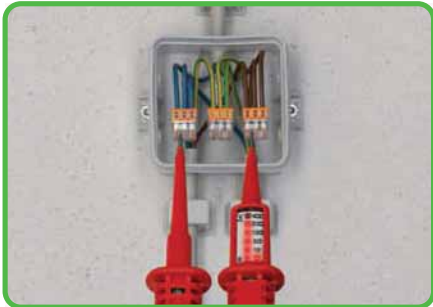
To adjust the mounting carrier, unlock the latch via 5.5mm operating tool and move the clamping slide to the required width by rotating the tool.

### Visual wiring inspection



The transparent housing shows if conductors are fully inserted; within the colored base, a clear port shows if the conductor's strip length is correct. Conductors are correctly stripped if the clear port shows no bare conductor on the unprinted connector side. Picture shows center conductor with exceeded strip length.

### Testing



Testing via test port opposite to conductor entry.

### Mounting carrier



In the mounting carrier, connectors may be commoned in longitudinal direction using 862-482 jumpers. Please note that jumpers cannot be removed.

Convenient wiring via extremely compact design. For conductors ranging from 0.5 to 2.5 mm<sup>2</sup> (AWG 18 - 14). Any combination of conductor sizes is possible. PUSH WIRE® clamps solid conductors ("sol."). Push-in termination of up to 8 solid conductors.

### Packing unit



Wholesale package with 10 boxes for use on site



PUSH WIRE® clamps the following copper conductors:\*

solid

\* Use contact paste "Alu-Plus" when connecting aluminum conductors  
Item No. 249-130

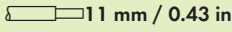
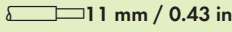
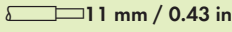
# COMPACT PUSH WIRE® Connectors for Junction Boxes and Mounting Carrier

## 2273 Series

PUSH WIRE®

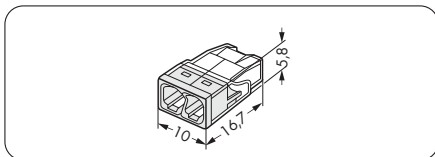
12

507

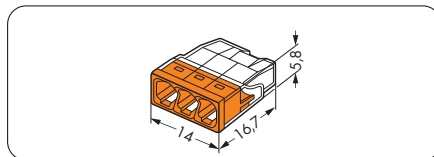
0.5 - 2.5 mm <sup>2</sup> "s" AWG 18 - 14 "s" 450 V/4 kV/2 I <sub>N</sub> 24 A 	0.5 - 2.5 mm <sup>2</sup> "s" AWG 18 - 14 "s" 450 V/4 kV/2 I <sub>N</sub> 24 A 	0.5 - 2.5 mm <sup>2</sup> "s" AWG 18 - 14 "s" 450 V/4 kV/2 I <sub>N</sub> 24 A 
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



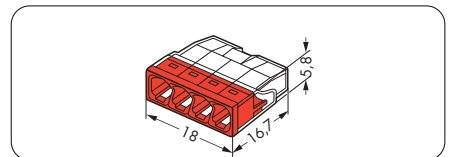
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>COMPACT PUSH WIRE® connector for junction boxes,</b> 2-conductor connector, transparent housing, white cover		<b>COMPACT PUSH WIRE® connector for junction boxes,</b> 3-conductor connector, transparent housing, orange cover		<b>COMPACT PUSH WIRE® connector for junction boxes,</b> 4-conductor connector, transparent housing, red cover	
<b>2273-202</b>	1000 (10x100)	<b>2273-203</b>	1000 (10x100)	<b>2273-204</b>	1000 (10x100)



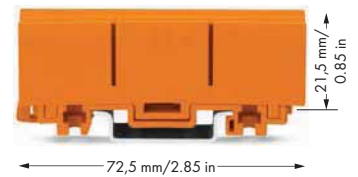
Dimensions in mm




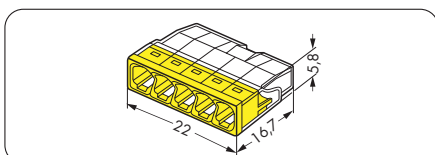
Dimensions in mm



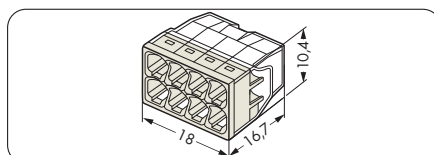
Dimensions in mm



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>COMPACT PUSH WIRE® connector for junction boxes,</b> 5-conductor connector, transparent housing, yellow cover		<b>COMPACT PUSH WIRE® connector for junction boxes,</b> 8-conductor connector, transparent housing, white cover		<b>Mounting carrier,</b> for single- (14 mm) and double-row (18.5 mm) connectors	
<b>2273-205</b>	1000 (10x100)	<b>2273-208</b>	500 (10x50)	 orange	<b>2273-500</b> 50 (5x10)



Dimensions in mm

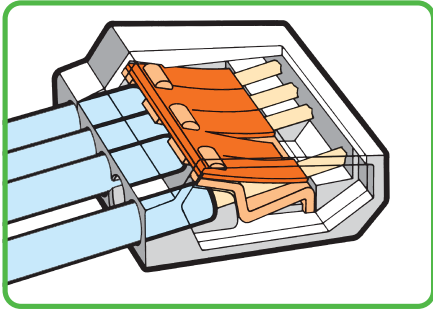


Dimensions in mm

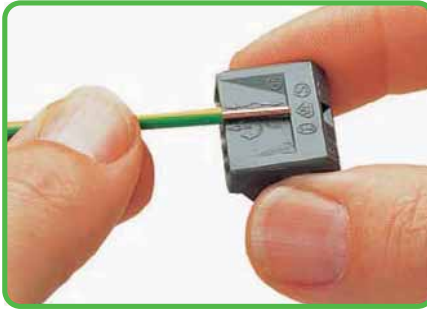
For list of approvals and user guide, see pages 634 to 637.

12

# PUSH WIRE® Connectors for Junction Boxes, 273 Series - Description and Handling -



Strip length



Strip solid conductor to 10 - 13 mm / 0.45 in.

PUSH WIRE® connection



Termination: Insert stripped solid conductor fully.

PUSH WIRE® connection

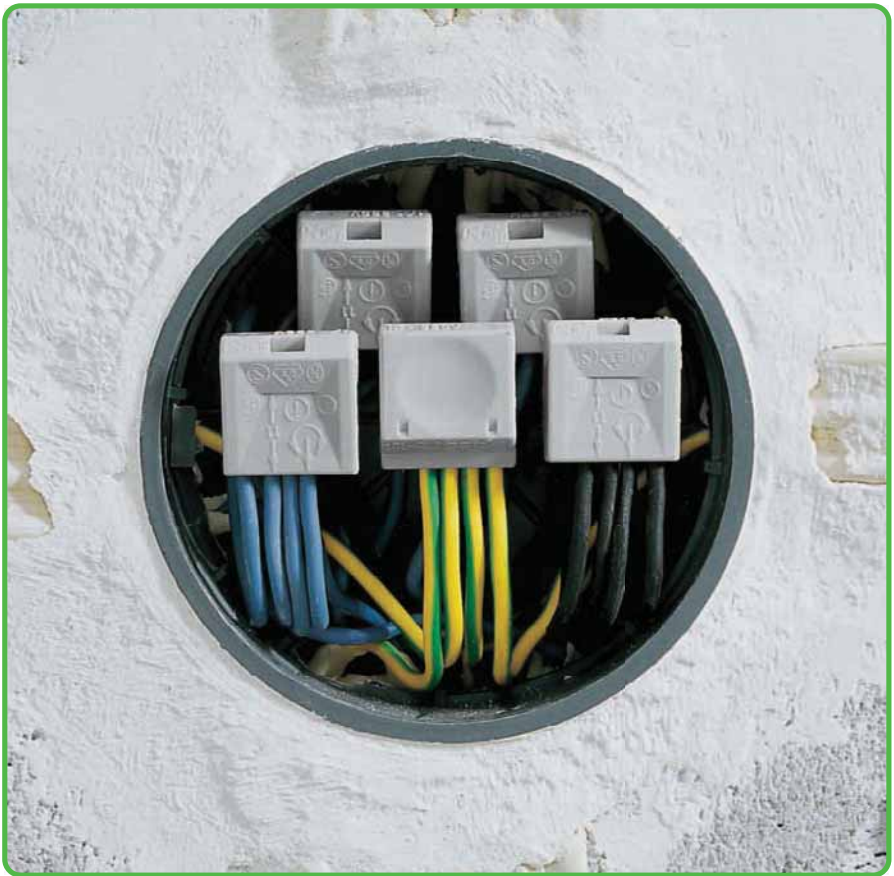


Removal: Hold conductor to be removed and twist alternately left and right while pulling the connector.

Testing



Testing



Applications



PUSH WIRE® connectors used in a cable duct with double power outlet



Packing unit



Wholesale package with 10 boxes for use on site



PUSH WIRE® clamps the following copper conductors:\*

solid

\* Use contact paste "Alu-Plus" when connecting aluminum conductors  
Item No. 249-130

# Mounting Carrier for PUSH WIRE® Connectors for DIN 35 Rail or Screw Mount 273 Series



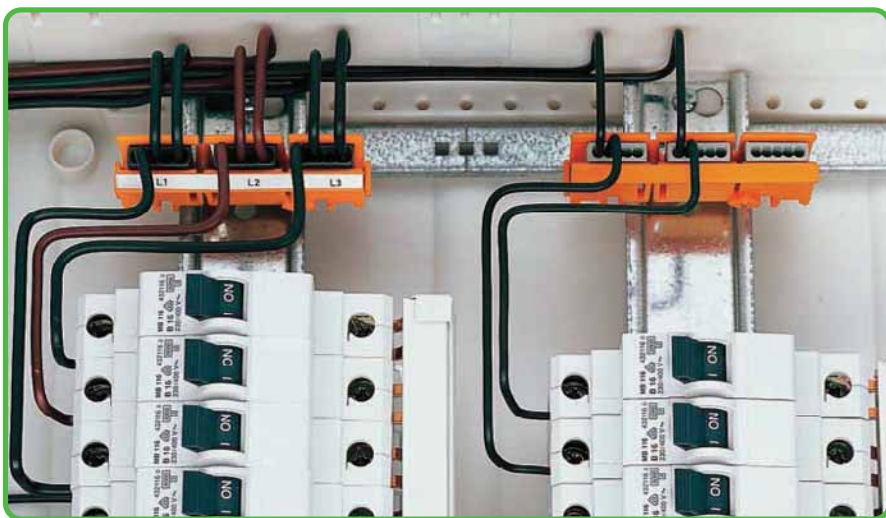
Snap off cover.



Cover use as end plate.



Snapping on to carrier rail.



Removing from the carrier rail.

## PUSH WIRE® connectors in distribution boxes

During junction box changes or expansions, conductors often require extensions or additional clamping points. Individual PUSH WIRE® connectors (e.g., 222, 243, 273 and 773 Series) are approved as interconnect components for building wiring according to EN 60998. Application standards for building installation (e.g., parts 510 and 520 from DIN VDE 0100) also place the following requirements on connectors for junction boxes:

- They must be arranged so that operation, inspection, maintenance and access to the removable connectors is made easy.
- It must be possible to test them.
- Conductors connected from outside must be clearly and permanently assigned to their associated circuits.

These requirements cannot be met with PUSH WIRE® connectors alone. In combination with WAGO mounting carriers, the PUSH WIRE® connectors clearly meet these requirements, making them comparable to terminal blocks. Using PUSH WIRE® connectors with mounting carriers in junction boxes is accepted by testing authorities.






FIXED IN POSITION - on a DIN 35 rail






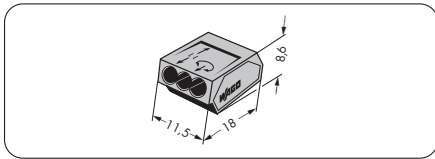
FIXED IN POSITION - screw fixing

# PUSH WIRE® Connectors for Junction Boxes 273 Series

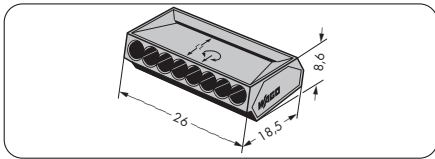
0.75 - 1.5 mm <sup>2</sup> "s" ① AWG 18 - 16 "s" 400 V/4 kV/2 ③ 600 V, 20 A <sup>Ⓜ</sup> I <sub>N</sub> 18 A 600 V, 10 A <sup>Ⓜ</sup>	0.75 - 1.5 mm <sup>2</sup> "s" ① AWG 18 - 16 "s" 400 V/4 kV/2 ③ 600 V, 20 A <sup>Ⓜ</sup> I <sub>N</sub> 18 A 600 V, 10 A <sup>Ⓜ</sup>	1 - 2.5 mm <sup>2</sup> "s" ② AWG 14 - 12 "s" 400 V/4 kV/2 ③ 600 V, 20 A <sup>Ⓜ</sup> I <sub>N</sub> 24 A 600 V, 20 A <sup>Ⓜ</sup>
 10 - 13 mm / 0.45 in ④	 10 - 13 mm / 0.45 in ④	 10 - 13 mm / 0.45 in ④



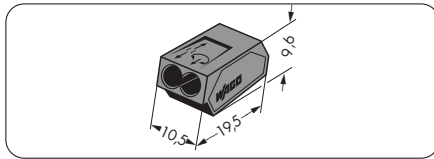
Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit
<b>PUSH WIRE® connector for junction boxes, 3-conductor connector</b>			<b>PUSH WIRE® connector for junction boxes, 8-conductor connector</b>			<b>PUSH WIRE® connector for junction boxes, 2-conductor connector</b>		
	273-100	1000		273-108	500		273-112	1000
transparent	273-153	1000	transparent	273-158	500	transparent	273-252	1000



Dimensions in mm





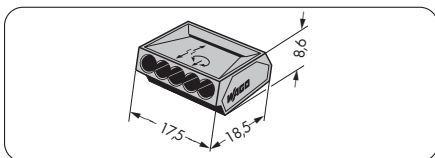
Dimensions in mm



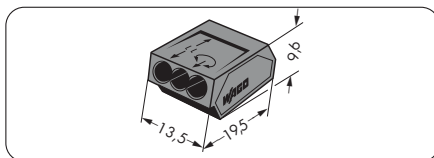
Dimensions in mm



Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit
<b>PUSH WIRE® connector for junction boxes, 5-conductor connector</b>			<b>PUSH WIRE® connector for junction boxes, 3-conductor connector</b>		
	273-101	1000		273-104	1000
transparent	273-155	1000	transparent	273-253	1000





Dimensions in mm




Dimensions in mm

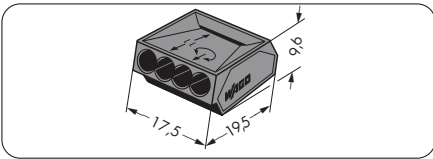


<b>1 - 2.5 mm<sup>2</sup> "s"</b> ② <b>400 V/4 kV/2</b> ③ <b>I<sub>N</sub> 24 A</b>	<b>AWG 14 - 12 "s"</b> <b>600 V, 20 A</b> Ⓜ <b>600 V, 20 A</b> Ⓟ	<b>1.5 - 4 mm<sup>2</sup> "s"</b> <b>400 V/4 kV/2</b> ③ <b>I<sub>N</sub> 32 A</b>	<b>AWG 14 - 10 "s"</b> <b>600 V, 20 A</b> Ⓜ <b>600 V, 30 A</b> Ⓟ
 <b>10 - 13 mm / 0.45 in</b> ④		 <b>12 - 15 mm / 0.53 in</b> ④	

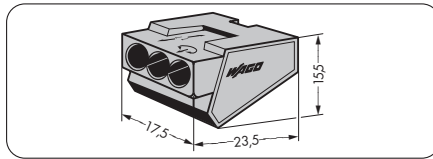


- ① When using conductors with the same diameter, 0.5 mm/AWG 20 cross section is also possible.
- ② When using conductors with the same diameter, 0.75 mm<sup>2</sup>/AWG 18 cross section is also possible.
- ③ in grounded power lines  
 400 V = rated voltage  
 4 kV = rated surge voltage  
 2 = pollution degree  
 (also see Section 14)
- ④ Strip length, see packaging or instructions.


Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit	273 Series Accessories
<b>PUSH WIRE® connector for junction boxes, 4-conductor connector</b>			<b>PUSH WIRE® connector for junction boxes, 3-conductor connector</b>			
● dark gray	273-102	1000	● gray	273-403	500	<b>Syringe,</b>  contents: 20 ml "Alu-Plus" contact paste <b>249-130</b> 20 (4x5)
● transparent	273-254	1000	● transparent	273-453	500	



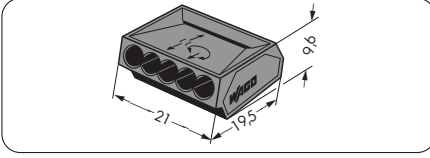
Dimensions in mm



Dimensions in mm

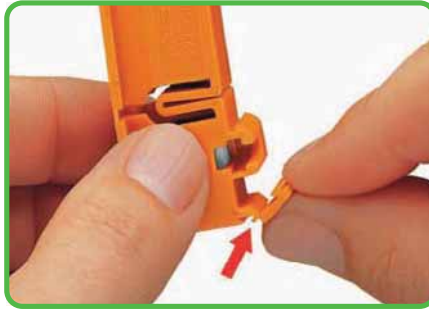
Mounting carrier		
	orange	<b>273-150</b> 50 (5x10)



Color	Item No.	Pack. Unit
<b>PUSH WIRE® connector for junction boxes, 5-conductor connector</b>		
● dark gray	273-105	500
● transparent	273-255	500
		
Dimensions in mm		

# Mounting Carrier for PUSH WIRE® Connectors for DIN 35 Rail or Screw Mount 273 Series

Mounting carrier



Snap off cover.



Cover use as end plate.

Color	Item No.	Pack. Unit
<b>Mounting carrier</b>		
orange	273-150	50 (5x10)

Item-Specific Accessories		
Self-adhesive marking strips, plain, Height of marking strip: 5 mm, 48 self-adhesive strips per card	white	210-334 1



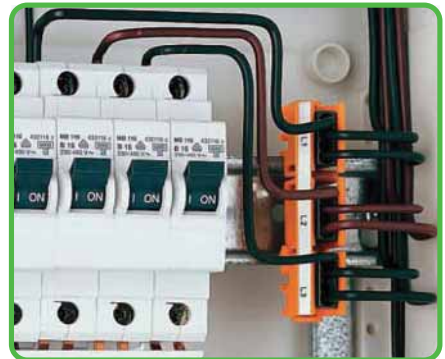
Snapping on to carrier rail.



Removing from the carrier rail.



FIXED IN POSITION - screw fixing



FIXED IN POSITION - on a DIN 35 rail

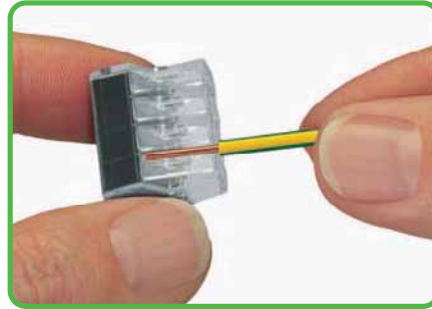
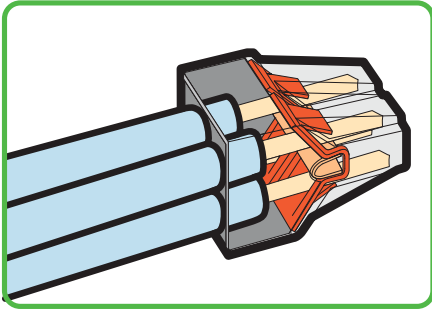
One single carrier can hold up to 15 clamping units in a very narrow space. Previously, this was only possible using rail-mount terminal blocks.

The advantages for you are:

- The carriers are DIN 35 rail- or screw-mounted easily and quickly.
- A carrier can hold up to three 1.5 mm<sup>2</sup> (AWG 16) or 2.5 mm<sup>2</sup> (AWG 12) 273 Series connectors (excluding the 8 x 1.5 mm<sup>2</sup> version).
- The connectors can be easily exchanged.
- Large marking area for self-adhesive marker strips or for direct marking with permanent felt-tip pen.

# PUSH WIRE® Connectors for Junction Boxes, 773 Series - Description and Handling -

### Stripped length



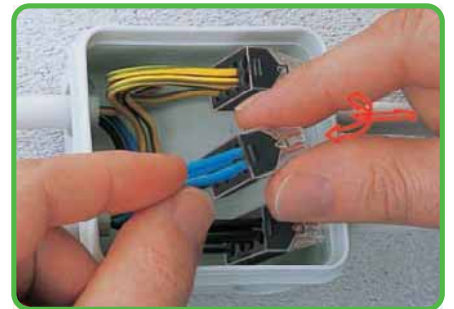
Strip solid conductor to 10 - 13 mm / 0.45 in.

### PUSH WIRE® connection



Termination: Insert stripped, solid conductor fully.

### PUSH WIRE® connection



Removal: Hold conductor to be removed and twist alternately left and right while pulling the connector.



### Testing



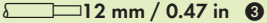
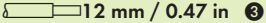
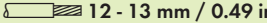
PUSH WIRE® clamps the following copper conductors:\*

solid



stranded


\* Use contact paste "Alu-Plus" when connecting aluminum conductors  
Item No. 249-130

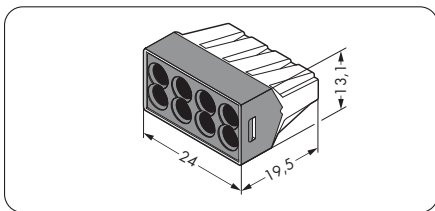
<p>1 - 2.5 mm<sup>2</sup> "s" ❶                  1.5 - 2.5 mm<sup>2</sup> "st"                  400 V/4 kV/2 ❷                  I<sub>N</sub> 24 A  </p>	<p>AWG 18 - 12 "s"                  AWG 16 - 12 "st"                  600 V, 20 A<sup>Ⓜ</sup>                  600 V, 20 A<sup>Ⓢ</sup></p>	<p>0.75 - 2.5 mm<sup>2</sup> "s"                  1.5 - 2.5 mm<sup>2</sup> "st"                  400 V/4 kV/2 ❷                  I<sub>N</sub> 24 A  </p>	<p>AWG 18 - 12 "s"                  AWG 16 - 12 "st"                  600 V, 20 A<sup>Ⓜ</sup>                  600 V, 20 A<sup>Ⓢ</sup></p>	<p>2.5 - 6 mm<sup>2</sup> "s+st"                  400 V/4 kV/2 ❷                  I<sub>N</sub> 41 A  </p>	<p>AWG 14 - 10 "s+st"                  600 V, 20 A<sup>Ⓜ</sup>                  600 V, 30 A<sup>Ⓢ</sup></p>
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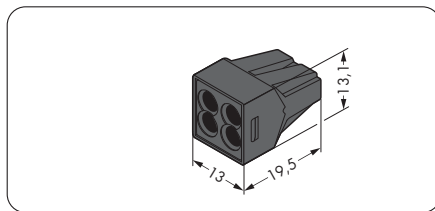
Item No.	Pack. Unit	Color	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>PUSH WIRE® connector for junction boxes,</b> 8-conductor connector, transparent housing, dark gray cover			<b>PUSH WIRE® connector for junction boxes,</b> 4-conductor connector, continuous service temperature 150°C		<b>PUSH WIRE® connector for junction boxes,</b> 3-conductor connector, transparent housing, red cover	
<b>773-108</b>	500 (10x50)	● black	<b>773-514</b>	1000 (10x100)	<b>773-173</b>	500 (10x50)

**773 Series Accessories**

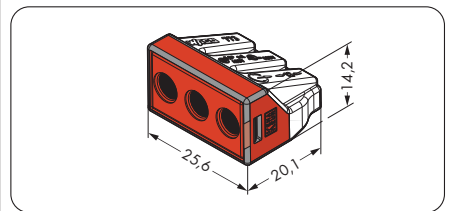
**Syringe,**  
 contents: 20 ml "Alu-Plus" contact paste  
**249-130** 20 (4x5)



Dimensions in mm



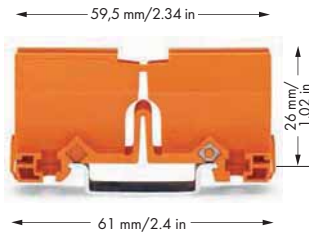
Dimensions in mm



Dimensions in mm

# Mounting Carrier for PUSH WIRE® Connectors for DIN 35 Rail or Screw Mount 773 Series

Mounting carrier



Snapping onto the carrier rail.

- ❶ When using conductors with the same diameter, 0.75 mm<sup>2</sup>/AWG 18 cross section is also possible.
- ❷ in grounded power lines  
400 V = rated voltage  
4 kV = rated surge voltage  
2 = pollution degree  
(also see Section 14)
- ❸ Strip length, see packaging or instructions.

Color	Item No.	Pack. Unit
<b>Mounting carrier for all PUSH WIRE® connectors 773 Series</b>		
orange	773-332	50 (5x10)

### Item-Specific Accessories

<b>Self-adhesive marking strips, plain,</b>		
Height of marking strip: 5 mm, 48 self-adhesive strips per card		
white	210-334	1



Terminating solid and stranded 6 mm<sup>2</sup>/AWG 10 conductors.

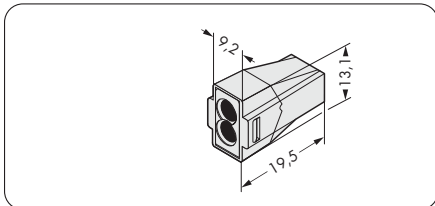
A mounting carrier (see accessories) suits applications where the connectors must be marked and fixed in position. The carrier fits up to two connectors on DIN 35 carrier rails or screw mounting on level surfaces.

Using this PUSH WIRE® connector, a large range of wiring applications can be achieved in distribution or junction boxes, for example. To mention just a few: potential multiplication of an 6 mm<sup>2</sup>/AWG 10 conductor in a junction box, changing from or to 6 mm<sup>2</sup>/AWG 10 conductor size.

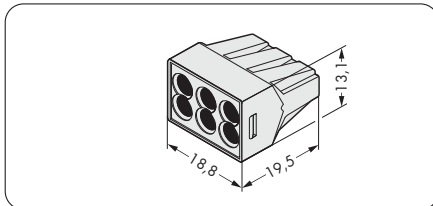
0.75 - 2.5 mm <sup>2</sup> "s" AWG 18 - 14 "s" 550 V ① I <sub>N</sub> 24 A 12 mm / 0.47 in ②	0.75 - 2.5 mm <sup>2</sup> "s" AWG 18 - 14 "s" 550 V ① I <sub>N</sub> 24 A 12 mm / 0.47 in ②	2.5 - 6 mm <sup>2</sup> "s" AWG 14 - 10 "s" 550 V ① I <sub>N</sub> 42 A 12 - 15 mm / 0.53 in ②
----------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------



Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit
PUSH WIRE® connector for junction boxes, 2-conductor connector			PUSH WIRE® connector for junction boxes, 6-conductor connector			PUSH WIRE® connector for junction boxes, 3-conductor connector		
○ light gray ②	773-492 ③	1000 (10x100)	○ light gray ②	773-496 ③	500 (10x50)	○ light gray ②	773-493 ③	500 (10x50)



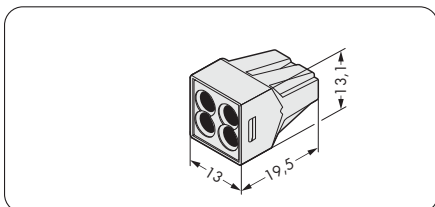
Dimensions in mm



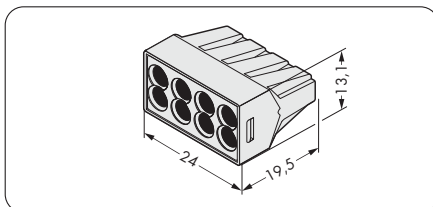
Dimensions in mm



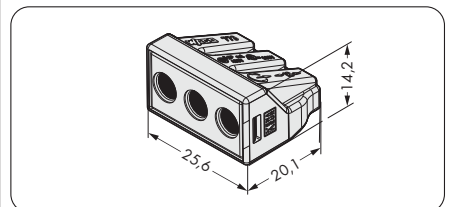
Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit
PUSH WIRE® connector for junction boxes, 4-conductor connector			PUSH WIRE® connector for junction boxes, 8-conductor connector		
○ light gray ②	773-494 ③	1000 (10x100)	○ light gray ②	773-498 ③	500 (10x50)



Dimensions in mm



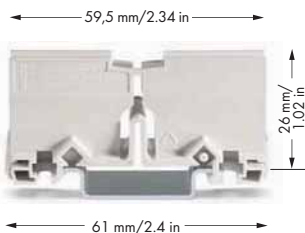
Dimensions in mm



Dimensions in mm

# Mounting Carrier for PUSH WIRE® Connectors for DIN 35 Rail or Screw Mount 773 Series


Mounting carrier



Wiring example in an Ex e housing

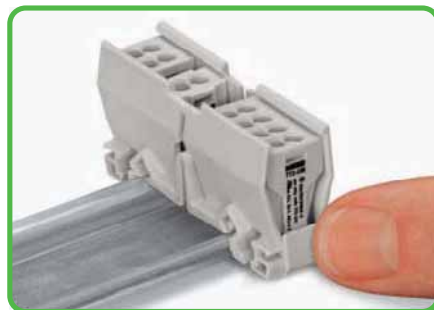
- 1 275 V at a distance < 10 mm to parts of other potentials
- 2 Strip length, see packaging or instructions.
- 3 To be used only in conjunction with 773-331 mounting carrier.

Color	Item No.	Pack. Unit
<b>Mounting carrier</b>		
○ light gray ☺	<b>773-331</b>	50 (5x10)

Item-Specific Accessories		
Self-adhesive marking strips, plain,		
	Height of marking strip: 5 mm, 48 self-adhesive strips per card	
	white	<b>210-334</b> 1



Insert the connectors into the carrier.



Snap in the end plate.



Snapping onto the carrier rail.



Removing from the carrier rail.

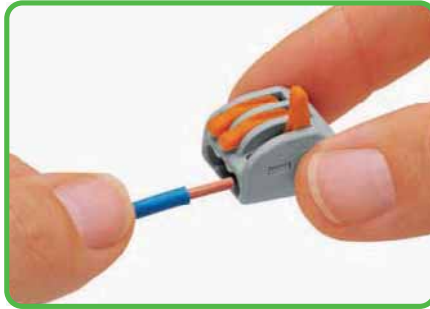
WAGO Ex PUSH WIRE® connectors are ideal for distribution and junction boxes, as well as control and operating systems. When used in hazardous areas, they offer the following advantages over traditional connectors:

- Time- and cost-saving PUSH WIRE® connection
- Vibration-proof, maintenance-free connections
- 100% touch-proof

- Connectors can be fixed in position using appropriate mounting carriers
- One single carrier equipped with 2-, 4-, 6- and 8-conductor connectors holds up to 16 clamping units according to user requirements, offering material and cost-saving advantages.



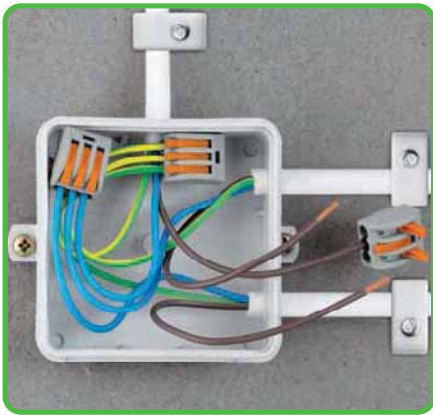
Strip conductor to 9 - 10 mm / 0.37 in.



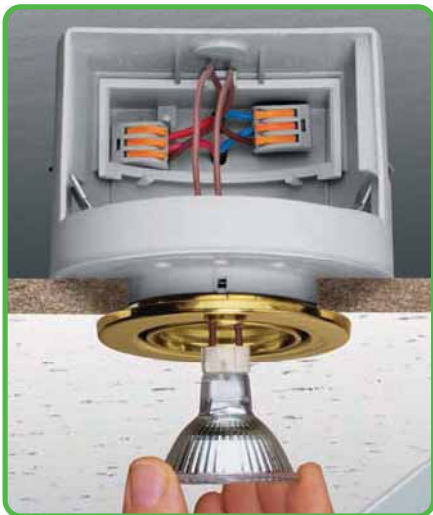
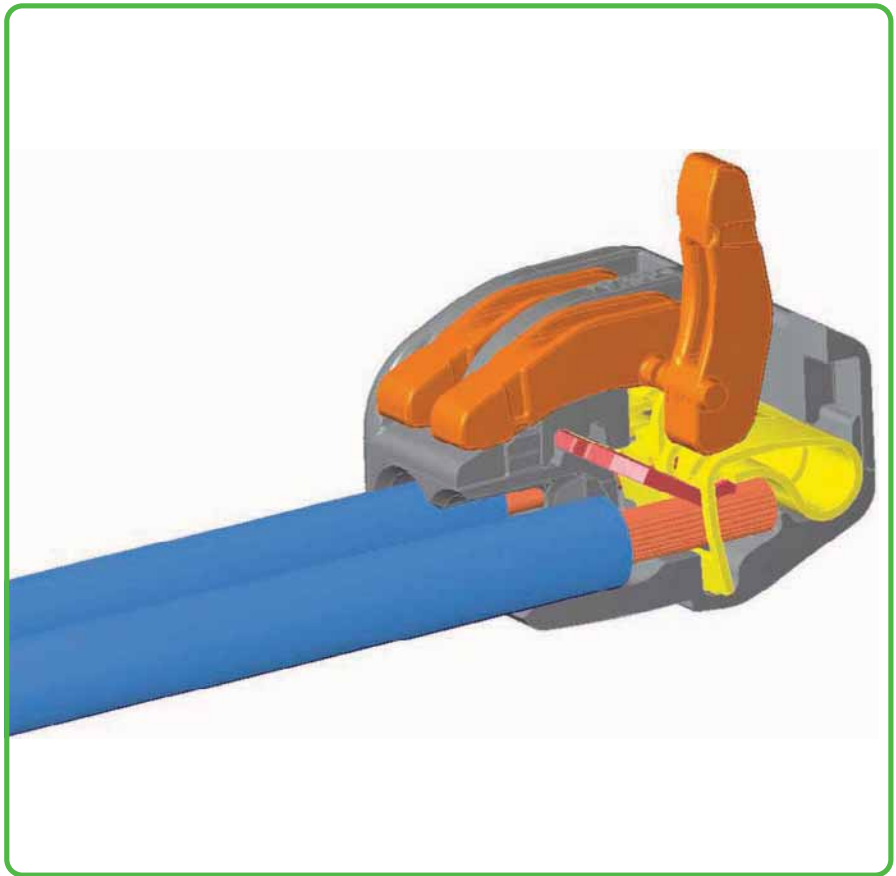
Conductor termination: Open clamping unit using the lever and insert conductor.



Then lower lever to close the clamp.



Wiring fine-stranded conductors in a junction box.



Individual design of low-voltage lighting systems.



Connecting pre-wired and pre-fabricated components; e.g., modular assemblies used in mobile homes.



Lighting fixture connected with flexible power feed.

**CAGE CLAMP® clamps the following copper conductors:\***

- solid
- stranded

\* For aluminum conductors, see notes in Section 14.

① When using ferrules, the max. conductor cross section accommodated is one size smaller than max. rating of terminal block.

fine-stranded, also with tinned single strands

fine-stranded, tip-bonded

fine-stranded, with ferrule ① (gastight crimped)

fine-stranded, with pin terminal (gastight crimped)



# Compact Splicing Connectors for Flexible Conductors 222 Series

CAGE CLAMP®

12

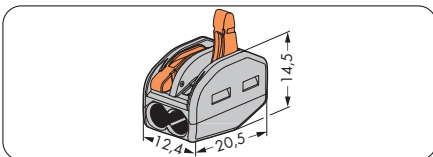
519

0.08-2.5 mm <sup>2</sup> "s+f-st" 0.08-4 mm <sup>2</sup> "f-st" 400 V/4 kV/2 ① I <sub>N</sub> 32 A 9 - 10 mm / 0.37 in ②	AWG28-14 "s+f-st" AWG28-12 "f-st" 600 V, 20 A.Ⓜ-	0.08-2.5 mm <sup>2</sup> "s+f-st" 0.08-4 mm <sup>2</sup> "f-st" 400 V/4 kV/2 ① I <sub>N</sub> 32 A 9 - 10 mm / 0.37 in ②	AWG28-14 "s+f-st" AWG28-12 "f-st" 600 V, 20 A.Ⓜ-
--------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------

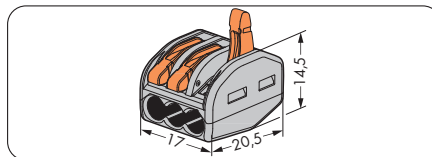


- ① in grounded power lines  
400 V = rated voltage  
4 kV = rated surge voltage  
2 = pollution degree  
(also see Section 14)
- ② Strip length, see packaging or instructions.

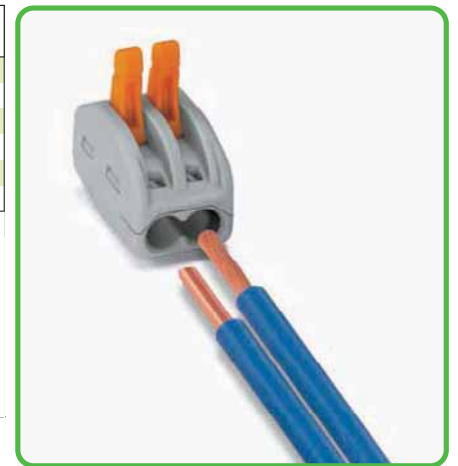
Color	Item No.	Pack. Unit	Color	Item No.	Pack. Unit
<b>Compact splicing connector,</b> 2-conductor connector, with levers, max. continuous service temperature 85 °C ● gray			<b>Compact splicing connector,</b> 3-conductor connector, with levers, max. continuous service temperature 85 °C ● gray		
	222-412	500 (10x50)		222-413	500 (10x50)



Dimensions in mm



Dimensions in mm



### Compact splicing connectors

Tool-free connection of up to 5 stripped fine-stranded conductors from 0.08 to 4 mm<sup>2</sup>/AWG 28 - 12, solid or stranded conductors up to 2.5 mm<sup>2</sup>/AWG 14.

### This is how it works:

Open the clamping unit using the integrated orange lever actuator so that the lever engages and keeps the clamp in its opened position. The conductor can now be inserted, then the lever can be returned to its rest position, flush with the connector housing.

### The safety:

The specially designed rest position of the lever reliably prevents accidental unclamping of a connected conductor. Application safety, for any type of conductor (solid, stranded, fine-stranded), is confirmed by approvals like ENEC and UL.

ENEC is the European mark for electrical products that demonstrates compliance with European safety standards. The ENEC mark is subjected to the same EN standards as the VDE mark.

While the VDE mark is only permitted in Germany, the ENEC mark is accepted in more than 20 European countries.



Color	Item No.	Pack. Unit
<b>Compact splicing connector,</b> 5-conductor connector, with levers, max. continuous service temperature 85 °C ● gray		
	222-415	400 (10x40)
Dimensions in mm		

For list of approvals and user guide, see pages 634 to 637.

12

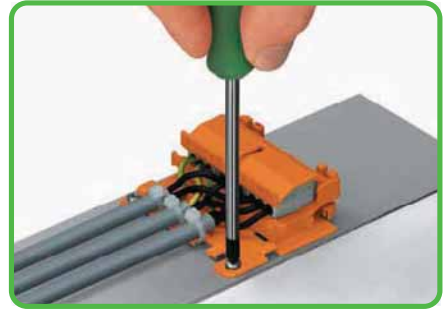
## Types of Assembly Mounting Carrier 222 Series



Horizontal mounting on DIN 35 rail using angled DIN-rail adapter.



Horizontal mounting with strain relief plate on DIN 35 rail using angled DIN-rail adapter.



Horizontal mounting with strain relief plate on level surfaces.



Vertical mounting with strain relief plate on DIN 35 rail. Marking clamping units via marker strips.



Strain relief by cable tie on the carrier, transverse to the connector's wiring direction. Molded marking clamping units.



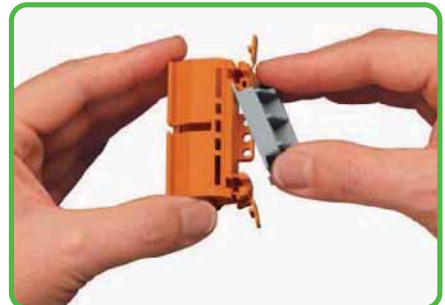
Mounting carrier with strain relief plate mounted vertically on a plate. Round cable fixed via strain relief lug.



Snapping of lateral connector safety lock.



Mounting of strain relief plate to the mounting carrier.



Snapping the angled DIN-rail adapter on the mounting carrier.



Testing connectors via test slots on top of the carrier.



# ACCESSORIES



# 13



**Shield Connecting System**  
Shield Clamping Saddles  
Shield Clamps  
Busbar Carriers

790 Series  
791 Series  
790 Series

526 – 527  
528  
529 – 531

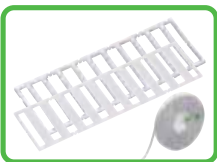


**ProServe**  
Designing, Assembling and Marking

532 – 537

**Printers and Accessories**  
**Plotters and Accessories**

538 – 541  
542 – 545



**Marking Systems**  
WAGO Multi Marking System, WMB Cards  
WAGO Miniature Quick Marking System,  
Miniature WSB Cards  
Marker Strips

548 – 555  
556  
557



**End Stops for DIN 35 Rail**  
**End Stops for DIN 15 Rail**  
**Group Marker Carriers**  
**Marker Cards with Self-Adhesive Marker Strips**

558  
575  
559 – 562  
564 – 565

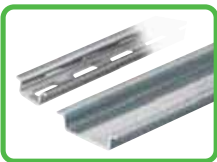


**Switchgear Cabinet Socket**  
**Switchgear Cabinet Drawer**

563  
563

**Wire Marking**

568 – 569



**Carrier Rails**  
**Collective Carriers for Jumpers**  
**Covers for Rail-Mounted Terminal Blocks**

570 – 575  
575  
573 – 574



**Operating Tools**

576 – 577



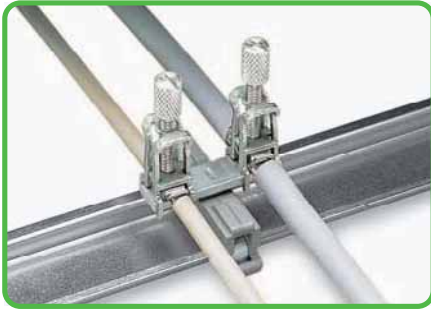
**Crimping Tools for Ferrules**  
**Stripping Tools**  
**Test and Measurement Tools**  
**Testboy**  
**Wire Cutter**

580 – 585  
579  
586 – 587  
587  
585

# Shield Connecting System, 790 Series - Description and Handling -



Carrier with grounding foot\*  
45 mm/1.772 in long, busbar 90° to the rail  
Item No. 790-113



Carrier with grounding foot\*  
45 mm/1.772 in long, busbar parallel to the rail  
Item No. 790-114



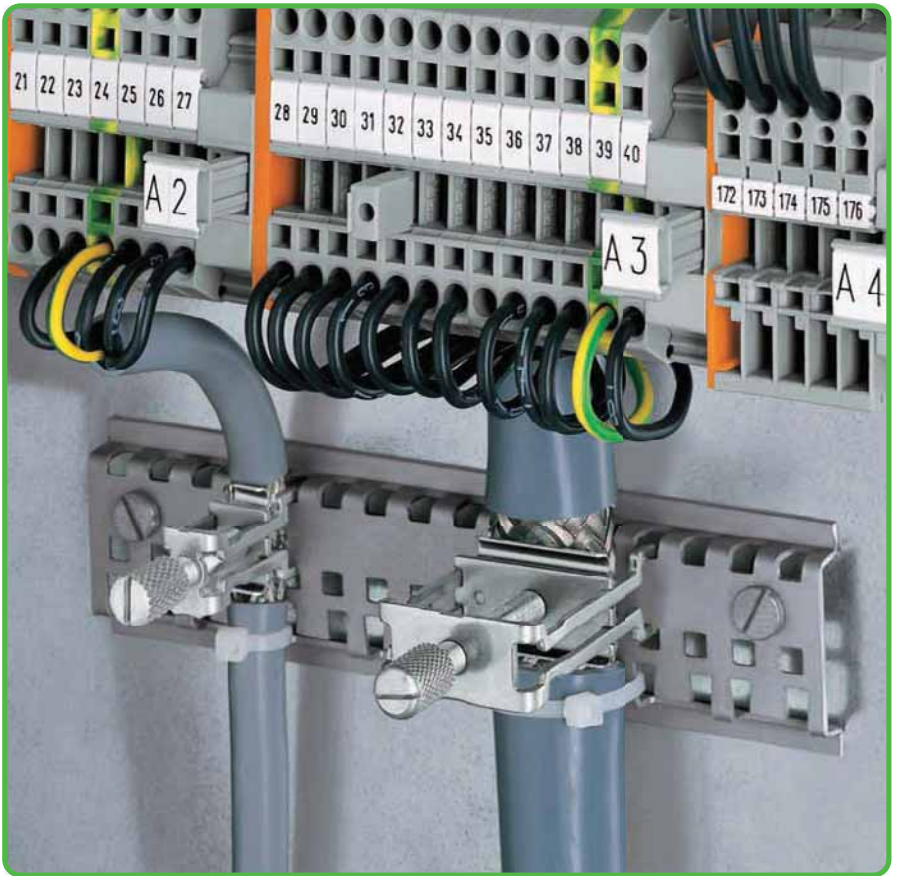
Carrier with 2 grounding feet\*  
125 mm/4.921 in long, busbar parallel to the rail  
Item No. 790-115  
\* for all sizes of shield clamping saddles



Fitting spacer sleeve to a specially slotted carrier rail.



Fitting an additional clamping saddle.



Tightening/Removing a 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.



Carrier with grounding foot, busbar parallel to the rail.



Insulated mounting carriers for a common shield reference potential, independent of the housing potential.

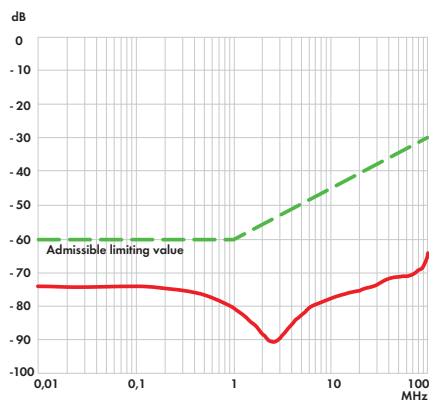


U-shaped copper busbar 10 mm (0.394 in) x 3 mm (0.118 in).



Snap into any metal plate up to max. thickness 3 mm/0.118 in.

## Negative shield attenuation



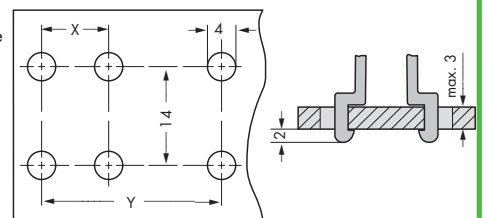
## Hole dimensions for panel mounting

The WAGO shield connecting 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 deformation and settling that results from a connected shield.

Shield clamping saddle diameter of compatible conductor up to 8 mm	Shield clamping saddle diameter of compatible conductor 7 to 16 mm	Shield clamping saddle diameter of compatible conductor 6 to 24 mm
--------------------------------------------------------------------------	--------------------------------------------------------------------------	--------------------------------------------------------------------------

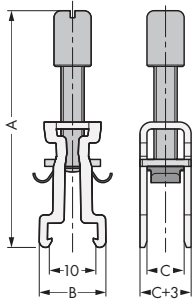


Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Shield clamping saddle including knurled screw, 11 mm wide, Note: Cannot be used for connecting ground conductors.		Shield clamping saddle including knurled screw, 19 mm wide, Note: Cannot be used for connecting ground conductors.		Shield clamping saddle including knurled screw, 27 mm wide, Note: Cannot be used for connecting ground conductors.	
<b>790-108</b>	50 (5x10)	<b>790-116</b>	50 (5x10)	<b>790-124</b>	50 (5x10)

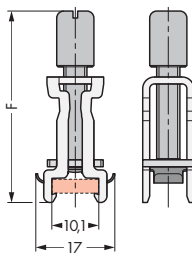
Accessories for Shield Clamping Saddles

<b>Carrier with grounding foot,</b>  bar parallel to the rail, Cu with tin plating 10 x 3 mm, 15 mm long, suitable for 790-108 shield clamping saddle <b>790-110</b> 25	<b>Carrier with grounding foot,</b>  90° to carrier rail, Cu with tin plating 10 x 3 mm, 45 mm, suitable for 790 Series shield clamping saddles <b>790-113</b> 25	<b>Carrier with 2 grounding feet,</b>  bar parallel to the rail, Cu with tin plating 10 x 3 mm, 125 mm long <b>790-115</b> 25
<b>Carrier with grounding foot,</b>  bar parallel to the rail, Cu with tin plating 10 x 3 mm, 25 mm long, suitable for 790-108 and 790-116 shield clamping saddles, as well as for 791-111 and 791-117 shield clamps <b>790-112</b> 25	<b>Carrier with grounding foot,</b>  bar parallel to the rail, Cu with tin plating 10 x 3 mm, 45 mm long, suitable for 790 Series shield clamping saddles and 791 Series shield clamps <b>790-114</b> 25	<b>Straight busbar, Cu with tin plating,</b>  10 x 3 mm, 1000 mm long <b>210-133</b> 1
<b>Carrier rail, special slotted, Cu with tin plating,</b>  1000 mm long (Special lengths upon request) <b>790-145</b> 1	<b>Spacer sleeve, for specialty slotted carrier rail,</b>  use M5-size screw <b>790-144</b> 200 (2x100)	<b>Straight busbar, Cu with tin plating,</b>  10 x 3 mm, 30 mm long <b>790-133</b> 20
		<b>Straight busbar, Cu with tin plating,</b>  10 x 3 mm, 50 mm long <b>790-134</b> 20

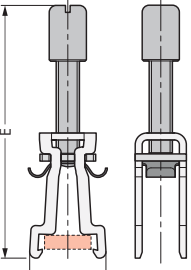
Installation position  
delivery state



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

Dimensions in mm









**Shield clamping saddle**  
 diameter of compatible conductor  
 22 to 40 mm



Item No.	Pack. Unit
<b>Shield clamping saddle including knurled screw,</b> 43 mm wide, Note: Cannot be used for connecting ground conductors.	
<b>790-140</b>	50 (5x10)

**Accessories for Shield Clamping Saddles**

	Insulated mounting foot, for busbar with screw M4 x 8 mm gray	<b>790-100</b>	50 (2x25)
	Insulated mounting foot, for busbar with sheet metal screw (3.5 x 9) mm gray	<b>790-101</b>	50 (2x25)
	U-shaped busbar, Cu with tin plating 10 x 3 mm, for 750 Series I/O modules for 5 modules	<b>790-190</b>	25 (5x5)
	U-shaped busbar, Cu with tin plating 10 x 3 mm, for 750 Series I/O modules for 8 modules	<b>790-191</b>	25
	U-shaped busbar, Cu with tin plating 10 x 3 mm, for 750 Series I/O modules for 5 modules	<b>790-192</b>	25
	U-shaped busbar, Cu with tin plating 10 x 3 mm, for 750 Series I/O modules for 8 modules	<b>790-193</b>	25



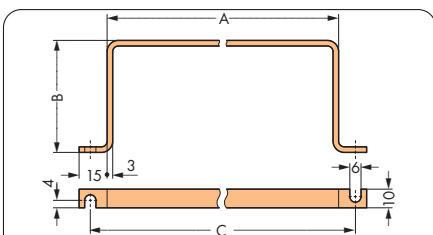
**Assembly**

The shield clamping saddle is shipped ready for direct connection to the busbar 10 mm (0.394 in) x 3 mm (0.118 in) or to a drilled mounting plate. After connection, tighten the knurled screw to complete the installation.  
**Maximum tightening torque: 0.5 Nm**



**Removal**

To remove the clamping saddle, unscrew until ratcheted mechanism is released, then slightly tip saddle and remove the clamping saddle.



Dimensions in mm

Item No.	A	B	C	Item No.	A	B	C
suitable for I/O module series 750 (5 E/A)							
<b>790-190</b>	63	60	83	<b>790-192</b>	63	35	83
suitable for I/O module series 750 (8 E/A)							
<b>790-191</b>	100	60	118	<b>790-193</b>	100	35	118

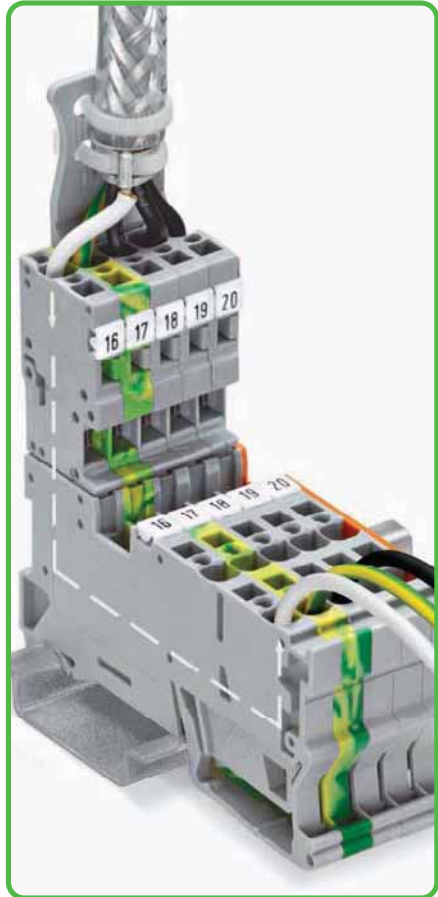
Dimensions in mm

# Shield Clamps and Shield Termination 791 and 709 Series

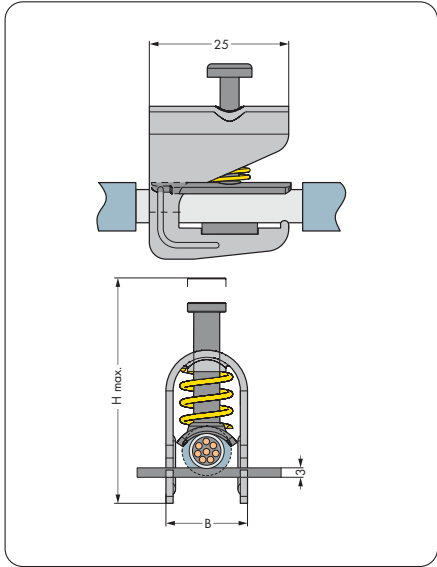
Shield clamp	Shield termination
--------------	--------------------



Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Shield clamp,</b> diameter of compatible conductor 10 to 17 mm, height max. 63 mm, 23 mm wide, Note: Cannot be used for connecting ground conductors.	<b>791-117</b> 50	<b>Shield termination,</b> includes cable ties for shield 5 mm and 10 mm Ø 55 mm long	<b>709-350</b> 100 (4x25)
<b>Shield clamp,</b> diameter of compatible conductor 16 to 24 mm, height max. 78 mm, 30 mm wide, Note: Cannot be used for connecting ground conductors.	<b>791-124</b> 50	<b>Shield termination,</b> includes cable ties for shield 5 mm and 10 mm Ø 150 mm long	<b>709-352</b> 100 (4x25)
<b>Shield clamp,</b> diameter of compatible conductor 1.5 mm to 6.5 mm, height max. 40 mm, 10 mm wide, Note: Cannot be used for connecting ground conductors.	<b>791-107</b> 50		
<b>Shield clamp,</b> diameter of compatible conductor 5 to 11 mm, height max. 47 mm, 17 mm wide, Note: Cannot be used for connecting ground conductors.	<b>791-111</b> 50		



Shield termination (picture shows X-COM® connectors)



Dimensions in mm



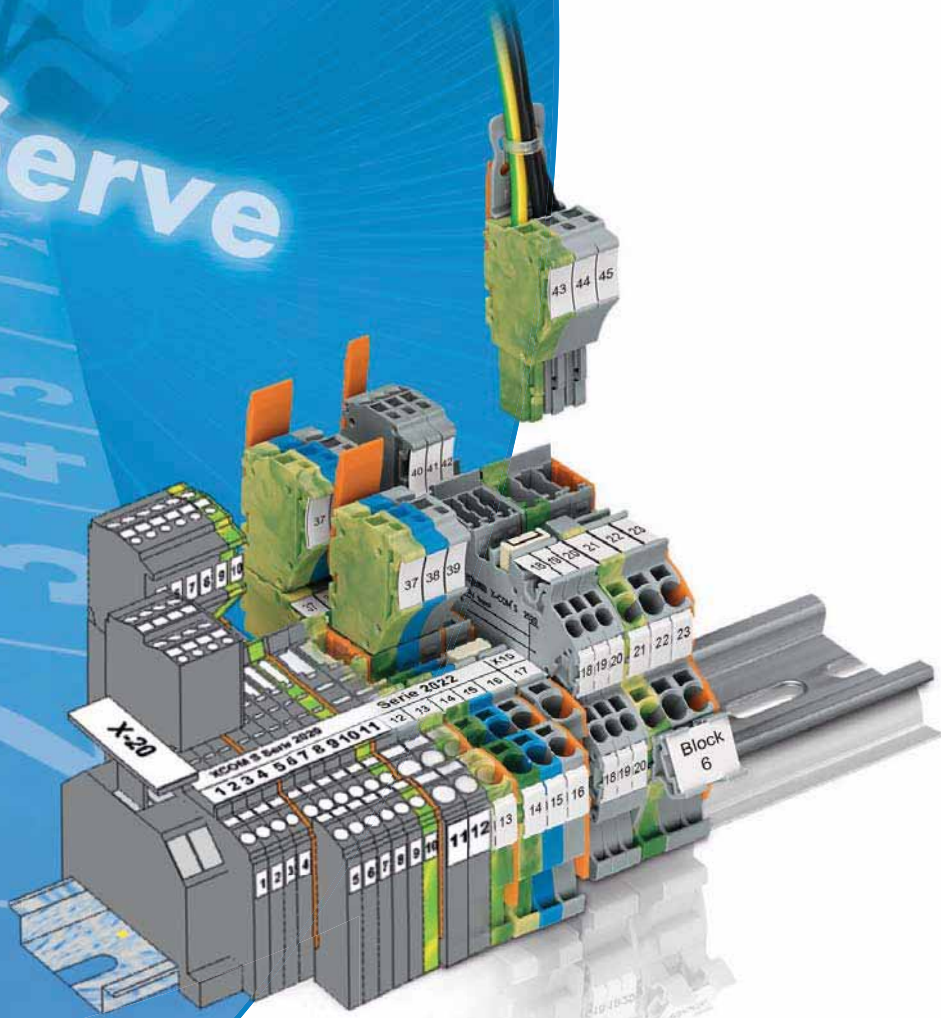


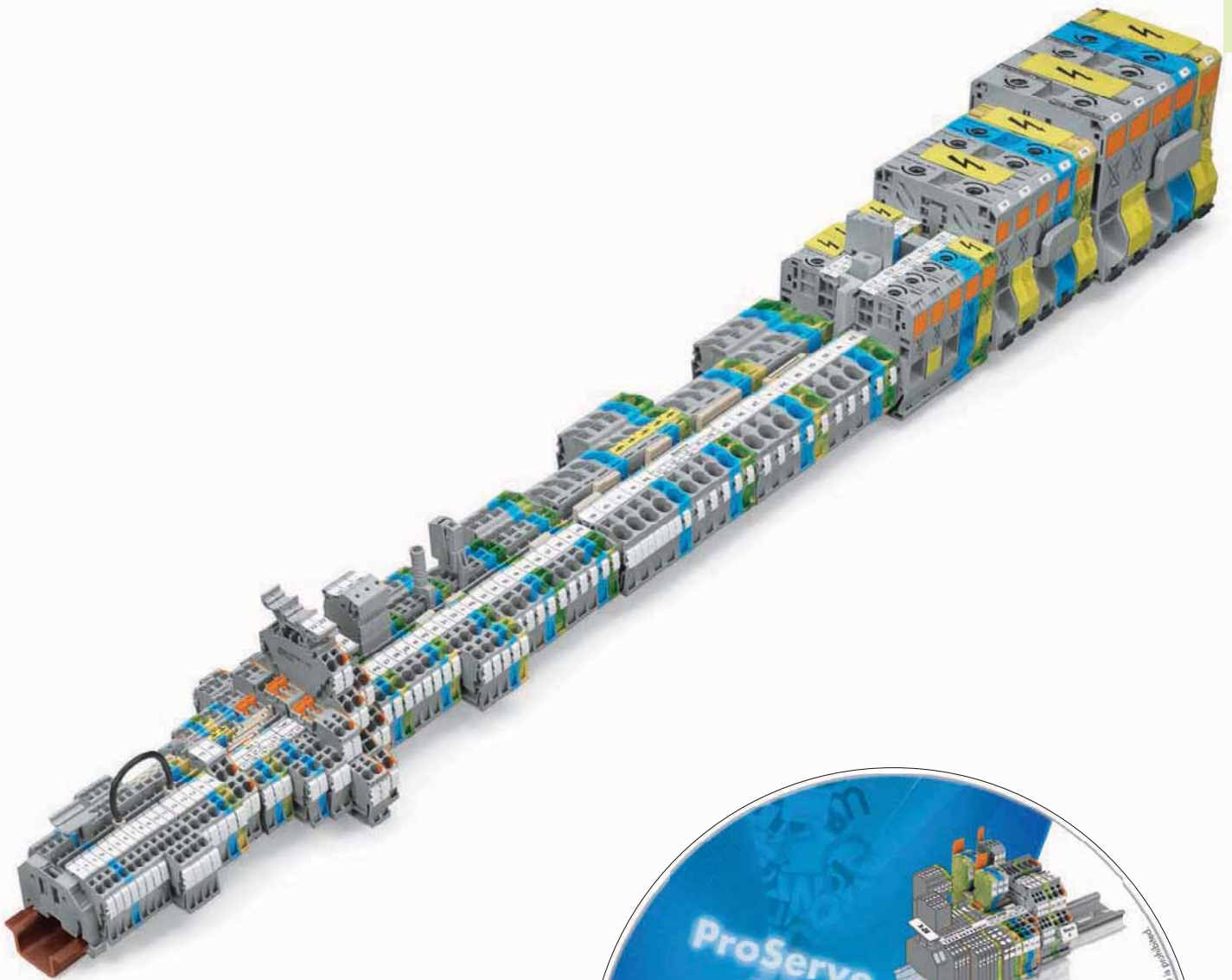


# WAGO ProServe®

Designing, Assembling and Marking

ProServe





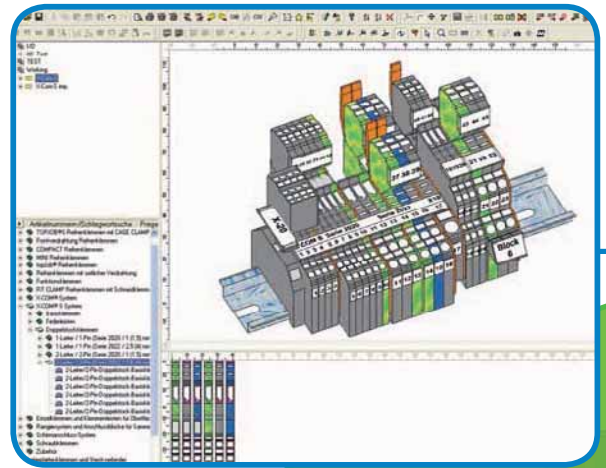
- The advantages of ProServe are at your disposal every day. With unique features such as AutoAudit accuracy checking, ProServe performs much of the work for you, saving time and money.

Immediate access to professional and sophisticated features allows for error-free applications, greater flexibility in your daily business and better customer service. With 50 years of WAGO expertise at your disposal, put ProServe to work for you in your next application.

**Benefits:**

- Quick design
- Quick ordering
- User-friendly
- Extensive and user-specific documentation
- Network compatibility
- Different software products on a single CD (smartDESIGNER, productLOCATOR, smartSCRIPT)
- A price list is included

**...all for free!**



**ProServe® – Planning at a New Level**



**smartDESIGNER**

**productLOCATOR**



**RUPLAN**



**Engineering Base**



**ELCAD**





## smartDESIGNER and productLOCATOR

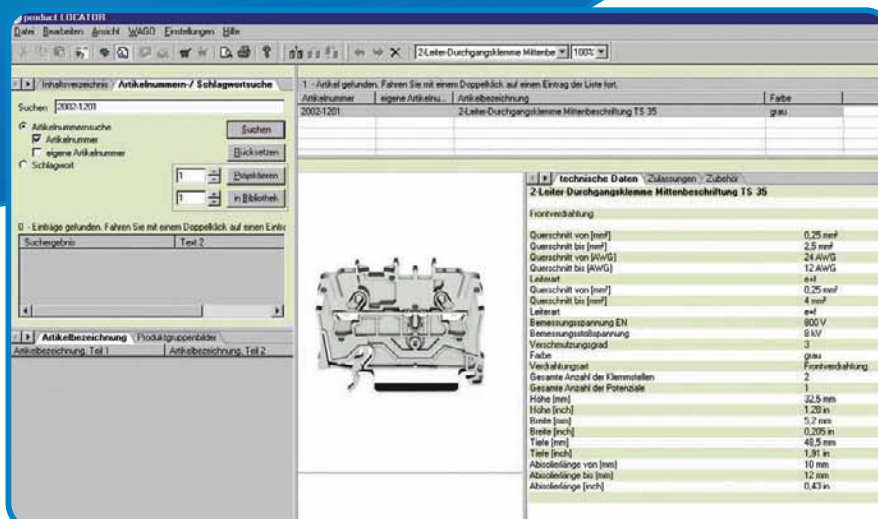
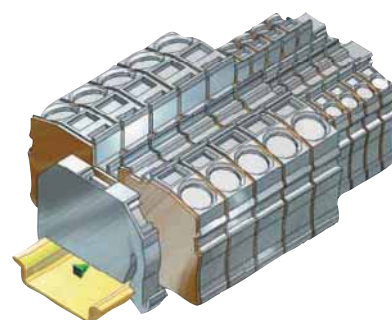
- Interfaces to CAE and M-CAD programs
- Output in PDF and HTML
- Different search functions provide quick item selection
- Creation of part lists including product pictures and custom part numbers
- Complex rail assemblies can be easily designed in 3D
- Easy creation of custom part numbers
- Creation of custom items to design third-party products
- Default parts (favorites) can be defined individually, streamlining design time
- Intelligent, user-optimized accuracy check features
- 18 languages available
- 25.000 sales items

## Marking:

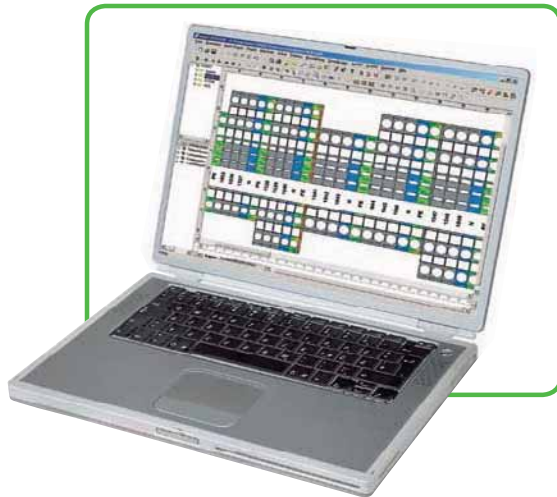
- Direct creation and output of marking data to plotter or thermal transfer printer

## STEP – IGES – DXF – DWG

CAD



Configuration and marking of rail assemblies and I/O nodes, stand-alone or combined with CAE systems.



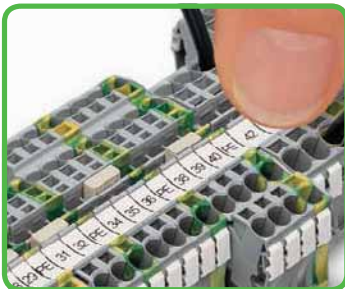
**Designing:**

Both custom rail assembly and marking can be easily designed via WAGO ProServe® Software.



**Snapping:**

The marking strip is snapped into the center marker receptacle profile.



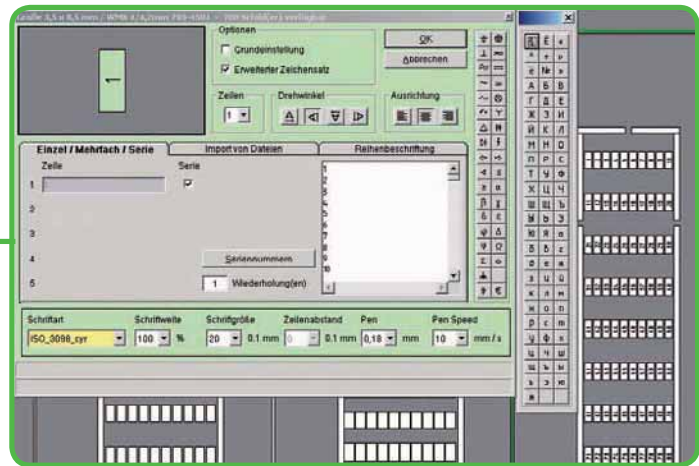
Combining marking strips with individual WMB markers



Alternative: Miniature WSB markers can be printed on a plotter

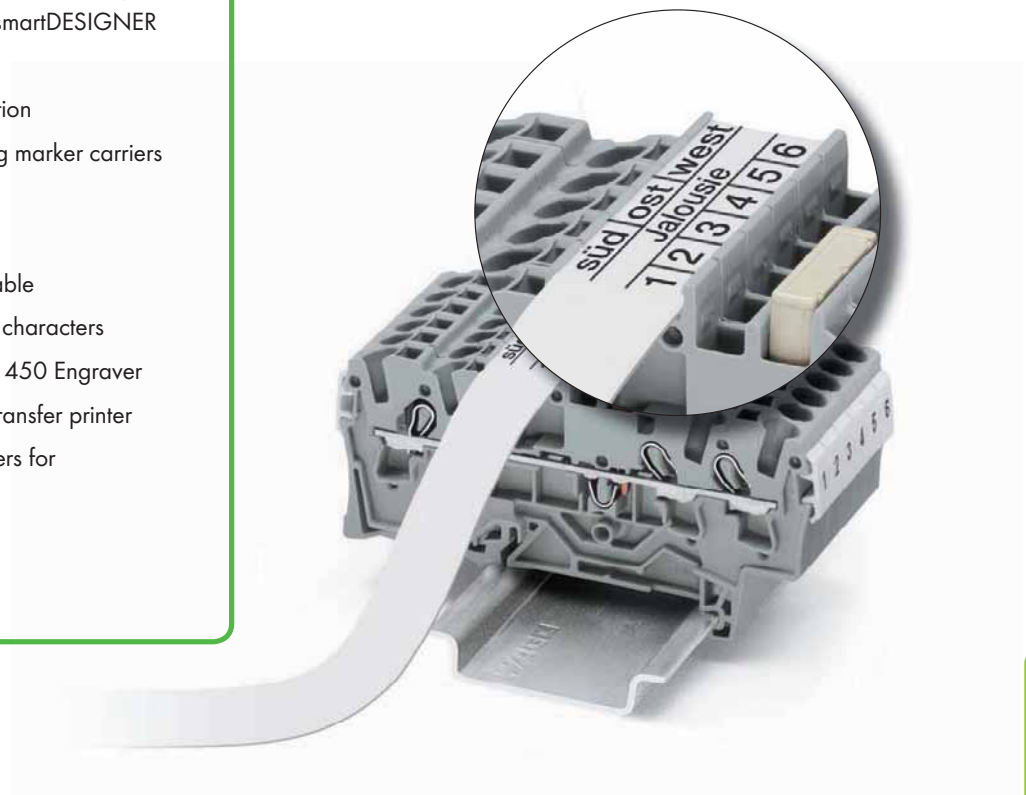


WMB Inline markers on continuous reel can be used in three positions: in the center and on each side



### smartMARKING

- Extensive import functions from CAE systems, MS Office and WAGO smartDESIGNER
- WYSIWYG marking
- Automatic plotter calibration
- Extensive library including marker carriers
- Symbol library
- Text length verification
- Several languages available
- Output of East European characters
- Fully compatible with EG 450 Engraver
- Direct output to thermal transfer printer
- Creation of custom markers for engraver/plotter



### Printing:

Marking strips (2009 Series) or WMB Inline markers on continuous reel are printed on a thermal transfer printer.

### Three-Line Printing:

... for clear marking.  
This makes it immediately clear which function corresponds with each terminal block.



# Thermal Transfer Printers

WAGO TP 343 and TP 298



Description	Item No.	Pack. Unit
	<b>258-343</b>	<b>1</b>
<b>TP 343 Thermal Transfer Printer</b>		
Resolution 300 dpi, incl. ProServe software; for 2009 and 709 Series marking strips		
<b>Technical Data</b>		
Printing method	Thermal/thermal transfer	
Printhead system	Thin-film transfer head	
Print resolution	300 dpi	
Print speed	up to 76 mm/sec.	
Print width	6 - 104 mm (0.25" - 4.09")	
Print length	up to 990 mm (39")	
RAM memory	2 MB DRAM, 1 MB Flash	
Interfaces	Parallel Centronics (LPT), RS-232 (COM), USB, ETHERNET 10/100 Base T	
Sensors	Label sensor (material end, foil end, bottom reflective sensor)	
Other	2 cardboard cores (104 mm) for ink ribbon rewinder; operating instructions in German and English	
Power supply	Universal power supply unit	
Operating voltage	100 V ... 240 V AC / 50 Hz ... 60 Hz	
Dimensions (mm) W x H x L	230 x 200 x 290 (Length with unwinder: approx. 450 mm)	
Enclosure	Double-walled plastic	
Weight	1000 g	
Safety approvals	CE, FCC Class A, UL, CUL, TUV	
Accessories	1 x USB cable; 1 x ETHERNET cable; unwinder set; marking strips (1 x 2009-110); ink ribbon (1 x 258-145)	

Description	Item No.	Pack. Unit
	<b>258-298</b>	<b>1</b>
<b>TP 298 Thermal Transfer Printer</b>		
Resolution 300 dpi, incl. ProServe software and 258-178 print roller for WMB Inline and 2009 and 709 Series marking strips		
<b>Technical Data</b>		
Printing method	Thermal/thermal transfer	
Printhead system	Thick-film	
Print resolution	300 dpi	
Print speed	100 mm/sec.	
Print width	108.4 mm	
See-through/reflective sensor	standard	
Processor 32 Bit ColdFire/clock rate	64 MHz	
RAM memory	8 MB RAM	
Program memory	4 MB Flash	
Slot for memory card	CompactFlash Type 1	
Interfaces	ETHERNET 10/100 Base T, RS-232 (COM), USB	
Accessories (optional)	Cutter, external unwinder, external rewinder, CompactFlash memory card 16-512 MB	
Operating voltage	100 V ... 240 V AC / 50 Hz ... 60 Hz, PFC	
Dimensions (mm) W x H x L	242 x 274 x 446	
Weight	10000 g	
Operating temperature	10°C ... 35°C	
Rel. humidity	30 % ... 85 %	
Safety approvals	CE, FCC class 1	
Accessories	1 x USB cable; 1 x serial cable; marking strips (1 x 2009-110); ink ribbon (1 x 258-149)	

Application table for ink ribbon/markings accessories/printer

Item No.	Width	Ink Ribbon	Marking Accessories	Printer
258-143	60 mm	resin/wax	Labels (paper)	all types
258-144	100 mm	resin/wax	Labels (paper) for cable marking 211-155 / 211-156	all types
258-145	38 mm	resin	2009 Series marking strip 2009-xxx 709 Series marking strip 709-xxx WMB Inline (not printable with TP 343)	TP 298 & TP 343
258-149	50 mm	resin	Marking Strip Series 2009 2009-xxx Marking Strip Series 709 709-xxx WMB Inline (not printable with TP 343)	TP 298+
258-150	76 mm	resin	Marking cards for wire marking 211-111 and 211-121 Labels (polyester) up to 76 mm	all types
258-157	100 mm	resin	Labels (polyester) up to 100 mm	all types

Accessories for 3M PL300 Mobile Printer

Accessories for 3M

Self-adhesive marking

Self-adhesive marking

Heat shrink tube

Heat shrink tube



Description		Item No.
Marking strips	white, 11 mm width x 5.5 m	211-611
Adhesive strips	white, 9 mm width x 7 m	211-612
Adhesive strips	white, 19 mm width x 7 m	211-613
Heat shrink tube	white, 9 mm width x 1,5 m	211-614
Heat shrink tube	white, 19 mm width x 1.5 m	211-615

Ink ribbon for labels

Ink ribbon for labels

Ink ribbon for marker strips



Description		Item No.
Ink ribbon for marker strips and WMB Inline	resin, 38 mm x 300 m	258-145
	resin, 50 mm x 300 m	258-149
Ink ribbon for cable marking	76 mm wide x 300 m	258-150
	100 mm wide x 300 m	258-157
Ink ribbon for labels	resin/wax, width 60 mm x 300 m	258-143
	resin/wax, width 100 mm x 300 m	258-144

All ink ribbons are suitable for TP 298 and TP 343 printers. For detailed ordering information, please refer to the "Application table for ink ribbon/markings accessories/printer"

External coil mounting system

Cutter TP 298

Spare roller TP 298



Description		Item No.
External coil mounting system	for 8,000 WMB Inline markers (2009-135)	258-169
Cutter TP 298		258-161
Spare roller TP 298 for labels	(up to device series no. 40,000)	258-162
Spare roller TP 298 for labels	(from device series no. 40,000)	258-177
Spare roller TP 298 for WMB Inline	(device series no. 40,000)	258-166
Spare roller TP 298 for WMB Inline	(from device series no. 40,000)	258-178
Carrying case for TP 298		258-171
Carrying case for TP 343		258-342
Retractable handle for carrying case TP 298 / TP 343		258-173

WMB Inline

Marking strips



Description		Item No.
WMB Inline, pitch 4 mm, stretchable, 4 mm ... 4.2 mm, on roll	white, 2,000 markers	2009-114
WMB Inline, pitch 5 mm, stretchable, 5 mm ... 5.2 mm, on reel	white, 1,500 markers	2009-115
WMB Inline, pitch 5 mm, stretchable, 5 mm ... 5.2 mm, on reel	white, 8,000 markers	2009-135
Marking strips for TOPJOB®S Series, white, plain, 11 mm wide	50 m coil	2009-110
Marking strips for 870, 869, 862, 270 Series	50 m coil	709-178
white, plain, 7.5 mm wide		
Marking strips for 870, 869, 862, 270 Series,	50 m coil	709-177
transparent, plain, 7.5 mm wide		

Marker card



Marker card (12 mm) for plotters



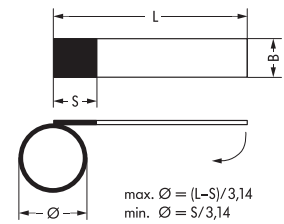
Labels on roll



Labels on DIN A4 sheets



Dimensions of self-laminating label



Description		Item No.
Marker card for thermal transfer printer	12 mm	211-121
	23 mm	211-111
Marker card for TT Printer (258-370 carrier plates are required for plotting)	12 mm	211-120
	23 mm	211-110
Cable tie marker	25 x 10 mm, white, 3,500 pieces per roll	211-135
Labels on roll for thermal transfer printer	Marker surface: "S"=8 mm, "B"=18 mm, "L"=35 mm for max. 9 mm cable Ø, 9,000 labels per roll	211-155
	Marker surface: "S"=13 mm, "B"=23 mm, "L"=51 mm for max. 12 mm cable Ø, 5,000 labels per roll	211-156
Wire marker for thread-on mounting	for 0.75 - 1.5 mm <sup>2</sup> , 2,000 markers per roll	211-161
	for 2.5 - 6 mm <sup>2</sup> , 2,000 markers per roll	211-162
Labels on DIN A4 sheets for laser printer (258-383 carrier plates are required for plotting)	Marker surface: "S"=9 mm, "B"=17 mm, "L"=35 mm for max. 8 mm cable Ø, 70 labels per roll	211-150
	Marker surface: "S"=13 mm, "B"=21 mm, "L"=56 mm for max. 14 mm cable Ø, 32 labels per roll	211-151
Marking sleeve 12 mm, for wire Ø	1.6 mm ... 3.2 mm or 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>	211-112
	2.2 mm ... 4.5 mm or 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>	211-113
	3.7 mm ... 5.9 mm or 2.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>	211-114
	4.8 mm ... 7.5 mm or 6 mm <sup>2</sup> ... 16 mm <sup>2</sup>	211-115
Marking sleeve 23 mm, for wire Ø	1.6 mm ... 3.2 mm or 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>	211-122
	2.2 mm ... 4.5 mm or 0.5 mm <sup>2</sup> ... 4 mm <sup>2</sup>	211-123
	3.7 mm ... 5.9 mm or 2.5 mm <sup>2</sup> ... 6 mm <sup>2</sup>	211-124
	4.8 mm ... 7.5 mm or 6 mm <sup>2</sup> ... 16 mm <sup>2</sup>	211-125
Marking sleeve for cable tie	23 mm, for 10 mm <sup>2</sup> wires and larger	211-129
Cable tie (2.5 x 100) mm		807-090/101-100
Label for I/O marking (258-371 carrier plates are required for plotting)	Plotter, 12 x 7 mm	211-211
Marking strips	15 mm, white 50 m roll	210-701
Receptacle for marking strips	transp. 1 m long	709-120
Carrier through element	adjustable in height	709-118
Carrier end element	adjustable in height	709-119
Continuous label	3 mm, white 12 lengths at 25 m	210-732
Label roll	70 x 100 mm, white 500 labels/reel	210-703
	70 x 100 mm, silver 500 labels/reel	210-704
	6 x 15 mm, white 3000 labels/reel	210-705
	6 x 15 mm, yellow 3000 labels/reel	210-705/000-002
	9 x 15 mm, white 3000 labels/reel	210-706
	9 x 15 mm, yellow 3000 labels/reel	210-706/000-002
	8 x 20 mm, white 3000 labels/reel	210-707
	8 x 20 mm, yellow 3000 labels/reel	210-707/000-002
	9.5 x 25 mm, white 3000 labels/reel	210-708
	35 x 5 mm, white, 4,000 labels/roll	210-710

More labels at [www.marschall-pw.de](http://www.marschall-pw.de)



Description	Item No.	Pack. Unit
IP 350 A3 Plotter	<b>258-350</b>	1
incl. ProServe software		
IP 350 A4 Plotter	<b>258-451</b>	1
incl. ProServe software		
<b>Technical Data</b>		
Plotting area	440 mm x 305 mm (258-350) 220 mm x 305 mm (258-451)	
Interfaces	parallell (centronics); USB 1.1	
Language	based on HP-GL 7475A	
Data buffer	16 MB	
Speed	max. 400 mm/sec.	
Drive system	Two-phase stepper motor	
Pen storage unit	max. 4 pens (optimum seal)	
Plotter pen	Special plotter pens with HP receptacle	
Addressable resolution	0.01 mm	
Repeat accuracy	0.05 mm	
Repeatability after changing the pen	0.05 mm using high-quality pens	
Power supply	via separate desktop power supply unit equipped with exchangeable supply line	
Operating voltage	120 V ... 240 V AC / 50 Hz ... 60 Hz	
Voltage range	90 V ... 264 V AC	
Current consumption (internal)	0.3 A max. at 220 V AC	
Dimensions (mm) W x H x L	125 x 660 x 440	
Weight	11,069 g	
Operating temperature	10°C ... 35°C	
Rel. humidity	35 % ... 75 %	
Safety approvals	acc. to UL-UL1950 CSA-950/VDE EN60950	
Immunity to interference	acc. to FCC Class B FCC Part 15 and VDE Class B EN 55022	

Description	Item No.	Pack. Unit
EG 450 Engraver	<b>258-450</b>	1
Extension module for IP 350 Flat Plotter. Consists of "EC 450" Control Unit and "VC 450" Vacuum Cleaner, including graver 0.3 mm + 0.4 mm		
<b>Technical Data</b>		
<b>1. Engraving spindle</b>		
Speed	min. 5,000 rpm, max. 50,000 rpm	
Torque	6 Ncm	
Frequency	83 - 830 Hz	
Energy consumption	max. 60 W	
Collets	3 mm shaft diameter	
Clamping mechanism	Head clamping	
Run-out with collet	0.03 mm	
Motor type	three-phase, asynchronous, brushless	
Enclosure	Aluminium	
Clamping diameter	25 mm	
Ball bearing type	permanent lubrication, double	
Cooling	Internal air via integrated fan	
Application	Engraving only	
Guaranteed bearing operation	min. 1,000 hrs if handled properly	
<b>Notice: Never clean engraving spindle using compressed air, do not use lubricants when engraving.</b>		
<b>2. VEB 500 Control Unit</b>		
Operating voltage	100 V ... 240 V AC / 50 Hz ... 60 Hz	
<b>3. VC Vacuum Cleaner</b>		
Vacuum cleaner bag	Type Y98	
<b>General Specifications</b>		
Dimensions (mm) W x H x L	Control unit + vacuum cleaner (an top of each other): 240 x 290 x 315	
Weight	Engraving spindle + control unit + vacuum cleaner + accessories: 8,000 g	



# Flatbed Plotter

IP200



- Rugged, aluminum construction
- Plotting area, A4: 220 mm x 305 mm
- Easy replacement of marker receptacles
- Auto calibration
- Up to 10.5 mm wide markers can be plotted
- Special solutions for up to 15 mm wide markers are available
- Universal power supply, 100-240 VAC
- Neat plotting right from the very first marker
- PC interfaces: USB ports
- Command language: HPGL
- IP200 firmware can be updated via PC and Internet

Description	Item No.	Pack. Unit	Technical Data
IP200 Flatbed Plotter	258-200	1	Plotting area 200 mm x 305 mm
			Interfaces USB Level 1.1
			Language Based on HP-GL 7475A
			Data buffer 16 MB
			Speed max. 40 mm/s
			Drive system Two-phase step motor
			Plotter pen Special plotter pens with HP receptacle
			Addressable resolution 0.01 mm
			Repeat accuracy 0.05 mm
			Repeat accuracy after pen change 0.05 mm with optimun pen
			Power supply Separate power supply with exchangeable plug adapters
			Operating voltage 100 V ... 240 V AC / 50 Hz ... 60 Hz
			Current consumption (internal) 0.7 A max. at 220 V AC
			Dimensions (mm) W x H x L 125 x 440 x 440
			Operating temperature 10 °C ... 35 °C
			Rel. humidity 35 % ... 75 %
			Safety approvals EN 60950-1
			Immunity to interference EN 55022 B
			<b>Included:</b> IP200 Plotter, power supply, USB data cable, operating manual + ProServe software

WAGO plotter pen  
(disposable)  
0.18 mm line width



WAGO plotter pen  
(disposable)  
0.25 mm line width



WAGO plotter pen  
(disposable)  
0.35 mm line width



Service kit



Graver set



Description		Item No.
WAGO plotter pen	0.18 mm line width	258-226
	0.25 mm line width	258-227
	0.35 mm line width	258-228
	0.50 mm line width	258-229
WAGO ink cartridges	black, for permanent marking, not refillable (5 x 1 ml)	258-141
WAGO plotter pen (disposable)	0.18 mm line width	258-326
	0.25 mm line width	258-327
	0.35 mm line width	258-328
	0.50 mm line width	258-329
Cover		258-146
Service kit	(4 spare pen stations)	258-147
WAGO cleaning set	suitable for cleaning all EKS Pens	258-139
WAGO pen cleaner		258-140
Calibration aid		258-453
Graver set	0.2/0.3/0.4/0.5/0.7/1.0 mm line width	258-452
Graver	0.2 mm graver width	258-452/000-002
	0.3 mm graver width	258-452/000-003
	0.4 mm graver width	258-452/000-004
	0.5 mm graver width	258-452/000-005
	0.7 mm graver width	258-452/000-007
	1.0 mm graver width	258-452/000-010
Vacuum cleaner bag for Engraver EG 450		258-457
Graver (stainless steel)	0.2 mm graver width	258-458/000-002
	0.4 mm graver width	258-458/000-004
WAGO plotter pen (disposable, black)	0.18 mm line width, for inside marking only	258-426
	0.25 mm line width, for inside marking only	258-427
	0.35 mm line width, for inside marking only	258-428
	0.50 mm line width, for inside marking only	258-429
WAGO plotter pen (disposable, red)	0.18 mm line width, for inside marking only	258-426/000-005
	0.25 mm line width, for inside marking only	258-427/000-005
	0.35 mm line width, for inside marking only	258-428/000-005
	0.50 mm line width, for inside marking only	258-429/000-005

WAGO plotter pens are suitable for any kind of smooth surfaces. No additional adapter is required.

## Marker card carrier plates for plotter IP 350



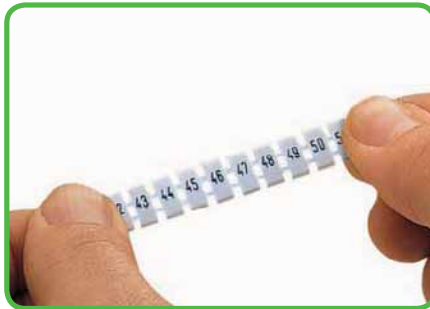
Description		Item No.	
Carrier plates for marker cards	WSB 5 mm/0.197 in (209-501)	258-361	
	WSB 4 mm/0.157 in (209-701)	258-362	
	Miniature WSB (248-501)	258-363	
	WCB (249-200)	258-366	
	WMB 5/5.2 mm (793-5501); WMB 4/4.2 mm (793-4501)	258-368	
	T-marking strips (209-290)	258-365	
	Marker strips (2009-110 + 2009-130 and 790-...)	258-410	
	WTB (799-501)	258-367	
	Group marking carriers (209-112)	258-364	
	Marker tags (209-199 + 209-200)	258-369	
	Carrier plates for murrplastik	MP-400; KS 4/12, 4/18, 4/23, 4/30	258-370
		MP-401; KES, KLG, KMR, KPX, KS 15x17/27/49/67, KSA, KSF, KSI, KSK, KSO, KSS, KTE, KWI, SKS, WGO, KAB	258-371
BS 5/6		258-397	
KSEX; 10/500		258-470	
KPX		258-396	
KSEX; 18/500		258-471	
Universal engraver and plotter carrier plates		90 mm x 100 mm x 3	258-454
	60 mm x 100 mm x 4	258-455	
	30 mm x 100 mm x 9	258-456	
Carrier plates for Phoenix	ZBM	258-372	
	ZB	258-373	
	ZBN	258-374	
	ZBFM	258-375	
	BNZ	258-377	
	BN-ZB	258-378	
	SS-ZB	258-379	
	LBHZ	258-380	
	PAB	258-381	
GPE	258-382		
Universal engraver and plotter carrier plates	DIN A4	258-383	
	DIN A3	258-472	
Carrier plates for Weidmüller	MC Universal	258-387	
	MC SF4-6	258-388	
Carrier plates for Wörtz/Allen Bradley	Universal	258-389	
Carrier plates for Möller	XB M22-XST	258-390	
Carrier plates for Partex	PA+1	258-391	
	PA+2	258-392	
Carrier plates for ABB Entrellec	Universal	258-394	
	Siemens SPS	258-473	
Carrier plates for Conta-Clip	Universal	258-398	
	PK2 PVC	258-393	
	PA+ 2	258-399	

# Marking Accessories - Description and Handling -

## WMB Multi marking system



Separating a strip from the WMB or WMB marker card.



Stretching a strip.



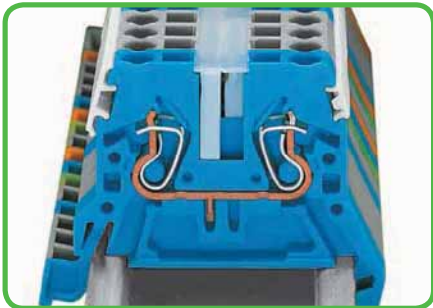
Separating an individual marker from the strip, for larger terminal blocks.

## Miniature WSB (WAGO Quick marking system)



Marking with miniature WSB Quick marking system.

## Miniature WSB or WMB marking



WMB markers in miniature WSB marker receptacles  
Marking strips, translucent  
Miniature WSB markers



## WFB (WAGO continuous marking strips)



Customized ink pen marking



Carrier for WFB Continuous marking strip; to be secured every 10th terminal block.

## Group marking



Group marking on N-busbar carrier used as end stop every 10th terminal block.

WMB Multi marking system



Snapping a strip into the marker slot.

Double marker carrier

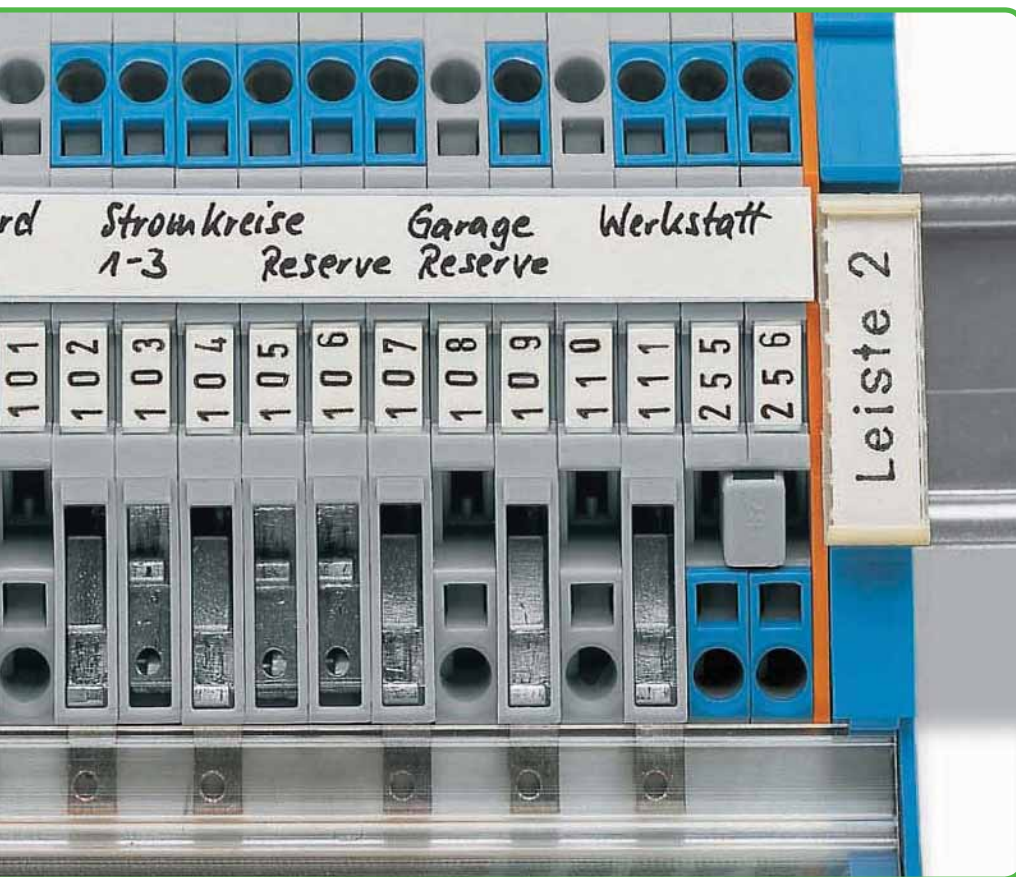


Snapping a strip into the marker slot of the double marker carrier.

"Decade" marking



WMB "decade" marking carrier



Group marker carriers



Group marker carrier adjustable in height



Additional group marking

Movable marking system

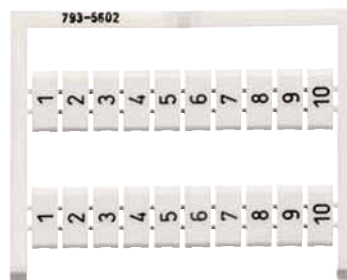
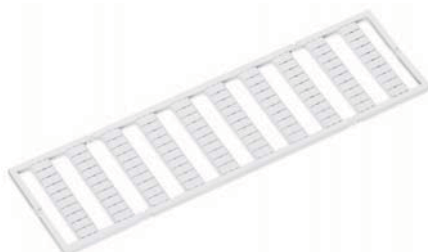


Additional continuous marking strips



# WAGO WMB Multi Marking System for Terminal Block Width 3.5 mm, 4 – 4.2 mm, 5 mm and Higher

vertical marking  
consecutive numbers on each strip  
10 strips with 10 markers per card  
for terminal widths 5 - 17.5 mm and  
5 - 5.2 mm und 4 - 4.2 mm und 3.5 mm

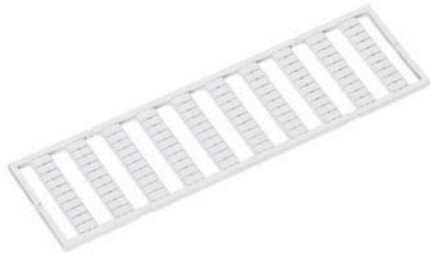


- ① For continuous marking of 270, 280, 780, 869, 870 and 880 Series terminal blocks  
Individual marking of 281 – 285, 781 – 785, 2002, 2003, 2022, 2004, 2006, 2010 and 2016 Series terminal blocks
- ② For continuous marking of 270, 280, 780, 869, 870, 880, 2002, 2003 and 2022 Series terminal blocks  
Individual marking of terminal blocks larger than 5 / 5.2 mm
- ③ For continuous marking of 279 and 2001 Series terminal blocks
- ④ For continuous marking of 2000 and 2020 Series terminal blocks

Marking	Marker Width 5 mm ①	Marker Width 5 – 5.2 mm ②	Marker Width 4 – 4.2 mm ③	Marker Width 3.5 mm ④
1 ... 10 (10x)	793-602	793-5602	793-4602	on request
11 ... 20 (10x)	793-603	793-5603	793-4603	
21 ... 30 (10x)	793-604	793-5604	793-4604	
31 ... 40 (10x)	793-605	793-5605	793-4605	
41 ... 50 (10x)	793-606	793-5606	793-4606	
51 ... 60 (10x)	794-601	794-5601	794-4601	
61 ... 70 (10x)	794-602	794-5602	794-4602	
71 ... 80 (10x)	794-603	794-5603	794-4603	
81 ... 90 (10x)	794-604	794-5604	794-4604	
91 ... 100 (10x)	794-605	794-5605	794-4605	
1 ... 50 (2x)	793-666	793-5666	793-4666	
51 ... 100 (2x)	793-607	793-5607	793-4607	
101 ... 150 (2x)	793-608	793-5608	793-4608	
151 ... 200 (2x)	793-609	793-5609	793-4609	
201 ... 300 (1x)	793-610	793-5610	793-4610	
301 ... 400 (1x)	793-611	793-5611	793-4611	
401 ... 500 (1x)	793-612	793-5612	793-4612	
501 ... 600 (1x)	793-613	793-5613	793-4613	
601 ... 700 (1x)	793-614	793-5614	793-4614	
701 ... 800 (1x)	793-615	793-5615	793-4615	
801 ... 900 (1x)	793-616	793-5616	793-4616	
901 ... 1000 (1x)	793-617	793-5617	793-4617	
1001 ... 1100 (1x)	793-688	793-5688	793-4688	
1101 ... 1200 (1x)	793-669	793-5669	793-4669	
1201 ... 1300 (1x)	793-670	793-5670	793-4670	
1301 ... 1400 (1x)	793-671	793-5671	793-4671	
1401 ... 1500 (1x)	793-672	793-5672	793-4672	
1501 ... 1600 (1x)	793-901	793-5901	793-4901	
1601 ... 1700 (1x)	793-902	793-5902	793-4902	
1701 ... 1800 (1x)	793-903	793-5903	793-4903	
1801 ... 1900 (1x)	793-912	793-5912	793-4912	
1901 ... 2000 (1x)	793-913	793-5913	793-4913	
101, 101, 101, 102, ..., 130, 130, 130 (1x)	793-667	793-5667	793-4667	
131, 131, 131, 132, ..., 160, 160, 160 (1x)	793-668	793-5668	793-4668	
<b>for double-deck terminal blocks,</b>				
1, 3, 5, ..., 99 and 2, 4, 6, ..., 100 (1x)	793-699	793-5699	793-4699	
101, 103, 105, ..., 149 and 102, 104, 106, ..., 150 (2x)	793-900	793-5900	793-4900	
<b>for triple-deck terminal blocks,</b>				
1, 4, 7, ..., 88 and 2, 5, 8, ..., 89 and 3, 6, 9, ..., 90 and 91, 94, 97, 92, 95, 98, 93, 96, 99, ; (1x)	794-657	794-5657		
100, 103, 106, ..., 187 and 101, 104, 107, ..., 188 and 102, 105, 108, ..., 189 and 190, 193, 196, 191, 194, 197, 192, 195, 198, ; (1x)	794-658	794-5658		

# WAGO WMB Multi Marking System for Terminal Block Width 3.5 mm, 4 – 4.2 mm, 5 mm and Higher

horizontal marking  
same numbers per strip  
10 strips with 10 markers per card  
for terminal widths 5 - 17.5 mm and  
5 - 5.2 mm und 4 - 4.2 mm und 3.5 mm



- ① For continuous marking of 270, 280, 780, 869, 870 and 880 Series terminal blocks  
Individual marking of 281 – 285, 781 – 785, 2002, 2003, 2022, 2004, 2006, 2010 and 2016 Series terminal blocks
- ② For continuous marking of 270, 280, 780, 869, 870, 880, 2002, 2003 and 2022 Series terminal blocks  
Individual marking of terminal blocks larger than 5 / 5.2 mm
- ③ For continuous marking of 279 and 2001 Series terminal blocks
- ④ For continuous marking of 2000 and 2020 Series terminal blocks

Marking	Marker Width 5 mm ①	Marker Width 5 – 5.2 mm ②	Marker Width 4 – 4.2 mm ③	Marker Width 3.5 mm ④
1/2 (50 each)	793-518	793-5518	793-4518	on request
3/4 (50 each)	793-519	793-5519	793-4519	
5/6 (50 each)	793-520	793-5520	793-4520	
7/8 (50 each)	793-521	793-5521	793-4521	
9/10 (50 each)	793-522	793-5522	793-4522	
11/12 (50 each)	793-523	793-5523	793-4523	
13/14 (50 each)	793-524	793-5524	793-4524	
15/16 (50 each)	793-525	793-5525	793-4525	
17/18 (50 each)	793-526	793-5526	793-4526	
19/20 (50 each)	793-527	793-5527	793-4527	
21/22 (50 each)	793-528	793-5528	793-4528	
23/24 (50 each)	793-529	793-5529	793-4529	
25/26 (50 each)	793-530	793-5530	793-4530	
27/28 (50 each)	793-531	793-5531	793-4531	
29/30 (50 each)	793-532	793-5532	793-4532	
31/32 (50 each)	793-533	793-5533	793-4533	
33/34 (50 each)	793-534	793-5534	793-4534	
35/36 (50 each)	793-535	793-5535	793-4535	
37/38 (50 each)	793-536	793-5536	793-4536	
39/40 (50 each)	793-537	793-5537	793-4537	
41/42 (50 each)	793-538	793-5538	793-4538	
43/44 (50 each)	793-539	793-5539	793-4539	
45/46 (50 each)	793-540	793-5540	793-4540	
47/48 (50 each)	793-541	793-5541	793-4541	
49/50 (50 each)	793-542	793-5542	793-4542	
51/52 (50 each)	793-400	793-5400	793-4400	
53/54 (50 each)	793-401	793-5401	793-4401	
55/56 (50 each)	793-402	793-5402	793-4402	
57/58 (50 each)	793-403	793-5403	793-4403	
59/60 (50 each)	793-404	793-5404	793-4404	
61/62 (50 each)	793-405	793-5405	793-4405	
63/64 (50 each)	793-406	793-5406	793-4406	
65/66 (50 each)	793-407	793-5407	793-4407	
67/68 (50 each)	793-408	793-5408	793-4408	
69/70 (50 each)	793-409	793-5409	793-4409	
71/72 (50 each)	793-410	793-5410	793-4410	
73/74 (50 each)	793-411	793-5411	793-4411	
75/76 (50 each)	793-412	793-5412	793-4412	
77/78 (50 each)	793-413	793-5413	793-4413	
79/80 (50 each)	793-414	793-5414	793-4414	
81/82 (50 each)	793-415	793-5415	793-4415	
83/84 (50 each)	793-416	793-5416	793-4416	
85/86 (50 each)	793-417	793-5417	793-4417	
87/88 (50 each)	793-418	793-5418	793-4418	
89/90 (50 each)	793-419	793-5419	793-4419	
91/92 (50 each)	793-420	793-5420	793-4420	
93/94 (50 each)	793-421	793-5421	793-4421	
95/96 (50 each)	793-422	793-5422	793-4422	
97/98 (50 each)	793-423	793-5423	793-4423	
99/100 (50 each)	793-424	793-5424	793-4424	

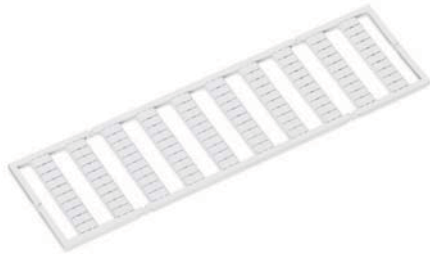




# WAGO WMB Multi Marking System for Terminal Block Width 3.5 mm, 4 – 4.2 mm, 5 mm and Higher

horizontal marking  
Gleichlautende Buchstaben / Symbole je  
Streifen

10 strips with 10 markers per card  
for terminal widths 5 - 17.5 mm and  
5 - 5.2 mm und 4 - 4.2 mm und 3.5 mm

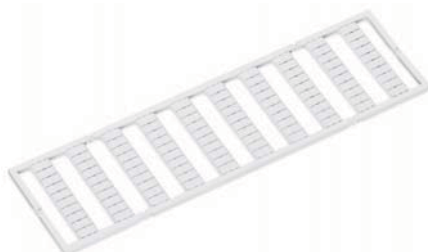


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Individual marking of 281 – 285, 781 – 785, 2002, 2003, 2022, 2004, 2006, 2010 and 2016 Series terminal blocks
- ② For continuous marking of 270, 280, 780, 869, 870, 880, 2002, 2003 and 2022 Series terminal blocks  
Individual marking of terminal blocks larger than 5 / 5.2 mm
- ③ For continuous marking of 279 and 2001 Series terminal blocks
- ④ For continuous marking of 2000 and 2020 Series terminal blocks

Marking	Marker Width 5 mm ①	Marker Width 5 – 5.2 mm ②	Marker Width 4 – 4.2 mm ③	Marker Width 3.5 mm ④
L1 (100x)	793-574	793-5574	793-4574	on request
L2 (100x)	793-575	793-5575	793-4575	
L3 (100x)	793-576	793-5576	793-4576	
N (100x)	793-577	793-5577	793-4577	
PE (100x)	793-578	793-5578	793-4578	
PEN (100x)	793-579	793-5579	793-4579	
Ground (100x)	793-580	793-5580	793-4580	
R (100x)	793-581	793-5581	793-4581	
S (100x)	793-582	793-5582	793-4582	
T (100x)	793-583	793-5583	793-4583	
+/- (50x)	793-552	793-5552	793-4552	
a, b, c, e, u, v, w, x, y, z (10x)	793-543	793-5543	793-4543	
R, S, T, U, V, W, X, Y, Z, Mp (10x)	793-544	793-5544	793-4544	793-3544
A, B, P, N, PE, PEN, L1, L2, L3, Ground (10x)	793-545	793-5545	793-4545	793-3545
U, V, W, N, PE, U, V, W, N, PE (10x)	793-474	793-5474	793-4474	
L1, L2, L3, N, PE, L1, L2, L3, N, PE (10x)	793-472	793-5472	793-4472	
U1, V1, W1, U1, V1, W1, U1, V1, W1,... (10x)	793-487	793-5487	793-4487	
U2, V2, W2, U2, V2, W2, U2, V2, W2,... (10x)	793-494	793-5494	793-4494	
U3, V3, W3, U3, V3, W3, U3, V3, W3,... (10x)	793-495	793-5495	793-4495	
U4, V4, W4, U4, V4, W4, U4, V4, W4,... (10x)	793-496	793-5496	793-4496	
U5, V5, W5, U5, V5, W5, U5, V5, W5,... (10x)	793-497	793-5497	793-4497	
U6, V6, W6, ..., U6, V6, W6,... to U9, V9, W9, ..., U9, V9, W9, (2 each)	793-498	793-5498	793-4498	
R1, S1, T1, U1, V1, W1, X1, Y1, Z1, SL (10x)	793-546	793-5546	793-4546	
R2, S2, T2, U2, V2, W2, X2, Y2, Z2, SL (10x)	793-547	793-5547	793-4547	
R3, S3, T3, U3, V3, W3, X3, Y3, Z3, SL (10x)	793-548	793-5548	793-4548	
R4, S4, T4, ..., Y4, Z4, SL and R5, S5, T5, ..., Y5, Z5, SL (5 each)	793-549	793-5549	793-4549	
R6, S6, T6, ..., Y6, Z6, SL to R10, S10, T10, ..., Y10, Z10, SL (2 each)	793-550	793-5550	793-4550	
<b>"decade" marking with red printing,</b>				
2 strips, with same numbers				
10, 20 ... 50 (20 each)	793-553	793-5553	793-4553	
60, 70 ... 100 (20 each)	793-554	793-5554	793-4554	
110, 120 ... 150 (20 each)	793-555	793-5555	793-4555	
160, 170 ... 200 (20 each)	793-556	793-5556	793-4556	
1 strip, each with same numbers				
210, 220 ... 300 (10 each)	793-557	793-5557	793-4557	
310, 320 ... 400 (10 each)	793-558	793-5558	793-4558	
410, 420 ... 500 (10 each)	793-559	793-5559	793-4559	
510, 520 ... 600 (10 each)	793-560	793-5560	793-4560	
610, 620 ... 700 (10 each)	793-561	793-5561	793-4561	
710, 720 ... 800 (10 each)	793-562	793-5562	793-4562	
810, 820 ... 900 (10 each)	793-563	793-5563	793-4563	
910, 920 ... 1000 (10 each)	793-564	793-5564	793-4564	

# WAGO WMB Multi Marking System for Terminal Block Width 3.5 mm, 4 – 4.2 mm, 5 mm and Higher

vertical marking  
same letters/symbols per strip  
10 strips with 10 markers per card  
for terminal widths 5 - 17.5 mm and  
5 - 5.2 mm und 4 - 4.2 mm und 3.5 mm

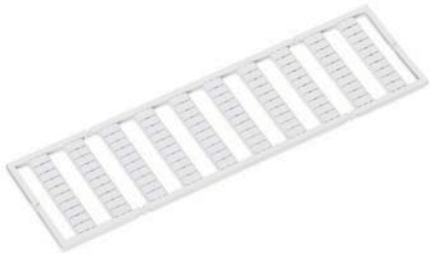


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- ② For continuous marking of 270, 280, 780, 869, 870, 880, 2002, 2003 and 2022 Series terminal blocks  
Individual marking of terminal blocks larger than 5 / 5.2 mm
- ③ For continuous marking of 279 and 2001 Series terminal blocks
- ④ For continuous marking of 2000 and 2020 Series terminal blocks

Marking	Marker Width 5 mm ①	Marker Width 5 – 5.2 mm ②	Marker Width 4 – 4.2 mm ③	Marker Width 3.5 mm ④
N (100x)	793-677	793-5677	793-4677	on request
L1 (100x)	793-674	793-5674	793-4674	
L2 (100x)	793-675	793-5675	793-4675	
L3 (100x)	793-676	793-5676	793-4676	
PE (100x)	793-678	793-5678	793-4678	
PEN (100x)	793-679	793-5679	793-4679	
Ground (100x)	793-680	793-5680	793-4680	
R (100x)	793-681	793-5681	793-4681	
S (100x)	793-682	793-5682	793-4682	
T (100x)	793-683	793-5683	793-4683	
+/- (50x)	793-652	793-5652	793-4552	
a, b, c, e, u, v, w, x, y, z (10x)	793-643	793-5643	793-4643	
R, S, T, U, V, W, X, Y, Z, Mp (10x)	793-644	793-5644	793-4644	
A, B, P, N, PE, PEN, L1, L2, L3, Ground (10x)	793-645	793-5645	793-4645	
U, V, W, N, PE, U, V, W, N, PE (10x)	794-674	794-5674	794-4674	
L1, L2, L3, N, PE, L1, L2, L3, N, PE (10x)	794-672	793-5672	794-4672	
U1, V1, W1, U1, V1, W1, U1, V1, W1,... (10x)	793-687	793-5687	793-4687	
U2, V2, W2, U2, V2, W2, U2, V2, W2,... (10x)	793-694	793-5694	793-4694	
U3, V3, W3, U3, V3, W3, U3, V3, W3,... (10x)	793-695	793-5695	793-4695	
U4, V4, W4, U4, V4, W4, U4, V4, W4,... (10x)	793-696	793-5696	793-4696	
U5, V5, W5, U5, V5, W5, U5, V5, W5,... (10x)	793-697	793-5697	793-4697	
U6, V6, W6, ..., U6, V6, W6,... to U9, V9, W9, ..., U9, V9, W9, (2 each)	793-698	793-5698	793-4698	
R1, S1, T1, U1, V1, W1, X1, Y1, Z1, SL (10x)	793-646	793-5646	793-4646	
R2, S2, T2, U2, V2, W2, X2, Y2, Z2, SL (10x)	793-647	793-5647	793-4647	
R3, S3, T3, U3, V3, W3, X3, Y3, Z3, SL (10x)	793-648	793-5648	793-4648	
R4, S4, T4, ..., Y4, Z4, SL and R5, S5, T5, ..., Y5, Z5, SL (5 each)	793-649	793-5649	793-4649	
R6, S6, T6, ..., Y6, Z6, SL to R10, S10, T10, ..., Y10, Z10, SL (2 each)	793-650	793-5650	793-4650	
<b>"decade" marking with red printing,</b>				
2 strips, with same numbers				
10, 20 ... 50 (20 each)	793-653	793-5653	793-4653	
60, 70 ... 100 (20 each)	793-654	793-5654	793-4654	
110, 120 ... 150 (20 each)	793-655	793-5655	793-4655	
160, 170 ... 200 (20 each)	793-656	793-5656	793-4656	
1 strip, each with same numbers				
210, 220 ... 300 (10 each)	793-657	793-5657	793-4657	
310, 320 ... 400 (10 each)	793-658	793-5658	793-4658	
410, 420 ... 500 (10 each)	793-659	793-5659	793-4659	
510, 520 ... 600 (10 each)	793-660	793-5660	793-4660	
610, 620 ... 700 (10 each)	793-661	793-5661	793-4661	
710, 720 ... 800 (10 each)	793-662	793-5662	793-4662	
810, 820 ... 900 (10 each)	793-663	793-5663	793-4663	
910, 920 ... 1000 (10 each)	793-664	793-5664	793-4664	

# WAGO WMB Multi Marking System for Terminal Block Width 3.5 mm, 4 – 4.2 mm, 5 mm and Higher

horizontal marking  
10 strips with 10 markers per card  
for terminal widths 5 - 17.5 mm  
for subdistribution boxes (power stations) and  
5 - 5.2 mm und 4 - 4.2 mm und 3.5 mm

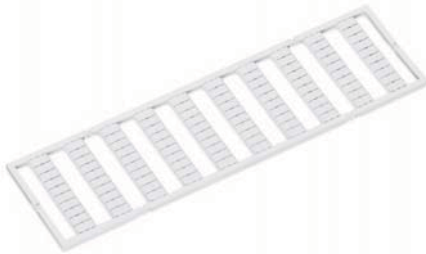


- ❶ For continuous marking of 270, 280, 780, 869, 870 and 880 Series terminal blocks  
Individual marking of 281 - 285, 781 - 785, 2002, 2003, 2022, 2004, 2006, 2010 and 2016 Series terminal blocks
- ❷ For continuous marking of 270, 280, 780, 869, 870, 880, 2002, 2003 and 2022 Series terminal blocks  
Individual marking of terminal blocks larger than 5 / 5.2 mm
- ❸ For continuous marking of 279 and 2001 Series terminal blocks
- ❹ For continuous marking of 2000 and 2020 Series terminal blocks

Marking	Marker Width 5 mm ❶	Marker Width 5 – 5.2 mm ❷	Marker Width 4 – 4.2 mm ❸	Marker Width 3.5 mm ❹
<b>for subdistribution boxes (power stations),</b>				
horizontal marking				
1A, 1B, ..., 1G, 1H, ... to 10A, 10B, ..., 10G, 10H, , ; (1 each)	793-458	793-5458	793-4458	on request
0, 2, 4, 6, , , 0, 2, 4, 6; (5x)/1, 3, 5, 7, , , 1, 3, 5, 7; (5x)	793-500/793-134			
vertical marking				
1A, 1B, ..., 1G, 1H, ... to 10A, 10B, ..., 10G, 10H, , ; (1 each)	793-958	793-5958	793-4958	-
0, 2, 4, 6, , , 0, 2, 4, 6; (5x)/1, 3, 5, 7, , , 1, 3, 5, 7; (5x)	793-600/793-073			-
Symbol for shield terminal blocks per DIN 40771 (10x)	793-993	793-5993	793-5993	
<b>for relay</b>				
A1, A2, A2, 11, 12, 14, A1, A2, A2; (5x)	793-994	793-5994	793-5994	
12, A1, A2, 24, 11, 14, 21, 22, , ; (10x)	793-995	793-5995	793-5995	
A1, A1, A2, A2, 12, 11, 11, 14, ; (10x)	793-996	793-5996	793-5996	
lin, lin, , lout, lout, 24V, 11, 12, 14, 0V; (10x)	793-997	793-5997	793-5997	
A1, A2, A1, A2, RL, -, RL, , , ; (10x)	793-998	793-5998	793-5998	
<b>for fuse terminal blocks 281-6.,</b>				
vertical marking				
F1, ..., F10 (10x)	794-615	794-5615	794-4615	
F11, ..., F20 (10x)	794-616	794-5616	794-4616	
F21, ..., F30 (10x)	794-617	794-5617	794-4617	
F31, ..., F40 (10x)	794-618	794-5618	794-4618	
F41, ..., F50 (10x)	794-619	794-5619	794-4619	

# WAGO WMB Multi Marking System for Terminal Block Width 3.5 mm, 4 – 4.2 mm, 5 mm and Higher

vertical marking  
10 strips with 10 markers per card  
for terminal widths 5 - 17.5 mm  
for PLC input marking and  
5 - 5.2 mm und 4 - 4.2 mm und 3.5 mm

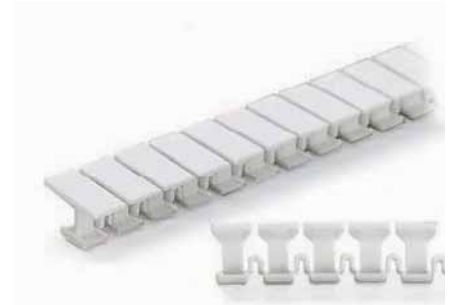
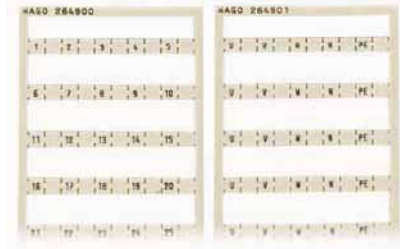
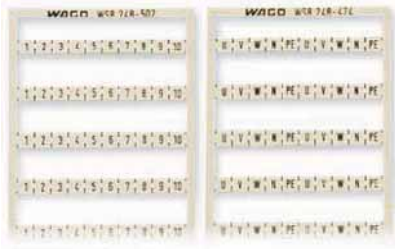


- ① For continuous marking of 270, 280, 780, 869, 870 and 880 Series terminal blocks  
Individual marking of 281 – 285, 781 – 785, 2002, 2003, 2022, 2004, 2006, 2010 and 2016 Series terminal blocks
- ② For continuous marking of 270, 280, 780, 869, 870, 880, 2002, 2003 and 2022 Series terminal blocks  
Individual marking of terminal blocks larger than 5 / 5.2 mm
- ③ For continuous marking of 279 and 2001 Series terminal blocks
- ④ For continuous marking of 2000 and 2020 Series terminal blocks

Marking	Marker Width 5 mm ①	Marker Width 5 – 5.2 mm ②	Marker Width 4 – 4.2 mm ③	Marker Width 3.5 mm ④
<b>for PLC input marking</b>				
E0.0, E0.1, ..., E9.6, E9.7 (1 each)	793-933	793-5933	793-4933	on request
E10.0, E10.1, ..., E19.6, E19.7 (1 each)	793-934	793-5934	793-4934	
E20.0, E20.1, ..., E29.6, E29.7 (1 each)	793-935	793-5935	793-4935	-
E30.0, E30.1, ..., E39.6, E39.7 (1 each)	793-936	793-5936	793-4936	-
E40.0, E40.1, ..., E49.6, E49.7 (1 each)	793-937	793-5937	793-4937	-
E50.0, E50.1, ..., E59.6, E59.7 (1 each)	793-938	793-5938	793-4938	-
E60.0, E60.1, ..., E69.6, E69.7 (1 each)	793-939	793-5939	793-4939	-
E70.0, E70.1, ..., E79.6, E79.7 (1 each)	793-940	793-5940	793-4940	-
E80.0, E80.1, ..., E89.6, E89.7 (1 each)	793-941	793-5941	793-4941	-
E90.0, E90.1, ..., E99.6, E99.7 (1 each)	793-942	793-5942	793-4942	-
E100.0, E100.1, ..., E109.6, E109.7 (1 each)	793-943	793-5943		-
E110.0, E110.1, ..., E119.6, E119.7 (1 each)	793-944	793-5944	793-4944	-
E120.0, E120.1, ..., E129.6, E129.7 (1 each)	793-945	793-5945	793-4945	-
E130.0, E130.1, ..., E139.6, E139.7 (1 each)	793-946	793-5946	793-4946	-
E140.0, E140.1, ..., E149.6, E149.7 (1 each)	793-947	793-5947	793-4947	-
E150.0, E150.1, ..., E159.6, E159.7 (1 each)	793-948	793-5948	793-4948	-
E160.0, E160.1, ..., E169.6, E169.7 (1 each)	793-949	793-5949	793-4949	-
E170.0, E170.1, ..., E179.6, E179.7 (1 each)	793-950	793-5950	793-4950	-
E180.0, E180.1, ..., E189.6, E189.7 (1 each)	793-959	793-5959	793-4959	-
E190.0, E190.1, ..., E199.6, E199.7 (1 each)	793-960	793-5960	793-4960	-
E200.0, E200.1, ..., E209.6, E209.7 (1 each)	793-961	793-5961	793-4961	-
<b>for PLC output marking</b>				
A0.0, A0.1, ..., A9.6, A9.7 (1 each)	793-967	793-5967	793-4967	
A10.0, A10.1, ..., A19.6, A19.7 (1 each)	793-968	793-5968	793-4968	
A20.0, A20.1, ..., A29.6, A29.7 (1 each)	793-969	793-5969	793-4969	
A30.0, A30.1, ..., A39.6, A39.7 (1 each)	793-970	793-5970	793-4970	
A40.0, A40.1, ..., A49.6, A49.7 (1 each)	793-971	793-5971	793-4971	
A50.0, A50.1, ..., A59.6, A59.7 (1 each)	793-972	793-5972	793-4972	
A60.0, A60.1, ..., A69.6, A69.7 (1 each)	793-973	793-5973	793-4973	
A60.0, A60.1, ..., A69.6, A69.7 (1 each)	793-974	793-5974	793-4974	
A80.0, A80.1, ..., A89.6, A89.7 (1 each)	793-975	793-5975	793-4975	
A90.0, A90.1, ..., A99.6, A99.7 (1 each)	793-976	793-5976	793-4976	
A100.0, A100.1, ..., A109.6, A109.7 (1 each)	793-977	793-5977	793-4977	
A110.0, A110.1, ..., A119.6, A119.7 (1 each)	793-978	793-5978	793-4978	
A120.0, A120.1, ..., A129.6, A129.7 (1 each)	793-979	793-5979	793-4979	
A130.0, A130.1, ..., A139.6, A139.7 (1 each)	793-980	793-5980	793-4980	
A140.0, A140.1, ..., A149.6, A149.7 (1 each)	793-981	793-5981	793-4981	
A150.0, A150.1, ..., A159.6, A159.7 (1 each)	793-982	793-5982	793-4982	
A160.0, A160.1, ..., A169.6, A169.7 (1 each)	793-983	793-5983	793-4983	
A170.0, A170.1, ..., A179.6, A179.7 (1 each)	793-984	793-5984	793-4984	
A180.0, A180.1, ..., A189.6, A189.7 (1 each)	793-985	-	793-4985	
A190.0, A190.1, ..., A199.6, A199.7 (1 each)	793-986	793-5986	793-4986	
A200.0, A200.1, ..., A209.6, A209.7 (1 each)	793-987	793-5987	793-4987	
A210.0, A210.1, ..., A219.6, A219.7 (1 each)	793-988	793-5988	793-4988	
A220.0, A220.1, ..., A229.6, A229.7 (1 each)	793-989	793-5989	793-4989	
A230.0, A230.1, ..., A239.6, A239.7 (1 each)	793-990	793-5990	793-4990	
A240.0, A240.1, ..., A249.6, A249.7 (1 each)	793-991	793-5991	793-4991	
A250.0, A250.1, ..., A259.6, A259.7 (1 each)	793-992	793-5992	793-4992	

# WAGO Miniature WSB Quick Marking System and T Marker Tag for Terminal Blocks with Miniature WSB Marker Slots

Miniature WSB Quick marking system horizontal marking 10 strips with 10 markers per card	Miniature WSB Quick marking system	T marker tag plain
------------------------------------------------------------------------------------------------	------------------------------------	-----------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Miniature WSB Quick marking system</b>		<b>Miniature WSB Quick marking system</b>		<b>T marker tag,</b>	
				30 markers each tag, up to 6 characters per marker , stretchable from 5 mm to 6 mm, factory inkjet marking upon request	
○ 1 ... 10 (10x)	248-502 5	○ 1, , 2, , 3, , 4, , 5, ;		○ plain	209-290 50
○ 11 ... 20 (10x)	248-503 5	to 46, , 47, , 48, ,			
○ 21 ... 30 (10x)	248-504 5	49, , 50, ; (1			
○ 31 ... 40 (10x)	248-505 5	each)	264-900 5		
○ 41 ... 50 (10x)	248-506 5	○ U, , V, , W, , N, ,			
○ 51 ... 60 (10x)	248-569 5	PE, ; (10x)	264-901 5		
○ 61 ... 70 (10x)	248-570 5	○ L1, , L2, , L3, , N, ,			
○ 71 ... 80 (10x)	248-571 5	PE, ; (10x)	264-902 5		
○ 81 ... 90 (10x)	248-572 5	○ 1, , 1, , 1, , 1, , 1, ;			
○ 91 ... 100 (10x)	248-573 5	(10x)	264-903 5		
		○ 2, , 2, , 2, , 2, , 2, ;			
		(10x)	264-904 5		
		○ 3, , 3, , 3, , 3, , 3, ;			
		(10x)	264-905 5		
<b>Miniature WSB Quick marking system</b>					
○ 1 ... 50 (2x)	248-566 5				
<b>Miniature WSB Quick marking system</b>					
○ U, V, W, N, PE, U,					
V, W, N, PE (10x)		248-474	5		
<b>Miniature WSB Quick marking system</b>					
○ L1, L2, L3, N, PE,					
L1, L2, L3, N, PE					
(10x)		248-472	5		



**6 characters per marker**  
The T marker tag fulfills customer requests for larger marking areas for 264 Series terminal strips. The T marker can be marked with up to 6 characters per marker and is snapped into the miniature WSB marker slot. Terminal strips in any combination of 2- and 4-conductor terminal blocks can be marked easily by stretching the tag.







# Group Marker Carriers (Height-Adjustable) and Movable Marking System

Height-adjustable group marker carrier	Carrier-through element
----------------------------------------	-------------------------



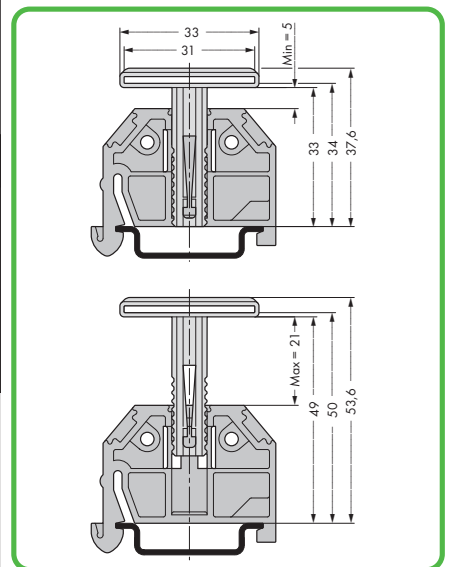
Receptacles for:  
 1 x marker  
 2 x WMB (Multi marking) or  
 3 x WCB (Combi marking) or  
 1 x WFB (Continuous marking strips)



Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Height-adjustable group marker carrier,</b> snap-on type and height-adjustable from 43.5 mm to 59.5 mm in 249-116 and 249-117 end stops, for 1 marker or self-adhesive label and transparent protection covers, 10 mm wide ● gray		<b>Carrier-through element,</b> height-adjustable ● gray	
<b>249-119</b>	50 (2x25)	<b>709-118</b>	50 (2x25)
snap-on type and height-adjustable from 43.5 mm to 59.5 mm in 249-116 and 249-117 end stops, for 2 WMB markers or 1 x continuous strip, 10 mm wide ● gray		<b>Carrier-end element,</b> height-adjustable ● gray	
<b>249-118</b>	100 (4x25)	<b>709-119</b>	50 (2x25)
snap-on type and height-adjustable from 42.2 mm to 58.2 mm in 249-116 and 249-117 end stops, with marker surface, 6 mm wide ○ white			
<b>249-120</b>	50 (2x25)		
snap-on type and height-adjustable from 45 mm to 61 mm in 249-116 and 249-117 end stops, for 2 WMB markers or 1 x TOPJOB <sup>®</sup> S marking strips, 12.2 mm wide ● gray			
<b>2009-163</b>	50 (2x25)		
<b>Item-Specific Accessories</b>			
<b>Marking strip carrier,</b>			
folded, 1 m long, 16 mm wide, 1.7 mm thick transparent			
	<b>709-120</b>		1
<b>Marking card,</b>			
with 14 marking strips, DIN A4 plain			
	<b>709-193</b>		1

This system can be used as an additional group marker carrier or continuous marking strip carrier for terminal strips or single-deck rail-mount terminal blocks, for example:

- 264 Series terminal strips for DIN 35 rails
- 279 to 284 Series single-deck rail-mount terminal blocks, with a maximum height of 49 mm/1.93 in from the upper edge of the carrier rail (please observe conductor radius).

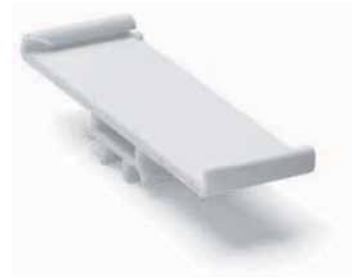


Dimensions in mm



Height-adjustable group marker carrier for TOPJOB<sup>®</sup>S marking strips

Group marker carrier	Group marker carrier	Group marker carrier
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Group marker carrier,</b> to insert into jumper slots of terminal blocks, for terminal block width of 4 - 6 mm, for up to 3 WMB markers or 8 marker tags, 15 mm wide		<b>Group marker carrier,</b> for snapping into screwless end stops; for center or side mounting, 10 mm wide		<b>Group marker carrier,</b> for WMB and miniature WSB marker receptacles, 10 mm wide	
○ gray	209-140 50 (2x25)	○ white	209-112 100 (2x50)	○ white	209-145 100 (2x50)
for up to 2 WMB markers or 5 marker tags, 10 mm wide		<b>Marker,</b> from white cardboard, for self-marking, 100 markers per sheet			
○ gray	209-141 50 (2x25)	○ white	209-113 1		
for up to 1 WMB marker or 2 marker tags, 5 mm wide		<b>Self-adhesive label,</b> for self-marking, 7 x 25 labels per sheet			
○ gray	209-142 50 (2x25)	○ white	210-345 1		
		<b>Protection cover</b> transparent			
		209-114	50		



Group marker carriers

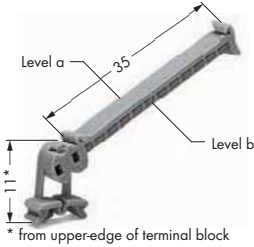



Group marker carrier with marker and protection cover



# Group Marker Carrier (Pivoting) WFB Continuous Marking Strip Mounting Carrier

Pivoting group marker carrier	WFB continuous marking strip	Mounting carrier
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Pivoting group marker carrier</b>		<b>WFB continuous marking strip,</b> for self-marking, e.g., with felt-tip pen, 1000 mm long		<b>Mounting carrier,</b> for isolated mounting on DIN 35 rails	
● gray	249-105 50 (2x25)	transparent	210-612 10	● gray	209-106 25
<b>Marker card, 4 x 30 markers per sheet</b>		<b>Carrier for WFB continuous marking strip,</b> to be snapped into the marker slot			
○ white	209-183 1	● gray	209-185 200 (8x25)		
<b>Protection cover</b>					
transparent	209-184 50				
<b>Item-Specific Accessories</b>					
		<b>Felt-tip pen,</b> for permanent marking			
			210-110 1		



This pivoting group marker carrier has been developed for group marking of rail-mount terminal blocks and readily satisfies several customer requirements.



Carrier for WFB Continuous marking strip; to be secured every 10th terminal block.



Isolated mounting of a carrier rail in a distribution box for protection class 2.

- Can be used in all multiprofile marker slots for rail-mount terminal blocks from 5 mm/0.197 in on or in spacer housings as shown in the picture
- Can be pivoted in 7 different stable positions, providing the best visual angle in case of difficult mounting conditions
- Two levels for different marking systems  
Level a: for marker (4 x 34) mm (see picture)  
Level b: for 12 WCB-Combi markers (see www.wagocatalog.com)





# Marker Cards – Self-Adhesive Marking strips

Self-adhesive marker strips  
computer-marked  
40 self-adhesive strips per card  
Height of marking strip: 6 mm

Self-adhesive marker strips  
computer-marked  
40 self-adhesive strips per card  
Height of marking strip: 6 mm

Self-adhesive marker strips  
computer-marked  
40 self-adhesive strips per card  
Height of marking strip: 6 mm



Marking	Item No.	Pack. Unit	Marking	Item No.	Pack. Unit	Marking	Item No.	Pack. Unit
<b>for 260 Series 2-conductor terminal strips</b>			<b>for 261 Series 2-conductor terminal strips</b>			<b>for 262 Series 2-conductor terminal strips</b>		
1 - 10 (120x)	210-333/500-002	1	1 - 12 (80x)	210-333/600-103	1	1 - 20 (40x)	210-333/700-020	1
11 - 20 (120x)	210-333/500-003	1	13 - 24 (80x)	210-333/600-104	1	21 - 40 (40x)	210-333/700-108	1
21 - 30 (120x)	210-333/500-004	1	25 - 36 (80x)	210-333/600-105	1	41 - 60 (40x)	210-333/700-109	1
31 - 40 (120x)	210-333/500-005	1	37 - 48 (80x)	210-333/600-106	1	1 - 50 (20x)	210-333/700-021	1
41 - 50 (120x)	210-333/500-006	1	41 - 50 (80x)	210-333/600-006	1	L1 (1040x)	210-333/700-074	1
51 - 60 (120x)	210-333/500-007	1	51 - 60 (80x)	210-333/600-007	1	L2 (1040x)	210-333/700-075	1
61 - 70 (120x)	210-333/500-008	1	61 - 70 (80x)	210-333/600-008	1	L3 (1040x)	210-333/700-076	1
71 - 80 (120x)	210-333/500-009	1	71 - 80 (80x)	210-333/600-009	1	N (1040x)	210-333/700-077	1
81 - 90 (120x)	210-333/500-010	1	81 - 90 (80x)	210-333/600-010	1	PE (1040x)	210-333/700-078	1
91 - 100 (120x)	210-333/500-011	1	91 - 100 (80x)	210-333/600-011	1	PEN (1040x)	210-333/700-079	1
1 - 50 (20x)	210-333/500-021	1	1 - 50 (20x)	210-333/600-021	1	only with grid spacing	210-333/700-001	1
L1 (1440x)	210-333/500-074	1	L1 (1200x)	210-333/600-074	1			
L2 (1440x)	210-333/500-075	1	L2 (1200x)	210-333/600-075	1			
L3 (1440x)	210-333/500-076	1	L3 (1200x)	210-333/600-076	1			
N (1440x)	210-333/500-077	1	N (1200x)	210-333/600-077	1			
PE (1440x)	210-333/500-078	1	PE (1200x)	210-333/600-078	1			
PEN (1440x)	210-333/500-079	1	PEN (1200x)	210-333/600-079	1			
only with grid spacing	210-333/500-001	1	only with grid spacing	210-333/600-001	1			
<b>for 260 Series 4-conductor terminal strips</b>			<b>for 261 Series 4-conductor terminal strips</b>			<b>for 262 Series 4-conductor terminal strips</b>		
1 - 10 (80x)	210-333/800-002	1	1 - 16 (40x)	210-333/1000-202	1	1 - 12 (40x)	210-333/1200-103	1
11 - 20 (80x)	210-333/800-003	1	17 - 32 (40x)	210-333/1000-204	1	13 - 24 (40x)	210-333/1200-104	1
21 - 30 (80x)	210-333/800-004	1	33 - 48 (40x)	210-333/1000-206	1	25 - 36 (40x)	210-333/1200-105	1
31 - 40 (80x)	210-333/800-005	1	49 - 64 (40x)	210-333/1000-110	1	37 - 48 (40x)	210-333/1200-106	1
41 - 50 (80x)	210-333/800-006	1	65 - 80 (40x)	210-333/1000-111	1	49 - 60 (40x)	210-333/1200-107	1
51 - 60 (80x)	210-333/800-007	1	81 - 96 (40x)	210-333/1000-112	1	1 - 24 (20x)	210-333/1200-203	1
61 - 70 (80x)	210-333/800-008	1	97 - 112 (40x)	210-333/1000-113	1	L1 (600x)	210-333/1200-074	1
71 - 80 (80x)	210-333/800-009	1	1 - 36 (20x)	210-333/1000-208	1	L2 (600x)	210-333/1200-075	1
81 - 90 (80x)	210-333/800-010	1	L1 (720x)	210-333/1000-074	1	L3 (600x)	210-333/1200-076	1
91 - 100 (80x)	210-333/800-011	1	L2 (720x)	210-333/1000-075	1	N (600x)	210-333/1200-077	1
1 - 40 (20x)	210-333/800-209	1	L3 (720x)	210-333/1000-076	1	PE (600x)	210-333/1200-078	1
L1 (880x)	210-333/800-074	1	N (720x)	210-333/1000-077	1	PEN (600x)	210-333/1200-079	1
L2 (880x)	210-333/800-075	1	PE (720x)	210-333/1000-078	1	only with grid spacing	210-333/1200-001	1
L3 (880x)	210-333/800-076	1	PEN (720x)	210-333/1000-079	1			
N (880x)	210-333/800-077	1	only with grid spacing	210-333/1000-001	1			
PE (880x)	210-333/800-078	1						
PEN (880x)	210-333/800-079	1						
only with grid spacing	210-333/800-001	1						



# Conductor and Cable Marking - Description and Handling -

## Wire marking



The following markers are available:  
Markers for plotter marking.



Markers on roll for thermal transfer printing.



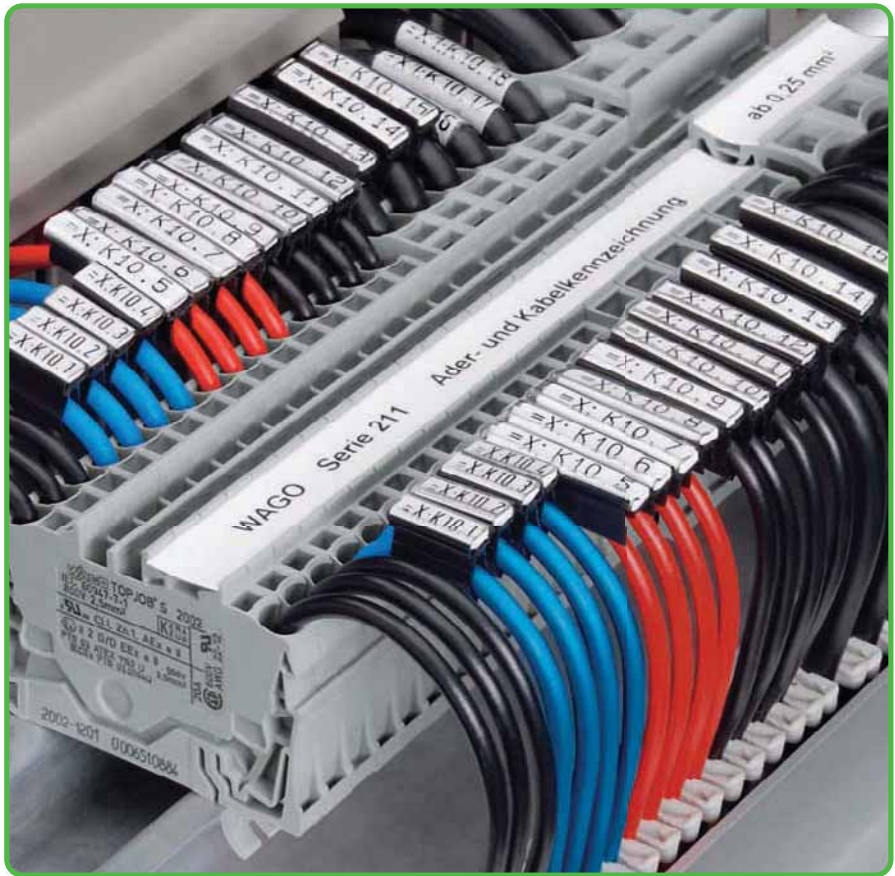
Remove the printed marker from the roll.



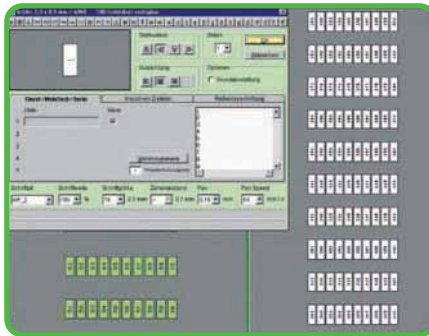
Slide the plotted marker into the marking sleeve receptacle. Exchanging the marker is also possible after the conductor has been terminated.



Compress the sleeve and slide it onto the conductor to be marked.



IP 350 Plotter



WAGO smartMarking Software



TP 298+ Thermal Transfer Printer





Slide it through the marker receptacle up to the end of the sleeve.



Then remove the rest of the marker by twisting it off.



Attach the 211-129 marking sleeve to individual cables or conductors via cable ties.

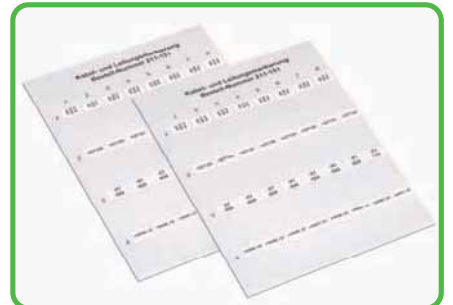


### Cable marking



Conductor marker for threading for 2.5 - 6 mm<sup>2</sup>

### Cable marking



Self-laminating labels are available on A4 sheets for laser printers (plotters) are supplied on roll for Thermal Transfer Printers.



Remove the printed label from the sheet or roll.



Wrap it around the conductor or cable.










The transparent laminate protects the marking.

# Conductor and Cable Marking for Conductors from 0.25 to 25 mm<sup>2</sup>








Marking sleeve	Marking sleeve	Marking sleeve
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Marking sleeve, 12 mm long, halogene-free, for one marker, to be fitted prior to conductor termination, for wire Ø 1.6 - 3.2 mm or 0.25 - 1.5 mm <sup>2</sup>		Marking sleeve, 23 mm long, halogene-free, for one marker, to be fitted prior to conductor termination, for wire Ø 1.6 - 3.2 mm or 0.25 - 1.5 mm <sup>2</sup>		Marking sleeve, 23 mm long, halogene-free, for cable tie, can also be fitted after install, can also be fitted after install, for wires from 10 mm <sup>2</sup>	
211-112	2000	211-122	2000	211-129	1000
for wire Ø 2.2 - 4.5 mm or 0.5 - 4 mm <sup>2</sup>		for wire Ø 2.2 - 4.5 mm or 0.5 - 4 mm <sup>2</sup>			
211-113	2000	211-123	2000		
for wire Ø 3.7 - 5.9 mm or 2.5 - 6 mm <sup>2</sup>		for wire Ø 3.7 - 5.9 mm or 2.5 - 6 mm <sup>2</sup>			
211-114	1000	211-124	1000		
for wire Ø 5.5 - 10 mm or 10 - 25 mm <sup>2</sup>		for wire Ø 5.5 - 10 mm or 10 - 25 mm <sup>2</sup>			
211-115	1000	211-125	1000		

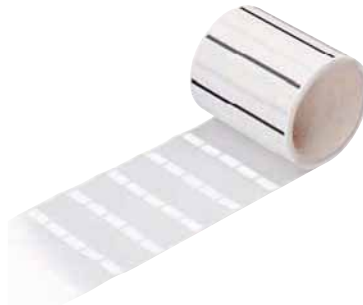
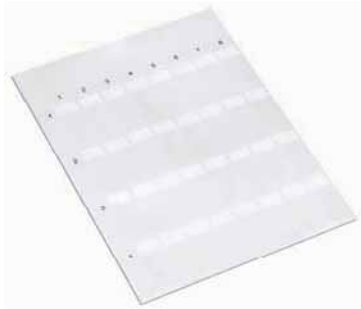
Item-Specific Accessories		Item-Specific Accessories		Item-Specific Accessories	
<b>Markers on roll</b> , for thermal transfer printer, 3,000 markers per roll, 12 mm long, white 		<b>Markers on roll</b> , for thermal transfer printer, 3,000 markers per roll, 23 mm long, white 		<b>Markers on roll</b> , for thermal transfer printer, 3,000 markers per roll, 23 mm long, white 	
211-111	1	211-121	1	211-121	1
<b>Marker card</b> , for plotter, 57 markers per card, 12 mm long, white 		<b>Marker card</b> , for plotter, 34 markers per card, 23 mm long, white 		<b>Marker card</b> , for plotter, 34 markers per card, 23 mm long, white 	
211-110	18	211-120	30	211-120	30
				<b>Cable tie</b> , 2.5 mm x 100 mm 	
				807-090/101-100	1

## 211 Series Accessories

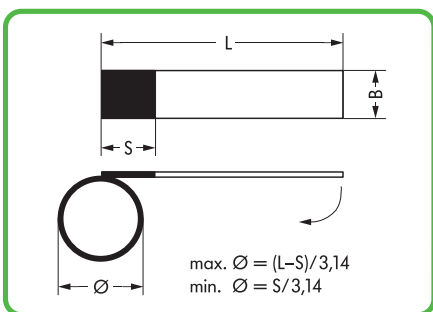
<b>TP 298+ Thermal Transfer Printer</b> , 300 dpi print resolution 	<b>Ink pen</b> , 0.35 mm line width 	
258-298	1	258-228
<b>TP 343+ Thermal Transfer Printer</b> , 300 dpi print resolution 	<b>WAGO disposable plotter pen</b> , 0.35 mm line width 	
258-343	1	258-328
<b>Ink ribbon for wire marker</b> , 76 mm wide x 300 m 	<b>Carrier plate for IP 350 Plotter, for marker cards</b> 	
258-150	1	258-370
<b>DIN A3 plotter</b> , IP 350 (110 V/230 V) 		
258-350	1	

# Self-Laminating Labels for Cable Marking Conductor Marker for Threading

Labels on DIN A4 sheets	Labels on roll	Conductor marker for threading
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Labels on DIN A4 sheets,</b> for laser printer Marking surface: S = 9 mm B = 17 mm L = 35 mm, for max. cable diameter 8 mm, 70 labels per sheet		<b>Labels on roll,</b> for thermal transfer printer Marking surface: S = 8 mm B = 18 mm L = 35 mm, for max. cable diameter 9 mm, 9,000 labels per roll		<b>Conductor marker for threading,</b> for 0.75 - 1.5 mm <sup>2</sup> , 2,000 makers per reel	
211-150	20	211-155	1	white 211-161	1
Marking surface: S = 13 mm B = 21 mm L = 56 mm, for max. cable diameter 14 mm, 32 labels per sheet		Marking surface: S = 13 mm B = 23 mm L = 51 mm, for max. cable diameter 12 mm, 5,000 labels per roll		<b>Conductor marker for threading,</b> for 2.5 - 6 mm <sup>2</sup> , 2,000 makers per reel	
211-151	25	211-156	1	white 211-162	1



Dimensions of self-laminating label (in mm)



Self-laminating labels are supplied on roll for Thermal Transfer Printers.



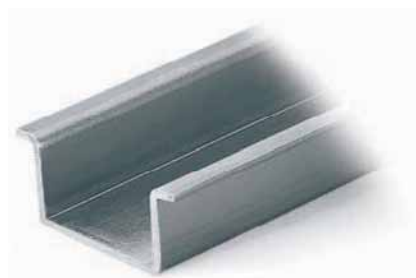
Conductor marker for threading

# Mounting Accessories Carrier Rails, Rail End Cap, Angled Support Brackets and Collective Carriers

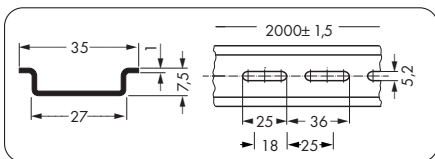
Carrier rail  
unslotted

Carrier rail  
unslotted

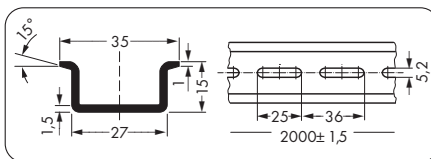
Carrier rail  
unslotted



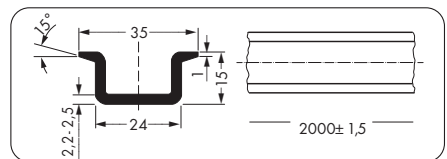
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Steel carrier rail, I<sub>N</sub> 76 A</b> (reference length of 1m/3'3"), 35 x 7.5 mm, 1 mm, 2 m/6'6" long		<b>Steel carrier rail, I<sub>N</sub> 125 A</b> (reference length of 1m/3'3"), 35 x 15 mm, 1.5 mm, 2 m/6'6" long		<b>Steel carrier rail, I<sub>N</sub> 125 A</b> (reference length of 1m/3'3"), 35 x 15 mm, 2.3 mm, 2 m/6'6" long	
unslotted	<b>210-113</b>	10	unslotted	<b>210-114</b>	10
Hole width 25 mm; hole spacing 36 mm		slotted		<b>210-197</b>	10
slotted	<b>210-112</b>	10(10x1)	Hole width 18 mm; hole spacing 25 mm		
slotted		<b>210-115</b>	slotted		



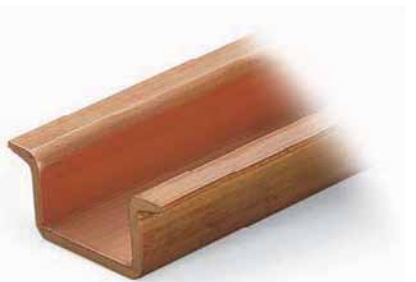
Dimensions in mm



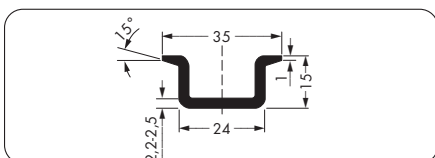
Dimensions in mm



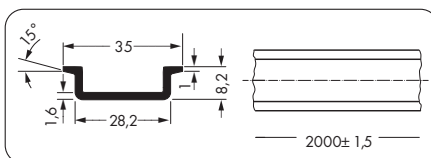
Dimensions in mm



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Copper carrier rail, I<sub>N</sub> 309 A</b> (reference length of 1m/3'3"), 35 x 15 mm, 2.3 mm, 2 m/6'6" long		<b>Aluminum carrier rail, I<sub>N</sub> 76 A</b> (reference length of 1m/3'3"), 35 x 8.2 mm, 1.6 mm, 2 m/6'6" long		<b>Rail end cap, for DIN 35 rail</b> (7.5 mm high)	
unslotted	<b>210-198</b>	10	unslotted	<b>210-196</b>	10
				gray	<b>209-109</b>
					50(2x25)

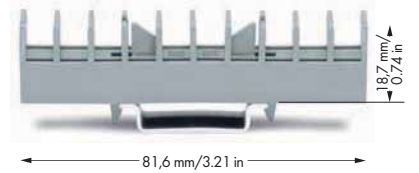


Dimensions in mm

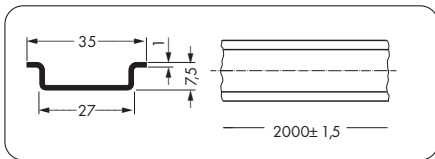


Dimensions in mm

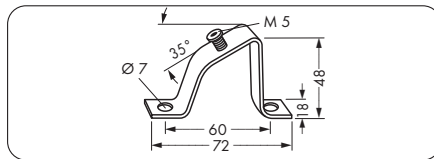
Carrier rail unslotted	Angled support bracket	Collective carrier for jumpers
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Steel carrier rail, I<sub>N</sub> 76 A</b> (reference length of 1 m/3'3"), 35 x 7.5 mm, 1 mm, 2 m/6'6" long		<b>Angled support bracket, without screw</b>		<b>Collective carrier for jumpers, for DIN 35 rail, for jumpers for transverse switching terminal block (282-811) and longitudinal switching disconnect terminal block (282-821)</b>	
unslotted	<b>210-505</b> 1	<b>210-148</b>	10	● gray	<b>282-369</b> 25
		<b>Screw M 5 x 8</b>			
slotted	<b>210-504</b> 1	<b>210-149</b>	100 (5x20)		



Dimensions in mm

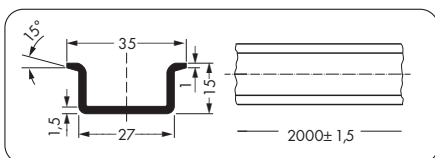


Dimensions in mm

The collective carrier can be snapped onto DIN 35 rails. It holds jumpers, e. g., during maintenance.



Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Steel carrier rail, I<sub>N</sub> 125 A</b> (reference length of 1 m/3'3"), 35 x 15 mm, 1.5 mm, 2 m/6'6" long		<b>Collective carrier for adjacent jumpers, for DIN 35 rail, for 279, 280, 281, 282 and 284 Series adjacent jumpers, as well as 215 Series banana plugs</b>	
unslotted	<b>210-506</b> 1	● gray	<b>209-100</b> 50 (2x25)
slotted	<b>210-508</b> 1		

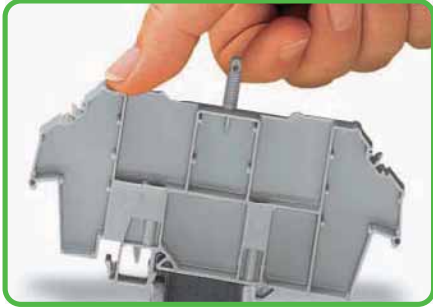


Dimensions in mm

The collective carrier can be snapped onto DIN 35 rails. It holds adjacent jumpers and banana plugs, e.g., during maintenance.

# Transparent Covers for Rail-Mounted Terminal Blocks, Usable with Lead Seals – Description and Handling –

## Assembly



Snapping a cover carrier onto the carrier rail.

## Application

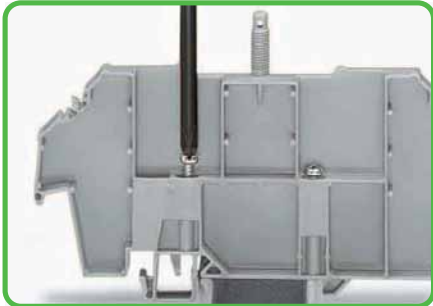


Application examples: cover (Type 1) without safety warning and lead seals.



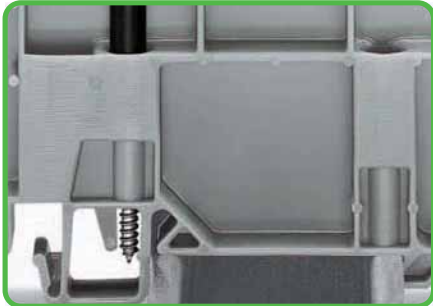
Cover with safety warning and lead seals.

## Assembly



Tightening both securing screw (left) and mounting screw (right).

## Assembly



Securing screw – prevents lifting off from rail.  
Mounting screw – prevents the cover carrier from being moved on the rail.



## Removal



Removing a cover carrier from the carrier rail.

## Marking



Inserting a marking strip into the cover.

## Lead seal



Cover with lead seals.  
Using covers without lead seals, the thread dome-head can be broken off.

# Transparent Covers for Rail-Mounted Terminal Blocks, Usable with Lead Seals 709 Series

Cover and cover carrier, type 1




Item No.	Pack. Unit
<b>Cover, type 1,</b> suitable for cover carrier, type 1, 1 m/3'3" long	
transparent	<b>709-153</b> 10




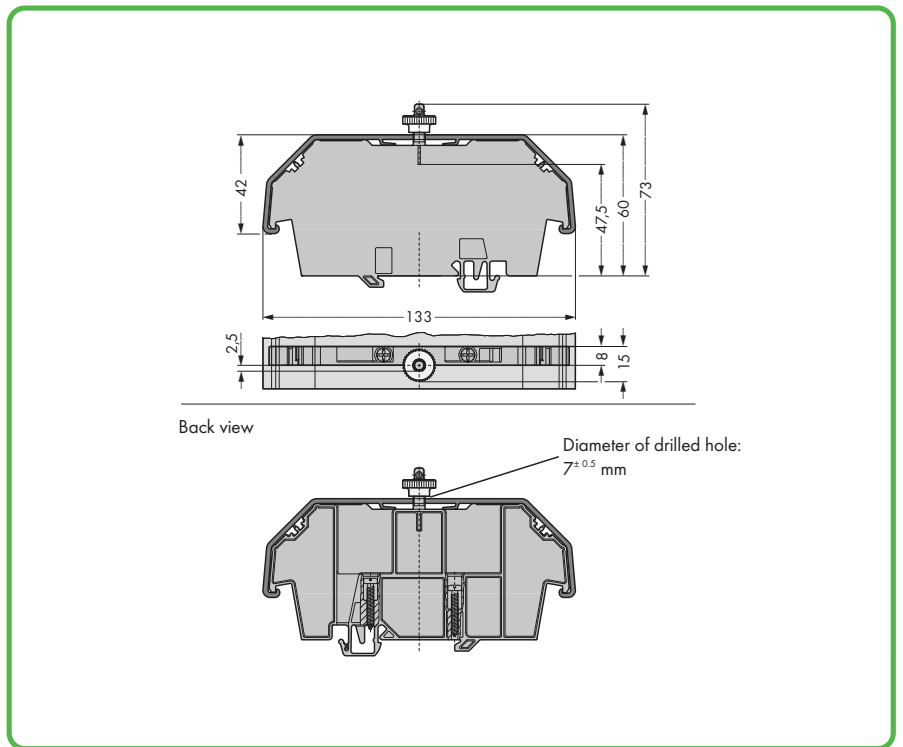
Item No.	Pack. Unit
<b>Cover carrier, type 1,</b> incl. mounting/securing screws and knurled nut, for 279 to 282 Series and 880 Series rail-mount terminal blocks, for 264 Series miniature terminal blocks, for 270 Series sensor and actuator blocks	
○ gray	<b>709-167</b> 10

### Accessories

<b>Marking card with 6 marking strips,</b> for group marking or safety instructions	
plain	<b>709-183</b> 1

<b>Spare mounting/securing screw,</b> for cover	
	<b>209-196</b> 200 (8x25)

<b>Spare knurled nut,</b> for cover	
	<b>210-549</b> 100 (4x25)



Dimensions in mm

# Transparent Covers for Rail-Mounted Terminal Blocks, Usable with Lead Seals 709 Series

Cover and cover carrier, type 2



Item No.	Pack. Unit
<b>Cover, type 2,</b> suitable for cover carrier, type 2, 1 m/3'3" long transparent	<b>709-154</b> 1



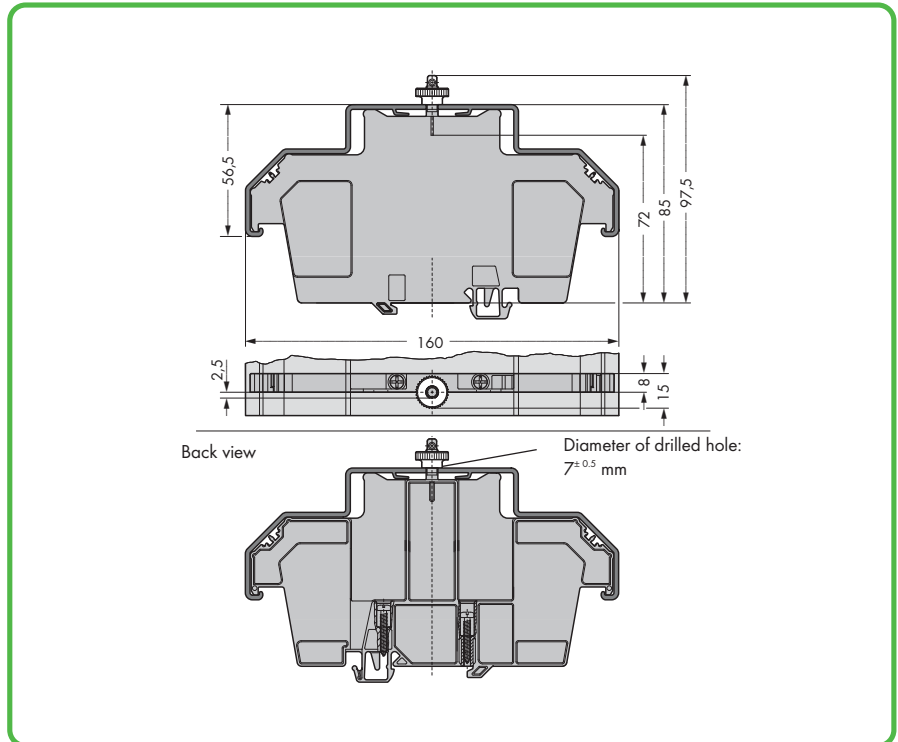
Item No.	Pack. Unit
<b>Cover carrier, type 2,</b> incl. mounting/securing screws and knurled nut, for 283 to 285 Series rail-mount terminal blocks, for 279 to 281 Series double- and triple-deck blocks, for 780 to 785, 775, 776 and 777 Series TOPJOB® terminals, for 280 Series sensor and actuator blocks, for 282 Series disconnect terminals for test and measurement for transformer circuits	
● gray	<b>709-168</b> 10

### Accessories

<b>Marking card with 6 marking strips,</b> for group marking or safety instructions plain	<b>709-183</b>	1
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<b>Spare mounting/securing screw,</b> for cover	<b>209-196</b>	200 (8x25)
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<b>Spare knurled nut,</b> for cover	<b>210-549</b>	100 (4x25)
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Dimensions in mm

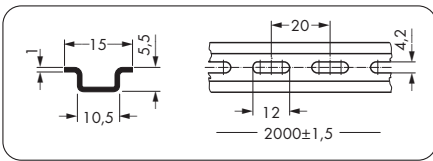


# Mounting Accessories Carrier Rails and End Stops

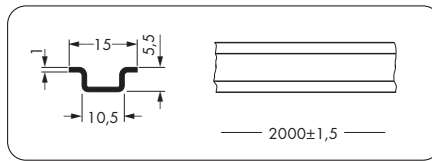
Carrier rail slotted	Carrier rail unslotted	Screwless end stop
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Steel carrier rail, I<sub>N</sub> 57 A</b> (reference length of 1 m/3'3"), 15 x 5.5 mm, 1 mm, 2 m/6'6" long slotted	<b>210-111</b> 1	<b>Steel carrier rail, I<sub>N</sub> 57 A</b> (reference length of 1 m/3'3"), 15 x 5.5 mm, 1 mm, 2 m/6'6" long unslotted	<b>210-295</b> 1	<b>Screwless end stop, for DIN 15 rail,</b> 6 mm wide ● gray	<b>249-101</b> 25



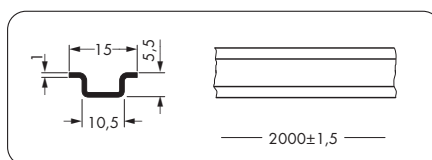
Dimensions in mm



Dimensions in mm



Item No.	Pack. Unit
<b>Aluminum carrier rail, I<sub>N</sub> 57 A</b> (reference length of 1 m/3'3"), 15 x 5.5 mm, 1 mm, 2 m/6'6" long unslotted	<b>210-296</b> 10

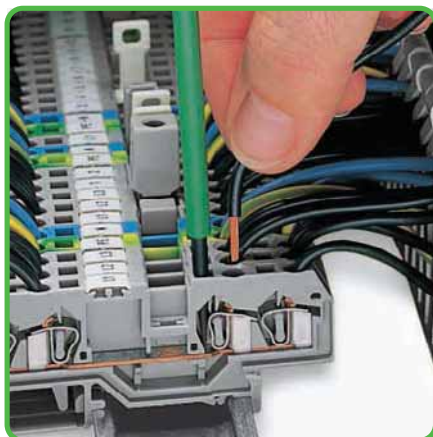


Dimensions in mm

Operating tool with partially insulated shaft	Operating tool set with partially insulated shafts	Operating tool with partially insulated shaft
-----------------------------------------------	----------------------------------------------------	-----------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Operating tool with partially insulated shaft, type 1, (2.5 x 0.4) mm blade, for 279, 726, 727, 2000, 2001 and 2020 Series	210-719 1	Operating tool set with partially insulated shafts, 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 with partially insulated shaft, (2.5 x 0.4) mm blade, short, for 279, 726, 727, 2000 and 2001 Series	210-647 1
Operating tool with partially insulated shaft, type 2, (3.5 x 0.5) mm blade, for 260, 261, 262, 264, 270, 280, 281, 290, 775, 776, 777, 769, 780, 781, 869, 870, 880, 2002, 2003, 2004, 2005 and 2022 Series	210-720 1			Operating tool with partially insulated shaft, (2.5 x 0.4) mm blade, short angled, for 279, 2000, 2001 and 2020 Series	210-648 1
Operating tool with partially insulated shaft, type 3, (5.5 x 0.8) mm blade, for 282, 283, 284, 285, 782, 783, 784, 785, 2006, 2010 and 2016 Series	210-721 1				



The blade dimensions of the above-listed operating tools with partially insulated shaft are ideal for easy operation of front-entry terminal blocks.



Set of operating tools

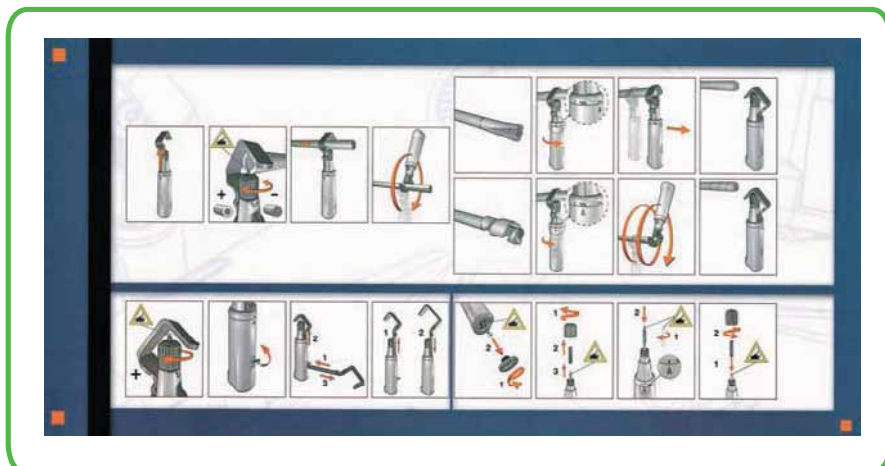


Cable stripper  
for round cables with an outer Ø  
from 2.5 mm to 11 mm

Cable stripper  
for round cables with an outer Ø  
from 4.5 mm to 45 mm



Item No.	Pack. Unit	Item No.	Pack. Unit
Cable stripper, for round cables with an outer Ø from 2.5 mm to 11 mm 206-171	1	Cable stripper, for round cables with an outer Ø from 4.5 mm to 45 mm 206-174	1
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
Replacement blade, from 2.5 mm to 11 mm 206-170	1	Replacement blade, from 4.5 mm to 45 mm 206-173	1



**206-171 Cable Stripper**

- 10-position adjustment wheel ensures repeatable stripping results
- Fine adjustability via 10-position blade cutting depth adjustment
- Strips the sheath from multi-core and fiber optic cables up to 11 mm diameter
- Safe and easy to use through closed stripping cavity





**206-174 Cable Stripper**

- Safe and easy to use: Three locking positions for circular, longitudinal and spiral cuts
- High cable stripping capacity of up to 40 mm diameter
- Well balanced, ergonomic design features rests for thumb, index and pinky fingers to ease raising of the cable retention hook.
- Spare blades can be stored within the tool body

Operating instructions for 206-171 cable stripper (top) and 206-174 cable stripper (bottom)

<p>"Microstrip" wire stripper 0.14 - 1.5 mm "s" and "f-st" Cutter for conductors up to 1.5 mm<sup>2</sup> "s" and "f-st"</p>	<p>"Quickstrip 10" wire stripper 0.02 mm<sup>2</sup> - 10 mm<sup>2</sup> "f-st" (6 mm<sup>2</sup> "s") Cutter for conductors up to 10 mm<sup>2</sup> "f-st" (1.5 mm<sup>2</sup> "s")</p>	<p>"Quickstrip 16" wire stripper 4 mm<sup>2</sup> - 16 mm<sup>2</sup> Cutter for conductors up to 10 mm<sup>2</sup> "f-st" (1.5 mm<sup>2</sup> "s")</p>
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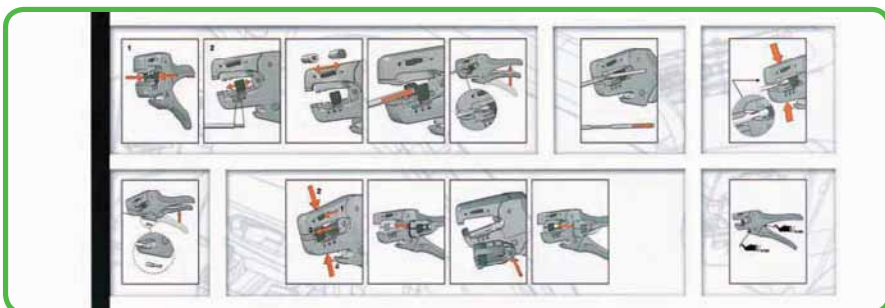
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
"Microstrip" wire stripper 206-501	1	"Quickstrip 10" wire stripper 206-124	1	"Quickstrip 16" wire stripper 206-125	1
<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>		<b>Item-Specific Accessories</b>	
Replacement stripping unit, complete 	206-502	1	"Standard" blade cassette, 0.02 mm <sup>2</sup> to 10 mm <sup>2</sup> 	206-126	1
Replacement blade, for cutter 	206-503	1	"V" blade cassette, 0.1 mm <sup>2</sup> to 4 mm <sup>2</sup> for PTFE 	206-127	1



Cutting



Stripping

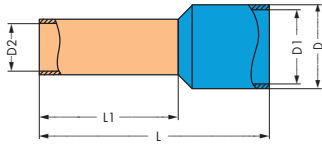


Handling description included

- Automatically adjusts to conductor size.
- No damage to conductor strands.
- Gripping pressure of jaws automatically adjusts to conductor insulation diameter.
- Clamping jaws and stripping blades automatically open once the stripping process is completed, ensuring no damage to the conductor strands.
- Exact strip length may be set by sliding red setting stop.
- Stripping blades can be replaced.
- Self-sharpening, fully protected cutter, also replaceable.\*
- The complete body is made of glass fiber-reinforced polyamide.

\* applies for Microstrip

Ferrule, insulated, tin plated, electrolytic copper, gastight crimped	Variocrimp 4 crimping tool for insulated and uninsulated ferrules 0.25 mm <sup>2</sup> - 4 mm <sup>2</sup> /AWG 24 - 12	Variocrimp 16 crimping tool for insulated and uninsulated ferrules 6 mm <sup>2</sup> - 16 mm <sup>2</sup> /AWG 10 - 6
-----------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------



Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Ferrule, insulated, according to DIN 46228, part 4/09.90		Variocrimp 4 crimping tool, 0.25 mm <sup>2</sup> - 4 mm <sup>2</sup> /AWG 24 - 12		Variocrimp 16 crimping tool, 6 mm <sup>2</sup> - 16 mm <sup>2</sup> /AWG 10 - 6	
● yellow	216-321 1000	206-204	1	206-216	1
● yellow	216-301 1000				
● green	216-322 1000				
● green	216-302 1000				
○ white	216-221 1000				
○ white	216-201 1000				
○ gray	216-222 1000				
○ gray	216-202 1000				
● red	216-223 1000				
● red	216-203 1000				
● black	216-224 1000				
● black	216-204 1000				
● yellow	216-205 1000				
● blue	216-206 1000				
○ gray	216-207 1000				
● yellow	216-208 100				
● red	216-209 100				
● blue	216-210 100				










### Ferrules

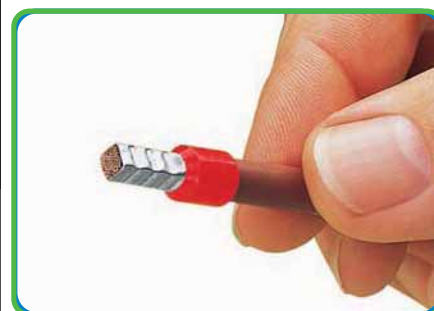
#### Technical Data

Ferrule, insulated,	Ferrule, insulated,	Ferrule, insulated,
sleeve for 0.25 mm <sup>2</sup> /AWG 24, 7 mm strip length, L: 10.5 mm, L1: 6 mm, D: 2.5 mm, D1: 2 mm, D2: 0.8 mm yellow 216-321 1000	sleeve for 0.34 mm <sup>2</sup> /AWG 24, 9 mm strip length, L: 12.5 mm, L1: 8 mm, D: 2.5 mm, D1: 2 mm, D2: 0.8 mm green 216-302 1000	sleeve for 0.75 mm <sup>2</sup> /AWG 20, 8 mm strip length, L: 12 mm, L1: 6 mm, D: 3.3 mm, D1: 2.8 mm, D2: 1.3 mm gray 216-222 1000
sleeve for 0.25 mm <sup>2</sup> /AWG 24, 9 mm strip length, L: 12.5 mm, L1: 8 mm, D: 2.5 mm, D1: 2 mm, D2: 0.8 mm yellow 216-301 1000	sleeve for 0.5 mm <sup>2</sup> /AWG 22, 7 mm strip length, L: 11.5 mm, L1: 6 mm, D: 3 mm, D1: 2.5 mm, D2: 1.1 mm white 216-221 1000	sleeve for 0.75 mm <sup>2</sup> /AWG 20, 10 mm strip length, L: 14 mm, L1: 8 mm, D: 3.3 mm, D1: 2.8 mm, D2: 1.3 mm gray 216-202 1000
sleeve for 0.35 mm <sup>2</sup> /AWG 24, 7 mm strip length, L: 10.5 mm, L1: 6 mm, D: 2.5 mm, D1: 2 mm, D2: 0.8 mm green 216-322 1000	sleeve for 0.5 mm <sup>2</sup> /AWG 22, 9 mm strip length, L: 13.5 mm, L1: 8 mm, D: 3 mm, D1: 2.5 mm, D2: 1.1 mm white 216-201 1000	sleeve for 1 mm <sup>2</sup> /AWG 18, 8 mm strip length, L: 12 mm, L1: 6 mm, D: 3.6 mm, D1: 3 mm, D2: 1.5 mm red 216-223 1000

**Application notes:**

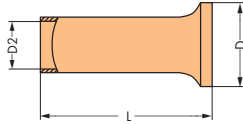
- With "Variocrimp 4," the built-in crimping pressure control automatically adjusts force to the conductor cross section used. With "Variocrimp 16," it is necessary to select the wire gauge on the tool before crimping.
- Only one crimping station is needed to handle the specified conductor size range.
- Uniform compact crimping from all four sides for high conductor retention.
- No need to center the conductor into the ferrule.
- Conductor and ferrule insertion possible from both sides (for left- and right-handers).
- Built-in ratchet mechanism ensures gastight crimp connection.
- Crimping tools open automatically after crimping operation is complete.
- Comfortable handles for operator.

Ferrules	
Technical Data	
 sleeve for 1 mm <sup>2</sup> /AWG 18, 10 mm strip length, L: 14 mm, L1: 8 mm, D: 3.6 mm, D1: 3 mm, D2: 1.5 mm red <b>216-203</b> 1000	 sleeve for 6 mm <sup>2</sup> /AWG 10, 14 mm strip length, L: 20 mm, L1: 12 mm, D: 6.8 mm, D1: 6.2 mm, D2: 3.5 mm yellow <b>216-208</b> 100
 sleeve for 1.5 mm <sup>2</sup> /AWG 16, 8 mm strip length, L: 12 mm, L1: 6 mm, D: 4 mm, D1: 3.4 mm, D2: 1.8 mm black <b>216-224</b> 1000	 sleeve for 10 mm <sup>2</sup> /AWG 8, 16 mm strip length, L: 21 mm, L1: 12 mm, D: 8.1 mm, D1: 7.5 mm, D2: 4.6 mm red <b>216-209</b> 100
 sleeve for 1.5 mm <sup>2</sup> /AWG 16, 10 mm strip length, L: 14 mm, L1: 8 mm, D: 4 mm, D1: 3.4 mm, D2: 1.8 mm black <b>216-204</b> 1000	 sleeve for 16 mm <sup>2</sup> /AWG 6, 23 mm strip length, L: 29 mm, L1: 18 mm, D: 9.6 mm, D1: 8.8 mm, D2: 5.8 mm blue <b>216-210</b> 100
 sleeve for 2.08 mm <sup>2</sup> /AWG 14, 10 mm strip length, L: 14.5 mm, L1: 8 mm, D: 4.2 mm, D1: 3.6 mm, D2: 2.05 mm yellow <b>216-205</b> 1000	
 sleeve for 2.5 mm <sup>2</sup> /AWG 14, 10 mm strip length, L: 15 mm, L1: 8 mm, D: 4.8 mm, D1: 4.2 mm, D2: 2.3 mm blue <b>216-206</b> 1000	
 sleeve for 4 mm <sup>2</sup> /AWG 12, 12 mm strip length, L: 16.8 mm, L1: 9.5 mm, D: 5.4 mm, D1: 4.8 mm, D2: 2.9 mm gray <b>216-207</b> 1000	



A perfect gastight crimp, both electrically and mechanically reliable.

Ferrule, uninsulated, tin plated, electrolytic copper, gastight crimped



Item No.	Pack. Unit	Ferrules	
<b>Ferrule, uninsulated,</b> according to DIN 46228, part 1/08.92		Technical Data	
216-151	1000	<b>Ferrule, uninsulated,</b> sleeve for 0.34 mm <sup>2</sup> /AWG 24, 7 mm strip length, L: 7 mm, D: 1.7 mm, D2: 0.85 mm	<b>Ferrule, uninsulated,</b> sleeve for 1 mm <sup>2</sup> /AWG 18, 8 mm strip length, L: 8 mm, D: 2.5 mm, D2: 1.4 mm
216-131	1000		
216-152	1000		
216-132	1000		
216-121	1000		
216-101	1000	<b>216-132</b>	<b>216-103</b>
216-122	1000		
216-102	1000		
216-123	1000	<b>Ferrule, uninsulated,</b> sleeve for 0.5 mm <sup>2</sup> /AWG 22, 6 mm strip length, L: 6 mm, D: 2.1 mm, D2: 1 mm	<b>Ferrule, uninsulated,</b> sleeve for 1.5 mm <sup>2</sup> /AWG 16, 6 mm strip length, L: 6 mm, D: 2.8 mm, D2: 1.7 mm
216-103	1000		
216-124	1000		
216-104	1000		
216-106	1000	<b>216-121</b>	<b>216-124</b>
216-107	1000		
216-108	250		
216-109	250		
216-110	250		
<b>Ferrules</b>		<b>Ferrule, uninsulated,</b> sleeve for 0.5 mm <sup>2</sup> /AWG 22, 8 mm strip length, L: 8 mm, D: 2.1 mm, D2: 1 mm	<b>Ferrule, uninsulated,</b> sleeve for 1.5 mm <sup>2</sup> /AWG 16, 8 mm strip length, L: 8 mm, D: 2.8 mm, D2: 1.7 mm
Technical Data		<b>216-101</b>	<b>216-104</b>
<b>Ferrule, uninsulated,</b> sleeve for 0.25 mm <sup>2</sup> /AWG 24, 5 mm strip length, L: 5 mm, D: 1.7 mm, D2: 0.75 mm		<b>Ferrule, uninsulated,</b> sleeve for 0.75 mm <sup>2</sup> /AWG 20, 6 mm strip length, L: 6 mm, D: 2.3 mm, D2: 1.2 mm	<b>Ferrule, uninsulated,</b> sleeve for 2.5 mm <sup>2</sup> /AWG 14, 10 mm strip length, L: 10 mm, D: 3.4 mm, D2: 2.2 mm
<b>216-151</b>	1000	<b>216-122</b>	<b>216-106</b>
<b>Ferrule, uninsulated,</b> sleeve for 0.25 mm <sup>2</sup> /AWG 24, 7 mm strip length, L: 7 mm, D: 1.7 mm, D2: 0.75 mm		<b>Ferrule, uninsulated,</b> sleeve for 0.75 mm <sup>2</sup> /AWG 20, 8 mm strip length, L: 8 mm, D: 2.3 mm, D2: 1.2 mm	<b>Ferrule, uninsulated,</b> sleeve for 4 mm <sup>2</sup> /AWG 12, 10 mm strip length, L: 10 mm, D: 4 mm, D2: 2.8 mm
<b>216-131</b>	1000	<b>216-102</b>	<b>216-107</b>
<b>Ferrule, uninsulated,</b> sleeve for 0.34 mm <sup>2</sup> /AWG 24, 5 mm strip length, L: 5 mm, D: 1.7 mm, D2: 0.85 mm		<b>Ferrule, uninsulated,</b> sleeve for 1 mm <sup>2</sup> /AWG 18, 6 mm strip length, L: 6 mm, D: 2.5 mm, D2: 1.4 mm	<b>Ferrule, uninsulated,</b> sleeve for 6 mm <sup>2</sup> /AWG 10, 12 mm strip length, L: 12 mm, D: 4.7 mm, D2: 3.5 mm
<b>216-152</b>	1000	<b>216-123</b>	<b>216-108</b>
			250

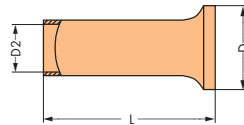










# Wire Cutter and Uninsulated Ferrules

Wire cutter	Ferrule, uninsulated, tin plated, electrolytic copper, gastight crimped
-------------	-------------------------------------------------------------------------




Item No.	Pack. Unit	Item No.	Pack. Unit	Ferrules
Wire cutter, cutting Cu and Al conductors up to 35 mm <sup>2</sup>		Ferrule, uninsulated		Technical Data
206-118	1	216-413	50	 sleeve for 25 mm <sup>2</sup> /AWG 4, 25 mm strip length, L: 25 mm, D: 9.5 mm, D2: 7.3 mm <b>216-413</b> 50
		216-414	50	
		216-424	50	
		216-425	50	
		216-435	50	
				 sleeve for 35 mm <sup>2</sup> /AWG 2, 25 mm strip length, L: 25 mm, D: 11 mm, D2: 8.3 mm <b>216-414</b> 50
				 sleeve for 35 mm <sup>2</sup> /AWG 2, 30 mm strip length, L: 30 mm, D: 11 mm, D2: 8.3 mm <b>216-424</b> 50
				 sleeve for 50 mm <sup>2</sup> /AWG 1, 30 mm strip length, L: 30 mm, D: 13 mm, D2: 10.3 mm <b>216-425</b> 50



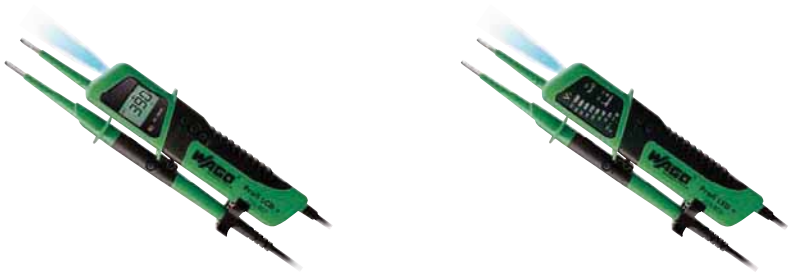
Cutting a conductor.





A perfect gastight crimp, both electrically and mechanically reliable.

				 sleeve for 50 mm <sup>2</sup> /AWG 1, 35 mm strip length, L: 35 mm, D: 13 mm, D2: 10.3 mm <b>216-435</b> 50

<b>Profi LCD+</b>	<b>Profi LED+</b>
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Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Profi LCD+,</b> 2-pole voltage tester with LCD display, removable test probes, 4 mm Ø Measuring range: 6 V ... 1000 V AC/DC Degree of protection: IP65 Resistance measurement: up to 2000 Ω <b>206-807</b> 1		<b>Profi LED+,</b> 2-pole voltage tester with LED display, removable test probes, 4 mm Ø Measuring range: 6 V ... 1000 V AC/DC Degree of protection: IP65 Resistance measurement: up to 2000 Ω <b>206-806</b> 1	
Item-Specific Accessories		Item-Specific Accessories	
Spare test probes,  4 mm Ø (2 pieces) <b>206-808</b> 25		Spare test probes,  4 mm Ø (2 pieces) <b>206-808</b> 25	



**Profi LCD+ and Profi LED+**

- Improved socket contact via 4 mm Ø test probes
- Removable test probes for small test ports (suitable for all WAGO terminal blocks)



- Additional product features for Profi LCD+:**
- Automatic measurement range selection
  - Single-pole phase testing AC >100 V
  - Two-pole sequence testing (R and L)
  - Continuity testing
  - FI/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
  - IEC/EN 61243-3 (DIN VDE 0682-401)



- Additional product features for Profi LED+:**
- Automatic measurement range selection
  - Single-pole phase testing AC >100 V
  - Two-pole sequence testing (R and L)
  - Continuity testing
  - FI/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)

Multi-Tester	Amp-Tester	Testboy
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Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
<b>Multi-Tester,</b> Digital multimeter with contact-less voltage tester, Includes: carrying case Measuring range: AC/DC 600 V AC/DC 10 A Resistance measurement: up to 20 MΩ		<b>Amp-Tester,</b> Digital clamp meter, Measuring method: True RMS, Includes: carrying case, Measuring range: 0.01 A ... 200 A AC/DC, Degree of protection: IP44		<b>Testboy,</b> with integrated flashlight Voltage range: 12 - 1000 V AC	
206-810	1	206-815	1	206-804	1
<b>Item-Specific Accessories</b>					
<b>Ersatzmessleitungen,</b> red/black					
	206-811	1			



**Additional product features for Multi Tester:**

- 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)



**Additional product features for Amp Tester:**

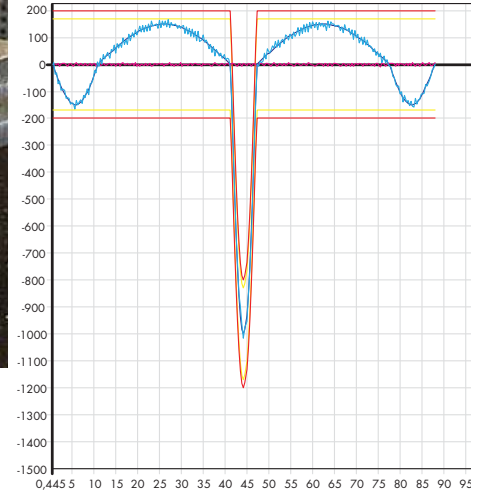
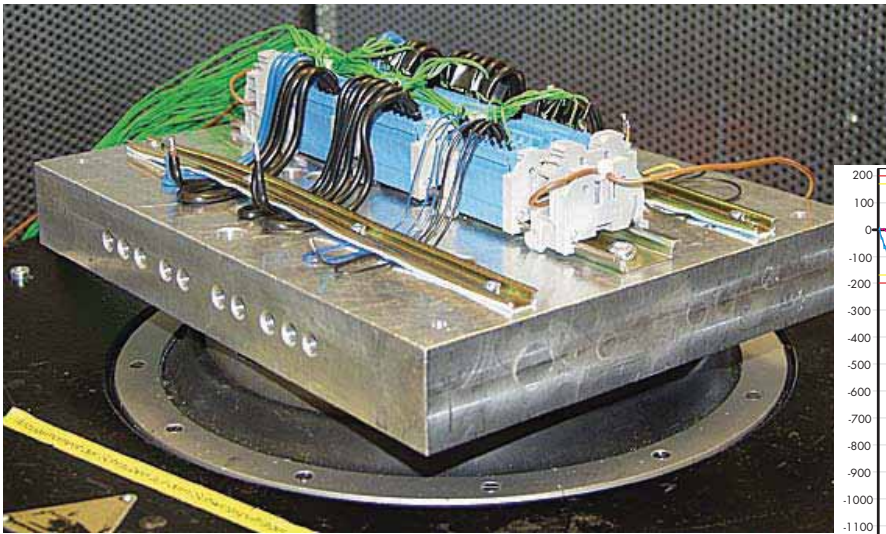
- AC and DC current measurement
- True RMS measurement
- Data hold function
- Maximum jaw opening: 21 mm Ø
- Compact design for measuring in tight spaces
- Resolution: 0.01 A at 40 A
- Resolution: 0.1 A at 200 A
- Sampling rate: 3 times per second
- Auto power-off function
- CAT III 300 V
- TÜV/GS tested and approved
- IEC/EN 61010-1 (DIN VDE 0411)



A device that will reliably detect AC voltage in cables, sockets, fuses, switches, outlets, etc.

**Testboy can detect the following:**

- live conductors
- cable breaks
- blown fuses (in cartridge or holder)
- defective switches
- defective lamps



# 14



Technical Information  
 CE Marking and EC Directives  
 IEC/EN Specifications

590  
 591



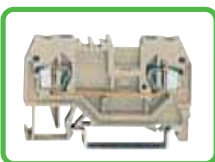
Termination of Aluminum Conductors  
 Tests and Testing Procedures per IEC/EN Standards  
 – Mechanical Tests  
 – Electrical Tests  
 – Material Tests  
 – Environmental Tests  
 Material Specification  
 – Insulation Materials  
 – Contact Plating  
 – Contact Materials  
 – Clamping Spring Material  
 UL Specifications – Underwriters Laboratories USA  
 – Tests and Testing Procedures per UL Standards


617  
 592 – 597  
 598 – 608  
 609  
 610 – 611  
 618 – 619  
 620  
 620  
 620  
 612  
 613 – 616

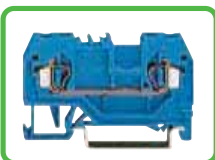


General Technical Information  
 for Electrical Equipment  
 in Hazardous Areas

622 – 632



All terminal blocks used in hazardous environments  
 “Ex e II” have their item nos. marked with the  symbol.



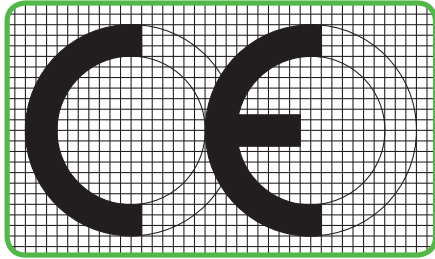
All terminal blocks used in intrinsically safe current  
 circuits “Ex i” have their item nos. marked with a blue  
 circle.

International Certification Organizations – Overview  
 Approvals – User Guide  
 WAGO Seminars

634  
 636  
 640

**CE Conformity Marking:**

The CE conformity marking consists of the characters "CE" with the following script:



Communauté Européenne  
(European Community)

**EC directives** are legally binding specifications for the European Community. Their goal is aligning legal and administrative specifications in the various EC 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.

For WAGO products the following **EC directives** apply:

**2006/95/EG**  
– **Low Voltage Directive**

This directive covers "complete" electrical equipment designed for use with a voltage rating between 50 and 1000V for alternating current and between 75 and 1500V for direct current.

This directive applies to products such as rail-mounted terminal blocks, terminal blocks, modular terminal blocks, terminal strips, etc. which comply with the specifications of the coordinated European standards and their specific parts (e.g., EN 60947 for rail-mounted terminal blocks and EN 60998 for terminal blocks).

The CE conformity marking must be applied to all electrical equipment, or, should this not be possible, to the smallest packing unit. With the CE marking, manufacturers attest conformity of their products to relevant directives.

In addition to the CE marking, the manufacturer provides an EC "Declaration of Conformity" for the product. The manufacturer must retain this declaration of conformity and present it on request to a national surveillance authority.

**2004/108/EC**  
– **EMC Directive**

This directive applies to any apparatuses, equipment and systems containing electric or electronic components. The BAPT (Bundesamt für Post und Telekommunikation / Federal Office for Post and Telecommunications) is authorized to draw a distinction between elementary and complex components. Elementary components such as resistors, transformers, ICs, relays, etc. are not provided with marking. For complex components, such as electro-motors, electronic cards, thermostats, etc., the EMC directives apply only if these components are sold directly to the end user.

All products subject to the application range of the EMC directive must display the CE marking on their housing. This marking proves conformity with the corresponding standards.

**2006/42/EG**  
– **Machinery Directive**

This directive applies to complete machines or equipment.

The manufacturers of machines or equipment are, however, obliged to use components which meet the corresponding EC directives (e.g., low voltage or EMC directives).

Fulfillment and conformity with these directives is required for the free exchange of goods within Europe.

**94/9/EC Ex Protection Directive,**  
**ATEX 100 a**

General technical information on electrical equipment used in hazardous environments.



## IEC/EN Specifications

In particular, the following standards apply to the design and application of the terminal blocks and connectors contained in this catalog:

IEC 60364-1 VDE 0100-100 /.. Erection of power installations with nominal voltages up to 1000V - Fundamental principles, assessment of general characteristics, definitions	IEC 60079-15 EN 60079-15 VDE 0170 Part 16 / Electrical apparatus for potentially explosive atmospheres - Type of protection "n"	IEC 60999-1 EN 60999-1 VDE 0609 Part 1 / Connecting devices - Electrical copper conductors; Safety requirements for screw-type and screwless-type clamping units - General requirements and particular requirements for clamping units for conductors 0.2 mm <sup>2</sup> up to 35 mm <sup>2</sup> (included)
EN 50110-1 VDE 0105 Part 1 / Operation of electrical installations	IEC 60038 HD 472 S1 VDE 0175 / IEC standard voltages	IEC 60999-2 EN 60999-2 /- General requirements and particular requirements for clamping units for conductors from 35 mm <sup>2</sup> up to 300 mm <sup>2</sup> (included)
IEC 61140 EN 61140 VDE 0140 Part 1 / Protection against electric shock - Common aspects for installation and equipment	DIN VDE 0298 Part 4 / Application of cables and flexible cords in power installations - Recommended values for current carrying capacities of cables for fixed installation and for flexible cables	IEC 60998-1 EN 60998-1 VDE 0613 Part 1 / Connecting devices for low-voltage circuits for household and similar purposes - General requirements
VDE 0100-482 HD 384.4.482 S1 /Erection of power installations with nominal voltages up to 1000V Fire protection for special risks or hazards	IEC 60112 EN 60112 VDE 0303 Part 11 / Method for determining the comparative and the proof tracking indices of solid insulating materials	IEC 60998-2-1 EN 60998-2-1 VDE 0613 Part 2-1 /- Special requirements for connecting devices as standalone devices with screw-type terminals
VDE 0100 Part 710 /- Requirements for special installations or locations Part 710: Medically used areas	IEC 60529 EN 60529 VDE 0470 Part 1 / Degrees of protection provided by enclosures (IP code) - Testing equipment and testing method	IEC 60998-2-2 EN 60998-2-2 VDE 0613 Part 2-2 /- Special requirements for connecting devices as standalone devices with screwless-type terminals
VDE 0100-718 /- Requirements for special installations or locations Part 718: Institutional facilities	IEC 61439-1 EN 61439-1 VDE 0660 Part 600 / Low-voltage switchgear and control-gear assemblies - General requirements	IEC 60998-2-3 EN 60998-2-3 VDE 0613 Part 2-3 /- Special requirements for connecting devices as standalone devices with insulation piercing clamping units
IEC 60664-1 EN 60664-1 VDE 0110 Part 1 / Insulation coordination for equipment within low-voltage systems - Principles, requirements and tests	IEC 60439-3 EN 60439-3 VDE 0660 Part 504 /- Particular requirements for low-voltage switchgear and control gear assemblies intended to be installed in places where unskilled persons have access - Distribution boards	IEC 60947-1 EN 60947-1 VDE 0660 Part 100 / Low-voltage switchgear and controlgear - General rules
IEC 60204-1 EN 60204-1 VDE 0113 Part 1 / Safety of machinery - Electrical equipment of machines - General requirements	IEC 61643-1 EN 61643-1 VDE 0675 Part 6-11 / Surge protective devices connected to low-voltage power distribution systems, - Performance requirements and testing methods	IEC 60947-7-1 EN 60947-7-1 VDE 0611 Part 1 /- Ancillary equipment; Terminal blocks for copper conductors
VDE 0118 Part 1 / Installation of electrical equipment in mines - General requirements	IEC 60335-1 EN 60335-1 VDE 0700 Part 1 / Safety of household and similar electrical appliances - General requirements	IEC 60947-7-2 EN 60947-7-2 VDE 0611 Part 3 /- Ancillary equipment; Ground (earth) conductor terminal blocks
IEC 60079-0 EN 60079-0 VDE 0170 Part 1 / Electrical apparatus for potentially explosive atmospheres - General requirements	IEC 60335-1 EN 60335-1 VDE 0700 Part 1 / Safety of household and similar electrical appliances - General requirements	DIN VDE 0611 Part 4 / Rail-mounted terminal blocks for connection of copper conductors; - Multi-level distribution rail-mounted terminal blocks up to 6 mm <sup>2</sup>
IEC 60079-7 EN 60079-7 VDE 0170 Part 6 / Electrical apparatus for potentially explosive atmospheres - Increased safety "e"	IEC 60598-1 EN 60598-1 VDE 0711 Part 1 / Lighting fixtures - General requirements and tests	IEC 60947-7-3 EN 60947-7-3 VDE 0611 Part 6 /- Ancillary equipment; Safety requirements for fuse terminal blocks
IEC 60079-11 EN 60079-11 VDE 0170 Part 7 / Electrical apparatus for potentially explosive atmospheres - Intrinsic safety "i"	IEC 60715 EN 60715 /- Standardized carrier rails for mechanical attachment of electrical devices in switchgear units	IEC 61984 EN 61984 VDE 0627 / Connectors - Safety requirements and tests

Products such as connecting devices, rail-mounted terminal blocks and connectors, etc., have their own product-specific test specifications. The following sections with the most important tests are limited to a description of the test procedures and an explanation of the test purpose. The data shown (e.g., voltages, temperatures, forces) only serve as illustration and may differ depending on the test.

## Mechanical Tests

All WAGO products comply with the requirements of the following mechanical tests:

### • Termination Requirements

#### Conductor Termination

Two connection systems have proven themselves in the field of spring pressure termination technology:

The **PUSH WIRE® connection** for applications requiring solid conductors (e.g., for lighting and building wiring, telecommunications, house communication or alarm systems).

Conductor sizes:

AWG 24 – 12 (0.28 – 4 mm<sup>2</sup>)

The **universal CAGE CLAMP® spring connection** for solid, stranded and fine-stranded conductors, designed for a variety of industrial, electrical and electronic applications (e.g., especially for fine-stranded conductors in the elevator industry, in power stations, in the chemical and automotive industry, and on board ships).

Conductor sizes:

AWG 28 – 2 (0.08 – 35 mm<sup>2</sup>)

The **CAGE CLAMP®S** connection is a further development of the universal CAGE CLAMP® spring connection, allowing the termination of AWG 24 – 6 (0.2 – 16 mm<sup>2</sup>) solid, stranded and fine-stranded conductors (AWG 4/25 mm<sup>2</sup> only “f-st”) and offering all the benefits and safety of the original CAGE CLAMP®. Furthermore, the CAGE CLAMP®S connection technology allows solid and stranded conductors from 20 to 6 AWG (0.5 – 16 mm<sup>2</sup>), as well as AWG 20 – 6 (0.5 – 16 mm<sup>2</sup>) ferruled stranded conductors to be connected by simply pushing them in.

The conductor entry hole optimally adapts to the insulation diameter of the rated conductor cross-section, thus providing good conductor guidance.

This is particularly important for applications subject to vibrations.

Fine-stranded conductors of small or very small size are highly flexible, and they deform when pushed against the conductor stop in terminal blocks. As a result, the conductor insulation – not the copper conductor – may be clamped, causing intermittent contact or no contact at all. In order to prevent the conductor insulation from being accidentally introduced into the clamp, insulation stops are available for WAGO rail-mounted terminal blocks up to AWG 12 (4 mm<sup>2</sup>), even providing protection for AWG 28 (0.08 mm<sup>2</sup>) conductors (see Section 3).

## Rated Cross-Sections and Connectable Conductors

I. According to IEC 60999-1 / EN 60999-1 / VDE 0609 Part 1, Table 1:

Rated Cross Section	Theoretical Diameter of Largest Conductor							Connectable Conductors	
	Metric			AWG				Rigid	Flexible
	Rigid		Flexible	Rigid		Flexible			
	Solid	Stranded		<sup>b)</sup> Solid	Class B Stranded		Class I, K, M Stranded		
mm <sup>2</sup>	mm	mm	mm	Conductor Cross Section	mm	mm	mm	To be defined in the corresponding product standard	
0.2	0.51	0.53	0.61	24	0.54	0.61	0.64		
0.34	0.63	0.66	0.8	22	0.68	0.71	0.8		
0.5	0.9	1.1	1.1	20	0.85	0.97	1.02		
0.75	1.0	1.2	1.3	18	1.07	1.23	1.28		
1.0	1.2	1.4	1.5	–	–	–	–		
1.5	1.5	1.7	1.8	16	1.35	1.55	1.6		
2.5	1.9	2.2	2.3 <sup>a)</sup>	14	1.71	1.95	2.08		
4.0	2.4	2.7	2.9 <sup>a)</sup>	12	2.15	2.45	2.7		
6.0	2.9	3.3	3.9 <sup>a)</sup>	10	2.72	3.09	3.36		
10.0	3.7	4.2	5.1	8	3.34	3.89	4.32		
16.0	4.6	5.3	6.3	6	4.32	4.91	5.73		
25.0	–	6.6	7.8	4	5.45	6.18	7.26		
35.0	–	7.9	9.2	2	6.87	7.78	9.02		

NOTE: The diameters of the largest rigid and flexible conductors are based on Table 1 in accordance with IEC 60228 A and IEC 60344 and on ASTM B172-71 [4], IECA Publication S-19-81 [5], IECA Publication S-66-524 [6] and IECA Publication S-66-516 [7] for AWG conductors.

a) Dimensions for class 5 flexible conductors only, according to IEC 60228 A.

b) Nominal diameter + 5 %

c) Largest diameter for conductors of classes I, K, M + 5 %

**In practical use the conductor cross sections are approx. 5% below the values stated in the table!**

The IEC 60999-1/EN 60999-1/VDE 0609 clamping unit specification, part 1, contains the following requirement in Section 7.1:

**Clamping units must be suitable for connecting unprepared conductors.**

Under normal operating conditions, direct clamping (i.e., direct conductor connection to the current bar of the terminal block) provides optimal contact quality since all risk factors arising from anti-splaying methods are avoided. Occasionally, due to wire handling on site, conductor anti-splaying methods

may be necessary. Various methods may be used for this (as illustrated below).

For applications in special areas with extremely corrosive atmospheres, special conditions apply.

In this case, we recommend using either solid copper conductors or fine-stranded copper conductors with properly crimped, tin-coated copper ferrules or copper pin terminals.

As with solid copper conductors, the fine strands are crimped to a dense inner core. This prevents ingress of the aggressive atmosphere (depending on the ppm

concentration), which can diffuse into the conductor bundle along the individual strands and cause corrosion deposits between the individual wires and the clamping point.

**One Conductor per Clamping Unit**

A number of VDE specifications specify that **only one conductor must be connected to each clamping unit** (e.g., DIN VDE 0611, Part 4, 02.91, Section 3.1.9). The same applies to the recommendations of the German Automotive Industry Association (VDA) "Supply specification for the electrical equipment of machines, mechanical installations and buildings in the automotive industry" according to Section 15.1.1.3; Draft 8.93.

II. According to IEC 60999-2, Table 1:

Rated Cross Section	Theoretical Diameter of Largest Conductor					Connectable Conductors	
	Metric		AWG/Kcmil				
	Rigid Stranded	Fine-stranded <sup>a)</sup>	Gage	Rigid Stranded	Fine-stranded	Rigid	Flexible
mm <sup>2</sup>	mm	mm		mm	mm		
50	9.1	11.0	0	9.64	12.08	To be defined in the corresponding product standard.	
70	11.0	13.1	00	11.17	13.54		
95	12.9	15.1	000	12.54	15.33		
-	-	-	0000	14.08	17.22		
120	14.5	17.0	250	15.34	19.01		
150	16.2	19.0	300	16.8	20.48		
185	18.0	21.0	350	18.16	22.05		
-	-	-	400	19.42	24.05		
240	20.6	24.0	500	21.68	26.57		
300	23.1	27.0	600	23.82	30.03		

a) Dimensions for class 5 flexible conductors only, according to IEC 60228A.

NOTE: The diameters of the largest rigid and flexible conductors are based on Table 1 and Table 3 of IEC 60228 A and, on ASTM B 172-71 [1], IECA Publication S-19-81 [2], IECA Publication S-66-524 [3] and IECA Publication S-66-516 [7] for AWG conductors.



Tip-bonded conductor



Ultrasonically bonded conductor



Crimped pin terminal (gas-tight), preferably made of copper with a tin-plated surface.



Tin-plated copper ferrule (gas-tight crimped)

Anti-splaying methods require a terminal block one size larger than the nominal cross-section of the conductor to be terminated.

The cross section values assigned to the individual products with ferrules are based on the WAGO Variocrimp method from all sides. Gas-tight, crimped twin ferrules may be used, provided the ferrule is inserted all the way into the clamping unit and that there is a sufficient clearance and creepage distance between adjacent potentials.

Other VDE and EN specifications likewise recommend the connection of **only one conductor per clamping unit**, unless the clamping unit is specifically tested and approved for the connection of several conductors, for example:

VDE 0609, Part 1, 12.00/  
EN 60999-1:2000, Section 7.1

VDE 0660, Part 600, 06.10/  
EN 61439-1:2009

Section 8.6.3

VDE 0113, Part 1, 06.07/

EN 60204-1:2006, Section 13.1.1

One conductor per clamping unit is therefore recommended to meet the safety requirements of these relevant specifications. This WAGO principle is the basis for a number of other technical and economic advantages:

- Each conductor may be terminated or removed without affecting previously connected conductors.
- Where re-wiring is required, only the conductor to be changed is removed from the clamping point, all other conductors remain safely clamped.
- Each conductor is clamped independently.
- Any combination of conductor cross-section can be connected.

WAGO rail-mounted terminal blocks offer different solutions to increase the number of clamping units:

The most common way of increasing the number of clamping points is by branching one conductor into two or three conductors.

WAGO offers 3- and 4-conductor terminal blocks, making additional jumpers unnecessary.

## Tests and Testing Procedures per IEC/EN Standards (continued)

### Mechanical Tests (continued)

- Pull-Out Test to IEC/EN 60947-7-1, IEC/EN 60998-2-2, IEC/EN 60999-1

This test simulates the mechanical stress on the clamping unit when, for example, the installer is pushing the conductor aside so that the adjacent clamping unit can be better operated, or when he wants to check if the wire is connected properly by briefly pulling on it.

During the test, a pulling force is applied without jerking, for one minute, to the connected conductor. The pulling force is selected according to the cross-sectional area. The larger the cross section of the conductor, the higher the pull-out force that is selected. For example, the pulling force is 40N for a conductor having a cross-section of 1.5mm<sup>2</sup> (AWG 16) and 100N for a conductor with a cross-section of 16mm<sup>2</sup> (AWG 6). The values specified by the standard are the same for both screw-clamp and spring-clamp terminal blocks. During the test, the conductor must neither slip out of the clamping unit, nor break near the clamping unit.

#### Conductor Pull-Out Forces

The clamping units of screwless terminal blocks must withstand the pull-out forces as follows:

IEC 60947-1/EN 60947-1/VDE 0660, Part 100, Table 5: Low-voltage switchgear and controlgear - General rules

IEC 60947-7-1/EN 60947-7-1/VDE 0611, Part 1: Rail-mounted terminal blocks for copper conductors

IEC 60998-2-1/EN 60998-2-1/VDE 0613, Part 2-1, Table 104

IEC 60998-2-2/EN 60998-2-2/VDE 0613, Part 2-2, Table 103:

Connecting devices for low-voltage circuits for household and similar purposes. Particular requirements for connecting devices as separate entities with screw-clamp or screwless terminal blocks.

IEC 60999-1/EN 60999-1/VDE 0609, Part 1, Table 3:

IEC 60999-2/EN 60999-2/VDE 0609, Part 101,

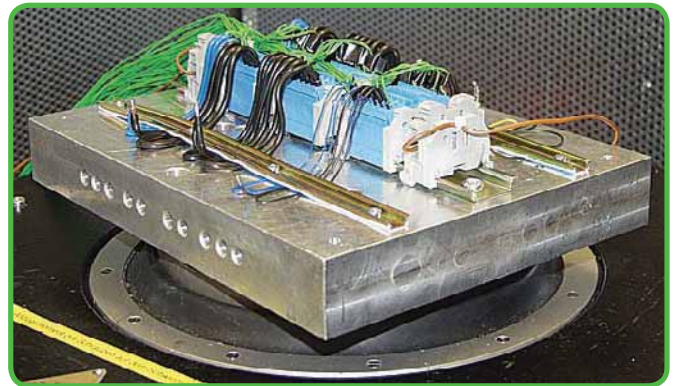
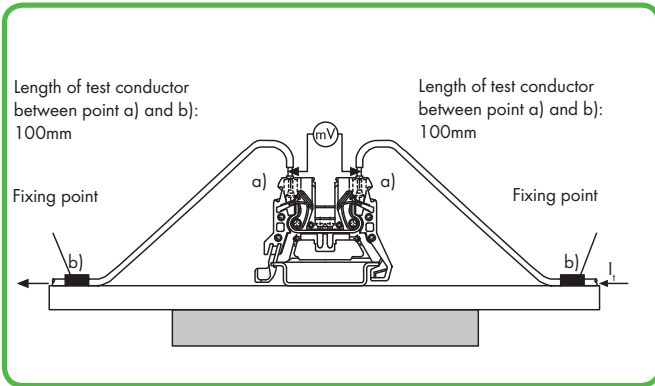
Table 2:

Safety requirements for screw-clamp and screwless clamping units for electrical copper conductors.

Rated Cross-Sectional Area		Pull-Out Forces per IEC/EN		
mm <sup>2</sup>	AWG/MCM	60947-7-1 N	60998-2-2 N	60999-1/-2 N
0.2	24	10	10	10
0.34	22	15	15	15
0.5	20	20	20	20
0.75	18	30	30	30
1.0	-	35	35	35
1.5	16	40	40	40
2.5	14	50	50	50
4.0	12	60	60	60
6.0	10	80	80	80
10.0	8	90	90	90
16.0	6	100	100	100
25.0	4	135	135	135
-	3	156		
35.0	2	190	190	190
-	1	236		
50.0	0	236		236
70.0	00	285		285
95.0	000	351		351
-	0000	427		427
120.0	250	427		427
150.0	300	427		427
185.0	350	503		503
-	400	503		503
240.0	500	578		578
300.0	600	578		578

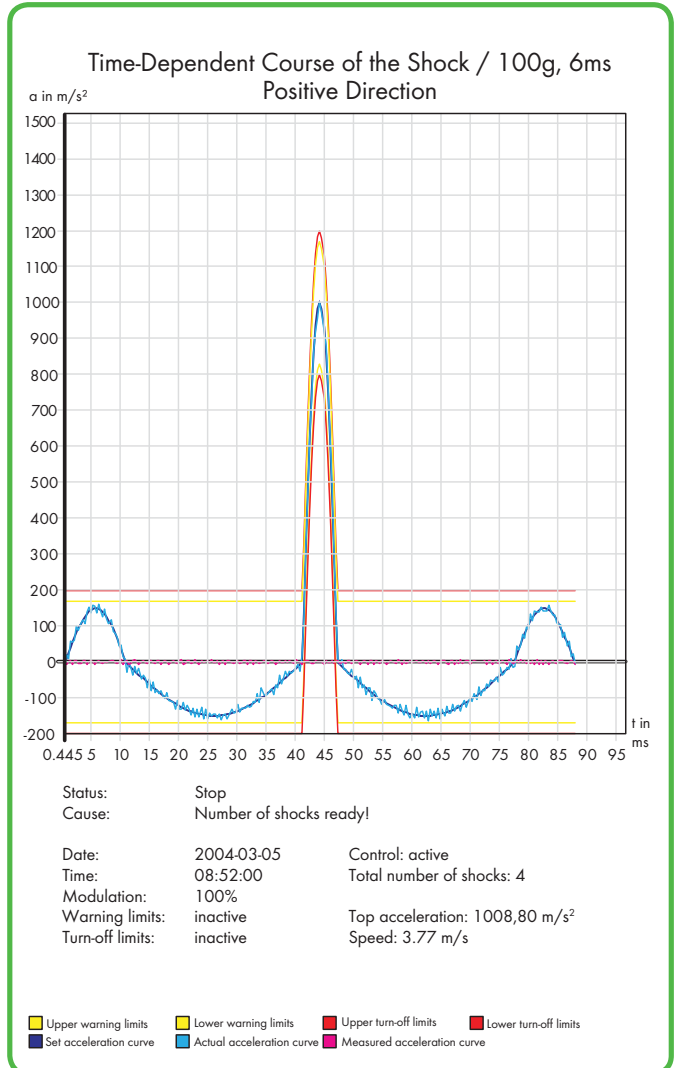
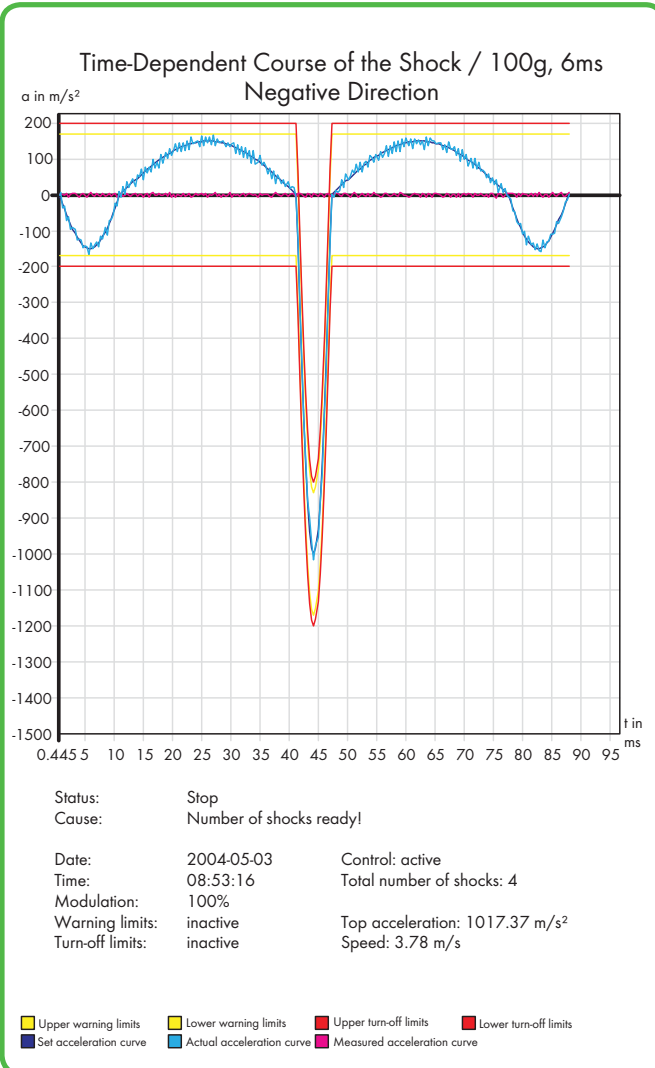
• Shock Test to IEC/EN 60068-2-27; Railway Applications IEC/EN 61373

The shock test is similar to the vibration test except that, instead of continuous vibrations, single shocks are applied to the test specimen. Shock tests are usually carried out with an acceleration of 20g, for example, over a period of 11 ms. Tests for special requirements often call for much higher values. Like the vibration tests, shock tests are primarily used to test the voltage drop variation or contact breaks, etc.



E.g. shock requirement

- acc. to IEC/EN 60068-2-27
- Half-sine shock
- 100g acceleration    6ms duration    Shock direction: 3 axes
- (3 shock in positive direction and 3 shocks in negative direction)



## Tests and Testing Procedures per IEC/EN Standards (continued) Mechanical Tests (continued)

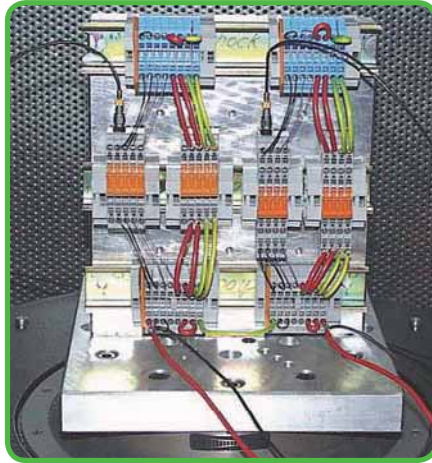
- Vibration Test to IEC/EN 60068-2-6; Shipbuilding GL, LR, DNV; Railway Applications EN 61373

The purpose of this test is to determine whether vibrations, such as those produced in the vicinity of machines or in vehicles, will permanently affect the electrical connection, or if contact breaks will occur during vibrations. Using a vibration table, the test specimen is subjected to vibration in each of the X, Y and Z axes (see pictures). The amplitude, acceleration and, in particular the frequency of the vibration must vary during the test.

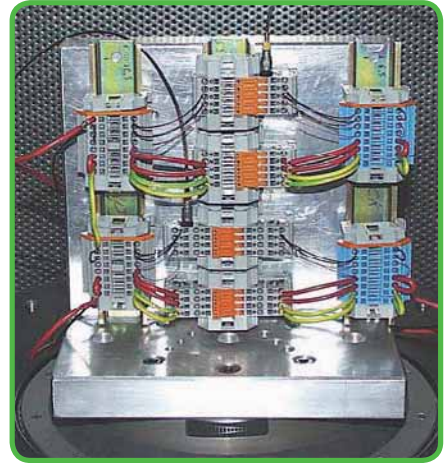
In a common test procedure, for example, a wide frequency band is continuously run up to 2000Hz, at different accelerations up to 20g and different amplitudes up to 20mm. Test duration is 90 minutes per axis.



Other types of test are carried out using a single fixed frequency. The exact test procedure shall vary considerably, depending on how the product is to be used. Some test specifications require the determination of possible resonant frequencies, i.e. finding out if resonance occurs within the frequency spectrum to be passed through. Analysis of specimen behavior under the influence of resonant frequencies is carried out using a special testing procedure.



Apart from the standard tests mentioned above, special test procedures are carried out by the railway company, for example, on rolling electrical equipment or by shipping classification societies such as Germanischen Lloyd, Lloyd's Register of Shipping, Det Norske Veritas. Though the requirements of such test procedures are particularly high, test arrangements are identical for all of them. During vibrations, possible contact breaks are monitored on an oscilloscope. Voltage drop is measured before and after the test to detect permanent failures, i.e. checking if the electrical resistance at the clamping unit has not increased beyond the permissible limit. The smaller this value is, the smaller the contact resistance of the clamping unit.

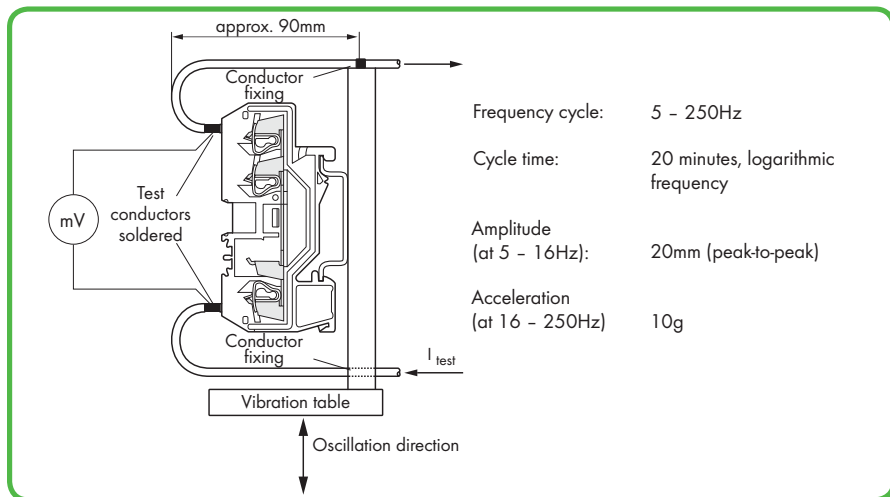


The test is passed if the conductor has neither slipped out of the terminal block nor been damaged, the maximum permissible voltage drop has not been exceeded and neither contact breaks have occurred nor a defined break time has been exceeded.

The test specimen must not be damaged in any way that might affect its future use.

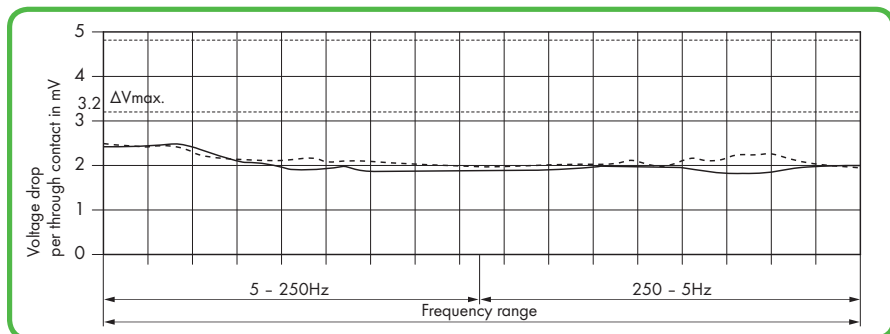
Since their inception, CAGE CLAMP® and CAGE CLAMP®S connections have been routinely tested for their resistance to shock/vibration in connection with approval tests.

Additionally, WAGO conducts special self-resonance behavior tests on clamping systems, using different terminal block and conductor arrangements. In these tests, a wide frequency band up to 2000Hz, at different accelerations up to 20g and different amplitudes up to 20mm, is passed continuously. The figure provides an example of a self-resonance vibration test configuration.



Self-resonance vibration test set-up

All WAGO spring clamp connections meet these test requirements.



Frequency cycle      Rail-mounted terminal block: Item no. 280-681      ——— Test specimen no. 1  
 Test current:  $1/10 I_N = 2.4 \text{ A}$       - - - - - Test specimen no. 2

## Electrical Tests

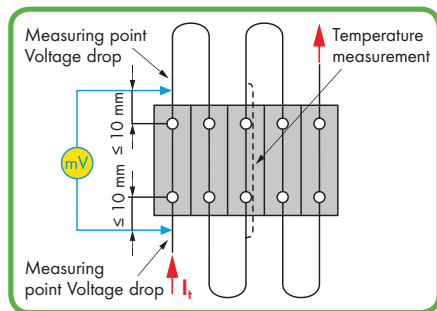
All WAGO products meet requirements for the following electrical tests:

- Temperature-Rise Test to IEC/EN 60947-7-1

The Temperature Rise Test examines the clamping point, including surrounding insulation, at rated current, over-current and short-circuit current levels.

Unless otherwise specified in the related equipment specification, e.g., by specifying the nominal currents of the equipment, terminal blocks and connectors are tested with current loads as specified in the respective construction specification.

For rail-mounted terminal blocks according to IEC 60947-7-1/EN 60947-7-1/VDE 0611, Part 1, or terminal blocks according to IEC 60998-1/EN 60998-1/ VDE 0613, Part 1, the temperature rise must not exceed 45 Kelvin.



Test arrangement: "Temperature Rise Test"

Rated Cross-Section	Test Current per IEC/EN		Conductor Size	Test Current per IEC/EN 60947-7-1 Table 5
	60947-7-1 Table 4	60998-1 Table 5		
mm <sup>2</sup>	A	A	AWG/MCM	A
0.2	4	4	24	4
0.34	5	5	22	6
0.5	6	6	20	8
0.75	9	9	18	10
1.0	13.5	13.5	-	-
1.5	17.5	17.5	16	16
2.5	24	24	14	22
4.0	32	32	12	29
6.0	41	41	10	38
10	57	57	8	50
16	76	76	6	67
25	101	101	4	90
35	125	125	2	121
-	-	-	1	139
50	150	-	0	162
70	192	-	00	185
95	232	-	000	217
-	-	-	0000	242
120	269	-	250 kcmil	271
150	309	-	300 kcmil	309
185	353	-	350 kcmil	353
240	415	-	500 kcmil	415
300	520	-	600 kcmil	520

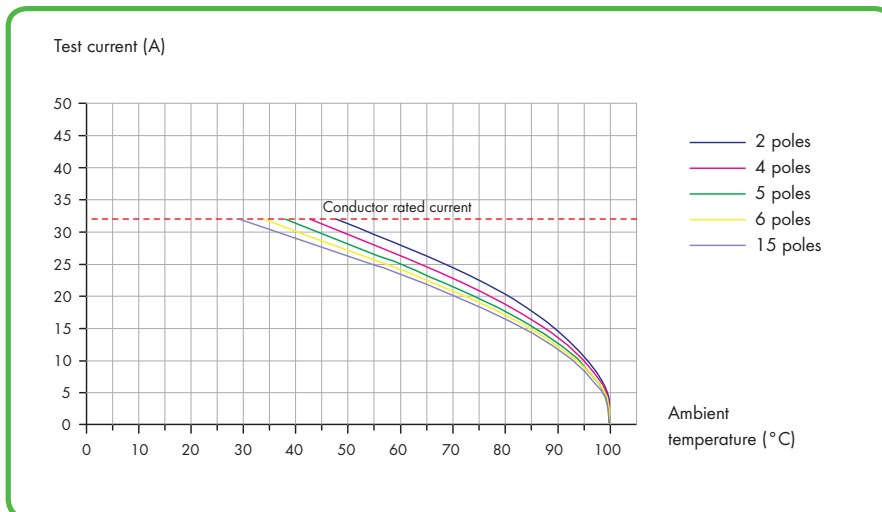


### • Current-Carrying Capacity Curve (Derating Curve) to IEC/EN 60512-5-2

Both the design requirements and the connector's current-carrying capacity must be checked by the user when selecting connectors.

This data depends on the connected wire size, ambient temperature, number of simultaneously loaded poles, and connector's internal resistance, as well as PCB layout and connector materials, if required. In accordance with IEC/EN 60512-5-2, the relationship between current, ambient temperature and temperature rise up to the connector's upper temperature limit is illustrated via current-carrying capacity curve (derating curve). The connector must only be operated up to this temperature limit (sum of the self-generated heat and the ambient temperature) without being damaged or destroyed during operation.

Functioning of a current-carrying capacity curve (derating curve) according to EN 60512-5-2 is shown by an application using a derating curve for the X-COM®-SYSTEM: This application requires that each pole of a 4-pole connector be subjected to a load of 32A. Based on the basic curve determined for this number of poles with a conductor cross-section of 4 mm<sup>2</sup>, it has been determined that the maximum ambient temperature is 42°C. The current must be reduced at higher ambient temperatures, e.g. to 19A at an ambient temperature of 80°C.



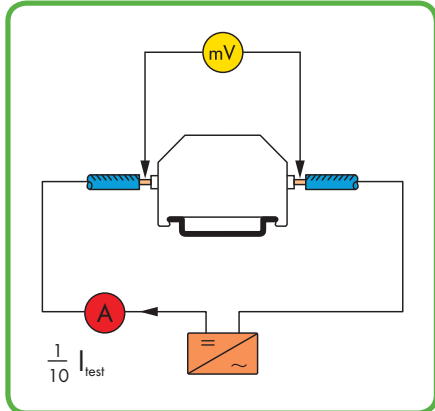
1-conductor/  
 1-pin base terminal block 769-176  
 Conductor cross section: 4 mm<sup>2</sup> "f-st" (AWG 12)  
 1-conductor female plugs 769-102 to 769-115  
 Conductor cross section: 4 mm<sup>2</sup> "f-st" (AWG 12)  
 Conductor loop length: 1m

# Tests and Testing Procedures per IEC/EN Standards (continued)

## Electrical Tests (continued)

### • Voltage Drop Test to IEC/EN 60947-7-1

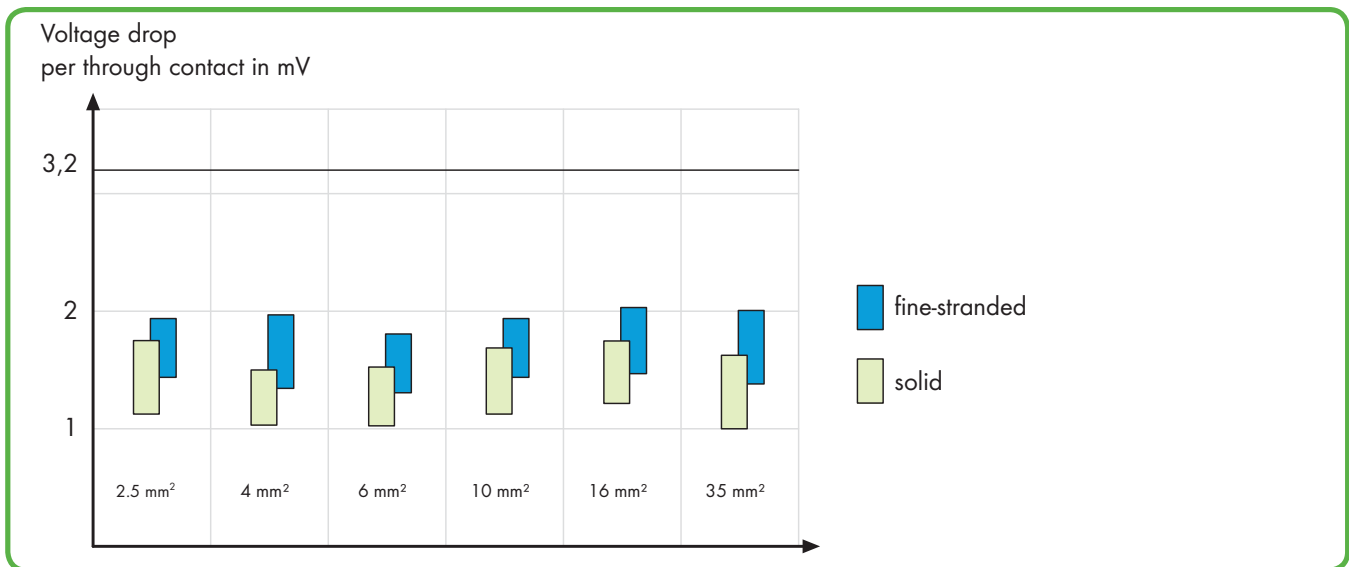
The Voltage Drop Test evaluates clamping point quality under stresses such as vibrations, temperature changes and corrosive influences, in order to verify that the contact point is gas-tight.



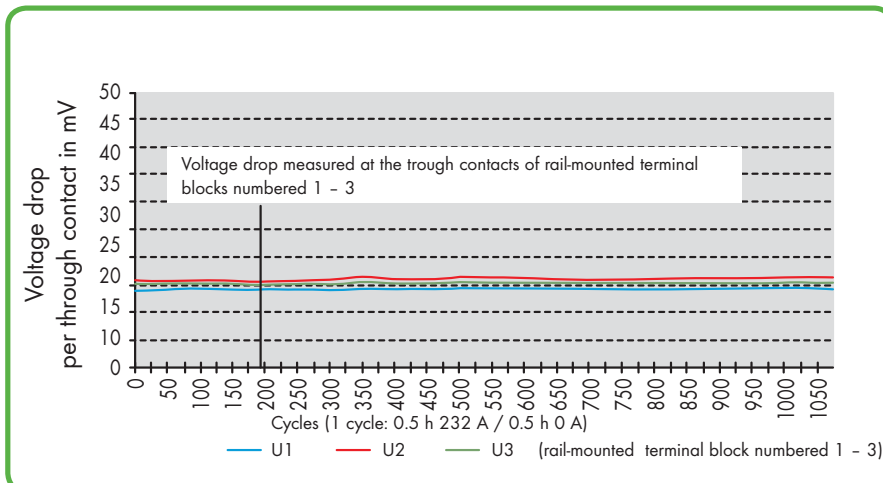
The CAGE CLAMP® and CAGE CLAMP®S connections enclose and contain flexible conductors. Therefore, a variation of the voltage drop with solid and fine-stranded conductors is so small that its influence may be negligible for the practical application of the terminal blocks.

Test arrangement: "Voltage Drop Test"

Typical voltage drop variations for solid and fine-stranded conductors of 280 to 285 Series CAGE CLAMP® rail-mounted terminal blocks:



Example: Current load cycling test result for rail-mounted terminal blocks (Item No. 285-195) using 95 mm² (AWG 4/0) fine-stranded copper conductors:

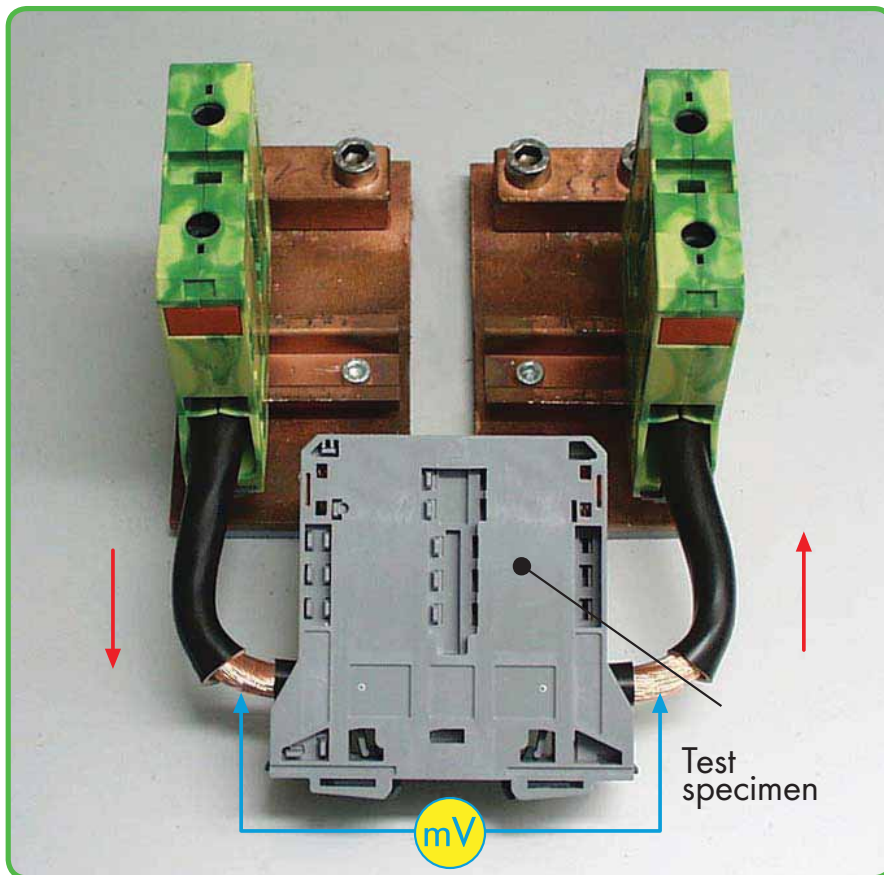


Voltage drop variation over longer periods under current load cycling conditions is shown for WAGO rail-mounted terminal blocks series 285-195 (95 mm²/ AWG 000) using fine-stranded copper wires. The diagram shows that the voltage drop is constant, far beyond the 192 cycles required in IEC 60947-7-1.

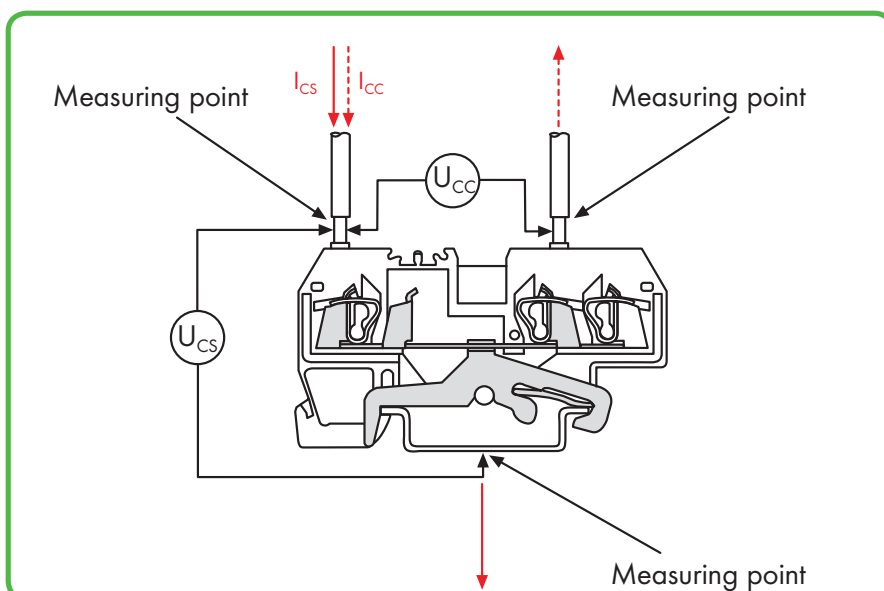
(The voltage drop has been determined using the rated current.)

- Short-Time Withstand Current Test (Short-Circuit Withstand Capacity) to IEC/EN 60947-7-1

Apart from the rated current which can be constantly applied to an electrical device, operation-related short peak currents consistently occur in electrical installations; e.g., when motors are started. Also, in the event of a short-circuit, a high current can flow for a short time until the fuse element melts. Terminal blocks and connecting devices must be able to withstand such conditions. The short-time withstand capacity is defined in standards such as IEC/EN 60947-7-1 for through rail-mounted terminal blocks, as a current-carrying capacity of 120A per mm<sup>2</sup> nominal diameter for the duration of 1 second.



The short-circuit current of the 95 mm<sup>2</sup>/ AWG 4/0 high-current terminal block (Item No. 285-195) is **11,400 A**.



During the short-time withstand current test, the ground conductor rail-mounted terminal blocks are subjected three times for 1 s each to a current load of 120 A/mm<sup>2</sup>. The pass criterion for the test is the voltage drop (limit value and constancy).

## Tests and Testing Procedures per IEC/EN Standards (continued)

### Electrical Tests (continued)

#### • Insulation Parameters to IEC/EN 60664-1

##### Clearances and Creepage Distances

The following generally applies:

The equipment specification contains data for the measurement of clearances and creepage distances, or refers to the data contained in the basic standard DIN EN 60664-1/VDE 0110, part 1.

DIN EN 60664-1/VDE 0110, part 1, contains the clearances and creepage distances in compliance with insulation coordination requirements. That is, the insulation parameters of equipment are assigned to:

- the anticipated surge voltages,
- the parameters of the protection device against surge voltage
- the anticipated environmental conditions and the protection measures against pollution.

This standard is based on IEC 60604-1.

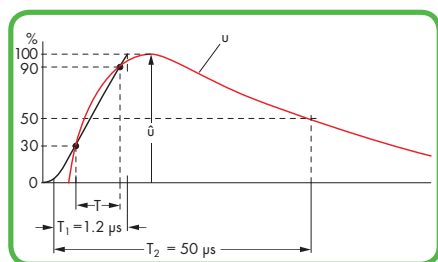
##### Clearances, Rated Surge Voltages, Overvoltage Categories, Pollution Degrees

Surge voltages (table 1) are a decisive factor in determining air distances.

The basis forms the **overvoltage category**, i.e., the allocation of the equipment to the expected surge voltage, and the **conductor-ground voltage** derived from the rated line voltage in installations with a grounded Y (star) point.

In ungrounded installations, or installations where the conductor is not grounded, the voltage between conductors is applicable in the same way as conductor voltage to ground.

##### ① Voltage pulse 1.2/50



acc. to EN 61180-1 / VDE 0432, Part 10

##### Overvoltage categories for electrical equipment:

A specific overvoltage category must be defined on the basis of the following, general description:

- Equipment in **overvoltage category I** is intended to be connected to the fixed electrical installations of buildings. Protective means are taken outside the equipment – either in the fixed installation or between the fixed installation and the equipment – to limit transient overvoltages to the specific level.
- Equipment in **overvoltage category II** is to be connected to the fixed electrical installations of buildings.  
**Note:** Examples of such equipment are household appliances, portable tools and similar loads.
- Equipment in **overvoltage category III** is part of the fixed electrical installations and other equipment where a higher degree of availability is expected.  
**Note:** Examples of such equipment are distribution boards, circuit breakers, wiring systems (IEV 826-06-01, including cables, bus-bars, junction boxes, switches, socket-outlets) in the fixed installation and equipment for industrial use and other equipment, e.g., stationary motors with permanent connection to the fixed installation.
- Equipment in **overvoltage category IV** is for use at or in the proximity of the origin of the electrical installations of buildings upstream of the main distribution board.  
**Note:** Examples include electricity meters, primary overcurrent protection devices and ripple control units.

The rated surge voltage shall be selected from Table 1 corresponding to the overvoltage category specified and to the rated voltage of the equipment.

Table F.1- Rated surge voltage for equipment energized directly from the low-voltage mains (DIN EN 60664-1/VDE 0110, Part 1)

##### ① Voltage curve: 1.2/50 $\mu$ s per IEC60060-1/VDE 0432, Part 1.

Nominal voltage of the supply system <sup>1)</sup> (mains) based on IEC 60038 <sup>3)</sup>		Voltage line to neutral derived from nominal voltage a.c. or d.c. up to and including	Rated surge voltage <sup>2)</sup>			
Three-phase V	Single-phase V		Overvoltage category <sup>4)</sup>			
		V	I V	II V	III V	IV V
		50	330	500	800	1500
		100	500	800	1500	2500
	120-240	150 <sup>5)</sup>	800	1500	2500	4000
230/400 277/480		300	1500	2500	4000	6000
400/690		600	2500	4000	6000	8000
1000		1000	4000	6000	8000	12000

<sup>1)</sup> See Annex B for application to existing different low-voltage mains and their nominal voltages.

<sup>2)</sup> Equipment with these rated overvoltage levels can be used in installations in accordance with IEC 60364-4-443.

<sup>3)</sup> The / mark indicates a 4-wire three-phase distribution system. The lower value is the voltage line-to-neutral, while the higher value is the voltage line-to-line. Where only one value is indicated, it refers to 3-wire, three-phase systems and specified the value line-to-line.

<sup>4)</sup> See 4.3.3.2.2 for an explanation of the overvoltage categories.

<sup>5)</sup> The nominal voltages for single-phase systems in Japan are 100V or 100 - 200V.

The value for the rated surge voltage is, however, derived from the voltage gaps line-to-neutral for a voltage level of 150V (see Annex B)

The nominal supply voltage and the corresponding rated surge voltage values apply for grounded and ungrounded circuits.

## Pollution Degrees

Pollution factors are all solid, liquid or gaseous foreign matter which may reduce the dielectric strength or the specific surface resistance. Soiling is divided into 4 classes in accordance with the environmental conditions to be expected:

		Examples of pollution degrees for assigned areas:
Pollution degree 1:	No pollution, or only dry, non-conductive pollution occurs. The pollution has no influence.	Open, unprotected insulated equipment in air-conditioned or clean, dry rooms.
Pollution degree 2:	Only non-conductive pollution occurs, except that occasionally temporary conductivity caused by condensation is to be expected.	Open, unprotected insulated equipment in living areas, shops, laboratories, mechanical workshops and medical rooms.
Pollution degree 3:	Conductive pollution occurs, or dry, non-conductive pollution occurs which becomes conductive due to condensation which is to be expected.	Open, unprotected insulated equipment in industrial, business and farming areas, unheated rooms, workshops and boiler rooms.
Pollution degree 4:	The pollution generates persistent conductivity caused by conductive dust or by rain or wet conditions.	Open, unprotected insulated equipment for outdoor use.

**Table F.2 - Clearances to Withstand Transient Overvoltages**  
DIN EN 60664-1/ VDE 0110, Part 1

Required impulse withstand voltage <sup>1)5)</sup> kV	Minimum clearances in air up to 2000 m above sea level					
	Case A (inhomogeneous field, see 3.1.5)			Case B homogeneous field (see 3.1.4)		
	Degree of pollution <sup>6)</sup>					
	1 mm	2 mm	3 mm	1 mm	2 mm	3 mm
0.33 <sup>2)</sup>	0.01	0.2 <sup>3)4)</sup>	0.8 <sup>4)</sup>	0.01	0.2 <sup>3)4)</sup>	0.8 <sup>4)</sup>
0.40	0.02			0.02		
0.50 <sup>2)</sup>	0.04			0.04		
0.60	0.06			0.06		
0.80 <sup>2)</sup>	0.10			0.10		
1.0	0.15			0.15		
1.2	0.25	0.25		0.2		
1.5 <sup>2)</sup>	0.5	0.5		0.3	0.3	
2.0	1.0	1.0	1.0	0.45	0.45	
2.5 <sup>2)</sup>	1.5	1.5	1.5	0.60	0.60	
3.0	2.0	2.0	2.0	0.80	0.80	
4.0 <sup>2)</sup>	3.0	3.0	3.0	1.2	1.2	1.2
5.0	4.0	4.0	4.0	1.5	1.5	1.5
6.0 <sup>2)</sup>	5.5	5.5	5.5	2.0	2.0	2.0
8.0 <sup>2)</sup>	8.0	8.0	8.0	3.0	3.0	3.0
10	11	11	11	3.5	3.5	3.5
12 <sup>2)</sup>	14	14	14	4.5	4.5	4.5
15	18	18	18	5.5	5.5	5.5
20	25	25	25	8.0	8.0	8.0
25	33	33	33	10	10	10
30	40	40	40	12.5	12.5	12.5
40	60	60	60	17	17	17
50	75	75	75	22	22	22
60	90	90	90	27	27	27
80	130	130	130	35	35	35
100	170	170	170	45	45	45

## Dimensioning of Clearances

per DIN EN 60664-1/ VDE 0110,

Part 1, Table F.2.

Select the minimum clearances in accordance with the rated surge voltages and the degree of pollution. For the operating life of the equipment do not go below these minimum clearances.

Table F.2 contains a list of information for Case A, the inhomogeneous field and for Case B, the homogeneous field.

This involves an electric field with essentially constant (Case B) or non-constant (Case A) voltage gradients between the electrodes.

**Equipment with a clearance in accordance with Case A, in other words rated for the most unfavorable case, can be employed without evidence of surge voltage testing.**

Equipment whose clearances are dimensioned acc. to Case B, or between A and B, requires verification by the surge voltage test.

The clearances shown in Table F.2 are applicable for an installation height of up to 2000m above sea level.

Values for clearances above 2000m must be multiplied by a high correction factor in accordance with Table A.2.

<sup>1)</sup> This voltage is

- for functional insulation: the maximum surge voltage expected to occur across the clearance (see 5.1.5);
- for basic insulation directly exposed to or significantly influenced by transient overvoltages from the low-voltage mains (see 4.3.3.3, 4.3.3.4.1 and 5.1.6): and the rated surge voltage for the equipment;
- for other basic insulation (see 4.3.3.4.2): the highest surge voltage that can occur in the circuit. for reinforced insulation, see 5.1.6.

<sup>2)</sup> Preferred values specified in 4.2.3.

<sup>3)</sup> For printed wiring material, the values for pollution degree 1 apply except that the value must not be less than 0.04mm, as specified in Table F.4.

<sup>4)</sup> The minimum clearances given for pollution degree 2 and 3 are based on the reduced withstand characteristics of the associated creepage distance under humidity conditions (see IEC 60664-5).

<sup>5)</sup> For parts or circuit within equipment subject to surge voltages according to 4.3.3.4.2 interpolation of values is allowed. However, standardization is achieved by using the preferred series of surge voltage values based on 4.2.3.

<sup>6)</sup> The dimensions for pollution degree 4 are as specified for pollution degree 3, except that the minimum clearance is 1.6mm.

## Tests and Testing Procedures per IEC/EN Standards (continued)

### Electrical Tests (continued)



#### • Insulation Parameters to IEC/EN 60664-1 (continued)

#### Creepage Distances, Rated Voltages, Material Groups

Criteria for dimensioning creepage distances are the rated voltages, pollution degrees and material groups. The pollution degrees specified for the clearances, and its quoted allocation to locations, is also applicable for creepage distances.

Tables F.3 a and F.3 b of DIN EN 60664-1/ VDE 0110, Part 1 contain the rated voltages which have to be considered for dimensioning the minimum creepage distance.

**Table F.3a - Single-Phase, 3- or 2-Wire, AC or DC Systems**

Nominal voltage of the supply system (mains) <sup>*</sup>	Voltages for Table F.4	
	For insulation line-to-line <sup>1)</sup>	For insulation line-to-ground <sup>1)</sup>
	All systems  V	Three-wire systems mid-point grounded  V
V		
12.5	12.5	
24	25	
25	25	
30	32	
42		
48		
50**	50	
60	63	
30 - 60	63	32
100**	100	
110	125	
120		
150**	160	
200	200	
110 - 200	200	100
220	250	
110 - 220		
120 - 240	250	
300**	320	
220 - 440	500	250
600**	630	
480 - 960	1000	500
1000**	1000	

<sup>1)</sup> Line-to-ground insulation level for non-grounded or impedance-grounded systems equals that for line-to-line, as the operating voltage to ground of any line can, in practice, approach full line-to-line voltage. This is because the actual voltage to ground is determined by the insulation resistance and capacitive reactance of each line to ground; thus, low (but acceptable) insulation resistance of one line can in effect ground it and raise the other two to full line-to-line voltage to ground.


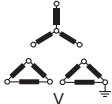
<sup>\*</sup> For the relationship to rated voltage see 4.3.2.

<sup>\*\*</sup> These values correspond to the values given in Table F.1.

**Table A.2:**  
**Height Correction Factors**  
(DIN EN 60664-1/VDE 0110, Part 1)

Height (elevation) m	Standard air pressure kPa	Multiplier for distance
2000	80	1.0
3000	70	1.14
4000	62	1.29
5000	54	1.48
6000	47	1.7
7000	41	1.95
8000	35.5	2.25
9000	30.5	2.62
10000	26.5	3.02
15000	12	6.67
20000	5.5	14.5

Table F.3b - Single-Phase, 4- or 3-Wire AC Systems

Nominal voltage of the supply system (mains) <sup>*</sup>	Voltages for Table F.4		
	For insulation line-to-line <sup>1)</sup>	For insulation line-to-ground <sup>1)</sup>	
	All systems	Three-phase 4-wire systems neutral grounded <sup>2)</sup>	Three-phase 3-wire systems non-grounded <sup>1)</sup> or corner grounded
V	V	 V	 V
60	63	32	63
110 120 127	125	80	125
150**	160		160
200	200		200
208	200	125	200
220 230 240	250	160	250
300**	320		320
380 400 415	400	250	400
440	500	250	500
480 500	500	320	500
575	630	400	630
600**	630		630
660 690	630	400	630
720 830	800	500	800
960	1000	630	1000
1000**	1000		1000

<sup>1)</sup> Line-to-ground insulation level for non-grounded or impedance-grounded systems equals that for line-to-line, as the operating voltage to ground of any line can, in practice, approach full line-to-line voltage. This is because the actual voltage to ground is determined by the insulation resistance and capacitive reactance of each line to ground; thus, low (but acceptable) insulation resistance of one line can in effect ground it and raise the other two to full line-to-line voltage to ground.

<sup>2)</sup> For equipment used on both three-phase 4-wire and three-phase 3-wire systems, grounded and non-grounded, use only the values for 3-wire systems.

\* For the relationship to rated voltage see 4.3.2.

\*\* These values correspond to the values given in Table F.1.

### Material Groups

Insulating materials are classified into four groups according to their CTI (Comparative Tracking Index) as follows:

Material group I:  $600 \leq \text{CTI}$   
 Material group II:  $400 \leq \text{CTI} < 600$   
 Material group III a:  $175 \leq \text{CTI} < 400$   
 Material group III b:  $100 \leq \text{CTI} < 175$

The CTI values above refer to values obtained in accordance with DIN EN 60664-1 / VDE 0110, Part 1 on samples specially made for this purpose and tested with Solution A.

# Tests and Testing Procedures per IEC/EN Standards (continued)

## Electrical Tests (continued)

### • Insulation Parameters to IEC/EN 60664-1 (continued)

**Table F.4 - Creepage Distances to Avoid Failure due to Tracking**  
DIN EN 60664-1/ VDE 0110, Part 1

Voltage <sup>1)</sup> rms  V	Minimum Creepage Distances								
	Printed Wiring Material		Pollution Degree						
	Pollution Degree		Pollution Degree						
	1 All Material Groups	2 All Mat. Gr. except IIIb	1 All Material Groups	2 Material Group I	2 Material Group II	2 Material Group III	3 Material Group I	3 Material Group II	3 Material Group III <sup>2)</sup>
mm	mm	mm	mm	mm	mm	mm	mm	mm	
10	0.025	0.040	0.080	0.400	0.400	0.400	1.000	1.000	1.000
12.5	0.025	0.040	0.090	0.420	0.420	0.420	1.050	1.050	1.050
16	0.025	0.040	0.100	0.450	0.450	0.450	1.100	1.100	1.100
20	0.025	0.040	0.110	0.480	0.480	0.480	1.200	1.200	1.200
25	0.025	0.040	0.125	0.500	0.500	0.500	1.250	1.250	1.250
32	0.025	0.040	0.14	0.53	0.53	0.53	1.30	1.30	1.30
40	0.025	0.040	0.16	0.56	0.80	1.10	1.40	1.60	1.80
50	0.025	0.040	0.18	0.60	0.85	1.20	1.50	1.70	1.90
63	0.040	0.063	0.20	0.63	0.90	1.25	1.60	1.80	2.00
80	0.063	0.100	0.22	0.67	0.95	1.30	1.70	1.90	2.10
100	0.100	0.160	0.25	0.71	1.00	1.40	1.80	2.00	2.20
125	0.160	0.250	0.28	0.75	1.05	1.50	1.90	2.10	2.40
160	0.250	0.400	0.32	0.80	1.10	1.60	2.00	2.20	2.50
200	0.400	0.630	0.42	1.00	1.40	2.00	2.50	2.80	3.20
250	0.560	1.00	0.56	1.25	1.80	2.50	3.20	3.60	4.00
320	0.75	1.60	0.75	1.60	2.20	3.20	4.00	4.50	5.00
400	1.0	2.0	1.0	2.0	2.8	4.0	5.0	5.6	6.3
500	1.3	2.5	1.3	2.5	3.6	5.0	6.3	7.1	8.0 (7.9) <sup>4)</sup>
630	1.8	3.2	1.8	3.2	4.5	6.3	8.0 (7.9) <sup>4)</sup>	9.0 (8.4) <sup>4)</sup>	10.0 (9.0) <sup>4)</sup>
800	2.4	4.0	2.4	4.0	5.6	8.0	10.0 (9.0) <sup>4)</sup>	11.0 (9.6) <sup>4)</sup>	12.5 (10.2) <sup>4)</sup>
1000	3.2	5.0	3.2	5.0	7.1	10.0	12.5 (10.2) <sup>4)</sup>	14.0 (11.2) <sup>4)</sup>	16.0 (12.8) <sup>4)</sup>
1250			4.2	6.3	9.0	12.5	16.0 (12.8) <sup>4)</sup>	18.0 (14.4) <sup>4)</sup>	20.0 (16.0) <sup>4)</sup>
1600			5.6	8.0	11.0	16.0	20.0 (16.0) <sup>4)</sup>	22.0 (17.6) <sup>4)</sup>	25.0 (20.0) <sup>4)</sup>
2000			7.5	10.0	14.0	20.0	25.0 (20.0) <sup>4)</sup>	28.0 (22.4) <sup>4)</sup>	32.0 (25.6) <sup>4)</sup>
2500			10.0	12.5	18.0	25.0	32.0 (25.6) <sup>4)</sup>	36.0 (28.8) <sup>4)</sup>	40.0 (32.0) <sup>4)</sup>
3200			12.5	16.0	22.0	32.0	40.0 (32.0) <sup>4)</sup>	45.0 (36.0) <sup>4)</sup>	50.0 (40.0) <sup>4)</sup>
4000			16.0	20.0	28.0	40.0	50.0 (40.0) <sup>4)</sup>	56.0 (44.8) <sup>4)</sup>	63.0 (50.4) <sup>4)</sup>
5000			20.0	25.0	36.0	50.0	63.0 (50.4) <sup>4)</sup>	71.0 (56.8) <sup>4)</sup>	80.0 (64.0) <sup>4)</sup>
6300			25.0	32.0	45.0	63.0	80.0 (64.0) <sup>4)</sup>	90.0 (72.0) <sup>4)</sup>	100.0 (80.0) <sup>4)</sup>
8000			32.0	40.0	56.0	80.0	100.0 (80.0) <sup>4)</sup>	110.0 (88.0) <sup>4)</sup>	125.0 (100.0) <sup>4)</sup>
10000			40.0	50.0	71.0	100.0	125.0 (100.0) <sup>4)</sup>	140.0 (112.0) <sup>4)</sup>	160.0 (128.0) <sup>4)</sup>
12500			50.0 <sup>3)</sup>	63.0 <sup>3)</sup>	90.0 <sup>3)</sup>	125.0 <sup>3)</sup>			
16000			63.0 <sup>3)</sup>	80.0 <sup>3)</sup>	110.0 <sup>3)</sup>	160.0 <sup>3)</sup>			
20000			80.0 <sup>3)</sup>	100.0 <sup>3)</sup>	140.0 <sup>3)</sup>	200.0 <sup>3)</sup>			
25000			100.0 <sup>3)</sup>	125.0 <sup>3)</sup>	180.0 <sup>3)</sup>	250.0 <sup>3)</sup>			
32000			125.0 <sup>3)</sup>	160.0 <sup>3)</sup>	220.0 <sup>3)</sup>	320.0 <sup>3)</sup>			
40000			160.0 <sup>3)</sup>	200.0 <sup>3)</sup>	280.0 <sup>3)</sup>	400.0 <sup>3)</sup>			
50000			200.0 <sup>3)</sup>	250.0 <sup>3)</sup>	360.0 <sup>3)</sup>	500.0 <sup>3)</sup>			
63000			250.0 <sup>3)</sup>	320.0 <sup>3)</sup>	450.0 <sup>3)</sup>	600.0 <sup>3)</sup>			

<sup>1)</sup> This voltage is

- for functional insulation; the working voltage;
- for basic and supplementary insulation of the circuit energized directly from the mains (see 4.3.2.2.1): for the voltage rationalized through Table F.3a or F.3b, based on the rated voltage of the equipment, or the rated insulation voltage;
- for basic and supplementary insulation of systems, equipment and internal circuits not energized directly from the mains (see 4.3.2.2.2): the highest rms voltage which can occur in the system, equipment or internal circuit when supplied at rated voltage and under the most onerous combination of operation conditions within equipment rating.

<sup>2)</sup> Material group IIIb is not recommended for applications in pollution degree 3 above 630V.

<sup>3)</sup> Provisional data based on extrapolation. Technical committees who have other information based on experience may use their dimensions.

<sup>4)</sup> The values in brackets shall only be applied for reducing creepage distances if a rib is used (see 5.2.5).

The high degree of accuracy of the creepage distances given in the table does not imply that the measuring accuracy must be of the same quality.



Based on their application, the WAGO terminal blocks and connectors are suitable for pollution degrees 2 or 3 and for overvoltage categories II or III.

Example:

**WAGO rail-mounted through terminal blocks**

per IEC 60947-7-1/  
EN 60947-7-1/VDE 0611, Part 1,  
have the following ratings:

800V/8kV/3,

i.e.

Rated voltage	800V
Rated surge voltage	8kV
Pollution degree	3
Overvoltage category	III

WAGO connectors for household and similar fixed installations are rated in accordance with IEC 60998-1/ EN 60998-1/ VDE 0613, Part 1, Table 3.

Example:

**WAGO PUSH WIRE® connectors for junction boxes**

According to this standard,  
these connectors are rated for:

\* 400V/4kV/2

\* grounded circuits,

i.e.

Rated voltage	400V
Rated surge voltage	4kV
Pollution degree	2
Overvoltage category	II

**Table 4: Clearances and Creepage Distances**  
(IEC/EN 60998-1)

Rated Insulation Voltage V	Creepage Distances, Clearances mm
≤ 130	1.5
> 130 and ≤ 250	3.0
> 250 and ≤ 450	4.0
> 450 and ≤ 750	6.0
> 750	8.0

## Tests and Testing Procedures per IEC/EN Standards (continued)

### Electrical Tests (continued)

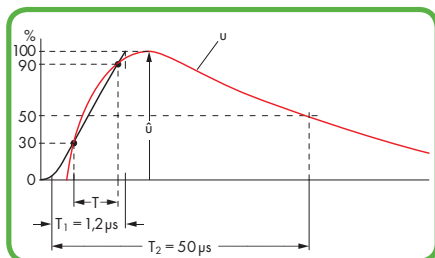
#### • Power-Frequency Withstand Voltage Test to IEC/EN 60947-7-1, IEC/EN 60947-1

This test procedure verifies creepage distances. Creepage distances, i.e., the distances of creeping currents, are caused by conductive impurities on the surface of the insulation housing. Apart from the amount of impurities to which a terminal block is subjected, for example, the plastic material and housing design are also involved in generating creeping currents. The insulation material of the housing may be carbonized by a creeping current, which increases conductivity even more.

The specimen is tested using a power-frequency withstand voltage for a short time. For example, a rail-mounted terminal block designed to operate at 800V nominal voltage is usually tested using 2000V alternating voltage for one minute. The test is considered to be passed if no flashovers or breakdowns have occurred.

#### • Rated Impulse Withstand Voltage Test to IEC/EN 60947-7-1, IEC/EN 60947-1

This test verifies the clearances of a product. In simplified terms, a clearance is the distance between two poles of a terminal block. If this distance is too small, voltage peaks may cause flashovers or breakdowns. The arrangement of the rated impulse withstand voltage test is identical to that of the power frequency withstand voltage test; the test voltages, however, are comparatively higher and the testing times shorter, e.g., 7.3kV over 50 $\mu$ s (see figure).



Voltage pulse; measurement curve (red) and auxiliary curve (black) for calculating the rate of rise of the pulse and the resulting (virtual) peak of the curve.

- $T$  Time interval for calculating the rate of rise
- $T_1$  Front time (duration between start of impulse and reaching the peak)
- $T_2$  Total pulse duration

The test values are the values at sea level as specified in the relevant test specification.

The values indicated in the catalog correspond to an altitude of 2000m.

The test is considered to be passed if no flashovers or breakdowns have occurred.

#### • IP Ratings for Electrical Equipment to IEC/EN 60529

Alphanumeric nomenclature for type of protection			
Code letters IP	Protection against touch and solid objects or water	IP (Ingress Protection)	
First digit 0 to 6	Indicates degrees of protection against touch or solid objects.	If indicating the degree of protection requires only one digit, the other (second) digit must be substituted for with an X.	
Second digit 0 to 8	Indicates degree of protection against water.		
First digit:		Second digit:	
IPOX	No protection against touch, or solid objects	IPX0	No protection against water
IP1X	Protected against solid objects > 50 mm	IPX1	Protected against vertically falling water
IP2X	Protection against solid objects > 12 mm (e.g. finger)	IPX2	Protected against dripping water - 15° angle
IP3X	Protected against solid objects > 2.5 mm	IPX3	Protected against water spray
IP4X	Protected against solid objects > 1 mm	IPX4	Protection against water splash
IP5X	Dust-protected (limited ingress, no harmful deposits)	IPX5	Protected against water jet, e.g., from a nozzle
IP6X	Dust-tight (totally protected against dust)	IPX6	Protected against flooding
		IPX7	Protected against temporary immersion
		IPX8	Protected against continuous immersion

IP vs. NEMA	
IP Code	NEMA
10	1
11	2
54	3
14	3R
54	3S
55	4&4X
52	5
67	6&6P
52	12&12K
54	13

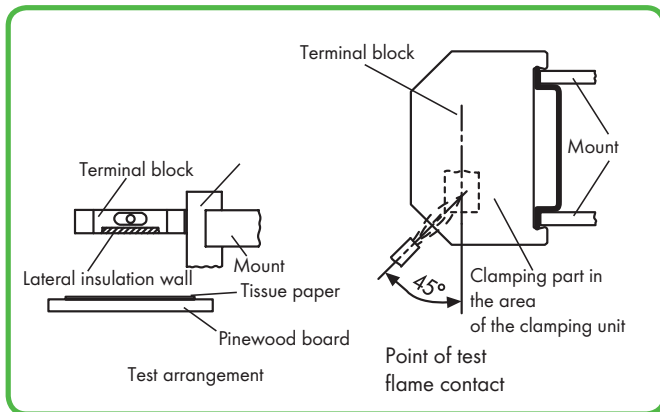
## Tests and Testing Procedures per IEC/EN Standards (continued)

### Material Tests

All WAGO products meet requirements for the following material tests:

- Needle Flame Test to IEC/EN 60947-1

This test simulates flames that may arise under certain conditions (e.g., fault current over a creepage distance, overloading parts or components). Nearby parts can also be affected by such flames. Not only is the ignition of the test specimen resulting from an intrinsic defect tested, but also its behavior when other parts are ignited.



Flames shall not be further fed by the insulation materials used, creating a larger fire. The test specimen is exposed to a standard gas flame during a defined time period (e.g., 10 seconds). After the test flame has been removed, the specimen must self-extinguish within 30 seconds. Furthermore, a layer of tissue paper located beneath the specimen shall not be ignited by glowing particles falling from the specimen.

- Glow-Wire Test to IEC/EN 60998-1, IEC/EN 60695-2-11

In the event of failure, a high current may cause a conductor to glow.



However, the glowing conductor shall not cause ignition of the product involved (e.g., a rail-mounted terminal block). For the glow-wire test, the tip of the glow-wire is pressed against a surface of the test specimen (see picture). The position of the test specimen, surface to be tested, test duration, and glow-wire temperature (e.g., 960°C over 30 seconds, or 850°C over 5 seconds) are

specified in the standards.

The test is to be passed if there are no visible flames or permanent glowing, or if flames or glowing extinguish within 30 seconds after removal of the glow-wire. Furthermore, a layer of tissue paper located beneath the specimen shall not be ignited by glowing particles falling from the specimen.

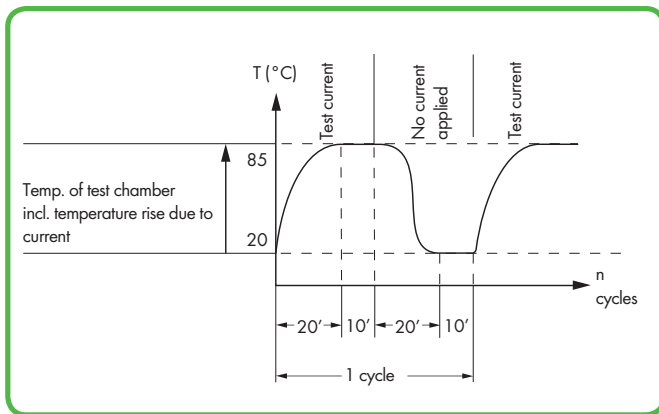
## Tests and Testing Procedures per IEC/EN Standards (continued)

### Environmental Tests

The following tests show how a product reacts when exposed to an aggressive environment. Frequently occurring industrial atmospheres capable of influencing the long-term consistency of clamping points, are simulated in the thermal chamber for climatic tests.

All WAGO products meet requirements for the following environmental tests:

- Temperature Cycling Test to IEC/EN 60947-7-1, IEC/EN 60998-2-2



The rated current is applied to the test specimen during temperature rise and when the temperature has reached its maximum value; during the second half of the cycle the current is zero. Voltage drop is measured every 24 cycles, and may not exceed a maximum value or vary greatly. The voltage drop measured at the end of the 192nd cycle may not exceed 1.5 times the value measured after the 24th cycle. After the test, an inspection shall show no changes impairing further product use.

- Industrial Atmospheres to EN ISO 6988, IEC/EN 60068-2-42, IEC/EN 60068-2-60

Sulfur and its combustion products are particularly aggressive pollutants commonly found in industrial environments. A test procedure simulating such corrosive conditions consists of exposing a test specimen to water condensation in variable atmospheres containing sulfur dioxide.



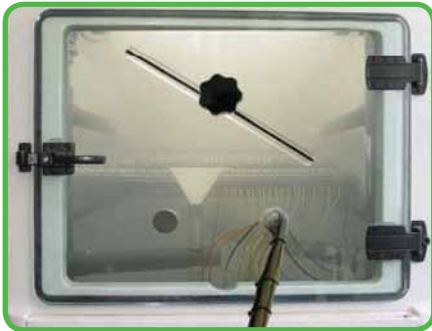
A humid atmosphere is first created in a climatic chamber by heating an aqueous sulfur dioxide solution. After less than half an hour, the test specimen is fully saturated by the condensing vapors and exposed to this atmosphere for eight hours.

After exposure to humid atmosphere, the test specimen is subjected to dry and cooler conditions at room temperature for 16 hours. Depending on the test severity, the specimen is exposed to both these conditions several times. The gas-tightness of the clamping unit is checked by measuring the voltage drop.

In other test procedures, products are exposed to a dry corrosive gas atmosphere containing, sulfide, nitrogen and sulfur oxides or chloride gas. These tests can be performed over a period of 4 to 21 days.

### • Salt Spray Test to IEC/EN 60068-2-11; Shipbuilding GL, LR, DNV

This test is similar to the test performed in water condensation alternating atmospheres, except that instead of industrial atmospheres, salt mist conditions will be simulated in a heated test chamber (see picture).



Depending on the test procedure being used, the test specimen is sprayed with salt mist for up to 96 hours.

Salt spray tests are widely used, especially for ship approvals.

However, this test is performed differently than the test procedures described previously for general applications:

During a typical test, the test specimen is sprayed with a salt solution for two hours and is then stored for seven days in an atmosphere with a relative humidity between 90 and 95%.

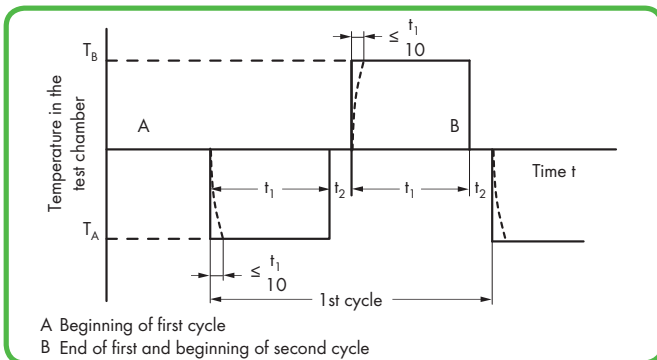
This procedure is repeated four times.

Voltage drop measurements are used as an evaluation criterion.

### • Quick Change of Temperature to IEC/EN 60068-2-14

Without air-conditioning, distribution panels and terminal boxes are exposed to seasonal (and ever-changing) temperature extremes - especially on the open field side.

In process technology, for example, a terminal block is exposed to even quicker changes in temperature.



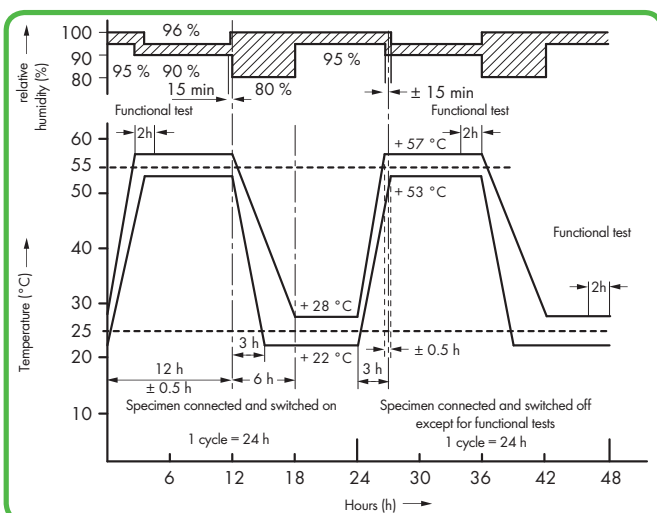
To simulate such conditions, the test specimen is exposed to repeated temperature changes, for example, between  $T_A$   $-40^{\circ}\text{C}$  and  $T_B$   $+70^{\circ}\text{C}$ .

The dwell time  $t_1$  depends on the thermal capacity of the test specimen and should be between maximum 3 h and minimum 10 min. and the transition time  $t_2$  2 - 3 min., 20 - 30 s or less than 10 seconds.

The mechanical and electrical properties of the product are checked at the end of the test.

### • Damp Heat, Cyclic (12 + 12 Hour Cycle) to IEC/EN 60068-2-30; Shipbuilding GL, LR, DNV

This test determines the suitability of electrical equipment for use and storage under conditions of high relative humidity when combined with cyclic temperature changes and, in general, producing condensation on the surface of the specimen.




In addition to the salt spray tests, the damp heat test is also used for ship approvals.

For this test, the specimens are subjected to temperatures varying cyclically between  $+25^{\circ}\text{C}$  ( $77^{\circ}\text{F}$ ) and  $+55^{\circ}\text{C}$  ( $131^{\circ}\text{F}$ ) with a relative humidity of 95% (for tolerances see figure).

Functional tests are performed at defined times during the storage period.

The mechanical and electrical properties of the product are checked at the end of the test.

WAGO terminal blocks and connectors are tested by Underwriters Laboratories Inc. according to one or more of the relevant following UL standards:

- The 273 Series PUSH WIRE® connectors for junction boxes or the 224 Series lighting connectors are “splicing wire connectors” and are certified to UL 486C. These stand-alone devices carry the **UL Listing Mark** .

UL 486 C

Splicing wire connectors
- Rail-mounted terminal blocks or modular terminal blocks (e.g., 280 Series, TOPJOB®S or 260 to 262 Series terminal blocks) are approved as non-stand-alone components according to UL 1059 in connection with UL 486E.


UL 1059  
UL 486 E

Standard for terminal blocks  
Equipment wiring terminals for use with aluminum and/or copper conductors
- X-COM® connectors are approved as “terminal blocks” according to UL 1059 in connection with UL 486E. They are defined for “field and factory wiring” with a voltage of 300V.

UL 1977

Component connectors for use in data, signal, control and power applications
- Ex e II terminal blocks are approved to UL 60079-7.

UL 60079-7

Electrical apparatus for explosive gas atmospheres – Part 7: Increased safety
- Ground terminal blocks are tested for grounding and bonding applications in accordance with UL 467. Components bearing the **UL Recognition Mark**  are “recognized products.” Additionally, after being mounted in their special applications, these components are submitted to an end-product test according to the relevant device or equipment standard.

UL 467

Grounding and bonding equipment
- Insulating materials are tested for flammability and performance in accordance with UL 94.

UL 94

Tests for flammability of plastic materials for parts in devices and appliances

## Tests and Testing Procedures per UL Standards

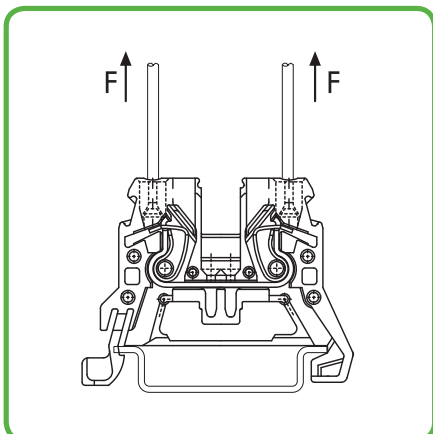
All WAGO products meet requirements for the following tests:

- Pull-Out Test to UL 1059, UL 486 E (Rail-Mounted Terminal Blocks), UL 486 C (Splicing Wire Connectors)

In this test, the connected wires are subjected to the appropriate pull-out forces specified in the following table without jerking for a period of one minute. Different test arrangements are specified for rail-mounted terminal blocks and splicing wire connectors.

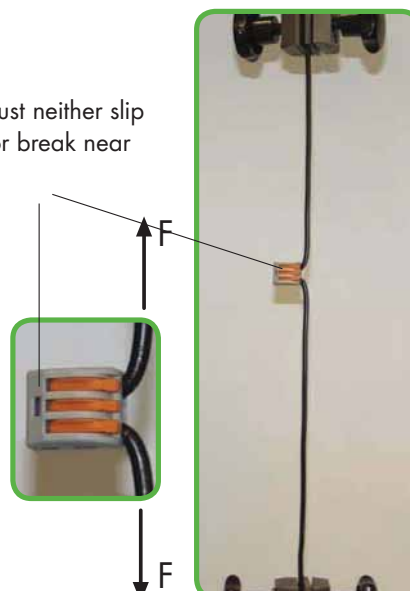
Wire Size AWG or kcmil		Pull-Out Force, Pounds (N)					
		UL 486 E, Table 22				UL 486 C, Table 20	
		Copper		Aluminum		Copper	
30	(0.05)	0.5	(2.2)	-	-	1.5	(6.7)
28	(0.08)	1	(4.5)	-	-	2	(8.9)
26	(0.13)	2	(8.9)	-	-	3	(13.4)
24	(0.20)	3	(13.4)	-	-	5	(22.3)
22	(0.32)	4.5	(20)	-	-	8	(35.6)
20	(0.52)	6.75	(30)	-	-	10	(44.5)
18	(0.82)	6.75	(30)	-	-	10	(44.5)
16	(1.3)	9	(40)	-	-	15	(66.7)
14	(2.1)	11.5	(50)	-	-	25	(111)
12	(3.3)	13.5	(60)	10	(44)	35	(155)
10	(5.3)	18	(80)	10	(44)	40	(178)
8	(8.4)	20.5	(90)	10	(44)	45	(200)
6	(13.3)	21	(94)	28	(124)	50	(222)
4	(21.2)	30	(133)	36	(160)		
3	(26.7)	35	(156)	42	(187)		
2	(33.6)	42	(186)	50	(222)		
1	(42.4)	53	(236)	61	(271)		
1/0	(53.5)	64	(285)	72	(320)		
2/0	(67.4)	64	(285)	78	(347)		
3/0	(85.0)	79	(351)	97	(432)		
4/0	(107)	96	(427)	116	(516)		
250	(127)	96	(427)	116	(516)		
300	(156)	99	(441)	116	(516)		

**Test Arrangement to  
UL 1059, UL 486 E:**



**Test Arrangement to  
UL 486 C:**

During the test, the wires must neither slip out of the clamping unit, nor break near the clamping unit.



# UL Specifications – Underwriters Laboratories, USA (continued)

## Tests and Testing Procedures per UL Standards (continued)

### • Heat Cycling Test to UL 1059, UL 486 C, UL 486 E

Tests performed:  
to **UL 1059**

Test performed with maximum rated cross sectional area  
Test current: 150% of the max. rated current

84 cycles of: 3 1/2 h "ON" / 1/2 h "OFF"

The temperature rise is measured after the first and the 84th cycle.

The temperature rise shall not exceed 5°C (41°F) after the 84th cycle, compared to the temperature measured after the first cycle.

to **UL 486 C** (splicing wire connectors),  
**UL 486 E** (equipment wiring terminals)

Test performed with maximum rated cross sectional area  
Test current: increased test current to UL 486 C, Table 6  
UL 486 E, Table 4

500 cycles of: 1 h "ON" / 1 h "OFF"  
1 1/2 h "ON" / 1 1/2 h "OFF"  
(from AWG 4/0 up to 400 kcmil per UL 486 E)

The temperature rises at the terminal blocks and control wires are measured and recorded after: 1, 25, 50, 75, 100, 125, 175, 225, 275, 350, 425 and 500 cycles.

The temperature rise shall not exceed 125°C (257°F) and the stability factor "S" shall not exceed ± 10.

Wire Size		Test Current for Copper Wires in A						
		UL 486 E, Table 4					UL 486 C, Table 6	
AWG or kcmil	(mm <sup>2</sup> )	Assigned Maximum Ampere Rating <sup>b</sup>	Static Heating <sup>a,c,g</sup>	Heating Cycling Temperature Rating <sup>a</sup>		Static Heating	Cyclic Heating	
				75°C <sup>d,g</sup>	90°C <sup>e,g</sup>			
30	(0.05)	-	3	3.5	4	3	3.5	
28	(0.08)	-	3.5	4	5	3.5	4	
26	(0.13)	-	5.5	6	8	5.5	6	
24	(0.20)	-	7	8	10	7	8	
22	(0.32)	-	9	12	13	9	12	
20	(0.52)	-	12	16	17	12	16	
18	(0.82)	-	17	19	24	17	19	
16	(1.3)	-	18	20	31	18	20	
14	(2.1)	15	[20]	30	[27]	30	33	
12	(3.3)	20	[25]	35	[40]	35	38	
10	(5.3)	30	[40]	50	[60]	50	56	
8	(8.4)	50	70	80	100	70	80	
6	(13.3)	65	95	105	131	95	105	
4	(21.2)	85	125	140	175			
3	(26.7)	100	145	165	205			
2	(33.6)	115	170	190	240			
1	(42.4)	130	195	220	275			
1/0	(53.5)	150	230	255	320			
2/0	(67.4)	175	265	300	370			
3/0	(85.0)	200	310	345	435			
4/0	(107)	230	360	405	505			
250	(127)	255	405	445	565			
300	(152)	285	445	500	625			

<sup>a</sup> See Section 7.2, 8.2 and 9.2 (UL 486 E)

<sup>b</sup> Values are for 75°C (167°F), not more than 3 conductors in raceway or cable ampacities, National Electric Code, ANSI/NFPA 70.

<sup>c</sup> Values are for 75°C (167°F) single wires in free air ampacities, National Electric Code, ANSI/NFPA 70.

<sup>d</sup> Values are approximately 112% of the static heating test currents.

<sup>e</sup> Values for 8 AWG and larger wires are approximately 140% of the static heating test currents.

<sup>f</sup> See Section 9.2.4

<sup>g</sup> Values in parentheses apply to connectors with assigned ampere ratings.



• Conditioning – Temperature-Rise Test to UL 1059, UL 486 C

Tests performed:  
to **UL 1059** (rail-mounted terminal blocks)

to **UL 486 C** (splicing wire connectors)

**Conditioning:**

The clamping units are **pre-wired/pre-inserted 9 times** using a conductor with maximum rated cross section. At the 10th time a new conductor is connected. After this, a static heating test is performed.

**Static Heating Test:**

Test current: Rated current of terminal block  
Test duration: 30 days  
Max. permissible temperature rise: 30°C

Test current: Increased test current (see Table 6)  
Test duration: 30 days  
Max. permissible temperature rise: 50°C

• Grounding and Bonding Equipment to UL 467

When used in “grounding and bonding” equipment, e.g., terminal blocks, shall withstand a short circuit test using the test currents and test durations as specified in Table 5.

In the following example, an AWG 2 (35 mm<sup>2</sup>) ground conductor terminal block (285-635) is tested for 6 seconds at 3,900A.

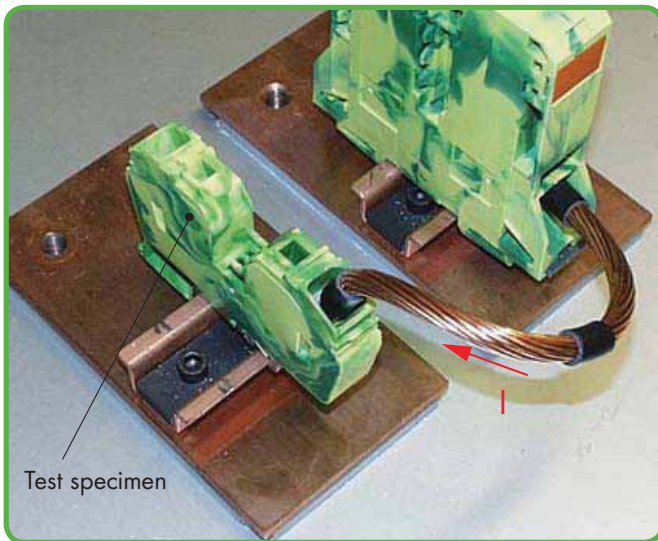


Table 5

Wire Size Copper		Test Duration s	Test Current A
AWG	mm <sup>2</sup>		
14	(2.1)	4	300
12	(3.3)	4	470
10	(5.3)	4	750
8	(8.4)	4	1180
6	(13.3)	6	1530
4	(21.2)	6	2450
3	(26.7)	6	3100
2	(33.6)	6	3900
1	(42.4)	6	4900
1/0	(53.5)	9	5050
2/0	(67.4)	9	6400
3/0	(85.0)	9	8030
4/0	(107)	9	10100
250 MCM	(127)	9	12000

After the test, the specimen shall neither show evidence of cracking, breaking or melting, nor any changes in electrical properties.

## UL Specifications – Underwriters Laboratories, USA (continued) Tests and Testing Procedures per UL Standards (continued)

### • Insulation Parameters to UL 1059

The table below shows the potential involved and the corresponding clearances and creepage distances required in different applications.

#### Minimum Acceptable Spacing for Terminal Blocks, UL Standard 1059, Table 8.1

Application	Potential Involved in Volts	Spacing in inches (mm) between uninsulated live parts of opposite polarity, uninsulated live parts and uninsulated grounded parts other than the enclosure			
		Through Air		Over Surfaces	
A. Dead-front switchboards, panelboards, service equipment and similar applications	51 - 150	1/2	(12.7)	3/4	(19.1)
	151 - 300	3/4	(19.1)	1-1/4	(31.8)
	301 - 600	1	(25.4)	2	(50.8)
B. Commercial appliances, including business equipment, electronic data processing equipment and similar applications	51 - 150	1/16 <sup>a</sup>	(1.6) <sup>a</sup>	1/16 <sup>a</sup>	(1.6) <sup>a</sup>
	151 - 300	3/32 <sup>a</sup>	(2.4) <sup>a</sup>	3/32 <sup>a</sup>	(2.4) <sup>a</sup>
	301 - 600	3/8	(9.5)	1/2	(12.7)
C. Industrial, general	51 - 150	1/8 <sup>a</sup>	(3.2) <sup>a</sup>	1/4	(6.4)
	151 - 300	1/4	(6.4)	3/8	(9.5)
	301 - 600	3/8	(9.5)	1/2	(12.7)
D. Industrial, devices having limited ratings <sup>b</sup>	51 - 150	1/16 <sup>a</sup>	(1.6) <sup>a</sup>	1/8 <sup>a</sup>	(3.2) <sup>a</sup>
	151 - 300	3/16 <sup>a</sup>	(4.8) <sup>a</sup>	3/8	(9.5)
E. Terminal blocks rated 601 - 1500 V <sup>c</sup>	601 - 1000	0.55	(14.0)	0.85	(21.6)
	1001 - 1500	0.70	(17.8)	1.20	(30.5)

Notes:

1 A slot, groove, or similar, 0.013 inches (0.33 mm) wide or less in the contour of the insulating material is to be disregarded.

2 Air space of 0.013 inches (0.33 mm) or less between a live part and an insulating surface is to be disregarded for the purpose of measuring over surface spacing.

<sup>a</sup> The spacing between terminal blocks of opposite polarity and the spacing between a terminal block and a grounded dead metal part shall not be less than 1/4 inch (6.4 mm) if short-circuiting or grounding of such terminal blocks may result from protruding wire strands.

<sup>b</sup> See Section 8.5 (UL 1059)  
The spacing values indicated in sub-paragraph D in Table 8.1 are applicable to a terminal block for use only in or with industrial control equipment where the load on any single circuit of the terminal block does not exceed 15A at 51-150V, 10A at 151-300V, 5A at 301-600V, or the maximum ampere rating, whichever is less.

<sup>c</sup> Applies only to terminal blocks investigated to Part II of this standard. See 22.1

### • Flammability Test to UL 1059

This test provides an indication of the material's ability to extinguish a flame, once ignited.

Several ratings can be applied, based on the rated of burning, time to extinguish, ability to resist dripping, and after-glow extinguishing time. Each material tested may receive several ratings, depending on the wall thickness.

UL 94 rating categories:

#### V2

- Specimen mounted vertically
- Burning stops within 30 seconds after the flame is removed
- Flaming drips allowed
- After-glow extinguishes within max. 60 seconds

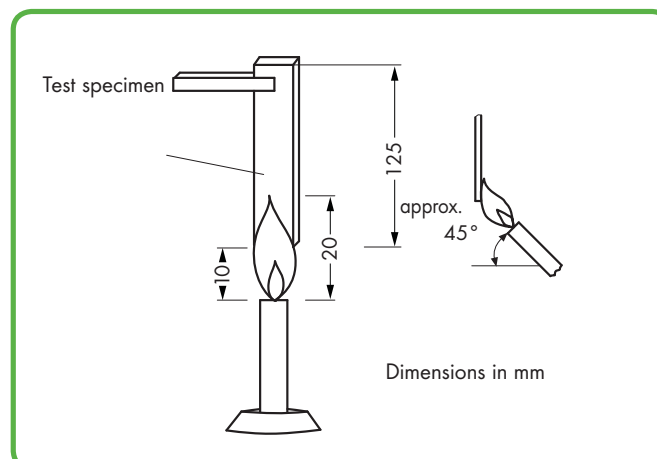
#### V1

- Specimen mounted vertically
- Burning stops within 30 seconds after the flame is removed
- No flaming drips allowed
- After-glow extinguishes within max. 60 seconds

#### V0

- Specimen mounted vertically
- Burning stops within 10 seconds after the flame is removed
- No flaming drips allowed
- After-glow extinguishes within max. 30 seconds

During the test, a 3/4 inch (20 ± 1 mm) flame is applied for two 10-second intervals to the specified bar specimen held vertically.



## Syringe



### WAGO PUSH WIRE® connectors

Push nozzle of the "Alu-Plus" syringe into the center conductor entry hole of the WAGO PUSH WIRE® connector.



Press plunger until "Alu-Plus" is visible in the other holes.

Item No.	Pack. Unit
Syringe, contents: 20 ml "Alu-Plus" contact paste	
249-130	20 (4x5)



### WAGO lighting connectors

Push nozzle of the "Alu-Plus" syringe first into the circular and then into the square conductor entry hole of the WAGO lighting connector.



Press plunger down until the "Alu-Plus" has filled both holes.

### Termination of aluminum conductors

WAGO spring-clamp terminal blocks are suitable for solid aluminum conductors ① up to 4 mm<sup>2</sup>/AWG 12 if contact paste "Alu-Plus" is used for the termination. Please take into account that the nominal currents must be adapted to the reduced conductivity of the aluminum conductors:

2.5 mm<sup>2</sup>/AWG 14 = 16 A  
4 mm<sup>2</sup>/AWG 12 = 22 A

Cleaning or greasing the aluminum conductor is no longer necessary. Use the contact paste "Alu-Plus" instead, which is directly injected into the conductor entry hole of the connectors by means of the handy syringe. This allows the easy termination of solid aluminum conductors (in case of multipole connectors, also mixed with copper conductors).

#### "Alu-Plus"

- Automatically destroys the oxide film during clamping
- Prevents fresh oxidation at the clamping point
- Prevents electrolytic corrosion between aluminum and copper conductors (in the same connector)
- Offers permanent protection against corrosion

It is, of course, also possible to apply the "Alu-Plus" directly on the whole surface of the aluminum conductor before clamping.



### WAGO rail-mount terminal blocks (only up to 4 mm<sup>2</sup>/AWG 12)

For each conductor entry: Insert nozzle of the "Alu-Plus" syringe in every open conductor entry hole (one after the other).

"Alu-Plus" in the syringe offers a higher degree of security and cleanliness when terminating solid aluminum conductors. Filling is, for example, very quickly performed on the three following selected connectors (see illustration).



Press plunger down until "Alu-Plus" has filled each of these holes.

① Aluminum conductors in accordance with IEC 61545, Class B, Alloy 1370, with a tensile strength of 90 - 180 N/mm<sup>2</sup> and an elongation of 1 - 4%. Standard values: Tensile strength 90 - 180 MPa, elongation 1 - 4% (acc. to EN 615.4.1)

## Insulation Materials

WAGO primarily uses polyamide (PA 6.6 and PA 4.6) as carriers of current-conducting parts and polycarbonate (PC) as insulating material (see table). These materials have proven their practical value in WAGO products for more than 40 years and are approved by the responsible test authorities.

**Table: Standard Insulating Materials**

Material	PA 6.6	PA 4.6	PC
Flammability			
UL 94 flammability test ratings	V0	V2	V2
Glow-wire test to IEC 60695-2-10/11+12	960°C	850°C	850°C
Comparative Tracking Index (CTI) to IEC 60112	600	375	275
Heat deflection temperature HDT/B (0.45 Mpa) with mechanical stress	short 200°C continuous 105°C	short 280°C continuous 115°C	140°C 125°C
Thermal resistance			
Ball indentation hardness test to EN ISO 2039-1 Test device B	125°C passed	125°C passed	125°C passed
Surface resistance	$10^{10} - 10^{13} \Omega$	$10^{13} - 10^{16} \Omega$	$10^{15} \Omega$
Specific contact resistance	$10^{15} \Omega/\text{cm}$	$10^9 - 10^{15} \Omega/\text{cm}$	$10^{13} \Omega/\text{cm}$
Dielectric strength	30 kV/mm	25 kV/mm	29 kV/mm

**Nylon (PA 6.6)**

WAGO uses a modified nylon that is **free** of halogens, chlorinated hydrocarbons, silicone, asbestos, cadmium and formaldehyde.

This material does not corrode, is barely flammable, self-extinguishing (V0 rating to UL 94) and is temperature-stabilized, allowing long-term temperature resistance up to 105°C (221°F).

This long-term thermal stability refers to the UL mechanical impact RTI (relative temperature index), in order to guarantee an adequate safety margin in terms of the electrical and mechanical insulation properties.

The short-term upper temperature limit is 200°C (392°F).

The same philosophy also forms the basis for the data relevant to the lower temperature limit.

The insulation material can be handled at temperatures as low as -35°C (-31°F) without damage. WAGO products can even be used at temperatures down to -60°C (-76°F) when installed and wired.

Environmental humidity (up to 2.5% on average) is absorbed chemically, achieving an optimum elasticity and fracture safety.

In practical use, the basic stabilization provides sufficient protections against damage by ozone or ultraviolet light for many years. Resistance against adverse climate conditions is excellent and nylon has proven itself in tropical applications.

Insulating parts produced from nylon are resistant to termites. The material does not offer a source of oxygen or other biogenic elements to microorganisms. The presence of anaerobic earth bacteria, mold fungus and enzymes does not result in degradation of the material. Resistance to fuels, most oils and greases, as well as the most common cleaning agents (e.g., alcohol, Freon, Frigen, carbon tetrachloride) is excellent. Acid resistance depends on the acid type and its concentration. More details are available upon request.

WAGO only accepts deliveries of granular insulation material against certificates of conformity and after specified material tests.

**Nylon (PA 4.6)**

In comparison with nylon 6.6, nylon 4.6 features a much higher dimensional stability under heat. Its long-term temperature resistance under mechanical stress is 115°C (239°F). The long-term heat resistance after 10,000 hours is 140°C (284°F). The short-time upper temperature limit is 280°C (536°F) for nylon 4.6 used by WAGO.

Please see table for additional information.

**Polycarbonate (PC)**

Some typical properties of polycarbonate include:

- Excellent dimensional stability under heat, high resistance, rigidity, hardness and viscosity up to 135°C (275°F).
- Good electrical properties, also unaffected by exposure to moisture. Its insulation properties are virtually independent of temperature and humidity.
- High dimensional stability thanks to low shrinkage due to low water absorption (approx. 0.2% relative humidity)
- High weather resistance
- High resistance to energetic radiation
- Self-extinguishing
- Crystal-clear transparency and high surface gloss

The polycarbonate used has a very high viscosity and chemical resistance. More details upon request.

Due to the whole set of properties (e.g., thermal resistance, low flammability, transparency and viscosity), polycarbonate is a valuable material with comprehensive utilization in electrical engineering.

## Contact Materials

Hard and extra-hard electrolytic copper ( $E_{Cu}$ ) as well as extra-hard copper alloys are the standard materials used for the current-carrying parts of all WAGO products.

This material combines excellent conductivity and good chemical resistance without the risk of stress-induced cracking.

## Contact Plating

The special tin layer, which is the standard layer for all current-carrying parts in WAGO products, ensures perfect long-term protection against corrosive substances. Furthermore, these layers provide a gas-tight contact that ensures a durable transition resistance.

The thick tin layer also ensures good solderability of both PCB terminal block and connector solder pins.

At the clamping unit, the conductor is pressed with a high contact pressure into the soft tin layer. This contact area is thereby protected against corrosion.

## Clamping Spring Material

All WAGO clamping springs is made of high-quality, accurately tested austenitic chrome nickel steel (CrNi) with high tensile strength, which has proven its corrosion resistance by long-term practice.

It is resistant to salt sea air, city pollutants or industrial emissions (e.g., sulfur dioxide, hydrogen sulphide).

At normal temperatures around 20°C (68°F), the material is resistant to salt solutions up to 30% and dilute phosphoric acids up to 30%.

Even after decades of practical use, no galvanic corrosion between the chrome nickel spring steel (in connection with the contact materials used by WAGO) and the connected copper conductors has been detected to date.

The relaxation of the material as a function of time and surrounding temperatures up to 105°C (221°F) can be neglected. Samples loaded with 500 N/mm<sup>2</sup> at a temperature of 250°C showed a relaxation of only 1.5%.

In certain product lines the clamping springs are thermally treated at temperatures between 350°C (662°F) and 420°C (788°F) after their production.

This treatment results in a reduction of internal stress due to the material's mechanical deformation, which may result in a slight brown discoloration of the spring surface.

WAGO only accepts deliveries of chrome nickel spring steel against certificates of conformity and after certain material tests.



## General Technical Information for Electrical Equipment in Hazardous Areas

A prerequisite for a potentially explosive hazard is the formation of an explosive atmosphere. Such an atmosphere can be produced at any location where flammable gases or liquids are manufactured, processed, transported and/or stored. Such **hazardous environments** can be formed for example in chemical plants, refineries, power plants, paint producing facilities, painting shops, filling stations, vehicles, sewage treatment plants, airports, grain mills or harbor facilities.

### THE FOLLOWING APPLY AS A GUIDELINE FOR THE UNDERLYING PRINCIPLE FOR EXPLOSION PRO- TECTION:

#### General Provisions

European Standard EN 60079-0 – Classification VDE 0170, Part 1 – contains the “General provisions” for the design and testing of electrical equipment to be used in hazardous areas.

This ensures this equipment does not cause an explosion in the surrounding atmosphere.

EN 60079-0 is supplemented or revised by the European standards indicated on the right which refer to the specifically standardized types of protection.

#### Electrical Equipment

Electrical equipment includes all objects used in whole or in part with electricity. This includes items for generation, transport, distribution, storage, measurement, control, conversion and consumption of electrical power, as well as telecommunications.

#### Ex Components

Ex components are elements of electrical equipment for hazardous areas that are marked with the letter “U”. These components shall not be used on their own in such areas and require an additional certificate when used in such areas when installed in the electrical equipment.

#### Ignition Protection Categories

Only explosion-proof (protected) equipment must be used in areas in which an explosive atmosphere may still be expected despite the implementation of prevention measures.

Electrical, explosion protected equipment can have various types of protection in accordance with the construction specifications of the standards series.

Protection used by the manufacturer essentially depends on the type and function of the apparatus. From a safety point of view, all standardized types of protection should be viewed as equal.

The ignition protection category “n” describes exclusively the use of explosion protected electrical components in Zone 2. This zone includes areas where explosive atmospheres can only be expected to occur rarely or for short duration.. This represents a transition between Zone 1, in which explosion protection is required, and the safe area in which, for example, welding may be performed at any time.

Regulations covering these electrical components are being prepared worldwide. Organizations such as KEMA in the Netherlands, or PTB in Germany certify that the devices meet the requirements of the EN 60079-15 European standard.

The ignition protection category “n” additionally requires electrical components to be marked with the following extended identification:

- A – non-sparking (function modules without relays/switches)
- AC – sparking, contacts protected with seals (function modules with relays/without switches)
- L – limited power (function modules with switches)

The table on the opposite page shows an overview of the standardized ignition protection categories and describes their basic principle, as well as typical applications.



Ignition Protection Categories			
Symbol	Standard	Explanation	Application Area
"o"	IEC 60079-6 EN 60079-6	<b>Oil immersed apparatus:</b> Electrical equipment or parts of such equipment are immersed in oil.	Zone 1 + 2
"p"	IEC 60079-2 EN 60079-2	<b>Pressurized enclosure:</b> The ingress of the external (explosive) atmosphere into the electrical equipment housing is prevented by maintaining a protective gas internally at a pressure above that of the external atmosphere.	Zone 1 + 2
"q"	IEC 60079-5 EN 60079-5	<b>Powder-filled apparatus:</b> Filling the electrical equipment housing with fine grain sand prevents the ignition of a surrounding explosive atmosphere by an electric arc generated in the housing.	Zone 1 + 2
"d"	IEC 60079-1 EN 60079-1	<b>Flameproof enclosure:</b> The parts that could ignite an explosive atmosphere are encapsulated in a housing, which will withstand the explosion pressure within the housing.	Zone 1 + 2
"e"	IEC 60079-7 EN 60079-7	<b>Increased safety:</b> Additional measures applied to achieve increased security against the possibility of excessive temperatures and the occurrence of arcs or sparks.	Zone 1 + 2
"i"	IEC 60079-11 EN 60079-11	<b>Intrinsic safety:</b> Power circuit in which no sparks or thermal effects can occur and cause the ignition of a certain explosive atmosphere.	Zone 1 + 2 following special testing Zone 0
"n"	IEC 60079-15 EN 60079-15	<b>Non-sparking:</b> Electrical equipment of group II for use in areas in which an explosive mixture of gas, vapor or mist is unlikely to occur during normal operation and, if it does, will be for a short period.	Zone 2
"m"	IEC 60079-18 EN 60079-18	<b>Cast encapsulation:</b> Dangerous electrical equipment is embedded in a cast mass. This corresponds approximately to the known special Ex s protection type.	Zone 1 + 2
	IEC 60079-25 EN 60079-25	<b>Intrinsically safe electrical systems "i":</b> Assembly of interconnected electrical equipment in which the circuits intended for use, as a whole or in part, in hazardous environments are intrinsically safe. It is documented accordingly in the system description.	Zone 1 + 2 following special testing Zone 0
	IEC / TS 60079-27	<b>FISCO standard:</b> Electrical equipment for explosive gas atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO) and Fieldbus non-incendive concept (FNICO).	

## - Continued - General Technical Information for Electrical Equipment in Hazardous Areas

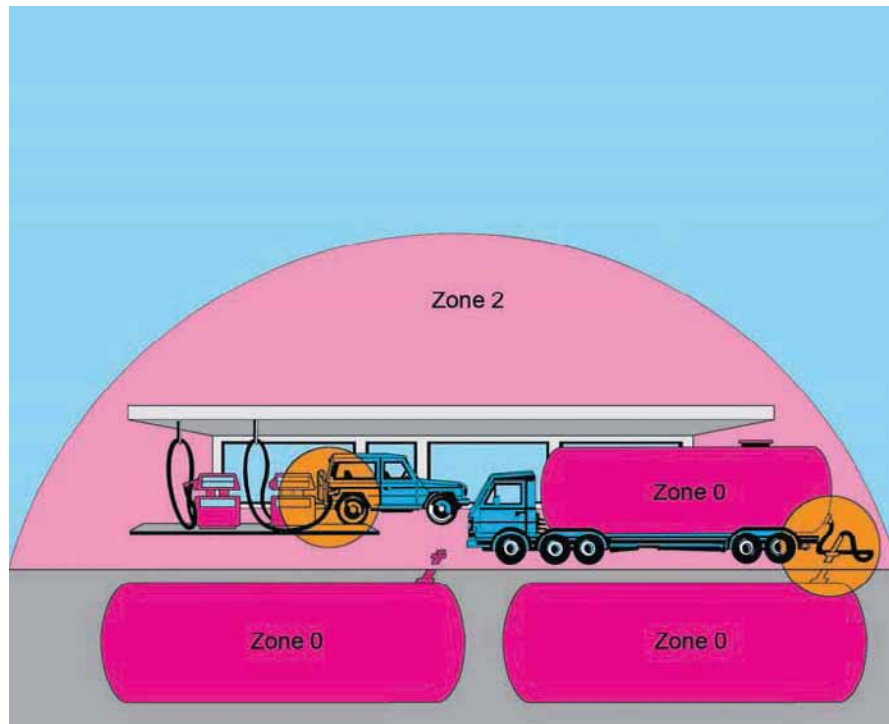
### Hazardous Environments

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 tem-

perature, arcs or sparks may cause an explosion. These may take form as 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.

According to EN 1127-1 and all other

related standards that are commonly known, hazardous areas are divided into zones according to the likelihood of the occurrence of an explosive atmosphere as follows:



Hazardous areas resulting from flammable gases, vapors or mist

#### Zone 0

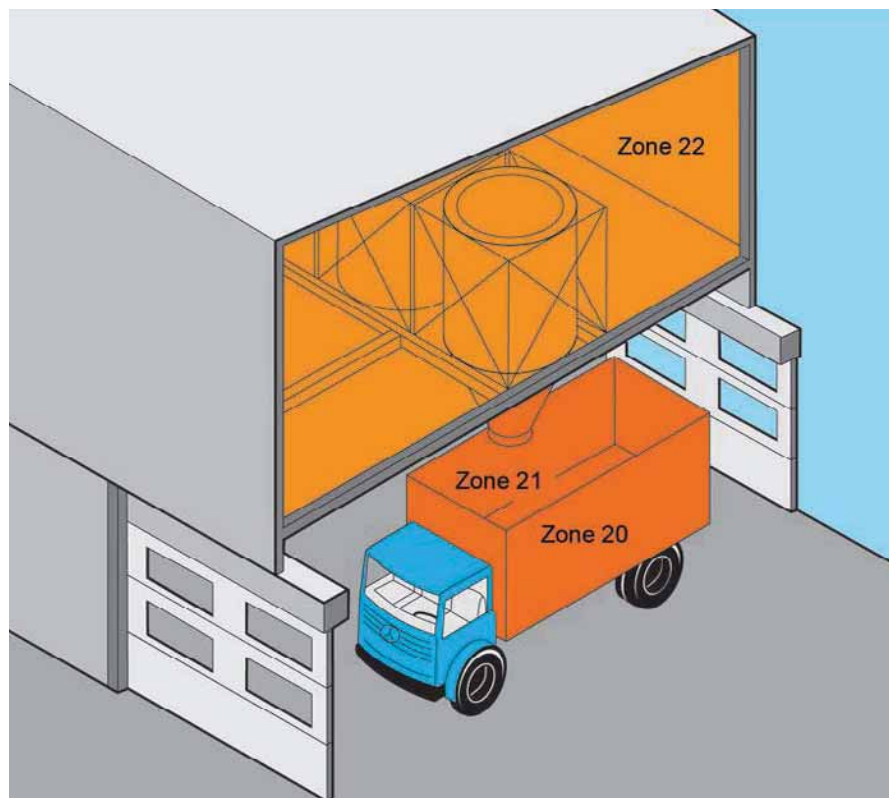
Areas in which a hazardous, potentially explosive atmosphere is present permanently, for long periods or frequently.

#### Zone 1

Areas in which hazardous, potentially explosive atmospheres are likely to occur "occasionally" during normal operation.

#### Zone 2

Areas in which hazardous, potentially explosive atmospheres are likely to occur "rarely" or "short-term" during normal operation.



Hazardous areas due to combustible dust

#### Zone 20

Area in which an explosive dusty atmosphere is present "permanently," for "long periods" or "frequently" and in which deposits of combustible dust of unknown or excessive thickness may be formed. Dust deposits alone do not constitute a Zone 20.

#### Zone 21

Area in which an explosive dusty atmosphere is present "occasionally" under normal operating conditions and in which deposits or layers of combustible dust can generally be present.

#### Zone 22

Area in which an explosive dusty atmosphere 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 flammable dust are present.

EN 60079-0 also classified electrical equipment for use in hazardous areas into two groups:

#### Group I:

Electrical equipment for mines susceptible to firedamp.

#### Group II:

Electrical equipment for potentially explosive areas, except for mines susceptible to firedamp.

As this broad application range encompasses a large number of potentially flammable gases, Group II is broken down into subgroups IIA, IIB and IIC.

This breakdown is based on the fact that the different gases/materials also exhibit differing ignition power levels as parameters. Therefore, representative gases have been allocated to these three sub-groups:

- IIA - Propane
- IIB - Ethylene
- IIC - Hydrogen

Publication of the WBK Mining Authority dated March 1989.

Quote: "... terminal blocks that have been certified for the type of protection Ex e II will also be accepted, for example, for Group I - Electrical equipment of the type of protection - Increased safety "e".

This information is also given under Item 12 in the EC Prototype Test Certificates, based on which the terminal blocks have been approved for Group I and Group II.

Temperature Category	Maximum Surface Temperature °C
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

Depending on the maximum surface temperature, electrical equipment in Group II are classified in temperature categories T1 to T6 for all types of protection. The ambient temperature, which must also be taken into account for dimensioning, is defined as 40°C (104°F) (deviations are acceptable under some conditions).

Terminal blocks for the type of protection - Increased safety "e" - are generally assigned to temperature category T6. When the terminal blocks are used in equipment of temperature categories T1 to T5, it must be ensured that the highest temperature on the insulating parts does not exceed 85°C (185°F).

The highest measured surface temperature rise shall not exceed 40 K.

Thermal resistance of the insulating material must be at least 20°C greater than the highest operating temperature. Low temperature stability is considered to be sufficient when the insulating material can withstand 24-hour storage at a temperature of -60°C without nullifying the type of protection.

#### Special Requirements "Increased Safety Ex e"

The European Standard EN 60079-7 - VDE 0170, Part 6 - contains "special requirements" for the design and testing of electrical equipment with protection type - Increased safety "e" -, for use in hazardous areas.

This standard is as a supplement to EN 60079-0 and applies to equipment or parts thereof that neither generate sparks or arcing under normal operating conditions, nor exhibit hazardous temperatures. This standard describes special measures, which have to be observed to obtain a safety degree according to the type of protection - Increased safety "e" -. Ex components such as rail-mounted terminal blocks are covered by Section 4.2 "Terminal Blocks for External Conductors."

The following are the most important design requirements for terminal blocks for external electrical conductors:

These must:

- be sufficiently large to permit reliable connection of external conductors with cross section of at least the size required by the nominal current of the equipment;
- be protected against self-loosening and designed such that the external conductors cannot slip out of their clamping units;
- be designed such that adequate contact pressure is ensured without damaging the conductors;
- be designed such that their contact pressure does not change with temperature cycling;
- be equipped with a spring connecting link for the connection of stranded conductors;
- be designed so as to allow safe connection of smaller conductor cross sections for terminal blocks up to 4 mm<sup>2</sup> / AWG 12.

#### Minimum Ignition Power of Typical Gases:

Explosion Group	I	IIA	IIB	IIC
Gases	Methane	Propane	Ethylene	Hydrogen
Ignition Power	280	250	82	16

The following table shows a comparison between the current practice based on ExV, DIN VDE 0165: 1991 and the new EN 1127-1:

Device Group II				
Category	Protection degree	Adequate safety for	Comparable to current practice	New, based on EN 1127
1 Ex atmosphere is very probable, dust in air	Highest	2 protective measures 2 faults	Group II Zone 0 Zone 10	Zone 0 Zone 20
2 Occasional Ex atmosphere	Increased	Equipment failure or fault	Group II Zone 1	Zone 1 Zone 21
3 Low probability of Ex atmosphere, settled dust	Normal	Fault-free operation	Group II Zone 2 Zone 11	Zone 2 Zone 22

## - Continued - General Technical Information for Electrical Equipment in Hazardous Environments

It is expressly prohibited to use insulating parts for transferring contact forces. Terminal blocks with sharp edges which could damage the conductor and those types that can be rotated, turned or permanently deformed when fixed in place are not permitted for use. Terminal blocks for internal connections in electrical equipment must not be subjected to excessive mechanical stress. These items must fulfill the requirements for terminal blocks used for external electrical conductors.

Air clearance between conductive parts having different potentials must be at least 3 mm for external connections, as specified in Table 1.

The value of the creepage distances depends on the working voltage, surface geometry of the insulating parts and tracking resistance of the insulation material. Grooves on the surface may only be considered if they are at least 2.5mm deep and wide, and ribs on the surface only if their height is at least 2.5mm and their width corresponds to the mechanical strength of the material, however not smaller than 1 mm.

**Table 1: Creepage Distances and Clearances**

Voltage <sup>1)</sup> Effective Value for AC Voltage or DC Voltage  V	Minimum Creepage Distance mm			Minimum Clearance
	Material Group			
	I	II	III α	mm
10 <sup>2)</sup>	1.6	1.6	1.6	1.6
12,5	1.6	1.6	1.6	1.6
16	1.6	1.6	1.6	1.6
20	1.6	1.6	1.6	1.6
25	1.7	1.7	1.7	1.7
32	1.8	1.8	1.8	1.8
40	1.9	2.4	3	1.9
50	2.1	2.6	3.4	2.1
63	2.1	2.6	3.4	2.1
80	2.2	2.8	3.6	2.2
100	2.4	3	3.8	2.4
125	2.5	3.2	4	2.5
160	3.2	4	5	3.2
200	4	5	6.3	4
250	5	6.3	8	5
320	6.3	8	10	6
400 (440)* <sup>1)</sup>	8	10	12.5	6
500 (550)* <sup>1)</sup>	10	12.5	16	8
630 (690)* <sup>1)</sup>	12	16	20	10
800	16	20	25	12
1000	20	25	32	14
1250	22	26	32	18
1600	23	27	32	20
2000	25	28	32	23
2500	32	36	40	29
3200	40	45	50	36
4000	50	56	63	44
5000	63	71	80	50
6300	80	90	100	60
8000	100	110	125	80
10000	125	140	160	100

<sup>1)</sup> The listed voltages are taken from IEC 60664-1 . The working voltage \*) may exceed the voltage indicated in the table by 10%. This is based on the simplification of the supply voltages in accordance with Table 3b in IEC 60664-1.  
The listed values for creepage and clearances are based on a maximum limit deviation for supply voltage of ± 10%.

<sup>2)</sup> CTI values are not applicable for voltages of 10 V or less. Materials that do not meet the requirements of material group III α can be used.

Classification of insulating materials according to their tracking resistance is based on their Comparative Tracking Index (CTI) and is defined in Table 2 as follows:

This classification applies to insulating parts without ribs or grooves.

If the insulating parts have ribs or grooves sufficiently large to be considered, the minimum creepage distances must be set according to values for the insulating materials in the next-higher level, for example Group I, instead of Group II.

Accounting for the ambient temperature of 40°C (104°F) specified for electrical equipment, the current-carrying capacity of rubber-insulated conductors is reduced to 82%, based on DIN VDE 0298-4: 2003-08, Table 10 and to 87% for PVC-insulated conductors for the current-carrying capacity defined for 30°C (86°F) in accordance with Item 4.3.3 in DIN VDE 0298-4: 2003-08.

**Table 2:  
Tracking Resistance for Insulating  
Materials**

Material Group	Comparative Tracking Index
I	600 ≤ CTI
II	400 ≤ CTI < 600
III α	175 ≤ CTI < 400

### Conductor Types and Conductor Preparation

In accordance with EN 60079-14/DIN VDE 0165-1, the ends of stranded and fine-stranded conductors must be protected against splaying (e.g., via cable lugs or ferrules) or by the type of terminal blocks used. Soldering alone is not sufficient.

Connecting electrical equipment to terminal blocks having a type of protection - Increased safety "e" - must not lead to a reduction of the creepage and air clearance distances based on EN 60069-7/DIN VDE 0170 Part 6.

Experience through the application of terminal blocks in aggressive atmospheres in the chemical industry demonstrate that tinned copper ferrules (gastight) or tinned copper pin-type cable sockets/lugs are recommended when connecting fine-stranded conductors to terminal blocks in corrosive atmospheres.

### Approvals

Terminal blocks can be used in Zones I and II, provided that the terminal blocks are accommodated in an enclosure that has a minimum IP54 protection and an Ex e certification.

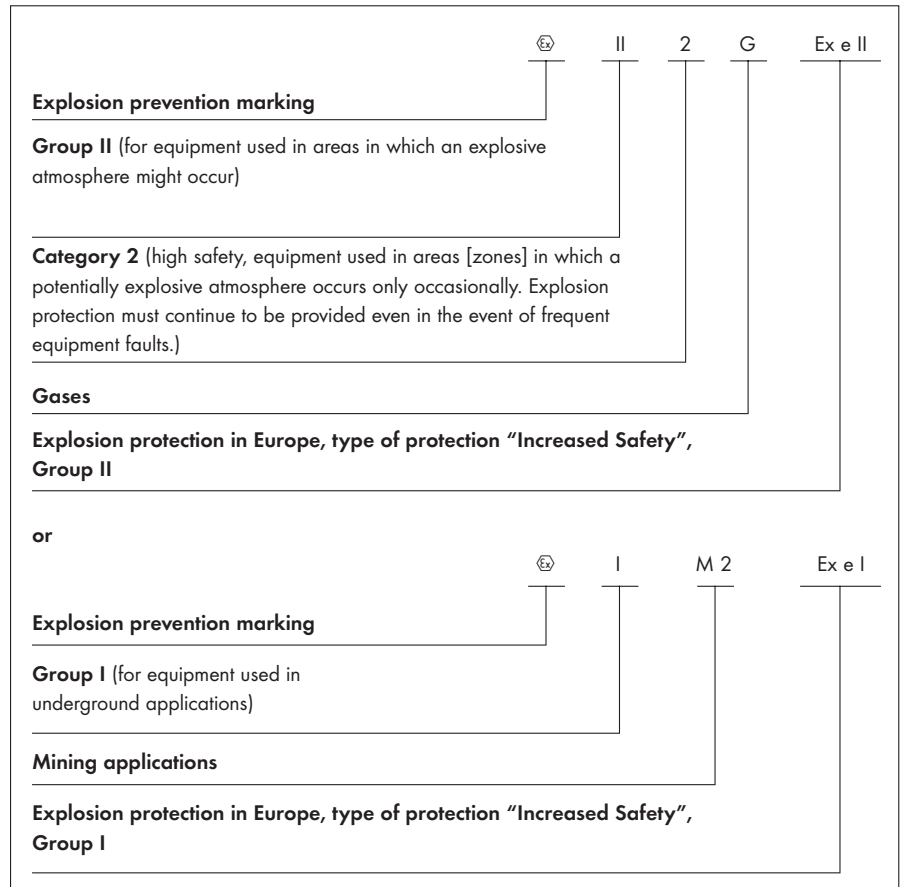
Terminal blocks are considered to be Ex components, as they are only a part of the equipment. Part certificates provided by Ex Certification Agencies serve as a basis for issuing the complete conformity declaration for the unit.

In accordance with the Explosion Protection Directive 94/9/EC (ATEX 100 a), an EC-type examination certificate based on ATEX 100 a is issued.

In addition, an IEXEx Certificate may also be obtained from an appropriate, recognized certification agency in accordance with the IECEx Certification Agreement that is accepted throughout Europe and also in countries such as Canada, China and Australia.

These certificates can also be viewed at: [www.iecex.com](http://www.iecex.com).

The marking of terminal blocks shall appear as follows in accordance with 94/9/EC Ex Safety Guideline ATEX 100 a:



### Example of marking (rear):

Series

Manufacturer's name

Nominal isolation voltage

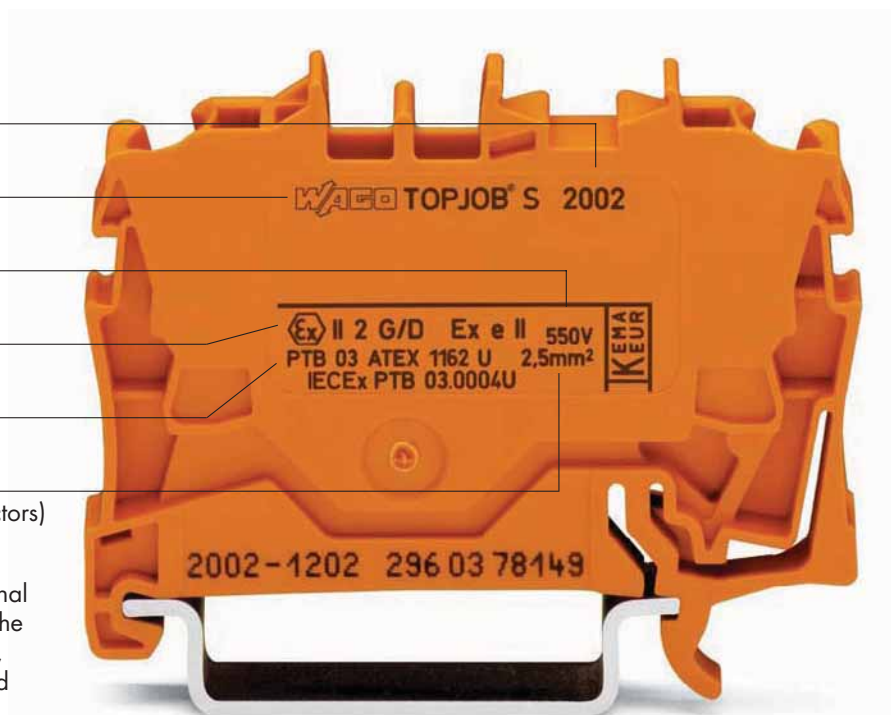
Type of protection

Part certification no.

Nominal cross section

(solid, stranded or fine-stranded conductors)

The embossed type details on the terminal blocks show the manufacturer's name, the series no., the type of protection Ex e II, the approval no., the approval data and the name of the test house.




# - Continued - General Technical Information for Electrical Equipment in Hazardous Environments

According to UL Standard 60079-7, terminal blocks for "Class I, Zone 1, Ex e II hazardous locations" can be approved for Ex applications.

As a result of international harmonization efforts, the UL certificate can be issued on the basis of EN 60079-0 or EN 60079-7 standards, provided that the terminal blocks have also been approved in accordance with UL 1059 (ordinary location).

If desired by the applicant, the product can simultaneously be approved in accordance with the Canadian Standards E79-0-95 and E79-7-95 and released for use in Canada.



The terminal blocks are marked with  us Cl. I, Zn. 1, AEx e II.




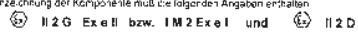


EC-type examination certificates have been granted to all WAGO terminal blocks listed in this catalog.

The WAGO terminal blocks approved for the ignition protection type Ex e II are manufactured of flame resistant, self-extinguishing Nylon 6.6. The same applies to the other terminal blocks in the non explosion endangered area.

Tracking resistance with a CTI value of 600 as per IEC 60112 and a constant operating temperature of 105°C/22°F in accordance with IEC 60216-1 and -2 are provided.

Factory part quality tests are performed on all CAGE CLAMP® rail-mounted terminal blocks with Ex e II approval to monitor and ensure the quality features described above.

		<b>IECEx Certificate of Conformity</b>	
<b>INTERNATIONAL ELECTROTECHNICAL COMMISSION</b> IEC Certification Scheme for Explosive Atmospheres <small>For rules and details of the IECEx Scheme visit <a href="http://www.iecex.com">www.iecex.com</a></small>			
Certificate No.:	<b>IECEx PTB 03.0004U</b>	Issue No.:	0
Status:	<b>Current</b>		
Date of Issue:	<b>2003-12-12</b>	Page 1 of 3	
Applicant:	<b>WAGO Kontakttechnik GmbH</b> Hansastr. 27 32423 Minden Germany		
Electrical Apparatus:	<b>TOPJOB S, 2002-1... and 2002-1..7 PE &amp; Through terminal blocks</b>		
Optional accessory:			
Type of Protection:	<b>Increased Safety</b>		
Marking:	<b>Ex e II</b> <b>Tamb: -55 °C to +45 °C</b>		
Approved for issue on behalf of the IECEx Certification Body:	Dr.-Ing. Uwe Klausmeyer		
Position:	Head of Section "Flameproof Enclosure"		
Signature: (for printed version)	_____		
Date:	_____		
<small>1. This certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The status and authenticity of this certificate may be verified by visiting the Official IECEx Website.</small>			
Certificate issued by:			
<b>Physikalisch-Technische Bundesanstalt (PTB)</b> Bundesallee 100 38116 Braunschweig Germany			

<b>Physikalisch-Technische Bundesanstalt</b>		
Braunschweig und Berlin		
		
<b>EG-Baumusterprüfbescheinigung</b>		
(1)		
(2)	Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen - <b>Richtlinie 94/9/EG</b>	
(3)	EG-Baumusterprüfbescheinigungsnummer 	
	<b>PTB 05 ATEX 1030 U</b>	
(4)	Komponente Durchgangsterminalen Typ TOPJOB S Baureihe 2006-12 und 2006-13, Schutzleitertermeinklemmen Typ TOPJOB S Baureihe 2006-207 und 2006-307	
(5)	Hersteller WAGO Kontakttechnik GmbH	
(6)	Anschrift Hansastr. 27, 32423 Minden, Deutschland	
(7)	Die Bauart dieser Komponente sowie die verschiedenen zulässigen Ausführungen sind in der Anlage und den darin aufgeführten Unterlagen zu dieser Baumusterprüfbescheinigung festgelegt.	
(8)	Die Physikalisch-Technische Bundesanstalt bescheinigt als benannte Stelle Nr. 0102 nach Artikel 9 der Richtlinie des Rates der Europäischen Gemeinschaften vom 23. März 1994 (94/9/EG) die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konstruktion und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie. Die Ergebnisse der Prüfung sind in dem vertraulichen Prüfbericht PTB Ex 05-15105 festzulegen.	
(9)	Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit <b>EN 60079-0:2004</b> <b>EN 60079-7:2003</b> <b>EN 50281-1-1:1996</b>	
(10)	Das Zeichen "U" hinter der Zertifikatsnummer gibt an, dass dieses Zertifikat nicht nur für ein Gerät oder Schutzsystem vorgesehenes Zertifikat vorwurfsfrei werden darf. Diese Teilbescheinigung darf nur als Basis für die Bescheinigung eines Gerätes oder Schutzsystems verwendet werden.	
(11)	Diese EG-Baumusterprüfbescheinigung bezieht sich nur auf Konstruktion und Prüfung der festgelegten Komponente gemäß Richtlinie 94/9/EG. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieser Komponente. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.	
(12)	Die Kennzeichnung der Komponente muß die folgenden Angaben enthalten	
		
	Braunschweig, 30. Mai 2005	
	Zertifizierungsstelle Explosionsschutz Dr.-Ing. U. Klausmeyer Direktor und Prüfingenieur 	
		
	Seite 1/3	
	<small>Ein Baumusterprüfbescheinigung ohne Unterschrift und ohne Siegel haben keine Gültigkeit. Diese EG-Baumusterprüfbescheinigung kann nur verwendet werden, wenn sie von den Angehörigen des Bundesorgans für Physikalisch-Technische Bundesanstalt ausgestellt wurde.</small>	

### Classifications to NEC 500

The following classifications as defined in article 500 of the National Electric Code (NEC) are valid for North America.

### Divisions

The "Divisions" describe the degree of probability of whatever type of dangerous situation occurring. Here the following assignments apply:

Hazardous areas resulting from flammable gases, vapors or mist	
Division 1	Encompasses areas in which explosive atmospheres are to be expected occasionally ( $> 10 \text{ h} \leq 1000 \text{ h/year}$ ) as well as continuously and long-term ( $> 1000 \text{ h/year}$ ).
Division 2	Encompasses areas in which explosive atmospheres can be expected rarely and short-term ( $> 0 \text{ h} \leq 10 \text{ h/year}$ ).

### Explosion Protection Groups

Electrical components for explosive areas are subdivided in three danger categories:

Class I (gases and fumes):	Group A (Acetylene) Group B (Hydrogen) Group C (Ethylene) Group D (Methane)
Class II (dust):	Group E (Metal dust) Group F (Coal dust) Group G (Flour, starch and cereal dust)
Class III (fibers):	No sub-groups

### Temperature Classes

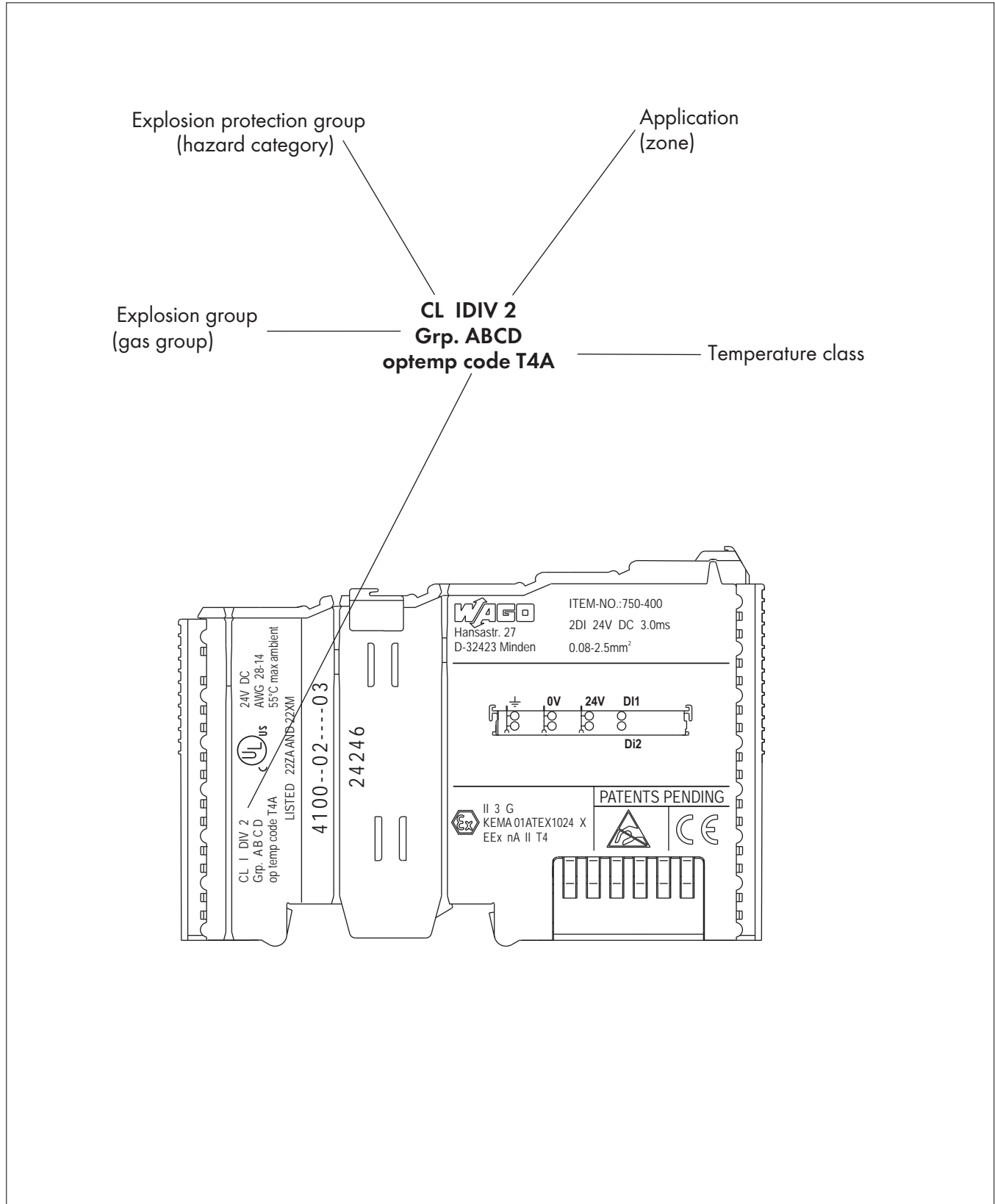
Electrical components for explosive areas are differentiated by temperature classes:

Temperature Class	Maximum Surface Temperature	Ignition Temperature of Combustible Materials
T1	450 °C	$> 450 \text{ °C}$
T2	300 °C	$> 300 \text{ °C} \leq 450 \text{ °C}$
T2A	280 °C	$> 280 \text{ °C} \leq 300 \text{ °C}$
T2B	260 °C	$> 260 \text{ °C} \leq 280 \text{ °C}$
T2C	230 °C	$> 230 \text{ °C} \leq 260 \text{ °C}$
T2D	215 °C	$> 215 \text{ °C} \leq 230 \text{ °C}$
T3	200 °C	$> 200 \text{ °C} \leq 215 \text{ °C}$
T3A	180 °C	$> 180 \text{ °C} \leq 200 \text{ °C}$
T3B	165 °C	$> 165 \text{ °C} \leq 180 \text{ °C}$
T3C	160 °C	$> 160 \text{ °C} \leq 165 \text{ °C}$
T4	135 °C	$> 135 \text{ °C} \leq 160 \text{ °C}$
T4A	120 °C	$> 120 \text{ °C} \leq 135 \text{ °C}$
T5	100 °C	$> 100 \text{ °C} \leq 120 \text{ °C}$
T6	85 °C	$> 85 \text{ °C} \leq 100 \text{ °C}$

# - Continued - General Technical Information for Electrical Equipment in Hazardous Environments

For America  
Per NEC 500

Example for side marking of I/O modules  
(750-400, 2-channel digital input module 24VDC)





### Special Requirements “Intrinsic safety Ex i”

The European Standard EN 60079-11 – Classification VDE 0170, Part 7 – contains special requirements for the design and testing of electrical equipment with protection type – Intrinsic safety “i” – for use in hazardous areas.

A circuit is designated as “intrinsically safe” when under normal operating conditions and in the event of defined faulted conditions, no sparks and no thermal effects can cause an ignition in a defined potentially explosive atmosphere.

A distinction is made here between:

- intrinsically safe electrical equipment when all circuits are intrinsically safe and
- associated electrical equipment including both intrinsically and non-intrinsically safe circuits, and being designed such that the non-intrinsically safe circuits cannot affect the intrinsically safe ones.

Intrinsically safe electrical equipment and intrinsically safe parts of associated electrical equipment are classified at protection level “ia” or “ib.”

Products classified Ex “ia” shall not ignite when current is applied in the following cases:

- a) During fault-free operation, with those non-discreet faults present that result in the most adverse condition.
- b) During fault-free operation and with a discreet fault, plus those non-discreet faults that result in unfavorable conditions.
- c) During fault-free operation with two discreet faults, plus those non-discreet faults that result in the most adverse conditions.

Products classified Ex “ib” shall not ignite when current is applied in the following cases:

- a) During fault-free operation, with non-discreet faults present that result in the most adverse condition;
- b) During fault-free operation, with a discreet fault present, plus those non-discreet faults that result in the most adverse condition.

No special approval is required for terminal blocks used as simple electrical equipment for protection type “Ex i”, as they do not contain a voltage source and precise information is available concerning electrical data and temperature rise performance.

The terminal blocks must be identifiable, for example by their type designation, and the following design requirements must also be upheld:

- The air distance between bare, conducting parts of terminal blocks of different intrinsically safe circuits has to be equal or higher than the values specified in the standard. In addition, the air distances between the terminal blocks must be so that the air distances between bare, conducting parts of the connected external conductors is at least 6 mm for one measurement. Each possible motion of metallic parts that are not rigidly fixed must be considered.
- When a possible connection has not been considered during safety analysis, the minimum clearance between grounded metallic or other conducting parts and the uninsulated conducting parts of the conductors that are connected to the terminal blocks must be 3 mm.
- Terminal block marking must be unique and clearly visible. If a color is used for this, the color must be light blue (similar to RAL 5015).

Note also when using terminal blocks: Terminal blocks used for intrinsically safe circuits must be isolated from those used in non-intrinsically safe circuits. This is accomplished by several accepted methods. First, intrinsically safe circuits are separated by at least 50mm of air space from non-intrinsically safe circuits.

Second, intrinsically safe circuits are housed in a separate enclosure. Third, intrinsically safe terminal blocks are separated from non-intrinsically safe terminal blocks by either an insulated partition or grounded metal partition. The partition size must allow for either 1.5mm or less distance from the sides of the housing or provide at least 50mm of creepage distance between the intrinsically and non-intrinsically safe circuits in all directions.

The insulation between an intrinsically safe circuit and the chassis of an electrical equipment or parts, which may be grounded, has to withstand an effective AC voltage corresponding to double the value of the voltage of the intrinsically safe circuit or a minimum of at least 500V, depending on which value is higher.

The insulation between an intrinsically safe and a non-intrinsically safe circuit has to withstand an effective AC voltage of  $2 \times \text{nominal value (U)} + 1 \text{ kV}$  or a minimum of 1.5 kV, whereby U represents the total of the effective voltages of the intrinsically safe and the non-intrinsically safe circuit.

Short circuit between different intrinsically safe circuits could cause dangerous conditions. The insulation between these circuits should withstand an effective voltage of at least 500VAC or 2UAC where U is the total of the effective voltages for the related circuits.

In accordance with the Electrical Installations Design Guideline DIN EN 60079-14 (VDE 0165-1), stranded and fine-stranded conductors used in intrinsically safe circuits shall be protected against splayed ends (e.g., via ferrules or pin terminals) **or by the type of terminal blocks** used. Tinning the conductor end alone is not permissible.

Gastight tinned copper ferrules or tinned copper pin terminals are recommended when connecting fine-stranded conductors to terminal blocks in corrosive atmospheres.

## - Continued - General Technical Information for Electrical Equipment in Hazardous Environments



IECEx and ATEX 100a Approvals

IECEx Scheme Online Certificate of Conformity

IEC scheme for certification to standards for safety of equipment for use in explosive atmospheres (iecx schemes)

IECEx Scheme Online Certificate of Conformity

View by Certificates: (All)

Previous Page | Next Page | First Page | Last Page | Expand | Collapse  
(Year Selection: All | 2003 | 2004)

Year	Certificate Reference Number	Status	Manufacturer country	Manufacturer name	Protection type	Tested Standard	Apparatus
2003	IECEX TUN 03.0000	Current	Germany	Preperl + Fuchs GmbH	Intrinsic safety	IEC 60079-0 (Ed.3.1)...	Inpube Evaluat...
	IECEX SR 03.0001	Current	United Kingdom	Dräger PLMS Ltd	Intrinsic Safety	IEC 60079-0 (Ed.3.1)...	Open Path Gas D...
	IECEX SR 03.0000	Current	United Kingdom	Dräger PLMS Ltd	Intrinsic Safety, In...	IEC 60079-0 (Ed.3.1)...	Open Path Gas D...
	IECEX SM 03.0003X	Current	Australia	CSE Ex Pty Ltd	Flameproof, Dust Ign...	IEC 60079-0 (Ed.3.1)...	F3 Series Ex at...
	IECEX SM 03.0002X	Current	Australia	CSE Ex Pty Ltd	Flameproof, Dust Ign...	IEC 60079-0 (Ed.3.1)...	F2 Series Ex at...
	IECEX SM 03.0001U	Current	Australia	CSE Ex Pty Ltd	Flameproof, Dust Ign...	IEC 60079-0 (Ed.3.1)...	FCM1, FCM2, F...
	IECEX PTB 03.0004U	Current	Germany	WAGO Kontakttechnik	Increased Safety	IEC 60079-0 (Ed.3.1)...	TOPJOB S, 2002...
	IECEX PTB 03.0003	Current	Germany	Preperl + Fuchs GmbH	General requirements...	IEC 60079-0 (Ed.3.1)...	Field Loss Trans...
	IECEX PTB 03.0000	Current	Germany	CEAG Sicherheitstechn...	Increased Safety	IEC 60079-0 (Ed.3.1)...	Blanking Element...
	IECEX UK 03.0005	Current	United Kingdom	Eblon Chromatals	Flameproof Enclosure...	IEC 60079-0 (Ed.3.1)...	Articulate...
	IECEX UK 03.0002	Current	United Kingdom	Eblon Chromatals	Flameproof Enclosure...	IEC 60079-0 (Ed.3.1)...	Industry - CPFA...

### TOPJOB®S Rail-Mounted Terminal Blocks

The IECEx certificate (approval no. IECEx PTB 03.0004U) awarded to WAGO for the TOPJOB®S rail-mounted terminal blocks, which first debuted at the Hannover Fair 2003, is one of the first ten certificates that have been issued worldwide thus far. It is the fourth certificate of this type (reference no. ...0004U) that has been published online by the German certification body PTB in Braunschweig (publication dated December 15, 2003).

These rail-mounted terminal blocks are also certified for use in Exe applications according to ATEX 100a. Both approvals are available for all through terminal blocks, as well as ground conductor terminal blocks.

They provide major cost savings and simplicity to WAGO customers:

- Double inventories are no longer necessary for standard and Exe rail-mounted terminal blocks.
- The time-, cost- and space-saving features of the system automatically apply to Exe applications.
- Project planning is essentially performed using a single range of rail-mounted terminal blocks.
- Enhanced plant safety: Standard terminal blocks cannot be accidentally used in Exe areas.
- The IECEx certificate is valid for the international trade of Ex equipment.

Other WAGO products with IECEx approval are available upon request.



## International Certification Organizations – Overview

	Abbreviation for online search		Abbreviation for online search
 <b>Underwriters Laboratories USA</b> <a href="http://www.ul.com">http://www.ul.com</a>	UL	 <b>Danmarks Elektriske Materielkontrol Dänemark</b> <a href="http://www.demko.dk">http://www.demko.dk</a>	<b>DEMKO</b>
 <b>Underwriters Laboratories USA</b> <a href="http://www.ul.com">http://www.ul.com</a>	UL	<b>CENELEC CERTIFICATION AGREEMENT</b>	
 <b>Underwriters Laboratories USA</b> <a href="http://www.ul.com">http://www.ul.com</a>	cURus	 <b>Danmarks Elektriske Materielkontrol Dänemark</b> <a href="http://www.cenelec.org">http://www.cenelec.org</a>	<b>CCA Zul.-Nr. mit DK</b>
 <b>Underwriters Laboratories USA</b> <a href="http://www.ul.com">http://www.ul.com</a>	cULus	 <b>SETI – FEMKO Sähkötarkastuskeskus Elinspektionscentralen Finnland</b> <a href="http://www.seti.fi">http://www.seti.fi</a>	
 <b>Canadian Standards Association Kanada</b> <a href="http://www.csa.ca">http://www.csa.ca</a>	CSA	 <b>Sähkötarkastuskeskus Elinspektionscentralen Finnland</b> <a href="http://www.fimko.com">http://www.fimko.com</a>	<b>FIMKO</b>
 <b>VDE-Gutachten mit Fertigungsüberwachung Bundesrepublik Deutschland</b> <a href="http://www.vde.de/vde/html/e/home.htm">http://www.vde.de/vde/html/e/home.htm</a>	VDE	<b>SABS</b> <b>South African Bureau of Standards Süd-Afrika</b> <a href="http://www.sabs.co.za">http://www.sabs.co.za</a>	<b>SABS</b>
 <b>VDE – Deutscher Verband für Elektrotechnik Bundesrepublik Deutschland</b> <a href="http://www.vde.de">http://www.vde.de</a>		 <b>RosTest Russland</b> <a href="http://www.rostest.ru">http://www.rostest.ru</a>	<b>ROSTEST</b>
<b>VDE</b> <b>VDE – Prüfbericht Bundesrepublik Deutschland</b>		 <b>Departamentul Moldovastandard Moldawien</b> <a href="http://www.moldova.md/ro/government/oll/D_STAND/en/strcent2.htm">http://www.moldova.md/ro/government/oll/D_STAND/en/strcent2.htm</a>	<b>CSM</b>
 <b>Österreichischer Verband für Elektrotechnik Österreich</b> <a href="http://www.ove.at">http://www.ove.at</a>	ÖVE	 <b>Certificate of Registration Großbritannien</b> <a href="http://www.astacertification.com">http://www.astacertification.com</a>	<b>ASTA</b>
 <b>Schweizerischer Elektrotechnischer Verein Schweiz</b> <a href="http://www.sev.ch/">http://www.sev.ch/</a>	SEV	 <b>Rheinisch-Westfälischer Technischer Überwachungsverein e.V. Bundesrepublik Deutschland</b> <a href="http://www.rwtuv.de">http://www.rwtuv.de</a>	<b>RWTÜV</b>
 <b>N.V. tot Keuring van Elektrotechnische Materialen Niederlande</b> <a href="http://www.kema.nl">http://www.kema.nl</a>	KEMA	 <b>Elektrotechnik ý v ýskumn ý a projektov ý ústav Tschechien</b> <a href="http://www.ezu.cz">http://www.ezu.cz</a>	<b>EZU</b>
<b>CENELEC CERTIFICATION AGREEMENT</b>		 <b>Stowarzyszenie Elektrykow Polskich Polen</b> <a href="http://www.bb.j.pl">http://www.bb.j.pl</a>	<b>BBJ</b>
 <b>N.V. tot Keuring van Elektrotechnische Materialen Niederlande</b> <a href="http://www.cenelec.org">http://www.cenelec.org</a>	CCA Zul.-Nr. mit NL	 <b>Stowarzyszenie Elektrykow Polskich Polen</b> <a href="http://www.sep.com.pl">http://www.sep.com.pl</a>	<b>SEP</b>
 <b>Norges Elektriske Materialkontroll Norwegen</b> <a href="http://express.nemko.com">http://express.nemko.com</a>	NEMKO		
 <b>Svenska Elektriska Materielkontrollanstalten AB Schweden</b> <a href="http://www.semko.com">http://www.semko.com</a>	SEMKO		

	Abbreviation for online search		Abbreviation for online search	
<b>CNET</b> Centre National d'Études des Télécommunications Frankreich <a href="http://www.lannion.cnet.fr">http://www.lannion.cnet.fr</a>	<b>CNET</b>	 BKI Ex	<b>Robbanásbiztos Villamos Berendezések Ungarn</b> <a href="http://www.bki.hu">http://www.bki.hu</a>	<b>BKI</b>
<b>LCIE</b> Laboratoire Central des Industries Electriques Frankreich <a href="http://www.lcie.fr">http://www.lcie.fr</a>	<b>LCIE</b>	<b>CB</b>	<b>CB – TEST CERTIFICATE Indien</b> <a href="http://www.ul-europe.com">http://www.ul-europe.com</a>	<b>CB</b>
 <b>Fyzikálne Technick ý Zkusební Ústav, Ostrava-Radvanice Tschechien</b> <a href="http://www.ftzu.cz">http://www.ftzu.cz</a>	<b>FTZU</b>	<b>CB</b>	<b>CB – TEST CERTIFICATE China</b> <a href="http://www.ul-europe.com">http://www.ul-europe.com</a>	<b>CB</b>
			<b>UL-International Demko A/S Dänemark</b> <a href="http://www.ul-europe.com">http://www.ul-europe.com</a>	<b>ENEC</b>
<b>Shipbuilding approvals</b>		<b>Ex approvals</b>		
 <b>Germanischer Lloyd Bundesrepublik Deutschland</b> <a href="http://www.gl-group.com">http://www.gl-group.com</a>	<b>GL</b>		<b>Physikalisch Technische Bundesanstalt Bundesrepublik Deutschland Ex e II</b> <a href="http://www.ptb.de">http://www.ptb.de</a>	<b>PTB</b>
<b>BV</b> Bureau Veritas Frankreich <a href="http://www.bureauveritas.fr">http://www.bureauveritas.fr</a>	<b>BV</b>	<b>AV</b>	<b>Underwriters Laboratories USA</b> <a href="http://www.ul.com">http://www.ul.com</a>	<b>cURus-EX</b>
 <b>Lloyd's Register of Shipping Großbritannien</b> <a href="http://www.lloydsregister.com">http://www.lloydsregister.com</a>	<b>LR</b>		<b>N.V. tot Keuring van Elektrotechnische Materialen Niederlande</b> <a href="http://www.kemaquality.com">http://www.kemaquality.com</a>	<b>KEMA-EX</b>
 <b>NV – Det Norske Veritas Norwegen</b> <a href="http://www.dnv.com">http://www.dnv.com</a>	<b>DNV</b>	<b>GOSENERGO-Ex</b>	<b>GOSENERGONADZOR Russland</b>	<b>GOSENERGO-EX</b>
 <b>Russian Maritime Register of Shipping GUS</b> <a href="http://www.rs-head.spb.ru">http://www.rs-head.spb.ru</a>	<b>RMR</b>		<b>Fyzikálne Technick ý Zkusební Ústav, Ostrava-Radvanice Tschechien</b> <a href="http://www.ftzu.cz">http://www.ftzu.cz</a>	<b>FTZU</b>
 <b>Polski Rejestr Statków Polen</b> <a href="http://www.prs.pl">http://www.prs.pl</a>	<b>PRS</b>		<b>Robbanásbiztos Villamos Berendezések Ungarn</b> <a href="http://www.bki.hu">http://www.bki.hu</a>	<b>BKI-EX</b>
 <b>Korean Register of Shipping Korea</b> <a href="http://www.krs.co.kr">http://www.krs.co.kr</a>	<b>KR</b>			
<b>ABS</b> American Bureau of Shipping USA <a href="http://www.eagle.org">http://www.eagle.org</a>	<b>ABS</b>			

# Approvals – User Guide

Please find updated approvals at [www.wago.com](http://www.wago.com)



## • 1: Select "Country" ①



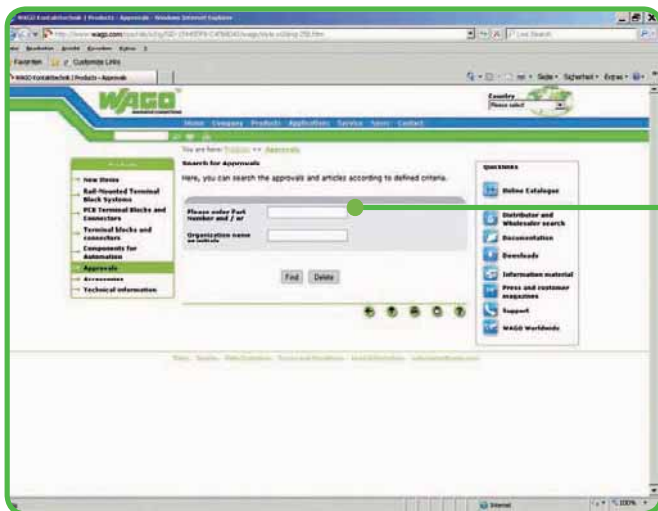
e.g., United Kingdom



## • 2: Select "Products"



Select "Approvals"

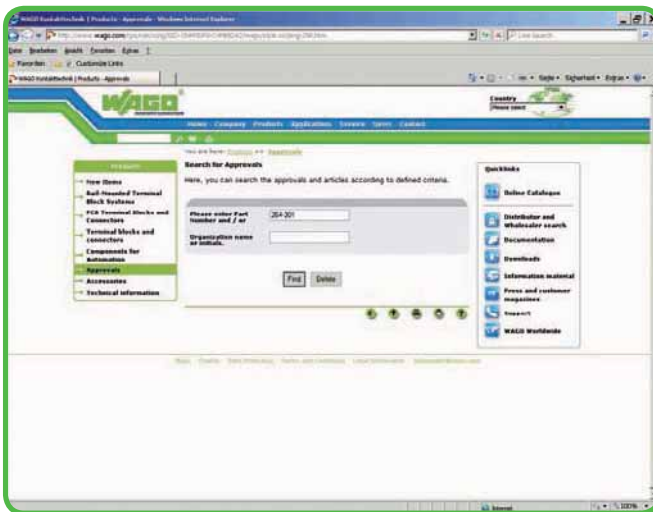


## • 3: "Search for Approvals"



Here, you can search the approvals and items according to defined criteria.

① Step 1 is only required if the country has not been detected automatically.



#### 4: Entry Options

a) Item Number  
e.g., 264-301

b) Certification Agency  
e.g., "UL"

c) Certification Agency and  
Item Number Range; e.g.,  
"280 - 6" and "UR"

Part Number	Organization	Approval No.	Voltage [ V ]	Current [ A ]	Wire Size [ mm <sup>2</sup> ]
264-301	ABS	04-HG476174/1-PDA	800	24	2,5
264-301	BV	07436/C0			0,08-2,5
264-301	CCA	NL6511	800	24	2,5
264-301	CSA	18677-23	600	20	26-12
264-301	DNV	E-9215	800	24	2,5
264-301	GL	17295-00HH	800	24	2,5
264-301	KR	HMB05880-EL002	800	24	
264-301	LR	92/20242(E5)	800	24	2,5
264-301	RMR	11130002	800	24	2,5
264-301	UR	E45172	600/600	20/20	28-12

Search Result a)  
Item Number:

*All approvals related to that product will be displayed.*

Part Number	Organization	Approval No.	Voltage [ V ]	Current [ A ]	Wire Size [ mm <sup>2</sup> ]
222-412	UL	E69654	600	20	28-12"s"/str"
222-413	UL	E69654	600	20	28-12"s"/str"
222-415	UL	E69654	600	20	28-12"s"/str"
224-101	UL	E69654	300	20	14-12"s"/20-16"s"/str"
224-104	UL	E69654	300	20	14-12"s"/20-16"s"/str"
224-112	UL	E69654	300	20	18-16"s"/20-16"s"/str"
224-114	UL	E69654	300	20	18-14"s"/20-16"s"/str"
224-201	UL	E69654	300	20	20-16"
273-100	UL	E69654	600	20	20-16"s"
273-101	UL	E69654	600	20	20-16"s"

Search Result b)  
Certification Agency:

*All products approved by that agency will be displayed.*

Part Number	Organization	Approval No.	Voltage [ V ]	Current [ A ]	Wire Size [ mm <sup>2</sup> ]
280-601	UR	E45172	600/600	20/20	28-12
280-602	UR	E45172	600/600	20/20	28-12
280-603	UR	E45172	600/600	20/30	28-12
280-604	UR	E45172	300/300	15/15	28-12
280-606	UR	E45172	300/300	10/10	28-12
280-607	UR	E45172			28-12
280-610	UR	E45172	300/300	10/10	28-12
280-612	UR	E45172	300/300	15/15	28-12
280-616	UR	E45172	300/300	10/10	28-12
280-621	UR	E45172	300/300	15/15	28-12

Search Result c)  
Certification Agency and Item Numbers:

*The whole range of products approved by that agency will be displayed.*

## Electrical Engineering Laboratory: Product Safety for Our Customers

The WAGO laboratory in Minden is an “accredited test lab for electrical and mechanical tests on terminal blocks and connectors, as well as for environment simulations.”

Accreditation, as ISO/IEC 17011:2004 defines, is a third party-attestation related to a conformity assessment body conveying formal demonstration of its competence to carry out specific conformity assessment tasks.

Accreditation, according to DIN EN ISO/IEC 17025, is granted by the Deutsche Akkreditierungsstelle GmbH DAkkS (German Accreditation Office GmbH DAkkS). This national accreditation office, which was established by the German Federal Ministry for Economics and Technology (BMWV), certifies that our test laboratory is officially recognized as possessing the necessary expertise to conduct defined tests and types of tests independently and objectively.

Through obtaining the accreditation, the following objectives were achieved:

- Customer requirements
- Workflow optimization
- Clearly defined processes
- Clear organization and structure
- Greater transparency
- Consistent, high-quality laboratory testing
- Maximum traceability
- Traceable measurement results
- Sustainable quality awareness

### High-voltage test



### Vibration- and shock-resistance testing



### Visitor center



### Conductor retention force testing





# WAGO Seminars – Learn Today

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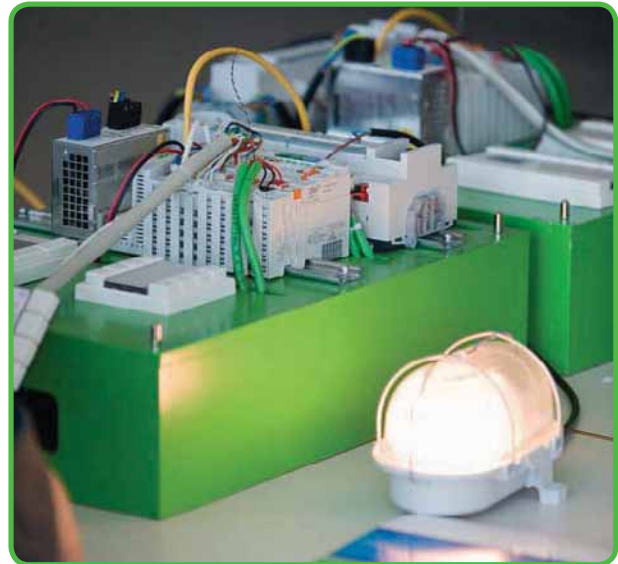
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In addition to these “open” seminars, we also offer customer-specific courses as company seminars to address your company’s particular needs.

Upon request, we can also conduct these courses at your location.

*Special  
company seminars*



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206-501	579	210-110	561	210-333/1000-206	564	215-811	198
206-502	579	210-111	575	210-333/1000-208	564	215-911	198
206-503	579	210-112	570	210-333/1200-001	564		
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209-108	207	210-197	570	210-508	571	216-152	582
209-109	570	210-198	570	210-549	573	216-201	580
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209-140	560	210-333/500-021	564	210-706/000-002	541	216-264	146
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209-142	560			210-707/000-002	541	216-267	146
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243-204	504	258-146	544	258-6100	538	261-107	445
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261-253	445	261-326	444	261-425	451	262-331	452
261-253/332-000	447	261-326/331-000	446	261-425/331-000	451	262-334	452
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261-254	445	261-327	444	261-426	451	262-337	452
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261-255	445	261-331	444	261-427	451	262-346	452
261-255/332-000	447	261-331/332-000	446	261-427/331-000	451	262-347	452
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280-522	185	280-585	253	280-801/281-413	266	280-941/281-492	
280-523	184	280-586	253			280-942/281-487	260
280-524	184	280-586/281-496	246	280-801/281-418		280-942/281-488	260
280-525	185	280-587	244	280-801/281-420	264	280-943/281-413	260
280-526	185	280-588	244	280-801/281-421	264	280-943/281-434	260
280-527	184	280-588/280-320	244	280-803/281-411	265	280-946	167
280-528	186	280-588/280-323	244	280-803/281-413	267	280-989	666
280-529	184	280-592	248			280-990	666
280-530	184	280-593	250	280-803/281-418		280-992	164
280-531	186	280-597	190	280-803/281-420	265	280-993	164
280-532	186	280-601	666	280-803/281-421	265	280-994	164
280-533	184	280-602	666	280-805	206	280-995	163
280-534	184	280-603	666	280-809/281-413	256	280-996	167
280-537	184	280-604	666	280-809/281-434	256	280-998	166
280-543	185	280-606	666	280-815/281-410	256	280-999	666
280-547	190	280-607	666	280-815/281-411	256		
		280-607/999-950	666	280-816	232	<b>281 Series</b>	
280-552		280-610	232	280-826	163	281-101	306
280-553	238	280-612	666	280-829	206	281-104	306
280-554	247	280-613/281-410	666	280-830	164	281-107	306
280-555	247	280-613/281-411	666	280-831	164	281-301	306
280-556	247	280-614	666	280-832	164	281-302	306
280-557	190	280-615/281-412	259	280-833	164	281-309	227
280-558	190	280-615/281-428	259	280-834	164	281-311	227
280-559	238	280-616	666	280-835	164	281-312	171
280-560	238	280-621	666	280-835/056-000	164	281-313	171
280-560/281-434	240	280-622	666	280-836	206	281-318	171
280-561	238	280-623/281-410	666	280-837	164	281-322	306
280-561/281-413	240	280-623/281-411	666	280-837/999-950	164	281-324	170
280-562	248	280-624/281-413	666	280-838	164	281-326	170
280-562/281-411	248	280-624/281-434	666	280-839	206	281-328	170
280-562/281-420	252	280-626	666	280-850	232	281-329	170
280-562/281-434	252	280-627	666	280-850/281-413	232	281-330	170
280-563	238	280-632	666	280-852	232	281-331	170
280-564	238	280-633	666	280-852/281-413	232	281-332	306
280-564/281-483	240	280-634	666	280-854	232	281-333	306
280-565	248	280-637	166	280-854/281-413	232	281-334	170
280-565/280-319	248	280-637/999-950	166	280-856	232	281-335	170
280-565/280-321	248	280-640	166	280-856/281-413	232	281-336	306
280-566	248	280-641	166	280-868	204	281-338	170
280-566/281-496	240	280-645/281-412	259			281-339	170
280-567	238	280-646	167	280-871		281-340	188
280-568	248	280-649	666	280-874	205	281-341	188
280-570	242	280-650	164	280-875	205	281-342	188
280-570/281-434	241	280-650/056-000	164	280-876	204	281-343	188
280-571	242	280-651	166	280-879	204	281-344	170
280-571/281-413	241	280-653	164	280-880	204	281-345	170
280-572	250	280-654	166	280-881	205	281-346	170
280-572/281-411	250	280-654/056-000	166			281-347	170
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281-350	170	281-623/281-541	228	282-120	312	282-437	218
281-355	170	281-623/281-542	228	282-122	312	282-437/011-000	218
281-356	170	281-624	227	282-124	313	282-438	218
281-357	171	281-629	188	282-126	312	282-439	218
281-358	171	281-630	188	282-128	312	282-440	218
281-365	192	281-631	171	282-128/281-413	313	282-442	218
281-366	192	281-633/281-410	262	282-128/281-417	313		
281-402	171	281-633/281-411	262	282-128/281-418	313	282-446	
281-405	306	281-634/281-413	262	282-131	310	282-451	312
281-407	165	281-634/281-434	262	282-133	310		
281-409	171	281-635/281-489	262	282-135	310	282-454	
281-415	171			282-137	310	282-457	312
281-418	196	281-635/281-492				282-458	312
281-419	196	281-636/281-487	262	282-141		282-601	666
281-421	185	281-636/281-488	262	282-301	307	282-604	666
281-422	171	281-637	171	282-302	307	282-607	666
281-440	200	281-637/999-950	171	282-308	172	282-607/999-950	666
281-470	199	281-651	171	282-309	172	282-638	220
281-471	199	281-652	170	282-311	312		
281-472	199	281-653	170	282-312	312	282-641	
281-482	200	281-654	170	282-314	310	282-681	172
281-483	200	281-656	230	282-315	310	282-682	172
281-485	200	281-657	170	282-322	307	282-684	172
281-490	200	281-657/999-950	170	282-325	172	282-687	172
281-492	200	281-658	170	282-326	172	282-687/999-950	172
281-503	114	281-659	208	282-328	172	282-691	666
281-511	230	281-660	208			282-694	220
281-512	230	281-663	170	282-331		282-695	220
281-512/281-417	230	281-664	170	282-332	307	282-696	222
281-512/281-418	230	281-665/281-400	258	282-333	220	282-697	220
281-512/281-501	230	281-665/281-401	258	282-334	220	282-698/281-413	222
281-530	192	281-665/281-410	258	282-339	172	282-698/281-429	222
281-531	192	281-665/281-411	258			282-698/281-434	222
281-532	192	281-666	208	282-342		282-698/281-449	222
281-601	666	281-668	170	282-357	172	282-699	220
281-603/281-400	666	281-672	227	282-358	172	282-811	218
281-603/281-401	666	281-673/281-400	258	282-360	218	282-821	218
281-603/281-410	666	281-673/281-401	258	282-361	218	282-841	218
281-603/281-411	666	281-673/281-410	258	282-365	218	282-841/049-000	219
281-604	666	281-673/281-411	258	282-366	218	282-860	214
281-607	666	281-678	170	282-367	172	282-865	214
281-607/999-950	666	281-679	170	282-368	172	282-866	215
281-610	230	281-681	170	282-369	571	282-868	215
281-611	226	281-683	208	282-370	218	282-870	214
281-611/281-417	226	281-684	170	282-372	218	282-881	214
281-611/281-418	226			282-373	218		
281-611/281-541	226	281-687		282-374	218	282-888	
281-611/281-542	226	281-687/999-950	170	282-384	214	282-901	172
281-612	226	281-691	666	282-385	214	282-902	172
281-612/281-417	226	281-901	170	282-386	214	282-904	172
281-612/281-418	226			282-387	214	282-907	172
281-612/281-541	226	281-907		282-390	214	282-907/999-950	172
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281-616	226	281-916	230	282-422	172	283-107	308
281-619	188	281-992	170	282-424	214	283-301	308
281-620	188	281-993	170	282-432	218	283-302	308
281-622	226	281-994	170	282-432/100-000	218	283-302	308
281-622/281-417	226	281-998	171	282-433	218	283-322	308
281-622/281-418	226			282-433/100-000	218	283-325	174
281-622/281-541	226	<b>282 Series</b>		282-434	218	283-326	174
281-622/281-542	226			282-434/100-000	218	283-328	174
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283-333	308	284-412	177	290-302	474	294-4255	495
283-335	308	284-413	309	290-305	474	294-4275	495
283-350	175	284-414	309	290-306	474	294-4313	491
		284-415	173	290-309	474	294-4314	493
283-355		284-422	173	290-310	474	294-4315	495
283-357	174	284-601	666	290-661	474	294-4323	491
283-367	174	284-604	666	290-664	474	294-4324	493
283-400	174	284-607	666	290-667	474	294-4325	495
283-402	174	284-607/999-950	666	290-681	476	294-4335	495
283-404	174	284-621	177	290-684	476	294-4353	491
283-405	308	284-624	177	290-687	476	294-4355	495
283-409	174	284-681	173	290-861	474	294-4375	495
283-414	309	284-682	173	290-864	474	294-4413	490
283-415	174	284-684	173	290-867	474	294-4414	492
283-422	174	284-687	173	290-901	476	294-4415	494
283-601	666	284-687/999-950	173	290-904	476	294-4423	490
283-604	666	284-691	666	290-907	476	294-4424	492
283-607	666	284-901	173	290-961	474	294-4425	494
283-607/999-950	666	284-902	173	290-964	474	294-4435	494
283-609	414	284-904	173	290-967	474	294-4453	490
283-610	414	284-907	173			294-4455	494
283-611	414	284-907/999-950	173	<b>293 Series</b>		294-4475	494
283-671	175	284-992	173	293-219	500	294-5002	489
283-672	175	284-993	173			294-5003	490
283-674	175			293-222		294-5004	492
283-677	175	<b>285 Series</b>		293-225	500	294-5005	494
283-677/999-950	175	285-134	462	293-228	501	294-5012	489
283-691	666	285-135	462	293-230	501	294-5013	490
283-901	174	285-137	462	293-325	500	294-5014	492
283-902	174	285-139	462			294-5015	494
283-904	174	285-150	463	<b>294 Series</b>		294-5022	489
283-907	174	285-154	463	294-199	497	294-5023	490
283-907/999-950	174	285-157	463	294-363	497	294-5024	492
283-992	174	285-159	463	294-383	497	294-5025	494
283-998	175	285-169	466	294-4002	489	294-5032	489
		285-170	466	294-4003	490	294-5035	494
		285-172	463	294-4004	492	294-5042	489
		285-194	466	294-4005	494	294-5043	490
		285-195	466	294-4006	496	294-5044	492
		285-197	466	294-4007	496	294-5045	494
		285-197/999-950	466	294-4012	489	294-5052	489
		285-199	466	294-4013	490	294-5053	490
		285-401	176	294-4014	492	294-5055	494
		285-407	466	294-4015	494	294-5072	489
		285-416	176	294-4022	489	294-5075	494
		285-420	462	294-4023	490	294-5113	490
		285-421	462	294-4024	492	294-5114	492
		285-427	462	294-4025	494	294-5123	490
		285-430	462	294-4032	489	294-5124	492
		285-435	176	294-4035	494	294-5153	490
		285-440	463	294-4042	489	294-5155	494
		285-441	463	294-4043	490	294-5175	494
		285-442	462	294-4044	492	294-5213	491
		285-447	463	294-4045	494	294-5214	493
		285-450	463	294-4052	489	294-5215	495
		285-495	466	294-4053	490	294-5223	491
		285-601	666	294-4055	494	294-5224	493
		285-604	666	294-4072	489	294-5225	495
		285-607	666	294-4075	494	294-5235	495
		285-607/999-950	666	294-4213	491	294-5253	491
		285-634	176	294-4214	493	294-5255	495
		285-635	176	294-4215	495	294-5275	495
		285-637	176	294-4223	491	294-5313	491
		285-637/999-950	176	294-4224	493	294-5314	493
		285-691	666	294-4225	495	294-5315	495
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769-257	330	769-602/001-000	360	769-613/005-000	362	769-664/004-000	366
769-301	328	769-602/002-000	360	769-613/006-000	363	769-665	364
769-302	328	769-602/004-000	361	769-614	360	769-665/003-000	365
769-303	326	769-602/005-000	362	769-614/001-000	360	769-665/004-000	366
769-304	326	769-602/006-000	363	769-614/002-000	360	769-666	364
769-305	324	769-603	360	769-614/004-000	361	769-666/003-000	365
769-306	324	769-603/001-000	360	769-614/005-000	362	769-666/004-000	366
769-307	322	769-603/002-000	360	769-614/006-000	363	769-667	364
769-308	322	769-603/004-000	361	769-615	360	769-667/003-000	365
769-309	335	769-603/005-000	362	769-615/001-000	360	769-667/004-000	366
769-310	335	769-603/006-000	363	769-615/002-000	360	769-668	364
769-311	335	769-604	360	769-615/004-000	361	769-668/003-000	365
769-312	335	769-604/001-000	360	769-615/005-000	362	769-668/004-000	366
769-313	335	769-604/002-000	360	769-615/006-000	363	769-669	364
769-314	335	769-604/004-000	361	769-632	364	769-669/003-000	365
769-315	332	769-604/005-000	362	769-632/003-000	365	769-669/004-000	366
769-316	332	769-604/006-000	363	769-632/003-036	365	769-670	364
769-317	342	769-605	360	769-632/004-000	366	769-670/003-000	365
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769-319	342	769-605/002-000	360	769-633/003-000	365	769-671	364
769-320	330	769-605/004-000	361	769-632/003-036	365	769-671/003-000	365
769-321	330	769-605/005-000	362	769-633/004-000	366	769-671/004-000	366
769-402	368	769-605/006-000	363	769-634	364	769-672	364
769-410	368	769-606	360	769-634/003-000	365	769-672/003-000	365
769-411	360	769-606/001-000	360	769-632/003-036	365	769-672/004-000	366
769-412	360	769-606/002-000	360	769-634/004-000	366	769-673	364
769-413	360	769-606/004-000	361	769-635	364	769-673/003-000	365
769-414	360	769-606/005-000	362	769-635/003-000	365	769-673/004-000	366
769-428	368	769-606/006-000	363	769-632/003-036	365	769-674	364
769-429	368	769-607	360	769-635/004-000	366	769-674/003-000	365
769-430	368	769-607/001-000	360	769-636	364	769-674/004-000	366
769-431	368	769-607/002-000	360	769-636/003-000	365	769-675	364
769-434	361	769-607/004-000	361	769-632/003-036	365	769-675/003-000	365
769-435	322	769-607/005-000	362	769-636/004-000	366	769-675/004-000	366
769-436	368	769-607/006-000	363	769-637	364	769-1602	375
769-438	322	769-608	360	769-637/003-000	365	769-1603	375
769-439	322	769-608/001-000	360	769-637/004-000	366	769-1604	375
769-470	322	769-608/002-000	360	769-638	364	769-1605	375
769-471	322	769-608/004-000	361	769-638/003-000	365	769-1606	375
769-472	322	769-608/005-000	362	769-638/004-000	366	769-1607	375
769-499	360	769-608/006-000	363	769-639	364	769-1608	375
769-501	372	769-609	360	769-639/003-000	365	769-1609	375
769-501/000-006	372	769-609/001-000	360	769-639/004-000	366	769-1610	375
769-501/000-016	372	769-609/002-000	360	769-640	364	769-1611	375
769-502	372	769-609/004-000	361	769-640/003-000	365	769-1612	375
769-502/000-006	372	769-609/005-000	362	769-640/004-000	366	769-1613	375
769-502/000-016	372	769-609/006-000	363	769-641	364	769-1614	375
769-503	372	769-610	360	769-641/003-000	365	769-1615	375
769-503/000-006	372	769-610/001-000	360	769-641/004-000	366		
769-503/000-016	372	769-610/002-000	360	769-642	364	<b>773 Series</b>	
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769-504/000-006	372	769-610/005-000	362	769-642/004-000	366	773-173	514
769-504/000-016	372	769-610/006-000	363	769-643	364	773-331	517
769-505	372	769-611	360	769-643/003-000	365	773-332	515
769-505/000-006	372	769-611/001-000	360	769-643/004-000	366	773-492	516
769-505/000-016	372	769-611/002-000	360	769-644	364	773-493	516
769-506	372	769-611/004-000	361	769-644/003-000	365	773-494	516
769-506/000-006	372	769-611/005-000	362	769-644/004-000	366	773-496	516
769-506/000-016	372	769-611/006-000	363	769-645	364	773-498	516
769-512	372	769-612	360	769-645/003-000	365	773-498	516
769-512/000-006	372	769-612/001-000	360	769-645/004-000	366	773-514	514
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780-455	201	784-604	297	793-501/000-024	557	793-913	549
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780-602	295	784-992	297			793-958	554
780-604	295			793-540		793-959	555
780-607	295	<b>785 Series</b>		793-541	550	793-960	555
780-607/999-950	295			793-542	550	793-961	555
780-613	299	785-601	298	793-543	552	793-967	555
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781-452	201			793-557	552	793-3566	548
781-453	201	790-116		793-558	552	793-3599	548
781-454	201	790-124	526	793-559	552	793-4400	550
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		793-5501/000-012	557			794-5658	549
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793-4643	553	793-5501/000-023	557	793-5674	553		
		793-5501/000-024	557			<b>807 Series</b>	
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793-4653	553			793-5687	553		
		793-5517		793-5688	549	<b>812 Series</b>	
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793-4666	549	793-5519	550				
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793-4672				793-5699	549	812-110	427
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		793-5530	550			812-114	
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2002-1811/1000-542	101	2002-2231	72	2002-3221/1000-434	126	2004-436	62
2002-1811/1000-836	101	2002-2231/099-000	74	2002-3227	78	2004-437	62
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2002-1901	102	2002-2239/099-000	74	2002-3291	79	2004-911/1000-542	114
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		2006-1307	64	2009-414	140	2020-102	384
2004-1408		2006-1391	64	2009-416	140	2020-102/122-000	390
2004-1411/1000-400	122					2020-102/132-000	390
2004-1411/1000-401	122	2006-1394		<b>2010 Series</b>		2020-102/142-000	390
2004-1491	62	2006-1601	108	2010-100	65	2020-103	384
		2006-1604	108	2010-115	65	2020-103/122-000	390
2004-1494		2006-1611	112	2010-402	65	2020-103/132-000	390
		2006-1611/1000-541	112			2020-103/142-000	390
<b>2005 Series</b>		2006-1611/1000-542	112	2010-405		2020-104	384
2005-7300	86	2006-1611/1000-836	112	2010-405/011-000	140	2020-104/124-000	390
2005-7641	86	2006-1621	112	2010-433	65	2020-104/133-000	390
2005-7642	86	2006-1621/1000-541	112	2010-434	65	2020-104/143-000	390
2005-7645	86	2006-1621/1000-542	112	2010-435	65	2020-105	384
2005-7646	86	2006-1621/1000-836	112	2010-511	136	2020-105/124-000	390
2005-7649	86	2006-1621/1000-859	112	2010-549	136	2020-105/133-000	390
2005-7692	86	2006-1621/1000-867	112	2010-1201	65	2020-105/143-000	390
		2006-1631	112	2010-1202	65	2020-106	384
<b>2006 Series</b>		2006-1631/099-000	113	2010-1204	65	2020-106/124-000	390
2006-115	64	2006-1631/1000-541	112	2010-1207	65	2020-106/133-000	390
2006-191	143	2006-1631/1000-542	112	2010-1291	65	2020-106/143-000	390
2006-401	143	2006-1631/1000-836	112	2010-1292	65	2020-107	384
2006-402	64	2006-1631/1000-859	112	2010-1301	65	2020-107/124-000	390
2006-402	64	2006-1631/1000-867	112	2010-1302	65	2020-107/134-000	390
2006-403	64	2006-1631/1099-541	113	2010-1304	65	2020-107/144-000	390
2006-404	64	2006-1631/1099-542	113	2010-1307	65	2020-108	384
2006-405	64	2006-1631/1099-836	113	2010-1391	65	2020-108/124-000	390
2006-405/011-000	140	2006-1631/1099-859	113	2010-1392	65	2020-108/134-000	390
2006-433	64	2006-1631/1099-867	113			2020-108/144-000	390
2006-434	64	2006-1661	116	<b>2016 Series</b>		2020-109	384
2006-435	64	2006-1671	108	2016-100	66	2020-109/124-000	390
2006-499	56	2006-1671/1000-848	108	2016-115	66	2020-109/134-000	390
2006-511	136			2016-402	66	2020-109/144-000	390
2006-549	136	2006-1671/1000-851		2016-403	66	2020-110	384
2006-911	116	2006-1674	108	2016-404	66	2020-110/125-000	390
2006-911/1000-541	116	2006-1681	111	2016-404	66	2020-110/135-000	390
2006-911/1000-542	116	2006-1681/1000-413	110	2016-405	66	2020-110/145-000	390
2006-911/1000-836	116	2006-1681/1000-414	110	2016-405/011-000	140	2020-111	384
2006-911/1000-867	116	2006-1681/1000-429	110	2016-433	66	2020-111/125-000	390
2006-921	116	2006-1681/1000-434	110	2016-434	66	2020-111/135-000	390
2006-921/1000-541	116	2006-1681/1000-435	110	2016-435	66	2020-111/145-000	390
2006-921/1000-542	116	2006-1681/1000-449	110	2016-499	65	2020-112	384
2006-921/1000-836	116	2006-1691	108	2016-511	137	2020-112/125-000	390
2006-921/1000-859	116	2006-1692	108	2016-549	137	2020-112/135-000	390
2006-921/1000-867	116	2006-1695	116	2016-1201	66	2020-112/145-000	390
2006-931	116	2006-1696	116	2016-1202	66	2020-113	384
2006-931/099-000	116	2006-7111	88	2016-1204	66	2020-113/125-000	390
2006-931/1000-541	116	2006-7114	88	2016-1207	66	2020-113/135-000	390
2006-931/1000-542	116	2006-7192	88	2016-1291	66	2020-113/145-000	390
2006-931/1000-836	116	2006-7300	88	2016-1292	66	2020-114	384
2006-931/1000-859	116			2016-1301	66	2020-114/125-000	390
2006-931/1000-867	116			2016-1302	66	2020-114/135-000	390

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<b>2020 Series</b>		<b>2020 Series</b>		<b>2022 Series</b>		<b>2022 Series</b>	
2020-114/145-000	390	2020-214/145-000	392	2022-104/143-000	404	2022-1392	396
2020-115	384	2020-215	384	2022-105	400	2022-1401	396
2020-115/125-000	390	2020-215/125-000	392	2022-105/000-038	401	2022-1404	396
2020-115/135-000	390	2020-215/135-000	392	2022-105/000-039	401	2022-1407	396
2020-115/145-000	390	2020-215/145-000	392	2022-105/123-000	404	2022-1491	396
2020-161	386	2020-261	386	2022-105/134-000	404	2022-1492	396
2020-164	386	2020-264	386	2022-105/144-000	404	2022-2201	398
2020-167	386	2020-267	386	2022-106	400		
2020-181	386	2020-281	386	2022-106/123-000	404	2022-2204	
2020-184	386	2020-284	386	2022-106/134-000	404	2022-2207	398
2020-187	386	2020-287	386	2022-106/144-000	404		
2020-202	384	2020-1201	381	2022-107	400	2022-2209	
2020-202/122-000	392	2020-1204	381	2022-107/123-000	404	2022-2217	398
2020-202/132-000	392	2020-1207	381	2022-107/135-000	404	2022-2227	398
2020-202/142-000	392	2020-1291	381	2022-107/145-000	404	2022-2231	398
2020-203	384	2020-1292	381	2022-108	400		
2020-203/000-036	388	2020-1401	381	2022-108/123-000	404	2022-2234	
		2020-1404	381	2022-108/135-000	404	2022-2237	398
2020-203/000-039		2020-1407	381	2022-108/145-000	404		
2020-203/122-000	392	2020-1491	381	2022-109	400	2022-2239	
2020-203/132-000	392	2020-1492	381	2022-109/123-000	404	2022-2247	398
2020-203/142-000	392	2020-2201	382	2022-109/135-000	404	2022-2257	398
2020-204	384			2022-109/145-000	404	2022-2291	399
2020-204/124-000	392	2020-2204		2022-110	400	2022-2292	399
2020-204/133-000	392	2020-2207	382	2022-110/123-000	404		
2020-204/143-000	392	2020-2208	382	2022-110/135-000	404	<b>2273 Series</b>	
2020-205	384	2020-2209	382	2022-110/145-000	404	2273-202	507
2020-205/000-036	388	2020-2217	382	2022-111	400		
2020-205/000-037	388	2020-2227	382	2022-111/126-000	404	2273-205	
2020-205/000-038	389	2020-2231	382	2022-111/136-000	404	2273-208	507
2020-205/000-039	389			2022-111/146-000	404	2273-500	507
2020-205/124-000	392	2020-2234		2022-112	400		
2020-205/133-000	392	2020-2237	382	2022-112/126-000	404		
2020-205/143-000	392	2020-2238	382	2022-112/136-000	404		
2020-206	384	2020-2239	382	2022-112/146-000	404		
2020-206/124-000	392	2020-2247	382	2022-113	400		
2020-206/133-000	392	2020-2257	382	2022-113/126-000	404		
2020-206/143-000	392	2020-2291	383	2022-113/136-000	404		
2020-207	384	2020-2292	383	2022-113/146-000	404		
2020-207/124-000	392			2022-114	400		
2020-207/134-000	392	<b>2022 Series</b>		2022-114/126-000	404		
2020-207/144-000	392	2022-100	394	2022-114/136-000	404		
2020-208	384	2022-101	400	2022-114/146-000	404		
2020-208/124-000	392	2022-101	400	2022-115	400		
2020-208/134-000	392	2022-101/000-016	400	2022-115/127-000	404		
2020-208/144-000	392	2022-101/122-000	404	2022-115/137-000	404		
2020-209	384	2022-101/122-006	404	2022-115/147-000	404		
2020-209/124-000	392	2022-101/122-016	404	2022-141	384		
2020-209/134-000	392	2022-101/132-000	404	2022-142	384		
2020-209/144-000	392	2022-101/132-006	404	2022-151	384		
2020-210	384	2022-101/132-016	404	2022-152	384		
2020-210/125-000	392	2022-101/142-000	404	2022-161	402		
2020-210/135-000	392	2022-101/142-006	404	2022-164	402		
2020-210/145-000	392	2022-101/142-016	404	2022-167	402		
2020-211	384	2022-102	400	2022-171	402		
2020-211/125-000	392	2022-102/000-016	400	2022-174	402		
2020-211/135-000	392	2022-102/122-000	404	2022-177	402		
2020-211/145-000	392	2022-102/132-000	404	2022-181	402		
2020-212	384	2022-102/142-000	404	2022-184	402		
2020-212/125-000	392	2022-103	400	2022-187	402		
2020-212/135-000	392	2022-103/000-036	401	2022-1201	394		
2020-212/145-000	392			2022-1204	394		
2020-213	384	2022-103/000-039		2022-1207	394		
2020-213/125-000	392	2022-103/123-000	404	2022-1291	394		
2020-213/135-000	392	2022-103/133-000	404	2022-1292	394		
2020-213/145-000	392	2022-103/143-000	404	2022-1301	396		
2020-214	384	2022-104	400	2022-1304	396		
2020-214/125-000	392	2022-104/123-000	404	2022-1307	396		
2020-214/135-000	392	2022-104/133-000	404	2022-1391	396		

Item No.	Page	Item No.	Page	Item No.	Page	Item No.	Page
Discontinued products		Discontinued products					
<p><b>The items listed below are discontinued products. Please do not plan to use these items in new applications. However, these products will remain available for a limited time. All technical data, product images, as well as information on approvals and accessories, can still be found online at: <a href="http://www.wagocatalog.com">www.wagocatalog.com</a></b></p>							
279-604		282-607					
279-620/281-408		282-607/999-950					
279-621		282-691					
279-623/281-410		283-601					
279-623/281-411		283-604					
279-624/281-413		283-607					
279-624/281-434		283-607/999-950					
279-626		283-691					
279-989		284-601					
279-990		284-604					
280-601		284-607					
280-602		284-607/999-950					
280-603		284-691					
280-604		285-601					
280-606		285-604					
280-607		285-607					
280-607/999-950		285-607/999-950					
280-612		285-691					
280-613/281-410							
280-613/281-411							
280-614							
280-616							
280-621							
280-622							
280-623/281-410							
280-623/281-411							
280-624/281-413							
280-624/281-434							
280-626							
280-627							
280-632							
280-633							
280-634							
280-649							
280-676							
280-677							
280-677/999-950							
280-678							
280-685							
280-686							
280-691							
280-695							
280-989							
280-990							
280-999							
281-601							
281-603/281-400							
281-603/281-401							
281-603/281-410							
281-603/281-411							
281-604							
281-607							
281-607/999-950							
281-691							
282-601							
282-604							

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