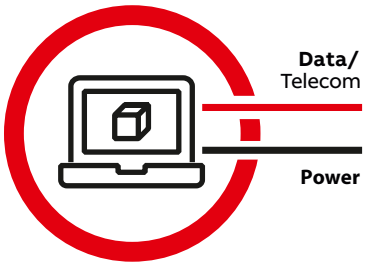
The ABB OVR data and telecom SPD range overview

Protecting critical electronic systems

The ABB OVR data/telecom range of SPDs are designed to protect equipment connected to data and telephone lines to complement the OVR power SPD products and offer a complete system protection solution (power & data) against surges. The comprehensive range includes protection for twisted pair data lines (including hazardous environments), computer networks, telecom systems including PBX and ISDN, CCTV, TV and RF systems.

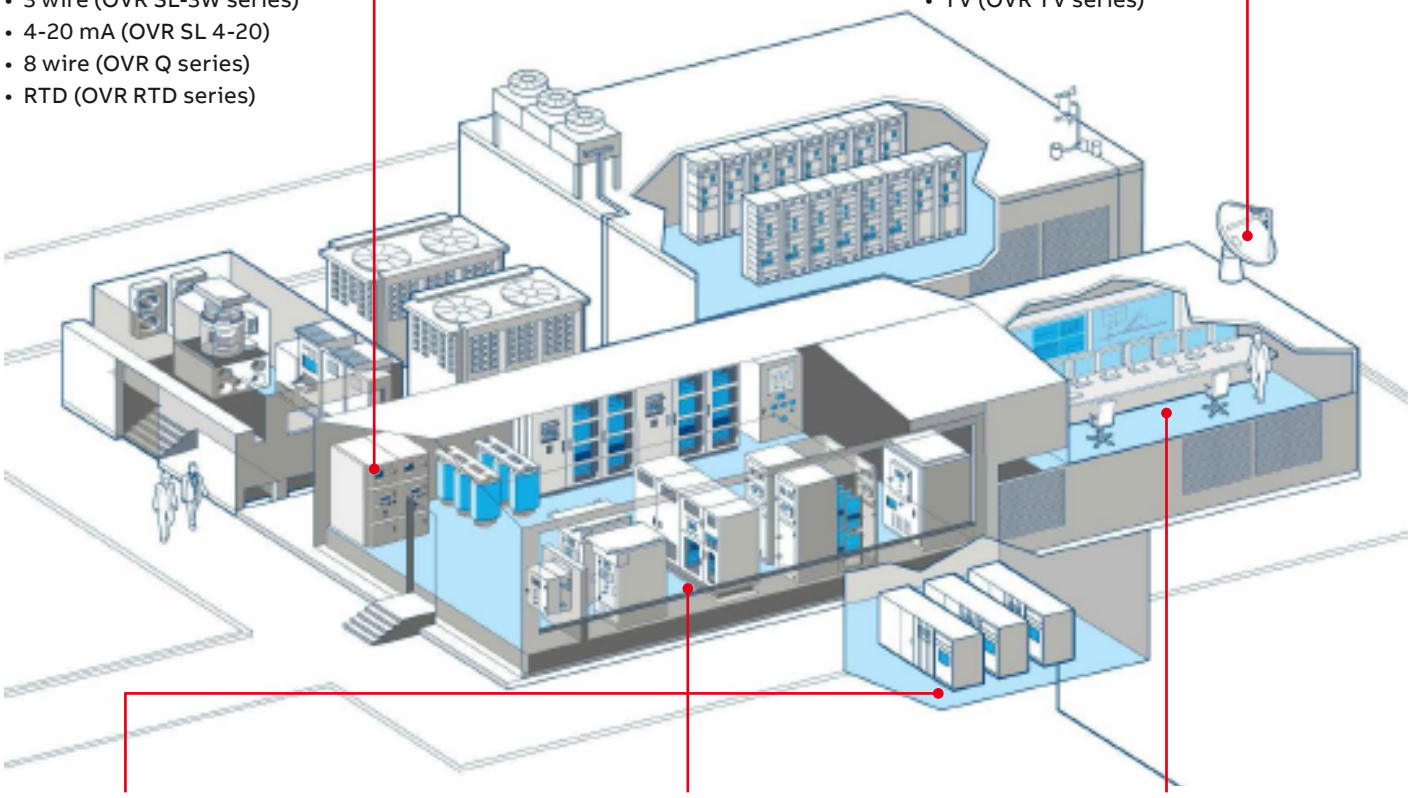


WARNING Equipment is **ONLY** protected if all incoming lines have protection fitted

To protect the electronic equipment inside a building, all cables that enter or leave the building must be protected.
Cables leaving the building can also provide a route back into the building for transients.

Data & measurement systems
- 2 wire (OVR SL series)
- 2 wire ATEX (OVR SLX series)
- 2 wire (OVR D/E/H series)
- 3 wire (OVR SL-3W series)
- 4-20 mA (OVR SL 4-20)
- 8 wire (OVR Q series)
- RTD (OVR RTD series)

Transceiver/CCTV systems
- RF (OVR RF series)
- CCTV (OVR CCTV series with OVR 240-16A)
- TV (OVR TV series)



Mains power supply
- See OVR power SPD series

Telecom systems
- PBX (OVR KT series)
- RJ11 (OVR TN series)
- RJ45 (OVR ISDN series)
- 2 wire (OVR TN, OVR SLTN)
- 8 wire (OVR TNQ)

Information technology systems
- Cat 6 + PoE (OVR Cat-6 series)
- Cat 5e + PoE (OVR Cat-5e series)
- RS485/HART/Profibus (OVR RS485 series)

Protection and safety

Short Selection Guide – Surge Protection Devices OVR

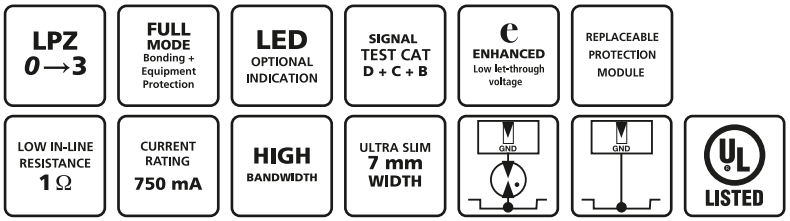
PROFIBUS Systems HART Systems	 OVR RS485 Flat/DIN Mount 7TCA085400R0310	 **OVR SL RS485** Slim DIN Mount 7TCA085400R0310	 **OVR RS485Q** Multiple Lines (DIN Mount) 7TCA085400R0312				
Ethernet	 withPoE:	Cat-5 (100 Mbps) **OVR Cat-5e** 7TCA085400R0289 7TCA085400R0290	Cat-6 (1000 Mbps) **OVR Cat-6e** 7TCA085400R0291 7TCA085400R0292				
Video Surveillance CCTV	 **5V CCTV** with BNC connector, power, and telemetry line	 **OVR CCTV/B** Video signal 7TCA085400R0296	 **OVR RS485** Telemetry signal 7TCA085400R0310	 **OVR 240-16A** Power line 7TCA085460R0361	 **OVR CME4** Earth Bar 7TCA085400R0414	 **OVR WBX4/GS** Enclosure 7TCA085410R0049	CCTV Protection is also available for different voltages and twisted pair connections.
4 - 20 mA current loops	Screw terminals 30 V	 **OVR SL30L/4-20** 7TCA085400R0371					
Coaxial antennas: GSM, UMTS, Radar, Radio, TV, GPS	 Female coaxial connector:	**OVR RF 441421** BNC 7TCA085450R0066	**OVR RF AA1421** 7/16 DIN 7TCA085450R0063	**OVR RF 111421** N 7TCA085450R0065			
Telephone ISDN DSL	 **2 wire Telecom**	Screw terminals:	 **OVR TN** Flat Mount 7TCA085400R0345	 **OVR SL TN** Slim Mount 7TCA085400R0323	 **OVR SL TNL** Slim Mount with LED 7TCA085400R0418	 **OVR TNQ** Multiple Lines 7TCA085400R0344	
		RJ11, RJ45	RJ11 telephone units	**OVR TN/RJ11-6/6** 6P6C Connector 7TCA085400R0359	RJ45 network units	**OVR ISDN/RJ45-4/8** 8P4C Connector 7TCA085400R0359	
		PBX Telecom	LSA-PLUS connection	**OVR KT1** Single module 7TCA085400R0305	**OVR K10T1** 10 modules 7TCA085400R0307	**OVR KE10** Earth Bar 7TCA085400R0304	
TV: Satellite, Cable			**OVR CATV/F** Cable 7TCA085400R0293	**OVR SMATV/F** Satellite 7TCA085400R0336	**OVR TV/EURO** Antenna 7TCA085400R0334		
2 wire systems (30V)		 **OVR 30E** Flat Mount 7TCA085400R0353	 **OVR SL30** Slim Mount 7TCA085400R0363	 **OVR 30Q** Multiple Lines 7TCA085400R0341	Protection for different voltages are available		
3 wire systems (30V)		 **OVR SL30/3W** Slim Mount 7TCA085400R0331	Protection for different voltages are available				
Hazardous Areas ATEX/IEC approved		 **OVR SL15X** 15 Volt 7TCA085400R0386	**OVR SL30X** 30 Volt 7TCA085400R0387				
Resistance Temperature Detectors (RTD)		 **OVR RTD** Flat/DIN Mount 7TCA085400R0313	 **OVR SL RTD** Slim (DIN Mount) 7TCA085400R0315	 **OVR RTDQ** Multiple Lines (DIN Mount) 7TCA085400R0314			

WARNING Equipment is **ONLY** protected if all incoming lines have protection fitted

Protection and safety

Data & signal protection

OVR SL Series



Combined Category D, C, B tested (to IEC/EN 61643) Surge Protection Device (SPD) suitable for twisted pair signalling applications which require either a lower in-line resistance, an increased current and/or higher bandwidth. Also suitable for DC power applications less than 0.75 Amps. Available for working voltages of up to 6, 15, 30, 50, 110 and 180 Volts, and also for global telephone applications up to 296 Volts. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- Optional LED status indication versions available for low current DC power applications - add L suffix to part number - e.g. OVR SL30L
- Two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement
- Strong, flame retardant, polymer housing
- High maximum running current
- High bandwidth enables higher frequency (high traffic or bit rate) data communications
- Screen terminal enables easy connection of cable screen to earth
- Suitable for earthed or isolated screen systems - add /I suffix to part number for versions that require isolated screens - e.g. OVR SL30/I
- Built-in innovative DIN rail foot with locking feature for simple positioning and clip-on mounting to top hat DIN rails
- 4 mm2 terminals allow for larger cross section wiring, stranded wires terminated with ferrules or fitting two wires into a single terminal
- Convenient earthing through DIN foot and/or earth terminal
- Very low (1 Ω) in-line resistance allows resistance critical applications (e.g. alarm loops) to be protected
- OVR SL06-SL180 (UL) have UL497B approval under file E506434 (OVR SLTN not included)

Application

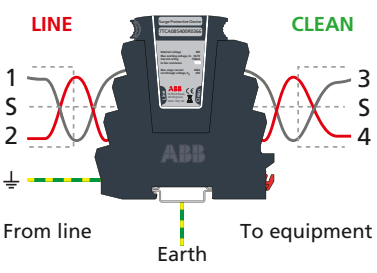
Use these SPDs where installation space is at a premium and large numbers of lines require protection (e.g. process control, high speed digital communication equipment or systems with long signal lines).

Accessories

For replacement SPD modules (/M), spare base units (/B) and weatherproof enclosures (WBX) see ABB order code table overleaf.

Installation

Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install SPDs either within an existing cabinet/cubicle or in a separate enclosure.



NOTE: The OVR SL 'Slim Line' Series is also available for protection of 3-wire, RS 485 and RTD applications (OVR SL/3W, OVR SL RS485 & OVR SL RTD). The OVR SL X Series has approvals for use in hazardous areas. For telecommunication applications use OVR SLTN Series.

Protection and safety

Data & signal protection

OVR SL Series

OVR SL Series - Technical specification

Electrical specification		OVR SL06	OVR SL15	OVR SL30	OVR SL50	OVR SL110
ABB order code		7TCA085400R0360	7TCA085400R0361	7TCA085400R0363	7TCA085400R0364	7TCA085400R0362
Nominal voltage [1]		6 V	15 V	30 V	50 V	110 V
Maximum working voltage Uc (RMS/DC) [2]		5 V/7.79 V	11 V/16.7 V	25 V/36.7 V	40 V/56.7 V	93 V/132 V
Current rating (signal)		750 mA				
In-line resistance (per line ±10%)		1.0 Ω				
Bandwidth (-3 dB 50 Ω system)		45 MHz	45 MHz	45 MHz	45 MHz	45 MHz
Transient specification		**OVR SL06**	**OVR SL15**	**OVR SL30**	**OVR SL50**	**OVR SL110**
Let-through voltage (all conductors) [3] Up						
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21		36.0 V	38.4 V	63.0 V	90.3 V	185 V
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21		26.2 V	29.4 V	51.3 V	77.2 V	175 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21		16.0 V	26.8 V	45.4 V	68.3 V	165 V
5 kV, 10/700 µs [4]		17.0 V	27.5 V	46.3 V	69.1 V	170 V
Maximum surge current						
D1 test 10/350 µs to BS EN/EN/IEC 61643-21	– Per signal wire	1.25 kA				
	– Per pair	2.5 kA				
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire	10 kA				
	– Per pair	20 kA				
Mechanical specification		**OVR SL06**	**OVR SL15**	**OVR SL30**	**OVR SL50**	**OVR SL110**
Temperature range		-40 to +80 °C				
Connection type		Screw terminal - maximum torque 0.8 Nm				
Conductor size (stranded)		4 mm²				
Earth connection		Via DIN rail or 4 mm² earth terminal - maximum torque 0.8 Nm				
Case material		FR Polymer UL-94 V-0				
Weight	– Unit	0.08 kg				
	– Packaged (per 10)	0.85 kg				
Dimensions		See diagram below				

[1] Nominal voltage (RMS/DC or AC peak) measured at < 10 µA (OVR SL15, OVR SL30, OVR SL50, OVR SL110 and LED variants) and < 200 µA (OVR SL06 and OVR SL06L)
[2] Maximum working voltage (RMS/DC or AC peak) measured at < 1 mA leakage
[3] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns
[4] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

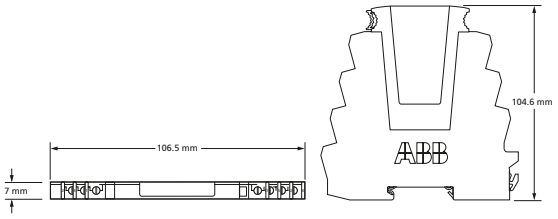


ABB order codes

Part	ABB order code	Part	ABB order code	Part	ABB order code	Part	ABB order code
OVR SL06	7TCA085400R0360	**OVR SL15/M**	7TCA085400R0376	**OVR SL50(UL)**	7TCA085400R0539	**OVR SL180L**	7TCA085400R0425
OVR SL06/I	7TCA085400R0365	**OVR SL15L/M**	7TCA085400R0411	**OVR SL50/I(UL)**	7TCA085400R0540	**OVR SL180**	7TCA085400R0424
OVR SL06L	7TCA085400R0366	**OVR SL15/M(UL)**	7TCA085400R0597	**OVR SL50L(UL)**	7TCA085400R0541	**OVR SL180L/I**	7TCA085400R0423
OVR SL06L/I	7TCA085400R0390	**OVR SL15L/M(UL)**	7TCA085400R0598	**OVR SL50L/I(UL)**	7TCA085400R0542	**OVR SL180/I**	7TCA085400R0426
OVR SL06(UL)	7TCA085400R0527	**OVR SL30**	7TCA085400R0363	**OVR SL50/M**	7TCA085400R0378	**OVR SL180(UL)**	7TCA085400R0547
OVR SL06/I(UL)	7TCA085400R0528	**OVR SL30/I**	7TCA085400R0383	**OVR SL50L/M**	7TCA085400R0401	**OVR SL180/I(UL)**	7TCA085400R0548
OVR SL06L(UL)	7TCA085400R0529	**OVR SL30L**	7TCA085400R0368	**OVR SL50/M(UL)**	7TCA085400R0603	**OVR SL180L(UL)**	7TCA085400R0549
OVR SL06L/I(UL)	7TCA085400R0530	**OVR SL30L/I**	7TCA085400R0393	**OVR SL50L/M(UL)**	7TCA085400R0604	**OVR SL180L/I(UL)**	7TCA085400R0550
OVR SL06/M	7TCA085400R0375	**OVR SL30(UL)**	7TCA085400R0535	**OVR SL110**	7TCA085400R0362	**OVR SL180/M**	7TCA085400R0429
OVR SL06L/M	7TCA085400R0399	**OVR SL30/I(UL)**	7TCA085400R0536	**OVR SL110/I**	7TCA085400R0385	**OVR SL180L/M**	7TCA085400R0430
OVR SL06/M(UL)	7TCA085400R0595	**OVR SL30L(UL)**	7TCA085400R0537	**OVR SL110L**	7TCA085400R0370	**OVR SL180/M(UL)**	7TCA085400R0607
OVR SL06L/M(UL)	7TCA085400R0596	**OVR SL30L/I(UL)**	7TCA085400R0538	**OVR SL110L/I**	7TCA085400R0395	**OVR SL180L/M(UL)**	7TCA085400R0608
OVR SL15	7TCA085400R0361	**OVR SL30/M**	7TCA085400R0377	**OVR SL110(UL)**	7TCA085400R0543	**OVR SL/B**	7TCA085400R0320
OVR SL15/I	7TCA085400R0382	**OVR SL30L/M**	7TCA085400R0400	**OVR SL110/I(UL)**	7TCA085400R0544	**OVR SL/I/B**	7TCA085400R0321
OVR SL15L	7TCA085400R0367	**OVR SL30/M(UL)**	7TCA085400R0601	**OVR SL110L(UL)**	7TCA085400R0545	**OVR SLTN**	7TCA085400R0323
OVR SL15L/I	7TCA085400R0391	**OVR SL30L/M(UL)**	7TCA085400R0602	**OVR SL110L/I(UL)**	7TCA085400R0546	**OVR SLTNL**	7TCA085400R0418
OVR SL15(UL)	7TCA085400R0531	**OVR SL50**	7TCA085400R0364	**OVR SL110/M**	7TCA085400R0379	**OVR WBX SLQ**	7TCA085400R0326
OVR SL15/I(UL)	7TCA085400R0532	**OVR SL50/I**	7TCA085400R0384	**OVR SL110L/M**	7TCA085400R0402	**OVR WBX SLQ/G**	7TCA085400R0327
OVR SL15L(UL)	7TCA085400R0533	**OVR SL50L**	7TCA085400R0369	**OVR SL110/M(UL)**	7TCA085400R0605		
OVR SL15L/I(UL)	7TCA085400R0534	**OVR SL50L/I**	7TCA085400R0394	**OVR SL110L/M(UL)**	7TCA085400R0606		

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Protection and safety

Data & signal protection

OVR SL X Series

LPZ 0→3 | FULL MODE Bonding + Equipment Protection | LED OPTIONAL INDICATION | SIGNAL/ TELECOM TEST CAT D + C + B | ENHANCED Low let-through voltage | REPLACEABLE PROTECTION MODULE | LOW IN-LINE RESISTANCE 1 Ω

CURRENT RATING 750 mA | ATEX/IEC APPROVED | HIGH BANDWIDTH | ULTRA SLIM 7 mm WIDTH | SIL 3 IEC 61508

Combined Category D, C, B tested protector (to BS EN 61643) suitable for twisted pair signalling applications within hazardous environments (ATEX/ IECEx approved). Available for working voltages of up to 15 and 30 Volts. For use at boundaries up to LPZ 0 to protect against flashover through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Approved for use in hazardous environments for the protection of Intrinsically Safe circuits (Classification: II 2(1)G, Ex ia (ia Ga) IIC T4 Gb)
- Very low let-through voltage (enhanced protection to IEC/ BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- Optional LED status indication versions available for low current DC power applications
- Negligible self-capacitance and self-inductance offering minimal interference when protecting Intrinsically Safe circuits
- Very low (1 Ω) in-line resistance allows resistance critical applications (e.g. alarm loops) to be protected
- High (750 mA) maximum running current
- High bandwidth enables higher frequency (high traffic or bit rate) data communications
- Screen terminal enables easy connection of cable screen to earth
- Suitable for earthed or isolated screen systems - add /I suffix to part number for versions that require isolated screens
- Built-in innovative DIN rail foot with locking feature for simple positioning and clip-on mounting to top hat DIN rails
- 4 mm2 terminals allow for larger cross section wiring, stranded wires terminated with ferrules or fitting two wires into a single terminal
- Evaluated for SIL to IEC 61508
- Approval references for OVR SL X Series: IECEx SIR 10.0030X, Sira 10ATEX2063X
- The certificate numbers have an 'X' suffix, which indicates that the certificates contain the following 'Specific conditions of use': The equipment is not capable of passing a 500 V r.m.s. a.c. electric strength test in accordance with Clause 6.3.12 of EN 60069-11:2007 between its intrinsically safe circuits and its DIN rail clip (which is intended to be earthed). This shall be taken into account when this equipment is being installed.
- The equipment enclosure shall only be cleaned using a damp cloth

Application

Use these protectors in hazardous environments where installation space is at a premium and large numbers of lines require protection (e.g. process control, 4-20 mA loops, fire and gas detectors and shut-down systems). Suitable for high speed digital communication equipment or systems with long signal lines. See Application Note OVR AN013.

Installation

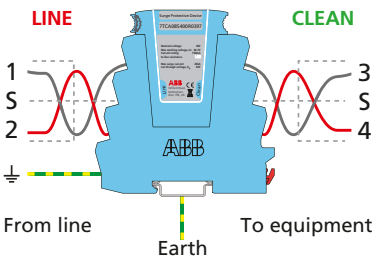
Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

Replacement modules:
OVR SL15X/M, OVR SL30X/M
Standard module replacement for 15 and 30 V protectors respectively
OVR SL15XL/M, OVR SL30XL/M
LED module replacement for 15 and 30 V protectors respectively
OVR SLX/B Base replacement (common for standard and LED modules)

OVR SLX/I/B
Base replacement with isolated screen from earth

Weatherproof enclosure:
OVR WBX SLQ



NOTE: Use the standard OVR SL 'Slim Line' Series for non-hazardous areas. The OVR SL Series is also available for protection of 3-wire, RS 485, RTD & telecommunication applications (OVR SL/3W, OVR SL RS485, OVR SL RTD & OVR SL TN).

Protection and safety

Data & signal protection

OVR SL X Series

OVR SL X Series - Technical specification

Electrical specification	OVR SL15X	OVR SL30X
ABB order code	7TCA085400R0386	7TCA085400R0387
Nominal voltage[1]	15 V	30 V
Maximum working voltage U_c (DC)[2]	16.7 V	36.7 V
Maximum working voltage U_c (AC RMS)	11 V	25 V
Current rating (signal)	750 mA	
In-line resistance (per line ±10%)	1.0 Ω	
Bandwidth (-3 dB 50 Ω system)	45 MHz	
Intrinsically safe specification	**OVR SL15X**	**OVR SL30X**
Maximum voltage *Ui*	30 V	
Maximum power *Pi*: – Per -40 °C < Ta < 40 °C – Per -40 °C < Ta < 60 °C – Per -40 °C < Ta < 80 °C	1.3 W 1.2 W 1.0 W	
Capacitance *Ci*	0 µF	
Inductance *Li*	0 µH	
Certificate number	IECEx SIR 10.0030X, Sira 10ATEX2063X	
Classification	Ex II 2 (1) G, Ex ia (ia Ga) IIC T4 Gb	
Transient specification	**OVR SL15X**	**OVR SL30X**
Let-through voltage (all conductors)[3] *Up*		
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21	38.4 V	63.0 V
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21	29.4 V	51.3 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21	26.8 V	45.4 V
5 kV, 10/700 µs[4]	27.5 V	46.3 V
Maximum surge current		
D1 test 10/350 µs to BS EN/EN/IEC 61643-21: – Per signal wire – Per pair	1.25 kA 2.5 kA	
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002: – Per signal wire – Per pair	5 kA 10 kA	
Mechanical specification	**OVR SL15X**	**OVR SL30X**
Temperature range	-40 to +80 °C	
Connection type	Screw terminal - maximum torque 0.8 Nm	
Conductor size (stranded)	4 mm2	
Earth connection	Via DIN rail or 4 mm2 earth terminal - maximum torque 0.8 Nm	
Case material	FR Polymer UL-94 V-0	
Weight: – Unit	0.08 kg	
SIL (Safety Integrity Level) to IEC 61508	SIL 3[5]	
Dimensions	See diagram below	

[1] Nominal voltage (RMS/DC or AC peak) measured at < 10 µA
[2] Maximum working voltage (RMS/DC or AC peak) measured at < 1 mA leakage
[3] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns
[4] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

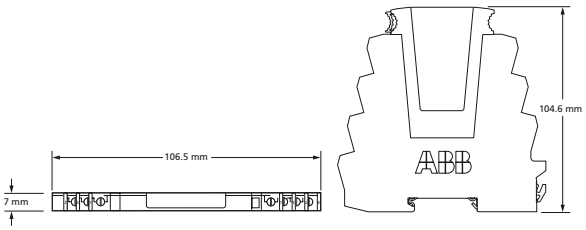


ABB order codes

Part	ABB order code	Part	ABB order code
OVR SL15X	7TCA085400R0386	**OVR SL30X**	7TCA085400R0387
OVR SL15X/I	7TCA085400R0388	**OVR SL30X/I**	7TCA085400R0392
OVR SL15XL	7TCA085400R0396	**OVR SL30XL**	7TCA085400R0397
OVR SL15XL/I	7TCA085400R0389	**OVR SL30XL/I**	7TCA085400R0398
OVR SL15X/M	7TCA085400R0380	**OVR SL30X/M**	7TCA085400R0381
OVR SL15XL/M	7TCA085400R0404	**OVR SL30XL/M**	7TCA085400R0403
OVR SLX/B	7TCA085400R0325	**OVR WBX SLQ**	7TCA085400R0326
OVR SLX/I/B	7TCA085400R0374	**OVR WBX SLQ/G**	7TCA085400R0327

Protection and safety

Data & signal protection

OVR D Series

LPZ 0→3

FULL MODE Bonding + Equipment Protection

SIGNAL TEST CAT D + C + B

ENHANCED Low let-through voltage

LOW IN-LINE RESISTANCE 9.4 Ω

CURRENT RATING 300 mA

Combined Category D, C, B tested protector (to BS EN 61643) suitable for most twisted pair signalling applications. Available for working voltages of up to 6, 15, 30, 50 and 110 Volts. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Low in-line resistance minimizes unnecessary reductions in signal strength
- Strong, flame retardant, ABS housing
- Supplied ready for flat mounting on base or side
- Built-in DIN rail foot for simple clip-on mounting to top hat DIN rails
- Colour coded terminals give a quick and easy installation check - grey for the dirty (line) end and green for the clean end
- Screen terminal enables easy connection of cable screen to earth
- Substantial earth stud to enable effective earthing
- Integral earthing plate for enhanced connection to earth via a OVR CME kit

Application

Use on twisted pair lines, e.g. those found in process control equipment, modems and computer communications interfaces.

Installation

Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

Combined Mounting/Earthing kits:

OVR CME 4 Mount & earth up to 4 protectors
OVR CME 8 Mount & earth up to 8 protectors
OVR CME 16 Mount & earth up to 16 protectors
OVR CME 32 Mount & earth up to 32 protectors

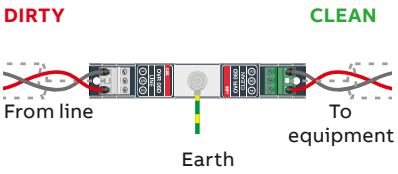
Weatherproof enclosures:

OVR WBX 4, OVR WBX 4/GS For use with a OVR CME 4 and up to 4 protectors

OVR WBX 8, OVR WBX 8/GS
For use with a OVR CME 8 and up to 8 protectors

OVR WBX 16/2/G
For use with one or two OVR CME 16 and up to 32 protectors

Install in series (in-line)



Slim Line (OVR SL) and ATEX (OVR SLX) versions are also available. If your system requires a protector with a very low resistance or higher current, see the OVR E & H Series. Also use the OVR E Series for systems needing a higher bandwidth. Protectors for 3-wire (OVR SL/3W) and RTD (OVR RTD, OVR SL RTD) are available, as are the space saving protectors (OVR Q, OVR SL Series). The OVR KT and TN Series are additional protectors specifically for telephone lines.

Protection and safety

Data & signal protection

OVR D Series

OVR D Series - Technical specification

Electrical specification	OVR 06D	OVR 15D	OVR 30D	OVR 50D	OVR 110D
ABB order code	7TCA085400R0288	7TCA085400R0349	7TCA085400R0351	7TCA085400R0352	7TCA085400R0347
Nominal voltage[1]	6 V	15 V	30 V	50 V	110 V
Maximum working voltage *Uc* (RMS/DC)[2]	5 V / 7.79 V	13 V / 19 V	26 V / 37.1 V	41 V / 58 V	93 V / 132 V
Current rating (signal)	300 mA				
In-line resistance (per line ±10%)	9.4 Ω	9.4 Ω	9.4 Ω	9.4 Ω	9.4 Ω
Bandwidth (-3 dB 50 Ω system)	800 kHz	2.5 MHz	4 MHz	6 MHz	9 MHz
Transient specification	**OVR 06D**	**OVR 15D**	**OVR 30D**	**OVR 50D**	**OVR 110D**
Let-through voltage (all conductors)[3] *Up*					
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21	12.0 V	25.0 V	44.0 V	78.0 V	155 V
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21	11.5 V	24.5 V	43.5 V	76.0 V	150 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21	10.0 V	23.0 V	42.5 V	73.0 V	145 V
5 kV, 10/700 µs[4]	10.5 V	23.8 V	43.4 V	74.9 V	150 V
Maximum surge current					
D1 test 10/350 µs to BS EN/EN/IEC 61643-21: – Per signal wire	2.5 kA				
D1 test 10/350 µs to BS EN/EN/IEC 61643-21: – Per pair	5 kA				
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002: – Per signal wire	10 kA				
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002: – Per pair	20 kA				
Mechanical specification	**OVR 06D**	**OVR 15D**	**OVR 30D**	**OVR 50D**	**OVR 110D**
Temperature range	-40 to +80 °C				
Connection type	Screw terminal - maximum torque 0.5 Nm				
Conductor size (stranded)	2.5 mm²				
Earth connection	M6 stud				
Case material	FR Polymer UL-94 V-0				
Weight	0.08 kg				
Dimensions	See diagram below				

[1] Nominal voltage (RMS/DC or AC peak) measured at < 5 µA (OVR 15D, OVR 30D, OVR 50D, OVR 110D) and < 200 µA (OVR 06D)
[2] Maximum working voltage (RMS/DC or AC peak) measured at < 1 mA leakage (OVR 15D, OVR 30D, OVR 50D, OVR 110D), < 10 mA (OVR 06D)
[3] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns
[4] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

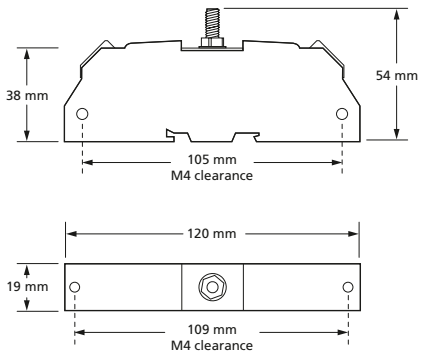


ABB order codes

Part	ABB order code	Part	ABB order code	Part	ABB order code
OVR CME4	7TCA085400R0414	**OVR WBX4**	7TCA085410R0048	**OVR WBX4/GS**	7TCA085410R0049
OVR CME8	7TCA085400R0415	**OVR WBX8**	7TCA085410R0050	**OVR WBX8/GS**	7TCA085410R0051
OVR CME16	7TCA085410R0415	**OVR CME32**	7TCA085410R0046	**OVR WBX16/2/G**	7TCA085410R0047

Protection and safety

Data & signal protection

OVR E Series

LPZ 0→3 | FULL MODE Bonding + Equipment Protection | HIGH BANDWIDTH | SIGNAL/ TELECOM TEST CAT D + C + B | ENHANCED Low let-through voltage | LOW IN-LINE RESISTANCE 1 Ω | CURRENT RATING 1.25 A | GND

Combined Category D, C, B tested protector (to BS EN 61643) suitable for twisted pair signalling applications which require either a lower in-line resistance, an increased current or a higher bandwidth than the OVR D Series. Also suitable for DC power applications less than 1.25 Amps. Available for working voltages of up to 6, 15, 30, 50 and 110 Volts. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Very low (1 Ω) in-line resistance allows resistance critical applications (e.g. alarm loops) to be protected
- High (1.25 A) maximum running current
- High bandwidth enables higher frequency (high traffic or bit rate) data communications
- Screen terminal enables easy connection of cable screen to earth
- Strong, flame retardant, ABS housing
- Built-in DIN rail foot for simple clip-on mounting to top hat DIN rails
- Colour coded terminals give a quick and easy installation check - grey for the dirty (line) end and green for clean
- Substantial earth stud to enable effective earthing
- Supplied ready for flat mounting on base or side
- Integral earthing plate for enhanced connection to earth via OVR CME kit

Application

Use these units to protect resistance sensitive, higher frequency or running current systems, e.g. high speed digital communications equipment or systems with long signal lines.

Installation

Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

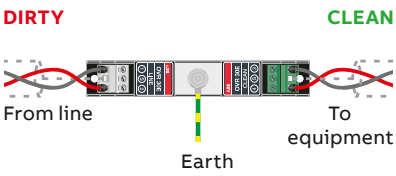
Combined Mounting/Earthing kits:

OVR CME 4 Mount & earth up to 4 protectors
OVR CME 8 Mount & earth up to 8 protectors
OVR CME 16 Mount & earth up to 16 protectors
OVR CME 32 Mount & earth up to 32 protectors

Weatherproof enclosures:

OVR WBX 4, OVR WBX 4/GS
For use with a OVR CME 4 and up to 4 protectors
OVR WBX 8, OVR WBX 8/GS
For use with a OVR CME 8 and up to 8 protectors
OVR WBX 16/2/G
For use with one or two OVR CME 16 and up to 32 protectors

Install in series (in-line)



NOTE: Slim Line (OVR SL) and ATEX (OVR SLX) are available. For many twisted pair data and signal applications, the lower cost OVR D Series may be suitable. For applications requiring higher current (1.25 A to 4 A) or ultra-low in-line resistance, the OVR H Series protectors may be more suitable.

Protection and safety

Data & signal protection

OVR E Series

OVR E Series - Technical specification

Electrical specification	OVR 06E	OVR 15E	OVR 30E	OVR 50E	OVR 110E
ABB order code	7TCA085400R0346	7TCA085400R0350	7TCA085400R0353	7TCA085400R0354	7TCA085400R0348
Nominal voltage[1]	6 V	15 V	30 V	50 V	110 V
Maximum working voltage *Uc* (RMS/DC)[2]	5 V / 7.79 V	11 V / 16.7 V	25 V / 36.7 V	40 V / 56.7 V	93 V / 132 V
Current rating (signal)	1.25 A				
In-line resistance (per line ±10%)	1.0 Ω				
Bandwidth (-3 dB 50 Ω system)	45 MHz				
Transient specification	**OVR 06E**	**OVR 15E**	**OVR 30E**	**OVR 50E**	**OVR 110E**
Let-through voltage (all conductors)[3] *Up*					
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21	36.0 V	39.0 V	60.0 V	86.0 V	180 V
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21	26.2 V	28.0 V	49.0 V	73.5 V	170 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21	16.0 V	25.5 V	43.5 V	65.0 V	160 V
5 kV, 10/700 µs[4]	17.0 V	26.2 V	44.3 V	65.8 V	165 V
Maximum surge current					
D1 test 10/350 µs to BS EN/EN/IEC 61643-21: – Per signal wire – Per pair	2.5 kA 5 kA				
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002: – Per signal wire – Per pair	10 kA 20 kA				
Mechanical specification	**OVR 06E**	**OVR 15E**	**OVR 30E**	**OVR 50E**	**OVR 110E**
Temperature range	-40 to +80 °C				
Connection type	Screw terminal - maximum torque 0.5 Nm				
Conductor size (stranded)	2.5 mm²				
Earth connection	M6 stud				
Case material	FR Polymer UL-94 V-0				
Weight	0.08 kg				
Dimensions	See diagram below				

[1] Nominal voltage (RMS/DC or AC peak) measured at < 10 µA (OVR 15E, OVR 30E, OVR 50E, OVR 110E) and < 200 µA (OVR 06E)
[2] Maximum working voltage (RMS/DC or AC peak) measured at < 5 mA leakage (OVR 15E, OVR 30E, OVR 50E, OVR 110E) and < 10 mA (OVR 06E)
[3] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns
[4] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45,Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

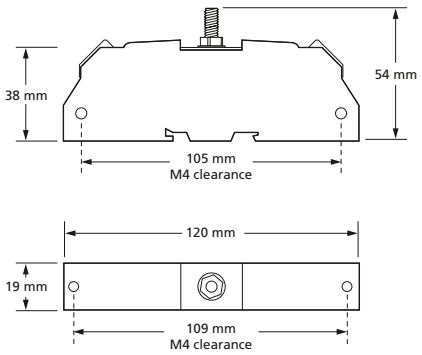


ABB order codes

Part	ABB order code	Part	ABB order code	Part	ABB order code
OVR CME4	7TCA085400R0414	**OVR WBX4**	7TCA085410R0048	**OVR WBX4/GS**	7TCA085410R0049
OVR CME8	7TCA085400R0415	**OVR WBX8**	7TCA085410R0050	**OVR WBX8/GS**	7TCA085410R0051
OVR CME16	7TCA085410R0415	**OVR CME32**	7TCA085410R0046	**OVR WBX16/2/G**	7TCA085410R0047

Protection and safety

Data & signal protection

OVR H Series

LPZ 0→3 | FULL MODE Bonding + Equipment Protection | SIGNAL/ TELECOM TEST CAT D + C + B | ENHANCED Low let-through voltage | LOW IN-LINE RESISTANCE 0.05 Ω | CURRENT RATING 4 A

Combined Category D, C, B tested protector (to BS EN 61643) suitable for twisted pair signalling applications which require either a lower in-line resistance or an increased current than the OVR D or E Series. Also suitable for DC power applications less than 4 Amps. Available for working voltages of up to 6, 15, 30, 50, 110 and 180 Volts. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Ultra-low (< 0.05 Ω) in-line resistance allows resistance critical applications (e.g. alarm loops) to be protected
- Very high (4 A) maximum running current
- Strong, flame retardant ABS housing
- Supplied ready for flat mounting on base or side
- Built-in DIN rail foot for simple clip-on mounting to top hat DIN rails
- Colour coded terminals give a quick and easy installation check - grey for the dirty (line) end and green for clean
- Screen terminal enables easy connection of cable screen to earth
- Substantial earth stud to enable effective earthing
- Integral earth plate enables enhanced connection to earth via OVR CME kit

Application

Use these applications to protect resistance sensitive or higher running current systems, e.g. systems with long signal lines, or DC power applications.

Installation

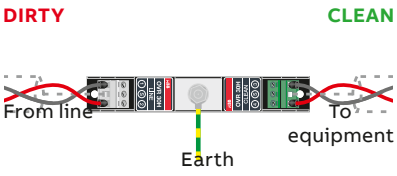
Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

Combined Mounting/Earthing kits:
OVR CME 4 Mount & earth up to 4 protectors
OVR CME 8 Mount & earth up to 8 protectors
OVR CME 16 Mount & earth up to 16 protectors
OVR CME 32 Mount & earth up to 32 protectors

Weatherproof enclosures:
OVR WBX 4, OVR WBX 4/GS
For use with a OVR CME 4 and up to 4 protectors
OVR WBX 8, OVR WBX 8/GS
For use with a OVR CME 8 and up to 8 protectors
OVR WBX 16/2/G
For use with one or two OVR CME 16 and up to 32 protectors

Install in series (in-line)



NOTE: For some data and signal applications with lower current, higher in-line resistance or higher bandwidth requirements, the OVR D or E Series protectors or the Slim Line OVR SL Series may be more suitable.

Protection and safety

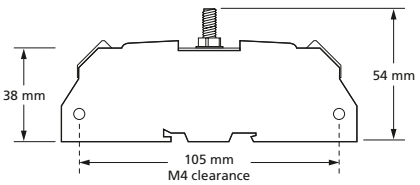
Data & signal protection

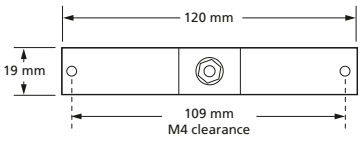
OVR H Series

OVR E Series - Technical specification

	ESP 06H	ESP 15H	ESP 30H	ESP 50H	ESP 110H	ESP 180H
ABB order code	7TCA085400R0003	7TCA085400R0009	7TCA085400R0011	7TCA085400R0012	7TCA085400R0008	7TCA085400R0492
Nominal voltage[1]	6 V	15 V	30 V	50 V	110 V	180 V
Maximum working voltage U_c (DC)[2]	7.79 V	16.7 V	36.7 V	56.7 V	132 V	190 V
Maximum working voltage U_c (AC RMS)	5 V	11 V	25 V	40 V	93 V	130 V
Current rating (signal)	4 A					
In-line resistance (per line ±10%)	0.05 Ω					
Bandwidth (-3 dB 50 Ω system)	160 KHz	140 KHz	130 KHz	120 KHz	120 KHz	100 KHz
Transient specification	**ESP 06H**	**ESP 15H**	**ESP 30H**	**ESP 50H**	**ESP 110H**	**ESP 180H**
Let-through voltage (all conductors)[3] *Up*						
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21	12.0 V	27.5 V	46.0 V	67.0 V	150 V	215 V
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21	11.0 V	26.5 V	45.0 V	66.5 V	145 V	205 V
B2 test 4 kV 10/700 µs to BS EN/EN/ IEC 61643-21	10.5 V	25.5 V	43.5 V	65.0 V	140 V	203 V
5 kV, 10/700 µs(4)	10.8 V	26.2 V	44.3 V	65.8 V	145 V	200 V
Maximum surge current						
D1 test 10/350 µs to signal wire – Per	2.5 kA					
BS EN/EN/IEC 61643-21: – Per pair	5 kA					
8/20 µs to ITU-T K.45:2003, signal wire – Per	10 kA					
IEEE C62.41.2:2002: – Per pair	20 kA					
Mechanical specification	**ESP 06H**	**ESP 15H**	**ESP 30H**	**ESP 50H**	**ESP 11H**	**ESP 180H**
Temperature range						-40 to +80 °C
Connection type						Screw terminal - maximum torque 0.5 Nm
Conductor size (stranded)						2.5 mm²
Earth connection						M6 stud - maximum torque 0.5 Nm
Case material						FR Polymer UL-94 V-0
Weight: – Unit						0.08 kg
Dimensions						See diagram below

[1] Nominal voltage (RMS/DC or AC peak) measured at < 10 µA (OVR 15H, OVR 30H, OVR 50H, OVR 110H) and < 200 µA (OVR 06H)
[2] Maximum working voltage (RMS/DC or AC peak) measured at < 5 mA leakage (OVR 15H, OVR 30H, OVR 50H, OVR 110H) and < 10 mA (OVR 06H)
[3] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns
[4] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45,Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)



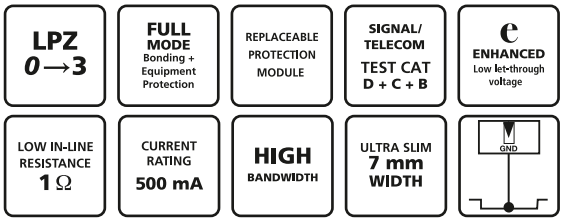


Part	ABB order code
CME4	7TCA085400R0001
CME32	7TCA085410R0003
WBX 3/G	7TCA085410R0024
WBX 8	7TCA085410R0030
CME8	7TCA085400R0002
WBX 2/G	7TCA085410R0022
WBX 4	7TCA085410R0027
WBX 8/GS	7TCA085410R0031
CME16	7TCA085410R0002
WBX 3	7TCA085410R0023
WBX 4/GS	7TCA085410R0028
WBX 16/2/G	7TCA085410R0020

Protection and safety

Data & signal protection

OVR SL 3-Wire Series



Combined Category D, C, B tested protector (to BS EN 61643) suitable for 3-wire signalling applications which require either a lower in-line resistance, an increased current and/or higher bandwidth. Also suitable for DC power applications less than 0.5 Amps. Available for working voltages of up to 6, 15, 30, 50 and 110 Volts. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- Two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement
- Very low (1 Ω) in-line resistance allows resistance critical applications (e.g. alarm loops) to be protected
- High (500 mA) maximum running current
- High bandwidth enables higher frequency (high traffic or bit rate) data communications
- Strong, flame retardant, polycarbonate housing
- Built-in innovative DIN rail foot with locking feature for simple positioning and clip-on mounting to top hat DIN rails
- 4 mm² terminals allow for larger cross section wiring, stranded wires terminated with ferrules or fitting two wires into a single terminal
- Convenient earthing through DIN foot and/or earth terminal

Application

Use these protectors for 3-wire systems where installation space is at a premium and large numbers of lines require protection (e.g. process control, high speed digital communication equipment or systems with long signal lines).

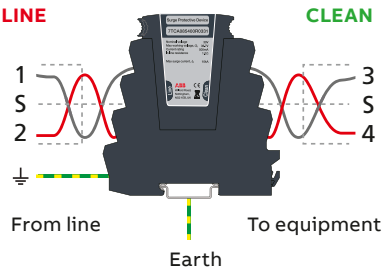
Installation

Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

CReplacement modules:
OVR SLXX/3W/M
Standard module replacement where XX is voltage rating (06, 15, 30, 50 or 110)
OVR SL/3W/B
Base replacement

Weatherproof enclosure:
OVR WBX SLQ



NOTE: The OVR SL 'Slim Line' Series is also available for protection of 2-wire systems up to 110 V, RS 485, RTD and telecommunication applications (OVR SL Series, OVR SL RS485, OVR SL RTD and OVR SL TN). The OVR SL X Series has approvals for use in hazardous areas.

Protection and safety

Data & signal protection

OVR SL 3-Wire Series

OVR SL 3-Wire Series - Technical specification

Electrical specification		OVR SL06/3W	OVR SL15/3W	OVR SL30/3W	OVR SL50/3W	OVR SL110/3W
ABB order code		7TCA085400R0328	7TCA085400R0330	7TCA085400R0331	7TCA085400R0332	7TCA085400R0329
Nominal voltage[1]		6 V	15 V	30 V	50 V	110 V
Maximum working voltage *Uc* (RMS/DC)[2]		5 V / 7.79 V	11 V / 16.7 V	25 V / 36.7 V	40 V / 56.7 V	93 V / 132 V
Current rating (signal)		500 mA				
In-line resistance (per line ±10%)		1.0 Ω				3.3 Ω
Bandwidth (-3 dB 50 Ω system)		45 MHz				
Transient specification		**OVR SL06/3W**	**OVR SL15/3W**	**OVR SL30/3W**	**OVR SL50/3W**	**OVR SL110/3W**
Let-through voltage (all conductors)[3] *Up*						
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21		36.0 V	38.4 V	63.0 V	90.3 V	185 V
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21		26.2 V	29.4 V	51.3 V	77.2 V	175 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21		16.0 V	26.8 V	45.4 V	68.3 V	165 V
5 kV, 10/700 µs[4]		17.0 V	27.5 V	46.3 V	69.1 V	170 V
Maximum surge current						
D1 test 10/350 µs to BS EN/EN/IEC 61643-21:	– Per signal wire	1.25 kA				
	– Per pair	2.5 kA				
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002:	– Per signal wire	5 kA				
	– Per pair	10 kA				
Mechanical specification		**OVR SL06/3W**	**OVR SL15/3W**	**OVR SL30/3W**	**OVR SL50/3W**	**OVR SL110/3W**
Temperature range		-40 to +80 °C				
Connection type		Screw terminal - maximum torque 0.8 Nm				
Conductor size (stranded)		4 mm²				
Earth connection		Via DIN rail or 4 mm² earth terminal - maximum torque 0.8 Nm				
Case material		FR Polymer UL-94 V-0				
Weight: – Unit		0.08 kg				
Dimensions		See diagram below				

[1] Nominal voltage (RMS/DC or AC peak) measured at < 10 µA (OVR SL15/3W, OVR SL30/3W, OVR SL50/3W, OVR SL110/3W) and < 200 µA (OVR SL06/3W)
[2] Maximum working voltage (RMS/DC or AC peak) measured at < 1 mA leakage
[3] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns
[4] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

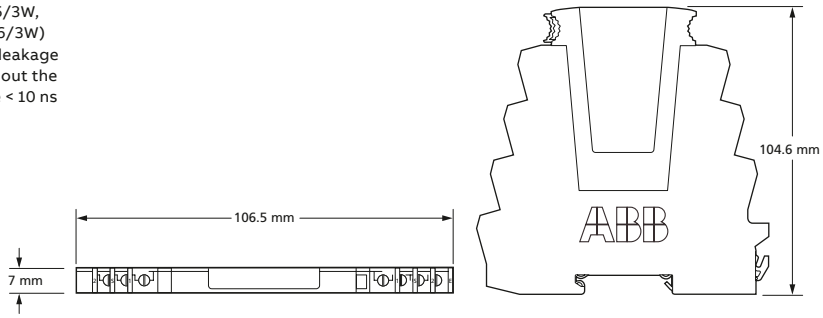


ABB order codes

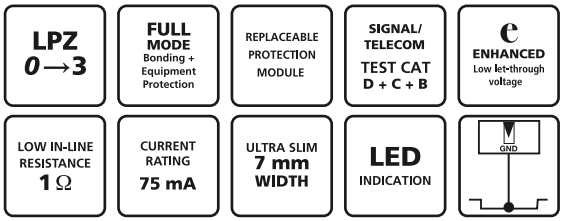
Part	ABB order code	Part	ABB order code
OVR SL06/3W	7TCA085400R0328	**OVR SL50/3W**	7TCA085400R0332
OVR SL06/3W/M	7TCA085400R0405	**OVR SL50/3W/M**	7TCA085400R0409
OVR SL15/3W	7TCA085400R0330	**OVR WBX SLQ/G**	7TCA085400R0327
OVR SL15/3W/M	7TCA085400R0406	**OVR SL110/3W**	7TCA085400R0329
OVR WBX SLQ	7TCA085400R0326	**OVR SL110/3W/M**	7TCA085400R0408
OVR SL30/3W	7TCA085400R0331	**OVR SL/B**	7TCA085400R0320
OVR SL30/3W/M	7TCA085400R0407	**OVR SL/I/B**	7TCA085400R0321

5

Protection and safety

Data & signal protection

OVR SL LED 4-20 mA Series



Combined Category D, C, B tested protector (to BS EN 61643) suitable for twisted pair 4-20 mA loop systems with innovative LED protector status indication. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment (e.g. transmitters, monitors, controllers).

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Innovative LED indication of protection status provides easy visual checking and quick maintenance
- Ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- Two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement
- Very low (1 Ω) in-line resistance for minimal system interference
- High (75 mA) maximum running current - can also be used on 10-50 mA systems (e.g. process control)
- Screen terminal enables easy connection of cable screen to earth
- Strong, flame retardant, polycarbonate housing
- Built-in innovative DIN rail foot with locking feature for simple positioning and clip-on mounting to top hat DIN rails
- 4 mm² terminals allow for larger cross section wiring, stranded wires terminated with ferrules or fitting two wires into a single terminal
- Convenient earthing through DIN foot and/or earth terminal

Application

Use these protectors on 4-20 mA loop systems - ideal where installation space is at a premium and large numbers of lines require protection, or for systems with long signal lines.

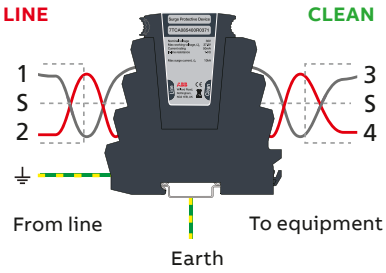
Installation

Connect in series with the 4-20 mA current loop either near where it enters or leaves the building or close to the equipment being protected (e.g. within its control panel). Either way, it must be very close to the system's earth star point. Install protectors either within an existing cabinet/ cubicle or in a separate enclosure.

Accessories

OVR SL30L/4-20/M
Module replacement
OVR SL/B
Base replacement

Weatherproof enclosure:
OVR WBX SLQ



TECHNICAL NOTE: 4-20 mA current loops can serve multiple devices over a long distance. The devices and wiring produce a voltage drop (also known as "loop drops") but these do not reduce the 4-20 mA current as long as the power supply voltage is greater than the sum of the voltage drops around the loop at the maximum signalling current of 20 mA.For design considerations, each OVR SL30L/4-20 device installed within the loop introduces a 1.7 V loop drop.

NOTE: The OVR SL 'Slim Line' Series is also available for protection of systems up to 110 V as well as 3-wire, RS 485, RTD & telecommunication applications (OVR SL/3W, OVR SL RS485, OVR SL RTD & OVR SL TN). The OVR SL X Series has approvals for use in hazardous areas.

Protection and safety

Data & signal protection

OVR SL LED 4-20 mA Series

OVR SL LED 4-20 mA Series - Technical specification

Electrical specification	OVR SL30L/4-20
ABB order code	7TCA085400R0371
Nominal voltage(1)	30 V
Maximum working voltage *Uc* (RMS/DC)(2)	25 V / 36.7 V
Current rating (signal)(3)	75 mA
In-line resistance (per line ±10%)	1.0 Ω
Series voltage drop(4)	1.7 V
Bandwidth (-3 dB 50 Ω systems)	45 MHz
Transient specification	**OVR SL30L/4-20**
Let-through voltage (all conductors)(5) Up	
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21	63.0 V
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21	51.3 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21	45.4 V
5 kV, 10/700 µs(6)	46.3 V
Maximum surge current	
D1 test 10/350 µs to BS EN/EN/IEC 61643-21: – Per signal wire – Per pair	1.25 kA 2.5 kA
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002: – Per signal wire – Per pair	5 kA 10 kA
Mechanical specification	**OVR SL30L/4-20**
Temperature range	-40 to +80 °C
Connection type	Screw terminal - maximum torque 0.8 Nm
Conductor size (stranded)	4 mm²
Earth connection	Via DIN rail or 4 mm² earth terminal - maximum torque 0.8 Nm
Case material	FR Polymer UL-94 V-0
Weight: – Unit	0.08 kg
Dimensions	See diagram below

(1) Nominal voltage (RMS/DC or AC peak) measured at < 10 µA
(2) Maximum working voltage (RMS/DC or AC peak) measured at < 1 mA leakage
(3) The minimum current for LED indicator operation is 2 mA
(4) At 20 mA
(5) The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns
(6) Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

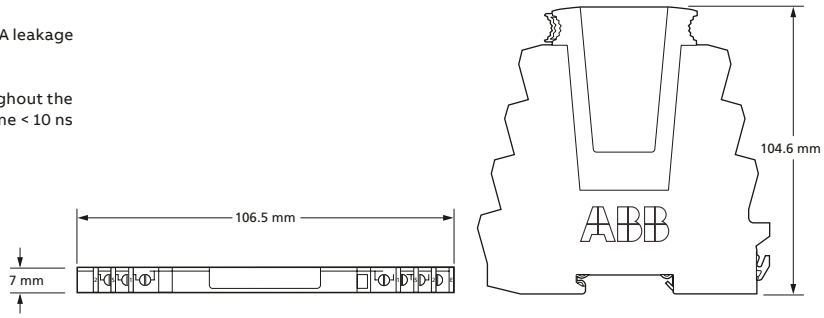


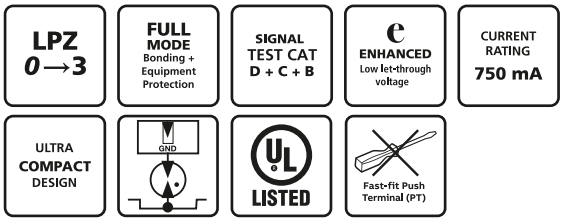
ABB order codes

Part	ABB order code	Part	ABB order code
OVR SL30L/4-20	7TCA085400R0371	**OVR SL/B**	7TCA085400R0320
OVR SL30L/4-20/I	7TCA085400R0372	**OVR SL/I/B**	7TCA085400R0321
OVR SL30L/4-20/M	7TCA085400R0373	**OVR WBX SLQ**	7TCA085400R0326

Protection and safety

Data & signal protection

OVR Q Series



Combined Category D, C, B (to IEC/EN 61643) Surge Protective Device (SPD) suitable for 4 twisted pair lines. Available for working voltages of up to 6, 15, 30, 50, 110 and 180 Volts. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Almost twice as space efficient as smallest competitor
- Standard DIN module (18 mm) depth
- Removable (plug-in) terminals allow pre-wiring of cable looms, for easier installation
- Suitable for earthed or isolated screen systems
- Built-in DIN rail foot for clip-on mounting to top hat or G DIN rails
- Optional flat mounting on side
- 2.5 mm² terminals allow for larger cross section wiring, stranded wires terminated with ferrules or fitting two wires into a single terminal
- Fast fit screwless Push Terminal versions (OVR X/PT) allow quick tool-less cable connection saving installation time
- Very low resistance to minimizes unwanted signal strength reductions
- Strong, flame retardant, ABS housing
- Colour coded terminals (grey for line, green for clean) give a quick and easy installation check
- Screen terminal enables easy connection of cable screen, maintaining continuity through the SPD between the input and output connectors.
- Simple, yet substantial, connection to earth via DIN rail
- OVR 06Q-180Q (and /PT variants) have UL497b approval under E240341

Application

Use these SPDs where installation space is at a premium and large numbers of lines require protection.

Installation

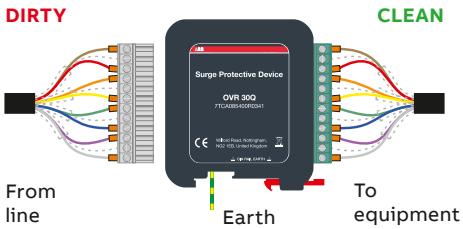
Connect in series with the signal or data line either near where it enters or leaves the building or close to the equipment being protected. Install in a cabinet/cubicle close to the system's earth star point.

Accessories

Weather proof enclosures:
OVR WBX SLQ (with transparent lid)
ABB order code
7TCA085400R0326

OVR WBX SLQ/G (with opaque grey lid)
ABB order code
7TCA085400R0327

OVR 06Q, OVR 15Q, OVR 30Q, OVR 50Q and OVR 110Q installed in series (in-line)



NOTE: The OVR Q Series is also available for protection of RS 485 and RTD applications (OVR RS485Q, OVR RTDQ). Protectors for individual data and signal lines are available (OVR D Series and Slim Line OVR SL Series). Alternatively, for individual protectors with higher current or bandwidth use the OVR E and OVR H Series. For telecommunication applications use OVR TNQ Series.

Protection and safety

Data & signal protection

OVR Q Series

OVR Q Series - Technical specification

Electrical specification	OVR 06Q Series	OVR 15Q Series	OVR 30Q Series	OVR 50Q Series	OVR 110Q Series	OVR 180Q Series
Nominal voltage[1]	6 V	15 V	30 V	50 V	110 V	180 V
Maximum working voltage *Uc* (RMS/DC)[2]	5 V / 7.79 V	13 V / 18.8 V	26 V / 37.8 V	41 V / 57.8 V	93 V / 132 V	130 V/190 V
Current rating (signal)	750 mA				500 mA	250 mA
In-line resistance (per line ±10%)	1.0 Ω				3.3 Ω	6.8 Ω
Bandwidth (-3 dB 50 Ω system)	45 MHz					
Transient specification						
Let-through voltage (all conductors)[3] Up						
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21	15.0 V	28.0 V	53.0 V	84.0 V	188 V	215 V
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21	12.5 V	26.5 V	48.0 V	76.0 V	175 V	205 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21	10.0 V	23.0 V	43.5 V	64.5 V	145 V	203 V
5 kV, 10/700 µs[4]	10.8 V	26.2 V	44.3 V	65.8 V	150 V	200 V
Maximum surge current						
D1 test 10/350 µs to BS EN/EN/IEC 61643-21: – Per signal wire – Per pair	2.5 kA 5 kA					
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002: – Per signal wire – Per pair	10 kA 20 kA					
Mechanical specification						
Temperature range	-40 to +80 °C					
Connection type	Pluggable 12 way screw terminal - maximum torque 0.6 Nm /PT version: Pluggable 12 way screwless Push Terminal					
Conductor size (stranded)	2.5 mm^2					
Earth connection	Via DIN rail or M5 threaded hole in base of unit					
Case material	FR Polymer UL-94 V-0					
Weight: – Unit – Packaged (each)	0.1 kg 0.12 kg					
Dimensions	See diagram below					

[1] Nominal voltage (RMS/DC or AC peak) measured at < 5 µA (OVR 15Q, OVR 30Q, OVR 50Q, OVR 110Q) and < 200 µA (OVR 06Q)
[2] Maximum working voltage (RMS/DC or AC peak) measured at < 5 mA leakage (OVR 15Q, OVR 30Q, OVR 50Q, OVR 110Q)
[3] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns
[4] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

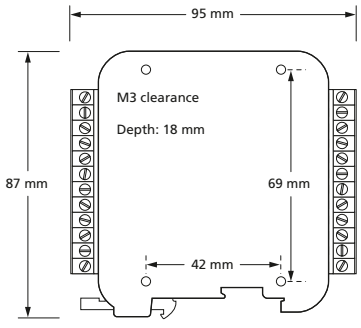


ABB order codes

Part	ABB order code	Part	ABB order code	Part	ABB order code
OVR RS485	7TCA085400R0311	**OVR RS485Q(UL)**	7TCA085400R0572	**OVR CME8**	7TCA085400R0415
OVR SLRS485/B	7TCA085400R0316	**OVR RS485Q/PT(UL)**	7TCA085400R0579	**OVR CME32**	7TCA085410R0046
OVR SLRS485	7TCA085400R0310	**OVR SLRS485/M**	7TCA085400R0317	**OVR WBXSLQ**	7TCA085400R0326
OVR SLRS485L	7TCA085400R0417	**OVR SLRS485L/M**	7TCA085400R0470	**OVR WBXSLQ/G**	7TCA085400R0327
OVR SLRS485(UL)	7TCA085400R0551	**OVR SLRS485L/M(UL)**	7TCA085400R0600	**WBX 4**	7TCA085410R0027
OVR SLRS485L(UL)	7TCA085400R0552	**OVR CME4**	7TCA085400R0414	**WBX 8**	7TCA085410R0030
OVR RS485Q	7TCA085400R0312	**OVR CME16**	7TCA085410R0045	**WBX 16/2/G**	7TCA085410R0020

Protection and safety

Data & signal protection

OVR RTD, RTDQ & SL RTD Series

LPZ 0→3 | FULL MODE Bonding + Equipment Protection | OVR SL RTD ULTRA SLIM 7 mm WIDTH | SIGNAL/TELECOM TEST CAT D + C + B | ENHANCED Low let-through voltage | OVR RTDQ ULTRA COMPACT 18 mm WIDTH | LOW IN-LINE RESISTANCE | OVR SL RTD HIGH BANDWIDTH

Combined Category D, C, B tested protector (to BS EN 61643) suitable for 3-wire RTD systems to protect monitoring equipment. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3. Available as standard OVR RTD format, or compact OVR RTDQ and Slim Line OVR SL RTD versions for installations where a high number of lines require protection.

Features & benefits

- Protects all three wires on a 3-wire RTD system with a single protector
- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Low in-line resistance minimizes reductions in signal strength
- Built-in DIN rail foot for simple mounting to top hat DIN rails
- Convenient earthing through DIN foot and/or earth terminal
- OVR RTD can be flat mounted on base or side
- OVR RTD and OVR RTDQ have colour coded terminals for quick and easy installation check
- OVR SL RTD has ultra slim 7mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- OVR SL RTD includes two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement

For further information on RTD applications, see separate Application Note OVR AN001 (contact us for a copy).

Installation

Connect in series with the signal line either near where it enters or leaves the building or close to the equipment being protected ensuring it is very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

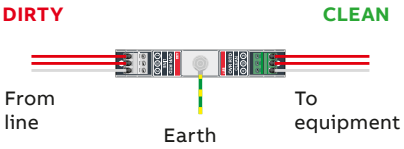
Replacement module for OVR SL RTD:
OVR SLRTD/M
Standard module replacement
OVR SLRTD/B
Base replacement

Combined Mounting/Earthing kits for OVR RTD:
OVR CME 4 For up to 4 x OVR RTD
OVR CME 8 For up to 8 x OVR RTD
OVR CME 16 For up to 16 x OVR RTD
OVR CME 32 For up to 32 x OVR RTD

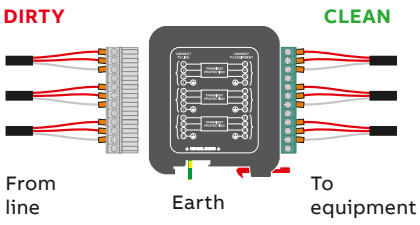
If protectors cannot be incorporated within an existing panel or enclosure, OVR WBX enclosures are available for up to 4, 8, 16 or 32 protectors and their associated OVR CME kit.

Weatherproof enclosure:
OVR WBX SLQ (OVR SLRTD and OVR RTD Q)

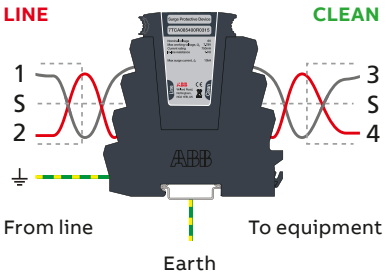
OVR RTD installed in series



OVR RTDQ installed in series (in-line)



OVR SL RTD installed in series



NOTE: For 2-wire or 4-wire RTD applications, use one or two OVR 06D or OVR SL06 protectors respectively.

Protection and safety

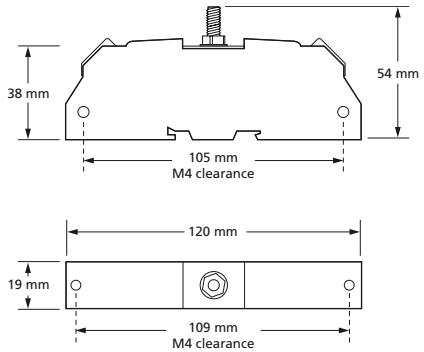
Data & signal protection

OVR RTD Series

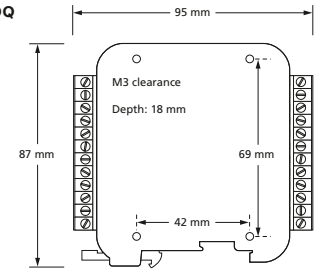
OVR RTD, RTDQ & SL RTD Series - Technical specification

Electrical specification		OVR RTD	OVR SL RTD	OVR RTDQ
ABB order code		7TCA085400R0313	7TCA085400R0315	7TCA085400R0314
Nominal voltage [1]		6 V		
Maximum working voltage Uc (RMS/DC) [2]		5 V/7.79 V		
Current rating (signal)		200 mA	500 mA	700 mA
In-line resistance (per line ±10%)		10 Ω	1.0 Ω	1.0 Ω
Bandwidth (-3 dB 50 Ω system)		800 kHz	1.5 MHz	800 kHz
Transient specification		**OVR RTD**	**OVR SL RTD**	**OVR RTDQ**
Let-through voltage (all conductors) [3] Up				
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21		12.0 V	17.9 V	15.0 V
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21		11.5 V	12.1 V	12.5 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21		10.0 V	11.0 V	10.0 V
5 kV, 10/700 µs [4]		10.5 V	11.3 V	10.5 V
Maximum surge current				
D1 test 10/350 µs to BS EN/EN/IEC 61643-21	– Per signal wire	2.5 kA	1.25 kA	2.5 kA
	– Per pair	5 kA	2.5 kA	5 kA
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire	10 kA		
	– Per pair	20 kA		
Mechanical specification		OVR RTD	OVR SL RTD	OVR RTDQ
Temperature range		-40 to +80 °C		
Connection type		Screw terminal - max. torque 0.5 Nm	Screw terminal - max. torque 0.8 Nm	Pluggable 12 way screw terminal
Conductor size (stranded)		2.5 mm^2	4 mm^2	2.5 mm^2
Earth connection		M6 stud - max. torque 0.5 Nm	Via DIN rail or 4 mm^2 earth terminal - max. torque 0.8 Nm	Via DIN rail or M5 threaded hole in base of unit - max. torque 0.6 Nm
Case Material		FR Polymer UL-94 V-0		
Weight	– Unit	0.08 kg	0.08 kg	0.1 kg
	– Packaged (per 10)	0.85 kg	0.85 kg	1.3 kg
Dimensions		See diagram below		

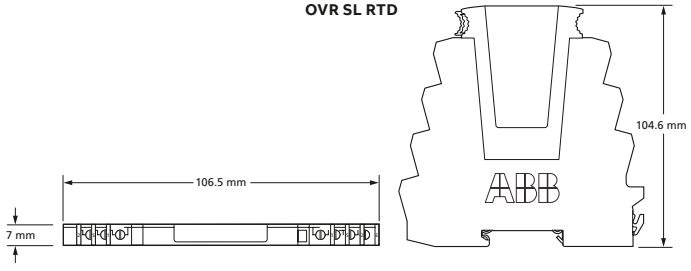
OVR RTD



OVR RTDQ



OVR SL RTD

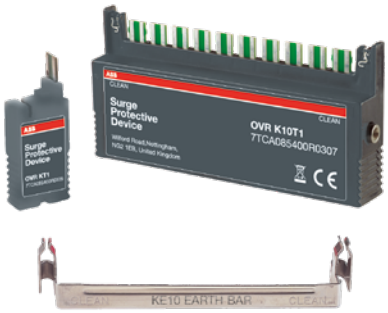


[1] Nominal voltage (RMS/DC or AC peak) measured at < 200 µA
[2] Maximum working voltage (RMS/DC or AC peak) measured at < 10 mA
[3] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns
[4] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45,Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

Protection and safety

Telecoms & computer line protection

OVR KT & KE Series



Combined Category D, C, B tested protector (to BS EN 61643) suitable for use on ten line LSA-PLUS disconnection modules to PBX telephone exchanges, ISDN and other telecoms equipment with LSA-PLUS disconnection modules. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Low cost protection for large numbers of data and signal lines
- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Colour of housing distinguishes electrically different protectors - avoids confusion when installed together on the same distribution frame
- Quick and easy plug-in installation, with 'bump' location feedback
- Under power line cross conditions/PTC versions offer safe disconnection during fault duration. Unit auto-resets once fault corrected
- At larger installations OVR K10T1 and OVR K10T1/PTC provide all in one protection for all ten lines on LSA-PLUS disconnection modules
- Use the OVR KE10 to provide trouble free earthing for up to ten OVR KT1 and OVR KT1/PTC (per disconnection module)
- OVR K10T1 and OVR K10T1/PTC have an integral earth connection, and an external M4 earth bush for use with non-metallic LSA-Plus frames
- OVR KT1/PTC and OVR K10T1/PTC have resettable overcurrent protection and are rated for power cross faults
- OVR KT1, OVR KT1/PTC, OVR K10T1 and OVR K10T1/PTC are suitable for telecoms applications in accordance with Telcordia and ANSI Standards

Application

- For PSTN (e.g POTS, dial-up, lease line, T1/E1, *DSL and Broadband) and U interface ISDN lines, use OVR KT1 (or OVR KT1/PTC) and OVR K10T1 (or OVR K10T1/PTC)
- Protect single lines with OVR KT1 or OVR KT1/PTC
- Protect all ten lines on a disconnection module with OVR K10T1 or OVR K10T1/PTC

Installation

Install protectors on all lines that enter or leave each building (including extensions to other buildings). Identify the lines requiring protection and plug-in the protector (ensuring the correct orientation) for a series connection. Plug OVR K10T1 or OVR K10T1/PTC directly into each disconnection module requiring protection.

OVR KT1 and OVR KT1/PTC must be installed via the OVR KE10 earth bar. Clip an OVR KE10 on to the disconnection module and plug an OVR KT1 or OVR KT1/PTC in to each line on the module that needs protecting. In the unlikely situation that the protector is damaged, it will sacrifice itself and fail short circuit, taking the line out of commission, indicating it needs replacing and preventing subsequent transients from damaging equipment.

For further information on global telephony applications, see separate Application Note OVR AN005 (contact us for a copy).

NOTE: For individual telephone lines and lines at unmanned sites the high performance OVR TN or plug-in OVR TN/JP or OVR TN/RJ11 Series should be used.
For plug-in S/T interface ISDN protection, use the ISDN Series protectors.

Protection and safety

Telecoms & computer line protection

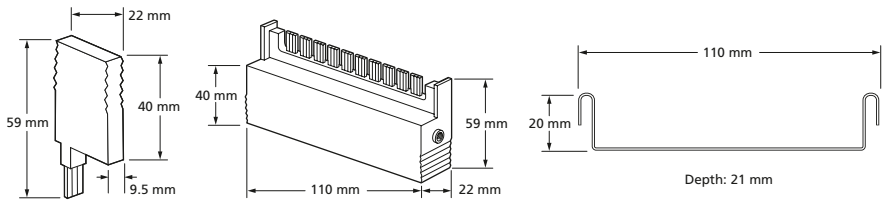
OVR KT & KE Series

OVR KT & KE Series - Technical specification

Electrical specification		**OVR KT1**	**OVR KT1/PTC**	**OVR K10T1**	**OVR K10T1/PTC**
ABB order code		7TCA085400R0305	7TCA085400R0306	7TCA085400R0307	7TCA085400R0410
Maximum working voltage Uc [1]	– line to line	296 V	296 V	296 V	296 V
	– line to earth	296 V	296 V	296 V	296 V
Current rating (signal)		300 mA	145 mA	300 mA	145 mA
In-line resistance (per line ±10%)		4.4 Ω			
Bandwidth (-3 dB 50 Ω system)		20 MHz	20 MHz	20 MHz	20 MHz
Transient specification		**OVR KT1**	**OVR KT1/PTC**	**OVR K10T1**	**OVR K10T1/PTC**
Let-through voltage (all conductors) [2] Up					
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21	– line to line	395 V	395 V	395 V	395 V
	– line to earth	395 V	395 V	395 V	395 V
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21	– line to line	390 V	390 V	390 V	390 V
	– line to earth	390 V	390 V	390 V	390 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21	– line to line	298 V	298 V	298 V	298 V
	– line to earth	298 V	298 V	298 V	298 V
5 kV, 10/700 µs [3]	– line to line	300 V	300 V	300 V	27 V
	– line to earth	300 V	300 V	300 V	80 V
Maximum surge current [4]					
D1 test 10/350 µs to BS EN/EN/IEC 61643-21	– line to line	1 kA			
	– line to earth	2 kA			
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002	– line to line	5 kA			
	– line to earth	10 kA			

Power Faults specification	**OVR KT1**	**OVR KT1/PTC**	**OVR K10T1**	**OVR K10T1/PTC**
Power/Line Cross and Power Induction - tests to: ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, UL 60950/IEC 950				
Power/line cross	–	110/230 Vac (15 min)	–	110/230 Vac (15 min)
Power induction	–	600 V, 1 A (0.2 sec)	–	600 V, 1 A

Mechanical specification		**OVR KT1, OVR KT1/PTC**	**OVR K10T1, OVR K10T1/PTC**	**OVR KE10**
Temperature range		-40 to +80 °C		–
Connection type		To LSA-PLUS disconnection modules (BT part number 237A)		–
Earth connection		Via OVR KE10 earth bar	Via integral earth clip/external M4 bush	–
Material		FR Polymer UL-94 V-0		Stainless Steel
Weight	– Unit	0.01 kg	0.10 kg	0.01 kg
	– Packaged	0.12 kg (per 10)	0.12 kg	0.10 kg (per 10)
Dimensions		See diagram below		



[1] Maximum working voltage (DC or AC peak) at 10 µA for OVR KT1, OVR KT1/PTC, OVR K10T1, OVR K10T1/PTC

[2] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns

[3] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45,Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

[4] The installation and connections external to the protector may limit the capability of the protector

Protection and safety

Telecoms & computer line protection
OVR TN/RJ11 & ISDN/RJ45 Series

LPZ 0→3	FULL MODE Bonding + Equipment Protection	SIGNAL/ TELECOM TEST CAT D + C + B	ENHANCED Low let-through voltage	LOW IN-LINE RESISTANCE 4.4 Ω	CURRENT RATING 300 mA

Combined Category D, C, B tested protector (to BS EN 61643) suitable to protect telephony equipment plugged into a Modem (RJ11) or ISDN (RJ45) socket. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Substantial earth connection to enable effective earthing
- Supplied in a sturdy ABS housing ready for flat mounting, or vertically via TS35 'Top Hat' DIN rail
- OVR TN/RJ11-2/6, OVR TN/RJ11-4/6 and OVR TN/RJ11-6/6 are suitable for telecommunication applications in accordance with Telcordia and ANSI Standards (see Application Note OVR AN005)

Application

- For PSTN (e.g. POTS, dial-up, lease line, T1/E1, *DSL and Broadband) use TN/RJ11
- OVR TN/RJ11... are suitable for use on telephone lines with a maximum (or ringing) voltage of up to 296 Volts
- For telephone lines with RJ11 connections protect the middle 2 (of 6) conductors with OVR TN/RJ11-2/6, the middle 4 (of 6) with OVR TN/RJ11-4/6 or all 6 with OVR TN/RJ11-6/6
- For S/T interface ISDN lines, use OVR ISDN/RJ45-4/8 and OVR ISDN/RJ45-8/8
- For S/T interface ISDN lines with RJ45 connections protect the middle 4 (of 8) conductors (paired 3&6, 4&5) with OVR ISDN/RJ45-4/8, or all 8 (outside pairs 1&2, 7&8) with OVR ISDN/RJ45-8/8

For further information on RJ45 ISDN applications, see separate Application Note OVR AN002 and for global telephony applications, see separate Application Note OVR AN005 (contact us for a copy).

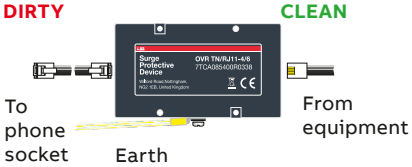
Installation

Connect in series with the telephone or ISDN line. These units are usually installed close to the equipment being protected and within a short distance of a good electrical earth.

Accessories

OVR CAT5e/UTP-1
1 metre cable with RJ45 connections

Plug-in series connection for OVR TN/RJ11-2/6, 4/6 & 6/6



Plug-in series connection for OVR ISDN/RJ45-4/8 & 8/8

NOTE: For non-ISDN wire-in applications the high performance OVR TN, OVR SLTN or OVR TNQ can be used.
Protect PBX telephone exchanges and other equipment with LSA-PLUS connections using OVR KT series.

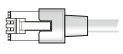
Protection and safety

Telecoms & computer line protection
OVR TN/RJ11 & ISDN/RJ45 Series

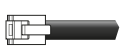
OVR TN/RJ11 & ISDN/RJ45 Series - Technical specification

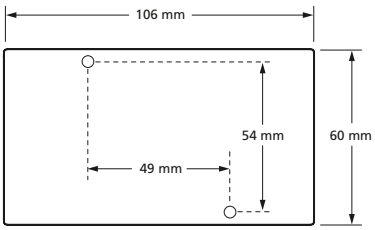
Electrical specification		**OVR TN/ RJ11-2/6**	**OVR TN/ RJ11-4/6**	**OVR TN/ RJ11-6/6**	**OVR ISDN/ RJ45-4/8**	**OVR ISDN/ RJ45-8/8**
ABB order code		7TCA085400R0337	7TCA085400R0338	7TCA085400R0339	7TCA085460R0359	7TCA085460R0360
Nominal voltage		296 V	296 V	296 V	5 V	5 V/58 V [2]
Maximum working voltage Uc [1]		296 V	296 V	296 V	58 V	58 V
Current rating (signal)		300 mA				
In-line resistance (per line ±10%)		4.4 Ω				
Bandwidth (-3 dB 50 Ω system)		20 MHz	20 MHz	20 MHz	19 MHz	19 MHz
Transient specification		**OVR TN/ RJ11-2/6**	**OVR TN/ RJ11-4/6**	**OVR TN/ RJ11-6/6**	**OVR ISDN/ RJ45-4/8**	**OVR ISDN/ RJ45-8/8**
Let-through voltage (all conductors) [3] Up						
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21	– line to line	395 V	395 V	395 V	28 V	28 V/88 V [5]
	– line to earth	395 V	395 V	395 V	88 V	88 V
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21	– line to line	390 V	390 V	390 V	23 V	23 V/63 V [5]
	– line to earth	390 V	390 V	390 V	63 V	63 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21	– line to line	298 V	298 V	298 V	26 V	26 V/65 V [5]
	– line to earth	298 V	298 V	298 V	65 V	65 V
5 kV, 10/700 µs [4]	– line to line	300 V	300 V	300 V	27 V	27 V/80 V [5]
	– line to earth	300 V	300 V	300 V	80 V	80 V
Maximum surge current [6]						
D1 test 10/350 µs to BS EN/EN/IEC 61643-21		1 kA				
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002:		10 kA				
Mechanical specification		**OVR TN/ RJ11-2/6**	**OVR TN/ RJ11-4/6**	**OVR TN/ RJ11-6/6**	**OVR ISDN/ RJ45-4/8**	**OVR ISDN/ RJ45-8/8**
Temperature range		-40 to +80 °C				
Connection type		RJ11 plug and socket	RJ11 plug and socket	RJ11 plug and socket	RJ45 plug and socket	RJ45 plug and socket
Earth connection		M4/DIN rail				
Case Material		FR Polymer UL-94 V-0				
Weight	– Unit	0.15 kg				
	– Packaged	0.2 kg				
Dimensions		See diagram below				

OVR ISDN/RJ45-4/8, 8/8
cable length: 0.5 m



OVR TN/RJ11-2/6, 4/6, 6/6
cable length: 1 m





Depth: 24 mm
Fixing centres 49 x 54 mm, M3 clearance

[1] Maximum working voltage (DC or AC peak) measured at < 10 µA leakage for OVR TN/RJ11 products and < 5 µA for OVR ISDN/RJ45 products
[2] Maximum working voltage is 5 V for pairs 3/6 & 4/5, and 58 V for pairs 1/2 & 7/8
[3] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns
[4] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45,Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)
[5] The first let-through voltage value is for pairs 3/4 & 5/6, and the second value is for pairs 1/2 & 7/8
[6] The installation and connectors external to the protector may limit the capability of the protector

Protection and safety

Data & signal protection

OVR TN, TNQ & SL TN Series

FULL MODE Bonding + Equipment Protection

OVR SLTN ULTRA SLIM 7 mm WIDTH

LPZ 0→3

ENHANCED Low let-through voltage

OVR TNQ ULTRA COMPACT 18 mm WIDTH

SIGNAL/ TELECOM TEST CAT D + C + B

LOW IN-LINE RESISTANCE

HIGH BANDWIDTH

Combined Category D, C, B tested protector (to BS EN 61643) specifically designed for telecommunications applications in accordance with Telcordia and ANSI standards (see Application Note OVR AN005). For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3. Available as standard OVR TN format, or compact OVR TNQ and Slim Line OVR SL TN versions for installations where a high number of lines require protection.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- 20 MHz bandwidth greatly exceeds VDSL2+ (50Mbps ~ 7MHz) maximum speeds
- Low in-line resistance minimizes reductions in signal strength
- Built-in DIN rail foot for simple mounting to top hat DIN rails
- Convenient earthing through DIN foot and/or earth terminal
- OVR TN can be flat mounted on base or side
- OVR TN and OVR TNQ have colour coded terminals for quick and easy installation check
- OVR SL TN has ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- OVR SL TN includes two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement
- OVR SL TN includes optional LED status indication (add L suffix to part number - i.e. OVR SL TNL)

Application

Connect in series with the signal line either near where it enters or leaves the building or close to the equipment being protected ensuring it is very close to the system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

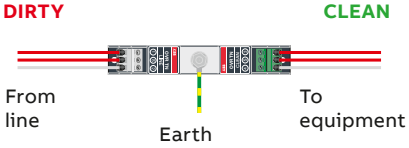
Replacement module for OVR SL TN:
OVR SLTN/M
Standard module replacement

Combined Mounting/Earthing kits for OVR RS485:
OVR CME 4 For up to 4 x OVR TN
OVR CME 8 For up to 8 x OVR TN
OVR CME 16 For up to 16 x OVR TN
OVR CME 32 For up to 32 x OVR TN

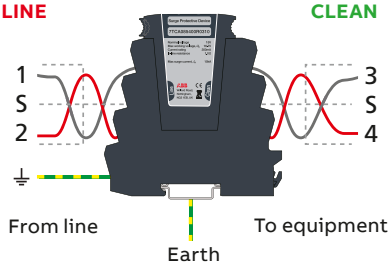
If protectors cannot be incorporated within an existing panel or enclosure, OVR WBX enclosures are available for up to 4, 8, 16 or 32 protectors and their associated OVR CME kit.

Weatherproof enclosure:
OVR WBX SLQ (OVR SLTN and OVR TNQ)

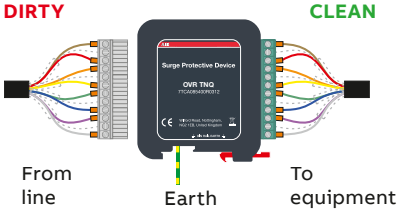
OVR TN installed in series



OVR SL TN installed in series



OVR TNQ installed in series (in-line)



NOTE: The OVR KT Series is also available for telecommunications application using LSA-PLUS disconnection modules. Plug-in solutions are also available for RJ11 connections (see OVR TN RJ11 Series).

Protection and safety

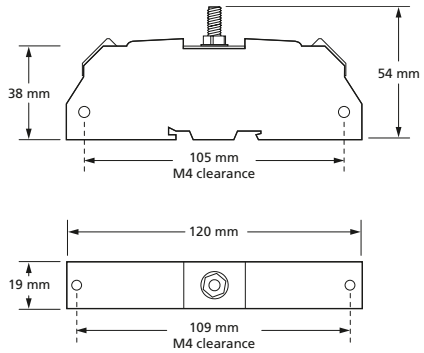
Data & signal protection

OVR TN, TNQ & SL TN Series

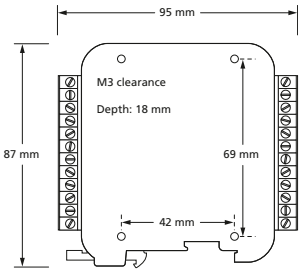
OVR TN, TNQ & SL TN Series - Technical specification

Electrical specification		OVR TN	OVR SL TN, OVR SL TNL	OVR TNQ
ABB order code		7TCA085400R0345	7TCA085400R0323, 7TCA085400R0418	7TCA085400R0344
Nominal voltage [1]		–		
Maximum working voltage Uc (RMS/DC) [2]		–/296 V		
Current rating (signal)		300 mA		
In-line resistance (per line ±10%)		4.4 Ω		
Bandwidth (-3 dB 50 Ω system)		20 MHz		
Transient specification		**OVR TN**	**OVR SL TN , OVR SL TNL**	**OVR TNQ**
Let-through voltage (all conductors) [3] Up				
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21		395 V		
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21		390 V		
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21		298 V		
5 kV, 10/700 µs [4]		300 V		
Maximum surge current				
D1 test 10/350 µs to BS EN/EN/IEC 61643-21	– Per signal wire	2.5 kA	1.25 kA	2.5 kA
	– Per pair	5 kA	2.5 kA	5 kA
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002	– Per signal wire	10 kA		
	– Per pair	20 kA		
Mechanical specification		**OVR TN**	**OVR SL TN , OVR SL TNL**	**OVR TNQ**
Temperature range		-40 to +80 °C		
Connection type		Screw terminal - max. torque 0.5 Nm	Screw terminal - max. torque 0.8 N	Pluggable 12 way screw terminal
Conductor size (stranded)		2.5 mm^2	4 mm^2	2.5 mm^2
Earth connection		M6 stud	Via DIN rail or 4 mm^2 earth terminal - max. torque 0.8 Nm	Via DIN rail or M5 threaded hole in base of unit
Case Material		FR Polymer UL-94 V-0		
Weight	– Unit	0.08 kg		0.1 kg
	– Packaged (per 10)	0.85 kg		1.3 kg
Dimensions		See diagram below		

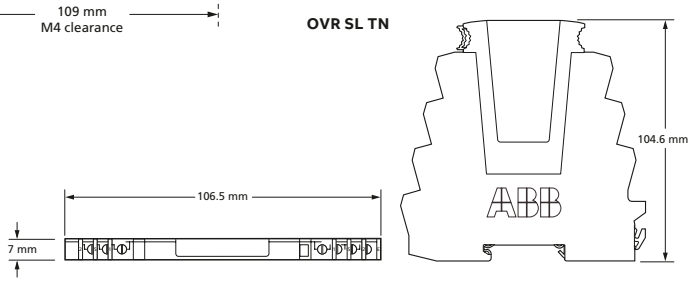
OVR TN



OVR TNQ



OVR SL TN



[1] Nominal voltage (RMS/DC or AC peak) measured at < 10 µA
[2] Maximum working voltage (RMS/DC or AC peak) measured at < 5 mA
[3] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns
[4] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45,Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

Protection and safety

Telecom & computer line protection
OVR Cat-5 & Cat-6 Series

LPZ 0→3 | FULL MODE Bonding + Equipment Protection | SIGNAL/ TELECOM TEST CAT D + C + B | ENHANCED Low let-through voltage | LOW IN-LINE RESISTANCE 1.5 Ω

HIGH CURRENT RATING | PoE+ Compliant IEEE 802.3at | PoE Modes A & B | GND | CAT6A SPEED 10Gbps

Combined Category D, C, B tested protector (to BS EN 61643) suitable to protect twisted pair Ethernet networks, including Power over Ethernet (PoE), with RJ45 connections. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Suitable for systems signalling on up to eight wires of either shielded or unshielded twisted pair cable
- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Unlike some competing devices, the ethernet SPDs provide effective protection without impairing the system's normal operation
- Low capacitance circuitry prevents the start-up signal
- degradation associated with other types of network protector
- Low in-line resistance minimizes unnecessary reductions in signal strength to maximize signalling distance
- Sturdy ABS housing with convenient holes for flat mounting, or vertically via TS35 'Top Hat' DIN rail
- Substantial earth connection to enable effective earthing
- Will protect all PoE powering modes A and B.

Application

Use these protectors on network cables that travel between buildings to prevent damage to equipment, e.g. computers, servers, repeaters and hubs. Suitable for computer networks up to Cat-6A cabling.

- To protect up to 100baseT networks with Cat-5/Cat-5e cabling use OVR Cat-5e
- To protect up to 1000baseT/10GbaseT networks with Cat-6/Cat-6A cabling use OVR Cat-6
- To protect up to 100baseT Power over Ethernet (PoE) networks with Cat-5/Cat-5e use OVR Cat-5e/PoE
- To protect up to 1000baseT/10GbaseT Power over Ethernet (PoE) networks with Cat-6/Cat-6A cabling use OVR Cat-6/PoE

For further application information, see separate Application Note OVR AN004 (contact us for a copy).

Installation

Connect in series with the network cable, either:

- Near to where it enters or leaves the building, or
- As it enters the network hub, or
- Close to the equipment being protected

This should be close to the system's earth star point (to enable a good connection to earth).

Plug-in series connection

Accessories

OVR CAT5e/UTP-1
1 metre cable with unshielded RJ45 connections

OVR CAT6/STP-2
2 metre screened cable with shielded RJ45 connections

TECHNICAL NOTE: The interfaces used in Ethernet networks incorporate an isolation transformer which gives these systems an in-built immunity to transients between line and earth of 1,500 Volts or more.

NOTE: To protect datacomms systems based on twisted pairs, use the OVR D, E or H Series. Local protection for networked equipment is also available.

Protection and safety

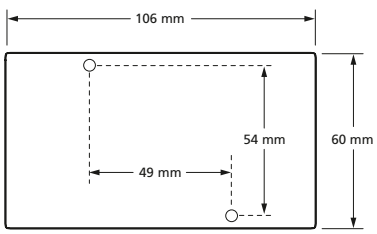
Telecom & computer line protection

OVR Cat-5 & Cat-6 Series

OVR Cat-5 & Cat-6 Series - Technical specification

Electrical Specification		OVR Cat-5e	OVR Cat-5e/PoE	OVR Cat-6	OVR Cat-6/PoE
ABB order code		7TCA085400R0289	7TCA085400R0290	7TCA085400R0291	7TCA085400R0292
Maximum working voltage Uc [1]	– data [2]	5 V			
	– power [3]	–	58 V	–	58 V
Current rating		300 mA	600 mA [4]	300 mA	600 mA [4]
In-line resistance (per line ±25%)	– data [2]	1.5 Ω			
	– power	–	1.5 Ω	–	–
Maximum data rate		100 Mbps	100 Mbps	1000 Mbps	1000 Mbps
Networking standards		10/100baseT	10/100baseT	10/100/1000/ 10GbaseT	10/100/1000/ 10GbaseT
		TIA Cat-5e	TIA Cat-5/PoE	TIA Cat-6	TIA Cat-6
		IEEE 802.3i	IEEE 802.3i	IEEE 802.3i	IEEE 802.3i
		IEEE 802.3u	IEEE 802.3u	IEEE 802.3u	IEEE 802.3u
		–	IEEE 802.3af	IEEE 802.3ab	IEEE 802.3ab
		–	IEEE 802.3at	IEEE 802.3an	IEEE 802.3an
		–	–	–	IEEE 802.3af
		–	–	–	IEEE 802.3at
Transient specification		**OVR Cat-5e**	**OVR Cat-5e/PoE**	**OVR Cat-6**	**OVR Cat-6/PoE**
Let-through voltage (all conductors) [5] Up					
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21	– line to line	120 V	120 V/116 V [8]	120 V	120 V/116 V [8]
	– line to earth [6]	700 V		900 V	900 V
C3 test 1kV/µs, 100A 10/1000 µs to BS EN/EN/IEC 61643-21	– line to line	-	-	15 V	15 V
	– pair to pair (PoE)	-	-	-	90 V
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21	– line to line	74 V	74 V/95 V [8]	74 V	74 V/95 V [8]
	– line to earth [6]	600 V			
B2 test 1kV 10/700µs, 25A 5/320µs to BS EN/EN/IEC 61643-21	– line to line	-	-	9 V	9 V
	– pair to pair (PoE)	-	-	-	85 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21	– line to line	21 V	21 V/87 V [8]	21 V	21 V/87 V [8]
	– line to earth [6]	550 V		700 V	700 V
5 kV, 10/700 µs [7]	– line to line	25 V	25 V/90 V [8]	25 V	25 V/90 V [8]
	– line to earth [6]	600 V			
Maximum surge current [9]					
D1 test 10/350 µs to BS EN/EN/IEC 61643-21	– line to line	1 kA	-	-	-
	– line to earth [6]	-	-	1 kA	1 kA
8/20 µs to ITU-T K.45:2018, IEEE C62.41.2:2002	– line to line	-	-	150 A	150 A
	– line to earth [6]	10 kA		10 kA	10 kA
Mechanical specification		**OVR Cat-5e, OVR Cat-5e/PoE**		**OVR Cat-6, OVR Cat-6/PoE**	
Temperature range		-40 to +80 °C		-40 to +80 °C	
Connection type		RJ45 sockets		RJ45 sockets	
Cable (supplied)		0.5 m Cat-5e UTP patch lead		0.5 m Cat-6 shielded patch lead[8]	
Earth connection		M4/DIN rail		M4/DIN rail	
Case Material		FR Polymer UL-94 V-0		FR Polymer UL-94 V-0	
Weight	– Unit	0.15 kg		0.15 kg	
	– Packaged	0.2 kg			
Dimensions		See diagram below		See diagram below	

[1] Maximum working voltage (DC or AC peak) measured at 1 mA leakage
[2] Data pairs 1/2 and 3/6 are protected as standard. Pairs 4/5 and 7/8 are also protected on Cat-6 barriers
[3] PoE protectors transmit power Mode A and Mode B power
[4] Based on 30W of transmitted PSE power, to IEEE 802.3at.
[5] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth. Response time <10 ns (on all protected pairs)
[6] The interfaces used in network systems incorporate an isolation transformer that inherently provides an inbuilt immunity to transients between line and earth of 1,500 Volts or more
[7] Test to IEC 61000-4-5:2014, ITU-T (formerly CCITT) K.20, K.21 and K.45,Telcordia GR-1089-CORE, Issue 6:2011, ANSI TIA/EIA/ IS-968-A:2005 (formerly FCC Part 68).
[8] The first number is for the data pair, with the second number for the power pair
[9] The installation and connectors may limit the capability of the protector



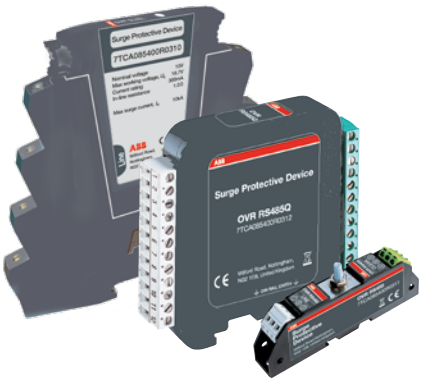
Depth: 24 mm

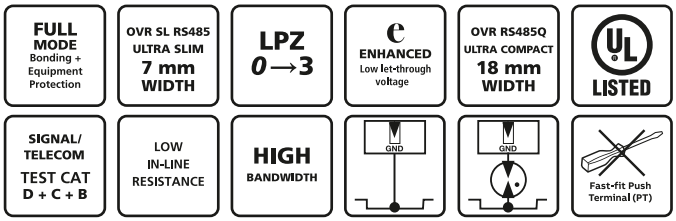
Fixing centres
49 x 54 mm,
M3 clearance

Protection and safety

Data & signal protection

OVR RS485, RS485Q & SL RS485 Series





Combined Category D, C, B tested (to IEC/EN 61643) Surge Protection Device (SPD) specifically designed for RS 485 and Fieldbus applications, such as Profibus DP. For use at boundaries up to LPZ 0 protect against flashover (typically the service entrance location) through to LPZ 3. Available as standard OVR RS485 format, or compact OVR RS485Q and Slim Line OVR SL RS485 versions for installations where a high number of lines require protection.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/ BS EN 62305) between all lines - Full Mode protection • Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- 45 MHz bandwidth greatly exceeds 12 Mbps maximum speeds
- Low in-line resistance minimizes reductions in signal strength
- Suitable for earthed or isolated screen systems
- Built-in DIN rail foot for simple mounting to top hat DIN rails
- Convenient earthing through DIN foot and/or earth terminal
- Connect screen connection ‘S’ as the 0V ground on RS485 systems
- OVR RS485 can be flat mounted on base or side
- OVR RS485 and OVR RS485Q have colour coded terminals for quick and easy installation check
- OVR SL RS485 has ultra slim 7 mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- OVR SL RS485 includes two stage removable protection module with simple quick release mechanism allowing partial removal for easy line commissioning and maintenance as well as full removal for protection replacement
- OVR SL RS485 includes optional LED status indication. Add L suffix to part number - i.e. OVR SL RS485L
- OVR RS485Q and OVR RS485Q/PT have UL497B approval under file E240341

Application

Connect in series with the signal line either near where it enters or leaves the building or close to the equipment being protected ensuring it is very close to the system’s earth star point. Install SPDs either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

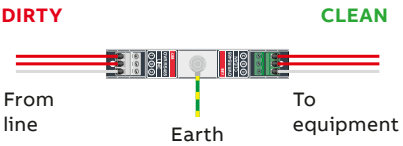
Replacement module for OVR SL RS485:
OVR SLRS485/M
Standard module replacement
OVR SLRS485/B
Base replacement

Combined Mounting/Earthing kits for OVR RS485:
OVR CME 4 For up to 4 x OVR RS485
OVR CME 8 For up to 8 x OVR RS485
OVR CME 16 For up to 16 x OVR RS485
OVR CME 32 For up to 32 x OVR RS485

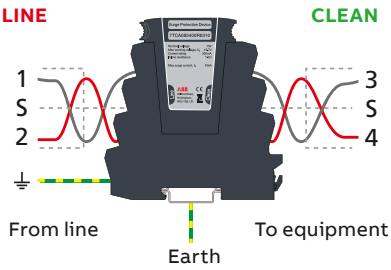
If protectors cannot be incorporated within an existing panel or enclosure, OVR WBX enclosures are available for up to 4, 8, 16 or 32 protectors and their associated OVR CME kit.

Weatherproof enclosure:
OVR WBX SLQ (OVR SL RS485 and OVR RS485Q)

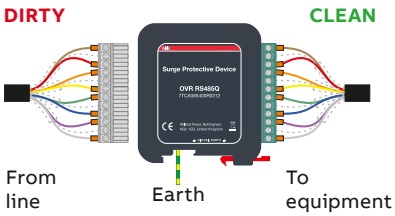
OVR RS485 installed in series



OVR SL RS485 installed in series



OVR RS485Q installed in series (in-line)



NOTE: The OVR SL ‘Slim Line’ Series is also available for protection of 3-wire and RTD applications (OVR SL/3W & OVR SL RTD).
The OVR SL X Series has approvals for use in hazardous areas.

Protection and safety

Data & signal protection

OVR RS485, RS485Q & SL RS485 Series

OVR Q Series - Technical specification

Electrical specification		OVR RS485 Series	OVR SL RS485 Series	OVR RS485Q Series
Nominal voltage[1]		15 V		
Maximum working voltage *Uc* (RMS/DC)[2]		11 V / 16.7 V		
Current rating (signal)		300 mA		
In-line resistance (per line ±10%)		1 Ω		
Bandwidth (-3 dB 50 Ω system)		45 MHz		
Transient specification				
Let-through voltage (all conductors)[3] *Up*				
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21		55.0 V		
C1 test 1 kV, 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21		42.0 V		
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21		27.2 V		
5 kV, 10/700 µs[4]		28.2 V		
Maximum surge current				
D1 test 10/350 µs to BS EN/EN/IEC 61643-21:	– Per signal wire 2.5 kA – Per pair	2.5 kA 5 kA	1.25 kA 2.5 kA	2.5 kA 5 kA
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002:	– Per signal wire – Per pair	10 kA 20 kA		
Mechanical specification				
Temperature range		-40 to +80 ºC		
Connection type		Screw terminal - max. torque 0.5 Nm	Screw terminal - max. torque 0.8 N	Pluggable 12 way screw terminal /PT version: Pluggable 12 way screwless Push Terminal
Conductor size (stranded)		2.5 mm²	4 mm²	2.5 mm²
Earth connection		M6 stud	Via DIN rail or 4 mm² earth terminal - max. torque 0.8 Nm	Via DIN rail or M5 threaded hole in base of unit
Case Material		FR Polymer UL-94 V-0		
Weight: – Unit		0.08 kg	0.08 kg	0.1 kg
Dimensions		See diagrams below		

[1] Nominal voltage (RMS/DC or AC peak) measured at < 10 µA
[2] Maximum working voltage (RMS/DC or AC peak) measured at < 5 mA
[3] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth, both polarities. Response time < 10 ns
[4] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45,Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

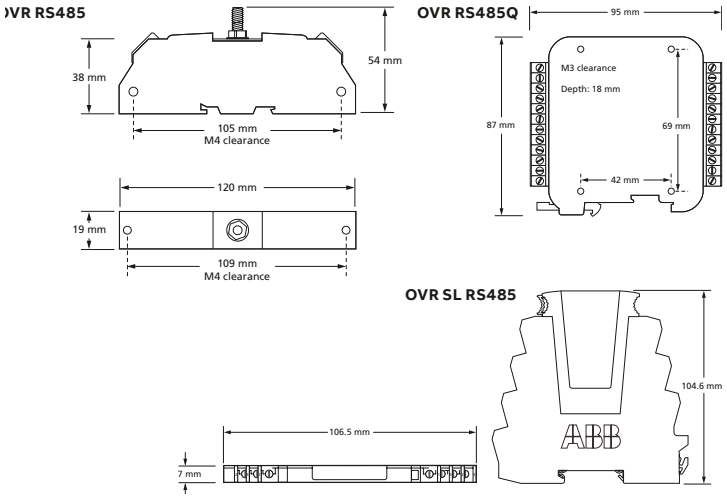


ABB order codes

Part	ABB order code	Part	ABB order code	Part	ABB order code
OVR RS485	7TCA085400R0311	**OVR RS485Q(UL)**	7TCA085400R0572	**OVR CME8**	7TCA085400R0415
OVR SLRS485/B	7TCA085400R0316	**OVR RS485Q/PT(UL)**	7TCA085400R0579	**OVR CME32**	7TCA085410R0046
OVR SLRS485	7TCA085400R0310	**OVR SLRS485/M**	7TCA085400R0317	**OVR WBXSLQ**	7TCA085400R0326
OVR SLRS485L	7TCA085400R0417	**OVR SLRS485L/M**	7TCA085400R0470	**OVR WBXSLQ/G**	7TCA085400R0327
OVR SLRS485(UL)	7TCA085400R0551	**OVR SLRS485L/M(UL)**	7TCA085400R0600	**WBX 4**	7TCA085410R0027
OVR SLRS485L(UL)	7TCA085400R0552	**OVR CME4**	7TCA085400R0414	**WBX 8**	7TCA085410R0030
OVR RS485Q	7TCA085400R0312	**OVR CME16**	7TCA085410R0045	**WBX 16/2/G**	7TCA085410R0020

Protection and safety
Specific systems protection
OVR RF Series

FULL MODE Bonding + Equipment Protection | LPZ 0→3 | ENHANCED Low let-through voltage | SIGNAL/ TELECOM TEST CAT D + C + B | HIGH BANDWIDTH

Combined Category D, C, B tested protector (to BS EN 61643) suitable for RF systems using coaxial cables at frequencies between DC and 2.7 GHz and where DC power is present. Suitable for RF systems with power up to 1.9 kW. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- Wide bandwidth means a single product is suitable for a range of applications
- Very low attenuation and near unity VSWR over a wide range of frequencies ensure the protectors do not impair system performance
- Available with N, 7/16 DIN and BNC connectors
- Easily mounted and earthed via fixtures on the base of the unit that accept M3 and M5 screws or via mounting brackets
- Additional mounting plates give increased flexibility
- Robust aluminium housing

Application

Use on coaxial cables to protect RF transmitter and receiver systems, including electronics located at the antenna or dish. Typical examples include cell sites, military communications, satellite earth stations, pager systems and emergency services communications systems.

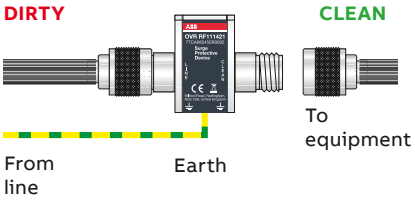
Installation

In a building, connect in series with the coaxial cable near where it enters or leaves the structure, or close to the equipment being protected. This should be as close as possible to the system's earth star point (to enable a good connection to earth). On a mast, connect in series with the coaxial cable near the antenna/dish being protected. Install in a radio communications room, an existing cabinet or a suitable enclosure.

Accessories

OVR RF BK1 Straight mounting plates
OVR RF BK2 90° angled mounting plates
OVR RF BK3 Bulkhead through mounting plate (single)
OVR RF BK4 Bulkhead through mounting plate (for 4 products)
OVR RF GDT-4 Replacement gas discharge tube

OVR RF 111421 with N female connectors installed in series



NOTE: These protectors are based on a continuous transmission line with a GDT connected between this line and screen/earth, and are suited for applications where DC is required to pass to the equipment. OVR CCTV/B and OVR CCTV/T are suitable for use on coaxial (or twisted pair) CCTV lines.
For coaxial CATV lines, use the OVR CATV/F.

Protection and safety
Specific systems protection
OVR RF Series

OVR RF Series - Technical specification

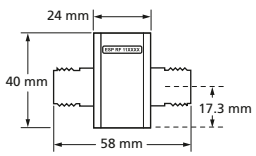
Electrical specification		OVR RF 111421	OVR RF AA1421	OVR RF 441421
Gas Discharge Tube voltage		350 V		
Maximum working voltage Uc (RMS)		200 V		
Characteristic impedance		50 Ω		
Capacitance (@ 1 MHz)		< 5 pF		
Bandwidth		DC-2.7 GHz		
Voltage standing wave ratio		≤ 1.1		
Insertion loss over bandwidth		≤ 0.1 dB		
Maximum power [1]		650 W		
Transient specification		**OVR RF 111421**	**OVR RF AA1421**	**OVR RF 441421**
Let-through voltage (all conductors) [2] Up				
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21		< 800 V		
C1 test 1 kV 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21		< 650 V		
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21		< 550 V		
5 kV, 10/700 µs [3]		< 580 V		
Maximum surge current [4]				
D1 test 10/350 µs to BS EN/EN/IEC 61643-21		2.5 kA		
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002		20 kA		
Mechanical specification		**OVR RF 111421**	**OVR RF AA1421**	**OVR RF 441421**
ABB order code		7TCA085450R0065	7TCA085450R0063	7TCA085450R0066
Temperature range		-40 to +80 °C		
Connection type		N female	7/16 DIN female	BNC female
Conductor size (stranded)		Via mounting fixtures		
Case Material		Aluminium body, nickel plated. Brass connectors, white bronze plated		
Weight	– Unit	120 g	190 g	90 g
	– Packaged	140 g	210 g	110 g
Dimensions		See diagram below		

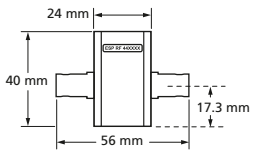
OVR RF BK1 (ABB order code: 7TCA085400R0416)
Straight mounting bracket, 53 x 26.3 x 3 mm
2 x M4 clearance mounting holes, 16.3 mm apart

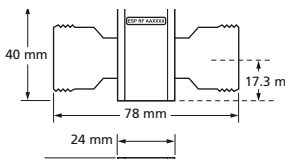
OVR RF BK2 (ABB order code: 7TCA085400R0064)
90° mounting bracket, 33 x 26.3 x 3 mm, 20 x 26.3 x 3 mm
2 x M4 clearance mounting holes, 16.3 mm apart, 14 mm from fold line

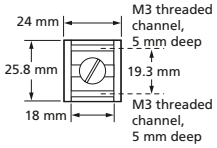
OVR RF BK3 (ABB order code: 7TCA085400R0412)
90° mounting bracket, 50 x 24 x 1.5 mm, 60 x 24 x 1.5 mm
2 x M5 clearance mounting holes, 40 mm apart

OVR RF BK4 (ABB order code: 7TCA085400R0413)
90° quad mounting bracket, 50 x 24 x 1.5 mm, 210 x 24 x 1.5 mm
5 x M5 clearance mounting holes, various spacings
Mounting brackets supplied with screws for fixing to protector







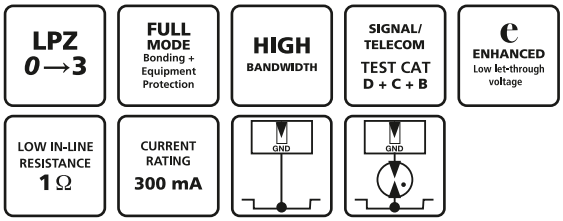


[1] Power levels have been de-rated to allow for real life 'worst case' conditions, calculated with VSWR as 2:1
[2] The maximum transient voltage let-through of the protector throughout the test (±10%) (±10%). Response time < 10 ns. This let-through voltage represents a deviation from the applied signal voltage, present at the time of the test
[3] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)
[4] The installation and connections external to the protector may limit the capability of the protector

Protection and safety

Specific systems protection

OVR CCTV Series



Combined Category D, C, B tested protector (to BS EN 61643) suitable for coaxial CCTV cables with BNC connectors (OVR CCTV/B) or twisted pair CCTV lines (OVR CCTV/T) on systems with either an earthed or an isolated screen. Not suitable for use on broadcast, satellite or cable TV systems. For use at boundaries up to LPZ 0 to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Full Mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- Repeated protection in lightning intense environments
- 100 MHz bandwidth prevents the degradation of high frequency signals
- Low in-line resistance to minimize unnecessary reductions in signal strength and maximizes signalling distance
- Very low reflection coefficient/VSWR ensure that the protector doesn't disrupt system operations
- Suitable for either earthed or isolated screen systems
- Sturdy, conductive ABS housing for 2 way shielding - preventing emissions & providing signals with immunity from external interference
- Convenient holes for flat mounting on base or side
- Built-in DIN rail foot for easy installation on a top hat DIN rail
- OVR CCTV/T has colour coded terminals for a quick and easy installation check - grey for the dirty (line) end and green for the clean end
- Substantial earth stud to enable effective earthing
- Integral earthing plate for enhanced connection to earth via OVR CME kit

Application

Use these protectors on the video cable to outdoor CCTV cameras and central control and monitoring equipment.

Installation

Connect in series with the CCTV cable in a convenient place close to the equipment being protected. For outdoor CCTV cameras, protectors should be mounted in the junction box, or in a separate enclosure, close to the camera. Protect central control and monitoring equipment inside the building by installing protectors on all incoming or outgoing lines, either:

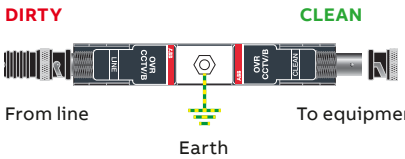
a) near where they enter or leave the building, or

b) close to the equipment being protected (or actually within its control panel).

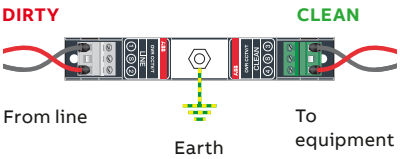
Accessories

When CCTV protectors are installed in groups, or alongside protectors for signal and mains power lines, these can be mounted and earthed simultaneously on a OVR CME kit. An OVR CME 4 will accommodate the video, telemetry and power protectors to a camera. If protectors cannot be incorporated within an existing panel or enclosure, OVR WBX enclosures are available for up to 4, 8, 16 or 32 protectors and their associated OVR CME kit. The OVR WBX 4/GS is a secure IP66 enclosure suitable for a OVR CME 4 and associated protectors.

Series connection for OVR CCTV/B



Series connection for OVR CCTV/T



NOTE: Camera telemetry or control lines should be protected with a suitable Lightning Barrier from the OVR D or E Series. Protectors for the power supply to individual cameras (e.g. OVR 240-16A) and the mains supply to the control room are available. For coaxial RF (OVR RF Series) cable protectors and CATV systems (OVR CATV/F) are also available.

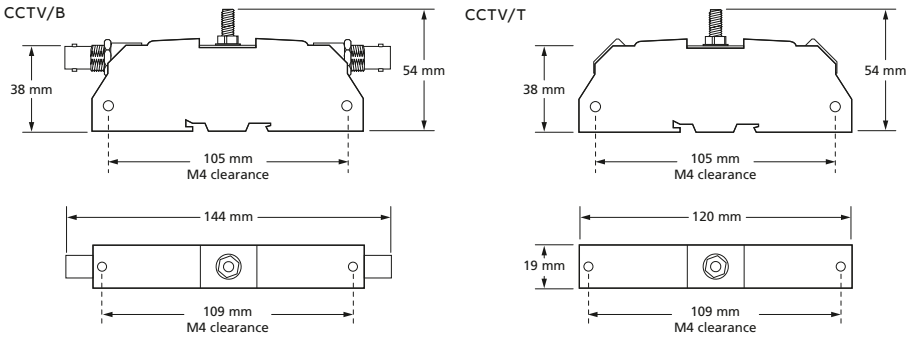
Protection and safety

Specific systems protection

OVR CCTV Series

OVR CCTV Series - Technical specification

Electrical specification		OVR CCTV/B	OVR CCTV/ B-15V	OVR CCTV/ B-30V	OVR CCTV/ B-50V	OVR CCTV/T	OVR CCTV/T-15V	OVR CCTV/ T-30V	OVR CCTV/ T-50V
ABB order code		7TCA085400R0296	7TCA085400R0297	7TCA085400R0299	7TCA085400R0300	7TCA085400R0301	7TCA085400R0302	7TCA085400R0298	7TCA085400R0303
Nominal voltage [1] (peak-peak)		1 V				2 V			
Maximum working voltage Uc [2] (peak)		7.79 V	16.7 V	36.7 V	56.7 V	7.79 V	16.7 V	36.7 V	56.7 V
Current rating (signal)		300 mA							
In-line resistance (±10%)		1 Ω inserted in coax inner			1 Ω per line				
Bandwidth (-3 dB 75 Ω system) [3]		> 100 MHz							
Voltage standing wave ratio		< 1.2:1							
Transient specification		**OVR CCTV/B**	**OVR CCTV/ B-15V**	**OVR CCTV/ B-30V**	**OVR CCTV/ B-50V**	**OVR CCTV/T**	**OVR CCTV/T-15V**	**OVR CCTV/ T-30V**	**OVR CCTV/ T-50V**
Let-through voltage (all conductors)(4) Up									
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21		39.5 V	55.0 V	78.0 V	105.0 V	39.5 V	55.0 V	78.0 V	105.0 V
C1 test 1 kV 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21		26.0 V	42.0 V	66.5 V	93.5 V	26.0 V	42.0 V	66.5 V	93.5 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21		16.0 V	27.2 V	47.5 V	73.6 V	16.0 V	27.2 V	47.5 V	73.6 V
5 kV, 10/700 µs [5]		17.0 V	28.2 V	49.5 V	76.2 V	17.0 V	28.2 V	49.5 V	76.2 V
Maximum surge current [6]									
D1 test 10/350 µs to BS EN/EN/IEC 61643-21	– Per signal wire	2.5 kA				2.5 kA			
	– Per pair	–				5 kA			
8/20 µs to ITU (formerly CCITT)	– Per signal wire	10 kA				10 kA			
	– Per pair	–				20 kA			
Mechanical specification		**OVR CCTV/B variants**				**OVR CCTV/T variants**			
Temperature range		-40 to +80 °C							
Connection type		Coaxial BNC female				Screw terminal			
Conductor size (stranded)		Not applicable				2.5 mm^2			
Earth connection		M6 stud							
Case Material		ABS UL94 V-0				ABS UL94 V-0			
Weight	– Unit	0.08 kg							
	– Packaged	0.9 kg							
Dimensions		See diagram below							



[1] Nominal voltage (DC or AC peak) measured at < 10 µA leakage
[2] Maximum working voltage (DC or AC peak) measured at 5 mA leakage
[3] Capacitance < 30 pF
[4] The maximum transient voltage let-through of the protector throughout the test (±10%), line to line & line to earth. Screen to earth let-through voltage will be up to 600 V (with 5 kV 10/700 test), when protector is configured for use with non-earthed or isolated screen systems. Response time < 10 ns
[5] Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45,Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)
[6] The installation and connectors external to the protector may limit the capability of the protector

Protection and safety

Mains power protection

OVR 240-16A

FULL MODE Bonding + Equipment Protection

MAINS TEST TYPE 2 + 3

ENHANCED Low let-through voltage

LPZ 1→3

Combined Type 2 and 3 tested protector (to BS EN 61643) for use on low current (up to 16 A) single phase systems to protect connected electronic equipment from transient overvoltages on the mains supply, e.g. CCTV systems, fire/intruder alarm panels.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all sets of conductors (phase to neutral, phase to earth, neutral to earth - Full Mode protection) allowing continuous operation of equipment
- Repeated protection in lightning intense environments
- Compact size for easy incorporation in the protected system
- Removable DIN rail foot for simple clip-on mounting to top hat DIN rails
- Colour coded terminals give a quick and easy installation check - grey for the dirty (line) end and green for the clean end
- Robust housing and substantial earth stud fixing holes ready for flat mounting
- Maintenance free

Application

Use these protectors on low current mains power supplies, e.g. CCTV cameras, alarm panels and telemetry equipment.

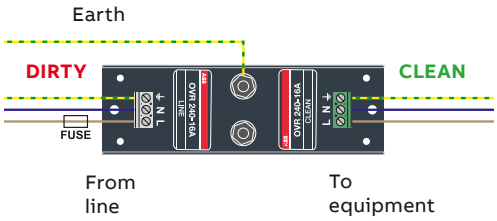
Installation

Connect in-line with the power supply usually either within the equipment panel (or for CCTV cameras, in an enclosure close by), or on the fused connection that supplies equipment. To protect equipment inside a building from transients entering on an outgoing feed (e.g. to CCTV cameras or to site lighting) the protector should be installed as close to where the cable leaves the building as possible. Protectors should be installed either within an existing cabinet/cubicle or in a separate enclosure.

Accessories

If several OVR 240-16A protectors are to be installed together, or if one is in use alongside OVR SPDs for video or signal lines, these can be simultaneously mounted and earthed on a OVR CME kit and housed in a suitable OVR WBX enclosure.

Connect in-line on supplies fused up to 16 A. Note how the protector can also be earthed from its earth stud.



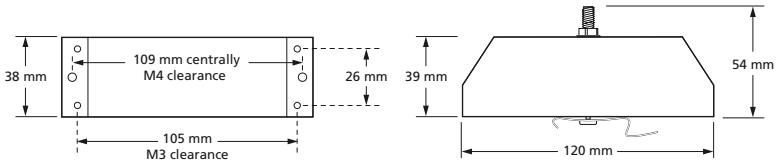
Protection and safety

Mains power protection

OVR 240-16A

OVR 240-16A - Technical specification

Electrical specification		**OVR 240-16A**
ABB order code		7TCA085460R0361
Nominal voltage - Phase-Neutral Uo (RMS)		240 V
Maximum voltage - Phase-Neutral Uc (RMS)		280 V
Working voltage (RMS)		200-280 V
Frequency range		47-63 Hz
Current rating (supply)		16 A or less
Max. back-up fuse (see installation instructions)		≤ 16 A
Leakage current (to earth)		< 0.5 mA
Transient specification		**OVR 240-16A**
Type 2 (BS EN/EN), Class II (IEC)		
Nominal discharge current 8/20 µs (per mode) In		5 kA
Let-through voltage Up at In [1]		750 V
Maximum discharge current Imax (per mode) [2]		10 kA
Type 3 (BS EN/EN), Class III (IEC)		
Let-through voltage at Uoc of 6 kV 1.2/50 µs and Isc of 3 kA 8/20 µs (per mode) [1, 3]		600 V
Electrical specification		OVR 240-16A
Temperature range		-40 to +80 °C
Connection type		Screw terminal - maximum torque 0.5 Nm
Conductor size (stranded)		4 mm²
Earth connection		Via M6 stud or earth terminal -maximum torque 0.5 Nm
Degree of protection (IEC 60529)		IP20
Case material		Steel
Weight	– Unit	0.23 kg
	– Packaged	0.25 kg
Dimensions		See diagrams below



[1] The maximum transient voltage let-through of the protector throughout the test (±10%), phase to neutral, phase to earth and neutral to earth

[2] The electrical system, external to the unit, may constrain the actual current rating achieved in a particular installation

[3] Combination wave test within IEC/BS EN 61643, IEEE C62.41-2002 Location Cats C1 & B3, SS 555:2010, AS/NZS 1768-2007, UL 1449 mains wire-in

Protection and safety

Specific systems protection

OVR TV Series

LPZ 0→3 | FULL MODE Bonding + Equipment Protection | SIGNAL/ TELECOM TEST CAT D + C + B | ENHANCED Low let-through voltage | HIGH BANDWIDTH

Combined Category D, C, B tested protector (to BS EN 61643) suitable to protect Cable, Terrestrial and Satellite TV systems. For use on lines running within buildings at boundaries up to LPZ 0 to through to LPZ 3 to protect sensitive electronic equipment.

Features & benefits

- Very low let-through voltage (enhanced protection to IEC/BS EN 62305) between all lines - Full Mode protection
- Low attenuation and high return loss over a wide range of frequencies ensures the protectors do not impair system performance
- Substantial earth termination
- Supplied ready for flat mounting
- Strong metal housing

Application

Use to protect analogue and digital Cable, Terrestrial and Satellite TV installations. OVR CATV/F, OVR MATV/F, OVR SMATV/F and OVR TV/F are suitable for systems using F connectors. OVR TV/EURO is suitable for systems using EURO-TV connectors.

- For protecting terrestrial antenna feeds use OVR TV/F or OVR TV/EURO
- For protecting satellite feeds use OVR SMATV/F
- For protecting distributed combined TV feeds use OVR MATV/F
- For protecting cable TV feeds use OVR CATV/F

For further information on TV applications, see separate Application Note OVR AN006 (contact us for a copy).

Installation

Connect in series with the coaxial cable either near where it enters or leaves each building or close to equipment being protected.

NOTE: Protectors for coaxial (or twisted pair) CCTV Lines are available. For coaxial RF lines, use the OVR RF Series. Transients can also be conduced into TV systems via the mains power supplies - use suitable OVR mains protection.

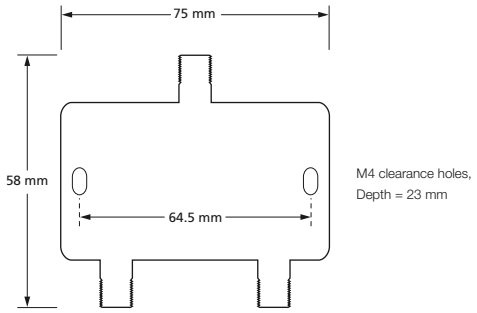
Protection and safety

Specific systems protection

OVR TV Series

OVR TV Series - Technical specification

Electrical specification		**OVR CATV/F**	**OVR MATV/F**	**OVR SMATV/F**	**OVR TV/F**	**OVR TV/EURO**
ABB order code		7TCA085400R0293	7TCA085400R0308	7TCA085400R0336	7TCA085400R0335	7TCA085400R0334
Maximum working voltage(1)		140 V	18.9 V	18.9 V	6.4 V	6.4
Maximum operating current		4 A	800 mA	800 mA	300 mA	300 mA
Characteristic impedance		75 Ω				
Bandwidth		5-860 MHz	5-3224 MHz	860-3224 MHz	5-860 MHz	5-860 MHz
Insertion loss	– 5-860 MHz	< 0.5 dB	< 0.3 dB	–	< 0.3 dB	< 0.3 dB
	– 860-2150 MHz	–	< 1.5 dB	< 1.5 dB	–	–
	– 2150-3224 MHz	–	< 2.2 dB	< 2.2 dB	–	–
Return loss (VSWR)	– 5-860 MHz	> 20 dB (< 1.2:1)	> 32 dB (< 1.05:1)	–	> 32 dB (< 1.05:1)	> 32 dB (< 1.05:1)
	– 860-2150 MHz	–	> 20 dB (< 1.2:1)	> 20 dB (< 1.2:1)	–	–
	– 2150-3224 MHz	–	< 2.2 dB	< 2.2 dB	–	–
Transient specification		**OVR CATV/F**	**OVR MATV/F**	**OVR SMATV/F**	**OVR TV/F**	**OVR TV/EURO**
Let-through voltage (all conductors)(2) Up						
C2 test 4 kV 1.2/50 µs, 2 kA 8/20 µs to BS EN/EN/IEC 61643-21		270 V	70 V	70 V	65 V	65 V
C1 test 1 kV 1.2/50 µs, 0.5 kA 8/20 µs to BS EN/EN/IEC 61643-21		265 V	60 V	60 V	50 V	50 V
B2 test 4 kV 10/700 µs to BS EN/EN/IEC 61643-21		245 V	45 V	45 V	30 V	30 V
5 kV, 10/700 µs(3)		250 V	50 V	50 V	35 V	35 V
Maximum surge current						
8/20 µs to ITU-T K.45:2003, IEEE C62.41.2:2002		3 kA				
D1 test 10/350 µs to BS EN/EN/IEC 61643-21		500 A	750 A	750 A	750 A	750 A
Mechanical specification		**OVR CATV/F**	**OVR MATV/F**	**OVR SMATV/F**	**OVR TV/F**	**OVR TV/EURO**
Temperature range		-40 to +80 ºC				
Connection type		F female				Euro-TV
Earth connection		~ 9.5 mm (3/8”) diameter earth stud				
Case Material		Diecast				
Weight	– Unit	0.14 kg				
	– Packaged	0.15 kg				
Dimensions		See diagram below				



(1) Maximum working voltage (DC or AC peak) measured at < 5 µA (OVR CATV/F) and < 50 mA (OVR MATV/F, OVR SMATV/F, OVR TV/EURO, OVR TV/F)

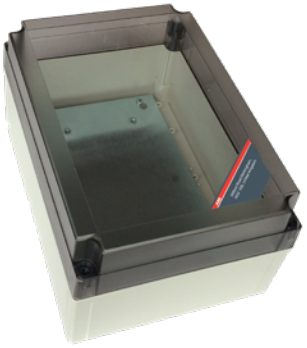
(2) The maximum transient voltage let-through of the protector throughout the test (±10%) line to earth. Response time < 10 ns

(3) Test to IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45,Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

Protection and safety

Protector accessories

OVR WBX Series



OVR WBX Series

OVR WBX Series

A range of moisture and dirt resistant enclosures for the convenient installation of any OVR protector. For signalling applications they can be used with their associated OVR CME with grey base and either a see-through or grey (part number/G or/GS) lid.

Features & benefits

- Tough polycarbonate enclosures
- Weatherproof with IP resistance to dirt and water of IP56 or more
- Clear lid enables easy visual inspection of the protector's visual status indication (OVR WBX 4, OVR WBX 8)
- Grey lid for applications not needing regular protector inspection (OVR WBX 4/GS, OVR WBX 8/GS and OVR WBX 16/2/G)
- For external CCTV and other installations requiring added security the OVR WBX 4/GS and OVR WBX 8/GS are supplied with an opaque lid and special secure head screws (plus tool)
- Supplied complete with metal base (mounting) plate with pre-prepared mounting positions and fixing hardware for easy installation

Application

Use OVR WBX enclosures when your OVR protector(s) can't be installed within the existing equipment panel or enclosure and for added protection in damp and dirty environments.

Installation

The protector(s), or OVR CME kit, are mounted on the metal base plate, which in turn mounts in the enclosure.

OVR WBX Series - Technical specification

Enclosure part no.	For use with following protectors
OVR WBX 4 or the secure OVR WBX 4/GS	1 OVR CME 4 and associated protectors
OVR WBX 8 or the secure OVR WBX 8/GS	1 OVR CME 8 and associated protectors
OVR WBX 16/2/G	1 or 2 OVR CME 16 and associated protectors
OVR WBX SLQ or OVR WBX SLQ/G	Up to 6 x OVR**Q, or up to 15 x OVR SL**

		OVR WBX 4 OVR WBX 4/GS	OVR WBX 8 OVR WBX 8/GS	OVR WBX 16/2/G	OVR WBX SLQ OVR WBX SLQ/G
ABB Order Code		7TCA085410R0048 7TCA085410R0049	7TCA085410R0050 7TCA085410R0051	7TCA085410R0047	7TCA085400R0326 7TCA085400R0327
Weight	– Unit	0.9 kg	1.3 kg	6.4 kg	0.7 kg
	– Packaged	0.95 kg	1.35 kg	7.6 kg	1.0 kg
Dimensions					
Length	– Internal	246 mm	225 mm	460 mm	230 mm
	– External	255 mm	235 mm	474 mm	250 mm
Width	– Internal	171 mm	225 mm	380 mm	105 mm
	– External	180 mm	235 mm	396 mm	125 mm
Depth	– Internal	119 mm	100 mm	120 mm	110 mm
	– External	125 mm	117 mm	128 mm	125 mm
Fixing centres (mm)		240 x 165	215 x 215	380 x 310	235 x 110
IP rating		IP66	IP66	IP56	IP67
Temperature range		-15 to +75 °C	-15 to +75 °C	-25 to +60 °C	-40 to +80 °C
Flammability		UL 94 V2	UL 94 V2	UL 94 V0	UL 746C 5V

Protection and safety

Protector accessories

OVR CME Series

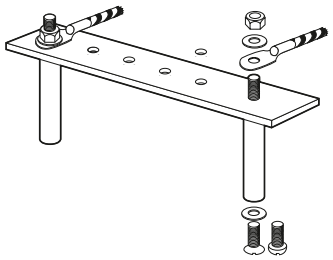
OVR CME Series

OVR CME Series

Enables groups of protectors to be simultaneously mounted and earthed via their earth stud. Suitable for installing protectors with one or two earth studs on their top face. Available with 4, 8, 16 and 32 mounting holes.

Features & benefits

- Enables quick and easy installation of protectors for added convenience
- Speedy installation of groups of protectors saves time and money
- Individual protectors can be changed without needing to remove others
- Sturdy construction
- Supplied with a choice of flat and round ended fixing screws to suit your application



Assembly of OVR CME kit
Earth connection (not supplied)

Application

Use OVR CME kits to simultaneously mount and earth groups of single and double earth stud protectors. Each single earth stud protector requires one OVR CME mounting position and each double earth stud protector requires two OVR CME mounting positions, this includes:

- High conductivity copper with electro-tin plating and nylon insulating pillars, for low impedance to earth

Single earth stud protectors which are:

– OVR 06D	– OVR 06E	– OVR 06H	– OVR TN
– OVR 15D	– OVR 15E	– OVR 15H	– OVR RTD
– OVR 30D	– OVR 30E	– OVR 30H	– OVR CCTV/B
– OVR 50D	– OVR 50E	– OVR 50H	– OVR CCTV/T
– OVR 110D	– OVR 110E	– OVR 110H	– OVR RS485

Double earth stud protectors which are:

– OVR 240-16A

Once you know how many OVR CME mounting positions you require choose a OVR CME kit to suit:

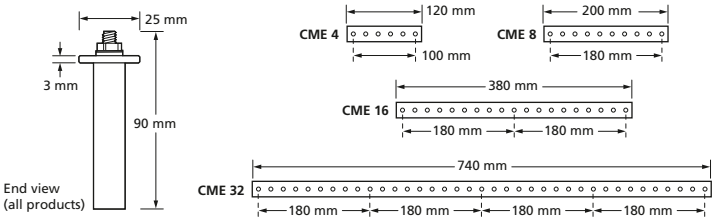
– OVR CME 4 has 4 mounting positions
– OVR CME 8 has 8 mounting positions
– OVR CME 16 has 16 mounting positions
– OVR CME 32 has 32 mounting positions

Accessories

Enclosures suitable for a OVR CME 4 and its associated protectors: **(OVR WBX 4/GS)**, **OVR CME 8** and protectors **(OVR WBX 8/GS)** or one or two **OVR CME 16** and protectors **(OVR WBX 16/2/G)**

Installation

The earth bar is supported by a series of mounting pillars (which are fixed to the cubicle or box base). Protectors are attached to the OVR CME's earth bar via their earth stud(s) and earthed with shared connections to earth. We suggest one earth connection per mounting pillar.



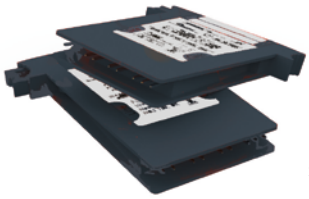
OVR CME Series - Technical specification

	OVR CME 4	OVR CME 8	OVR CME 16	OVR CME 32
ABB order code	7TCA085400R0414	7TCA085400R0415	7TCA085410R0045	7TCA085410R0046
Hole size	6.5 mm with 20 mm spacings			
Weight	0.1 kg	0.15 kg	0.3 kg	0.6 kg
Dimensions	See diagram opposite			

Protection and safety

Protector accessories

Accessories



Slim Line replacement base/module

Slim Line replacement base/module

Replacement: Base & module for the Slim Line Series of protectors

Part no. ABB Order Code	Description
Slim Line protector replacement base	
OVR SL/B 7TCA085400R0320	For use with standard and 4-20 mA Slim Line Series
OVR SL/I/B 7TCA085400R0321	Isolated screen version for use with standard and 4-20 mA Slim Line Series
OVR SLX/B 7TCA085400R0325	For use with Slim Line Intrinsically Safe (ATEX) Series
OVR SLX/I/B 7TCA085400R0374	Isolated screen version for use with Slim Line Intrinsically Safe (ATEX) Series
OVR SL/3W/B 7TCA085400R0319	For use with Slim Line 3-wire Series
OVR SLRTD/B 7TCA085400R0318	For use with Slim Line RTD Series
OVR SL RS485/B 7TCA085400R0316	For use with Slim Line RS485 Series
Slim Line protector replacement module	
OVR SLXX/M	For use with Slim Line Series - replace 'XX' with relevant voltage, i.e. 06, 15, 30, 50, 110
OVR SL06/M (7TCA085400R0375), OVR SL15/M (7TCA085400R0376), OVR SL30/M (7TCA085400R0377), OVR SL50/M (7TCA085400R0378), OVR SL110/M (7TCA085400R0379)	
OVR SLTN/M 7TCA085400R0324	For use with Slim Line TN Series
OVR SL15X/M 7TCA085400R0380	For use with Slim Line Instrinsically Safe (ATEX) Series, 15 V
OVR SL30X/M 7TCA085400R0381	For use with Slim Line Instrinsically Safe (ATEX) Series, 30 V
OVR SLRTD/M 7TCA085400R0322	For use with Slim Line RTD Series
OVR SLRS485/M 7TCA085400R0317	For use with Slim Line RS485 Series
Slim Line LED protector replacement module	
OVR SLXXL/M	For use with Slim Line LED Series - replace 'XX' with relevant voltage, i.e. 06, 15, 30, 50, 110
OVR SL06L/M (7TCA085400R0399), OVR SL15L/M (7TCA085400R0411), OVR SL30L/M (7TCA085400R0400), OVR SL50L/M (7TCA085400R0401), OVR SL110L/M (7TCA085400R0402)	
OVR SL30L/4-20/M 7TCA085400R0373	For use with Slim Line LED Series, 4-20 mA
OVR SL15XL/M 7TCA085400R0404	For use with Slim Line Instrinsically Safe (ATEX) LED Series, 15 V
OVR SL30XL/M 7TCA085400R0403	For use with Slim Line Instrinsically Safe (ATEX) LED Series, 30 V
OVR SLXX/3W/M	For use with Slim Line 3-wire LED Series – replace 'XX' with relevant voltage, i.e. 06, 15, 30, 50, 110
OVR SL06/3W/M (7TCA085400R0405), OVR SL15/3W/M (7TCA085400R0406), OVR SL30/3W/M (7TCA085400R0407), OVR SL50/3W/M (7TCA085400R0409), OVR SL110/3W/M (7TCA085400R0408)	
OVR SLTNL/M 7TCA085400R0468	For use with Slim Line TN LED Series

OVR RF mounting plates

OVR RF mounting plates

Use with: Any ESP RF protector to assist installation

Part no. ABB Order Code	Description
OVR RF BK1 7TCA085400R0416	Straight Mounting plate
OVR RF BK2 7TCA085450R0064	90º Mounting plate
OVR RF BK3 7TCA085400R0412	Bulkhead through mounting plate (single)
OVR RF BK4 7TCA085400R0413	Bulkhead through mounting plate (4 protectors)

OVR RF GDT-4

OVR RF GDT-4

Replacement: Gas Discharge Tubes for use with standard RF protectors

Part no. ABB Order Code	Description	Voltage
OVR RF GDT-4 7TCA085400R0309	Gas Discharge Tube	350 V

Cable assembly

Use with: OVR ISDN/RJ45-*/8 or OVR Cat-5e or OVR Cat-6 protector range

Part no. ABB Order Code	Description	Length
OVR CAT5e/UTP-1 7TCA085400R0294	Cable assembly for OVR Cat-5e with unshielded RJ45 connections	1 m
OVR CAT6/STP-2 7TCA085400R0295	Cable assembly for OVR Cat-6 with shielded RJ45 connections	2 m

Cable assembly with RJ45 connections for the OVR ISDN/RJ45-4/8 or OVR ISDN/RJ45-8/8 plug-in ISDN protectors for use if the standard 0.5 m cable is insufficient

Notes