

DATASHEET

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

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).

Accessories

Replacement 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:

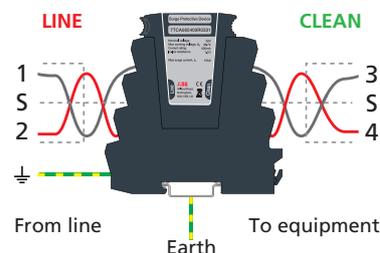
OVR WBX SLQ



- High (500 mA) maximum running current
- High bandwidth enables higher frequency (high traffic or bit rate) data communications
- Strong, flame retardant polymer 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

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.



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.

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 U_c (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 $\pm 10\%$)	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 μ s, 2 kA 8/20 μ s 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 μ s, 0.5 kA 8/20 μ s 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 μ s 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 μ s ⁽⁴⁾	17.0 V	27.5 V	46.3 V	69.1 V	170 V
Maximum surge current					
D1 test 10/350 μ s to BS EN/EN/IEC 61643-21:	- Per signal wire	1.25 kA			
	- Per pair	2.5 kA			
8/20 μ s 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 mm ²				
Earth connection	Via DIN rail or 4 mm ² 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 μ A (OVR SL15/3W, OVR SL30/3W, OVR SL50/3W, OVR SL110/3W) and < 200 μ A (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 ($\pm 10\%$), 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)

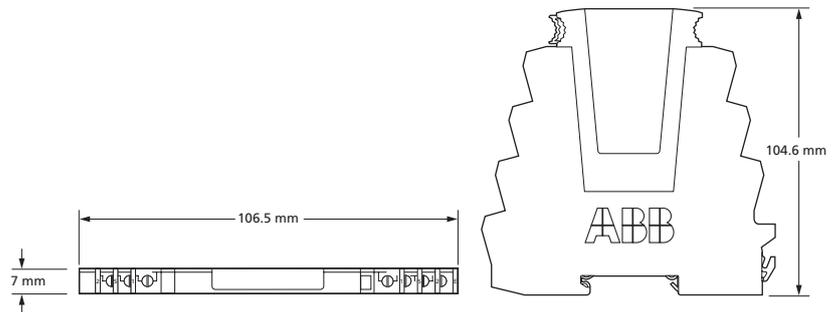


ABB order codes

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