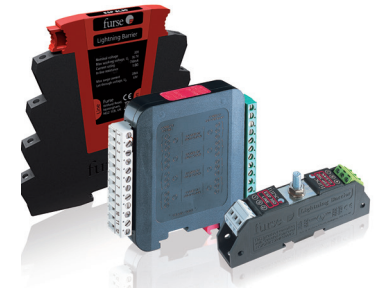


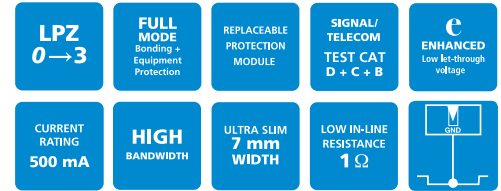
DATASHEET

Data & signal protection

ESP 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).

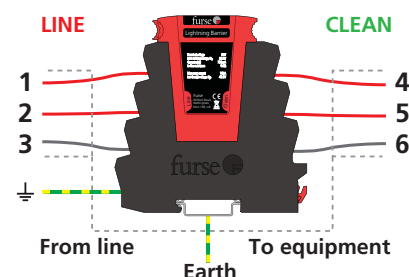
Accessories

Replacement modules:
ESP SLXX/3W/M
Standard module replacement where XX is voltage rating (06, 15, 30, 50 or 110)

ESP SL/3W/B
Base replacement

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

ESP SL 3-Wire Series - Technical specification

Electrical specification	ESP SL06/3W	ESP SL15/3W	ESP SL30/3W	ESP SL50/3W	ESP SL110/3W
ABB order code	7TCA085400R0238	7TCA085400R0269	7TCA085400R0268	7TCA085400R0267	7TCA085400R0266
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				
Bandwidth (-3 dB 50 Ω system)	45 MHz				
Transient specification	ESP SL06/3W	ESP SL15/3W	ESP SL30/3W	ESP SL50/3W	ESP 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 - 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	10 kA		20 kA	
Mechanical specification	ESP SL06/3W	ESP SL15/3W	ESP SL30/3W	ESP SL50/3W	ESP 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 μA (ESP SL15/3W, ESP SL30/3W, ESP SL50/3W, ESP SL110/3W) and < 200 μA (ESP 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)

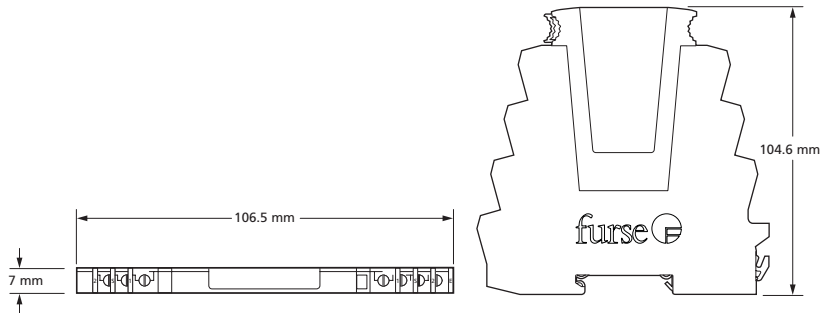


ABB order codes

Part	ABB order code	Part	ABB order code
ESP SL06/3W	7TCA085400R0238	ESP SL50/3W	7TCA085400R0267
ESP SL06/3W/M	7TCA085400R0244	ESP SL50/3W/M	7TCA085400R0255
ESP SL15/3W	7TCA085400R0269	WBX SLQ/G	7TCA085410R0036
ESP SL15/3W/M	7TCA085400R0247	ESP SL110/3W	7TCA085400R0266
WBX SLQ	7TCA085410R0037	ESP SL110/3W/M	7TCA085400R0246
ESP SL30/3W	7TCA085400R0268	ESP SL/B	7TCA085400R0194
ESP SL30/3W/M	7TCA085400R0251	ESP SL/I/B	7TCA085400R0261