

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_B to protect against flashover through to LPZ 3 to protect sensitive electronic equipment.

Features and benefits

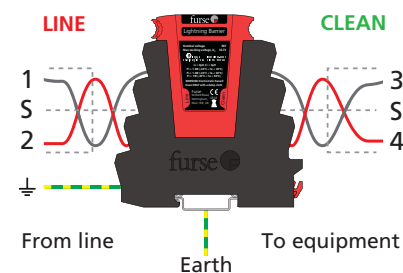
- ✓ Approved for use in hazardous environments for the protection of Intrinsically Safe circuits (Classification: Ex II 2(1)G , Ex ia (ia Ga) IIC T4 Gb)
- ✓ Very low let-through voltage (enhanced protection to BS EN 62305) between all lines - Full Mode protection
- ✓ Full mode design capable of handling 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. ESP SL30XL
- ✓ Negligible self-capacitance and self-inductance offering minimal interference when protecting Intrinsically Safe circuits
- ✓ 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 (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 - e.g. ESP SL30X/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
- ✓ Approval references for ESP SL X Series: IECEx SIR 10.0030X, Sira 10ATEX2063X

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 Furse **Application Note 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

ESP SL15X/M, ESP30X/M

Standard module replacement for 15 and 30 V protectors respectively

ESP SL15XL/M, ESP30XL/M

LED module replacement for 15 and 30 V protectors respectively

ESP SLX/B

Base replacement (common for standard and LED modules)

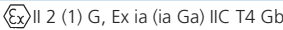
ESP SLX/I/B

Base replacement with isolated screen from earth

For suitable enclosures for the ESP SL X Series, please contact us.

Technical specification

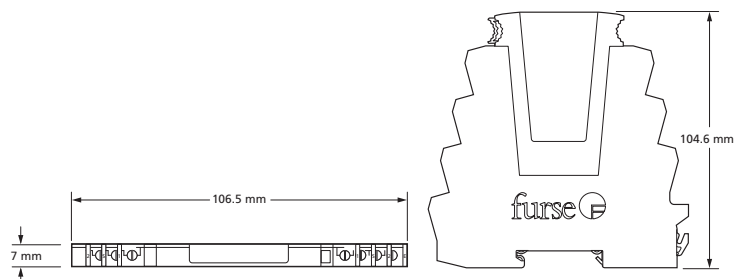
Electrical specification	NEW	NEW
	ESP SL15X	ESP SL30X
Nominal voltage ¹	15 V	30 V
Maximum working voltage U_c^2	16.7 V	36.7 V
Current rating (signal)	750 mA	
In-line resistance (per line $\pm 10\%$)	1.0 Ω	
Bandwidth (-3 dB 50 Ω system)	45 MHz	45 MHz

Intrinsically Safe specification	ESP SL15X	ESP SL30X
	Maximum voltage U_i	30 V
Maximum power P_i	30 V	
- per -40 °C < Ta < 40 °C	1.3 W	
- per -40 °C < Ta < 60 °C	1.2 W	
- per -40 °C < Ta < 80 °C	1.0 W	
Capacitance C_i	0 μ F	
Inductance L_i	0 μ H	
Certificate number	IECEx SIR 10.0030X, Sira 10ATEX2063X	
Classification		

Transient specification	ESP SL15X	ESP SL30X
	Let-through voltage (all conductors) ³ U_p	
C2 test 4 kV 1.2/50 μ s, 2 kA 8/20 μ s to BS EN/EN/IEC 61643-21	38.4 V	63.0 V
C1 test 1 kV, 1.2/50 μ s, 0.5 kA 8/20 μ s to BS EN/EN/IEC 61643-21	29.4 V	51.3 V
B2 test 4 kV 10/700 μ s to BS EN/EN/IEC 61643-21	26.8 V	45.4 V
5 kV, 10/700 μ s ⁴	27.5 V	46.3 V
Maximum surge current		
D1 test 10/350 μ s to BS EN/EN/IEC 61643-21	- per signal wire - per pair	1.25 kA 2.5 kA
8/20 μ s to ITU-T K.45:2003, IEEE C62.41.2:2002	- per signal wire - per pair	10 kA 20 kA

Mechanical specification	ESP SL15X	ESP SL30X
	Temperature range	-40 to +80 °C
Connection type	Screw terminal	
Conductor size (stranded)	4 mm ²	
Earth connection	Via DIN rail or 4 mm ² earth terminal	
Case material	FR polycarbonate UL94 V-0	
Weight - unit - packaged (per 10)	0.08 kg 0.85 kg	
Dimensions		

¹ Nominal voltage (DC or AC peak) measured at < 10 μ A.
² Maximum working voltage (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).



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

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