



LPZ 0 _B → 3	FULL MODE Bonding + Equipment Protection
SIGNAL/TELECOM TEST CAT D + C + B	ENHANCED Low let-through voltage
ATEX/IEC APPROVED	LOW INLINE 1Ω RESISTANCE
REPLACEABLE PROTECTION MODULE	CURRENT 750mA RATING
HIGH BANDWIDTH	ULTRA SLIM 7mm WIDTH

Combined Category D, C, B tested protector (to BS EN 61643-21) suitable for twisted pair signalling applications within hazardous environments (ATEX/IEC Ex 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

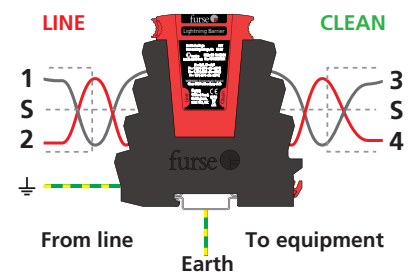
- ✓ Approved for use in hazardous environments for the protection of Intrinsically Safe circuits (Classification: Ex II 2(1)G, Ex ia (ia Ga) IIC T4 Gb)
- ✓ Very low let-through voltage (enhanced protection to BS EN 62305) between all lines – Full Mode protection
- ✓ Full mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- ✓ Repeated protection in lightning intense environments
- ✓ Ultra slim 7mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- ✓ 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 (1Ω) in-line resistance allows resistance critical applications (e.g. alarm loops) to be protected
- ✓ High (750mA) 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
- ✓ 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
- ✓ 4mm² 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 SLX 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, 4-20mA 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 systems earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.



Accessories

Replacement modules

ESP SL15X/M, ESP30X/M

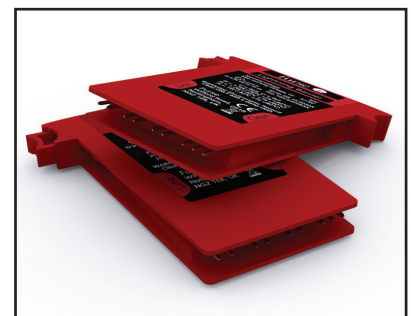
Module replacement for 15 and 30V protectors respectively

ESP SLX/B

Base replacement

ESP SLX/I/B

Base replacement with isolated screen from earth



Electrical specification	NEW ESP SL15X	NEW ESP SL30X
	Nominal voltage ¹	15V
Maximum working voltage ² U_c	16.7V	36.7V
Current rating (signal)	750mA	
In-line resistance (per line $\pm 10\%$)	1.0 Ω	
Bandwidth (-3dB 50 Ω system)	85MHz	

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

² Maximum working voltage (DC or AC peak) measured at <1mA leakage.

Intrinsically Safe specification	ESP SL15X	ESP SL30X
	Maximum voltage, U_i	30V
Maximum power, P_i – per $^\circ$ C < Ta <80 $^\circ$ C – per $^\circ$ C < Ta <80 $^\circ$ C – per $^\circ$ C < Ta <80 $^\circ$ C	1.3W 1.2W 1.0W	
Capacitance, C_i	0 μ F	
Inductance, L_i	0 μ H	
Certificate number	IECEx SIR 10.0030X, Sira 10AEX2063X	
Classification	Ex II 2 (1) G, Ex ia (ia Ga) IIC T4 Gb	

Transient specification	ESP SL15X	ESP SL30X
	Let-through voltage (all conductors) ¹ U_p	
C2 test 4kV 1.2/50 μ s, 2kA 8/20 μ s to BS EN/EN/IEC 61643-21	39.0V	60.0V
C1 test 1kV, 1.2/50 μ s, 0.5kA 8/20 μ s to BS EN/EN/IEC 61643-21	28.0V	49.0V
B2 test 4kV 10/700 μ s to BS EN/EN/IEC 61643-21	25.5V	43.5V
5kV, 10/700 μ s ²	26.2V	44.3V
Maximum surge current		
D1 test 10/350 μ s to BS EN/EN/IEC 61643-21 – per signal wire – per pair	1.25kA 2.5kA	
8/20 μ s to ITU (formerly CCITT), BS 6651:1999 Appendix C – per signal wire – per pair	10kA 20kA	

¹ The maximum transient voltage let-through the protector throughout the test ($\pm 10\%$), line to line & line to earth, both polarities. Response time <10ns.

² Test to BS 6651:1999 Appendix C, Cat C-High, IEC 61000-4-5:1995, 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).

Mechanical specification	ESP SL15X	ESP SL30X
	Temperature range	–40 to +80 $^\circ$ C
Connection type	Screw terminal	
Conductor size (stranded)	4mm ²	
Earth connection	DIN foot or 4mm ² earth terminal	
Case material	FR polymer UL94 V-0	
Weight – unit	0.08kg	
– packaged (per 10)	0.85kg	

Dimensions

Use the standard ESP SL Slim Line Series for non-hazardous areas. The ESP SL Series is also available for protection of RTD and telecommunication applications (ESP SL RTD and ESP SL TN). Contact Furse for details.

