



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

Combined Category D, C, B tested protector (to BS EN 61643-21) 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 and 110 volts. For use at boundaries up to LPZ 0_B to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

Features and benefits

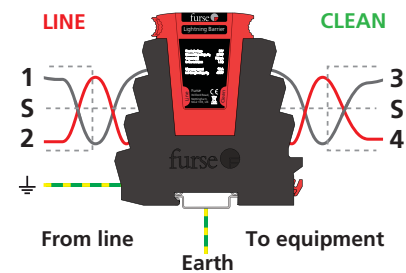
- ✓ Very low let-through voltage (enhanced protection to BS EN 62305) between all lines – Full Mode protection
- ✓ Full mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- ✓ Repeated protection in lightning intense environments
- ✓ Ultra slim 7mm width ideal for compact protection of large numbers of lines (e.g. process control installations)
- ✓ 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 SL30/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

Application

Use these protectors 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 systems earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.



Accessories

Replacement modules

ESP SLXX/M

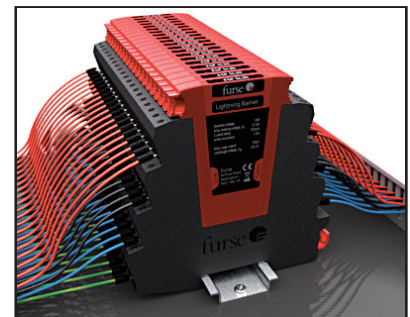
Module replacement where XX is voltage rating (06, 15, 30, 50 and 110)

ESP SL/B

Base replacement

ESP SL/I/B

Base replacement with isolated screen from earth



The ESP SL 'Slim Line' Series is also available for protection of RTD and telecommunication applications (ESP SL RTD and ESP SL TN). The ESP SL X series has approvals for use in hazardous areas. Contact Furse for details.

Electrical specification	NEW	NEW	NEW	NEW	NEW
	ESP SL06	ESP SL15	ESP SL30	ESP SL50	ESP SL110
Nominal voltage ¹	6V	15V	30V	50V	110V
Maximum working voltage U_c^2	7.78V	16.7V	36.7V	56.7V	132V
Current rating (signal)	750mA				
In-line resistance (per line $\pm 10\%$)	1.0 Ω				
Bandwidth (-3dB 50 Ω system)	1.5MHz	>85MHz	>85MHz	>85MHz	>85MHz

¹ Nominal voltage (DC or AC peak) measured at <10 μ A (ESP SL15, ESP SL30, ESP SL50, ESP SL110) and <200 μ A (ESP SL06).

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

Transient specification	ESP SL06	ESP SL15	ESP SL30	ESP SL50	ESP SL110
Let-through voltage (all conductors) ¹ U_p					
C2 test 4kV 1.2/50 μ s, 2kA 8/20 μ s to BS/EN/IEC 61643-21	17.9V	30.4V	63.0V	90.3V	185V
C1 test 1kV, 1.2/50 μ s, 0.5kA 8/20 μ s to BS/EN/IEC 61643-21	12.1V	29.4V	51.3V	77.2V	175V
B2 test 4kV 10/700 μ s to BS/EN/IEC 61643-21	11.0V	26.8V	45.4V	68.3V	165V
5kV, 10/700 μ s ²	11.3V	27.5V	46.3V	69.1V	170V
Maximum surge current					
D1 test 10/350 μ s to BS/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 of 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 SL06	ESP SL15	ESP SL30	ESP SL50	ESP SL110
Temperature range	-40 to +80°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

