



<b>LPZ</b> 0 <sub>B</sub> → 3	<b>FULL MODE</b> Bonding + Equipment Protection
<b>SIGNAL/ TELECOM</b> TEST CAT D + C + B	<b>ENHANCED</b> Low let-through voltage
<b>LED</b> OPTIONAL INDICATION	<b>LOW IN-LINE RESISTANCE</b> 1 Ω
<b>REPLACEABLE PROTECTION MODULE</b>	<b>HIGH BANDWIDTH</b>
	<b>CURRENT RATING</b> 750 mA
	<b>ULTRA SLIM</b> 7 mm WIDTH

Combined Category D, C, B tested protector (to BS EN 61643) 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<sub>B</sub> to protect against flashover (typically the service entrance location) through to LPZ 3 to protect sensitive electronic equipment.

## Features and benefits

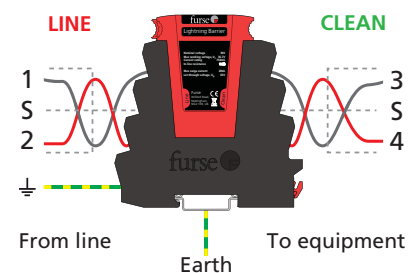
- ✓ Very low let-through voltage (enhanced protection to BS EN 62305) between all lines - Full Mode protection
- ✓ Full mode design capable of handling partial lightning currents as well as allowing continual operation of protected equipment
- ✓ Repeated protection in lightning intense environments
- ✓ Ultra slim 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 SL30L
- ✓ 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 SL30/I
- ✓ 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 mm<sup>2</sup> 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 system's earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.



## Accessories

Replacement modules

### ESP SLXX/M

Standard module replacement where XX is voltage rating (06, 15, 30, 50 or 110)

### ESP SLXXL/M

LED module replacement where XX is voltage rating, as above

### ESP SL/B

Base replacement (common for standard and LED modules)

### ESP SL/I/B

Base replacement with isolated screen from earth

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



## Technical specification

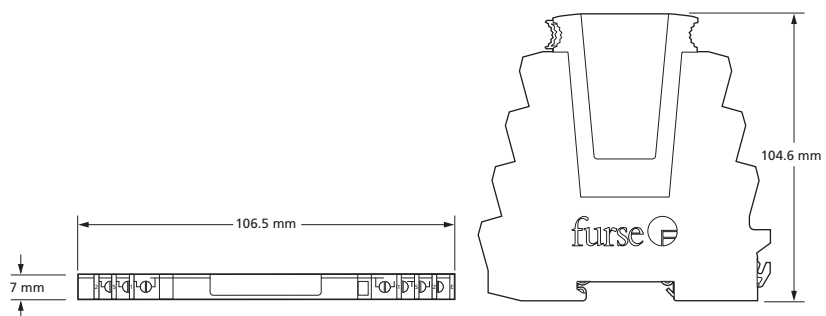
	NEW ESP SL06	NEW ESP SL15	NEW ESP SL30	NEW ESP SL50	NEW ESP SL110	NEW ESP SL TN
<b>Electrical specification</b>						
Nominal voltage <sup>1</sup>	6 V	15 V	30 V	50 V	110 V	-
Maximum working voltage $U_c^2$	7.79 V	16.7 V	36.7 V	56.7 V	132 V	296 V
Current rating (signal)	750 mA					
In-line resistance (per line $\pm 10\%$ )	1.0 $\Omega$					
Bandwidth (-3 dB 50 $\Omega$ system)	45 MHz	45 MHz	45 MHz	45 MHz	45 MHz	20 MHz
<b>Transient specification</b>	<b>ESP SL06</b>	<b>ESP SL15</b>	<b>ESP SL30</b>	<b>ESP SL50</b>	<b>ESP SL110</b>	<b>ESP SL TN</b>
<b>Let-through voltage</b> (all conductors) <sup>3</sup> Up						
C2 test 4 kV 1.2/50 $\mu$ s, 2 kA 8/20 $\mu$ s to BS EN/EN/IEC 61643-21	36.0 V	38.4 V	63.0 V	90.3 V	185 V	395 V
C1 test 1 kV, 1.2/50 $\mu$ s, 0.5 kA 8/20 $\mu$ s to BS EN/EN/IEC 61643-21	26.2 V	29.4 V	51.3 V	77.2 V	175 V	390 V
B2 test 4 kV 10/700 $\mu$ s to BS EN/EN/IEC 61643-21	16.0 V	26.8 V	45.4 V	68.3 V	165 V	298 V
5 kV, 10/700 $\mu$ s <sup>4</sup>	17.0 V	27.5 V	46.3 V	69.1 V	170 V	300 V
<b>Maximum surge current</b>						
D1 test 10/350 $\mu$ s to BS EN/EN/IEC 61643-21 - per signal wire - per pair				1.25 kA 2.5 kA		
8/20 $\mu$ s to ITU-T K.45:2003, IEEE C62.41.2:2002 - per signal wire - per pair				10 kA 20 kA		
<b>Mechanical specification</b>	<b>ESP SL06</b>	<b>ESP SL15</b>	<b>ESP SL30</b>	<b>ESP SL50</b>	<b>ESP SL110</b>	<b>ESP SL TN</b>
Temperature range	-40 to +80 °C					
Connection type	Screw terminal					
Conductor size (stranded)	4 mm <sup>2</sup>					
Earth connection	Via DIN rail or 4 mm <sup>2</sup> earth terminal					
Case material	FR polycarbonate UL94 V-0					
Weight - unit - packaged (per 10)	0.08 kg 0.85 kg					
Dimensions						

<sup>1</sup> Nominal voltage (DC or AC peak) measured at < 10  $\mu$ A (ESP SL15, ESP SL30, ESP SL50, ESP SL110 and LED variants) and < 200  $\mu$ A (ESP SL06 and ESP SL06L).

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

<sup>3</sup> 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.

<sup>4</sup> 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).



The ESP SL 'Slim Line' Series is also available for protection of 3-wire, RS 485 and RTD applications (ESP SL/3W, ESP SL RS485 & ESP SL RTD). The ESP SL X Series has approvals for use in hazardous areas.

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