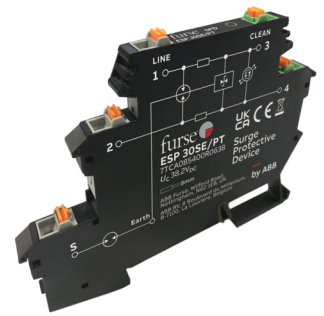


Data & signal protection

ESP Enhanced Slimline Series (SE)



Combined Category D, C, B tested SPD (Surge Protective Device, to BS EN 61643) suitable for twisted pair signalling applications which require either a lower in-line resistance, an increased current or a higher bandwidth than the ESP SD Series. Also suitable for DC power applications less than 1.25 Amps. Available for working voltages of up to 6, 15, 30, 50, 110 and 180 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.

LPZ 0 → 3	FULL MODE Bonding + Equipment Protection	HIGH BANDWIDTH	SIGNAL/TELECOM TEST CAT D + C + B	ENHANCED Low let-through voltage
LOW IN-LINE RESISTANCE 1 Ω	CURRENT RATING 1.25 A			LED STATUS INDICATION

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
- Very low (1 Ω) in-line resistance allows resistance critical applications (e.g. alarm loops) to be protected
- High (1.25 A) maximum running current
- High bandwidth enables higher frequency (high traffic or bit rate) data communications
- Screen terminal enables easy connection of cable screen

- Strong, flame retardant housing
- Built-in DIN rail foot for simple clip-on mounting to top hat DIN rails
- Colour coded terminals give a quick and easy installation check - grey for the dirty (line) end and green for clean
- Cable screen is galvanically isolated from earth, which are temporarily bonded together during lightning activity and then automatically resets afterwards
- Isolated screen allows alarm panels to function without the SPD unintentionally activating the sensor detection
- LED status indication, particularly for low current DC power applications

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.

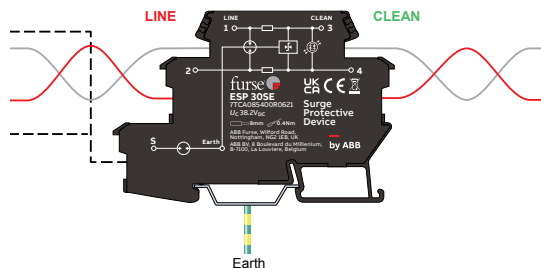
Application

Use these units to protect resistance sensitive, higher frequency or running current systems, e.g. high speed digital communications equipment or systems with long signal lines.

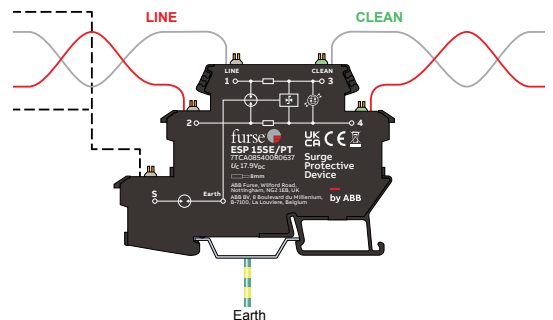
Accessories

Weatherproof enclosures:
WBX SLQ, WBX SLQ/G
For use with up to 16 protectors

ESP 30SE installation in series



ESP 15SE/PT installation in series



ESP SE Series - Technical specification

	ESP 06SE ESP 06SE/PT	ESP 15SE ESP 15SE/PT	ESP 30SE ESP 30SE/PT	ESP 50SE ESP 50SE/PT	ESP 110SE ESP 110SE/PT	ESP 180SE ESP 180SE/PT
Electrical specification						
Nominal voltage (DC) ⁽¹⁾	6 V	15 V	30 V	50 V	110 V	180 V
Maximum voltage U_c (DC) ⁽²⁾	7.9 V	17.9 V	38.2 V	58 V	134 V	194 V
Maximum voltage U_c (AC RMS) ⁽²⁾	5.6 V	12.6 V	27 V	41 V	95 V	137 V
Current rating (signal, at 25°C)	1.25 A				0.7 A	0.5 A
In-line resistance (per line $\pm 10\%$)	1 Ω				3.3 Ω	6.8 Ω
Bandwidth (-3 dB 100 Ω Balanced system)	30 MHz	30 MHz	30 MHz	30 MHz	30 MHz	30 MHz
Transient specification						
Let-through voltage (all conductors) U_p⁽³⁾						
C2 test 4 kV 1.2/50 μ s, 2 kA 8/20 μ s to BS EN/EN/IEC 61643-21	33.3 V	39 V	72 V	86.6 V	173.5 V	224 V
C1 test 1 kV, 1.2/50 μ s, 0.5 kA 8/20 μ s to BS EN/EN/IEC 61643-21	21.1 V	27 V	57.2 V	81.8 V	170.0 V	216.5 V
B2 test 4 kV 10/700 μ s to BS EN/EN/IEC 61643-21	15.8 V	25.4 V	48.9 V	71 V	166.5 V	215.5 V
5 kV, 10/700 μ s ⁽⁴⁾	16.5 V	26.5 V	50.1 V	72 V	169.5 V	217.5 V
Maximum surge current						
D1 test 10/350 μ s to BS EN/EN/IEC 61643-21:						
– Per signal wire	2.5 kA					
– Per pair	5 kA					
8/20 μ s to ITU-T K.45:2003, IEEE C62.41.2:2002:						
– Per signal wire	10 kA					
– Per pair	20 kA					
Mechanical specification						
Temperature range	-40 to +80 °C					
Connection type	Screw terminal - maximum torque (0.4Nm/3.47lb-in) Spring terminal (/PT)					
Conductor size (solid/stranded) ⁽⁵⁾	2.5mm ² (24-14 AWG)/ 2.5mm ² (24-14 AWG)					
Earth connection	Din Rail Earth & Earth Terminal					
Case material	Flame retardant Polymer UL 94-V0					
Weight	0.08 kg					
Dimensions	See diagram below					

⁽¹⁾ Nominal voltage (DC) measured at < 10 μ A leakage.

⁽²⁾ Maximum working voltage (AC RMS or DC) measured at < 5 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).

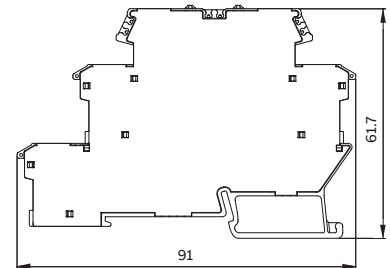


ABB order codes

Part no.	ABB order code	Part no.	ABB order code	Part no.	ABB order code
ESP 06SE	7TCA085400R0619	ESP 30SE/PT	7TCA085400R0638	ESP 180SE	7TCA085400R0624
ESP 06SE/PT	7TCA085400R0636	ESP 50SE	7TCA085400R0622	ESP 180SE/PT	7TCA085400R0641
ESP 15SE	7TCA085400R0620	ESP 50SE/PT	7TCA085400R0639	WBX SLQ	7TCA085410R0037
ESP 15SE/PT	7TCA085400R0637	ESP 110SE	7TCA085400R0623	WBX SLQ/G	7TCA085410R0036
ESP 30SE	7TCA085400R0621	ESP 110SE/PT	7TCA085400R0640		

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