

- ◆ Use on twisted pair signalling applications which require either a lower in-line resistance, an increased current or a higher bandwidth than the D Series.
- ◆ Also suitable for DC power applications less than 1.25 amps.
- ◆ Available for working voltages of up to 6, 15, 30 or 50 volts.

Application

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

Features and benefits

- ✓ Low let-through voltage between all lines.
- ✓ Provides repeated protection in lightning intense environments.
- ✓ Very low (1W) in-line resistance allows resistance critical applications (eg alarm loops) to be protected.
- ✓ High (1.25A) maximum running current.
- ✓ High bandwidth enables higher frequency (high traffic or bit rate) data communications.
- ✓ Strong, flame retardant, ABS housing.
- ✓ Supplied ready for flat mounting on base or side.
- ✓ 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.
- ✓ Screen terminal enables easy connection of cable screen to earth.
- ✓ Substantial earth stud to enable effective earthing.
- ✓ Integral earthing plate enables enhanced connection to earth via CME kit.
- ✓ UK Ofel Approval NS/G/1235/W/100025.



Protector flat mounted on side.

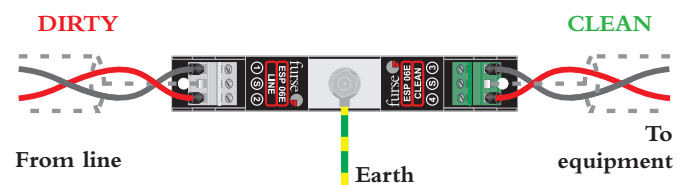
A PCB mount version is available. For many twisted pair data and signal applications, the lower cost D Series may be suitable. For applications requiring higher current (1.25A – 4A) or ultra low in-line resistance, the protectors (H Series) may be more suitable. For data and signal lines on LSA-PLUS modules, use the KS Series.



ESP 30E installed on top hat DIN rail inside a process control cabinet.

Installation

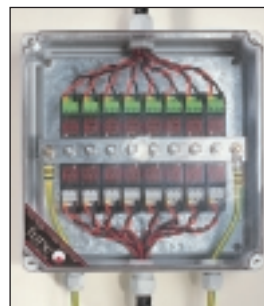
Connect in series with the data communication or signal line either near where it enters or leaves the building or close to the equipment being protected (eg within its control panel). Either way, it must be very close to the systems earth star point. Install protectors either within an existing cabinet/cubicle or in a separate enclosure.



Install in series (in line).

Suitable accessories

Simultaneously mount and earth up to 4 of these protectors on a CME 4, up to 8 on a CME 8, up to 16 on a CME 16 or up to 32 on a CME 32. Enclosures suitable for up to two (WBX 2/G) or three (WBX 3/G) protectors, or a CME 4 and its associated protectors (WBX 4), CME 8 and protectors (WBX 8) or one or two CME 16 kits and protectors (WBX 16/2/G) are available.



Protectors installed on a combined mounting and earthing kit (CME 8) within a WBX 8 enclosure.

Electrical specification

	ESP 06E	ESP 15E	ESP 30E	ESP 50E
Nominal voltage ¹	6V	15V	30V	50V
Maximum working voltage ²	7.79V	16.7V	36.7V	56.7V
Current rating (signal)	1.25A	1.25A	1.25A	1.25A
In-line resistance (per line $\pm 10\%$)	1.0W	1.0W	1.0W	1.0W
Bandwidth (-3dB 50W system)	1.5MHz	>10MHz	>10MHz	>10MHz

1 Nominal voltage (DC or AC peak) measured at $<10\mu\text{A}$ (ESP 15E, ESP 30E, ESP 50E) and $<200\mu\text{A}$ (ESP 06E).

2 Maximum working voltage (DC or AC peak) measured at $<5\text{mA}$ leakage (ESP 15E, ESP 30E, ESP 50E) and $<10\text{mA}$ (ESP 06E).

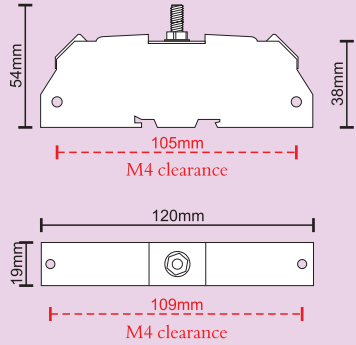
Transient specification

	ESP 06E	ESP 15E	ESP 30E	ESP 50E
Let-through voltage (all conductors) ¹ 5kV, 10/700 μs test to: <i>BS 6651:1999 Appendix C, Cat C-High</i> <i>ITU (formerly CCITT) IX K17</i>	10.8V	26.2V	44.3V	65.8V
Maximum surge current ² - per signal wire - per pair	10kA 20kA	10kA 20kA	10kA 20kA	10kA 20kA

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

2 Tested with 8/20 μs waveshape to ITU (formerly CCITT), BS 6651:1999 Appendix C.

Mechanical specification

	ESP 06E	ESP 15E	ESP 30E	ESP 50E
Temperature range	-25 to +70°C	-25 to +70°C	-25 to +70°C	-25 to +70°C
Connection type	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Conductor size (stranded)	1.5mm ²	1.5mm ²	1.5mm ²	1.5mm ²
Earth connection	M6 stud	M6 stud	M6 stud	M6 stud
Weight - unit - packaged (per 10)	0.08kg 0.85kg	0.08kg 0.85kg	0.08kg 0.85kg	0.08kg 0.85kg
Dimensions	 <p>The drawing shows two views of the protector. The top view is a trapezoidal shape with a central screw terminal. Dimensions include a total width of 105mm, a height of 54mm, and a base width of 38mm. A dashed line indicates an 'M4 clearance' of 105mm. The side view shows a rectangular profile with a total width of 120mm, a height of 19mm, and a base width of 109mm. A dashed line indicates an 'M4 clearance' of 109mm.</p>			