



- ◆ Suitable for most twisted pair signalling applications.
- ◆ Available for working voltages of up to 6, 15, 30 and 50 volts and telephone pairs with a maximum working or ringing voltage of 190 volts.

Application

Use on twisted pair lines, eg those found in process control equipment, modems and computer communications interfaces.

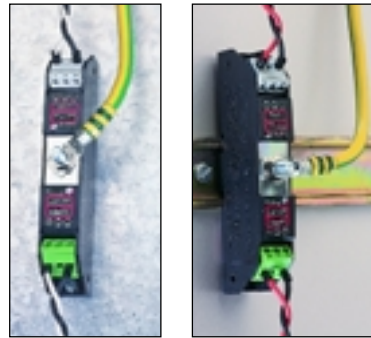
Features and benefits

- ✓ Low let-through voltage between all lines.
- ✓ Provides repeated protection in lightning intense environments.
- ✓ Low in-line resistance minimises unnecessary reductions in signal strength.
- ✓ 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 the clean end.
- ✓ 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 a CME kit.
- ✓ UK Ofitel Approval NS/G/1235/W/100025.



Three rows of protectors, inside a control cabinet, each installed on a CME 16 combined mounting and earthing kit.

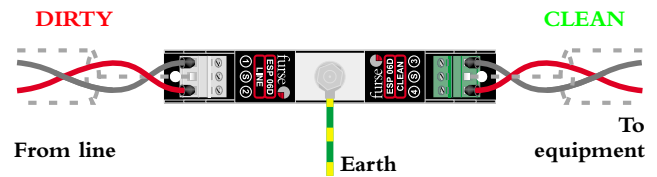
*In damp or dirty environments, ready boxed versions (ESP **D/BX or /2BX) are available. If the protector is to be mounted directly onto a PCB, use the ESP PCB/**D protectors. For systems requiring a very low resistance, higher current or higher bandwidth, the ESP **E series may be more suitable. For three-wire RTD applications, use the ESP RTD, and for applications where there are many lines to be protected, the ESP **Q series may be suitable. Other protectors for telephone lines are available.*



Protectors can be flat mounted via their base (left) or side, or mounted on top hat DIN rail (right) via an integral spring loaded DIN rail foot.

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.

Electrical specification

	ESP 06D	ESP 15D	ESP 30D	ESP 50D	ESP TN
Nominal voltage¹	6V	15V	30V	50V	*
Maximum working voltage²	7.79V	19V	37.1V	58V	190V
Current rating (signal)	300mA	300mA	300mA	300mA	300mA
In-line resistance (per line ±10%)	9.4Ω	9.4Ω	9.4Ω	9.4Ω	4.4Ω
Bandwidth (-3dB 50Ω system)	800kHz	2.5MHz	4MHz	6MHz	>50MHz

¹ Nominal voltage (DC or AC peak) measured at <5μA (ESP 15D, ESP 30D, ESP 50D) and <200μA (ESP 06D).

² Maximum working voltage (DC or AC peak) measured at <1mA leakage (ESP 15D, ESP 30D, ESP 50D), <10mA (ESP 06D) and <95μA (ESP TN).

* Post transient recovery voltage >80V.

Transient specification

	ESP 06D	ESP 15D	ESP 30D	ESP 50D	ESP TN
Let-through voltage (all conductors)¹ 5kV, 10/700μs test to: <i>BS 6651:1999 Appendix C, Cat C-High</i> <i>ITU (formerly CCITT) IX K17</i>	10.5V	23.8V	43.4V	74.9V	200V
Maximum surge current²					
- per signal wire	10kA	10kA	10kA	10kA	10kA
- per pair	20kA	20kA	20kA	20kA	20kA

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

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

Mechanical specification

	ESP 06D	ESP 15D	ESP 30D	ESP 50D	ESP TN
Temperature range	-25 to +70°C	-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	Screw terminal
Conductor size (stranded)	1.5mm ²	1.5mm ²	1.5mm ²	1.5mm ²	1.5mm ²
Earth connection	M6 stud	M6 stud	M6 stud	M6 stud	M6 stud
Weight					
- unit	0.08kg	0.08kg	0.08kg	0.08kg	0.08kg
- packaged (per 10)	0.85kg	0.85kg	0.85kg	0.85kg	0.85kg
Dimensions					