



For low current applications, the H Series (4A) protectors, E Series (1.25A) or D Series (300mA) may be suitable.

- ◆ Advanced protector for DC supplies and DC power distribution systems.
- ◆ Protection for 12, 24, 36 and 48V DC systems.

### Application

Use on DC power distribution systems to protect connected electronic equipment from transient overvoltages on the DC supply, eg DC fed communications or control equipment.

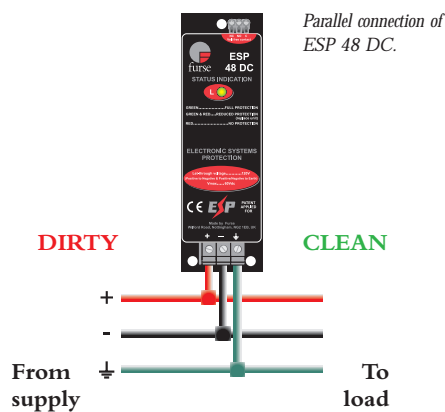
### Features and benefits

- ✓ Low let-through voltage between all sets of conductors (positive to negative, positive to earth and negative to earth).
- ✓ Repeated protection in lightning intense environments with 20 years predicted lifetime.
- ✓ Visual indication of protector status.
- ✓ Advanced pre-failure warning so you need never be unprotected.
- ✓ Remote indication facility allows pre-failure warning to be linked to a building management system, buzzer or light.
- ✓ Robust steel housing.
- ✓ Simple parallel connection.
- ✓ Base provides ultra low inductance earth bond to metal panels.
- ✓ Compact size for installation in the power distribution board.
- ✓ Maintenance free.

### Installation

Install in parallel, within the power distribution board or directly on the supply feeding the equipment.

At distribution boards, the protector can be installed either on the load side of the incoming isolator, or on the closest outgoing way to the incoming supply. Connect, with very short connecting leads, to positive, negative and earth. On supplies over 100 amps, phase/live connecting leads should be fused with either 63 or 100 amp high rupture capacity (HRC) fuses, a switchfuse, MCCB or type "C" MCB.



### Suitable accessories

If the protector cannot be incorporated within the panel, use the WBX 3 enclosure.

Electrical specification

	ESP 12 DC	ESP 24 DC	ESP 36 DC	ESP 48 DC
<b>Nominal voltage (RMS)</b>	12V	24V	36V	48V
<b>Working voltage (RMS)</b>	9-15V	18-30V	27-45V	36-60V
<b>Current rating (supply)</b>	Direct connection to supplies up to 100A Connection via series fuses to supplies greater than 100A See installation instructions			
<b>Leakage current (to earth)</b>	<250µA	<250µA	<250µA	<250µA
<b>Indicator circuit current</b>	<10mA	<10mA	<10mA	<10mA
<b>Volt free contact*</b>	Screw terminal	Screw terminal	Screw terminal	Screw terminal
- current rating	1A	1A	1A	1A
- nominal voltage (RMS)	250V	250V	250V	250V

\* Minimum permissible load is 5V DC, 10mA to ensure reliable contact operation.

Transient specification

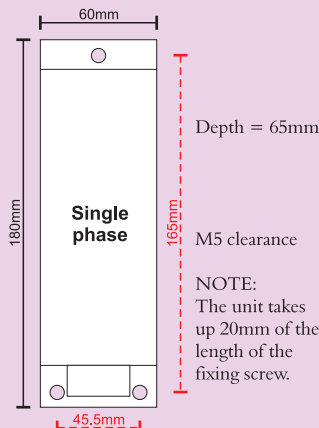
	ESP 12 DC	ESP 24 DC	ESP 36 DC	ESP 48 DC
<b>Let-through voltage (all conductors)<sup>1</sup></b>				
6kV 1.2/50µs open circuit voltage, 3kA 8/20µs short circuit current to: <i>BS 6651:1999 Appendix C, Cats C-Low &amp; B-High</i> <i>IEEE C62.41-1991<sup>2</sup> Location Cats C1 &amp; B3</i> <i>SS CP 33:1996 Appendix F</i> <i>AS 1768-1991 Appendix B, Cat B</i> <i>UL1449 mains wire-in</i>	<120V	<120V	<120V	<120V
<b>Maximum surge current<sup>3</sup></b>	20kA	20kA	20kA	20kA

<sup>1</sup> The maximum transient voltage let-through the protector throughout the test (±5%), phase to neutral, phase to earth and neutral to earth.

<sup>2</sup> Formerly IEEE 587 and ANSI C62.41.

<sup>3</sup> Tested with 8/20µs waveshape to BS 6651:1999 Appendix C. Note: The electrical system, external to the unit, may constrain the actual current rating achieved in a particular installation.

Mechanical specification

	ESP 12 DC	ESP 24 DC	ESP 36 DC	ESP 48 DC
<b>Temperature range</b>	-25 to +70°C	-25 to +70°C	-25 to +70°C	-25 to +70°C
<b>Connection type</b>	Screw terminal	Screw terminal	Screw terminal	Screw terminal
<b>Conductor size (stranded)</b>	16mm <sup>2</sup>	16mm <sup>2</sup>	16mm <sup>2</sup>	16mm <sup>2</sup>
<b>Earth connection</b>	Screw terminal	Screw terminal	Screw terminal	Screw terminal
<b>Volt free contact</b>	Connect via screw terminal with conductor up to 2.5mm <sup>2</sup> (stranded)			
<b>Weight</b> - unit	0.6kg	0.6kg	0.6kg	0.6kg
- packaged	0.7kg	0.7kg	0.7kg	0.7kg
<b>Dimensions</b>	 <p>60mm</p> <p>180mm</p> <p>65mm</p> <p>Depth = 65mm</p> <p>M5 clearance</p> <p>NOTE: The unit takes up 20mm of the length of the fixing screw.</p> <p>45.5mm</p>			