



- ◆ 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

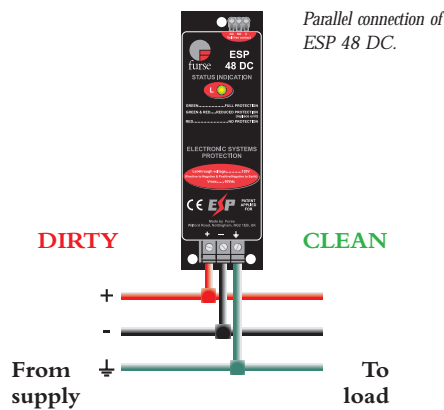
- ✓ Low let-through voltage between all sets of conductors (positive to negative, positive to earth and negative to earth).
- ✓ Repeated protection in lightning intense environments with 20 years predicted lifetime.
- ✓ Visual indication of protector status.
- ✓ Advanced pre-failure warning so you need 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.

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

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

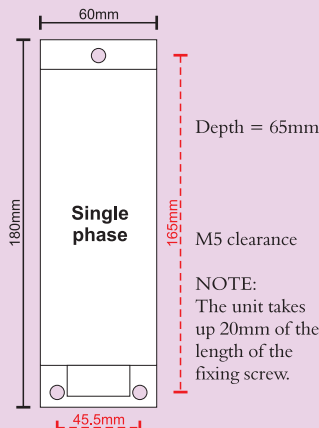
	ESP 12 DC	ESP 24 DC	ESP 36 DC	ESP 48 DC
Let-through voltage (all conductors)¹ 6kV 1.2/50µs open circuit voltage, 3kA 8/20µs short circuit current to: <i>BS 6651:1999 Appendix C, Cats C-Low & B-High</i> <i>IEEE C62.41-1991² Location Cats C1 & B3</i> <i>SS CP 33:1996 Appendix F</i> <i>AS 1768-1991 Appendix B, Cat B</i> <i>UL1449 mains wire-in</i>	<120V	<120V	<120V	<120V
Maximum surge current³	20kA	20kA	20kA	20kA

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

² Formerly IEEE 587 and ANSI C62.41.

³ 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
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)	16mm ²	16mm ²	16mm ²	16mm ²
Earth connection	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Volt free contact	Connect via screw terminal with conductor up to 2.5mm ² (stranded)			
Weight - unit	0.6kg	0.6kg	0.6kg	0.6kg
- packaged	0.7kg	0.7kg	0.7kg	0.7kg
Dimensions	 <p>60mm</p> <p>180mm</p> <p>Single phase</p> <p>Depth = 65mm</p> <p>165mm</p> <p>M5 clearance</p> <p>NOTE: The unit takes up 20mm of the length of the fixing screw.</p> <p>45.5mm</p>			