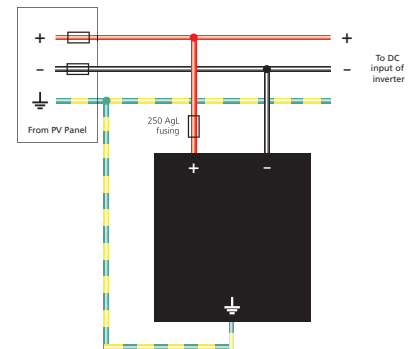




- LPZ**  
 $0_A \rightarrow 2$
- COMMON MODE**  
Equipotential Bonding
- MAINS TEST TYPE**  
1 + 2
- e**  
ENHANCED  
Low let-through voltage
- STATUS INDICATION + VOLT-FREE CONTACT**

### Installation

Install in parallel to the DC supply of the DC-AC inverter via fuses.



Combined Type 1 and 2 tested protector (to BS EN 61643) for a Photovoltaic PV solar panel system that is on a building where a structural Lightning Protection System (LPS) is employed, for equipotential bonding. For use at boundaries up to LPZ  $0_A$  to protect against flashover (on the DC side of the DC-AC inverter) through to LPZ 2 to protect the PV system from damage.

### Features and benefits

- ✓ Enhanced protection (to BS EN 62305) offering low let-through voltage further minimizing the risk of flashover creating dangerous sparking or electric shock
- ✓ Repeated protection in lightning intense environments
- ✓ The varistor based design eliminates the high follow current ( $I_f$ ) associated with spark gap based surge protection
- ✓ Compact, space saving design
- ✓ Indicator shows when the protector requires replacement
- ✓ Remote signal contact can indicate the protectors' status through interfacing with a building management system

### Application

- ✓ Use on the DC side of the DC-AC inverter for protection against partial direct or indirect lightning strikes. ESP Type 1 AC mains protectors (e.g. ESP 415/III/TNS) are further required at the AC side of the DC-AC inverter

### Installation

Protector to be installed in the main distribution panel with connecting leads of minimal length. The protector should be fused and is suitable for attachment to a 35mm top hat DIN rail.

#### IMPORTANT

The primary purpose of Lightning current or Equipotential bonding mains Type 1 Surge Protective Devices (SPDs) is to prevent dangerous sparking caused by flashover to protect against the loss of human life. In order to protect electronic equipment and ensure the continual operation of systems, transient overvoltage mains Type 2 and 3 SPDs such as the ESP 240 M1 are further required, typically installed at downstream sub-distribution boards feeding sensitive equipment. BS EN 62305 refers to the correct application of mains Type 1, 2 and 3 SPDs as a coordinated set.

For further information, please refer to "A Guide to BS EN 62305:2006 Protection Against Lightning" available from Furse.

### Accessories

- Weatherproof enclosures
- WBX D4**

Electrical specification	<b>NEW</b> ESP DC550/12.5/PV	<b>NEW</b> ESP DC1000/12.5/PV
	Maximum DC voltage (RMS/DC)	550V
Short circuit withstand capability	25kA / 50Hz	
Back-up fuse (see installation instructions)	250A	
Leakage current (to earth)	<2.5mA	
Volt free contact – current rating – nominal voltage (RMS)	Screw Terminal 0.5A 250V	

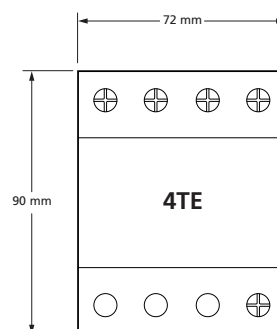
Transient specification <i>Type 1 (BS/EN), Class I (IEC)</i>	ESP DC550/12.5/PV	ESP DC1000/12.5/PV
	Nominal discharge current 8/20µs (per mode) /In	20kA
Let-through voltage Up at In <sup>1</sup>	<2.0kV	<2.6kV
Impulse discharge current 10/350µs /Imp (per mode) <sup>2</sup>	12.5kA	12.5kA
Let-through voltage Up at /Imp <sup>1</sup>	<1.7kV	<2.4kV
Let-through voltage Up at 1.2/50µs (N-E, TT system)	–	–
<i>Type 2 (BS/EN), Class II (IEC)</i>	ESP DC550/12.5/PV	ESP DC1000/12.5/PV
	Nominal discharge current 8/20µs (per mode) /In	20kA
Let-through voltage Up at In <sup>1</sup>	<2.0kV	<2.6kV
Maximum discharge current I <sub>max</sub> (per mode) <sup>2</sup>	40kA	40kA

<sup>1</sup> The maximum transient voltage let-through of the protector throughout the test (±5%), per mode.

<sup>2</sup> The electrical system, external to the unit, may constrain the actual current rating achieved in a particular installation.

Mechanical specification	ESP DC550/12.5/PV	ESP DC1000/12.5/PV
	Temperature range	–40 to +80°C
Connection type	Screw Terminal	
Conductor size (stranded)	25mm <sup>2</sup>	
Earth connection	Screw Terminal	
Volt free contact	Connect via screw terminal with conductor up to 1.5mm <sup>2</sup> (stranded)	
Degree of protection (IEC 60529)	IP20	
Case material	Thermoplastic, UL 94 V-0	
Mounting	Indoor, 35mm top hat DIN rail	
Weight – unit	0.38kg	0.59kg
– packaged	0.48kg	0.69kg
Dimensions to DIN 43880 - HxDxW <sup>1</sup>	90mm x 68mm x 72mm (4TE)	

<sup>1</sup> The remote signal contact (removable) adds 10mm to height





Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



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Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.