ESP DC Series



FULL MODE Bonding + Equipment Protection	MAINS TEST TYPE 2 + 3
enhanced Low let-through voltage	LPZ 1→3
STATUS INDICATION + VOLT-FREE CONTACT	

Combined Type 2 and 3 tested protector (to BS EN 61643-11) for use on DC systems to protect connected electronic equipment from transient overvoltages on the mains supply, e.g. control equipment. Available for 12, 24, 36 and 48V DC systems. For use at boundaries LPZ 1 through to LPZ 3 to protect sensitive electronic equipment.

Features and benefits

- Low let-through voltage (enhanced protection to BS EN 62305) between all sets of conductors (positive to negative, positive to earth and negative to earth) – Full Mode protection) allowing continuous operation of equipment
- Repeated protection in lightning intense environments
- 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

Application

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

Installation

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



Parallel connection of ESP 48 DC

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.

Accessories

WBX 3 Weatherproof enclosure

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

ESP DC Series



Electrical specification	ESP 12 DC	ESP 24 DC	ESP 36 DC	ESP 48 DC	
Nominal voltage (RMS)	12V	24V	36V	48V	
Maximum voltage (RMS)	15V	30V	45V	60V	
Working voltage (RMS)	9-15V	18-30V	27-45V	36-60V	
Max. back-up fuse (see installation instructions)	100A				
Leakage current (to earth)	<250µA				
Indicator circuit current	<10mA				
Volt free contact ¹ – current rating – nominal voltage (RMS)	Screw terminal 1A 250V				

¹ Minimum permissable load is 5V DC, 10mA to ensure reliable operation.

Transient specification Type 2 (BS EN/EN), Class II (IEC)	ESP 12 DC	ESP 24 DC	ESP 36 DC	ESP 48 DC
Nominal discharge current 8/20µs (per mode) In	5kA			
Let-through voltage Up at In ¹	<250V	<250V	<250V	<250V
Maximum discharge current /max (per mode) ²	20kA			
Type 3 (BS EN/EN), Class III (IEC)				
Let-through voltage at Uoc of 6kV 1.2/50µs and Isc of 3kA 8/20µs (per mode) ³	<190V	<190V	<190V	<190V

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

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

³ Combination wave test within BS 6651:1999 App. C, Cats C-Low & B-High, IEEE C62.41-2002 Location Cats C1 & B3, SS CP 33:1996 App. F, AS 1768-1991 App. B, Cat B, UL1449 mains wire-in.

Mechanical specification	ESP 12 DC	ESP 24 DC	ESP 36 DC	ESP 48 DC	
Temperature range	-40 to +70°C				
Connection type	Screw terminal				
Conductor size (stranded)	16mm ²				
Earth connection	Screw terminal				
Volt free contact	Connect via screw terminal with conductor up to 2.5mm ² (stranded)				
Degree of protection (IEC 60529)	IP20				
Case material	Steel				
Weight – unit	0.6kg	0.6kg	0.6kg	0.6kg	
– packaged	0.7kg	0.7kg	0.7kg	0.7kg	

Dimensions

