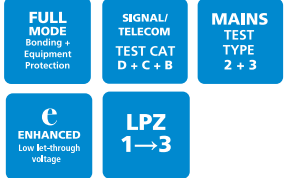


DATASHEET

Mains power protection ESP MC Series



Combined Type 2 and 3 tested protector (to BS EN 61643) with telecom or network protection options. Suitable for use on 220/230/240 Volts supplies. Available with British style (three square pin) plugs and sockets with double-pole action. For use at boundaries LPZ 1 through to LPZ 3 to protect sensitive electronic equipment.



Features & benefits

- Low let-through voltage between all sets of conductors
- Three way visual indication of protection status
- Protects against radio frequency interference
- TN and Cat-5e versions can conveniently protect both mains and telecom/data lines in one unit
- Rugged, heavy duty construction
- Bracket kit ESP MC/19BK available for rear or 19" rack mounting
- Maintenance free

Installation

Simply plug the ESP MC series into the mains and your equipment into the ESP MC.

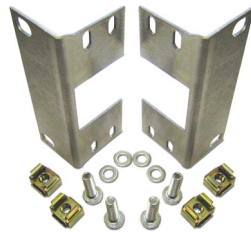
Application

ESP MC series can be used to protect all sorts of plug-in equipment, including hospital laboratory equipment, modems, fax machines and PCs.

Accessories

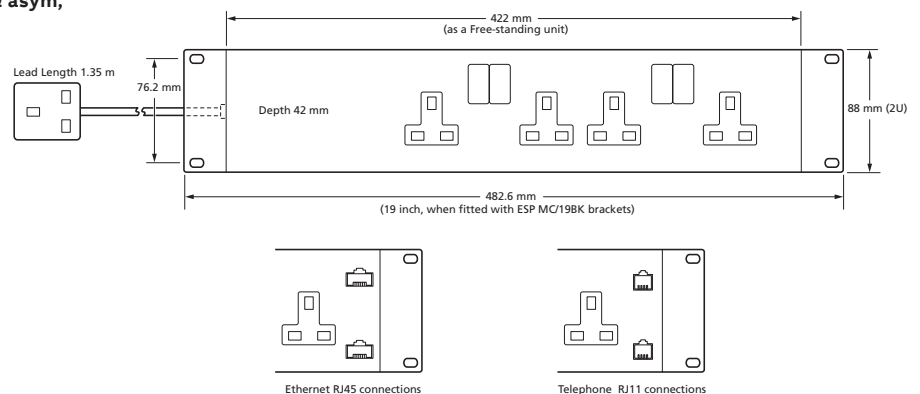
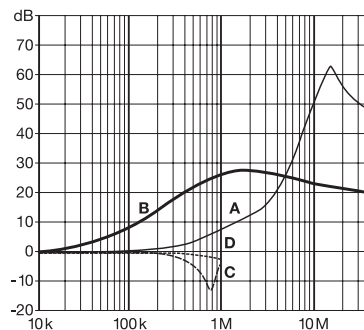
ESP MC/19BK bracket kit can be used for rear mounting, or reversed for use in 19" cabinets. All fixings supplied.

ABB Order code:
7TCA085460R0034



RFI performance

Per CISPR 17: A = 50 Ω /50 Ω sym, B = 50 Ω /50 Ω asym, C = 0.1 Ω /100 Ω sym, D = 100 Ω /0.1 Ω sym



NOTE: For wire-in applications up to 16 amps, the ESP 16A/BX Series may be more suitable. For all other supplies, consider the ESP M1 Series.

ESP MC Series - Technical specification

Electrical specification - mains	ESP MC	ESP MC/TN/RJ11	ESP MC/Cat-5e
ABB order code	7TCA085430R0003	7TCA085430R0005	7TCA085430R0004
Nominal voltage - Phase-Neutral U_o (RMS)	220/230/240 V		
Maximum voltage - Phase-Neutral U_c (RMS)	280 V		
Frequency range	47-63 Hz		
Current rating (supply)	13 A		
Leakage current (to earth)	< 0.5 mA		
Electrical specification - telecom/data	ESP MC	ESP MC/TN/RJ11	ESP MC/Cat-5e
Nominal voltage	–	296 V	5 V
Maximum working voltage $U_c^{(1)}$	–	296 V	5 V ⁽²⁾
Current rating (signal)	–	300 mA	300 mA
In-line resistance (per line $\pm 10\%$)	–	4.4 Ω	1 Ω
Bandwidth (-3 dB 50 Ω system)	–	20 MHz	–
Maximum data rate	–	–	100 Mbps
Transient specification - mains	ESP MC	ESP MC/TN/RJ11	ESP MC/Cat-5e
Type 2 (BS EN/EN), Class II (IEC)			
Nominal discharge current 8/20 μ s (per mode) I_n	5 kA		
Let-through voltage U_p at $I_n^{(3)}$	850 V		
Maximum discharge current I_{max} (per mode) ⁽⁴⁾	10 kA		
Type 3 (BS EN/EN), Class III (IEC)			
Let-through voltage at U_{oc} of 6 kV 1.2/50 μ s and I_{sc} of 3 kA 8/20 μ s (per mode) ^(3,5)	680 V		
Let-through voltage at U_{oc} of 6 kV 1.2/50 μ s and I_{sc} of 500 A 8/20 (per mode) ^(3,5)	555 V		
Transient specification - telecom/data	ESP MC	ESP MC/TN/RJ11	ESP MC/Cat-5e
Let-through voltage (all conductors)⁽⁶⁾ U_p			
C2 test 4 kV 1.2/50 μ s, 2 kA 8/20 μ s to BS EN/EN/IEC 61643-21 - line to line / line to earth	–	390 V/390 V	120 V/700 V(8)
C1 test 1 kV, 1.2/50 μ s, 0.5 kA 8/20 μ s to BS EN/EN/IEC 61643-21 - line to line / line to earth	–	395 V/395 V	74 V/600 V(8)
B2 test 4 kV 10/700 μ s to BS EN/EN/IEC 61643-21 - line to line / line to earth	–	295 V/295 V	21 V/550 V(8)
5 kV, 10/700 μ s ⁽⁷⁾ - line to line / line to earth	–	300 V/300 V	25 V/600 V(8)
Maximum surge current⁽⁹⁾			
D1 test 10/350 μ s to BS EN/EN/IEC 61643-21	–	1 kA	1 kA
8/20 μ s to ITU (formerly CCITT), BS 6651:1999 Appendix C	–	10 kA	10 kA
Mechanical specification	ESP MC	ESP MC/TN/RJ11	ESP MC/Cat-5e
Temperature range	-40 °C to +80 °C		
Connection type	Via British style three square pin plug and socket to BS 1363		
Conductor size (solid)	–	RJ11	RJ45
Earth connection	Via plug and socket		
Case material	Steel		
Weight: – Unit	1.70 kg	1.75 kg	1.75 kg
– Packaged	1.75 kg	1.8 kg	1.8 kg

⁽¹⁾ Maximum working voltage (DC or AC peak) of telecom/data protection measured at <10 μ A leakage for ESP MC/TN/RJ11 and 1 mA for ESP MC/Cat-5e

⁽²⁾ Maximum working voltage is 5 V for data pairs 1/2 & 3/6

⁽³⁾ The maximum transient voltage let-through of the protector throughout the test ($\pm 10\%$), phase to neutral, phase to earth and neutral to earth

⁽⁴⁾ The electrical system, external to the unit, may constrain the actual current rating achieved in a particular installation

⁽⁵⁾ Combination wave test within IEC/BS EN 61643, IEEE C62.41-2002 Location Cats C1 & B3, SS 555:2010, AS/NZS 1768-2007, UL 1449 mains wire-in

⁽⁶⁾ The maximum transient voltage let-through the protector throughout the test ($\pm 10\%$), line to line & line to earth. Response time < 10 ns

⁽⁷⁾ Test to IEC/BS EN 61643, IEC 61000-4-5:2006, ITU-T (formerly CCITT) K.20, K.21 and K.45, Telcordia GR-1089-CORE, Issue 2:2002, ANSI TIA/EIA/IS-968-A:2002 (formerly FCC Part 68)

⁽⁸⁾ The interfaces used in Cat-5/5e systems incorporate an isolation transformer that inherently provides an inbuilt immunity to transients between line and earth of 1,500 Volts or more

⁽⁹⁾ The installation and connectors external to the protector may limit the capability of the protector