Mains power protection
Advanced ESP 240 M1 & ESP 415 M1

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Power and productivity
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ABB

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Advanced ESP 240 M1 and ESP 415 M1

For well over a decade the market leading ESP 240 M1 and ESP 415 M1 protectors for mains power supplies have been specified and used by engineers all over the world. In that time others have tried and failed to match the capabilities of the ESP 240 M1 and ESP 415 M1.

These new versions bring you all the benefits of the original ESP 240 M1 and ESP 415 M1 with the addition of ground breaking advances in transient overvoltage protection for mains power supplies.

For the same price as the ESP 240/415 M1, the advanced ESP 240 M1 and ESP 415 M1 offers...

- New (patent pending) transient discriminative technology to ensure the industry's best voltage protection level or let-though voltage
- Safer disconnection from abnormal/faulty supplies when tested to latest IEC/EN 61643 standards
- Increased direct surge current (10/350 waveform) ratings (phase and neutral modes to earth)
- Larger and robust colour-coded terminals for easier, enhanced installation
- Improved status indication to include the Neutral conductor
- Updated high integrity steel housing design
- Improved, straightforward installation instructions
- Reduced product packaging

Just like the ESP 240/415 M1, the new ESP 240 M1 and ESP 415 M1 provides...

- Protector base provides ultra low inductance earth bond to metal panels
- Flashing warning of potentially fatal neutral to earth supply voltages (caused by incorrect earthing, wiring errors or unbalanced conditions)
- Remote indication facility allows pre-failure warning to be connected to building management system, buzzer or lighting.
- Very low 'let-through' voltage, restricting the transient overvoltage reaching equipment to a safe level
- Protection between all sets of conductors, closing all transient paths to equipment
- Repeated protection in lightning intense environments (20 years predicted lifetime)
- Three way visual indication of protector status giving advance pre-failure warning
- Remote warning indicator for phase loss (i.e. power failure, blown fuses, etc.)
- Simple parallel connection
- Convenient fixing holes for flat mounting
- Compact size for installation in the power distribution board
- Maintenance free
- 5 year warranty

Key points of installation

Lightning and electrical switching events can cause transient overvoltages on main power supplies, exposing computers and other electronic equipment to:

- Data loss and disruption
- Component degradation and damage
- Costly system

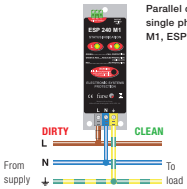
Simple parallel connection to phase(s), neutral and earth at the distribution board feeding equipment.

The protector can be installed on either:

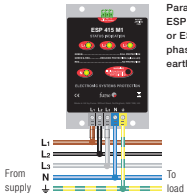
a) The load side of the incoming isolator, or
b) The closest outgoing way to the incoming supply.

Phase connecting leads should be fused at a maximum of 125 A, taking care to ensure discrimination with the upstream device

Installation



Parallel connection of single phase protectors ESP 240 M1, ESP 120 M1 or ESP 277 M1



Parallel connectionof ESP 415 M1, ESP 208 M1 or ESP 480 M1 to three phase star (4 wire and earth) supplies

Selection

Since the supply current doesn't go through the ESP 240 M1 or ESP 415 M1, each is equally suitable for supplies of 20, 200 or 2000 A.

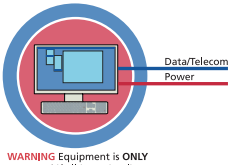
- Use ESP 415 M1 to protect electronic equipment on three phase mains power supplies (346-484 volts RMS).
- Use ESP 240 M1 to protect electronic equipment on single phase mains power supplies (200-280 volts RMS).

Uses

ESP 240 M1 and ESP 415 M1 are designed for installation on mains power distribution systems, to protect connected equipment from transient overvoltage damage.

Typical uses include the protection of:

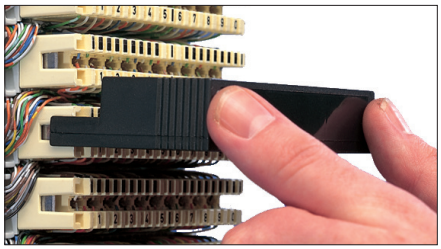
- Computer equipment
- Transmitter/receiver systems
- Uninterruptible power supplies (UPSs)
- Drives and inverters
- Programmable logic controllers (PLCs)
- Medical equipment
- Critical equipment

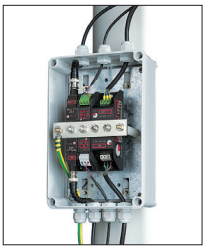


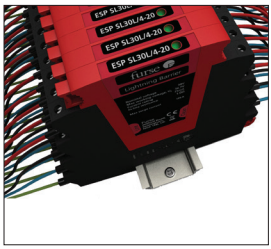
WARNING Equipment is **ONLY** protected if all incoming lines have protection fitted

IMPORTANT - Full protection of electronic systems can only be achieved if all incoming/outgoing metallic services, including data, signal and telecoms lines are protected

Protection for data signal and telecoms applications







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