

# MTL MA15E

## DIN rail RFI and surge protection devices

### NOTE

Adhering to these instructions guarantees maximum performance of this Protection device.

The MA15E DIN RAIL RFI & SURGE PROTECTION DEVICES (SPDs) are a range of DIN Rail mounting SPDs for mains power applications with Ex ec certifications.

### Introduction

The MA15E protects electronic equipment from surges and Radio Frequency Interference (RFI) on the mains power supply. The MA15E has a unique 3-stage combination of protection elements providing filtering, surge protection and ring suppression.

### Installation

The MA15E simply clips on to "Top Hat" (EN50022, DIN46277-2) DIN rail.  
Torque: 0.2Nm to 0.4Nm  
Cable wire gauge: 12 to 30 AWG  
Cable insulation strip /ferrule length: 6-8mm

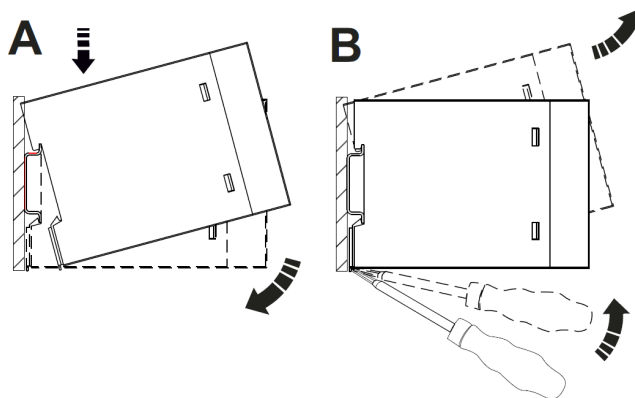


Figure 1 Installation

## Construction

The casing of the MA15E has screw-clamp terminals for input and output connections. The maximum allowable wire cross section for the terminals is 12AWG.

## Connection

The MA15E may be installed in series with the load or, if the load current exceeds 15A(10A for 240V), it may be installed in parallel.

## Series connection

Connect the incoming mains (LNG) to the "UNPROTECTED" side of the MA15E device, as indicated on the product labeling. The protected equipment is connected to the "PROTECTED" side.

## Parallel connection

Connect the incoming mains supply or equipment power (LNG) to the "UNPROTECTED" side of the MA15E device, as indicated on the product labeling. This will install the SPD in parallel with the supply and it will not be subjected to any load current. Install 15A overcurrent protection (fuse or circuit breaker) in the LINE wire.

The Live wire must be connected to the "L" terminal and the Neutral wire must be connected to the "N" terminal of the MA15E. If two core cable without an integral earth wire is being used, then for full protection, the earth "E" terminal should be bonded to a suitable system earth point.

### NOTE

A fuse or circuit breaker must be inserted in the mains input side of the incoming supply. Rating will be according to the required load current and apply to Series connection only.

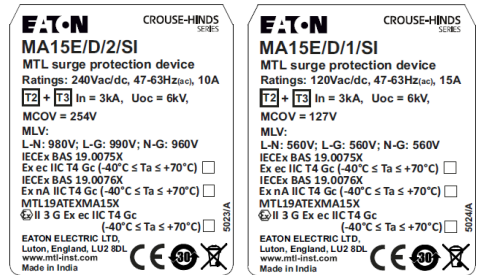


Figure 2 Label Contents

## IMPORTANT SAFETY INFORMATION

To avoid risk of shock or fire, which can be caused by incorrect wiring or regulation, whenever installing mains surge protection devices, the safety procedures must be followed.

Suitably qualified personnel should carry out all installation.

1. Always isolate supply before installing or removing any connections.
2. The maximum rating of fuse/circuit breakers must not exceed the lower of:
  - a. The maximum value specified for the surge protection device.
  - b. The power supply short circuit current.
  - c. The maximum rating of equipment protected by the surge protection device.

**Examples:** For an in-line surge protection device with maximum specified through or line current of 15A,

- a. Connected to a 30A power supply - Protect with 15A maximum.
  - b. Connected to a 8.5A UPS or standby generator - Protect at 5A (A, 1.7 is the usual safety margin of fuses).
  - c. Connected to equipment rated at 5A maximum - Protect at 5A maximum.
- Correct polarity of live, neutral and earth (L,N,E) is essential. Check both at SPD and source of supply.
  - The supply voltage must be less than the maximum working voltage of the SPD. Pay particular attention to UPS and standby generator regulation and neutral earth bond.

### NOTE

Ensure that surge protection devices are removed before performing insulation or flash tests on equipment.

## MAINTENANCE

The lifetime of the MA15E is dependent on the number of surges experienced; however, the unit will typically provide maintenance-free protection over a twenty year period.

In the event of a surge exceeding the device ratings, the unit is designed to fail-safe, due to the secondary protection elements. The equipment, therefore, remains protected.

### NOTE

The MA15E is designed to limit the voltage that can occur both line-line and line-earth. Any system insulation test should be carried out with the MA15E disconnected from the circuit.

## SPECIFIC CONDITIONS OF USE:

The equipment must be installed in an enclosure that provides a minimum ingress protection of IP54 in accordance with IEC 60079-0.

All connections to the equipment must not be inserted or removed unless either the area in which the equipment is installed is known to be non-hazardous, or the circuit to which it is connected has been de-energised

The equipment is fitted with transient protection devices and is incapable of withstanding the 500V dielectric strength test of clause 6.1 of IEC 60079-7: 2015 or clause 6.5.1 of IEC 60079-15:2010.

Compliance Standards:

Ex ec: IEC 60079-0: 2017 & IEC 60079-7: 2015  
EN IEC 60079-0: 2017 & EN 60079-7: 2015

Ex nA: IEC 60079-0: 2017 & IEC 60079-15:2010

Ambient temperature limits

-40°C to +85°C (Safe Area)

-40°C to +70°C (Haz Loc with IECEx and ATEX)

## LED STATUS

LED ON	Product healthy
LED OFF	No Power/faulty product

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