MTL MA15

DIN rail RFI and surge protection devices

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

The MA15 DIN RAIL RFI & SURGE PROTECTION DEVICES (SPDs) are a range of DIN Rail mounting SPDs for mains power applications.

Introduction

The MA15 protects electronic equipment from surges and Radio Frequency Interference (RFI) on the mains power supply. The MA15 has a unique 3-stage combination of protection elements providing filtering, surge protection and ring suppression.

Installation

The MA15 simply clips on to "G"(EN0035 DIN46277-1) or "Top Hat" (EN50022, DIN46277-2) DIN rail.

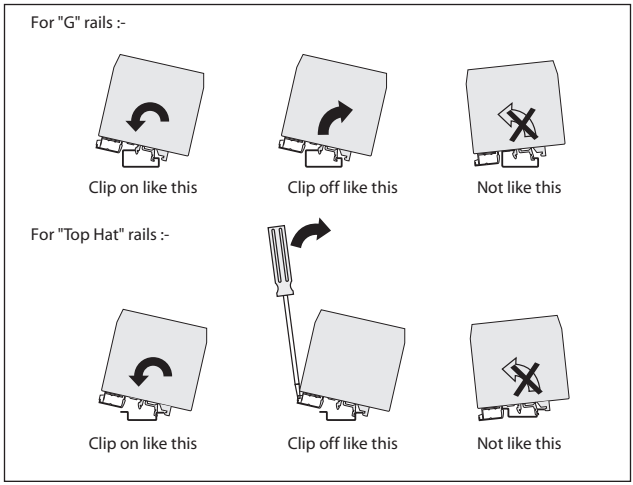

Figure 1 Installation

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Construction

The casing of the MA15 has screw-clamp terminals for input and output connections. The maximum allowable wire cross section for the terminals is #10 AWG (2.5mm$^{2)}$

Connection

The MA15 may be installed in series with the load or, if the load current exceeds 15A, it may be installed in parallel.

Series connection

Connect the incoming mains (LNG) to the "UNPROTECTED" side of the MA15 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 MA15 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 MA15. 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.



WARNING

This device is suitable for use in Class I, Division 2 Groups A, B, C and D or non-hazardous locations ONLY.



WARNING

EXPLOSION HAZARD

Substitution of components may impair suitability for Class I, Division 2.



WARNING

EXPLOSION HAZARD

DO NOT disconnect equipment unless power has been switched off or the area is known to be non-hazardous.

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 MA15 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 MA15 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 MA15 disconnected from the circuit.

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