

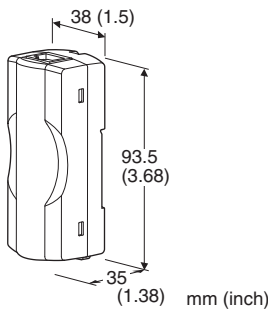
Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR ETHERNET

(PoE / 10 BASE-T / 100 BASE-TX / 1000 BASE-T)

Functions & Features

- Designed specifically for Ethernet network
- Conforms with 1000 Base-T, PoE and PoE Plus
- LAN cable's shield wire can be floating or grounding by a shortcircuit bar
- DIN rail mounting



MODEL: MDCAT-[1][2]

ORDERING INFORMATION

- Code number: MDCAT-[1][2]
- Specify a code from below for each [1] and [2]. (e.g. MDCAT-5E/DR/Q)

[1] CABLE CATEGORY

- 5E: CAT5e
- 6: CAT6

[2] OPTIONS (multiple selections)

Single mount DIN rail

- blank: Without
- /DR: With single mount DIN rail

Other Options

- blank: none
- /Q: Option other than the above (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to M-System's web site.)

- /C01: Silicone coating
- /C02: Polyurethane coating
- /C03: Rubber coating

CAUTION

- When this unit is earthed via a DIN rail, use a steel or copper rail. Oxide film on the surface of an aluminium rail may lower the electric conductivity between this module and the ground.
- Single mount DIN rail for option code '/DR' is made of aluminum. Connect to ground with ground terminal when this DIN rail is used.

PACKAGE INCLUDES...

LAN cable connected to the protected device (STP, 1 meter)

APPLICABLE NETWORK

- 10 BASE-T: IEEE 802.3i
- 100 BASE-TX: IEEE 802.3u
- 1000 BASE-T: IEEE 802.3ab
- PoE: IEEE 802.3af
- PoE Plus: IEEE802.3at

GENERAL SPECIFICATIONS

Connection

- Network:** RJ-45 modular jack
- Grounding:** M3 screw terminal (torque 0.6 N·m) or via DIN rail
- Screw terminal:** Nickel-plated brass
- DIN rail material:** Aluminum
- Housing material:** Flame-resistant resin (black)

INSTALLATION

- Operating temperature:** -25 to +85°C (-13 to +185°F)
- Operating humidity:** 30 to 90 %RH (non-condensing)
- Mounting:** DIN Rail (TH35-7.5, 1-mm-thick)
- Weight:** 150 g (0.33 lb)

PERFORMANCE

	LINE TO LINE (pair)		LINE TO LINE (PoE)	LINE TO EARTH
	MDCAT-5E	MDCAT-6		
Max. continuous operating voltage (Uc)	±6V	±3.3V	±58V	±150V
Voltage protection level (Up)	±15V max. @2kV	±10V max. @2kV	±100V max. @2kV	±600V max. @4kV
Leakage current @Uc	25µA	5µA	25µA	5µA
Response time	≤4 nsec.	≤4 nsec.	≤4 nsec.	≤20 nsec.
Max. discharge current (Imax)	100A	100A	100A	10kA
Nominal current (In)	1A			
Series resistance	Approx. 0Ω			

STANDARDS & APPROVALS

EU conformity:

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

EN 50581

Surge protection: IEC 61643-21

(Categories C1, C2)

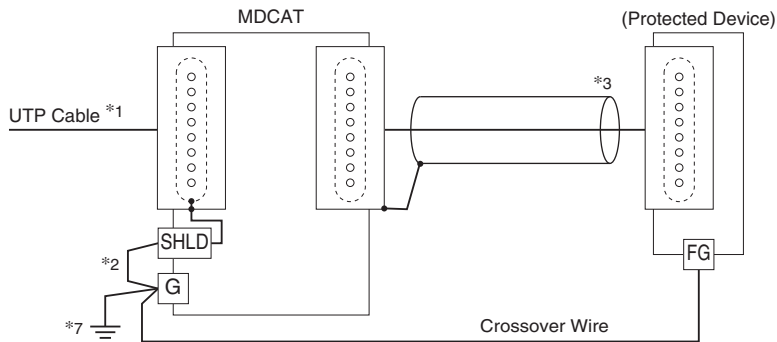
Transmission performance:

TIA/EIA-568-B.2 CAT5e (MDCAT-5E)

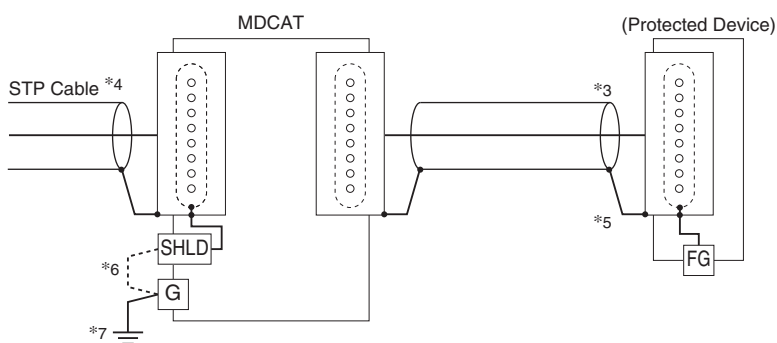
TIA/EIA-568-B.2 CAT6 (MDCAT-6)

CONNECTION EXAMPLES

■ PROTECTING NON-STP (UTP) DEVICE



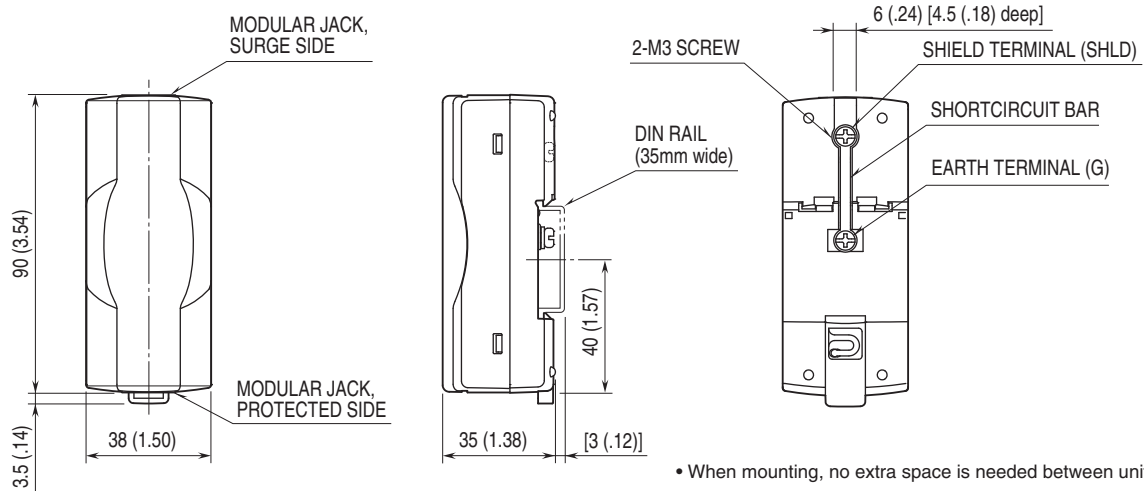
■ PROTECTING STP DEVICE



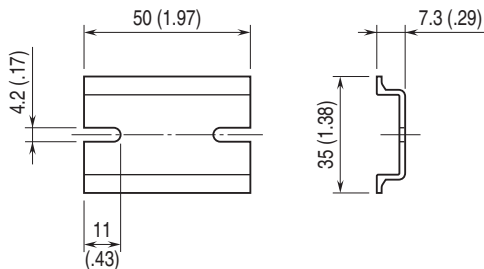
- *1. Unshield twisted-pair cable
- *2. Maintain the shortcircuit bar. The protected device is earthed.
- *3. Cable included in the product package or provided by customer.
- *4. Shield twisted-pair cable
- *5. STP cable's shield wire serves as the crossover wiring.
- *6. The protected device is 'earthed' when the shortcircuit bar is connected. Remove the bar in order to switch to 'floating' state.
- *7. Use a DIN rail made of steel or copper when connecting to ground via the DIN rail.
Single mount DIN rail for option code 'DR' is made of aluminum.
Connect to ground with ground terminal when this DIN rail is used.

DIMENSIONS unit: mm (inch)

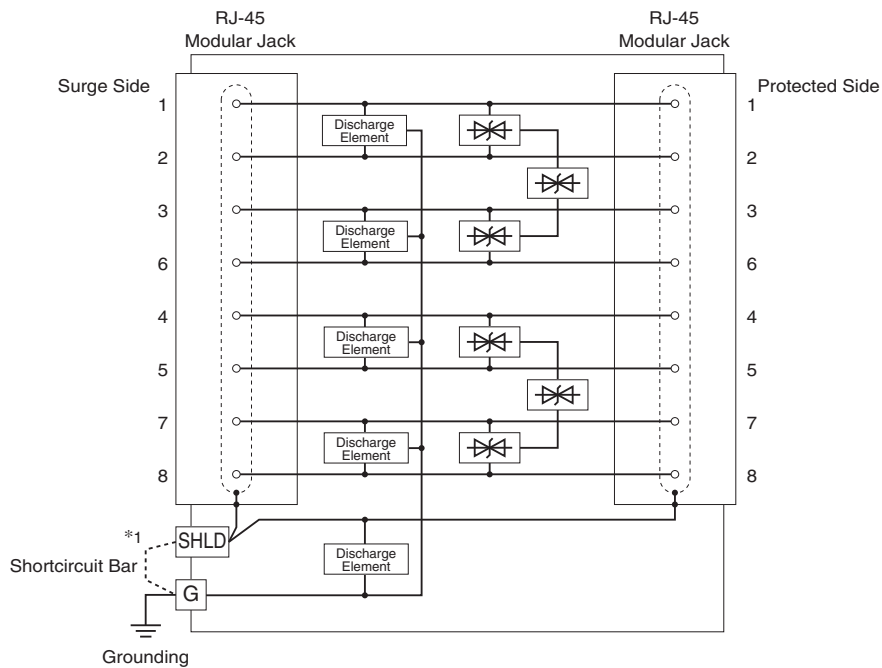
UNIT



DIN RAIL

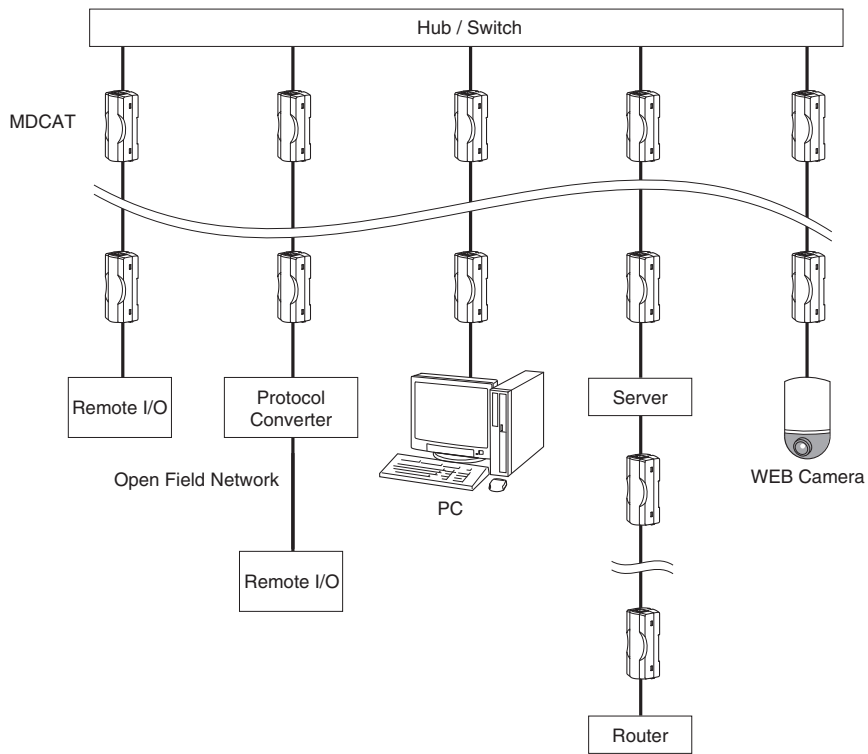


SCHEMATIC CIRCUITRY



*1. Remove the shortcircuit bar when the LAN cable's shield wire is floating.
 NOTE: Line to line (PoE): Terminal 1 & 2 to 3 & 6, 4 & 5 to 7 & 8
 Line to line (pair): Terminal 1 to 2, 3 to 6, 4 to 5 and 7 to 8

SYSTEM CONFIGURATION EXAMPLES



Specifications are subject to change without notice.