

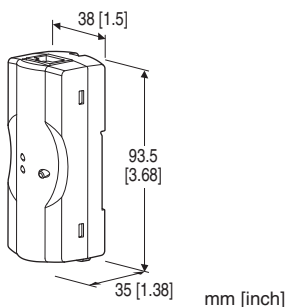
Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR ETHERNET

(PoE / 10 BASE-T / 100 BASE-TX / 1000 BASE-T, life monitor)

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
- Pressing CHK (Check) button confirms with LEDs the life span of the surge protect device
- DIN rail mounting



MODEL: MDCAT-A-[1][2]

ORDERING INFORMATION

- Code number: MDCAT-A-[1][2]

Specify a code from below for each of [1] and [2].
(e.g. MDCAT-A-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

- Ethernet:** 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)

Indicators: Activated by CHK (Check) button, see the status table shown below.

- BAT: Green LED
- ALM: Red LED

Life time judged: When the number of discharges of the discharge element reaches the expected life span.

CHK button: Push button; momentary

Battery: Lithium; No recharge or replacement available.

Battery life: 10 years (when used \leq 2 minutes/month)

Life status table

| BAT | ALM | BATTERY | DISCHARGE ELEMENT | REPLACEMENT |
|-----|-----|------------|-------------------|----------------------|
| ON | OFF | | Normal | No Need |
| ON | ON | Normal | Near End | Near |
| OFF | ON | Normal | End of Life | Immediately Required |
| OFF | OFF | Discharged | Unable to Judge | Required |

INSTALLATION

Operating temperature: -10 to +55°C (14 to 131°F)

Operating humidity: 5 to 95 %RH (non-condensing)

Mounting: DIN Rail (TH35-7.5, 1-mm-thick)

Weight: 160 g (0.35 lb) include the attached LAN cable

PERFORMANCE

Transmission performance:

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

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

Surge protection: IEC 61643-21 Categories C1, C2

| | LINE TO LINE (pair) | | LINE TO LINE (PoE) | LINE TO EARTH |
|--|---------------------|-----------|--------------------|---------------|
| | MDCAT-A-5E | MDCAT-A-6 | | |
| Max. continuous operating voltage (Uc) | ±6V | ±3.3V | ±58V | ±150V |
| Voltage protection level (Up) | ±15V @2kV | ±10V @2kV | ±100V @2kV | ±600V @4kV |
| Leakage current @Uc | 25µA | 5µA | 5µA | 5µA |
| Max. discharge current (Imax) | 100A | 100A | 100A | 10kA |
| Nominal current (In) | 1A | | | |
| Series resistance | Approx. 0Ω | | | |
| Insertion loss | ≤ 3dB | | | |

STANDARDS & APPROVALS

EU conformity:

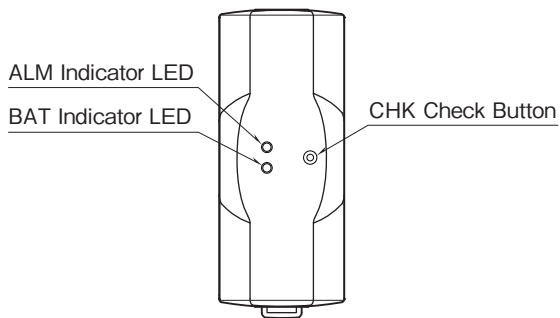
EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

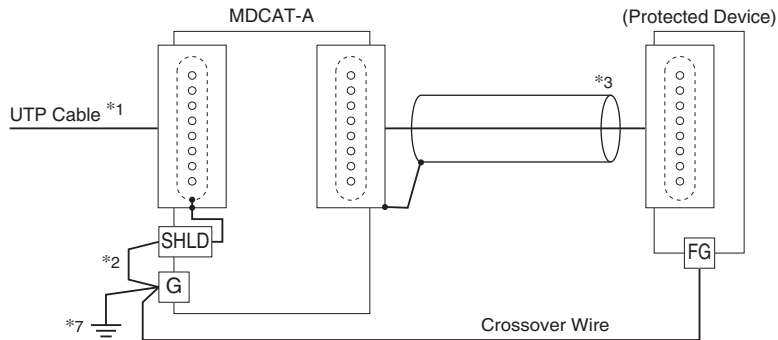
RoHS Directive

EXTERNAL VIEW

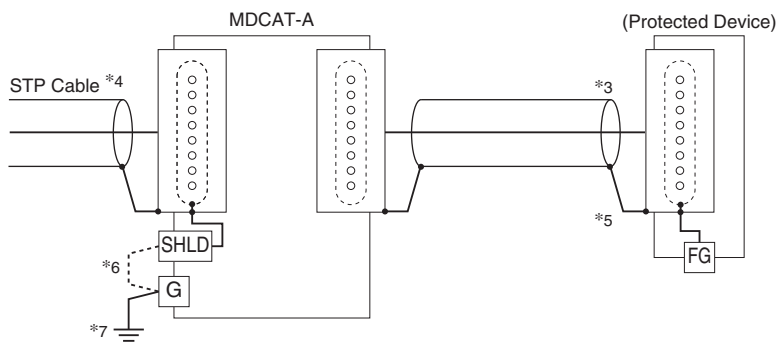


CONNECTION EXAMPLES

■ PROTECTING NON-STP (UTP) DEVICE



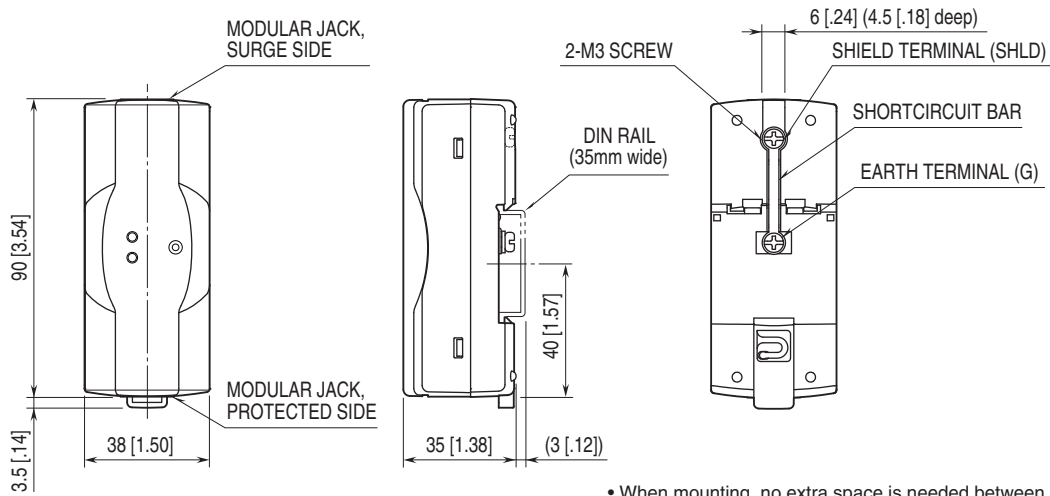
■ PROTECTING STP DEVICE



- *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.

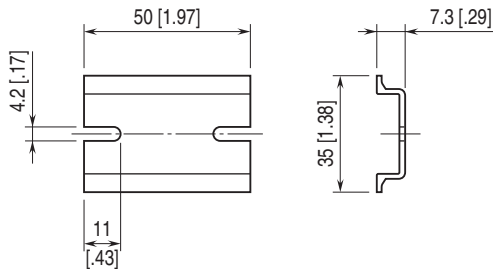
EXTERNAL DIMENSIONS unit: mm [inch]

UNIT

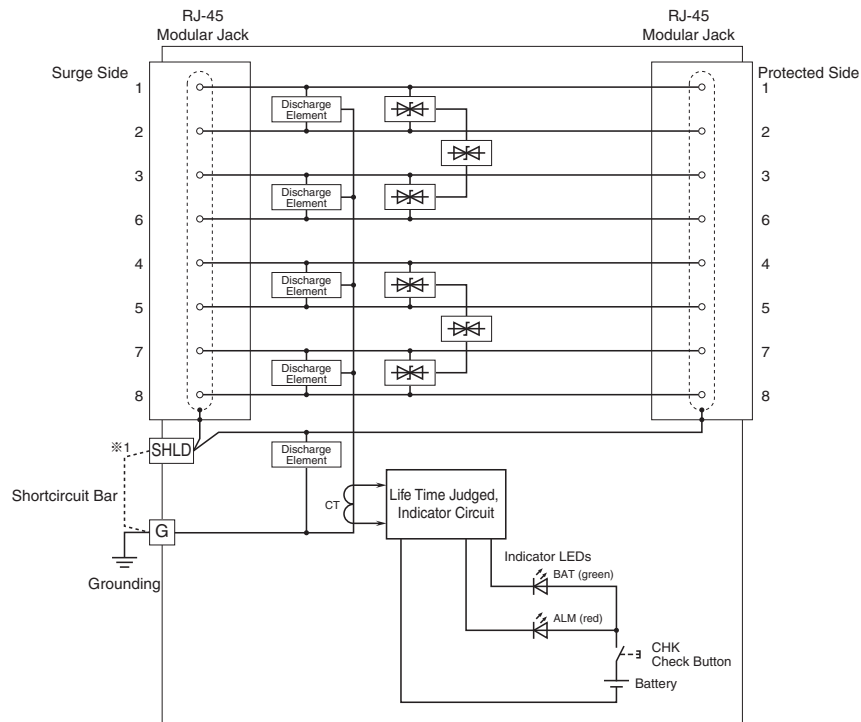


• When mounting, no extra space is needed between units.

DIN RAIL



SCHEMATIC CIRCUITRY

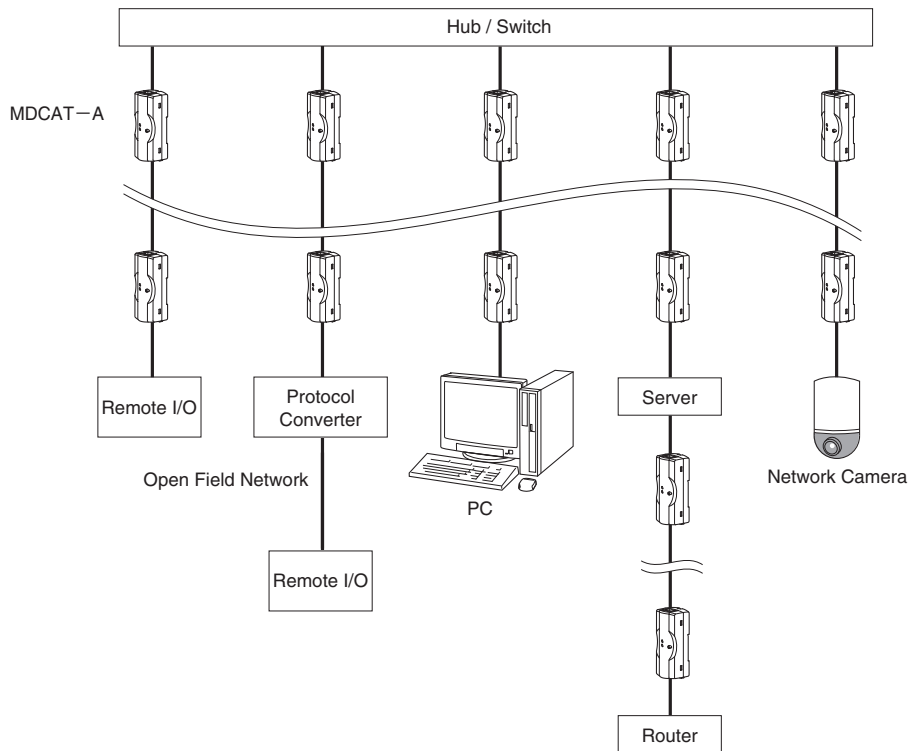


*1. Remove the shortcircuit bar when the LAN cable's shield wire is floating.

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.