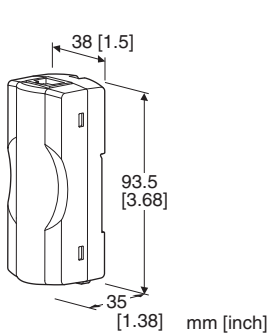


## Lightning Surge Protectors for Electronics Equipment M-RESTER

### LIGHTNING SURGE PROTECTOR FOR CC-Link IE Field Network

#### Functions & Features

- Recommended for CC-Link IE Field Network
- LAN cable's shield wire can be floating or grounding by a shortcircuit bar
- DIN rail mounting
- Grounding with M3 screw terminal or via DIN rail



### MODEL: MDCAT-NC-5E

#### ORDERING INFORMATION

- Code number: MDCAT-NC-5E

#### CABLE CATEGORY

5E: CAT5e

#### PACKAGE INCLUDES...

LAN cable connected to the protected device  
(Compatible cable with CC-Link IE Field Network, 0.5 meters)

#### APPLICABLE NETWORK

**Applicable network:** CC-Link IE Field Network  
**Applicable cable:** Compatible cable with CC-Link IE Field Network

#### 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  
**Housing material:** Flame-resistant resin (black)

#### INSTALLATION

**Operating temperature:** -25 to +85°C (-13 to +185°F)

**Operating humidity:** 10 to 90 %RH (non-condensing)

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

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.

**Weight:** 150 g (0.33 lb)

#### PERFORMANCE

##### Max. continuous operating voltage (Uc):

Line to line 1: ±6 V  
Line to line 2: ±58 V  
Line to earth: ±150 V

##### Voltage protection level (Up):

Line to line 1: ±15 V (@2 kV, 1.2/50 μsec.)  
Line to line 2: ±100 V (@2 kV, 1.2/50 μsec.)  
Line to earth: ±600 V (@4 kV, 1.2/50 μsec.)

##### Response time:

Line to line 1: 4 nsec.  
Line to line 2: 4 nsec.  
Line to earth: 20 nsec.

##### Leakage current @Uc:

Line to line 1: 25 μA  
Line to line 2: 5 μA  
Line to earth: 5 μA

##### Max. discharge current (Imax)

Line to line 1: 100 A (8/20 μsec.)  
Line to line 2: 100 A (8/20 μsec.)  
Line to earth: 10 kA (8/20 μsec.)

##### Nominal current (In): 1 A

**Series resistance:** approx. 0 Ω

**Transmission performance:** TIA/EIA-568-B.2 CAT5e

**Surge protection:** IEC 61643-21 Categories C1, C2

Note: "Line to line 1" stands for electrodes 1 - 2, 3 - 6, 4 - 5 and 7 - 8, "line to line 2" stands for electrodes 1 or 2 - 3 or 6 and 4 or 5 - 7 or 8 of RJ-45 Modular jack.

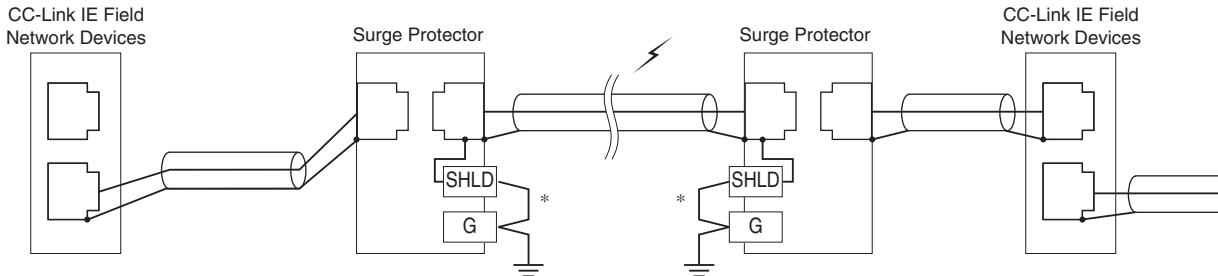
#### STANDARDS & APPROVALS

##### EU conformity:

EMC Directive  
EMI EN 61000-6-4  
EMS EN 61000-6-2  
RoHS Directive

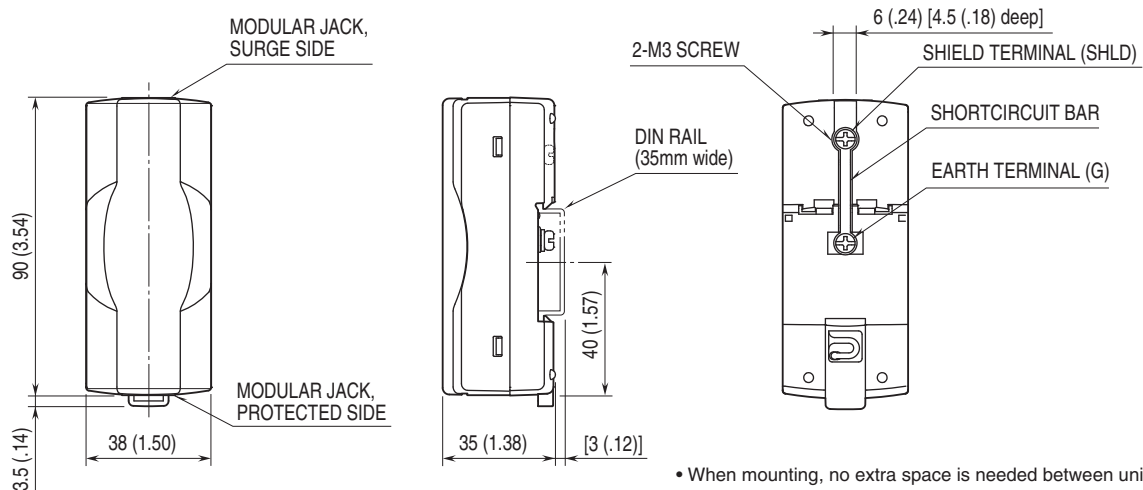
## CONNECTION EXAMPLES

- Install the lightning surge protectors in places where it is considered that lightning surge may enter (where panels/cabinets are greatly separated, such as outdoor wiring).
- The maximum number of surge protectors that can be installed between devices is two (2). Take into account insertion loss 1 dB per surge protector as a rough indication.
- Refer to "CC-Link IE Field Network Cable Installation Manual" issued by CC-Link Partner Association for details.

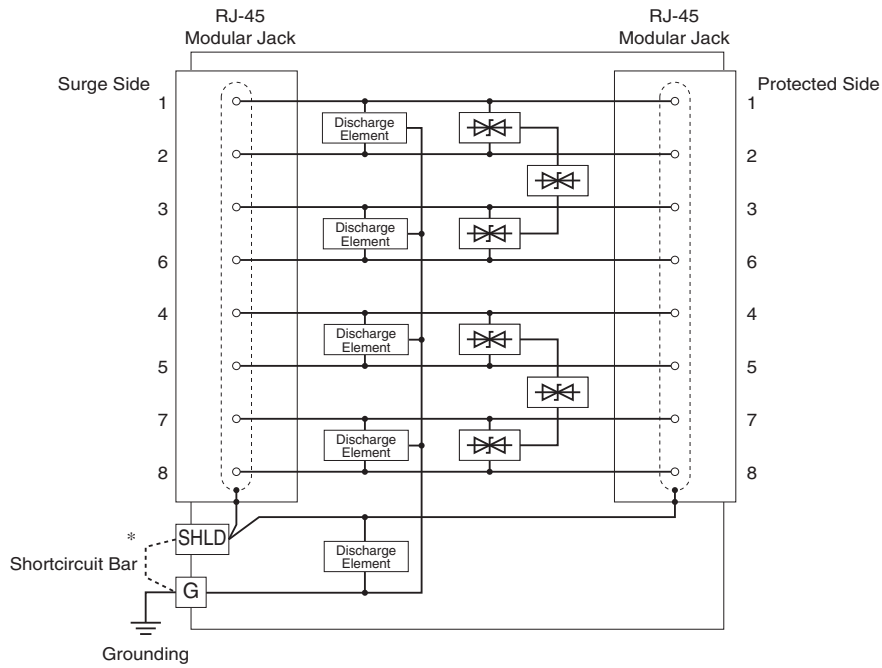


\* LAN cable's shield wire (SHLD) is 'earthed' when shortcircuit bar is connected.  
Make sure to connect the shortcircuit bar when you use shielded LAN cable.

## EXTERNAL DIMENSIONS unit: mm [inch]



**SCHEMATIC CIRCUITRY**



\*Remove the shortcircuit bar to make the LAN cable's shield wire floating.



Specifications are subject to change without notice.