

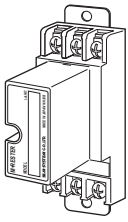
Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR LonWorks

(FTT-10A)

Functions & Features

- Designed specifically for the network
- No interruption of transmission signal by unplugging the head element module



MODEL: MDP-LWA[1]

ORDERING INFORMATION

- Code number: MDP-LWA[1]
Specify a code from below for [1].
(e.g. MDP-LWA/A33/Q)
- Specify the specification for option code /Q
(e.g. /C01)

[1] OPTIONS (multiple selections)

DIN Rail Mounting Adapter

blank: Without

/A33: With adapter (model A-33)

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

APPLICABLE NETWORK

LonWorks FTT-10A network

This unit is not applicable to LonWorks Link Power network.

GENERAL SPECIFICATIONS

Construction: Plug-in

Connection: M4 screw terminals (torque 0.8 N·m)

Screw terminal: Nickel-plated steel

Housing material: Flame-resistant resin (black)

INSTALLATION

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Surface or DIN rail

Weight: 100 g (0.22 lb), standard; 125 g (0.28 lb), with DIN rail mounting adapter

PERFORMANCE

Max. continuous operating voltage (Uc):

Line to line: ± 1.5 V

Line to earth: ± 100 V

SHLD to earth: ± 160 V

Voltage protection level (Up):

- @ 2 kV (1 kA)

Line to line: ± 40 V

Line to earth: ± 350 V

SHLD to earth: ± 650 V

Response time:

Line to line: ≤ 4 nsec.

Line or SHLD to earth: ≤ 20 nsec.

Leakage current:

Line to line: ≤ 0.15 mA @ ± 1.5 V

Line to earth: ≤ 20 μ A @ ± 100 V

SHLD to earth: $\leq \pm 20$ μ A @ ± 160 V

Max. discharge current (Imax): 5000 A (8 / 20 μ s)

Nominal current (In): 100 mA

Internal series resistance: ≤ 3.3 Ω including return

Capacitance @ 1 MHz:

Line to line: ≤ 200 pF

Line to earth: ≤ 200 pF

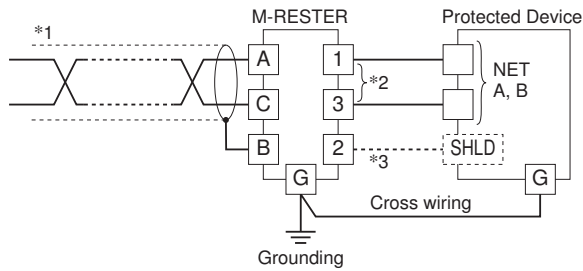
SHLD to earth: ≤ 30 pF

Input attenuation: -1 dB or less @ DC to 100 kHz, $Z_0 = 50$ Ω

Surge protection: IEC 61643-21 Categories C1, C2

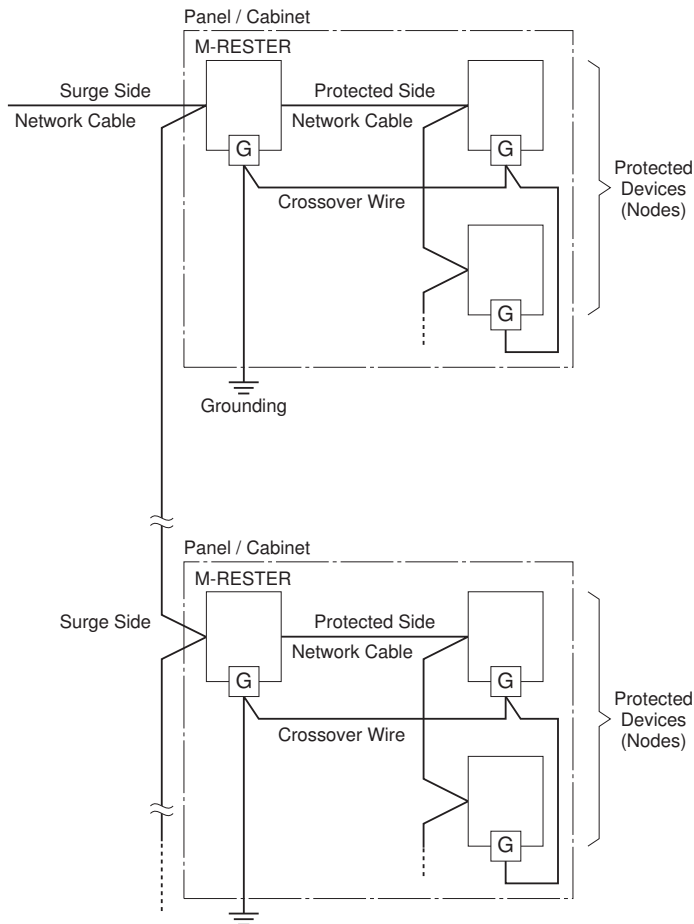
CONNECTION EXAMPLES

CONNECTION DIAGRAM



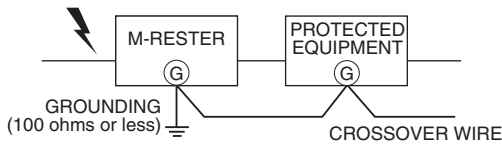
- *1. Be sure to use twisted-pair cables.
- *2. No polarity.
- *3. With shielded twisted-pair cables, connect the shield to the surge protector's 'B' terminal. Follow instructions provided with the protected device whether '2' terminal should be connected or not. However, if the shield terminal of the protected device is not isolated from NET A / B, DO NOT connect '2' terminal to the protected device.

NETWORK CONFIGURATION



- The M-RESTER is applicable to networks which consist only of FTT-10A. Not applicable to the ones connected to Link Power network.
- The maximum number of nodes connectable to the network segment is reduced by one when one unit of M-RESTER is added.
- When the distance between nodes are relatively long (e.g. grouped and separated by cabinets), install the M-RESTER by each group of devices. Insert the M-RESTER at the surge side of the network.
- For detailed information on the network, refer to LonWorks FTT-10A Free Topology Transceiver User's Guide provided by Echelon.

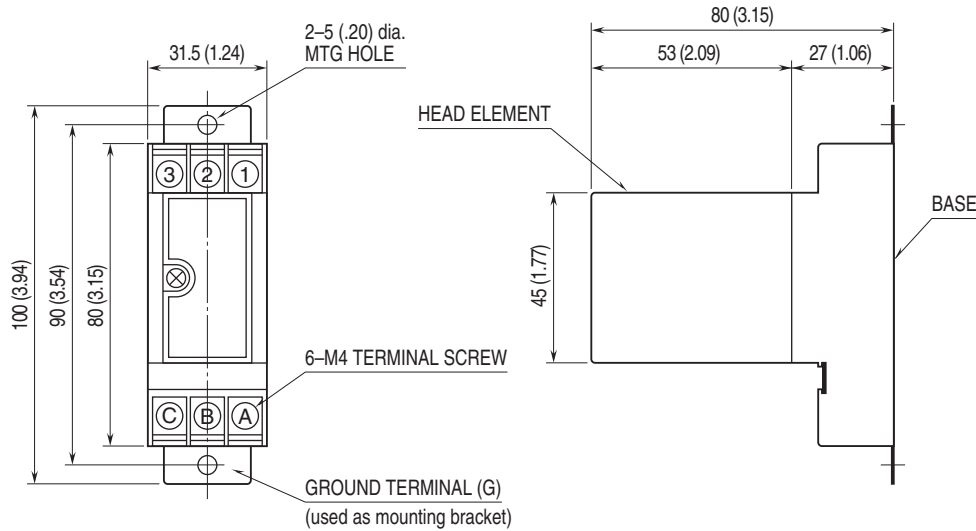
GROUNDING



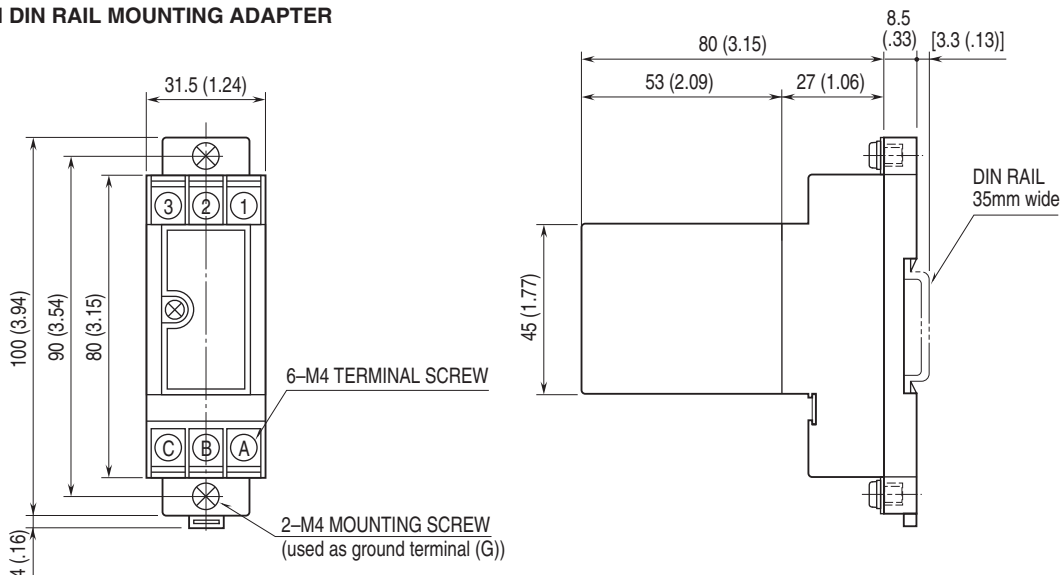
A crossover wire between M-RESTER ground and the ground or metallic housing of the equipment is required for protection. If the protected equipment has no ground terminal, ground the M-RESTER only. When the M-RESTER is mounted with DIN Rail Mounting Adapter, connect the grounding wire to the mounting screw of the M-RESTER.

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

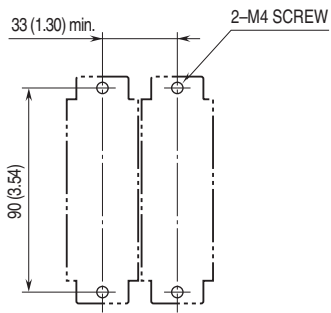
■ STANDARD



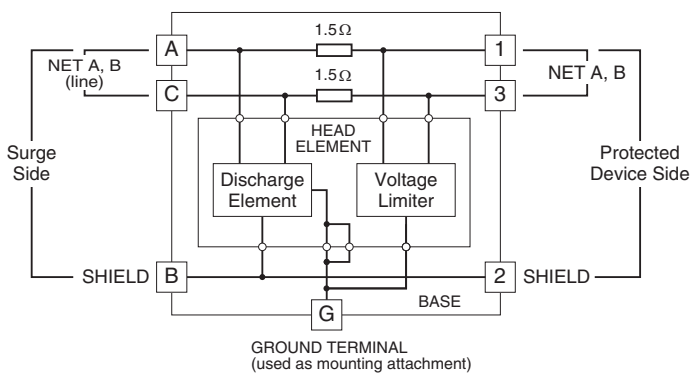
■ WITH DIN RAIL MOUNTING ADAPTER



MOUNTING REQUIREMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.