

Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR STANDARD SIGNAL LINE & PULSE USE

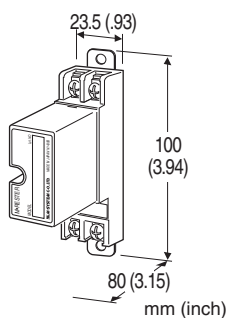
(photovoltaic system, instrument shelter)

Functions & Features

- Designed specifically for 4 - 20mA DC and pulse signal line including both 4-wire and 2-wire transmitters
- Absorbs surges only without affecting instrumentation signal
- No interruption of signal by unplugging surge protector element

Application Examples

- Protects two-wire transmission lines
- Protects electronic instruments' I/O



MODEL: MDP-24T[1]

ORDERING INFORMATION

- Code number: MDP-24T[1]
Specify a code from below for [1].
(e.g. MDP-24T/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

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: -20 to +80°C (-4 to +176°F)

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

Mounting: Surface or DIN rail

Weight:

120 g (0.26 lb), standard

145 g (0.32 lb), with DIN rail mounting adapter

PERFORMANCE

Max. continuous operating voltage (Uc):

Line to line: 30 V

Line to earth: ±140 V

Voltage protection level (Up):

• @ 1 kV (100 A)

Line to line: 40 V

Line to earth: ±650 V

• @ 2 kV (1 kA)

Line to line: 45 V

Line to earth: ±800 V

Response time:

Line to line: ≤ 4 nsec.

Line to earth: ≤ 20 nsec.

Leakage current:

Line to line: ≤ 30 μA @ 30 V DC

Line to earth: ≤ 5 μA @ ±140 V DC

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

Nominal current (In): 100 mA

Internal series resistance: 20 Ω ±10 % (including return)

Capacitance @ 1 MHz:

Line to line: ≤ 1000 pF

Line to earth: ≤ 100 pF

Surge protection: IEC 61643-21 Categories C1, C2, D1

STANDARDS & APPROVALS

EU conformity:

EMC Directive

EMI EN 61000-6-4

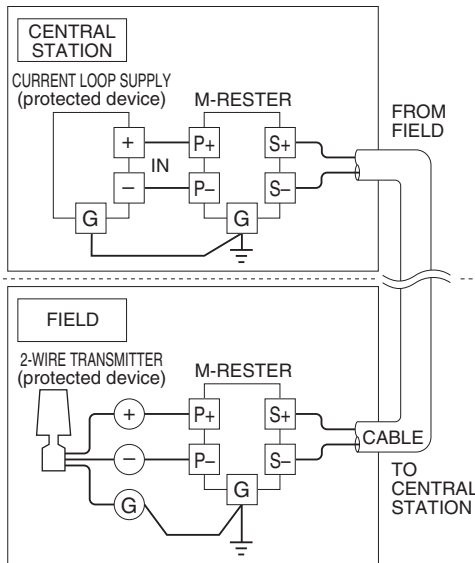
EMS EN 61000-6-2

RoHS Directive

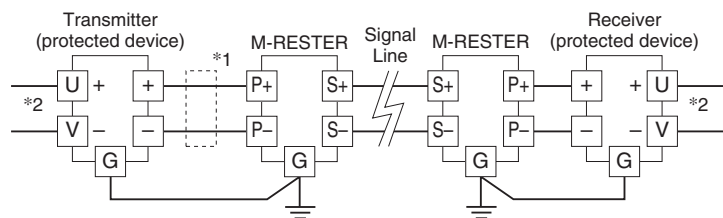
EN 50581

CONNECTION EXAMPLES

■ PROTECTING TWO-WIRE SIGNAL LINES



■ PROTECTING ELECTRONIC INSTRUMENTS' I/O

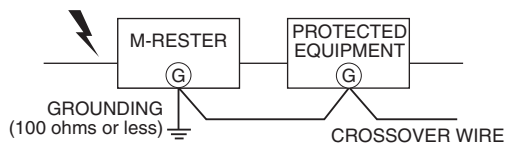


*1. Install a circuit protector when the transmitter output current exceeds 100mA.

*2. The M-RESTER is designed in particular to protect signal lines.

To protect power supply lines, install other types of surge protectors.

GROUNDING



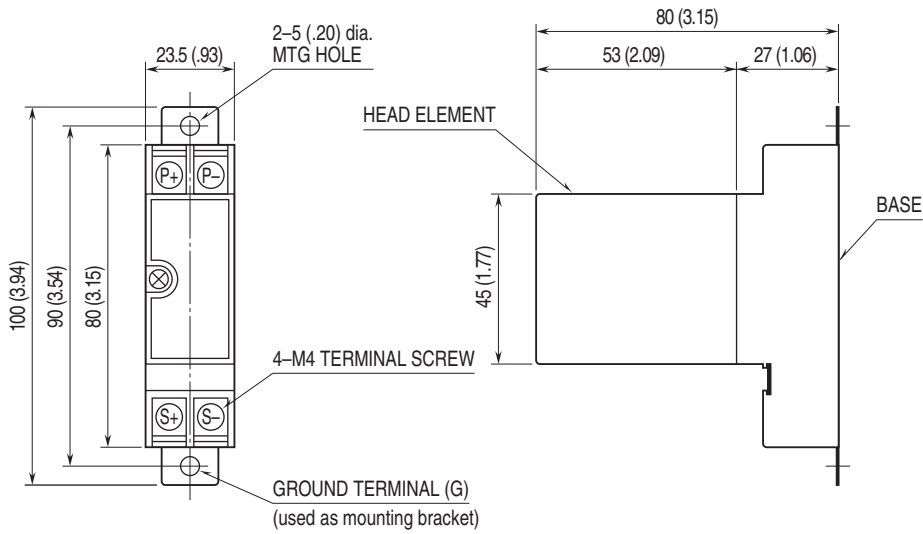
A crossover wire between M-RESTER ground and the ground or metallic housing of the equipment is required for protection.

If the protected equipment has no ground terminal, ground the M-RESTER only.

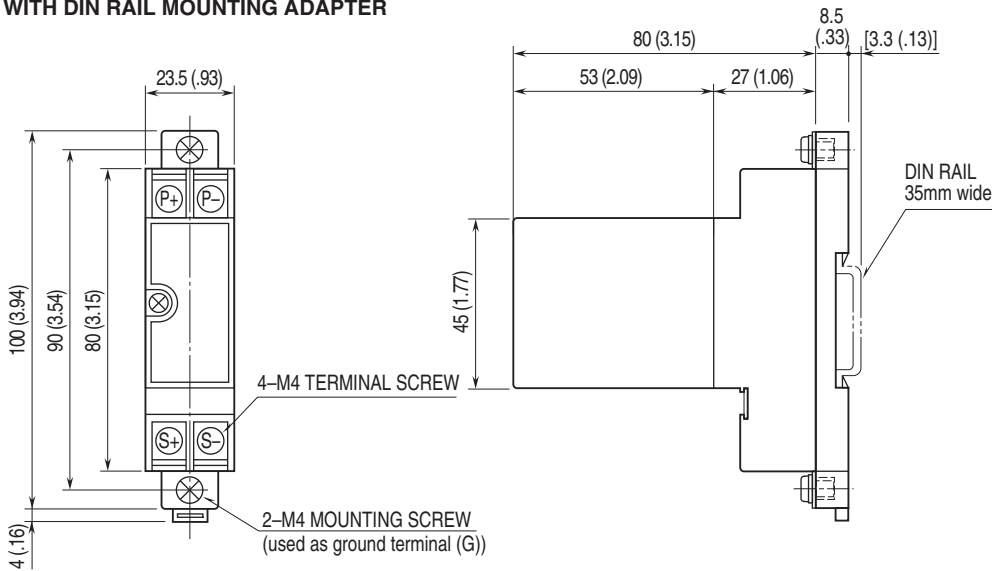
When the M-RESTER is mounted with DIN Rail Mounting Adapter, connect the grounding wire to the mounting screw of the M-RESTER.

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

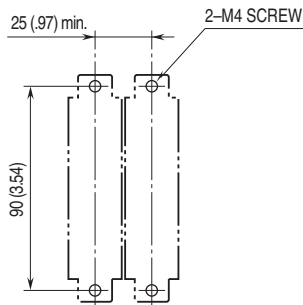
■ STANDARD



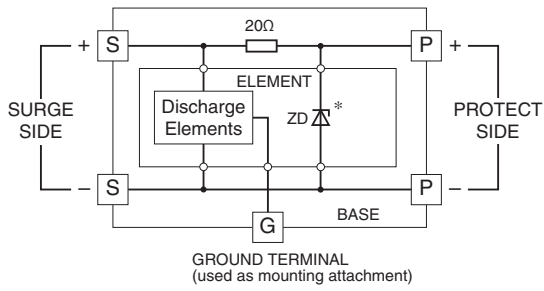
■ WITH DIN RAIL MOUNTING ADAPTER



MOUNTING REQUIREMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*The zenor diode has polarity.
Zero-cross signal cannot be connected.



Specifications are subject to change without notice.