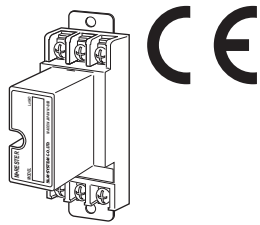


Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR LOW FREQUENCY USE

Functions & Features

- Designed specifically to protect frequency generating devices such like flowmeters and frequency transmitters from lightning surge damage that enters on the wiring between these instruments
- Absorbs surges only without affecting instrumentation signal
- No interruption of signal by unplugging the protector element



MODEL: MDP-SP[1]

ORDERING INFORMATION

- Code number: MDP-SP[1]
Specify a code from below for [1].
(e.g. MDP-SP/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: -5 to +55°C (23 to 131°F)

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

Mounting: Surface or DIN rail

Weight: 140 g (0.31 lb), standard

165 g (0.36 lb), with DIN rail mounting adapter

PERFORMANCE

Max. continuous operating voltage (Uc):

B to C: ±14 V

B or C to A: 14 V

Line to earth: ±140 V

Voltage protection level (Up):

• @ 1 kV (100 A)

2 to 3: ±30 V

2 or 3 to 1: 30 V

Line to earth: ±650 V

• @ 2 kV (1 kA)

2 to 3: ±30 V

2 or 3 to 1: 30 V

Line to earth: ±800 V

Response time: ≤ 0.1 μsec.

Leakage current:

B to C: ≤ 10 μA @ ±14 V DC

B or C to A: ≤ 10 μA @ 14 V DC

Line to earth: ≤ 10 μA @ ±140 V DC

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

Nominal current (In): 50 mA

Internal series resistance: 10 Ω ±10 %

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

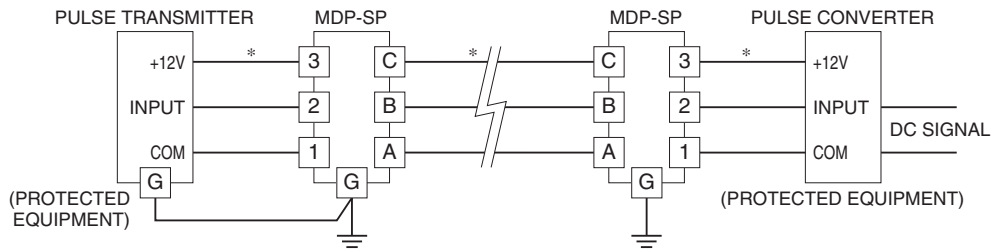
EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

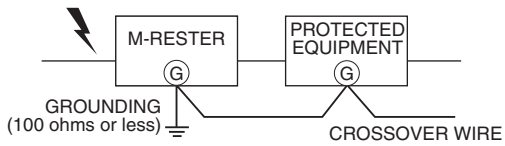
EN 50581

CONNECTION EXAMPLES



* When there is no need of power supply, the cable is also unnecessary.

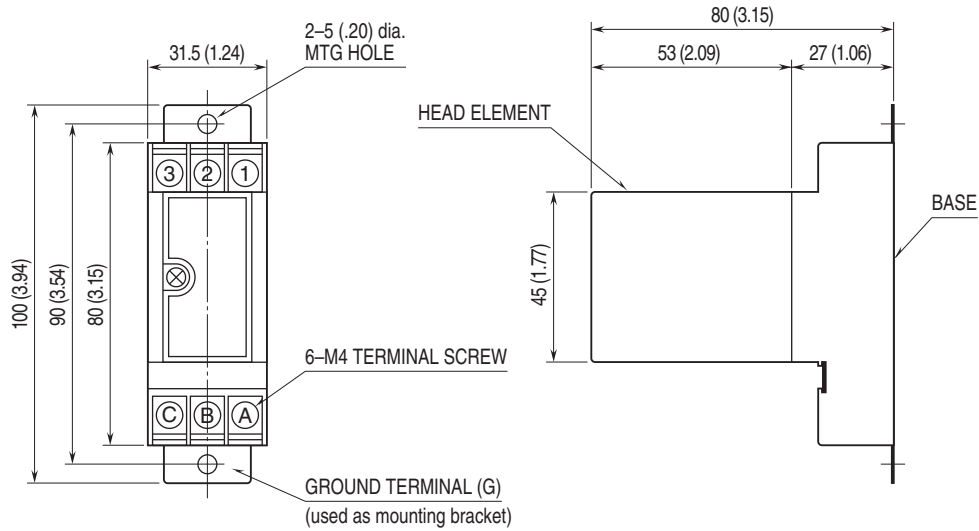
GROUNDING



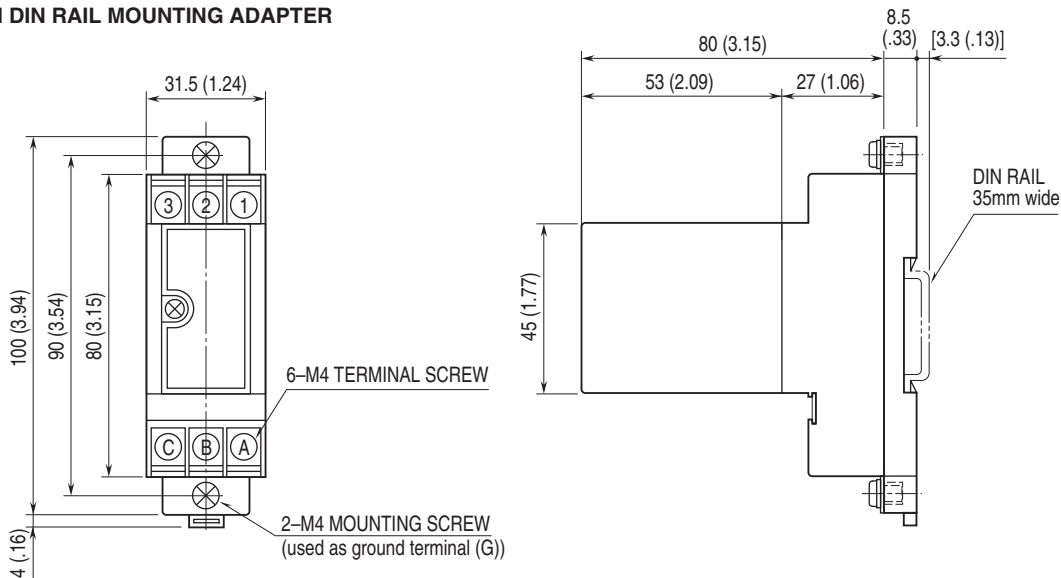
A crossover wire between M-RESTER ground and the ground or metallic housing of the equipment is required for protection.
 If the protected equipment has no ground terminal, ground the M-RESTER only.
 When the M-RESTER is mounted with DIN Rail Mounting Adapter, connect the grounding wire to the mounting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

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

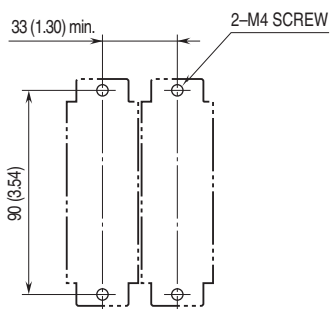
■ STANDARD



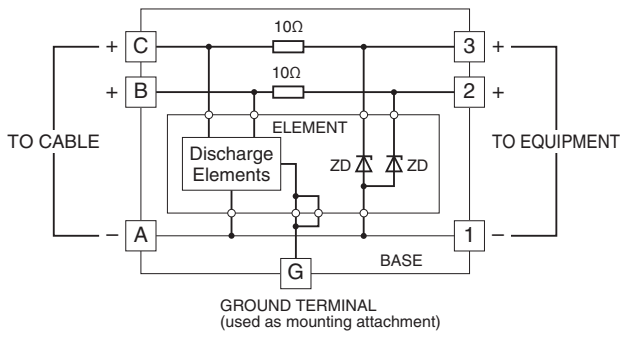
■ WITH DIN RAIL MOUNTING ADAPTER



MOUNTING REQUIREMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.