Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR LOW FREOUENCY 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
- · 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: O

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**: $\leq 0.1 \, \mu sec.$

Leakage current:

B to C: \leq 10 μ A @ \pm 14 V DC B or C to A: \leq 10 μ A @ 14 V DC Line to earth: $\leq 10 \,\mu\text{A} \oplus \pm 140 \,\text{V}$ DC

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

Nominal current (In): 50 mA

Internal series resistance: $10 \Omega \pm 10 \%$

Capacitance @ 1 MHz: Line to line: ≤ 1000 pF Line to earth: ≤ 100 pF

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

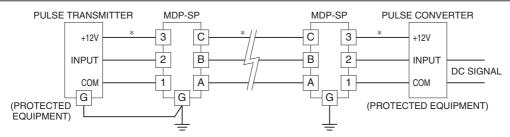
STANDARDS & APPROVALS

EU conformity:

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

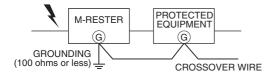


CONNECTION EXAMPLES



 $\ensuremath{^{*}}$ When there is no need of power supply, the cable is also unnecessary.

GROUNDING



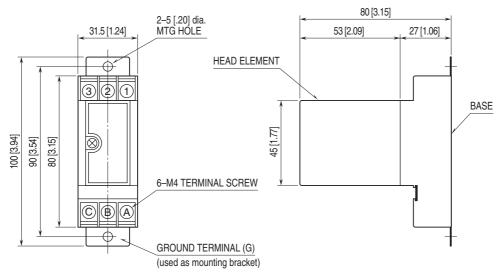
A crossover wire between M-RESTER ground and the ground or metallic housing of the equipment is required for protection. If the protected equipment has no ground terminal, ground the

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.

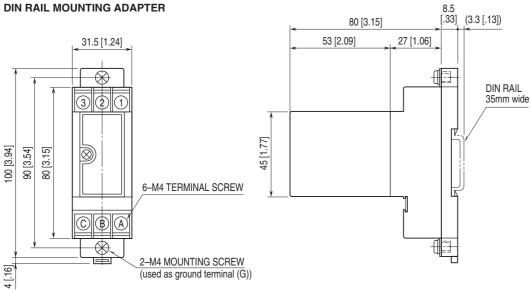


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]

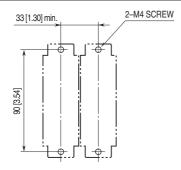
■ STANDARD



■ WITH DIN RAIL MOUNTING ADAPTER

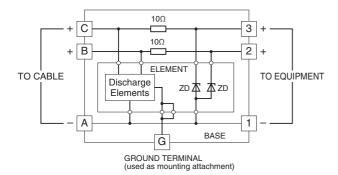


MOUNTING REQUIREMENTS unit: mm [inch]





SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.

