

Lightning Surge Protectors for Electronics Equipment M-RESTER

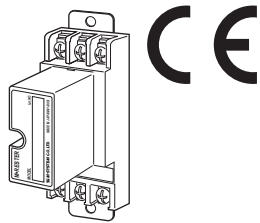
LIGHTNING SURGE PROTECTOR FOR DC POWER SUPPLY USE

Functions & Features

- Designed specifically for 12 V/24 V DC power supplies of small capacity
- Absorbs surges only without affecting instrumentation signal
- Monitor LED
- CE marking

Typical Applications

- DC power sources, switching regulators
- Power source for electronic devices



MODEL: MDP-D[1][2]

ORDERING INFORMATION

- Code number: MDP-D[1][2]
- Specify a code from below for [1], [2].
(e.g. MDP-D24/A33)

[1] OPERATIONAL VOLTAGE

12: 12 V DC
24: 24 V DC

[2] OPTIONS

DIN rail mounting adapter

blank: Without
/A33: With adapter (model A-33)

GENERAL SPECIFICATIONS

Construction: Plug-in
Surge protection type: Voltage limiting two-port SPD
Connection: M4 screw terminals (torque 0.8 N·m)
Screw terminal: Nickel-plated steel
Housing material: Flame-resistant resin (black)
Monitor LED: Green light turns ON during the power is supplied; OFF when the voltage limiter is failed.

INSTALLATION

Power input: Max. output current 1 A
 Use a DC power source with the overload current protection.
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 lbs), standard
 165 g (0.36 lbs), with DIN rail mounting adapter

PERFORMANCE

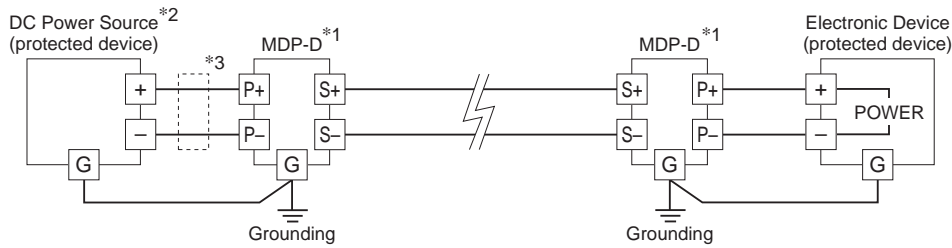
Max. continuous operating voltage (Uc):
 MDP-D12 Line to line: 14 V min
 MDP-D24 Line to Line: 30 V min
 Line to earth: ±160 V min
Voltage protection level (Up):
 MDP-D12 Line to line: 20 V max.
 MDP-D24 Line to Line: 40 V max.
 Line to earth: ±650 V max.
Response time:
 Line to line: ≤ 4 nsec.
 Line to earth: ≤ 20 nsec.
Leakage current:
 MDP-D12 Line to line: ≤ 3 mA @ 14 V DC
 MDP-D24 Line to line: ≤ 6 mA @ 27 V DC
 Line to earth: ≤ 0.1 mA @ ±160 V DC
Max. discharge current (Imax): 5000 A (8 / 20 μs)
Nominal current (In): 1.0 A
Internal series resistance: ≤ 0.6 Ω (including return)

STANDARDS & APPROVALS

CE conformity:
 EMC Directive (2004/108/EC)
 EMI EN 61000-6-4
 EMS EN 61000-6-2
Surge protection: IEC 61643-1 Class III



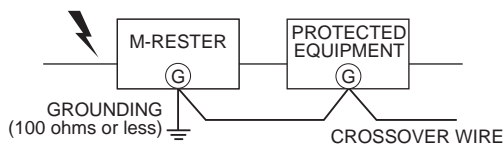
CONNECTION EXAMPLES



The MDP-D is not applicable to protect two-wire transmitters. To protect two-wire transmitters, model MDP-24-1 designed to yield only small leakage current is suitable.

- *1. Confirm the polarity of the terminals when connecting this module to a protected device.
- *2. Use a DC power source with the overload current protection function. (maximum output current 1A)
- *3. Install a current limiting element (capacity 1A) when the output current exceeds 1A.

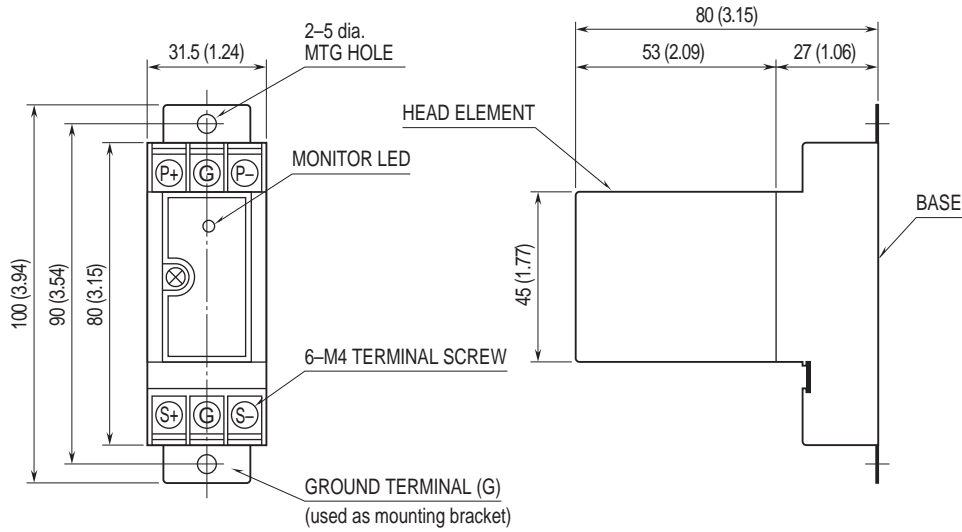
GROUNDING



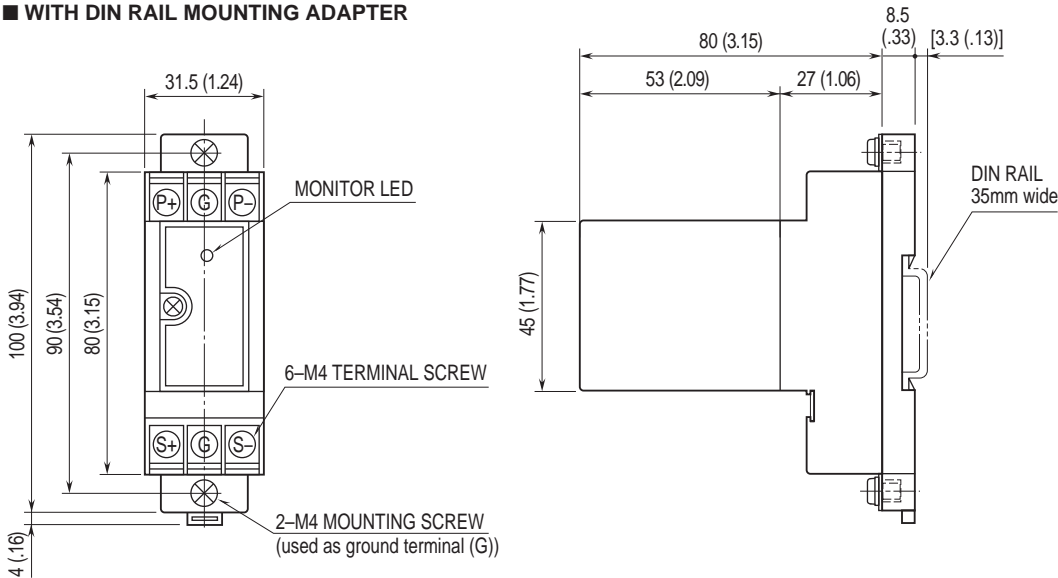
A crossover wire between M-RESTER ground and the ground or metallic housing of the equipment is required for protection. If the protected equipment has no ground terminal, ground the M-RESTER only.
When the M-RESTER is mounted with DIN Rail Mounting Adapter, connect the grounding wire to the mounting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

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

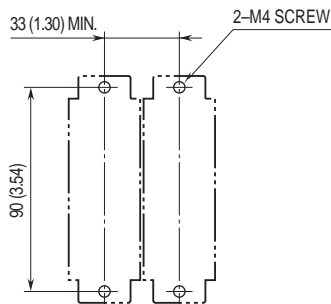
■ STANDARD



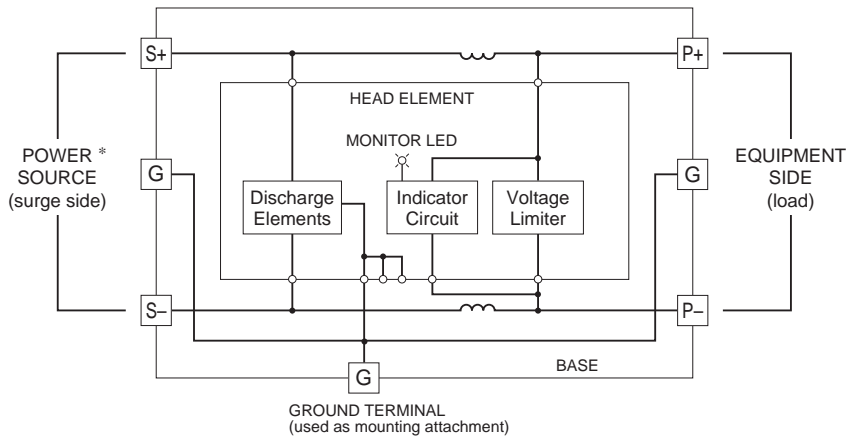
■ WITH DIN RAIL MOUNTING ADAPTER



MOUNTING REQUIREMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Use a DC power source with the overload current protection function. (maximum output current 1A)



Specifications are subject to change without notice.

