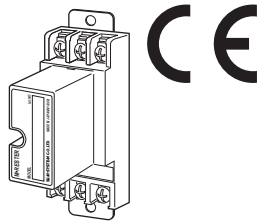


## Lightning Surge Protectors for Electronics Equipment M-RESTER

### 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
- CE marking



#### MODEL: MDP-SP[1]

#### ORDERING INFORMATION

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

#### [1] OPTIONS

##### DIN Rail Mounting Adapter

blank: Without

/A33: With adapter (model A-33)

#### 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:  $\pm 14$  V min.

B or C to A: 14 V min.

Line to earth:  $\pm 140$  V min.

**Voltage protection level (Up):**

• @ 1 kV (100 A)

2 to 3:  $\pm 30$  V max.

2 or 3 to 1: 30 V max.

Line to earth:  $\pm 650$  V max.

• @ 2 kV (1 kA)

2 to 3:  $\pm 30$  V max.

2 or 3 to 1: 30 V max.

Line to earth:  $\pm 800$  V max.

**Response time:**  $\leq 0.1$   $\mu$ sec.

**Leakage current:**

B to C:  $\leq 10$   $\mu$ A @  $\pm 14$  V DC

B or C to A:  $\leq 10$   $\mu$ A @ 14 V DC

Line to earth:  $\leq 10$   $\mu$ A @  $\pm 140$  V DC

**Max. discharge current (Imax):** 5000 A (8 / 20  $\mu$ s)

**Nominal current (In):** 50 mA

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

**Capacitance @ 1 MHz:**

Line to line:  $\leq 1000$  pF

Line to earth:  $\leq 100$  pF

#### STANDARDS & APPROVALS

**CE conformity:**

EMC Directive (2004/108/EC)

EMI EN 61000-6-4: 2007

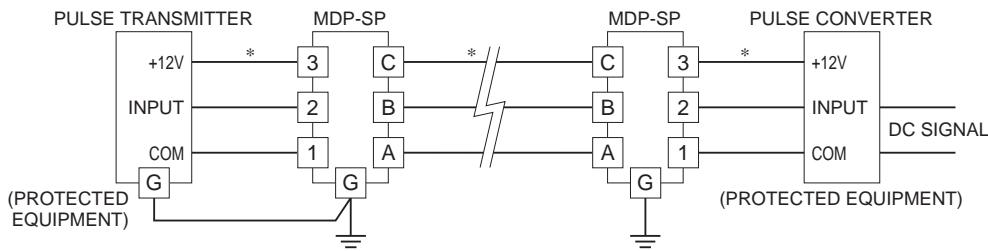
EMS EN 61000-6-2: 2005

**Surge protection:** IEC 61643-21: 2000

(Categories C1, C2)

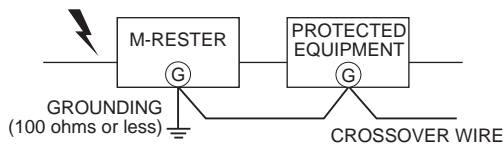


## CONNECTION EXAMPLES



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

## GROUNDING

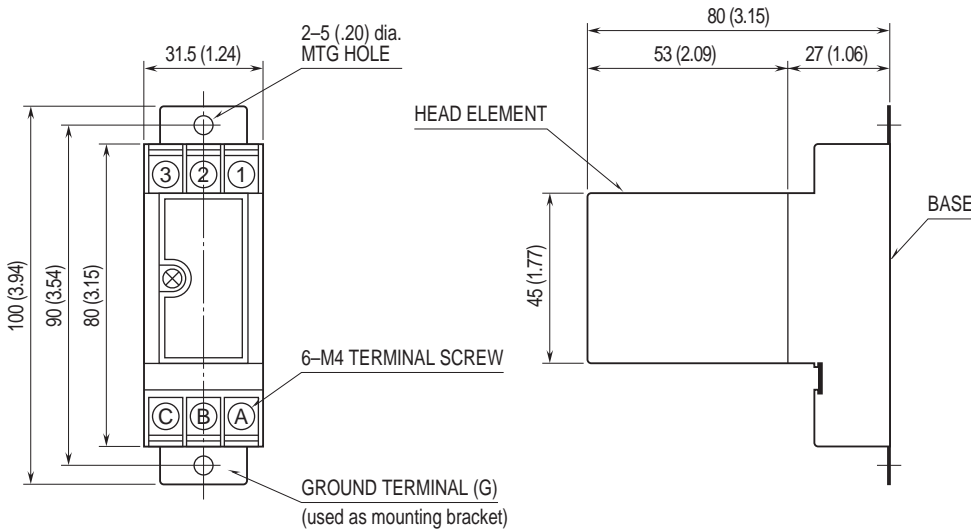


A crossover wire between M-RESTER ground and the ground or metallic housing of the equipment is required for protection.  
 If the protected equipment has no ground terminal, ground the M-RESTER only.  
 When the M-RESTER is mounted with DIN Rail Mounting Adapter, connect the grounding wire to the mounting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

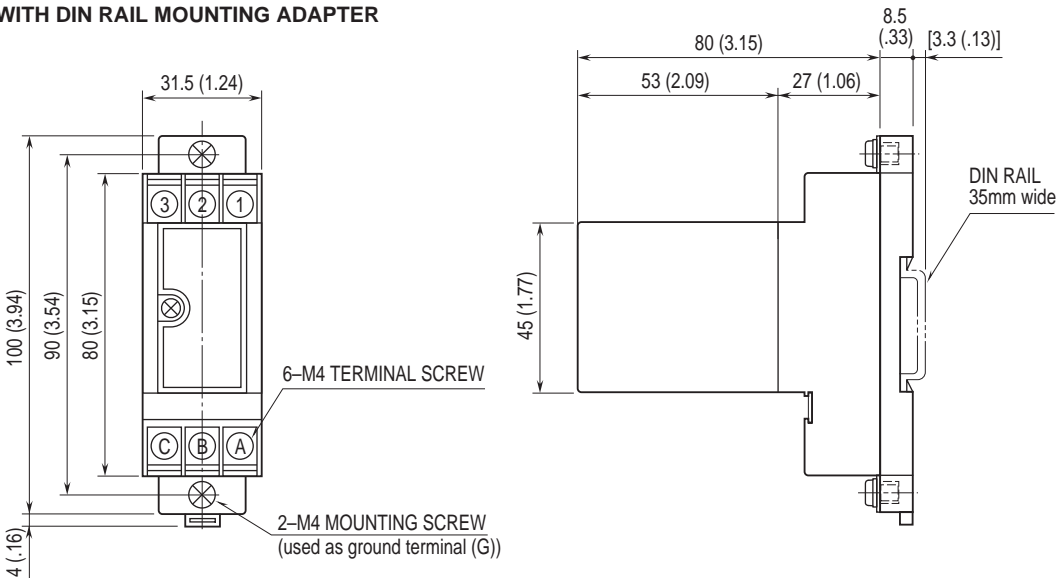


**EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)**

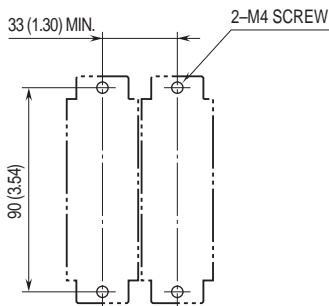
■ STANDARD



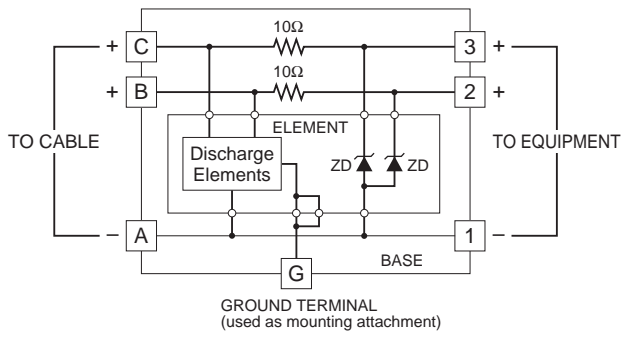
■ WITH DIN RAIL MOUNTING ADAPTER



**MOUNTING REQUIREMENTS unit: mm (inch)**



**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



Specifications are subject to change without notice.

