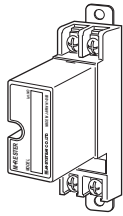


## Lightning Surge Protectors for Electronics Equipment M-RESTER

### LIGHTNING SURGE PROTECTOR FOR THERMOCOUPLE USE

#### Functions & Features

- Designed specifically for thermocouple circuits
- Absorbs lightning surges entering the temperature transmitter or controller through the thermocouple and/or thermocouple extension wire
- Absorbs surges only without affecting instrumentation signal
- No interruption of signal by unplugging the protector element



**MODEL: MDP-TC[1]**

#### ORDERING INFORMATION

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

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: 7.5 V min.

Line to earth: ±140 V min.

**Voltage protection level (Up):**

- @ 1 kV (100 A)

Line to line: 16 V max.

Line to earth: ±650 V max.

- @ 2 kV (1 kA)

Line to line: 20 V max.

Line to earth: ±800 V max.

**Response time:** ≤ 0.1 μsec.

**Leakage current:**

Line to line: ≤ 10 μA @ 7.5 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

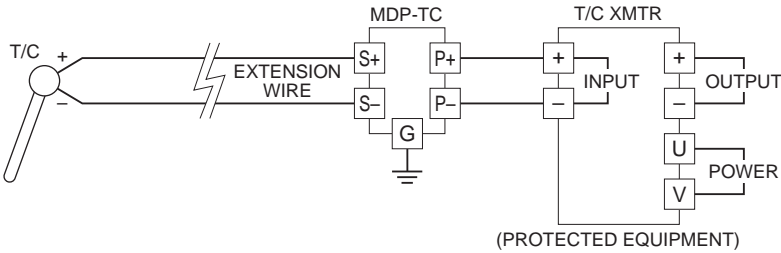
#### STANDARDS & APPROVALS

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

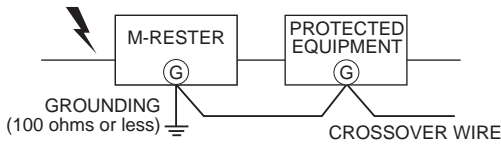
(Categories C1, C2)



## CONNECTION EXAMPLES



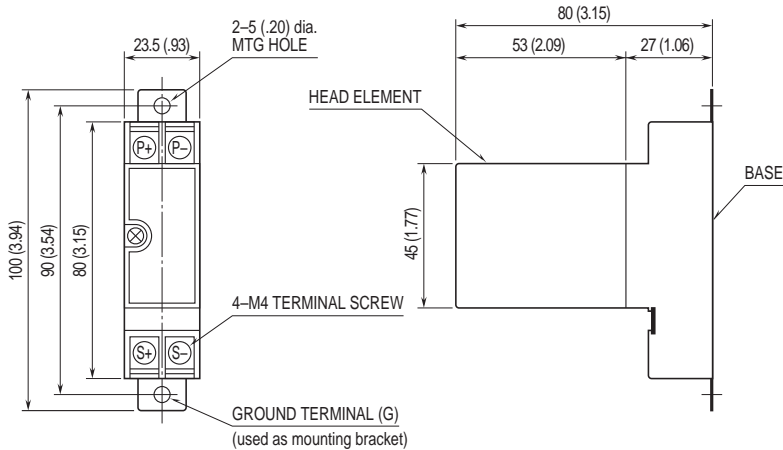
## GROUNDING



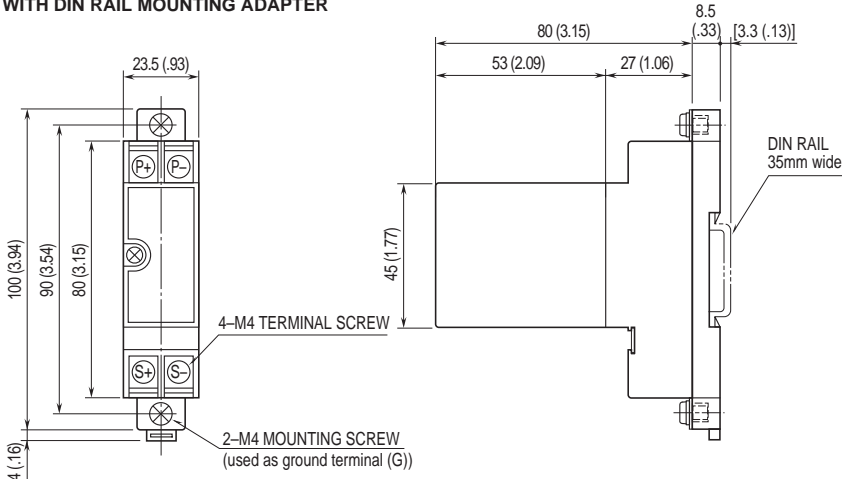
A crossover wire between M-RESTER ground and the ground or metallic housing of the equipment is required for protection. If the protected equipment has no ground terminal, ground the M-RESTER only. When the M-RESTER is mounted with DIN Rail Mounting Adapter, connect the grounding wire to the mounting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

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

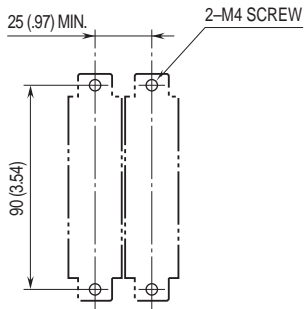
### ■ STANDARD



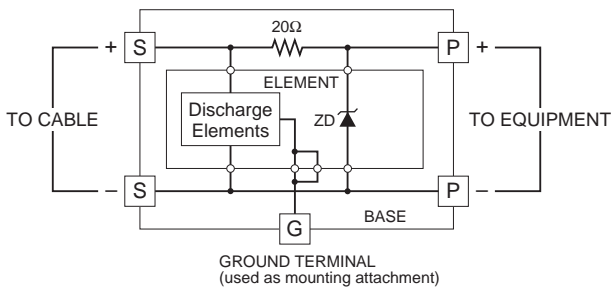
### ■ WITH DIN RAIL MOUNTING ADAPTER



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



**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



Specifications are subject to change without notice.

