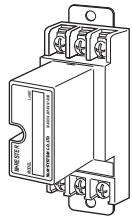


## Lightning Surge Protectors for Electronics Equipment M-RESTER

### LIGHTNING SURGE PROTECTOR FOR TELEMETERING USE (50 bps)

#### Functions & Features

- Designed specifically to protect telemetering systems utilizing leased communication lines
- Applicable for M-System's Telemetering Unit Model DLS with modem model A1
- Absorbs surges only without affecting instrumentation signal
- No interruption of transmission signal by unplugging the protector element



### MODEL: MDP-MFA[1]

#### ORDERING INFORMATION

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

#### RELATED PRODUCTS

- 50 bps modem (model: MOD)
- 50 bps modem (model: MOD1)

#### 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: ±110 V

B or C to A: ±55 V

Line to earth: ±140 V

##### Voltage protection level (Up):

- @ 1 kV (100 A)

2 to 3: ±320 V

2 or 3 to 1: ±160 V

Line to earth: ±650 V

- @ 2 kV (1 kA)

2 to 3: ±320 V

2 or 3 to 1: ±200 V

Line to earth: ±800 V max.

Response time: ≤ 0.1 μsec.

##### Leakage current:

B to C: ≤ 50 μA @ ±110 V DC

B or C to A: ≤ 50 μA @ ±55 V DC

Line to earth: ≤ 10 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)

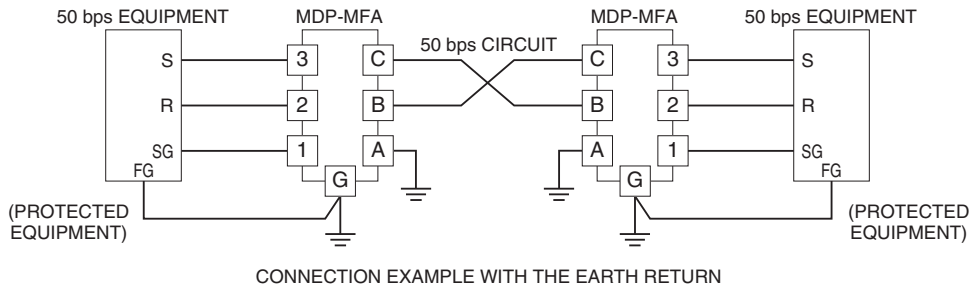
##### Capacitance @ 1 MHz:

Line to line: ≤ 1000 pF

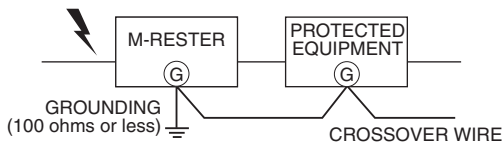
Line to earth: ≤ 100 pF

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

## CONNECTION EXAMPLES



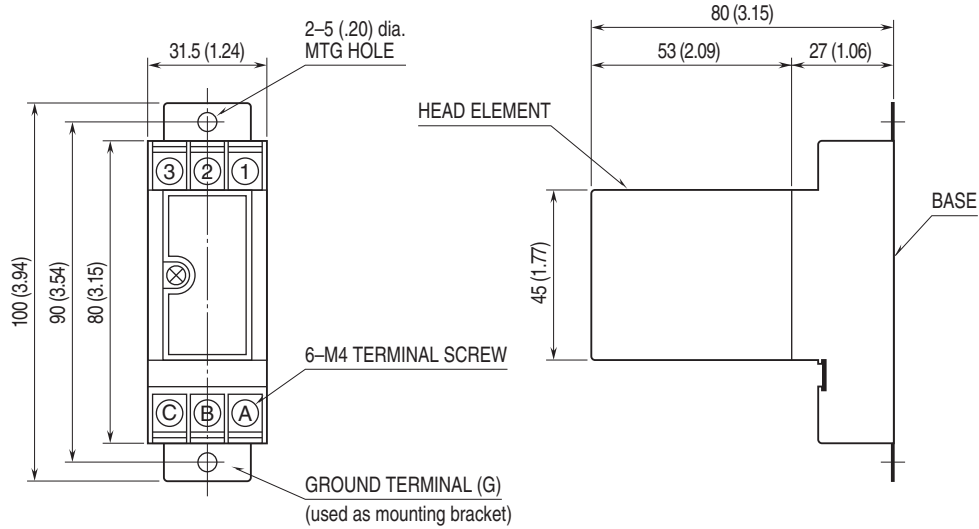
## GROUNDING



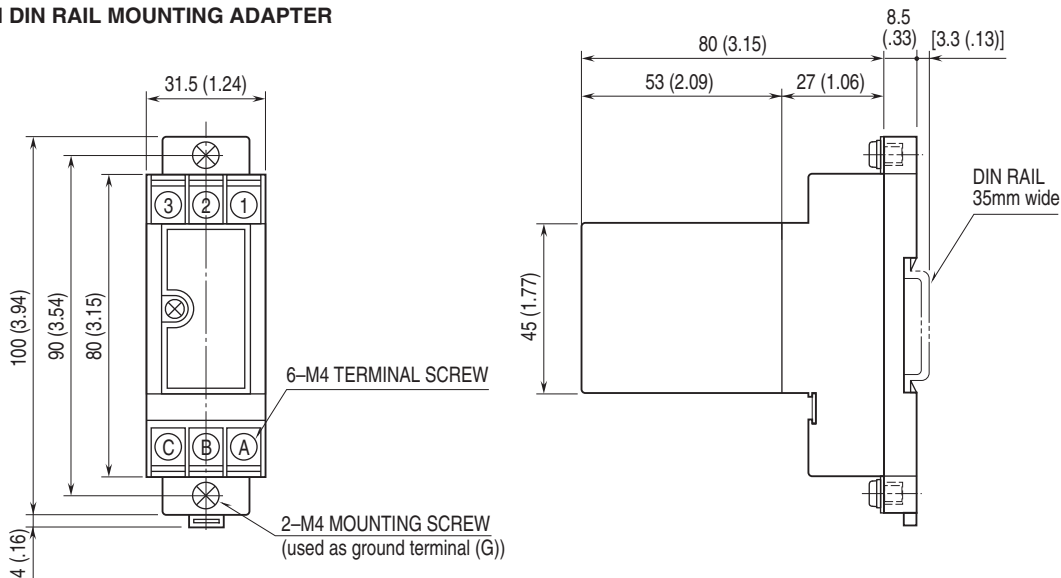
A crossover wire between M-RESTER ground and the ground or metallic housing of the equipment is required for protection.  
 If the protected equipment has no ground terminal, ground the M-RESTER only.  
 When the M-RESTER is mounted with DIN Rail Mounting Adapter, connect the grounding wire to the mounting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

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

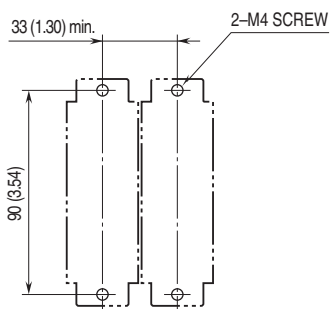
### ■ STANDARD



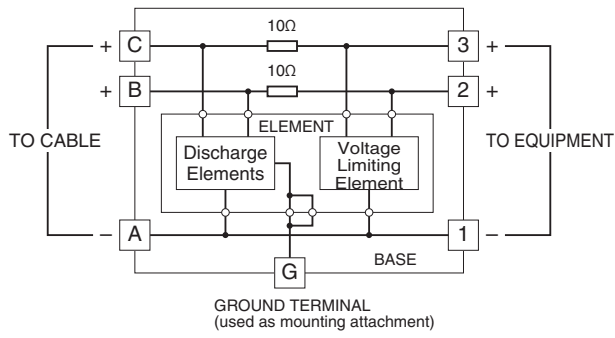
### ■ WITH DIN RAIL MOUNTING ADAPTER



## MOUNTING REQUIREMENTS unit: mm (inch)



**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



Specifications are subject to change without notice.