

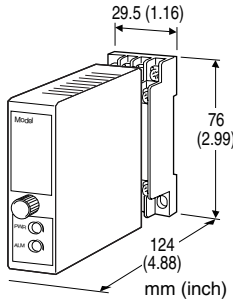
Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR STANDARD SIGNAL LINE & PULSE USE

(life monitor, 24 V DC line voltage)

Functions & Features

- Designed specifically for 4 - 20 mA DC and pulse signal line including both 4-wire and 2-wire transmitters
- Absorbs surges only without affecting instrumentation signal
- Life monitor function helps you to decide when you should replace the surge protector; reduces maintenance and prevents downtime
- LED display and alarm contact output indicate the degradation and life span of the surge protection circuits



MODEL: MDM2A-24-[1]

ORDERING INFORMATION

- Code number: MDM2A-24-[1]
Specify a code from below for [1].
(e.g. MDM2A-24-M2)

[1] POWER INPUT

AC Power

M2: 100 - 240 V AC (Operational voltage range 85 - 264 V, 47 - 66 Hz)

DC Power

R: 24 V DC

(Operational voltage range 24 V \pm 10 %, ripple 10 %p-p max.)

P: 110 V DC

(Operational voltage range 85 - 150 V, ripple 10 %p-p max.)

GENERAL SPECIFICATIONS

Construction: Plug-in

Connection: M3 screw terminals (torque 0.8 N·m)

Housing material: Flame-resistant resin (black)

Alarm indicators

PWR: The green LED turns on while the power is supplied.

ALM: Tricolor LED (green/amber/red)

• Remains off when the power supply is first turned on.

• **Green:** The unit has received one or more surges.

• **Amber:** Replacement is recommended.

• **Red:** The life span has ended.

Degradation judged: When the leakage current at the voltage limiter exceed approx. 7.5 μ A.

Life time judged: When the number of discharges of the discharge element reaches the expected life span.

Alarm contact: The N.C. contact is on when the life span of the discharge elements has ended, when the voltage limiter has degraded, and/or when the power supply is removed.

Rating: 125 V AC @ 0.5 A ($\cos \theta = 1$)

30 V DC @ 1 A (resistive load)

Maximum switching voltage: 125 V AC or 110 V DC

Maximum switching power: 62.5 VA or 30 W

Minimum load: 5 V DC @ 1 mA

INSTALLATION

Power consumption

• **AC:** Approx. 2 VA at 100 V

Approx. 3 VA at 200 V

Approx. 4 VA at 240 V

• **DC:** Approx. 1.5 W

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Surface or DIN rail

Weight: 150 g (0.33 lb)

PERFORMANCE

Discharge voltage (peak voltage)

Line to line: 30 V min.

Line to ground: \pm 300 V min.

Maximum surge voltage

Line to line: 45 V max.

Line to ground: \pm 650 V max.

(The maximum voltage that could pass through M-RESTER. Protected equipment must be able to withstand this voltage for very short time period.)

Response time: \leq 0.1 μ sec.

Leakage current:

Line to line: \leq 5 μ A @ 30 V DC

Line to ground: \leq 5 μ A @ \pm 140 V DC

Discharge current capacity: 5000 A (8 / 20 μ sec.)

Max. load current: 100 mA

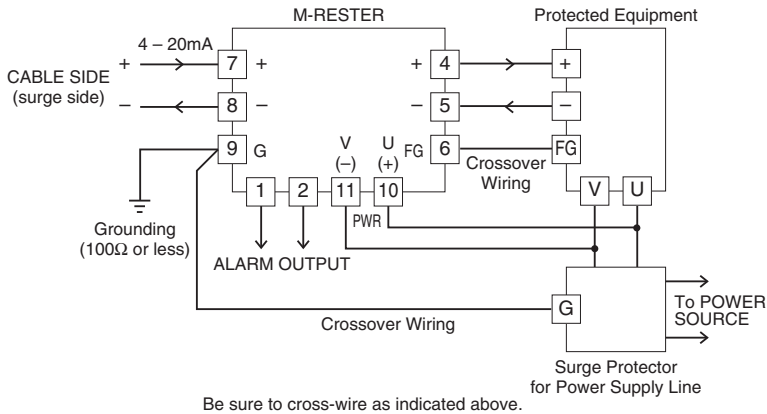
Insulation resistance: \geq 100 M Ω with 500 V DC

(surge protector circuit to alarm output to power)
Dielectric strength: 2000 V AC @ 1 minute
 (surge protector circuit to power to ground)
Internal series resistance: 20 Ω ±10 % (including return)
Maximum line voltage: 30 V

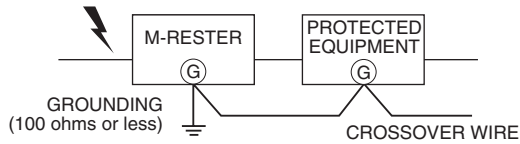
STANDARDS & APPROVALS

EU conformity:
 EMC Directive
 EMI EN 61000-6-4
 EMS EN 61000-6-2
 Low Voltage Directive
 EN 61010-1
 Installation Category II
 Pollution Degree 2
 Surge suppression circuit to power:
 Reinforced insulation (300 V)
 RoHS Directive
 EN 50581

CONNECTION EXAMPLES

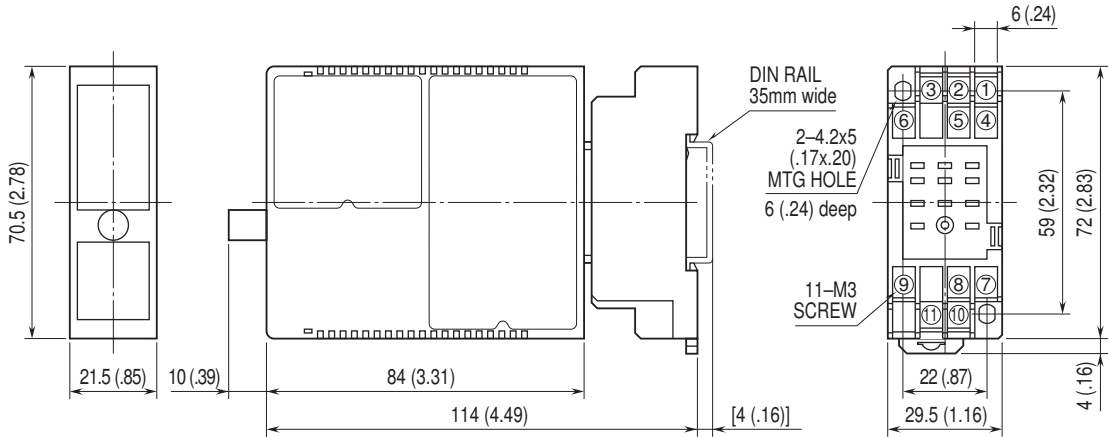


GROUNDING



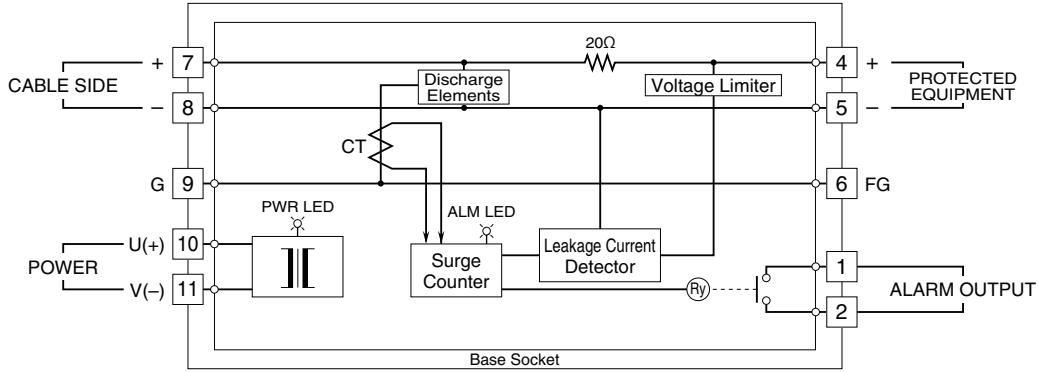
A crossover wire between M-RESTER ground and ground or metallic housing of equipment is required for protection.
 If the protected equipment has no ground terminal, ground the M-RESTER only.

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



• When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.