Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR STANDARD SIGNAL LINE & PULSE USE

(life monitor, 48 V or 65 V DC line voltage)

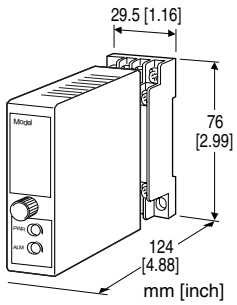
Functions & Features

• 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-65-[1]

ORDERING INFORMATION

• Code number: MDM2A–65–[1]

Specify a code from below for [1].

(e.g. MDM2A-65-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 ±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 µA.

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

Alarm output: 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 ø = 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: 70 V min.

Line to ground: ±300 V min.

Maximum surge voltage @ 2 kV (1 kA)

Line to line: 110 V

Line to ground: ±800 V

(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: ≤ 0.1 µsec.

Leakage current:

Line to line: ≤ 5 µA @ 70 V DC

Line to ground: ≤ 5 µA @ ±140 V DC

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

Max. load current: 100 mA

Insulation resistance: ≥ 100 MΩ with 500 V DC

(surge protector circuit to alarm output to power)

Dielectric strength: 2000 V AC @ 1 minute

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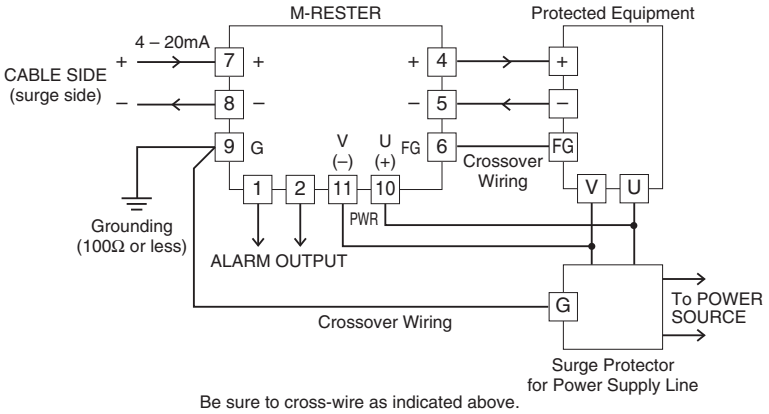
(surge protector circuit to power to ground)
Internal series resistance: 20 Ω ±10 % (including return)
Maximum line voltage: 70 V

STANDARDS & APPROVALS

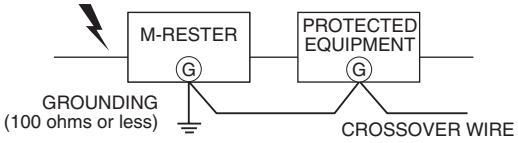
EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
Low Voltage Directive
EN 61010-1
Measurement Category II (alarm output)
Installation Category II (power)
Pollution degree 2
Surge protector circuit to power:
Reinforced insulation (300 V)
RoHS Directive

CONNECTION EXAMPLES



Be sure to cross-wire as indicated above.

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.

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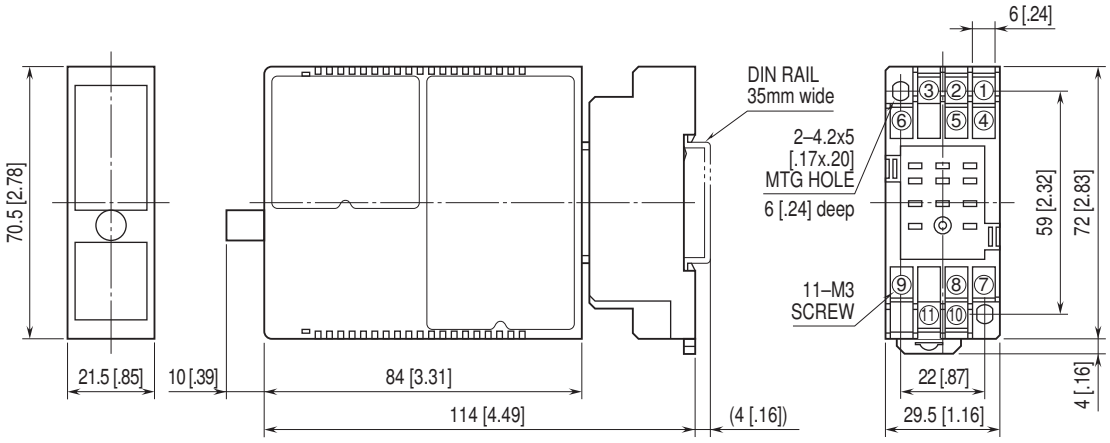
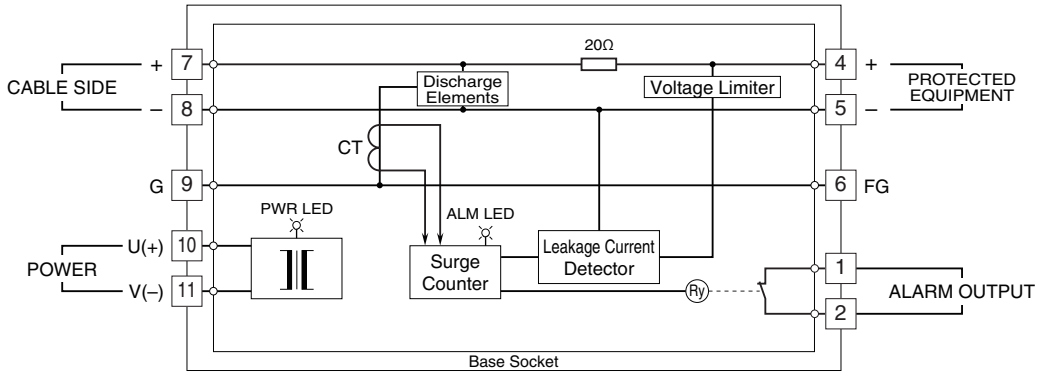
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



⚠ Specifications are subject to change without notice.

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