

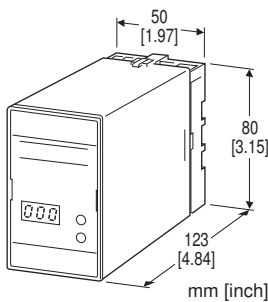
Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR POWER SUPPLY USE

(5A; high discharge current capacity; life monitor/surge counter)

Functions & Features

- Designed specifically for AC power supplies up to 5 amps
- Discharge current capacity 10000 A
- Life monitor function helps you to decide when you should replace the M-RESTER; reduces maintenance and prevents downtime
- LED display and alarm contact output indicate the degradation and life span of the surge protection circuits
- No power supply interruption even when the unit is degraded or at the end of its life



MODEL: MAAC-[1]

ORDERING INFORMATION

- Code number: MAAC-[1]

Specify a code from below for [1].
(e.g. MAAC-100)

[1] OPERATIONAL VOLTAGE

100: 100 V / 110 V / 120 V AC

200: 200 V / 220 V / 240 V AC

GENERAL SPECIFICATIONS

Construction: Plug-in

Connection: M3.5 screw terminals (torque 0.8 N·m)

Screw terminal: Chromated steel

Housing material: Flame-resistant resin (black)

Indicators

Surge counter: 7-segment, 3-digit, red LED; The LED flashes when the life span of the discharge element is near to the end, recommending replacement of the M-RESTER;

turns off when the life is ended.

PWR: The green LED turns on while the circuit is alive and the internal fuse is not blown; and is off when the power supply is removed or the fuse is blown.

ALARM: The LED turns on when the life span of the discharge element has ended and/or the voltage limiter has been degraded.

Degradation judged: When the leakage current at the voltage limiter exceed approx. 3mA; or when the fuse is blown.

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 ϕ = 1)

30 V DC @ 1 A (resistive load)

Maximum switching voltage: 250 V AC or 110 V DC

Maximum switching power: 62.5 VA or 30 W

Minimum load: 5 V DC @ 1 mA

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: 500 g (1.1 lb)

PERFORMANCE

Operational voltage range:

90 - 132 V AC (MAAC-100)

180 - 264 V AC (MAAC-200)

50/60 Hz

Approx. 2 VA at 100 V AC

Approx. 2 VA at 200 V AC

Approx. 4 VA at 264 V AC

Discharge voltage (peak voltage)

Line to line:

190 V min. (MAAC-100)

410 V min. (MAAC-200)

Line to ground: 400 V min.

Maximum surge voltage

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

Line to line: 400 V max. (MAAC-100)

750 V max. (MAAC-200)

Line to ground: 900 V max.

Withstand voltage of protected equipment between the circuit and the metal housing must be 1000V AC or more.

Response time: $\leq 0.01 \mu\text{sec}$.

Leakage current

Line to line: ≤ 26 mA at 100 V AC (MAAC-100)

≤ 13 mA at 200 V AC (MAAC-200)

Line to ground: ≤ 0.1 mA at 300 V AC

Discharge current capacity: 10000 A (8/ 20 μ sec.)

Maximum load current: 5 A

Internal series resistance: $\leq 0.5 \Omega$ including return

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)

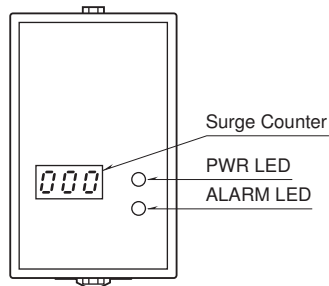
Installation Category II (power)

Pollution degree 2

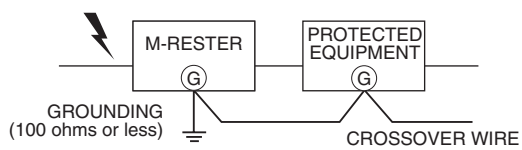
Alarm output to power: Reinforced insulation (300 V)

RoHS Directive

EXTERNAL VIEW



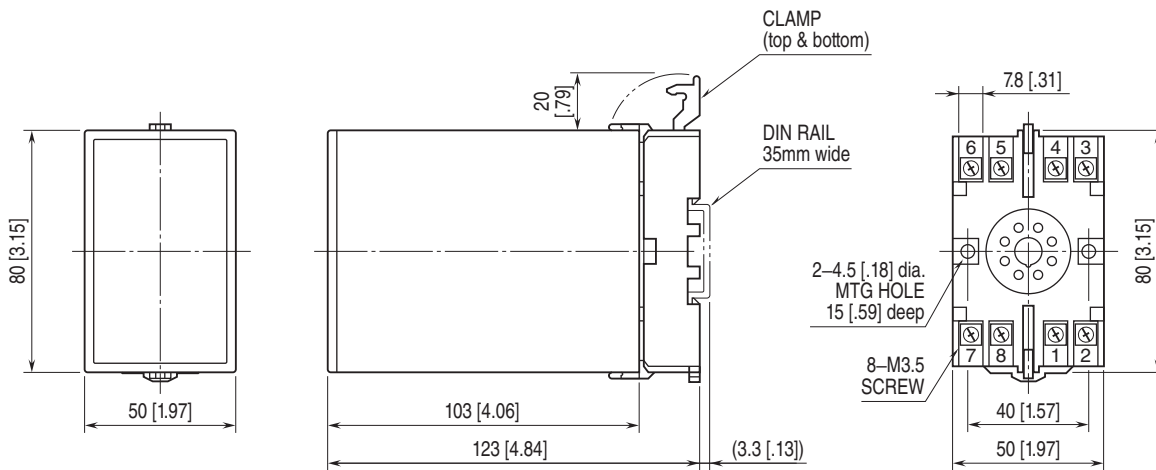
GROUNDING



A crossover wire between M-RESTER ground and ground or metallic housing of equipment is required for protection.

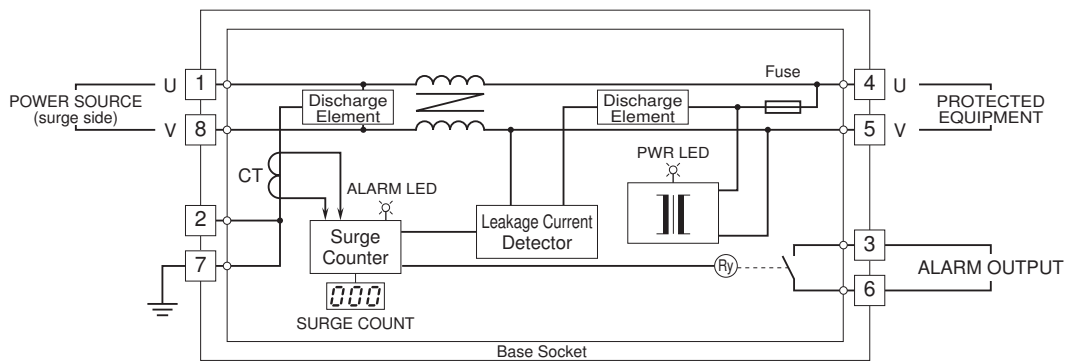
If the protected equipment has no ground terminal, ground the M-RESTER only.

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.