

Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR POWER SUPPLY USE
(5A; high discharge current capacity; life monitor/surge counter)

MODEL **MAAC**

MODEL & SUFFIX CODE SELECTION

MODEL _____ MAAC-□
 LINE VOLTAGE _____
 100 : 100V/110V/120V AC, 5A
 200 : 200V/220V/240V AC, 5A

ORDERING INFORMATION

Specify code number. (e.g. MAAC-100)

GENERAL SPECIFICATIONS

Construction: Plug-in

Connection: M3.5 screw terminals
(chromated steel; torque ≤ 0.8 N·m)

Housing material: Flame-resistant resin (black)

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: 125V AC @0.5A ($\cos\phi=1$)
30V DC @1A (resistive load)

Maximum switching voltage: 125V AC or 110V DC

Maximum switching power: 62.5VA or 30W

Minimum load: 5V DC @1mA

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 MAAC; turns off when the life is ended.

Power: 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.

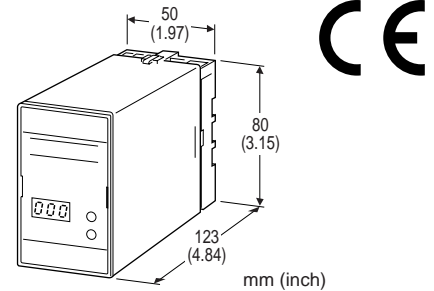
Alarm: The LED turns on when the life span of the discharge element has ended and/or the voltage limiter has been degraded.

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.

INSTALLATION

Power input: Operational voltage range for MAAC-100: 90 – 132V AC, MAAC-200: 180 – 264V AC, 50/60 Hz, approx. 2VA



Functions & Features

- Designed specifically for AC power supplies up to 5 amps
- Discharge current capacity 10000A
- 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

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

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

Mounting: Surface or DIN rail

Dimensions: W50×H80×D123 mm (1.97"×3.15"×4.84")

Weight: 500 g (1.10 lbs)

PERFORMANCE

Discharge voltage (peak-to-peak)

Between lines: 190V min. (MAAC-100)
410V min. (MAAC-200)

Line to ground: 400V min.

Maximum surge voltage*

Between lines: 400V max. (MAAC-100)
750V max. (MAAC-200)

Line to ground: 900V max.

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

Leakage current

Between lines: ≤ 26 mA at 100V AC (MAAC-100)
 ≤ 13 mA at 200V AC (MAAC-200)

Line to ground: ≤ 0.1 mA at 300V AC

Response time: ≤ 0.01 microseconds

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

Maximum load current: 5A

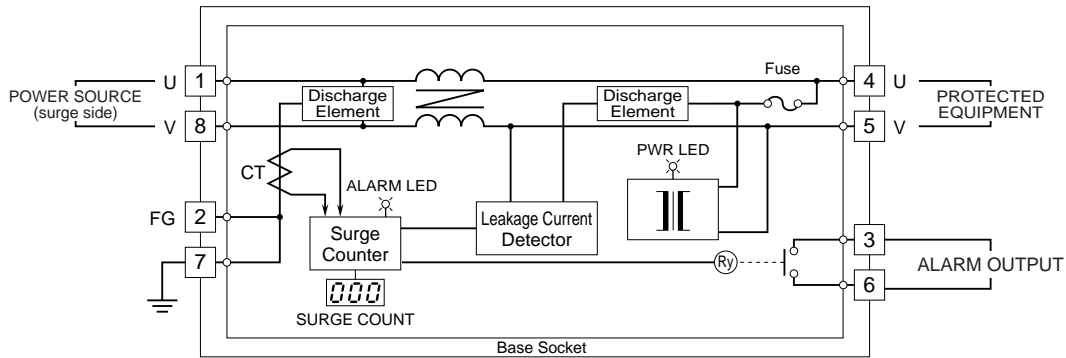
Internal series resistance: $\leq 0.5\Omega$ including return

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

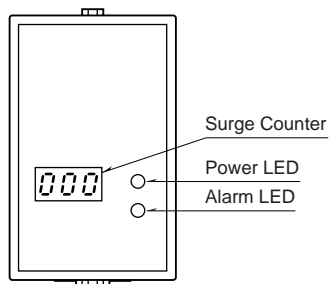
STANDARDS & APPROVALS

CE conformity: EMC Directive (89/336/EEC)
 EMI EN61000-6-4
 EMS EN61000-6-2
 Low Voltage Directive (73/23/EEC)
 Installation category II; Pollution degree 2
 Max. operating voltage 300V
 Alarm contact to power – Reinforced insulation

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



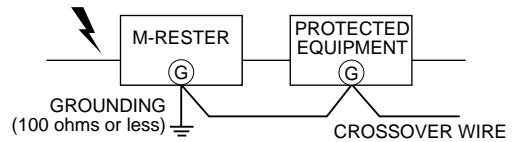
FRONT PANEL CONFIGURATION



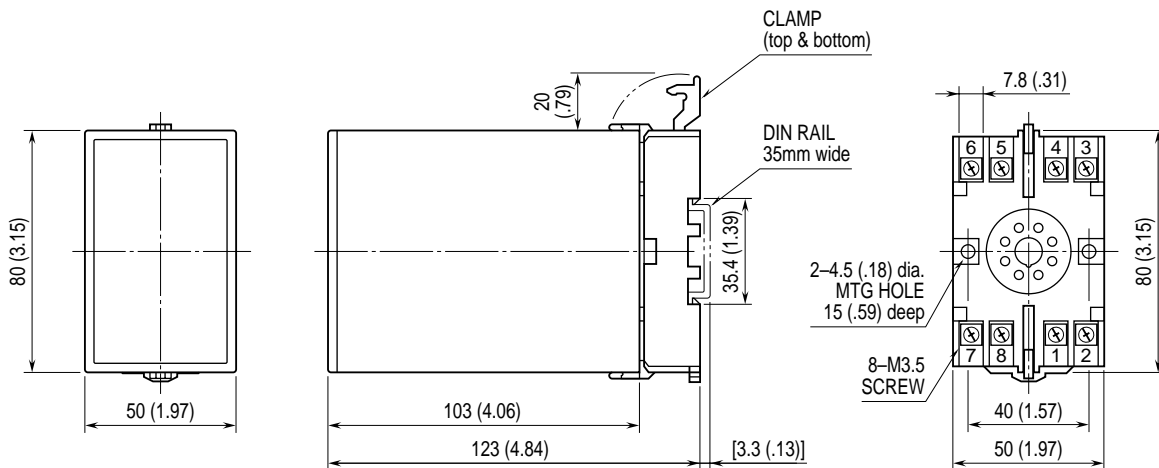
GROUNDING

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

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



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENT mm (inch)



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