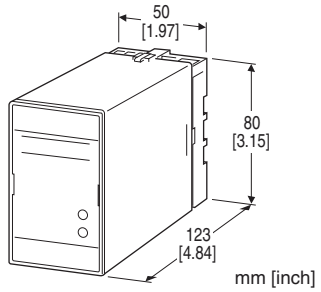
## Lightning Surge Protectors for Electronics Equipment M-RESTER

## LIGHTNING SURGE PROTECTOR FOR POWER SUPPLY USE

(5 A; high discharge current capacity; life monitor)

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: MAA–[1]

## ORDERING INFORMATION

• Code number: MAA–[1]
Specify a code from below for [1].
(e.g. MAA-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)
**Alarm indicators**
**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**: 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.
**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

**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 (MAA-100)
180 – 264 V AC (MAA-200)
50/60 Hz, approx. 2 VA
**Discharge voltage (peak voltage)**
Line to line: 190 V min. (MAA-100)
410 V min. (MAA-200)
Line to ground: 400 V min.
**Maximum surge voltage**
Line to line: 380 V max. (MAA-100)
700V max. (MAA-200)
Line to ground: 800 V max.
Withstand voltage of protected equipment between the circuit and the metal housing must be 1000 V AC or more.
**Response time**: ≤ 0.01 µsec.
**Leakage current**
Line to line: ≤ 26mA at 100 V AC (MAA-100)
≤ 13 mA at 200 V AC (MAA-200)
Line to ground: ≤ 0.1 mA at 300 V AC
**Discharge current capacity:** 10000 A (8/ 20 µsec.)
**Maximum load current**: 5 A
**Internal series resistance**: ≤ 0.5 Ω 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)



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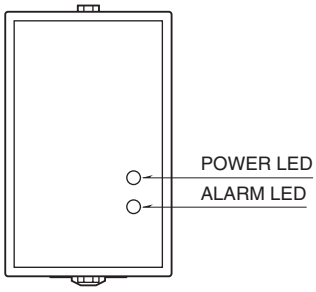
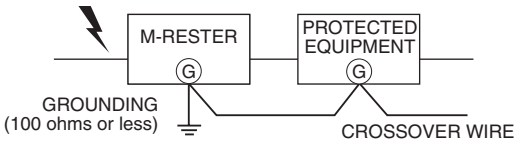
Pollution degree 2
Alarm output to power: Reinforced insulation (300 V)
RoHS Directive

## EXTERNAL VIEW

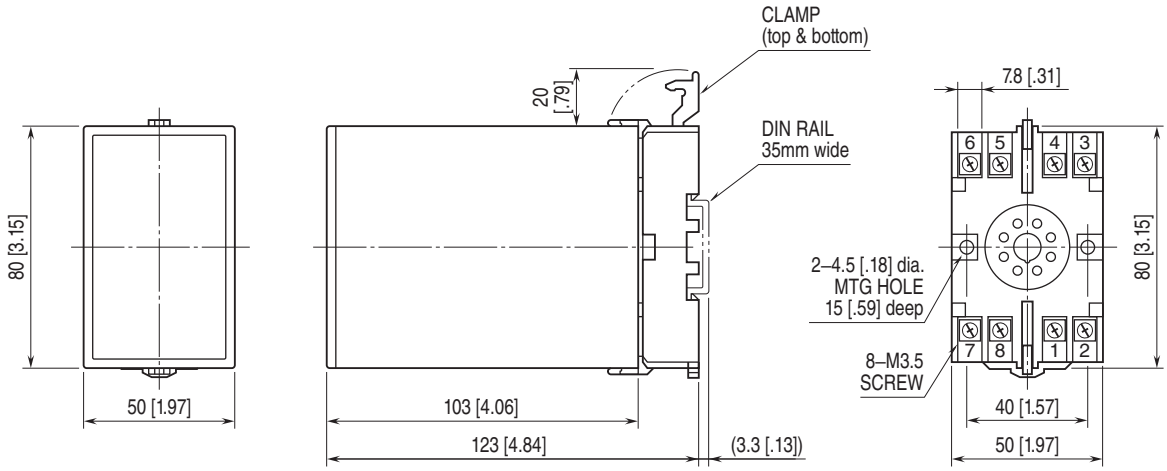



## GROUNDING




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.



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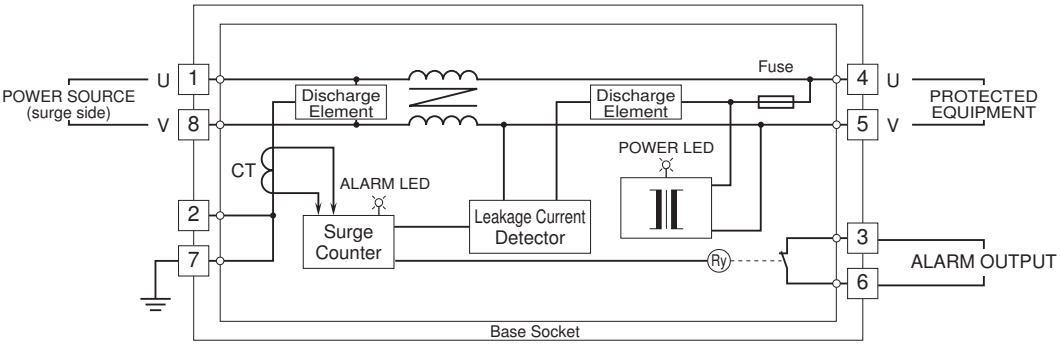
## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM




⚠ Specifications are subject to change without notice.



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