MODEL: MAH

Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR POWER SUPPLY USE

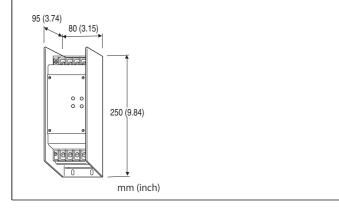
(20 A)

Functions & Features

- Designed specifically for power requirements of medium capacities (20 amps)
- Protecting electronic equipment from lightning surges that enter through power supply circuits
- Discharge current capacity 10000 A
- Surge absorber failure indicated with LED
- Detaching the discharge elements from the power supply circuits when fuses are blown

Typical Applications

- Computers and other electronic devices
- · Control and telemetering systems



MODEL: MAH-[1]

ORDERING INFORMATION

• Code number: MAH-[1] Specify a code from below for [1]. (e.g. MAH-223)

[1] OPERATIONAL VOLTAGE

121: Single phase 2-wire, 100 V / 110 V / 120 V AC **221**: Single phase 2-wire, 200 V / 220 V / 240 V AC **123**: Single phase 3-wire, 100 V / 110 V / 120 V AC

(Phase voltage (line-neutrality))

223: Three phase 3-wire, 200 V / 220 V / 240 V AC

GENERAL SPECIFICATIONS

Construction: Stand-alone; terminal access at the front **Connection**: M4 screw terminals (torque 1.6 N·m)

Screw terminal: Nickel-plated brass

Housing material: Steel plate t = 1.6 (black) **Alarm indicator LED**: Red lights turn ON with power

supplied; OFF at error

INSTALLATION

Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Surface Weight: 2 kg (4.4 lbs)

PERFORMANCE

Response time: $\leq 0.1 \, \mu sec.$

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

Maximum load current: 20 A Voltage drop: ≤ 1 V (50/60 Hz)

	BETWEEN LINES		
	MAH-121 (MAH-123 line-neutrality)	MAH-221, 223 (MAH-123 1-3)	LINE TO GND
Discharge volt. (peak volt.)	190V min.	380V min.	380V min.
Max. surge voltage *	350V max.	700V max.	700V max.
Leakage current	≤40mA ** @110V AC	≤40mA ** @220V AC	≤1mA @220V AC

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

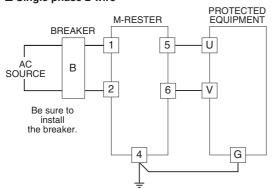
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^{**} Including the current consumed at the LEDs.

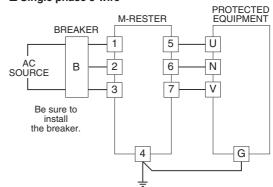
MODEL: MAH

CONNECTION EXAMPLES

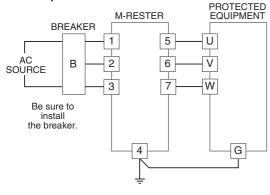
■ Single phase 2-wire



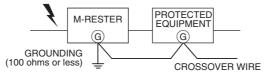
■ Single phase 3-wire



■ Three phase 3-wire



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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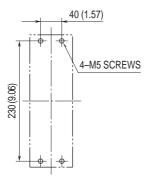
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EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENT mm (inch)

■ 2-WIRE ■ 3-WIRE 80 (3.15) 80 (3.15) 20 (.79) 40 (1.57) 20 (.79) 20 (.79) 40 (1.57) 20 (.79) 95 (3.74) 10 (39) .39 10(\oplus ϕ 1 2 3 4 1 2 3 4 ALARM INDICATOR LED ALARM INDICATOR LED LINE GND GND LINE (two) (four) 230 (9.06) 250 (9.84) 230 (9.06) 10 10 30 ALARM ALARM 20 20 40 10 (.39) 10 (.39) LOAD LOAD 8-M4 SCREW TERMINAL 8-M4 SCREW 10 (39) TERMINAL ||**&**||**&**||**&**||**&**|| 8 8 8 10 10 (.39) 10 (.39) 6 (.24) 6 (.24)

MOUNTING REQUIREMENTS unit: mm (inch)



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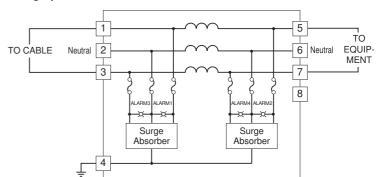
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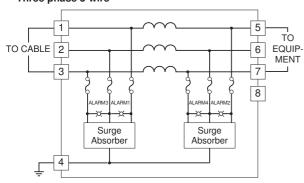
SCHEMATIC CIRCUITRY

Single phase 2-wire TO EQUIP-TO CABLE MENT ALARM 1 ALARM 2 3 `Ø 8 Surge Absorber Surge

Single phase 3-wire



Three phase 3-wire





Specifications are subject to change without notice.

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