

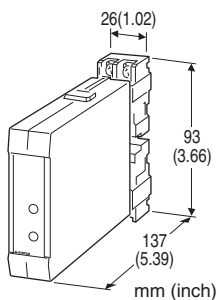
Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR STANDARD SIGNAL LINE

(fast response: 3 nsec.)

Functions & Features

- Designed specifically for 4 - 20 mA DC and pulse signal line
- Battery-powered status indicator
- High discharge current capacity 20 kA (8/20 μ s)
- Shield terminal provided
- Compatible with IEC 61643-21 categories C1, C2, D1.



MODEL: MDJST-[1][2]

ORDERING INFORMATION

- Code number: MDJST-[1][2]

Specify a code from below for each of [1] and [2].

(e.g. MDJST-24Y)

[1] NOMINAL VOLTAGE

12: 12 V DC

24: 24 V DC

48: 48 V DC

[2] STATUS INDICATOR

A1: Monitor LED

A2: Monitor LED and alarm output

Y: None

GENERAL SPECIFICATIONS

Construction: Plug-in

Surge protection type: Surge energy limiting type

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

Screw terminal: Nickel-plated steel

Housing material: Flame-resistant resin (black)

Status indicator

Monitor LED: Green, activated by Check button

ON in normal operating

OFF in degradation of the voltage limiter or battery discharged

Degradation judged: When the leakage current at the voltage limiter exceeds approx. 50 μ A. 1 V or more is necessary for the signal (line to line) voltage.

Check button: Push button; momentary

Alarm output: Open collector

28 V DC @ 100 mA (resistive load)

OFF in normal conditions

ON in degradation of the voltage limiter or battery discharged

Saturation voltage 3.5 V DC

Battery: Lithium-metal battery (model: ER3N4); Non-rechargeable and non-replaceable

Battery life: 10 years (when used \leq 2 minutes/month)

INSTALLATION

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

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

Mounting: Surface or DIN rail; Standard Rack Mounting
Frame BX-16H available

Weight: 230 g. (0.51 lb)

PERFORMANCE

Insulation resistance: $\geq 100 \text{ M}\Omega$ with 250 V DC (Line to alarm output)

(The voltage more than 250 V DC turns the discharge element on; then the insulation between lines and alarm output will be lost)

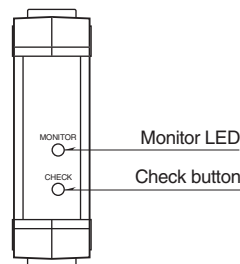
Surge protection: IEC 61643-21 Categories C1, C2, D1

	NOMINAL VOLTAGE	MDJST-12x	MDJST-24x	MDJST-48x
Max. Continuous operating voltage (Uc)	Line to Line	$\pm 18\text{V}$	$\pm 36\text{V}$	$\pm 60\text{V}$
	Line to Earth		$\pm 160\text{V}$	
	SHLD to Earth		$\pm 160\text{V}$	
Leakage current (initial value) @Uc	Line to Line		5 μA max.	
	Line to Earth		5 μA max.	
	SHLD to Earth		5 μA max.	
Voltage protection level (Up) @4kV(1.2/50 μs)	Line to Line	$\pm 30\text{V}$	$\pm 50\text{V}$	$\pm 90\text{V}$
	Line to Earth		$\pm 500\text{V}$	
	SHLD to Earth		$\pm 600\text{V}$	
Surge energy attenuation ratio	Line to Line		74 dB min.	
	Line to Earth		74 dB min.	
	SHLD to Earth		-	
Response Time (line to line)			3 nsec. max.	
Max. discharge current (Imax)			20kA (8/20 μs)	
Nominal current (I _N)			1A	
Internal series resistance			3 Ω max.	
AC durability			1 Arms (60 Hz 1s) 5 times	
Operational attenuation			3 dB max. @DC to 4 kHz, Z _o = 600 Ω (8 dB max. @100 kHz)	

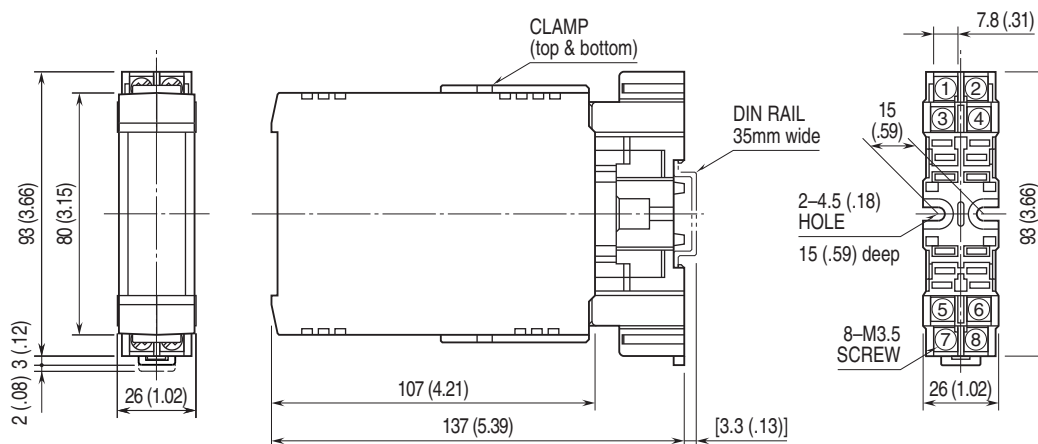
EXTERNAL VIEW

■ For MDJST-xA1, MDJST-xA2

■ For MDJST-xY

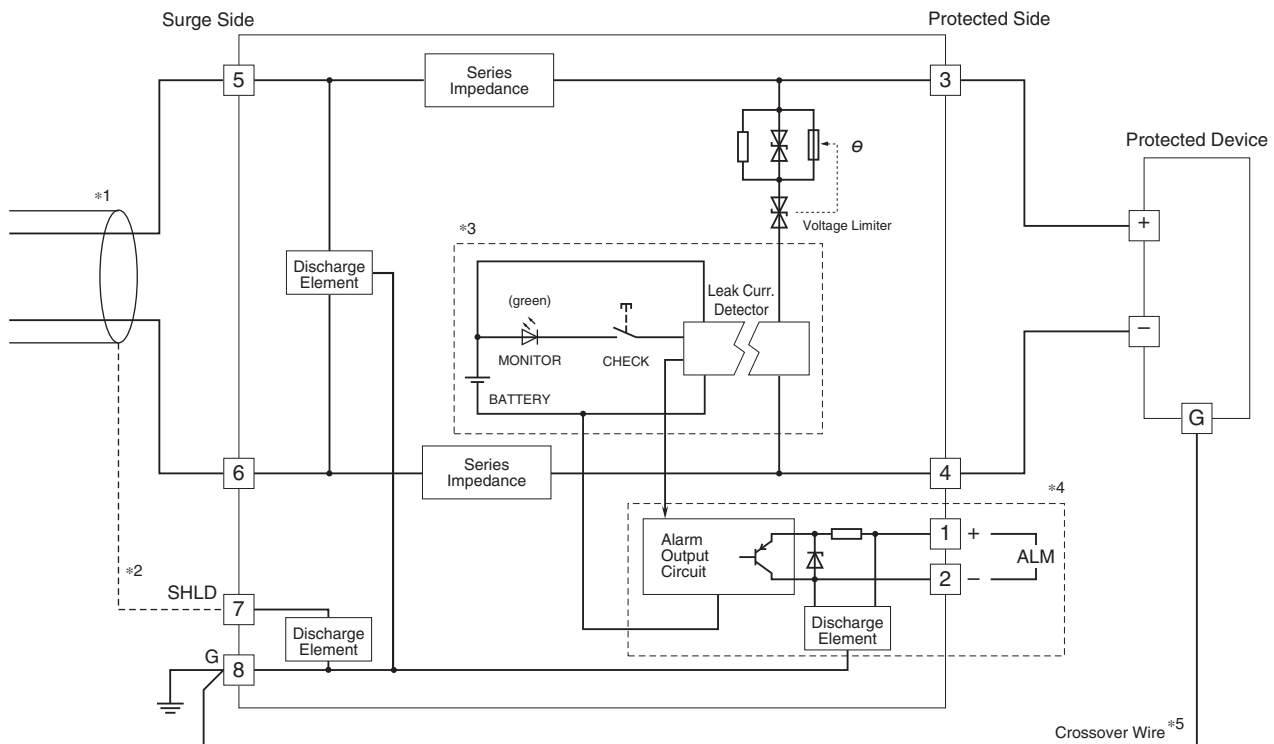


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



θ: Thermal breaker

*1. Do not connect a high capacity current source such as power supply. (The current source must be equipped with current limiter of 1A or less.)

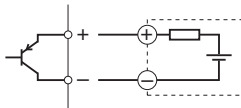
*2. For floating SHLD line, connect to the terminal (7).

*3. Sections enclosed in broken line are only applicable for "Status indicator" code "A1" or "A2."

*4. Sections enclosed in broken line are only applicable for "Status indicator" code "A2."

*5. The protected device's metal enclosure must be cross-wired to the earth terminal of the MDJST.
If the protected device has no earth terminal, earth only the MDJST.

■ Alarm output connection example



• Specifications are subject to change with or without notice.

• This product includes a lithium-metal battery.



Consult your shipping agent such as a freight forwarder or an airline for the necessary procedures when transporting the battery.
Observe your national and local regulations when disposing of the used battery.