

Lightning Surge Protectors for Electronics Equipment *M-RESTER*

LIGHTNING SURGE PROTECTOR FOR STANDARD SIGNAL LINE & PULSE USE (life monitor)

MODEL MDPA-24 MDPA-65

MODEL & SUFFIX CODE SELECTION

MDPA-24
MDPA-65

MODEL _____
MDPA-24 : 24V DC use
MDPA-65 : 48V or 65V DC use
OPTIONS _____

: Standard with Base (model: SK-2E) included
/BN: Element only for replacement

ORDERING INFORMATION

Specify code number. (e.g. MDPA-24 or MDPA-24/BN)

RELATED PRODUCTS

- Base (model: SK-2E)
- DIN rail adaptor (model: A-33)

GENERAL SPECIFICATIONS

Construction: Plug-in
Connection: M4 screw terminals
(nickel-plated steel; torque ≤ 0.8 N·m)
Housing material: Flame-resistant resin (black)
Indicators: Activated by CHK (Check) button
BAT: Green LED
ALM: Red LED

Discharge element status table

BAT	ALM	Battery	Discharge Element	Voltage Limiter	Replacement
⊗	●		Normal		No Need
⊗	⊗	Normal	Near End	Normal	Near
●	⊗	Normal	End of Life	Degraded*1	Immediately Required
●	●	Discharged	Unable to Judge		

⊗ : ON ● : OFF

*1 : With pulsating line signal or that containing ripples, the LED may flicker or blink when the voltage limiter is degraded.

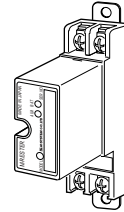
Degradation judged: when the leakage current at the voltage limiter exceed approx. $7.5\mu\text{A}$.

Life time judged: when the number of discharges of the discharge element reaches the expected life span.

CHK button: Push button; momentary

Battery: Lithium;
No recharge or replacement available.

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



Functions & Features

- Designed specifically for 4 – 20mA DC and pulse signal line including both 4-wire and 2-wire transmitters
- Absorbing surges only without affecting instrumentation signal
- Life monitor function helps you to decide when you should replace the M-RESTER; reduces maintenance and prevents downtime
- Pressing CHK (Check) button confirms the degradation and life span of the surge protection circuits with LEDs
- No interruption of instrumentation signal by unplugging the Element section

INSTALLATION

Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 85% RH (non-condensing)
Mounting: Surface or DIN rail (DIN rail adaptor model A-33 is required.)
Dimensions: W23.5×H100×D81 mm (0.93"×3.94"×3.19")
Weight: 150 g (0.33 lbs)

PERFORMANCE

Discharge voltage
Between lines: 30V min. (MDPA-24)
70V min. (MDPA-65)
Line to ground: ± 160 V min.
Maximum surge voltage*
Between lines: 45V max. (MDPA-24)
85V max. (MDPA-65)
Line to ground: ± 650 V max.
*The maximum voltage that could pass through M-RESTER. Protected equipment must be able to withstand this voltage for very short time period.
Response time
Between lines: ≤ 4 nanoseconds
Line to ground: ≤ 20 nanoseconds
Discharge current capacity: 5000A (8 / 20 $\mu\text{sec.}$)
Maximum load current: 100mA

Internal series resistance: Approx. 20Ω

Leakage current

Between lines: ≤5μA at 30V DC (MDPA-24)

≤5μA at 70V DC (MDPA-65)

Line to ground: ≤5μA at ±140V DC

Maximum line voltage: 30V (MDPA-24)

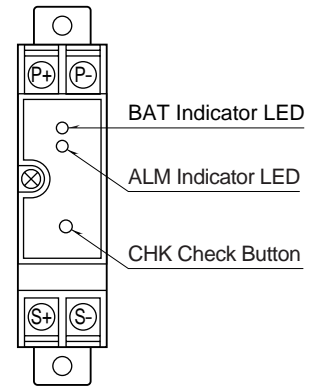
70V (MDPA-65)

Capacitance

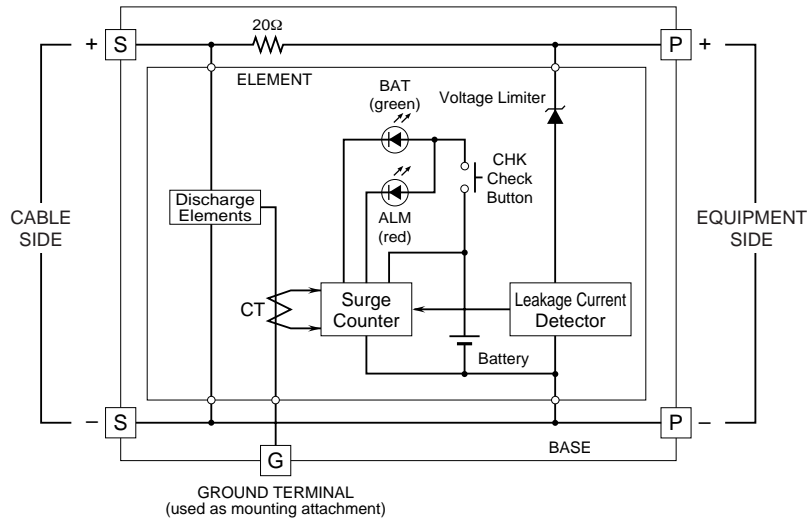
Between lines: ≤1000 pF

Line to ground: ≤100 pF

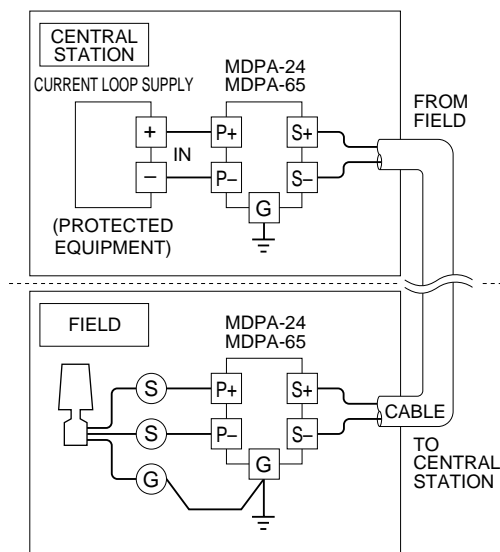
FRONT PANEL CONFIGURATION



SCHEMATIC CIRCUITRY



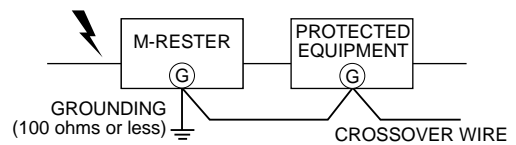
CONNECTION DIAGRAM



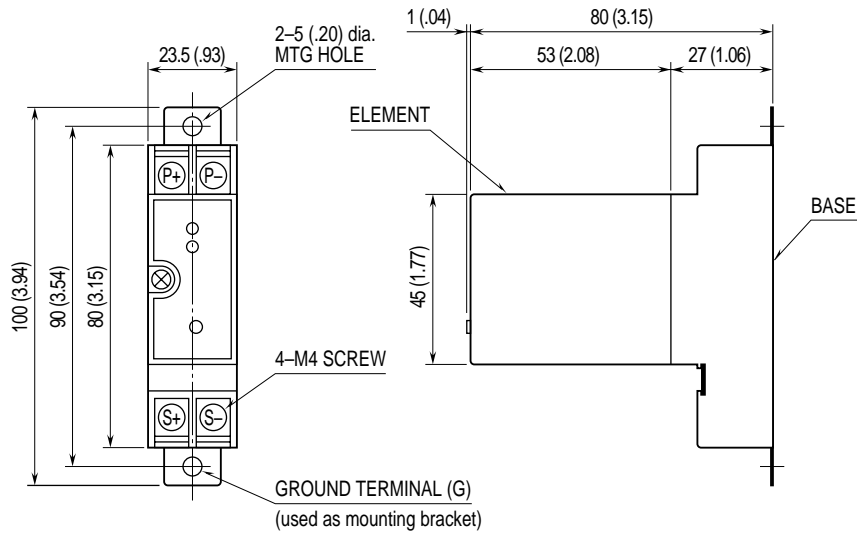
GROUNDING

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)



MOUNTING REQUIREMENTS mm (inch)

