M·SYSTEM CO.,LTD.

Lightning Surge Protectors for Electronics Equipment *M-RESTER*

LIGHTNING SURGE PROTECTOR FOR DC POWER SUPPLY USE

MODEL **MDP-D**

MODEL & SUFFIX CODE SELECTION

MDP-D❑

MODEL
LINE VOLTAGE
12 : 12V DC
24 : 24V DC

ORDERING INFORMATION

Specify code number. (e.g. MDP-D24)

GENERAL SPECIFICATIONS

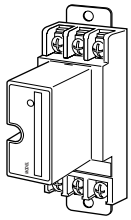
Construction: Plug-in
Connection: M4 screw terminals (nickel-plated steel; torque 0.8 N·m)
Housing material: Flame-resistant resin (black)
Monitor LED: Green light turns ON during the power is supplied; OFF when the voltage limiter is failed.

INSTALLATION

Power input: Max. output current 1A
Use a DC power source with the overload current protection.
Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 90% RH (non-condensing)
Mounting: Surface; DIN Rail Mounting Adaptor (model: A-33) separately available for DIN rail mounting.
Dimensions: W31.5×H100×D80 mm (1.24"×3.94"×3.15")
Weight: 140 g (0.31 lbs)

STANDARDS & APPROVALS

CE conformity: EMC Directive (89/336/EEC)
EMI EN61000-6-4
EMS EN61000-6-2



Functions & Features

- Designed specifically for 12V/24V DC power supplies of small capacity
- Absorbing surges only without affecting instrumentation signal
- Monitor LED
- CE marking

Typical Applications

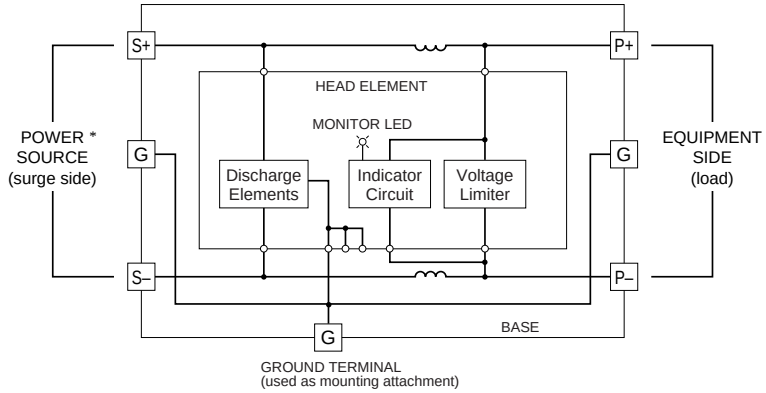
- DC power sources, switching regulators
- Power source for electronic devices

PERFORMANCE

	BETWEEN LINES		LINE TO GND
	MDP-D12	MDP-D24	
Discharge voltage (peak voltage)	14V min.	30V min.	±160V min.
Max. surge voltage*	20V max.	40V max.	±650V max.
Leakage current	≤3mA @14V DC	≤6mA @27V DC	≤0.1mA @±160V DC
Max. line voltage	14V	27V	–––
Response time	≤4 nsec.	≤4 nsec.	≤20 nsec.
Discharge current	5000A (8 / 20 μsec.)		
Max. load current	1A		
Internal series resist.	approx. ≤0.6Ω including return		

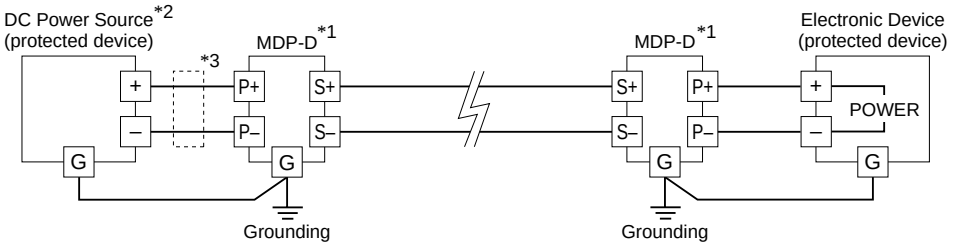
*The maximum voltage that could pass through M-RESTER. Protected equipment must be able to withstand this voltage for a very short time period.

SCHEMATIC CIRCUITRY



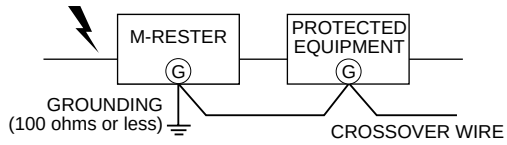
*Use a DC power source with the overload current protection function. (maximum output current 1A)

CONNECTION DIAGRAM



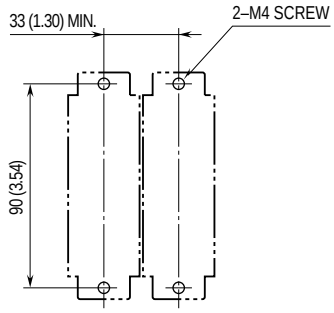
The MDP-D is not applicable to protect two-wire transmitters. To protect two-wire transmitters. model MDP-24-1 designed to yield only small leakage current is suitable.
*1. Confirm the polarity of the terminals when connecting this module to a protected device.
*2. Use a DC power source with the overload current protection function. (maximum output current 1A)
*3. Install a current limiting element (capacity 1A) when the output current exceeds 1A.

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.

MOUNTING REQUIREMENTS (unit: mm)



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENT (unit: mm)