

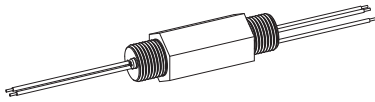
Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR STANDARD SIGNAL LINE & PULSE USE

(conduit mount, weather-proof, 24 V DC line voltage)

Functions & Features

- Designed specifically for 4 – 20 mA DC and pulse signal line including both 4-wire and 2-wire transmitters
- Direct mount in a wiring conduit of outdoor enclosures
- Absorbs surges only without affecting instrumentation signal



MODEL: MD6N-24-[1][2][3]

■ SELECTABLE WIRING CONDUITS SPECIFIC TO EACH APPROVAL
'N' marked combinations are not selectable.

WIRING CONDUIT	APPROVAL		
	0	3	4
0	Y	N	N
1	Y	Y	Y
2	Y	N	Y

ORDERING INFORMATION

- Code number: MD6N-24-[1][2][3]
- Specify a code from below for each of [1] through [3].
(e.g. MD6N-24-00B)
- For the safety approval code 4, specify the product's destination country using Ordering Information Sheet (No. ESU-8284).

[1] SAFETY APPROVAL

- 0: None
 - 3: FM explosion-proof
 - 4: ATEX flameproof
- Confirm selectable combinations of approval and wiring conduit types in the table.

[2] WIRING CONDUIT

- 0: G 1/2
 - 1: 1/2 NPT
 - 2: M20 × 1.5
- Confirm selectable combinations of approval and wiring conduit types in the table.

[3] BODY MATERIAL

- B: Brass
- S: Stainless steel

GENERAL SPECIFICATIONS

- Degree of protection: IP65
- Wiring conduit: See 'Ordering information.'
- Electrical connection: Leadwires
- Leadwire diameters
 - Cable side & grounding: AWG20
 - Protected equipment side: AWG22
- Body material: Nickel-plated brass or stainless steel 316

INSTALLATION

- Operating temperature:
 - No Safety approval: -40 to +85°C (-40 to +185°F)
 - FM approval: -40 to +80°C (-40 to +176°F) (T6)
 - ATEX approval: -40 to +80°C (-40 to +176°F) (T5), -40 to +75°C (-40 to +167°F) (T6)
- Mounting: Screwed into an electrical conduit of outdoor enclosures
- Weight: 330 g (0.73 lb)

PERFORMANCE

- Discharge voltage (peak voltage)
 - Line to line: 30 V min.
 - Line to ground: ±160 V min.
- Max. surge voltage
 - Line to line: 40 V max.
 - Line to ground: ±650 V max.

(The maximum voltage that could pass through the surge protector. Protected equipment must be able to withstand this voltage for a very short time period.)
- Response time:
 - Line to line: ≤ 4 nsec.
 - Line to ground: ≤ 20 nsec.
- Leakage current:
 - Line to line: ≤ 5 μA @ 30 V DC
 - Line to ground: ≤ 5 μA @ ±160 V DC
- Discharge current capacity: 10000 A (8/ 20 μsec.)
- Max. load current: 100 mA

Internal series resistance: Approx. 22 Ω including return

Max. line voltage

Without safety approval: 30 V DC

With safety approval: 28 V DC

Capacitance @ 1 kHz:

Line to line: ≤ 2500 pF

Line to ground: ≤ 100 pF

STANDARDS & APPROVALS

EU conformity:

ATEX Directive

Ex db EN 60079-1

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

Safety approval:

FM: Explosion-proof and Dust-ignition proof

Class I, Div. 1, Groups A, B, C and D

Class II, Div. 1, Groups E, F and G

Class III, Div. 1

T6

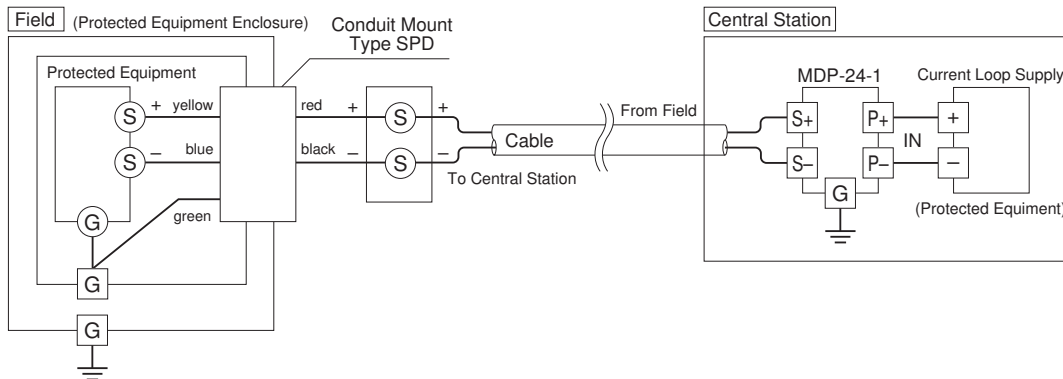
(Class 3615)

ATEX: Flameproof

⊕ II 2G, Ex db IIC, T5 and T6 Gb

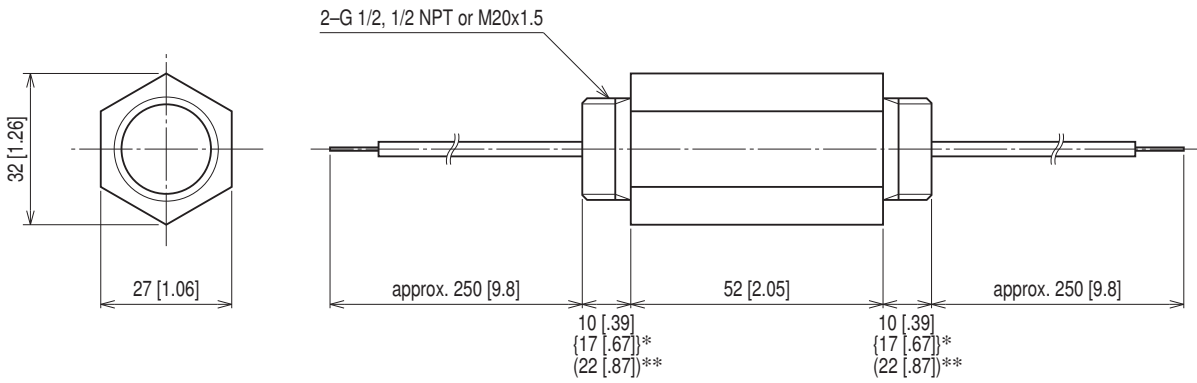
(EN 60079-1)

CONNECTION EXAMPLES



Connect the Conduit Mount Type SPD's green leadwire to the ground terminal inside the protected equipment enclosure to ground through the enclosure's outside ground terminal.
 If the enclosure does not have an inside ground terminal, connect the green leadwire directly to the outside ground wire pulled inside the enclosure. Keep the ground wire as short as possible.

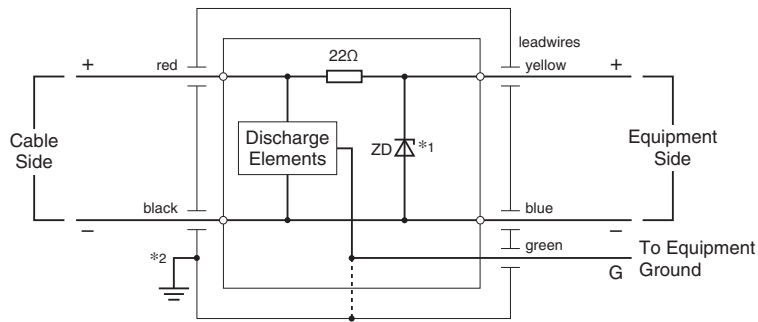
EXTERNAL DIMENSIONS unit: mm [inch]



* { } for M20x1.5 with ATEX flameproof approval

** () for 1/2 NPT

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*1. The zener diode has polarity. Zero-cross signal cannot be connected.

*2. Use only when the signal line requires functional grounding.
This is NOT for surge protection.



Specifications are subject to change without notice.