

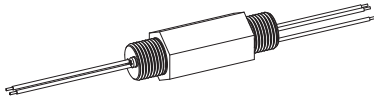
## Lightning Surge Protectors for Electronics Equipment M-RESTER

### LIGHTNING SURGE PROTECTOR FOR STANDARD SIGNAL LINE & PULSE USE

(conduit mount, weather-proof; 65 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
- CE marking (conforms to ATEX and EMC)



### MODEL: MD6N-65-[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-65-[1][2][3]

Specify a code from below for [1] through [3] (e.g. MD6N-65-00B)

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: CENELEC flameproof (ATEX)

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: -40 to +85°C (-40 to +185°F)

(See Safety Parameters for use in a hazardous location.)

Mounting: Screwed into an electrical conduit of outdoor enclosures

Weight: 330 g (0.73 lbs)

### PERFORMANCE

Discharge voltage (peak voltage)

Line to line: 70 V min.

Line to ground: ±160 V min.

Max. surge voltage

Line to line: 100 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 @ 70 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: 70 V DC

With safety approval: 66 V DC



## Capacitance @ 1 kHz:

Line to line:  $\leq 2500$  pF

Line to ground:  $\leq 100$  pF

## STANDARDS & APPROVALS

### CE conformity:

ATEX Directive (94/9/EC)

Ex d EN 60079-1: 2004

EMC Directive (2004/108/EC)

EMI EN 61000-6-4: 2007

EMS EN 61000-6-2: 2005

### 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: 2006)

CENELEC: Flameproof (ATEX)

⊕ II 2G, Ex d IIC; T5 and T6

(EN 60079-1: 2004)

## SAFETY PARAMETERS

### Operating temperature:

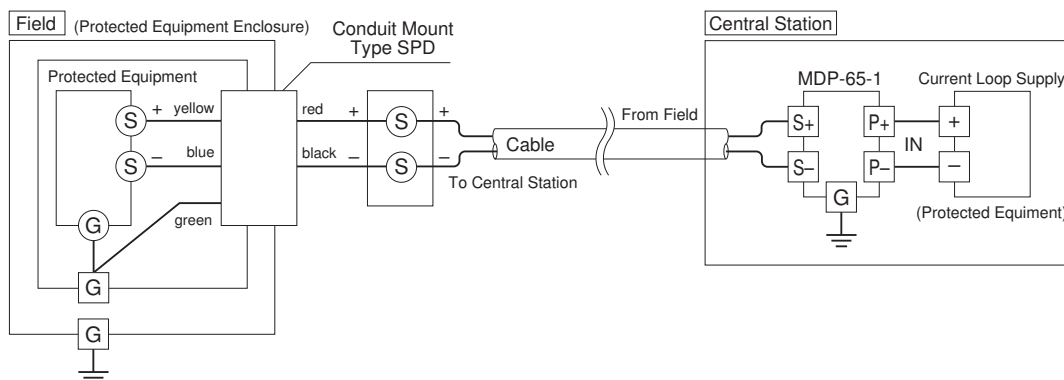
T5 -40 to +80°C

T6 -40 to +70°C

-40 to +75°C for CENELEC (ATEX) flameproof

-40 to +80°C for FM explosion-proof

## CONNECTION EXAMPLES

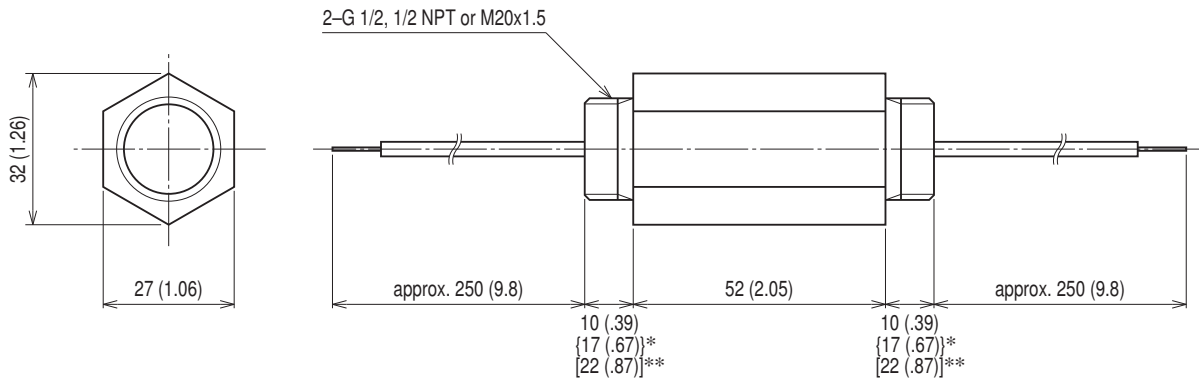


Connect the Conduit Mount Type SPD's green leadwire to the ground terminal inside the protected equipment enclosure to ground through the enclosure's outside ground terminal.

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.

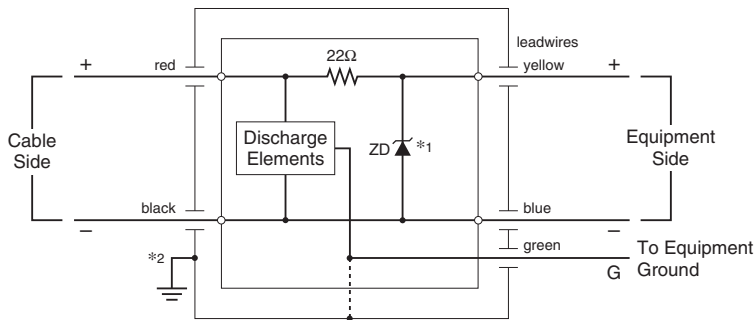


## DIMENSIONS unit: mm (inch)



\* { } for M20x1.5 with CENELEC (ATEX) flameproof approval  
 \*\*[ ] for 1/2 NPT

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



\*1. The zenor 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.