

**Lightning Surge Protectors for
Electronics Equipment M-RESTER**

**LIGHTNING SURGE PROTECTOR FOR
TWO-WIRE SIGNAL LOOP**

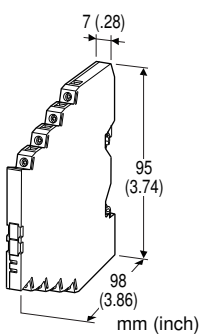
(ultra-slim)

Functions & Features

- High discharge current capacity 20 kA (8 / 20 μ s), 1 kA (10 / 350 μ s)
- Ultra-thin 7-mm-wide module can be mounted in high density
- Excellent protection employing multi-stage SPD circuits
- DIN rail mounting and grounding
- Loop disconnect fuse
- CE marking

Typical Applications

- Protecting a 2-wire transmitter loop
- Protecting an electronic device I/O



[2] LOOP DISCONNECT FUSE

- 0: Without
- 1: With (CENELEC/ATEX approval Not selectable)

[3] SAFETY APPROVAL

- 0: None
- 2: CENELEC intrinsic safety (ATEX)

RELATED PRODUCTS

- Loop disconnect fuse (model: MD7F)

GENERAL SPECIFICATIONS

- Construction:** Slim-sized front terminal structure
- Degree of protection:** IP20
- Connection:** Euro terminal block (torque 0.3 N·m)
- Applicable wire size:** 0.2 - 2.5 mm²
- Grounding:** DIN Rail
- Housing material:** Flame-resistant resin (black)
- Loop disconnect fuse:** Current rating 250 mA

INSTALLATION

- Operating temperature:** -25 to +85°C (-13 to +185°F)
(See Safety Parameters for use in a hazardous location.)
- Operating humidity:** 30 to 90 %RH (non-condensing)
- Mounting:** DIN Rail (TH35-7.5, 1-mm-thick)
Oxide film on the surface of an aluminium rail may lower the electric conductivity between this module and the ground. Use a steel or copper rail.
- Weight:** 70 g (2.5 oz)

MODEL: MD72W-[1][2][3]

ORDERING INFORMATION

- Code number: MD72W-[1][2][3]
Specify a code from below for each [1] through [3].
(e.g. MD72W-5500)
For the safety approval code 2, specify the product's destination country using Ordering Information Sheet (No. ESU-8057).

[1] NOMINAL VOLTAGE

- 07: 7 V DC
- 16: 16 V DC
- 32: 32 V DC
- 55: 55 V DC

PERFORMANCE

MODEL NO.		MD72W-07	MD72W-16	MD72W-32	MD72W-55
Max. continuous operating voltage (Uc)	Line to Line	±7V	±16V	±32V	±55V
	Line to Earth	±7V	±16V	±32V	±55V
Voltage protection level (Up) @6kV (1.2 / 50 μs)	Line to Line	20V	30V	50V	80V
	Line to Earth	30V	40V	60V	90V
Leakage current @Uc	Line to Line	≤10μA	≤5μA		
	Other sections	≤10μA	≤5μA		
Response time	Line to Line	≤4 nsec.			
	Other sections	≤4 nsec.			
Max. discharge current (Imax)	20kA (8 / 20 μs), 1.0kA (10 / 350 μs)				
Nominal current (In)	Without fuse	400mA			
	With fuse	250mA			
Internal series resistance	Without fuse	2.2Ω ±20% per line			
	With fuse	4Ω ±20% per line			

STANDARDS & APPROVALS

CE conformity:

ATEX Directive (94/9/EC)
 Ex ia EN 60079-11: 2007
 Category 1G EN 60079-26: 2007
 EMC Directive (2004/108/EC)
 EMI EN 61000-6-4: 2007
 EMS EN 61000-6-2: 2005

Safety approval:

CENELEC: Intrinsic safety (ATEX)
 Ⓢ II 1G, Ex ia IIC; T4 and T5
 EN 60079-0: 2006
 EN 60079-11: 2007
 EN 60079-26: 2007

Surge protection: IEC 61643-21: 2000
 (Categories C1, C2, D1)

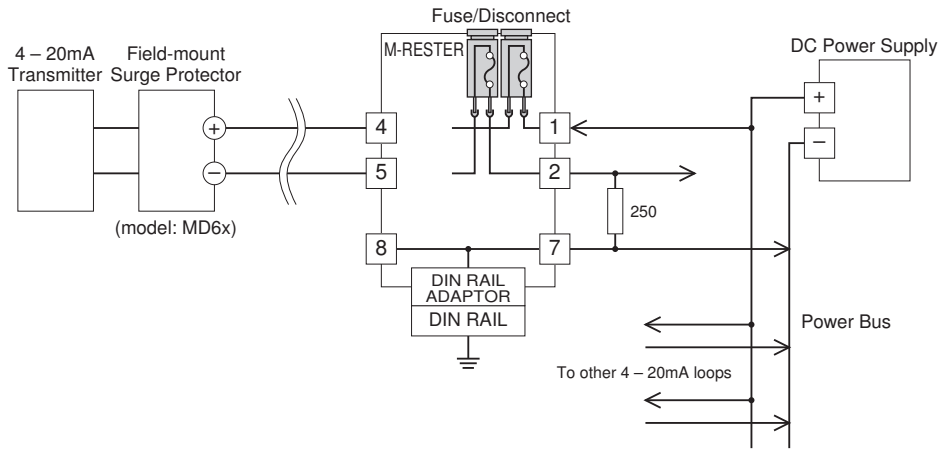
SAFETY PARAMETERS

■ CENELEC / ATEX IS DATA

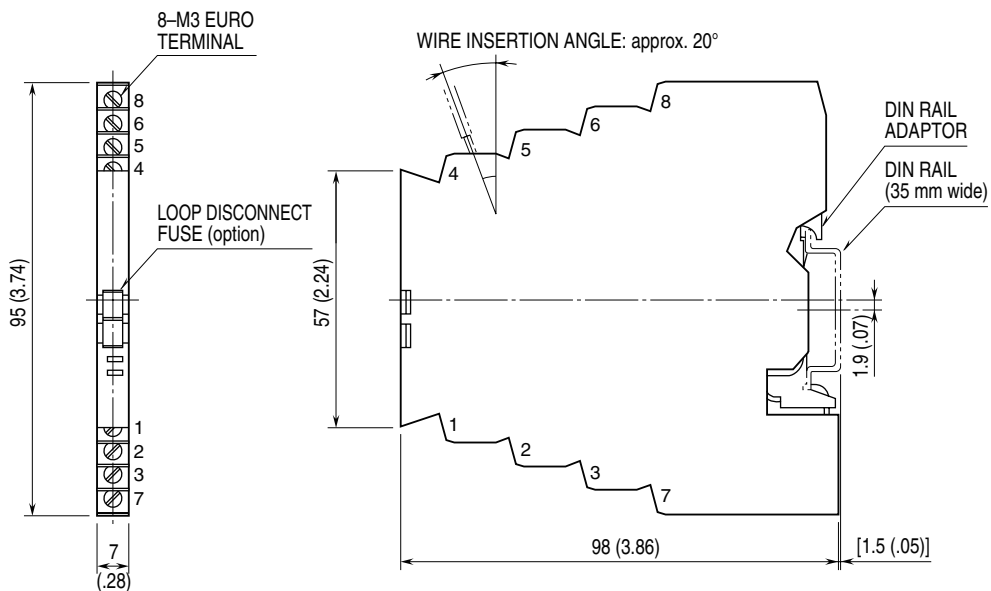
	MD72W-07	MD72W-16	MD72W-32	MD72W-55
Ui (Vmax)	7V	16V	32V	60V
Ii (Imax)	150mA	150mA	150mA	150mA
Ci	50 nF	35 nF	10 nF	5 nF
Li	150 μH	150 μH	150 μH	150 μH
Pi	Temp. Class	Range		Parameter
		T4	-25 to +40°C	1.3W
	-25 to +60°C		1.2W	
	-25 to +80°C		1.0W	
T5	-25 to +40°C	1.0W		

DESCRIPTIONS

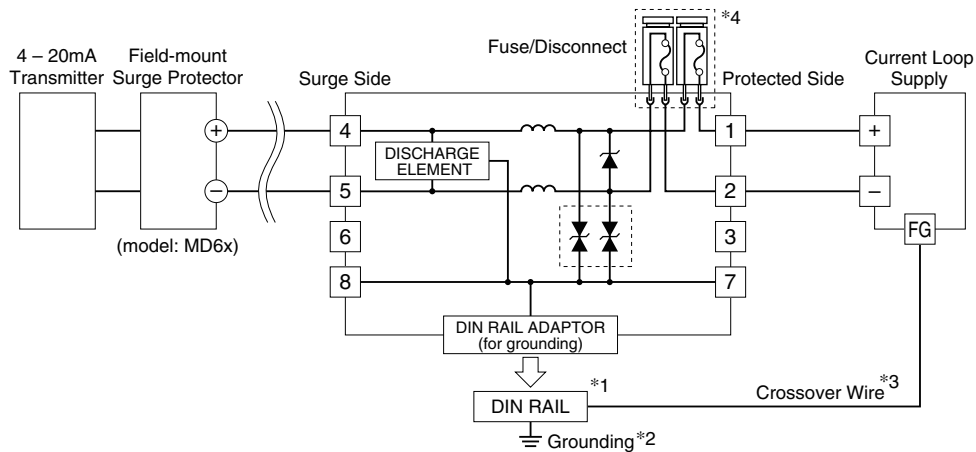
- Specify 'Loop disconnect fuse' type when multiple transmitters are connected to a single power bus.
- Loop disconnect fuse is used to separate a transmitter loop from the power bus when it fails in shortcircuit mode.



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



- *1. Oxide film on the surface of an aluminium rail may lower the electric conductivity between this module and the ground. Use a steel or copper rail.
- *2. Be sure to ground the DIN rail. Recommended grounding resistance $\leq 100\Omega$.
- *3. Cross-wire between the DIN rail or the terminal 7 and the metal housing of the protected device to equalize the earth potential. Ground only the surge protector when the protected device has no ground terminal.
- *4. Without Fuse/Disconnect option, fuse circuit is shorted.



Specifications are subject to change without notice.