

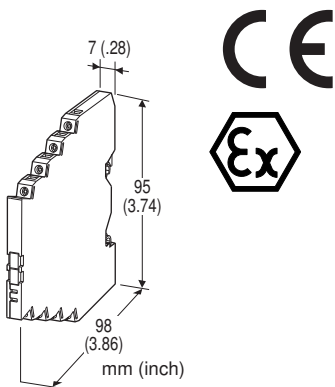
Lightning Surge Protectors for Electronics Equipment M-RESTER

LIGHTNING SURGE PROTECTOR FOR RS-485 / RS-422

(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
- Shield terminal provided



blank: none

/Q: Option other than the above (specify the specification)
(CENELEC intrinsic safety (ATEX) not available)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to M-System's web site.)

/C01: Silicone coating

/C02: Polyurethane coating

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, stripped length 8 mm

Grounding: DIN Rail

Housing material: Flame-resistant resin (black)

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 DIN 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: MD74R-[1][2]

ORDERING INFORMATION

- Code number: MD74R-[1][2]

Specify a code from below for each [1] and [2].

(e.g. MD74R-FG/Q)

For the safety approval code /E2, specify the product's destination country using Ordering Information Sheet (No. ESU-8060).

- Specify the specification for option code /Q
(e.g. /C01)

[1] SHIELD TERMINAL (to earth)

FF: Floating

FG: Grounding

[2] OPTIONS

Safety Approval

blank: Without

/E2: CENELEC intrinsic safety (ATEX)

Other Options

PERFORMANCE

	LINE TO LINE	LINE TO SG	LINE/SG TO EARTH	SHLD TO EARTH
Max. continuous operating voltage (Uc)	±5V	5V	±160V	±160V*1
Voltage protection level (Up) @4kV (1.2 / 50 µs)	±25V	25V	±800V	±800V*1
Leakage current @Uc	≤ 200µA	≤ 200µA	≤ 10µA	≤ 10µA*1
Response time	≤ 4 nsec.	≤ 4 nsec.	≤ 20 nsec.	≤ 20 nsec.*1
Approx. capacitance @ 100 kHz	300 pF	300 pF	100 pF	100 pF
Max. discharge current (Imax)	20kA (8 / 20 µs), 1.0kA (10 / 350 µs)			
Nominal current (In)	100mA			
Internal series resistance	2Ω ±10% per line			
Input attenuation	-0.5 dB max. @DC...2.0 MHz, Z0 = 110Ω			
Surge protection	IEC 61643-21 Categories C1, C2, D1			

*1. Values for the floating type (FF). Shortcircuited for the grounding type (FG).

STANDARDS & APPROVALS

EU conformity:

ATEX Directive

Ex ia EN 60079-11

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

EN 50581

Safety approval:

CENELEC: Intrinsic safety (ATEX)

⊕ II 1G, Ex ia IIC; T4 and T5

EN 60079-0

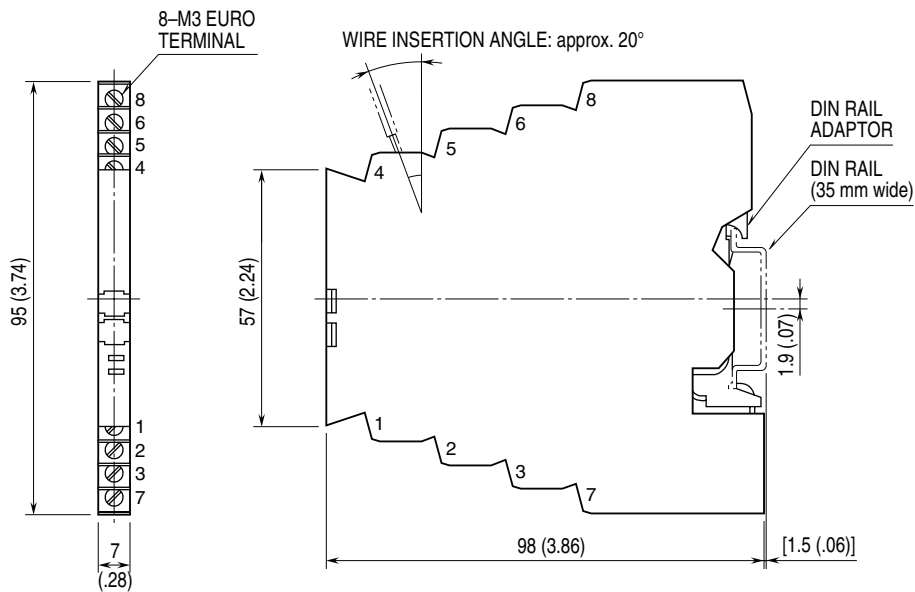
EN 60079-11

SAFETY PARAMETERS

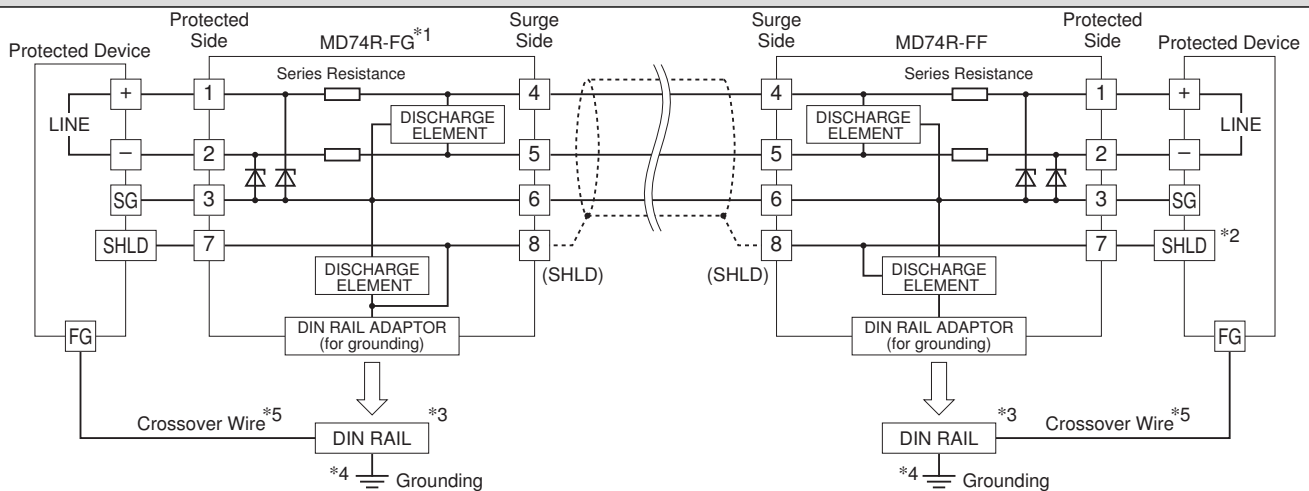
■ CENELEC / ATEX IS DATA

Ui (Vmax)	7V		
Ii (Imax)	any		
Ci	50 nF		
Li	0 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	

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



- *1. Choose the MD74R-FG when the shield wire is to be grounded.
- *2. When SHLD and SG terminals are not isolated, DO NOT connect the surge protector's terminal 7 to SHLD.
- *3. 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.
- *4. Be sure to ground the DIN rail. Recommended grounding resistance max. 100 ohms.
- *5. Cross-wire from the DIN rail to the metal housing of the protected device to equalize the ground potential. Ground only the surge protector when the protected device has no grounding terminal.



Specifications are subject to change without notice.