

## Lightning Surge Protectors for Electronics Equipment M-RESTER

### LIGHTNING SURGE PROTECTOR FOR AC POWER SUPPLY

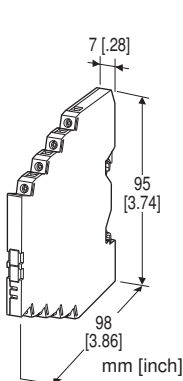
(max. 3A; ultra-slim)

#### Functions & Features

- High discharge current capacity 10 kA (8 / 20  $\mu$ 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
- Power line monitor LED

#### Typical Applications

- Protecting small capacity AC control drives
- Protecting small capacity power supply units



## MODEL: MD7AP-[1][2]

### ORDERING INFORMATION

- Code number: MD7AP-[1][2]
- Specify a code from below for each of [1] and [2].  
(e.g. MD7AP-100/Q)
- Specify the specification for option code /Q  
(e.g. /C01)

### [1] OPERATIONAL VOLTAGE

100: 100 V / 110 V / 120 V AC

200: 200 V / 220 V / 240 V AC

### [2] OPTIONS

blank: none

/Q: With options (specify the specification)

### SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to our 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 mm<sup>2</sup>, stripped length 8 mm

**Grounding:** DIN Rail

**Housing material:** Flame-resistant resin (black)

**Monitor LED:** Green LED turns ON when the voltage is supplied; OFF when the safety fuse is blown.

### INSTALLATION

**AC power supply:** Max. output current 3 A

**Caution:** Use an AC power source with the overload current protection function.

**Operating temperature:** -25 to +85°C (-13 to +185°F)

**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:** 85 g (3.0 oz)

### PERFORMANCE

	LINE TO LINE		LINE TO EARTH
	MD7AP-100	MD7AP-200	
Max. continuous operating voltage (Uc)	140V AC	275V AC	275V AC
Voltage protection level (Up) @6kV (1.2 / 50 $\mu$ s)	±550V	±850V	±850V
Leakage current @Uc	≤ 1mA	≤ 1mA	≤ 1mA
Response time	≤ 20 nsec.	≤ 20 nsec.	≤ 20 nsec.
Max. discharge current (Imax)	10kA (8 / 20 $\mu$ s)		
Nominal current (In)	3A		
Surge protection	IEC 61643-21 Categories C1, C2, D1 EN 61643-21 Categories C1, C2, D1		

### STANDARDS & APPROVALS

**EU conformity:**

EMC Directive

EMI EN 61000-6-4

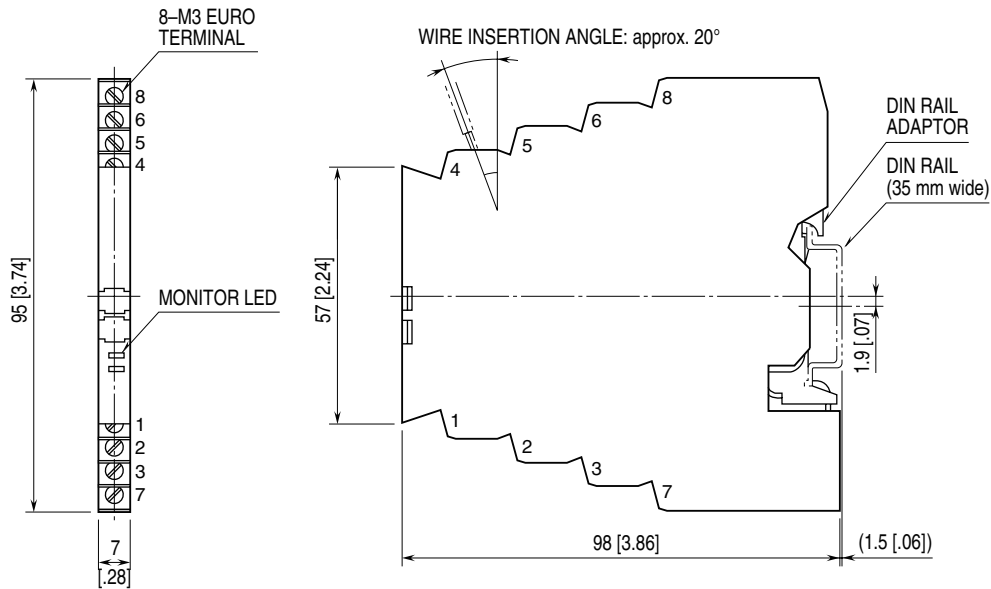
EMS EN 61000-6-2

Low Voltage Directive

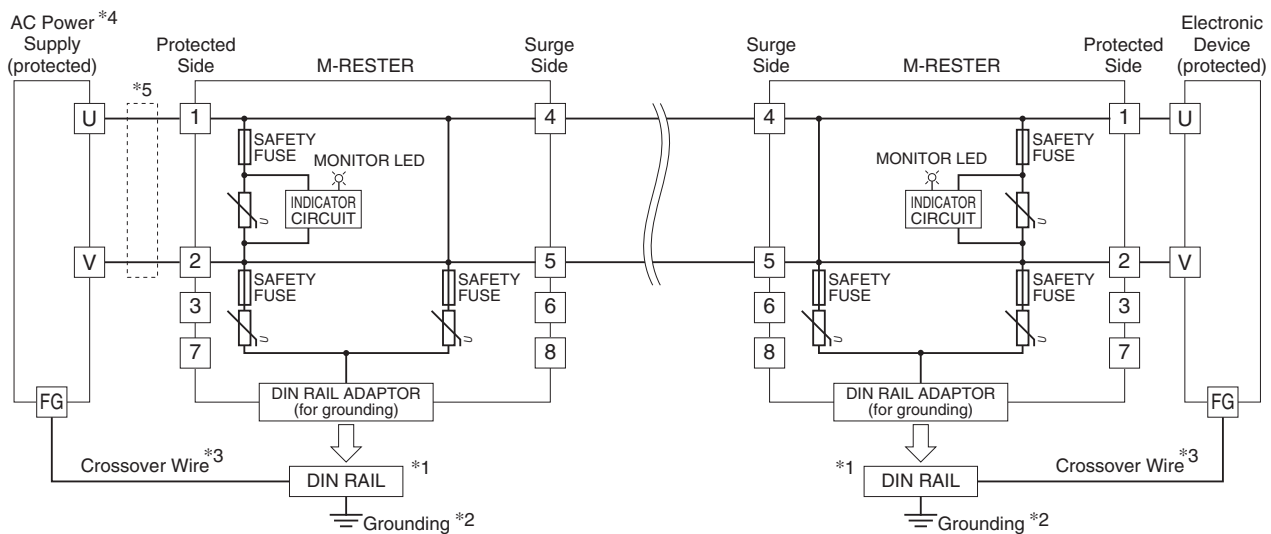
EN 61643-21

RoHS Directive

## 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 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. Use an AC power source with the overload current protection function. (maximum output current 3A)
- \*5. Install a current limiting element (capacity 3) when the output current exceeds 3A.



Specifications are subject to change without notice.