INSTALLATION / INSTRUCTION MANUAL

LIGHTNING SURGE PROTECTOR FOR STRAIN GAUGE USE
(6-wire remote sensing)

MODEL **MD-LC2**

BEFORE USE ....

Thank you for choosing us. Before use, check the contents of the package you received as outlined below.
If you have any problems or questions on the product, please contact our sales office or representatives.

■ PACKAGE INCLUDES:

Lightning surge protector ..... (1)

■ MODEL NO.

Check that model No. described on specification label is exactly what you ordered.

■ INSTALLATION / INSTRUCTION MANUAL

This manual describes necessary points of caution when you use this product, installation, and basic maintenance procedure.

LIMITATION APPLICABLE TO M-RESTER

The M-Rester will protect electronics equipment from damage caused by lightning by absorbing most of the surge voltages.

However, M-Rester may not be effective against certain extremely high voltages caused by a direct or almost direct hit by lightning.

M-Rester must be installed according to this installation / instruction manual.

POINTS OF CAUTION

■ ENVIRONMENT

• When heavy dust or metal particles are present in the atmosphere, install M-RESTER inside proper housing and ventilate it.
• Do not install the M-RESTER where it is subjected to continuous vibration. Do not apply physical impact to the M-RESTER.
• Environmental temperature must be within -5 to +55°C (23 to 131°F) and relative humidity within 30 – 90% RH in order to ensure adequate life span and operation.

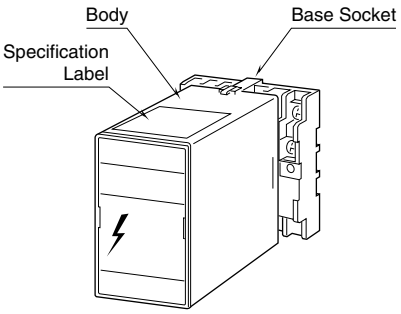
■ DIELECTRIC STRENGTH TEST

• The unit will start discharging when 15V or greater voltage is applied between lines and ground. Remote the unit from the base socket when performing dielectric strength tests.

■ AND ....

• We recommend that you keep spare M-RESTERs so that you can replace them when necessary.
• Lightning surge can enter not only through signal lines but also through power supply lines. We recommend that you also use the Lightning Surge Protector for Power Lines for sufficient protection.

COMPONENT IDENTIFICATION



SPECIFICATIONS

	SIG (L1 to L2)	EXC (+ to –)	EXC (S+ to S–)	SIG (L1, L2) to GND	EXC (S+, +) to G	EXC (S–, –) to G
Discharge voltage	±0.3V min.	15V min.	15V min.	±15V min.	+30/-15V min.	±15V min.
Max. surge voltage*	±20V max.	40V max.	40V max.	±40V max.	+65/-40V max.	±40V max.
Leakage current	≤0.2µA @±0.3V DC	≤2µA @15V DC	≤2µA @±15V DC	≤2µA @±15V DC		
Max. line voltage	±0.3V	15V	15V	±15V	+30/-15V	±15V
Response time	4 nanosec.					
Discharge current capacity	5000A (8/20 µsec.)					
Int. series resist. (each line)	approx. ≤10Ω	approx. ≤4Ω	approx. ≤10Ω	—		
Max. load current (each line)	100mA	200mA	100mA	—		

*The maximum voltage that could pass through M-RESTER. Protected equipment must be able to withstand this voltage for a very short time period.

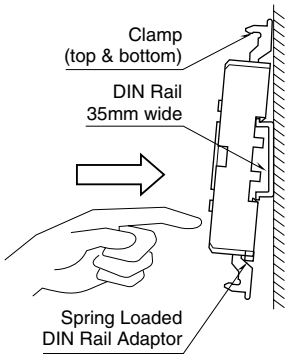
MG CO., LTD. www.mgco.jp
5-2-55 Minamitsumori, Nishinari-ku, Osaka 557-0063 JAPAN

INSTALLATION

Detach the yellow clamps located at the top and bottom of the unit for separating the body from the base socket.

■ DIN RAIL MOUNTING

Set the base socket so that its DIN rail adapter is at the bottom. Hung the upper hook at the rear side of base socket on the DIN rail and push in the lower. When removing the socket, push down the DIN rail adapter utilizing screwdriver (–) and pull.



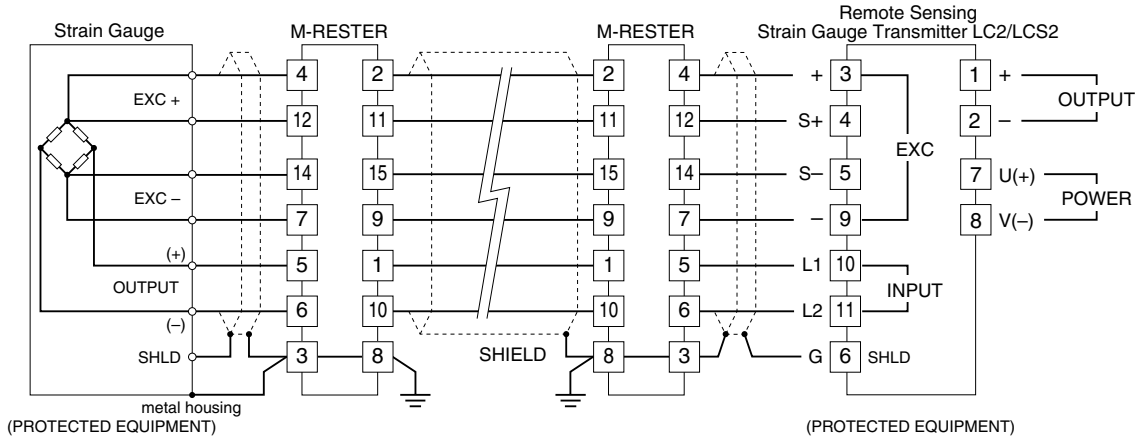
Shape and size of the base socket are slightly different with various socket types.

■ WALL MOUNTING

Refer to the drawing in the next page.

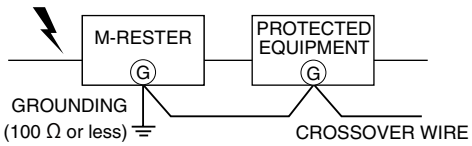
TERMINAL CONNECTIONS

Connect the unit as in the diagram below.
Be sure to connect the shield wire to the Shield terminal (3 and 8) and ground the terminal 8 of the MD-LC2.



■ GROUNDING

A cross-over wire between M-RESTER and ground or metallic housing of equipment is required for protection. When the protected equipment has no ground terminal, ground only the M-RESTER.



MAINTENANCE

Check M-RESTER periodically. Many cases of lightning are ignored, and even lightning at a far distance often causes inductive surges.
We recommend that you check your M-RESTER about twice a year, before and after the rainy season. Check whenever you experience a strong lightning occurrence.
Checking procedure is explained in the following:

■ CHECKING

WIRING

• Make sure that wiring is done as instructed in the connection diagram.
• Make sure that only the ground terminal (No. 8) of the central MD-LC2 is grounded.

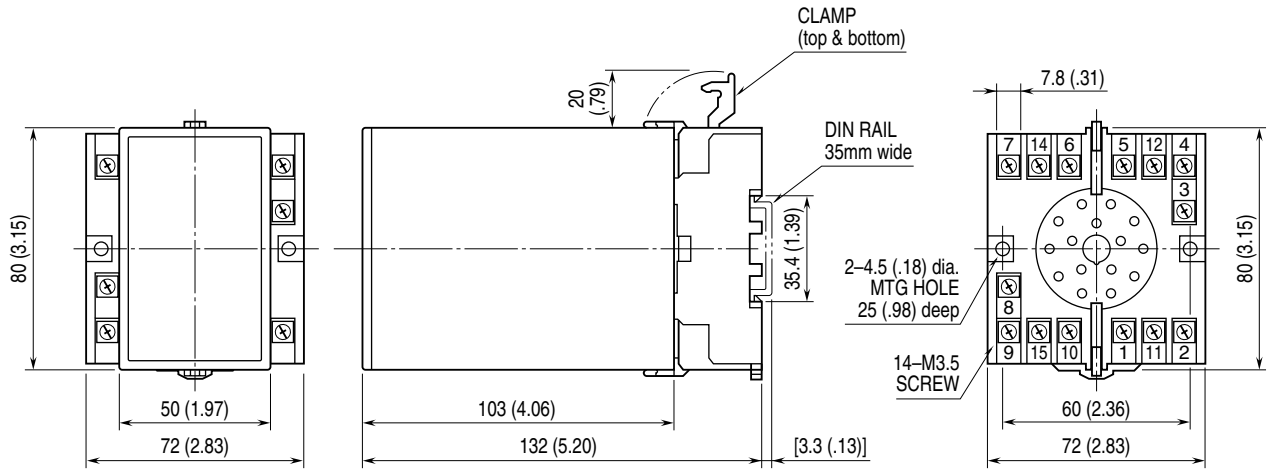
DISCHARGE ELEMENTS

Remove all wiring connected to M-RESTER when you test the discharge elements.
• Check resistance across the following terminals on the high resistance range of multimeter (infinite standard). When measuring across (2) – (9) and (11) – (15), connect the multimeter so that positive voltage is applied to (2) and (11) terminal.

Terminals (2) – (9), (11) – (15), (2) – (8), (9) – (8),
(11) – (8), (15) – (8), (1) – (8), (10) – (8)

• Check resistance across the terminal (1) – (10) on the high resistance range of multimeter of 0.3V or less (infinite standard).
• Check that discharging occurs across the same terminals with a 500V DC insulation tester. (Indicator of the tester reaches over-scale.)
• If any of the above tests shows negative, replace the M-RESTER.

EXTERNAL DIMENSIONS mm (inch)



• When mounting, no extra space is needed between units.