

BEFORE USE

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

■ PACKAGE INCLUDES:

Lightning surge protector (body + base socket).....(1)

■ MODEL NO.

Confirm Model No. marking on the product to be exactly what you ordered.

■ INSTALLATION / INSTRUCTION MANUAL

This manual describes necessary points of caution when you use this product, including 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.

GENERAL

■ FUNCTION & FEATURES

- Designed specifically for telecommunication equipment

■ SPECIFICATIONS

	BETWEEN LINES	LINE TO GND
Discharge voltage	±270V min	±350V max.
Max. surge voltage*	±650V max.	±900V max
Leakage current	≤100µA @±160V DC	≤100µA @±160V DC
Response time	≤0.1 µsec.	
Discharge current	1000A (8 / 20 µsec.)	
Maximum load current	500mA	
Internal series resist.	approx. 0.1Ω including return	

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

POINTS OF CAUTION

■ GENERAL

- Before you remove the body from its base socket or mount it, or connect/disconnect leadwires to the M-RESTER, turn off the input signal to the M-RESTER for safety.

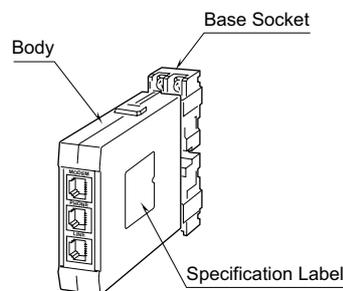
■ ENVIRONMENT

- 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 MRESTER.
- Environmental temperature must be within -5 to +55°C (23 to 131°F) and relative humidity within 30 to 90% RH in order to ensure adequate life span and operation.

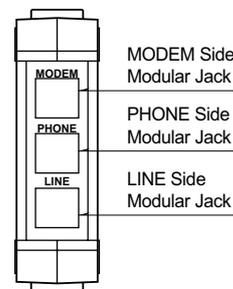
■ AND

- 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 Arrester for Power Lines for sufficient protection.

COMPONENT IDENTIFICATION



■ FRONT PANEL CONFIGURATION

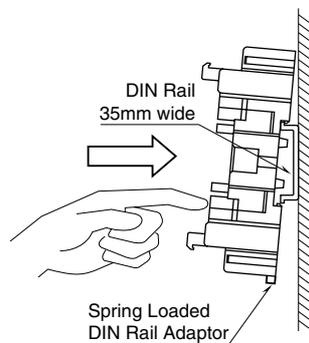


INSTALLATION

Pull out the body in pressing the clamps located at the top and bottom of the unit for separating it from the base socket.

■ DIN RAIL MOUNTING

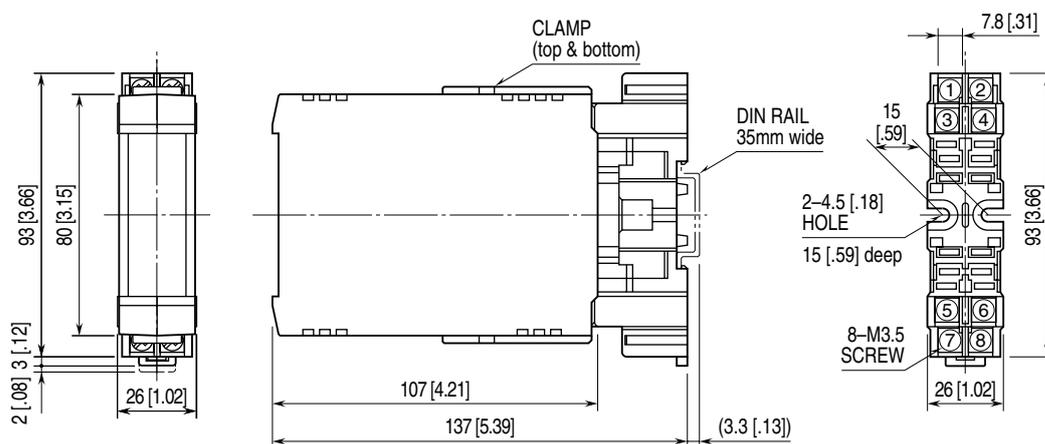
Set the base socket so that its DIN rail adapter is at the bottom. Hung the upper hook at the rear side of base socket on the DIN rail and push in the lower. When removing the socket, push down the DIN rail adapter utilizing screwdriver (–) and pull.



■ WALL MOUNTING

Refer to the drawings in the figure below.

■ EXTERNAL DIMENSIONS unit: mm [inch]



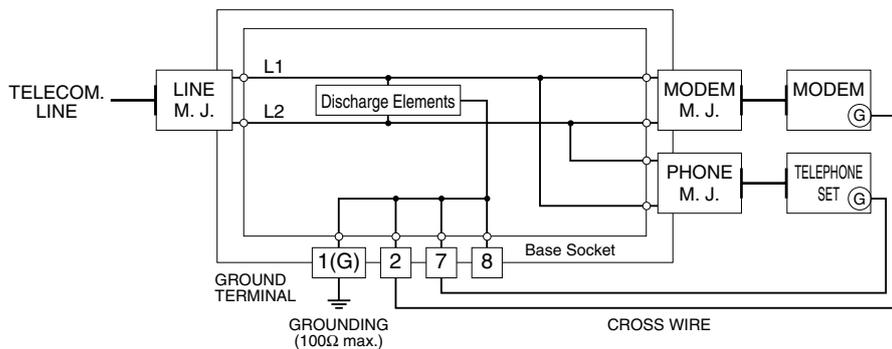
•When mounting, no extra space is needed between units.

TERMINAL CONNECTIONS

Connect the unit as in the diagram below.

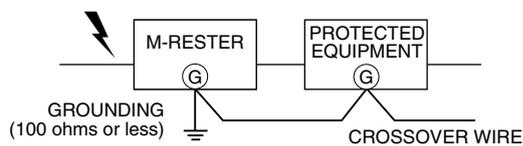
Be sure to cross-wire between Ground terminal of the protected equipment and the ground terminal (1) of the MD-TL.

CONNECTION DIAGRAM



Be sure to cross-wire between G terminals of modem / telephone set and the terminals 2 & 7 of the MD-TL.

GROUNDING



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

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:

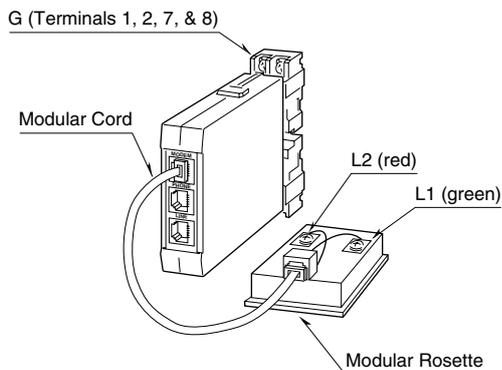
■ CHECKING WIRING

- Make sure that wiring is done as instructed in the connection diagram.
- Make sure that Ground terminal (1) is connected to the metallic housing of protected equipment.
- Make sure that Ground terminal (1) is grounded to earth.

■ ELEMENT MODULE

- Preparation

- 1) Remove all wiring connected to M-RESTER.
- 2) Connect a modular cord between the modular jack port for MODEM and a modular rosette. Remove the cover of the rosette.



- Shortcircuit Test for the Internal Discharge Element Check resistance across the following terminals on the high resistance range of multimeter (infinite or greater than 100MΩ standard).

Terminals (L1) – (L2), (L1) – (G), (L2) – (G)

- Discharge Test for the Internal Discharge Element Check that discharging occurs across the same terminals with a 500V DC megger. (Indicator of the megger shows less than 20MΩ.) Then replace the modular cord to PHONE port and to LINE port to do the same test across the L1 and L2.
- If any of the above tests shows negative, replace the MRESTER.