

VALVE POSITIONER (position-preset contact input; built-in SSR)

MODEL **MEX-P**

BEFORE USE

Thank you for choosing M-System. 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 M-System's Sales Office or representatives.

■ PACKAGE INCLUDES:

Valve positioner (body + base socket).....(1)

■ MODEL NO.

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

■ INSTRUCTION MANUAL

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

POINTS OF CAUTION

■ POWER INPUT RATING & OPERATIONAL RANGE

- Locate the power input rating marked on the product and confirm its operational range as indicated below:
AC power: Rating $\pm 10\%$, 50/60 ± 2 Hz, approx. 3VA

■ GENERAL PRECAUTIONS

- Before you remove the unit from its base socket or mount it, turn off the power supply and power to a motor for safety.

■ ENVIRONMENT

- Indoor use.
- When heavy dust or metal particles are present in the air, install the unit inside proper housing with sufficient ventilation.
- Do not install the unit where it is subjected to continuous vibration. Do not subject the unit to physical impact.
- Environmental temperature must be within -5 to $+60^{\circ}\text{C}$ (23 to 140°F) with relative humidity within 30 to 90% RH in order to ensure adequate life span and operation.

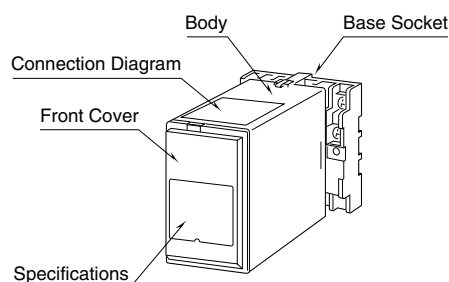
■ WIRING

- Do not install cables close to noise sources (relay drive cable, high frequency line, etc.).
- Do not bind these cables together with those in which noises are present. Do not install them in the same duct.

■ AND

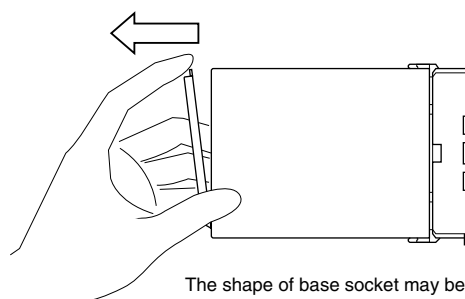
- The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.

COMPONENT IDENTIFICATION



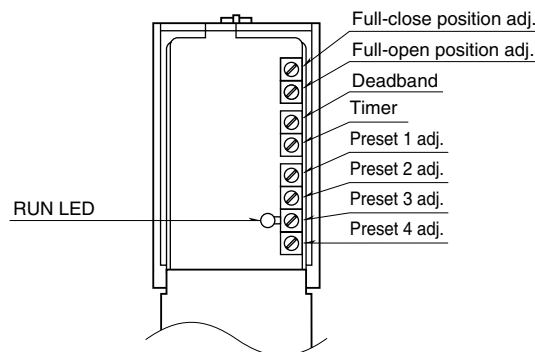
■ HOW TO OPEN THE FRONT COVER:

Hang your finger on the hook at the top of the front cover and pull.



The shape of base socket may be different for some models.

■ FRONT PANEL CONFIGURATIONS

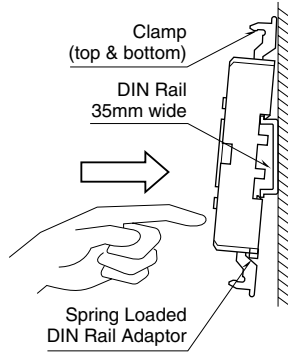


INSTALLATION

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

DIN RAIL MOUNTING

Set the base socket so that its DIN rail adaptor is at the bottom. Hang 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 adaptor utilizing a minus screwdriver and pull.



WALL MOUNTING

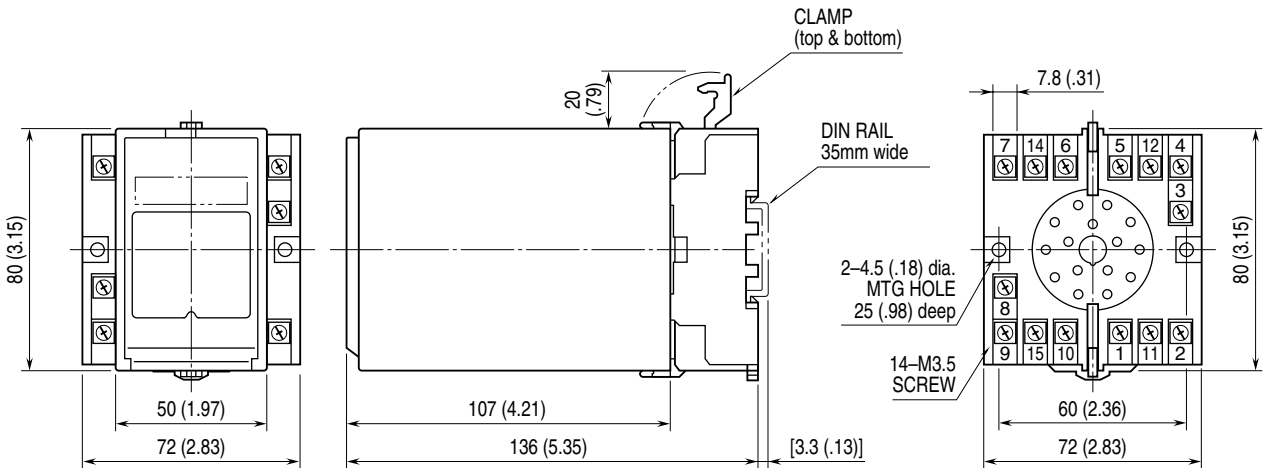
Refer to "EXTERNAL DIMENSIONS."

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

TERMINAL CONNECTIONS

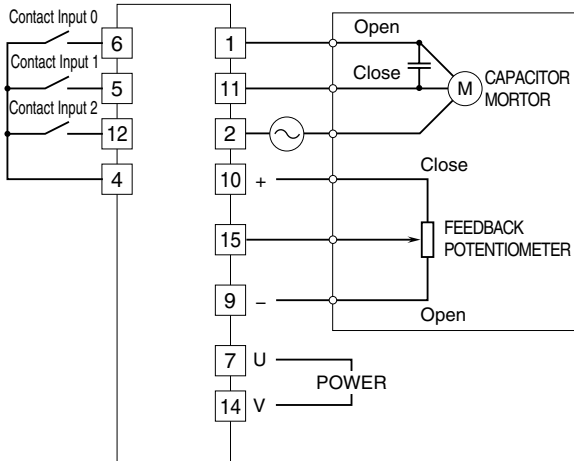
Connect the unit as in the diagram below or refer to the connection diagram on the top of the unit.

EXTERNAL DIMENSIONS unit: mm (inch)



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

CONNECTION DIAGRAM



Note: Note that when limit switches inserted in motor wiring, the making/breaking may cause stress on the SSRs.

CHECKING

- 1) Terminal wiring: Check that all cables are correctly connected according to the connection diagram.
- 2) Power input voltage: Check voltage across the terminal 7 – 14 with a multimeter.
- 3) Feedback potentiometer: Check that voltage across terminals 9 – 10 shows 1.0V and 9 – 15 shows within 0 to 1.0V.
- 4) Output: Check voltage across the output terminals.

ADJUSTMENTS

■ FULL-CLOSE POSITION

Assign full-close position to contact input and adjust the position with full-close position adj.; rotate clockwise to move in the open direction. Adjustable within 0 to 25% of the feedback potentiometer. (factory setting: 0%)

■ FULL-OPEN POSITION

Assign full-open position to contact input and adjust the 100% position with full-open position adj.; rotate counter-clockwise to move in the close direction. Adjustable within 75 to 100% of the feedback potentiometer. (factory setting: 100%)

■ PRESET 1 – 4

Assign desired preset position to contact input and adjust the position with preset position adj. Adjustable within 0 to 100% of the full-close position – full-open position. (factory setting: 0%)

■ DEADBAND

Adjustable within 0.6 to 10.6%. The value is increased by turning the switch clockwise. Protect from hunting by increasing the deadband switch value.

A model without a brake stops during a deviation remains within the deadband range and the control will be recovered when the deviation is out of the deadband range.

A model with a brake stops immediately after a deviation goes to 0 regardless of the set value of deadband range by applying the brake. The control will be recovered when the deviation is out of the deadband range.

(factory setting: 0.6%)

■ TIMER

Limit motor's restart by setting the interval adjustable within 1 to 30 sec. The value is increased by turning the switch clockwise. After the motor stops, it cannot restart until the set time elapses regardless of the deviation value, preventing itself from heating up. (factory setting: 1 sec.)

LIGHTNING SURGE PROTECTION

M-System offers a series of lightning surge protector for protection against induced lightning surges. Please contact M-System to choose appropriate models.