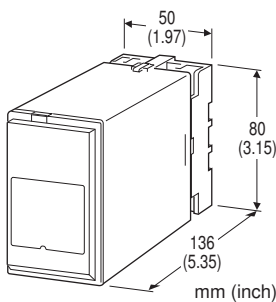


## Final Control Elements

### VALVE POSITIONER

#### Functions & Features

- I/I positioner for proportional valve position control in combination with an electric actuator
- High accuracy positioning by employing reverse-phase breaks
- Solid state relay output
- Potentiometer feedback
- Timer preventing frequent ON-OFF operations, protecting the motor from overheating



### MODEL: MEX-M1-[1]1-K[2]

#### ORDERING INFORMATION

- Code number: MEX-M1-[1]1-K[2]  
Specify a code from below for each [1] and [2].  
(e.g. MEX-M1-61-K/B/Q)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

#### [1] POSITION SETPOINT INPUT

##### Current

A: 4 - 20 mA DC (Input resistance 250 Ω)

##### Voltage

6: 1 - 5 V DC (Input resistance 200 kΩ min.)

#### POSITION FEEDBACK INPUT

1: Potentiometer

#### POWER INPUT

##### AC Power

K: 85 - 132 V AC

(Operational voltage range 85 - 132 V, 47 - 66 Hz)

#### [2] OPTIONS (multiple selections)

##### Brake Function

blank: Without

/B: Reverse phase brake

##### Other Options

blank: none

/Q: Option other than the above (specify the specification)

#### SPECIFICATIONS OF OPTION: Q (multiple selections)

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

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

##### TERMINAL SCREW MATERIAL

/S01: Stainless steel

#### GENERAL SPECIFICATIONS

**Construction:** Plug-in

**Operation mode:** Front-accessed DIP switches; direct or reverse operation; failsafe operation when there is no position input signal (full-open, full-closed or stop)

**Connection:** M3.5 screw terminals

**Screw terminal:** Chromated steel (standard) or stainless steel

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

**Deadband adj. (control output):** 0.25 - 4 % (front)

**Restart limiting timer:** Approx. 1.5 seconds

**Lock protection timer:** Power supply to the motor is stopped when the feedback signal does not enter to deadband for approx. 2 minutes; reset by power off or by repeating 0 % and 100 % setpoint input.

**Isolation:** Input or xmtr output to output or power

**Zero adjustment:** 0 - 25 % (front)

**Span adjustment:** 50 - 100 % (front)

#### INPUT SPECIFICATIONS

##### ■ Setpoint Input

**Input resistor:** Attached to input terminals (0.5 W)

**■ Feedback Potentiometer:** 500 Ω - 10 kΩ

**Span:** 47.5 % min. of total resistance, 95 % max.

**Excitation:** Approx. 4 V DC

#### OUTPUT SPECIFICATIONS

• **Re-transmitted Output:** 4 - 20 mA DC

**Load resistance:** 300 Ω max.

■ **Control Output:** SSR; 85 - 132 V AC; @ 0.03 - 1 A continuous, @ 4 A for 1 minute

**Leakage current at OFF:** ≤ 10 mA



## INSTALLATION

### Power consumption

•AC: Approx. 4.5 VA excluding motor consumption

**Operating temperature:** -5 to +55°C (23 to 131°F)

**Operating humidity:** 30 to 90 %RH (non-condensing)

**Mounting:** Surface or DIN rail

**Weight:** 300 g (0.66 lb)

## PERFORMANCE in percentage of span

**Temp. coefficient:**  $\pm 0.025\% / ^\circ\text{C}$  ( $\pm 0.014\% / ^\circ\text{F}$ )

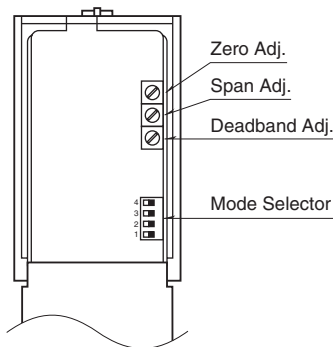
**Line voltage effect:**  $\pm 0.25\%$  over voltage range

**Insulation resistance:**  $\geq 100\text{ M}\Omega$  with 500 V DC

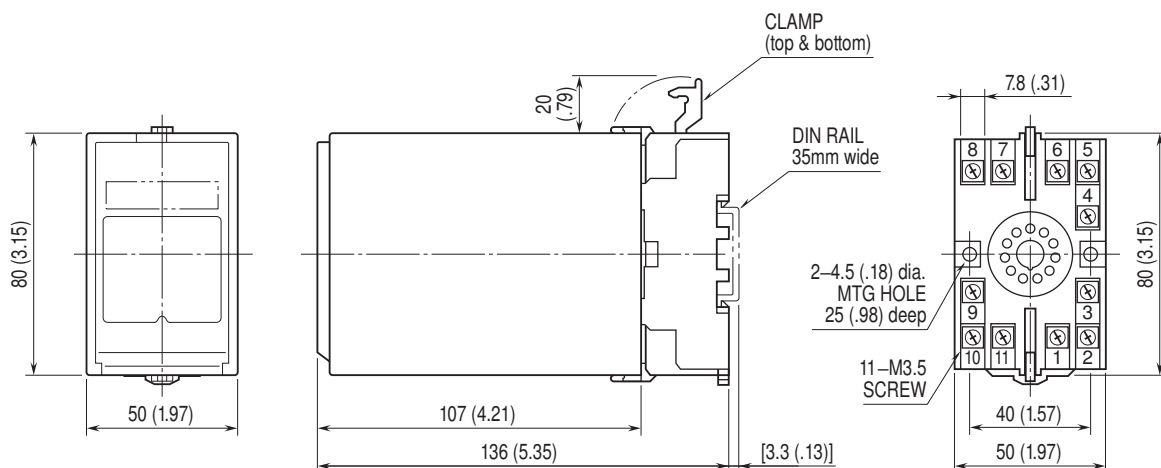
**Dielectric strength:** 2000 V AC @ 1 minute

(input or xmtr output to output or power)

## EXTERNAL VIEW



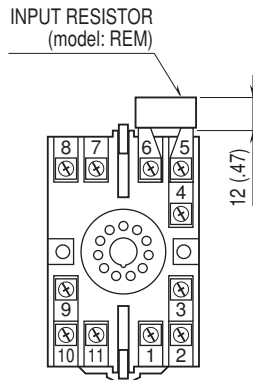
## DIMENSIONS unit: mm (inch)



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

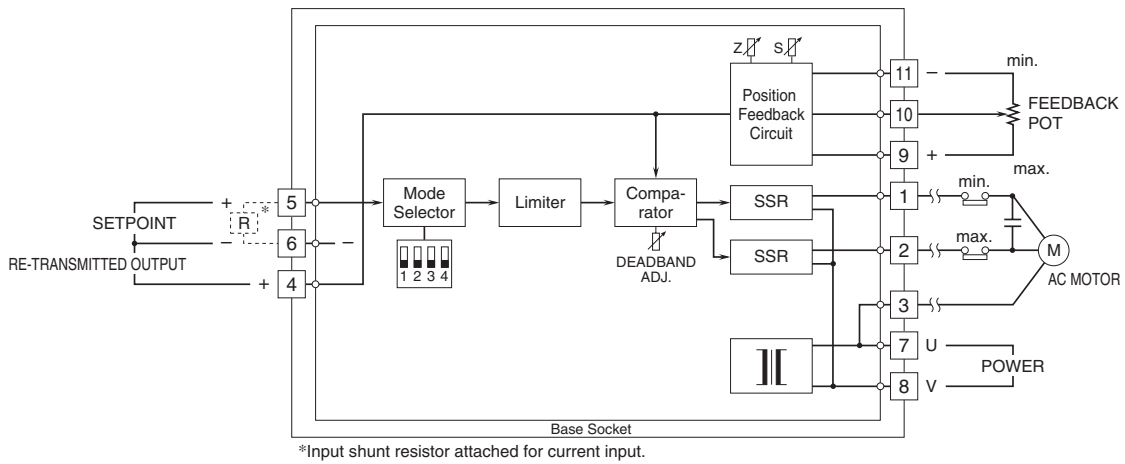


## TERMINAL ASSIGNMENTS unit: mm (inch)



Input shunt resistor attached for current input.

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.