

## Space-saving Plug-in Signal Conditioners H-UNIT

### POTENTIOMETER TRANSMITTER

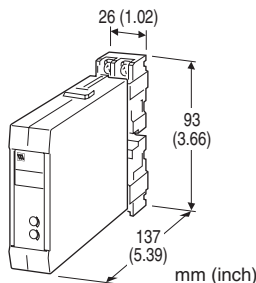
(non-isolated)

#### Functions & Features

- Providing a DC output proportional to a potentiometer or slidewire position input
- Constant voltage excitation allows use with pots with total resistances from 100  $\Omega$  - 10 k $\Omega$  without affecting accuracy
- 50 % zero/span adjustments with minimal interaction
- High-density mounting

#### Typical Applications

- Tank levels
- Positions



### MODEL: HM-[1]-R[2]

#### ORDERING INFORMATION

- Code number: HM-[1]-R[2]
- Specify a code from below for each [1] and [2]. (e.g. HM-A-R/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q (e.g. /C01/S01)

### INPUT POTENTIOMETER

Total resistance 100  $\Omega$  - 10 k $\Omega$

#### [1] OUTPUT

##### Current

- A: 4 - 20 mA DC (Load resistance 750  $\Omega$  max.)
- B: 2 - 10 mA DC (Load resistance 1500  $\Omega$  max.)
- C: 1 - 5 mA DC (Load resistance 3000  $\Omega$  max.)
- D: 0 - 20 mA DC (Load resistance 750  $\Omega$  max.)
- E: 0 - 16 mA DC (Load resistance 900  $\Omega$  max.)
- F: 0 - 10 mA DC (Load resistance 1500  $\Omega$  max.)
- G: 0 - 1 mA DC (Load resistance 15 k $\Omega$  max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

#### Voltage

- 1: 0 - 10 mV DC (Load resistance 10 k $\Omega$  min.)
- 2: 0 - 100 mV DC (Load resistance 100 k $\Omega$  min.)
- 3: 0 - 1 V DC (Load resistance 1000  $\Omega$  min.)
- 4: 0 - 10 V DC (Load resistance 10 k $\Omega$  min.)
- 5: 0 - 5 V DC (Load resistance 5000  $\Omega$  min.)
- 6: 1 - 5 V DC (Load resistance 5000  $\Omega$  min.)
- 4W: -10 - +10 V DC (Load resistance 10 k $\Omega$  min.)
- 5W: -5 - +5 V DC (Load resistance 5000  $\Omega$  min.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

#### POWER INPUT

##### DC Power

R: 24 V DC

(Operational voltage range 24 V  $\pm$ 10 %, ripple 10 %p-p max.)

#### [2] OPTIONS

blank: none

/Q: With options (specify the specification)

#### SPECIFICATIONS OF OPTION: Q

**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

**Connection:** M3.5 screw terminals (torque 0.8 N·m)

**Screw terminal:** Nickel-plated steel

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

**Isolation:** Input or output to power

**Zero adjustment:** 0 - 50 % of total resistance (front)

**Span adjustment:** 50 - 100 % of total resistance (front)

#### INPUT SPECIFICATIONS

**Minimum span:** 50 % of total resistance

**Excitation:** 0.5 V DC

#### OUTPUT SPECIFICATIONS

■ **DC Current:** 0 - 20 mA DC

**Minimum span:** 1 mA

**Offset:** Max. 1.5 times span

**Load resistance:** Output drive 15 V max.

■ **DC Voltage:** -10 - +12 V DC

**Minimum span:** 5 mV

**Offset:** Max. 1.5 times span

**Load resistance:** Output drive 1 mA max.;  $\geq$  0.5 V



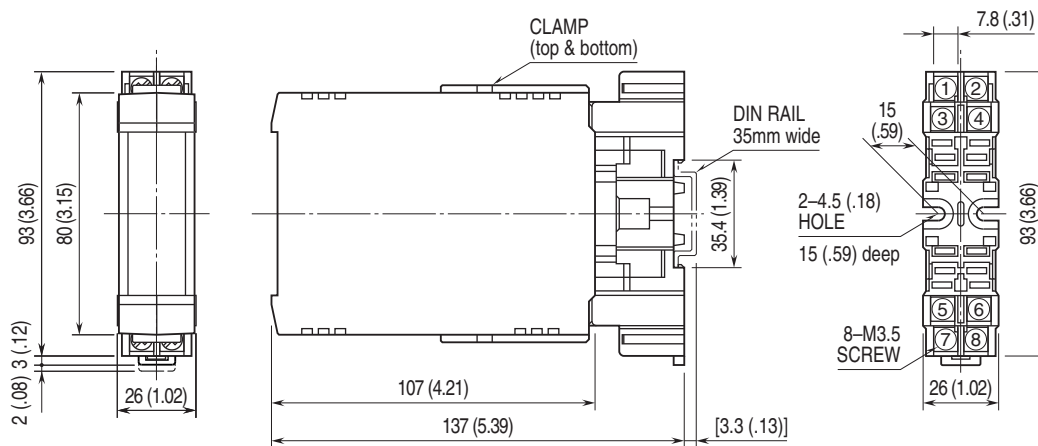
## INSTALLATION

**Power consumption:** Approx. 80 mA  
**Operating temperature:** -5 to +55°C (23 to 131°F)  
**Operating humidity:** 30 to 90 %RH (non-condensing)  
**Mounting:** Surface or DIN rail; Standard Rack Mounting  
 Frame BX-16H available  
**Weight:** 200 g (0.44 lbs)

## PERFORMANCE in percentage of span

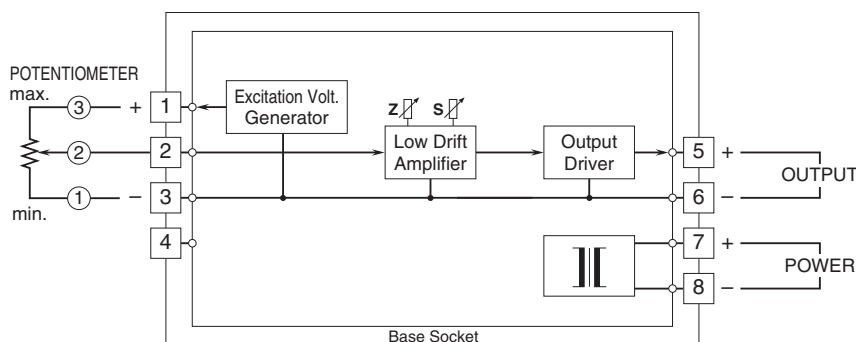
**Accuracy:**  $\pm 0.1\%$   
**Temp. coefficient:**  $\pm 0.015\%/^{\circ}\text{C}$  ( $\pm 0.008\%/^{\circ}\text{F}$ )  
**Response time:**  $\leq 0.5$  sec. (0 - 90 %)  
**Line voltage effect:**  $\pm 0.1\%$  over voltage range  
**Insulation resistance:**  $\geq 100\ \text{M}\Omega$  with 500 V DC  
**Dielectric strength:** 500 V AC @ 1 minute (input or output to power)  
 1500 V AC @ 1 minute (input or output or power to ground)

## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.