

## Plug-in Signal Conditioners K-UNIT

### POTENTIOMETER TRANSMITTER

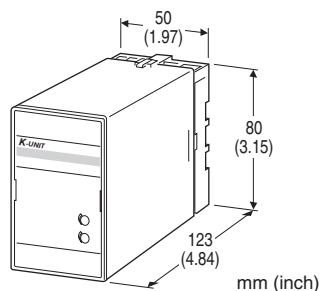
(isolated)

#### Functions & Features

- Providing a DC output proportional to a potentiometer or slidewire position input
- Constant voltage excitation allows the connection of pots with total resistance from 100  $\Omega$  – 10 k $\Omega$  without affecting accuracy
- 50 % zero/span adjustments with minimal interaction
- Isolation up to 2000 V AC
- Fast response type available
- High-density mounting

#### Typical Applications

- Tank levels
- Positions



## MODEL: KMS-[1]-[2][3]

### ORDERING INFORMATION

- Code number: KMS-[1]-[2][3]

Specify a code from below for each of [1] through [3].

- (e.g. KMS-A-H/K/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 100  $\Omega$  min.)
- 4: 0 – 10 V DC (Load resistance 1000  $\Omega$  min.)
- 5: 0 – 5 V DC (Load resistance 500  $\Omega$  min.)
- 6: 1 – 5 V DC (Load resistance 500  $\Omega$  min.)
- 4W: -10 – +10 V DC (Load resistance 2000  $\Omega$  min.)
- 5W: -5 – +5 V DC (Load resistance 1000  $\Omega$  min.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

#### [2] POWER INPUT

##### AC Power

- B: 100 V AC
- C: 110 V AC
- D: 115 V AC
- F: 120 V AC
- G: 200 V AC
- H: 220 V AC
- J: 240 V AC

##### DC Power

- S: 12 V DC
- R: 24 V DC

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

##### Response Time (0 – 90 %)

blank: Standard ( $\leq 0.5$  sec.)

/K: Fast Response (Approx. 25 msec.)

##### 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

Connection: M3.5 screw terminals

Screw terminal: Chromated steel (standard) or stainless steel

Housing material: Flame-resistant resin (black)

Isolation: Input to 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 10 mA max.; 5 mA for negative voltage output; at  $\geq 0.5$  V

## INSTALLATION

### Power input

• AC: Operational voltage range: rating  $\pm 10$  %, 50/60  $\pm 2$  Hz, approx. 2 VA

• DC: Operational voltage range: rating  $\pm 10$  %, ripple 10 %p-p max., approx. 2 W (80 mA at 24 V)

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

Accuracy:  $\pm 0.1$  %

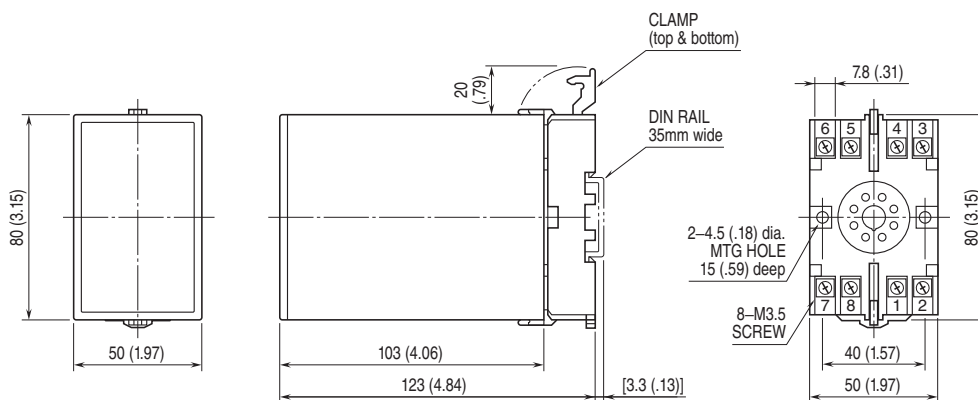
Temp. coefficient:  $\pm 0.02$  %/°C ( $\pm 0.01$  %/°F)

Line voltage effect:  $\pm 0.1$  % over voltage range

Insulation resistance:  $\geq 100$  M $\Omega$  with 500 V DC

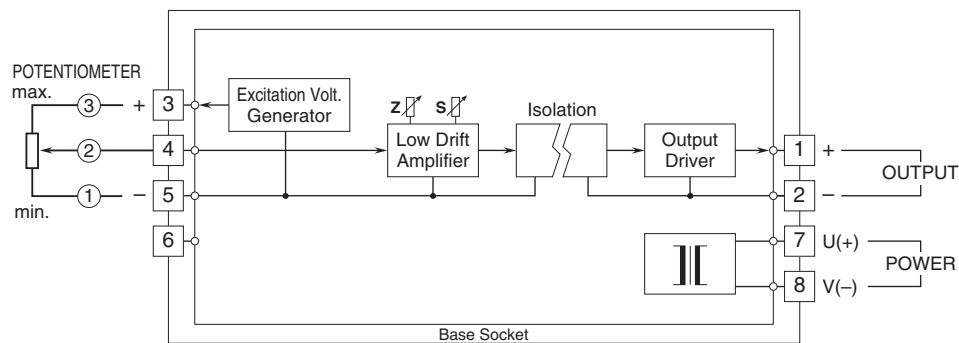
Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

## 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.