

Plug-in Signal Conditioners K-UNIT

POTENTIOMETER TRANSMITTER

MODEL **KM/KMS**

MODEL & SUFFIX CODE SELECTION

KM□-□-□□

MODEL

KM : Non-isolated

KMS : Input-output isolated

INPUT POTENTIOMETER

Total resistance 100Ω – 10kΩ

OUTPUT

Current

Voltage

A : 4 – 20mA DC

1 : 0 – 10mV DC

B : 2 – 10mA DC

2 : 0 – 100mV DC

C : 1 – 5mA DC

3 : 0 – 1V DC

D : 0 – 20mA DC

4 : 0 – 10V DC

E : 0 – 16mA DC

5 : 0 – 5V DC

F : 0 – 10mA DC

6 : 1 – 5V DC

G : 0 – 1mA DC

4W : -10 – +10V DC

Z : Specify current

5W : -5 – +5V DC

0 : Specify voltage

POWER INPUT

AC Power

DC Power

B : 100V AC

G : 200V AC

S : 12V DC

C : 110V AC

H : 220V AC

R : 24V DC

D : 115V AC

J : 240V AC

F : 120V AC

OPTIONS

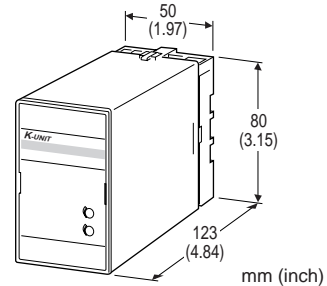
/K : Fast response (KMS only)

ORDERING INFORMATION

Specify code number and variables.

• **Code number** (e.g. KMS-A-B)

• **Special output range** (For codes Z & 0)



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 100Ω – 10kΩ without affecting accuracy
- 50% zero/span adjustments with minimal interaction
- Isolation up to 2000V AC
- Fast response type available
- High-density mounting

Typical Applications

- Tank levels
- Positions

GENERAL SPECIFICATIONS

Construction: plug-in

Connection: M3.5 screw terminals

Housing material: flame-resistant resin (black)

Isolation: input to output to power

(non-isolated between I/O for KM)

Front adjustments: 0 – 50% of total resistance for

zero; 50 – 100% for span

INPUT & OUTPUT

■INPUT: potentiometer; 100Ω – 10kΩ
Minimum span: 50% of total resistance
Excitation: 0.5V DC

■OUTPUT

•DC Current: 0 – 20mA DC
Minimum span: 1mA
Zero suppression/elevation: max. 1.5 times span
Load resistance: output drive 15V maximum

Output	Load Resistance
4 – 20mA	: 750 (Ω maximum)
2 – 10mA	: 1500
1 – 5mA	: 3000
0 – 20mA	: 750
0 – 16mA	: 900
0 – 10mA	: 1500
0 – 1mA	: 15k

•DC Voltage: -10 – +12V DC
Minimum span: 5mV
Zero suppression/elevation: max. 1.5 times span
Load resistance: output drive 10mA maximum;
 5mA for negative voltage output; at ≥0.5V

Output	Load Resistance
0 – 10mV	: 10k (Ω minimum)
0 – 100mV	: 100k
0 – 1V	: 100
0 – 10V	: 1000
0 – 5V	: 500
1 – 5V	: 500
-10 – +10V	: 2000
-5 – +5V	: 1000

INSTALLATION

Power input

AC: rating ±10%, 50/60 ±2 Hz, approx. 2VA
DC: rating ±10% (ripple 10% p-p max.)
 approx. 2W (80mA at 24V)

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

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

Mounting: surface or DIN rail

Dimensions: W50×H80×D123 mm (1.97"×3.15"×4.84")
 See General Spec. Sheet Figure A.

Weight: 300 g (0.66 lbs)

Terminal assignment: See General Spec. Sheet Figure B-1.

PERFORMANCE in percentage of span

Accuracy: ±0.1%

Temp. coefficient: ±0.02%/°C (±0.01%/°F)

Response time: ≤0.5 seconds (0 – 90%)

approx. 25 milliseconds with option /K

Line voltage effect: ±0.1% over voltage range

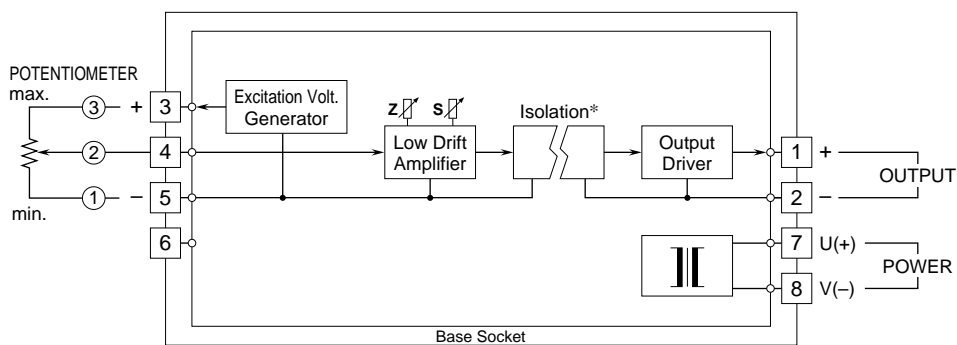
Insulation resistance: ≥100MΩ with 500V DC

Dielectric strength: 2000V AC @1 minute

(KM: input or output to power to ground)

(KMS: input to output to power to ground)

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Disregard the isolation circuit for model KM.