

Plug-in Signal Conditioners M-UNIT

DC/POTENTIOMETER CONVERTER

MODEL **CVR1**

MODEL & SUFFIX CODE SELECTION

CVR1-□□-K

MODEL _____

INPUT _____

Current	Voltage
A : 4 – 20mA DC	3 : 0 – 1V DC
B : 2 – 10mA DC	4 : 0 – 10V DC
C : 1 – 5mA DC	5 : 0 – 5V DC
D : 0 – 20mA DC	6 : 1 – 5V DC
E : 0 – 16mA DC	
F : 0 – 10mA DC	
G : 0 – 1mA DC	
H : 10 – 50mA DC	

OUTPUT _____

A : 135Ω
 B : 1kΩ
 C : 100Ω
 D : 200Ω
 E : 500Ω
 F : 2kΩ
 G : 5kΩ
 H : 10kΩ
 I : 20kΩ
 J : 50kΩ
 K : 100kΩ

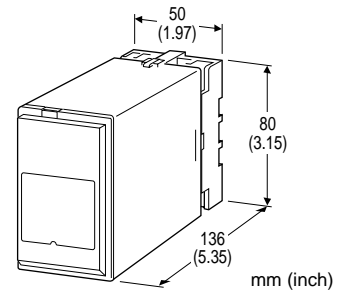
POWER INPUT _____

K : 85 – 132V AC

ORDERING INFORMATION

Specify code number. (e.g. CVR1-AH-K)

ISOLATION



Functions & Features

- Converting a DC input into a potentiometer resistance
- Permissible wattage 1W

Typical Applications

- Remote setting for inverters
- Remote setting for Honeywell's Modutrol motors
- Remote setting for various instruments with potentiometer settings

GENERAL SPECIFICATIONS

Construction: plug-in

Connection: M3.5 screw terminals

Housing material: flame-resistant resin (black)

Isolation: input to output to power

Front adjustments: zero and span; ±20% (input)

Deadband: the CVR1 automatically adjusts deadband from 0.1 to 2% of span to avoid hunting

Output delay: approx. 0.5 sec. from an input change to the output in order to protect the internal motor; when the input continuously or repeatedly changes, there is approx. 3-sec. delay after the output becomes steady and then resumes changing.

INPUT & OUTPUT

INPUT

- **DC Current:** shunt resistor attached to input terminals (0.5W)

Input resistance

Input	Input Resistance
4 – 20mA	: 250 (Ω)
2 – 10mA	: 500
1 – 5mA	: 1000
0 – 20mA	: 50
0 – 16mA	: 62.5
0 – 10mA	: 100
0 – 1mA	: 1000
10 – 50mA	: 100

- **DC Voltage:** 0 – 1V DC, 0 – 10V DC, 0 – 5V DC or 1 – 5V DC

Input resistance: 1M Ω minimum

OUTPUT: 3-wire potentiometer

Operational range: approx. 3 – 97% of total resistance

Maximum permissible wattage: 1W

(across the terminals 1 – 3)

Mechanical life: 150,000 cycles

INSTALLATION

Power input: 85 – 132V AC, 47 – 66 Hz, approx. 4VA

Operating temperature: -5 to +40°C (23 to 104°F)

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

Mounting: surface or DIN rail (perpendicular surface)

Dimensions: W50×H80×D132 mm (1.97"×3.15"×5.20")

See General Spec. Sheet Figure C-1.

Weight: 450 g (0.99 lbs)

Terminal assignment: See General Spec. Sheet Figure D-2.

PERFORMANCE in percentage of total resistance

Minimum deadband*: $\pm 0.2\%$ (when input signal has been steady for two minutes)

Linearity*: $\pm 1\%$ (includes nonlinearity, hysteresis and deadband)

Slidewire accuracy: $\pm 5\%$ of rating

Temp. coefficient: $\leq \pm 0.02\%/^{\circ}\text{C}$ ($\pm 0.01\%/^{\circ}\text{F}$)

Temp. coefficient of slidewire: ± 50 PPM/ $^{\circ}\text{C}$ (± 28 PPM/ $^{\circ}\text{F}$)

Response time: approx. 5 seconds (0 – 100%)

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

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

Dielectric strength: 1000V AC @1 minute

(input to output)

2000 V AC @1 minute

(input or output to power to ground)

*Since the CVR1 automatically adjusts the deadband, these figures depend on the stability of the input signal.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

