

Plug-in Signal Conditioners M-UNIT

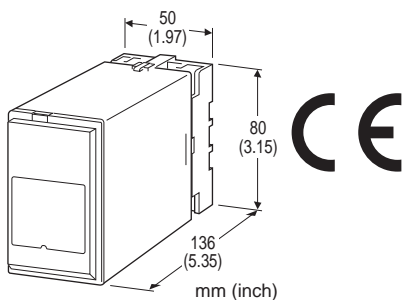
DC/POTENTIOMETER CONVERTER

Functions & Features

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

Typical Applications

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



MODEL: CVR1-[1][2]-[3][4]

ORDERING INFORMATION

• Code number: CVR1-[1][2]-[3][4]

Specify a code from below for each [1] through [4].
(e.g. CVR1-AH-M2/CE)

[1] INPUT

Current

- A: 4 - 20 mA DC (Input resistance 250 Ω)
- B: 2 - 10 mA DC (Input resistance 500 Ω)
- C: 1 - 5 mA DC (Input resistance 1000 Ω)
- D: 0 - 20 mA DC (Input resistance 50 Ω)
- E: 0 - 16 mA DC (Input resistance 62.5 Ω)
- F: 0 - 10 mA DC (Input resistance 100 Ω)
- G: 0 - 1 mA DC (Input resistance 1000 Ω)
- H: 10 - 50 mA DC (Input resistance 100 Ω)

Voltage

- 3: 0 - 1 V DC (Input resistance 1 M Ω min.)
- 4: 0 - 10 V DC (Input resistance 1 M Ω min.)
- 5: 0 - 5 V DC (Input resistance 1 M Ω min.)
- 6: 1 - 5 V DC (Input resistance 1 M Ω min.)

[2] OUTPUT

- A: 135 Ω
- B: 1 k Ω

- C: 100 Ω
- D: 200 Ω
- E: 500 Ω
- F: 2 k Ω
- G: 5 k Ω
- H: 10 k Ω
- I: 20 k Ω
- J: 50 k Ω
- K: 100 k Ω

[3] POWER INPUT

AC Power

- M2: 100 - 240 V AC (Operational voltage range 90 - 264 V, 47 - 66 Hz)
- K: 85 - 132 V AC (Operational voltage range 85 - 132 V, 47 - 66 Hz)
(CE not available)

DC Power

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

[4] OPTIONS

STANDARDS & APPROVALS

- blank: Without CE
- /CE: CE marking

GENERAL SPECIFICATIONS

Construction: Plug-in

Connection: M3.5 screw terminals

Housing material: Flame-resistant resin (black)

Deadband: Automatically adjusted 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.

Isolation

Power input code K, R:

Input to to output to power

Power input code M2:

Input to to output to power to FE

Zero adjustment: -20 to +20 % (input) (front)

Span adjustment: 80 to 120 % (input) (front)

INPUT SPECIFICATIONS

- DC Current:

Shunt resistor attached to the input terminals (0.5 W)

OUTPUT SPECIFICATIONS

Output: 3-wire potentiometer
Operational range: Approx. 3 – 97 % of total resistance
Maximum permissible wattage: 1 W (across the terminals 1 – 3)
Mechanical life: 150,000 cycles

Input to output: Basic insulation

INSTALLATION

Power Consumption
• **AC Power input:** Approx. 4 VA
• **DC Power input:** Approx. 3 W
Operating temperature: -5 to +40°C (23 to 104°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface or DIN rail
Weight: 450 g (0.99 lbs)

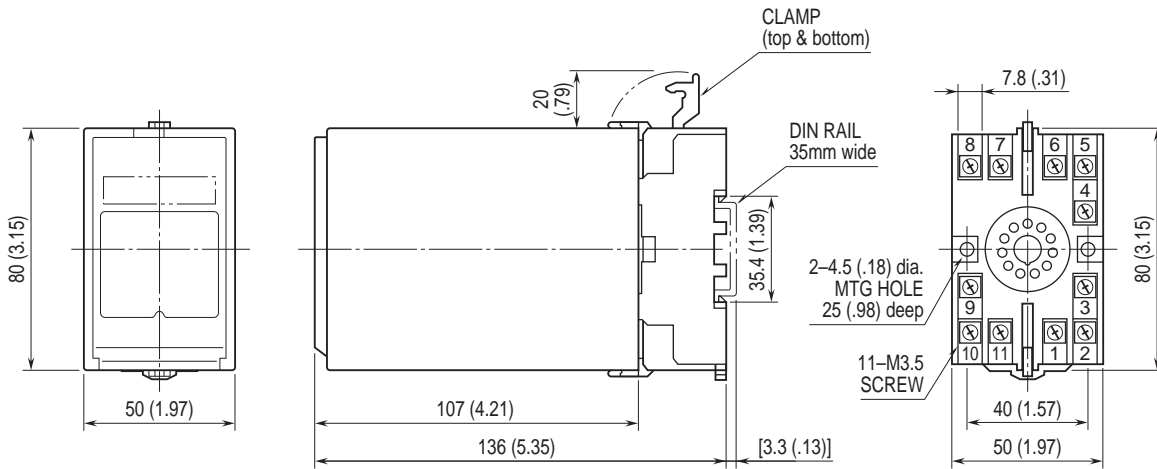
PERFORMANCE in percentage of total resistance

Minimum deadband: ± 0.2 % (when input signal has been steady for 2 minutes)
Linearity: ± 1 % (includes nonlinearity, hysteresis and deadband)
Note: The deadband is automatically adjusted.
The deadband broadens when the input-signal changes frequently.
Slidewire accuracy: ± 5 % of rating
Temp. coefficient: ± 0.02 %/°C (± 0.01 %/°F)
Temp. coefficient of slidewire: ± 50 PPM/°C (± 28 PPM/°F)
Response time: Approx. 5 sec. (0 – 100 %)
Line voltage effect: ± 0.1 % over voltage range
Insulation resistance: ≥ 100 M Ω with 500 V DC
Dielectric strength
Power input code K, R:
1000 V AC @ 1 minute (input to output)
2000 V AC @ 1 minute (input or output to power)
Power input code M2:
500 V AC @ 1 minute (input to FE)
1000 V AC @ 1 minute (input or FE to output)
2000 V AC @ 1 minute (input or output or FE to power)

STANDARDS & APPROVALS

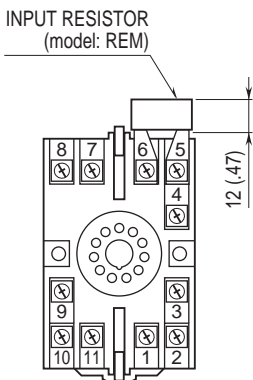
CE conformity:
EMC Directive (2004/108/EC)
EMI EN 61000-6-4
EMS EN 61000-6-2
Low Voltage Directive (2006/95/EC)
EN 61010-1
Installation Category II
Pollution Degree 2
Max. operating voltage 300 V
Input or output to power: Reinforced insulation

DIMENSIONS unit: mm (inch)



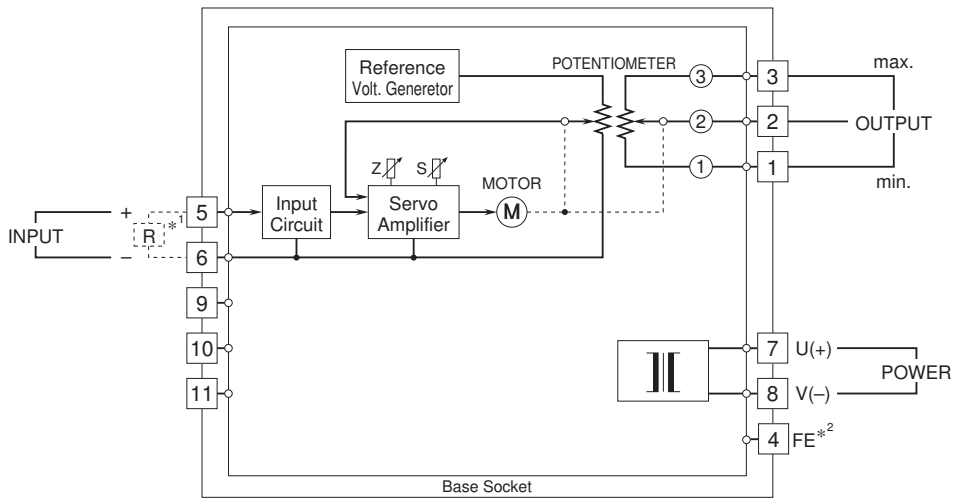
• When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm (inch)



Input shunt resistor attached for current input.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*1. Input shunt resistor attached for current input.

*2. Only for power Input code M2.

In order to improve EMC performance, bond the FE terminal to ground.

Caution: This terminal is NOT a protective conductor terminal.



Specifications are subject to change without notice.