

AC Powered Potentiometer Input DIN Rail Signal Conditioner



DRI-PT



- ✓ Provides a DC Output in Proportion to a Potentiometer Input
- ✓ Accepts Potentiometers from 100 Ω to 100 k Ω
- ✓ Universal AC Power 85 to 265 Vac
- ✓ Wide Ranging Zero and Span
- ✓ Plug-In Terminals
- ✓ ASIC Technology

The DRI-PT is a DIN rail mount, potentiometer input signal conditioner with 1800 Vdc isolation between AC power and the input/output circuitry. The input provides a constant voltage and is designed to accept any 3-wire potentiometer from 100 Ω to 100 k Ω . The field configurable output is switch selectable providing a 0 to 5V, 0 to 10V, 0 to 1 mA, 0 to 20 mA or 4 to 20 mA DC signal.

Wide ranging, precision zero and span pots, used in conjunction with DIP switches, allow 80% adjustability of offset and gain to transmit a full scale output from any 20% portion of the potentiometer input.

The DRI-PT is useful in transmitting process control setpoints to remote PID controllers or interfacing position or level sensors to data acquisition and control systems. The high density DIN rail mounting offers an extremely compact solution for saving valuable panel space.

In a valve positioning application a potentiometer is sometimes used as a feedback signal. Quite often a wide open valve is only a 25% turn of the feedback potentiometer. The DRI-PT can easily be adjusted with the zero and span to provide a full scale output signal (e.g. 4 to 20 mA) representing 0 to 25% or even 50 to 75% of the potentiometer input.

The factory default configuration for the DRI-PT is as follows:

Input Range: 0 to 100%

Output: 4 to 20 mA

Specifications

POTENTIOMETER INPUT

End-to-End Resistance: 100 Ω up to 100 k Ω

Input Impedance: >1 M Ω

Input Excitation: 500 mV, 5 mA maximum drive

Zero Turn-Up: 80% of full scale input

Span Turn-Down: 80% of full scale input

Common Mode Rejection: 1800 Vdc (input to power)



DRI-PT actual size.

OUTPUT

Voltage Output:

Range: 0 to 5V, 0 to 10V (dip-switch selectable)

Source Impedance: <10 Ω

Drive: 10 mA max (1 k Ω min @ 10V)

Current Output:

Range: 0 to 1 mA, 0 to 20 mA, 4 to 20 mA (dip-switch selectable)

Source Impedance: >100 k Ω

Compliance:

0 to 1 mA: 7.5V max (7.5 k Ω max)

0 to 20 mA: 12V max (600 Ω max)

4 to 20 mA: 12V max (600 Ω max)

Accuracy (Including Linearity, Hysteresis): $\pm 0.1\%$ maximum at 25°C

Temperature Stability: $< \pm 0.05\%/^{\circ}\text{C}$ maximum of full scale range

Response Time (10 to 90%): <200 msec, typical

Common Mode Rejection: 120 dB @ DC, >100 dB @ 60 Hz

Isolation: 1800 Vdc between line power and input, output

LED Indication (Green): Active DC power

Humidity (Non-Condensing):

Operating: 15 to 95% RH @ 45°C (113°F)

Soak: 90% RH for 24 hours @ 65°C (149°F)

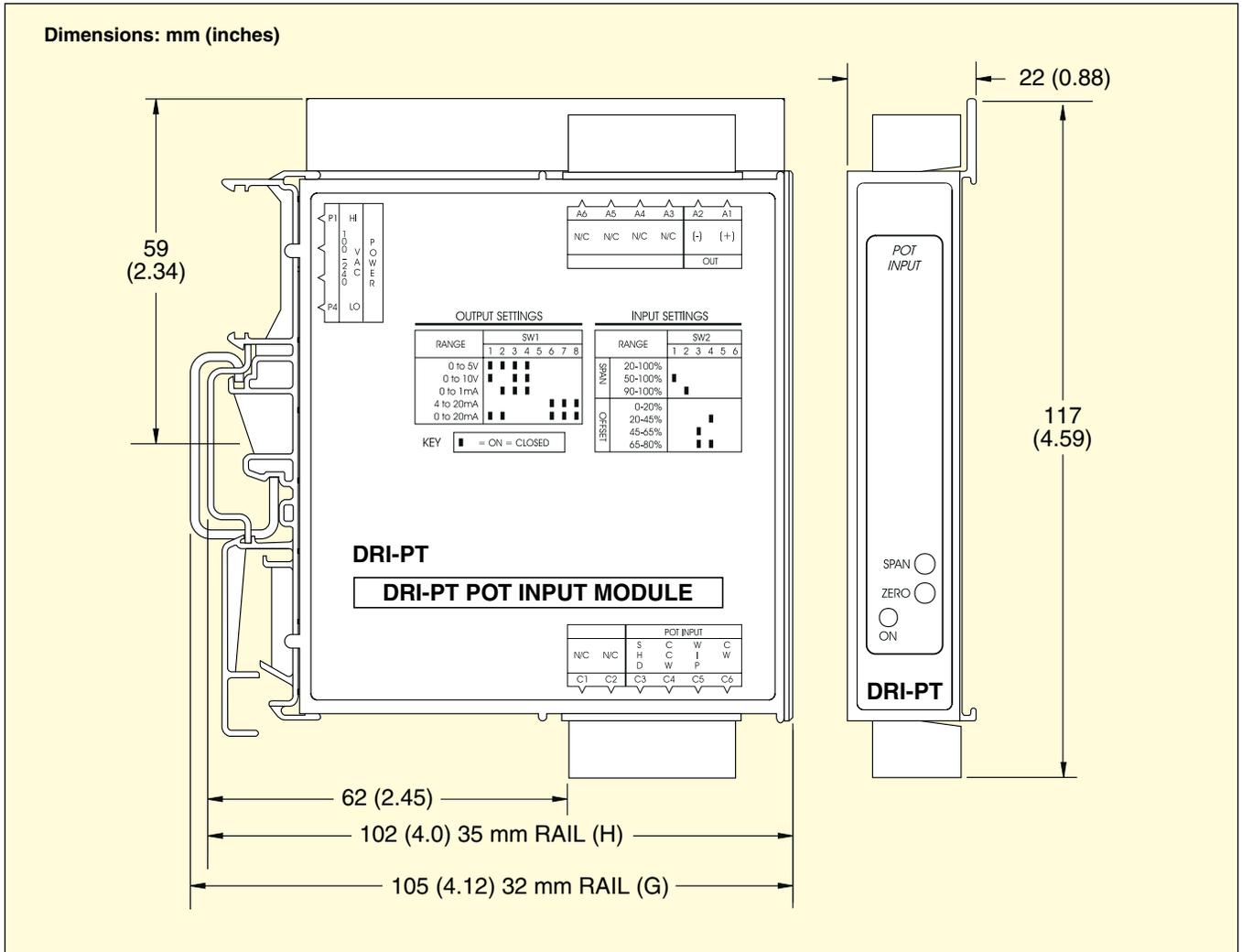
Temperature Range:

Operating: 0 to 55°C (32 to 131°F)

Storage: -25 to 70°C (-13 to 158°F)

Power: 100 to 240 Vac, $\pm 10\%$, 50 to 400 Hz; 1.5 W typical, 2.5 W max

Weight: 218 g (0.48 lb)



To Order	
Model No.	Description
DRI-PT	AC powered potentiometer input DIN rail signal conditioner
ACPB-2	AC power distribution bus for 2 modules
ACPB-4	AC power distribution bus for 4 modules
ACPB-8	AC power distribution bus for 8 modules

Note: An ACPB power rail is required to power the modules and is ordered separately.