

PRP 2



**0° to 345°
Angular Position
Sensor**

**Dependable
Robust
Easy to use
Accurate**

PRECISION ROTARY POTENTIOMETER

Application

The RACO angular position potentiometer, PRP 2, converts the angle of a rotating shaft into a proportional resistive value. When connected to a 12V DC or 24V DC power supply, a proportional voltage signal to the angular movement can be obtained.

Angular position potentiometers are particularly useful as feedback devices to position actuators in a closed loop system for valve, gate, louver and screen applications, or in general, as angular positioning indicators. For measurements of angular positions, exceeding 345°, gear sets are available from RACO's modular program to facilitate these applications.

Design

The RACO angular position potentiometer, PRP 2, consists of a precision wound zigzag winding with one wiper and end stop on each side. On the back side of the angular position potentiometer, a printed circuit board converts the solder pin connections into convenient terminal blocks. Adjustment of the 0V DC or 2V DC starting angular position is easily achieved by rotating

the supplied mechanical clutch. The slip clutch mechanism connects the PRP 2 potentiometer shaft to the rotating equipment shaft, which allows for rotational and some angular misalignment.

Principle of Operation

As the potentiometer rotates, an angular proportional resistive value will be generated. The resistive value can be read directly into the control equipment or converted into a proportional voltage signal. By supplying a +/- 12V DC or +/- 24V DC power source, the output signal can be used as proportional open (+) / close (-) voltage signal with an adjustable middle stroke setting.

The distance between the potentiometer equipped actuator and the control equipment should be limited to the range of 30' to 50'. In high noise or EMF polluted areas shorter distances may be required.

Specifications:

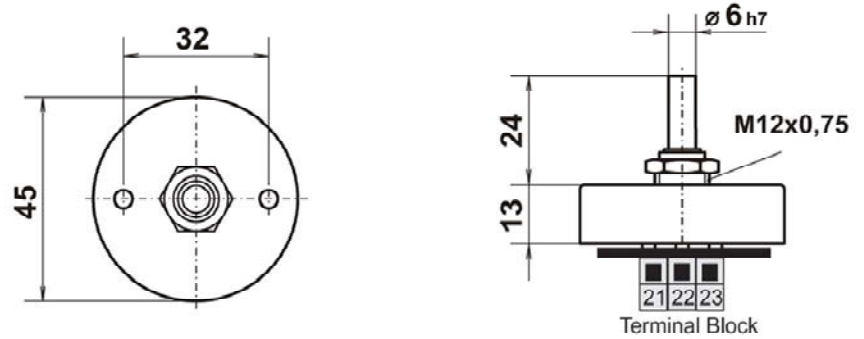
Power Supply:	12 to 24 V DC, filtered
Potentiometer:	1 kΩ
Maximum active angle:	345°
Resistance tolerance:	+/- 5 %
Linearity:	+/- 0.5 %
Resolution:	+/- 0.2 %
Capacity	1.5 W
Temperature coefficient:	17 ppm/°C
Temperature range:	-50°C to +80°C

PRP 2

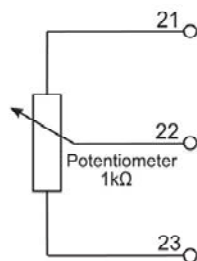


Precision Rotary Potentiometer mounted with Slip Clutch on Mechanical Limit Switch Set

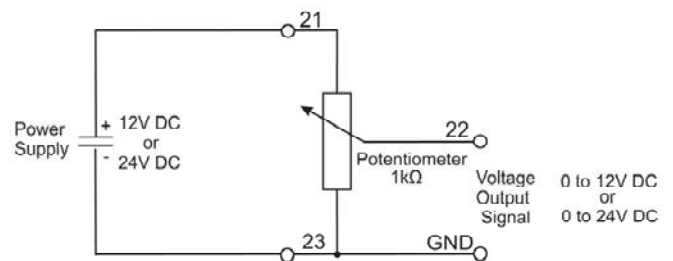
Dimensions



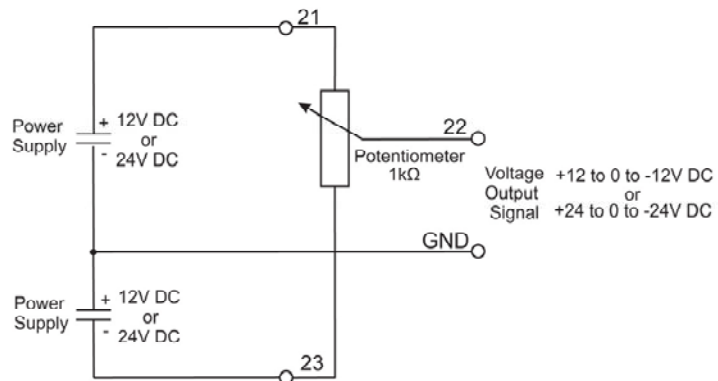
Electrical Schematics



Resistive



Proportional Voltage Output Signal



Negative / Positive Output Signal with 0V in middle Position