

# RVIT-15-60/RVIT-15-120I RVITs

## DC-Operated Rotary Variable Inductance Transducers

RVITs are DC operated noncontact rotary transducers. The RVIT proprietary design incorporates a set of printed circuit coils and a conductive spoiler to achieve superior performance and low cost. During operation, the conductive spoiler rotates with the transducer shaft, altering the magnetic field generated by the printed circuit coils. The resulting unbalance is precisely measured using a patented autoplexing circuit. This signal is then converted to a linear DC output signal that is directly proportional to the angle of the rotor shaft.

The predominantly digital circuit is very resistant to environmental disturbances and is ideally compatible for use with most digital electronics. For original equipment manufacturers who desire a microprocessor interface, a pulse width modulated output can be supplied as a special order option. Other specialized options for volume applications include, regulated single or bipolar excitation, extended operating ranges, and custom calibration.

RVITs are available with a choice of standard face mounting or optional four hole flange mounting. A shaft seal is available with flange mounting for applications where contamination is critical. RVITs offer wide operating temperature range, infinite resolution, and a virtually infinite rotational life.

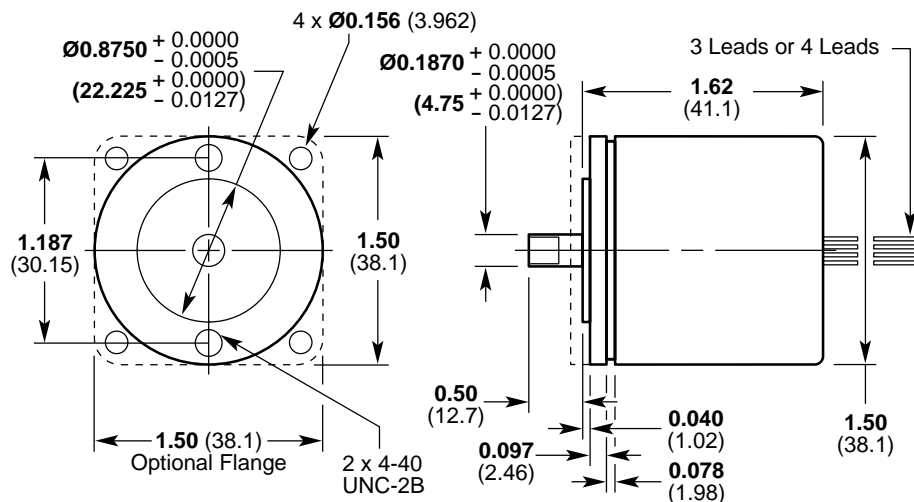
### RVIT-15-60 and RVIT-15-120I

The RVIT-15-60 and RVIT-15-120I rotary transducers are available in a variety of versions which provide a range of supply and output configurations. Calibrated outputs of  $\pm 3$  VDC and 4-20 mA offer ideal flexibility for specialized OEM designs where unique power supply and interfacing requirements exist. Other specialized ranges, internal regulation and custom calibrated outputs are available for special order.



The standard RVIT 15-60 transducer emulates a potentiometer in that any change in input voltage results in a proportional change in output voltage. Although this output is ratiometric, the RVIT-15-60 offers a considerably higher scale factor of 50 mV per degree over an extended range of  $\pm 60$  degrees. In addition, the noncontact design of the RVIT provides virtually infinite rotational life and extremely high accuracy of  $\pm 0.25\%$  FS.

### Dimensions in (mm)

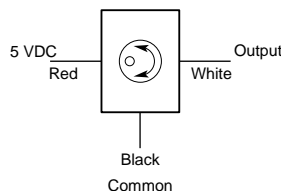


## Specifications

	RVIT-15-60	RVIT15-120I
<b>Full Range</b> .....	±60°	0 to 120°
<b>Input Voltage (nom)</b> .....	+5 VDC	10-24 VDC
<b>Scale Factor</b> .....	0.050	0.13 mA/°
<b>Output Voltage (nom)</b> .....	±3 VDC	+1 to +5 VDC (with 250Ω load)
<b>Input Current (max)</b> .....	14 mA	41 mA
<b>Output Current (max)</b> .....	5 mA	4-20 mA
<b>Output Impedance</b> .....	<1 Ohms	<250 Ohms
<b>Frequency Response</b> .....	25 Hz @ -3 dB	25 Hz @ -3 dB
<b>Linearity Error</b> .....	±0.25% of full scale output	±0.25% of full scale output
<b>Nonrepeatability &amp; Hysteresis (max)</b> .....	±0.1% of full scale range output	±0.1% of full scale range output
<b>Storage Temperature Range</b> .....	-65°F to 250°F (-55°C to 125°C)	-13°F to 185°F (-25°C to 85°C)
<b>Operating Temperature Range</b> .....	-13°F to 185°F (-25°C to 85°C)	-13°F to 185°F (-25°C to 85°C)
<b>Temperature Coefficient of FS</b> .....	±0.02% of FS/20°F to 160°F (±0.04% of FS/-5°C to 70°C)	±0.02% of FS/20°F to 160°F (±0.04% of FS/-5°C to 70°C)
<b>Lead Wires</b> .....	26 AWG, PVC insulation, PVC jacket, 3 or 4 wire depending on configuration, minimum 12 inch long	26 AWG, PVC insulation, PVC jacket, 3 or 4 wire depending on configuration, minimum 12 inch long
<b>Torque</b> .....	0.12 in-oz (8 gm-cm)	0.12 in-oz (8 gm-cm)
<b>Weight</b> .....	2.47 oz (70 gm)	2.47 oz (70 gm)
<b>Mounting</b> .....	Size 15 servo or flange mount BU-ORD	Size 15 servo or flange mount BU-ORD
<b>Bearings</b> .....	Matched and preloaded ABEC 3	Matched and preloaded ABEC 3
<b>Shaft Diameter</b> .....	3/16 in (4.76 mm)	3/16 in (4.76 mm)
<b>Axial Shaft Bearing Load Capability</b> .....	10 lbs (4.54 kg)	10 lbs (4.54 kg)
<b>Radial Shaft Bearing Load Capability</b> .....	10 lbs (4.54 kg)	10 lbs (4.54 kg)
<b>Casing Material</b> .....	Aluminum	Aluminum

## Wiring

RVIT-15-60



## How to Order

Specify by model number. R-Flex coupler available separately (see page 144).

Model Number	Size	Range
RVIT-15-60	15	±60°
RVIT-15-120I	15	0 to 120°

RVIT-15-120I

