

RVIT-15-60/RVIT-15-120i RVITs

DC-Operated Rotary Variable Inductance Transducers

DESCRIPTION

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.

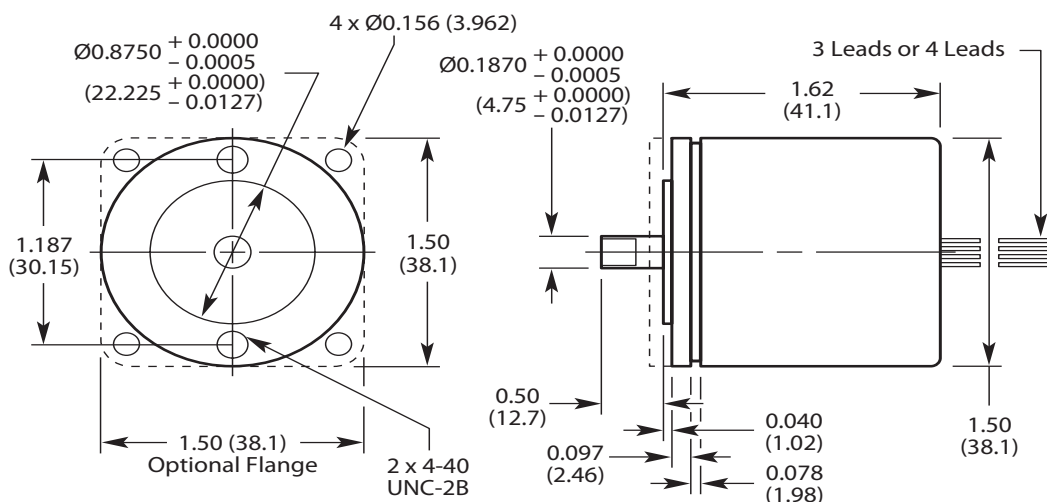


Calibrated outputs of ± 3 VDC and 4-20 mA offer ideal flexibility for specialized OEM designs where unique power supply and interfacing requirements exist. Other specialized ranges, internal regulation and custom calibrated outputs are available for special order.

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 ± 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)

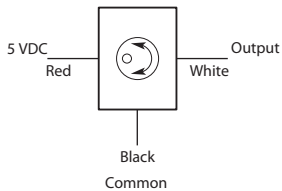


RVIT-15-60/RVIT-15-120i RVITs

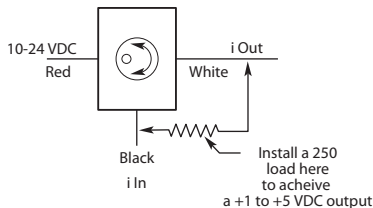
specifications	RVIT-15-60	RVIT15-120i
Full Range	±60°	0 to 120°
Input Voltage (nom)	+5 VDC	10-28 VDC(Not to exceed 30)
Scale Factor	0.050 UOM (ie 50mV/degree or 0.050 Volts/degree)	0.13 mA/°
Output Voltage (nom)	±3 VDC	+1 to +5 VDC (with 25Ω load)
Input Current (max)	14 mA	41 mA
Output Current (max)	5 mA	4-20 mA
Output Impedance	<1 Ohms	<250 Ohms
Frequency Response	25 Hz @ -3 dB	25 Hz @ -3 dB
Linearity Error	±0.25% of full scale output	±0.25% of full scale output
Nonrepeatability & Hysteresis (max)	±0.1% of full scale range output	±0.1% of full scale range output
Storage Temperature Range	-67°F to 250°F (-55°C to 125°C)	-13°F to 185°F (-25°C to 85°C)
Operating Temperature Range	-13°F to 185°F (-25°C to 85°C)	-13°F to 185°F (-25°C to 85°C)
Temperature Coefficient of FS	±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)
Lead Wires	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
Torque	0.12 in-oz (8 gm-cm)	0.12 in-oz (8 gm-cm)
Weight	2.47 oz (70 gm)	2.47 oz (70 gm)
Mounting	Size 15 servo or flange mount BU-ORD	Size 15 servo or flange mount BU-ORD
Bearings	Matched and preloaded ABEC 3	Matched and preloaded ABEC 3
Shaft Diameter	3/16 in (4.76 mm)	3/16 in (4.76 mm)
Axial Shaft Bearing Load Capability	10 lbs (4.54 kg)	10 lbs (4.54 kg)
Radial Shaft Bearing Load Capability	10 lbs (4.54 kg)	10 lbs (4.54 kg)
Casing Material	Aluminum	Aluminum

wiring

RVIT-15-60



RVIT-15-120i



ordering information

Specify by model number.

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



R-Flex coupler available separately.