

# RVIT-Z Series

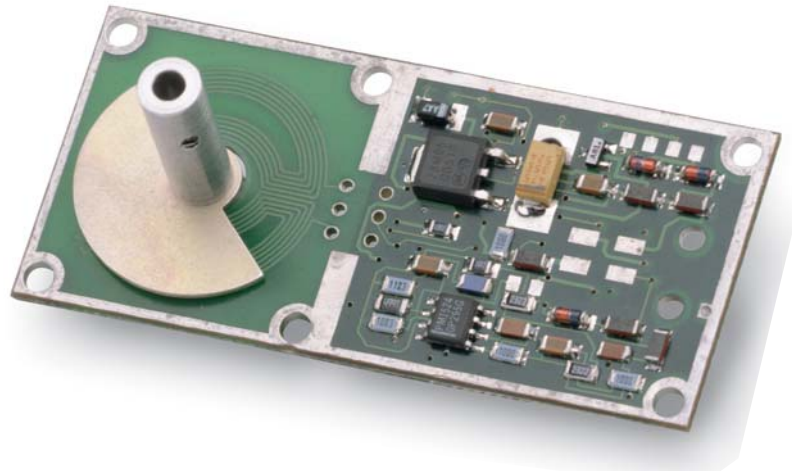
Low Profile Design for OEM Applications

## DESCRIPTION

The **RVIT-Z series** is the first in the series developed from Schaevitz® of flat non-contact rotary displacement sensors. The unique design of the RVIT-Z incorporates the proprietary RVIT (Rotary Variable Inductive Transformer) technology and signal conditioning circuitry on a single PCB. The RVIT-Z provides an ultra low profile, high accuracy solution for rotary and angular measurements in OEM applications. The lack of wipers, brushes, slip rings or magnetic materials eliminates wear, static friction, hysteresis and electrical noise.

Measuring a fraction the size of other rotary positioning sensors, the RVIT-Z is ideal for space critical rotary sensing applications; it is smaller, flatter and lighter than conventional rotary sensors.

Capable of absolute rotary measurement over  $\pm 60^\circ$ , and extended operation up to  $\pm 75^\circ$  (with compromised linearity), the RVIT-Z provides unsurpassed performance over an extended operating temperature range of  $-40^\circ\text{C}$  to  $125^\circ\text{C}$ . Factory



calibration and automated testing assures a nonlinearity error of less than  $\pm 0.5\%$  of full scale.

The RVIT-Z provides a high degree of design flexibility for custom designs. For applications where remote sensing is required, the RVIT-Z can be tailored allowing the rotary sensing element to remain separated from the electronic circuitry by -up to 12 inches.

## FEATURES

- ◆ OEM Modular Design
- ◆ Low Cost
- ◆ Contactless, No Brushes to Wear
- ◆ Absolute Rotary Measurements
- ◆ Linear Range of  $\pm 60^\circ$  or  $0^\circ$  to  $120^\circ$
- ◆ Capability for Various Inputs/Outputs
- ◆ Extremely Light Weight
- ◆ Flat Surface Mount Design
- ◆ Thin Profile

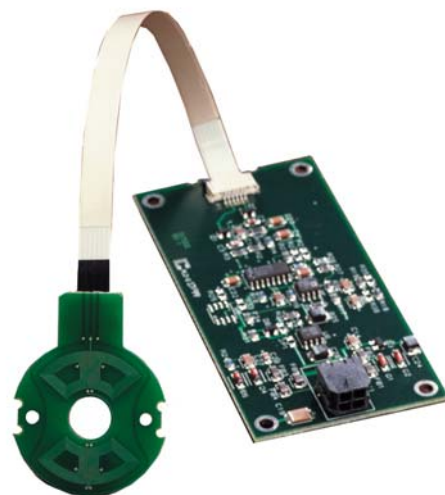
## APPLICATIONS

### Industrial

- ◆ Valve Position
- ◆ Pump Swash Plate Controls
- ◆ Robotics
- ◆ HVAC, Vane Position Control
- ◆ Potentiometer Replacement

### Automotive

- ◆ Pedal/Throttle Position Sensor
- ◆ Automatic Suspension
- ◆ Transmission Position Switch
- ◆ Potentiometer Replacement



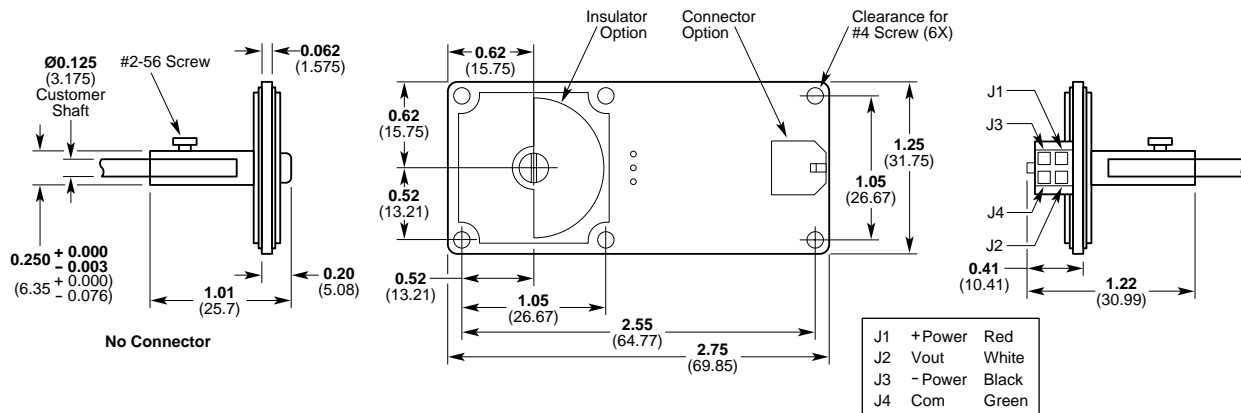
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## specifications

<b>Nonlinearity</b>	±0.5% of FS (max)
<b>Scale Factor</b>	Factory adjustable
<b>Input Voltage</b>	+5, +10 to +28, ±15 VDC
<b>Output Voltage</b>	Factory scalable (consult factory)
<b>Input/Output Options:</b>	
<b>+5 VDC Regulated</b>	
<b>Single Rail</b>	Unipolar output (ie. 1 to 4 VDC, 0°set at 2.500 VDC) Bipolar output (ie. ±2.5 VDC, 0°set at 0.000 VDC)
<b>+10 to +28 VDC, Unregulated Single Rail</b>	
	Unipolar output (ie. 1 to 4 VDC, 0°set at 2.500 VDC) Bipolar output (ie. ±2.5 VDC, 0°set at 0.000 VDC)
<b>±15 VDC Unregulated Single Rail</b>	
	Unipolar output (ie. 1 to 4 VDC, 0°set at 2.500 VDC) Bipolar output (ie. ±10 VDC, 0°set at 0.000 VDC)
<b>PWM (Pulse Width Modulation) Output</b>	Mark/space ratio PWM output, TTL load capable
<b>Input Current</b>	18 mA max
<b>Temperature Range</b>	-25°C to 85°C
<b>Temperature Coefficient of Full Scale</b>	
	±0.02% of FS/°C
<b>Connections</b>	3 or 4 wire, 26 AWG cable, Teflon insulated
<b>Connector</b>	Molex 43045-0406, keyed with lock. Mating connector sold separately
<b>Mounting</b>	6 x #4-40 screws
<b>Bearing</b>	Consult factory for bearing options

## dimensions

in (mm)



Universal configuration shown. For other configurations, consult factory.

## ordering information

RVIT-Z OEM sample quantities are available in the universal configuration to qualified customers.