



The BEI Sensors 9360 Series rotary sensor is a non-contacting Hall effect device with up to 360° of rotation and dual outputs. This rugged design is ideally suited for continuous rotation applications where reliability and durability are a priority. The sensor provides absolute position at power on and offers two completely isolated outputs. The packaging is similar to other BEI devices and meets the severe durability requirements that are typical in off-highway and agriculture environments. This combination of magnet, sensor and sealed packaging offers excellent temperature stability and corrosion resistance. The sensor can be configured for Analog (voltage) or PWM output. These programmability features are configured at the factory and allow for greater flexibility in creating custom limited electrical angle outputs (i.e. 0±20° degrees for full scale) with short turnaround times.

Fully sealed, (meeting and/or exceeding IP67 and IP69K standards) the 9360 is resistant to contamination and moisture. An integrally molded 6-pin Metri-Pack or Ampseal connector makes a sealed connection with industry standard mating connectors.

Mechanical Specifications

Range: 0° to 360° with no stops/no spring, allowing for continuous rotations*
Spring/Rotor Return Direction Options: 0° to 180° with spring return options 1 & 2; 0° to 360° with no spring option 3 (other, custom limited angles ranges available)
Mounting: 2 x 4.5mm Ø on 32mm centers
Shaft: 6mm Ø with 4.6mm flat
Termination: Metri-Pack
Housing: Glass filled PBT (Polybutylene terephthalate)
Life: 35 M cycles; 1 M cycles w/1kg side load
Frequency response: 1 kHz minimum
Rotational torque: 0.025 - 0.110 N-m
Weight: 35 grams (approx.)

Electrical Specifications

Active Electrical Angle: 15° to 360° in 15° increments (no spring option). 15° to 165° increments (spring option)
Input Voltage: 5.0 V±0.25V DC
Overvoltage Protection: 20V
Reverse Polarity Protection: Yes
Short Circuit Protection: 10VDC
Output Signal: 5% to 95% Analog Ratiometric/ PWM*
Resolution: 12 Bit
Accuracy: ±0.6% of full scale at room temperature
±0.9% of full scale over operating temperature range
EMC: 100 V/m (14 kHz-1 GHz range)
ESD: 8kV
Input current: 18mA maximum per output 36mA maximum total (both channels)

Environmental Specifications

Sealing: IP67 and IP69K per DIN 40050-9
Vibration: 10G peak, 20 - 2,000 Hz
Humidity: 95% RH @ 40° C
Liquid Exposure: Salt water, cola, motor oil, ethylene glycol, paint, diesel fuel
RoHS: Yes
Operating temperature range: -40°C to +125°C
Storage temperature range: -40°C to +125°C
Shock: 50Gs, half sine pulse, 5 msec duration

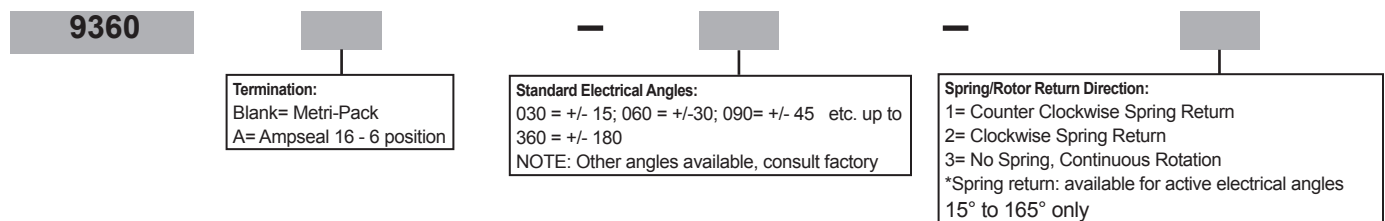
*Different outputs and mechanical range(s) available

Product Features

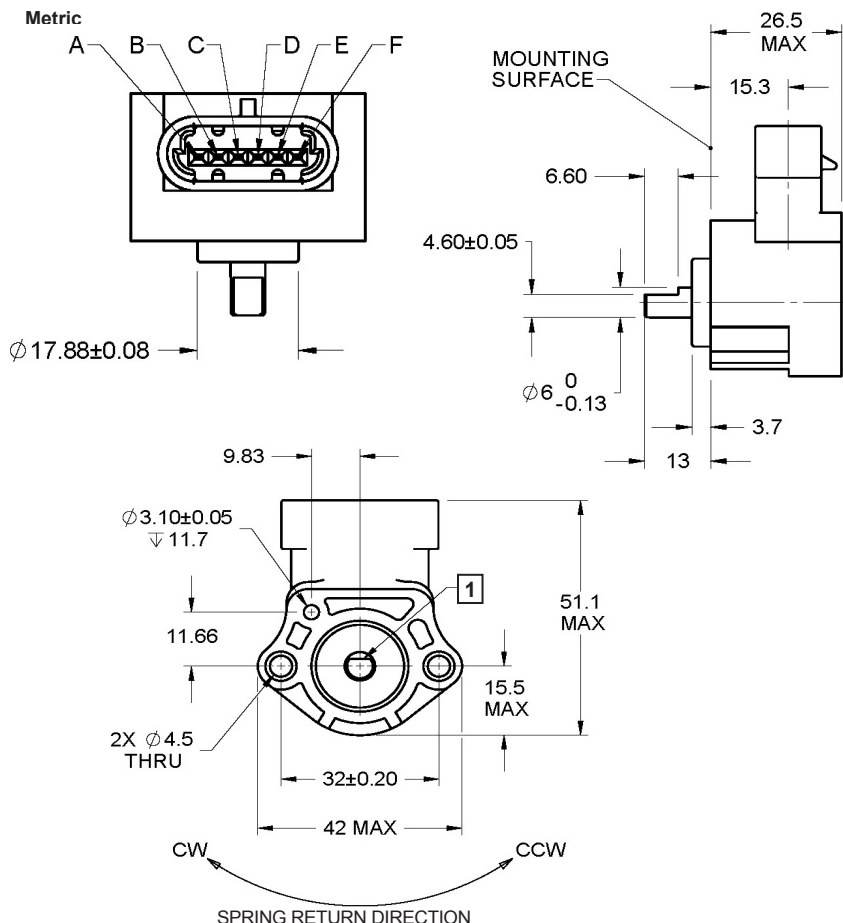
- **Fully programmable:** The standard sensor provides 15°-360° electrical degrees. Multiple outputs with limited electrical angles up to 360° and temperature compensation are also available
- **Compression molded Neodymium magnets:** Provide excellent temperature stability and corrosion resistance
- **Ratiometric analog output or PWM output:** Reduced sensitivity to voltage changes
- **Factory programming through connector:** Allows for quick turn-around on custom electrical angles
- **Sealed construction:** IP66 / IP67, 6-pin I/O interface to Packard Electric Metri-Pack Pull-to-Seat 150.2 Series P/N 12162261 or P/N 12162260 connector; Ampseal 16 - 6 position, sealed receptacle housings 2-Row
- **Temperature range:** -40° to +125°C standard
- **Operating life:** 35M cycles; Over one million cycles at 1kg side load

9360 Series Ordering Options for assistance, call 800.350.2727

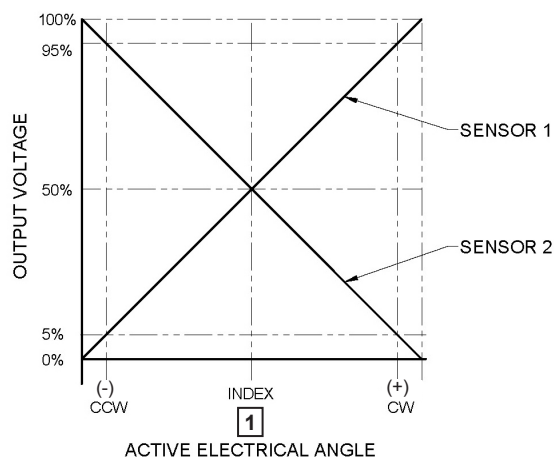
Use this diagram, working from left to right to construct your model number



Dimensions- MetriPack connector (9360 Option)



Output Examples



Connector Pin Output

METRI-PACK	SENSOR 1	SENSOR 2
Vs	F	B
OUTPUT	C	D
GROUND	E	A

NOTES:

TOLERANCES, UNLESS OTHERWISE NOTED:

 $x.x = \pm 0.3$
$$X.XX = \pm 0.13$$

1 SHAFT FLAT IS SHOWN WITH SENSOR AT 50%±3% VOLTAGE (INDEX)

Dimensions- Ampseal connector (Option 9360A)

