

360° Non-Contacting Through-Hole Position Sensor

8360 Series

The 8360 Series is BEI Duncan Electronics' latest addition to the company's line-up of robust, reliable, and highly accurate non-contacting position sensors. The 8360's low profile and through-hole design make it desirable for applications like steering wheel and boom angle, where space is limited and the sensor must mount around a shaft. The sensor's dual analog output is capable of resolving 360 degrees of motion with high accuracy and 12 bit resolution.

The 8360 Series provides IP65 sealing, 360 degree continuous rotation, a robust package and wide operating temperature range, making it especially well suited for applications with harsh environments like industrial vehicles, agricultural and construction equipment and process controls. Non-contacting, redundant outputs provide the high reliability and long life that are an absolute necessity in applications such as medical equipment or wind/solar energy applications. A wide range of adaptations are available including PWM or Can Bus output, shaft interface, electrical angle, connector type, cable length, output slope and much more.

Features

Non-contacting technology

Provides long life

Output signal choices

Analog, PWM, CAN Bus

Electrical angle

The standard version is available with rotational angles in 15 degree increments, up to 360°

Connector

Flying lead terminated w/6 pin AMP connector P/N 776434-1, contact P/N 1924463-1, other options available

Through-hole design

Fits around shaft, shaft options available

Environmental

IP65-protected from dust and water jets

Operating temperature

-30° to +85°C standard, (option for -40°C to +125°C)

Electrical protection

Overvoltage, short circuit, ESD

Magnetic Shielding to 20G



Ordering Information

8360	XXX
*Standard Active Electrical Angles	
015 = 15 degrees	195 = 195 degrees
030 = 30 degrees	210 = 210 degrees
045 = 45 degrees	225 = 225 degrees
060 = 60 degrees	240 = 240 degrees
075 = 75 degrees	255 = 255 degrees
090 = 90 degrees	270 = 270 degrees
105 = 105 degrees	285 = 285 degrees
120 = 120 degrees	300 = 300 degrees
135 = 135 degrees	315 = 315 degrees
150 = 150 degrees	330 = 330 degrees
165 = 165 degrees	345 = 345 degrees
180 = 180 degrees	360 = 360 degrees

SAMPLE: 8360075

└─ 75 Degrees Active Electrical Angle
└─ 8360 Sensor

Consult factory for options including:

- Non-standard output slope
- Clipped outputs
- Non-standard Active Electrical Angles
- PWM output (pulse width modulation)
- Special marking
- CAN Bus output
- Multi-turn
- Lead length
- Connector type
- IP67 sealing
- Shaft interface

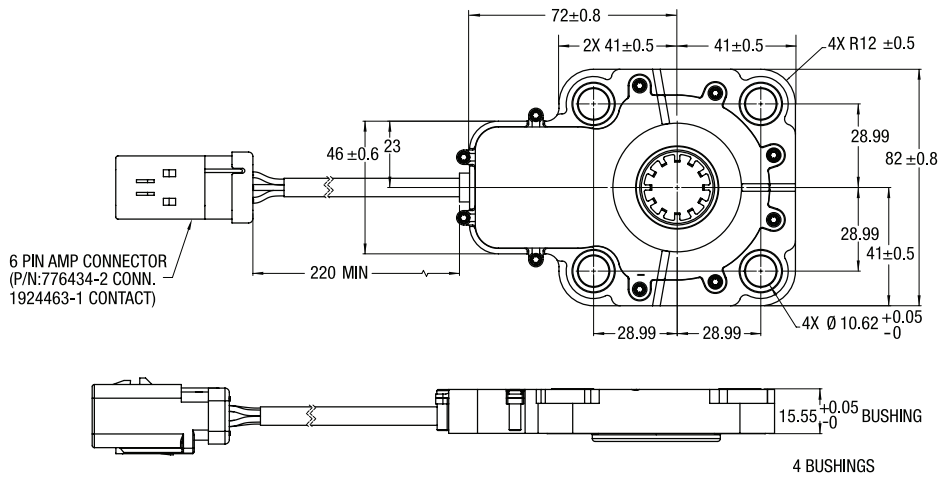


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ISO9001 Certified

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Note: All dimensions are shown in millimeters

Connector Pin Layout		
PIN #	Pinout	Color
1	Voltage Supply	Red
2	Output 1	White
3	GND	Black
4	Voltage Supply	Yellow
5	Output 2	Green
6	GND	Brown

Spline Design Details

Rotor Interface is 12 tooth spline

Pitch Angle: 30°

Diametral Pitch: 16/32

Pitch Diameter: 19.05

Largest Diameter: 20.3 ± 0.1

Smallest Diameter: 16.5 ± 0.5/-0

(Ref ANSI B92.1 - 1970 Tol. Class B)



Mating Shaft

Mechanical Specifications

Mechanical travel	0° to +360° with no stops, allowing for 360 degree continuous rotation
Actuation (starting) Torque	0.2 N-m (28.5 oz-in)
Weight	220 grams max.
Rotational life	10 million revolutions

Electrical Specifications

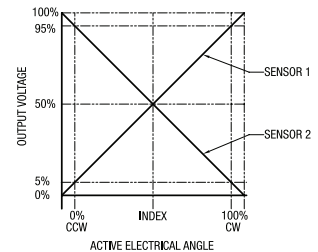
Electrical angle	15° to 360° in 15 degree increments standard (other options available)
Input voltage	5.0 V±0.25V DC
Input current	16mA maximum per output 32mA maximum total (both channels)
Sensor Output	0.25V – 4.75V for Analog at 5.0V input
Accuracy	+/- 0.6%
Resolution	12 Bit, 0.088 degree

Environmental Specifications

Environmental Sealing	IP65 standard
Electromagnetic compatibility	100V/meter, 15kHz – 1GHz range
Vibration	10 – 10,000 Hz, Total PSD: 4.94 Grms
Shock	50Gs, half sine pulse, 11 m sec duration
Operating temperature range	-30°C to +85°C (wider operating temperature -40° to +125 C° available)
Storage temperature range	-40°C to +105°C

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Output Function



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