ED-18 Analog Output Series Magnetic Encoder

- **Analog voltage or current output**
- **Low profile**
- **IP52 sealing**
- **Sleeve or ball bearing**
- **Excellent stability – no optic degradation**
- **Custom housings, shafts, connectors vailable in most cases with no additional tooling required**

DESCRIPTION

The ED-18 Series Magnetic Encoder can be used as either a rotational feedback sensor or as a human machine interface (HMI) device. As a light duty feedback sensor it can provide rotation speed, direction or positioning information. The analog output provides absolute angular position information even when power is cycled on and off. As an HMI device it can be used as a rotary input control for use on instrumentation panels. The ED-18 Series is designed with our modular and flexible construction methods. We can customize housings, shafts and terminations to meet your exact specifications with little or no tooling costs.

FEATURES

- Magnetic sensing technology
- Encapsulated electronics/sealed unit
- Harsh environment compatibility
- Analog voltage and current output
- Low profile
- Consistent rotational torque
- Resistant to contamination
- IP52 sealing
- Metallic threaded bushing mounting
- Wide operational temperature range (-40°C to 85°C)
- Excellent stability – no optic degradation
- Sleeve or ball bearing
- Custom housings, shafts, connectors available in many cases with no additional tooling required

APPLICATIONS

- Marine, avionics motor speed and position control
- Marine steering
- Monitor pump speed and direction
- Camera position and control
- XY stage positioning
- Radio controls
- Medical diagnostic equipment
- Video and sound editing equipment
- Valve position
- Syringe pump
- Potentiometer replacement
- Throttle position control/feedback

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PERFORMANCE SPECS (NOTE1)

Analog voltage output:

Parameters	ED-18-XX-0545-V-P
Standard output range 0 - 360°	0.5 Vdc to 4.5 Vdc
Supply current	15 mA
Operating voltage (Vcc)	5 Vdc
Resolution	1.4°
Accuracy	2.8°
Operating temperature	-40°C to +85°C

Analog current output:

Parameters	ED-18-XX-0420-I-P
Standard output range 0 - 360°	4.0 mA to 20.0 mA
Supply current	15 mA + output current loop
Operating voltage (Vcc)	12 Vdc to 26 Vdc
Resolution	1.4°
Accuracy	2.8°
Operating temperature	-40°C to +85°C

Bearing:

Parameters	ED-18-SB-XXXX-I-P / ED-18-SB-XXXX-V-P	ED-18-BB-XXXX-I-P / ED-18-BB-XXXX-V-P
Bearings	Sleeve	Ball
Maximum speed	300 RPM	3000 RPM
Bearing life	3,000,000 cycles	30,000,000 cycles

(NOTE1): All specifications are specified with Vcc @ Nominal input voltage, and Ambient Temperature 25 Degrees Celsius.

MECHANICAL

Parameters	ED-18-XX-XXXX-I-P / ED-18-XX-XXXX-V-P
Axial load (max)	20 N
Radial load (max)	10 N
Shaft end play axial (max)	0.13 mm
Shaft radial play (max)	0.25 mm (15.3 mm from thread)
Shaft push-in force	9 N
Shaft pull-out force	1.3 N
Run out (max)	0.25 mm (19 mm from thread)
Bushing mounting torque	1.1 Nm

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DIMENSIONS

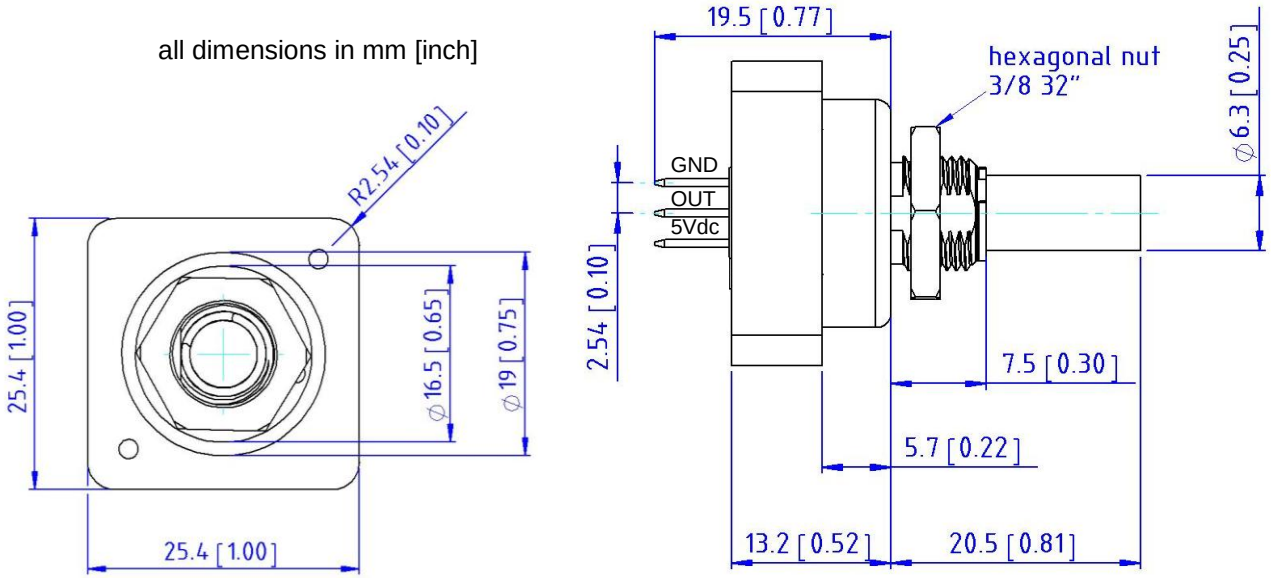

figure 1: Dimensions of the ED-18-SB-XXXX-X-X (top and side view)

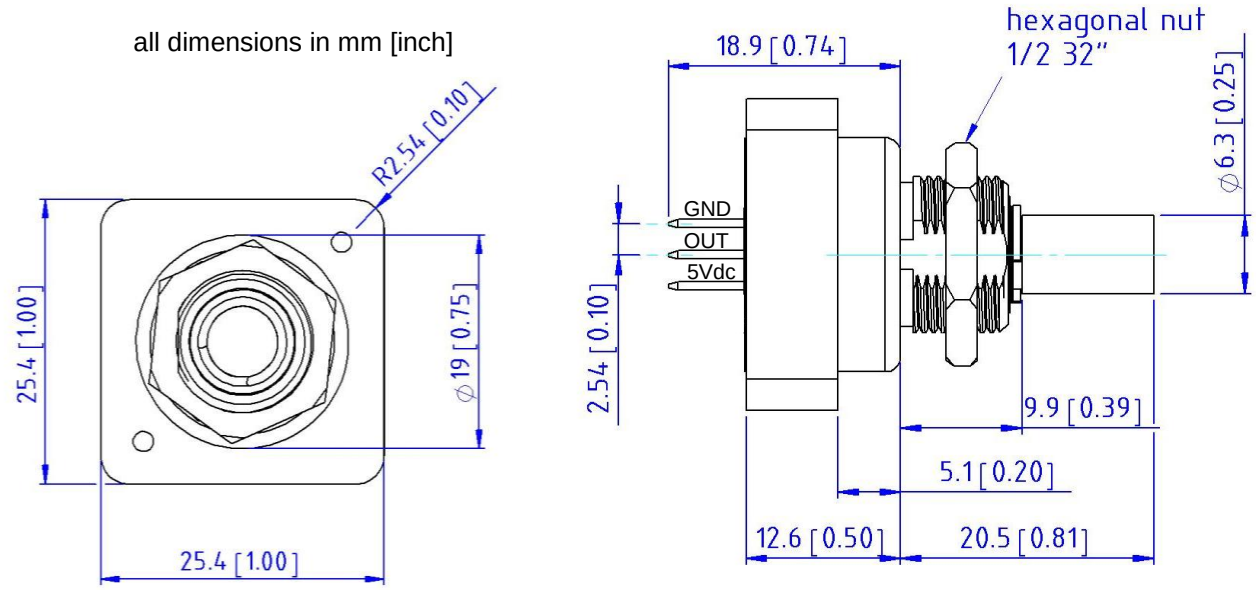

figure 2: Dimensions of the ED-18-BB-XXXX-X-X (top and side view)

ED-18 Analog Output Series Magnetic Encoder

PINNING

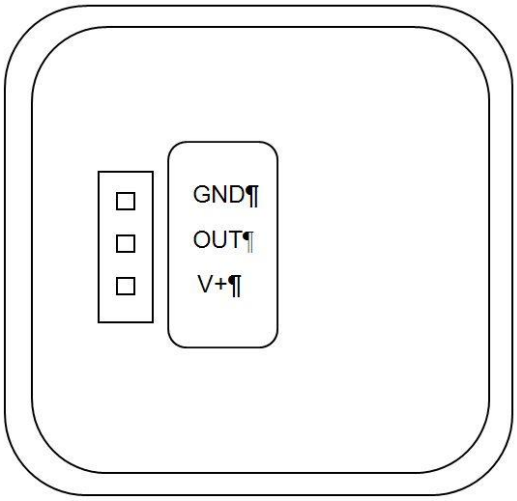

figure 3: Pinning of the ED-18-XX-XXXX-X-X (bottom view)

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TYPICAL PERFORMANCE CURVES

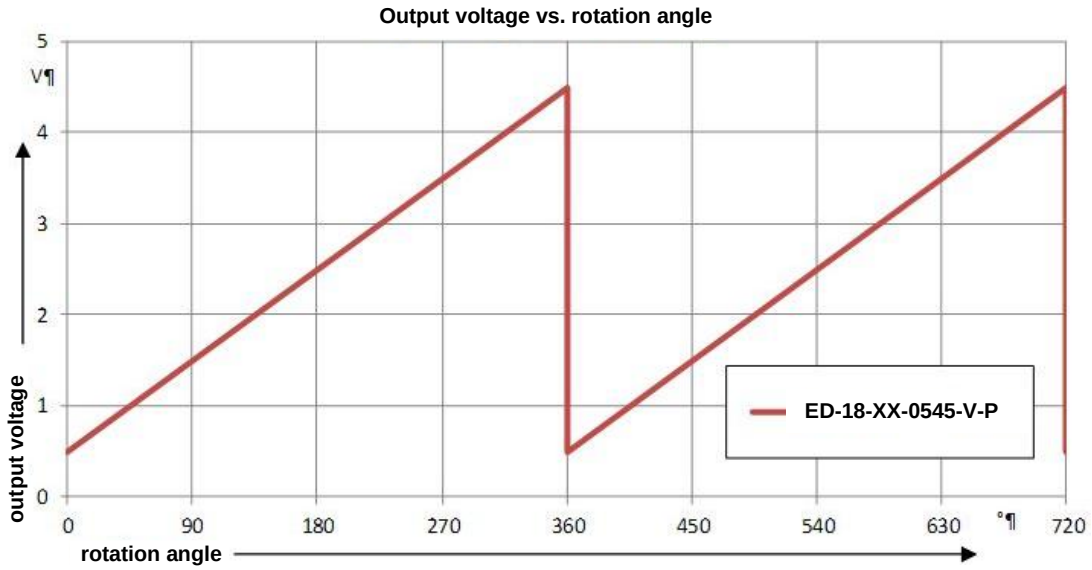

figure 4: Output voltage vs. rotation angle

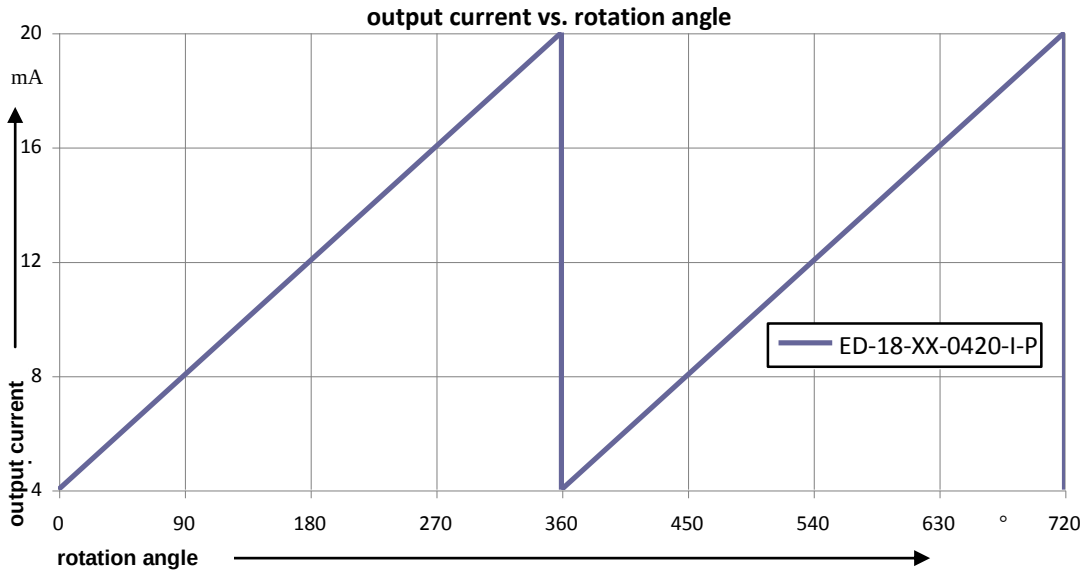

figure 5: Output current vs. rotation angle

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ENVIRONMENTAL

Vibration	MIL-STD-202F Method 204D Test Condition B
Shock	MIL-STD-202F Method 213B Test Condition C
Humidity	MIL-STD-202F Method 103B Test Condition A
Thermal Shock	MIL-STD-202F Method 107G Test Condition A
Operating Temperature	-40 to +85°C
Storage Temperature	-55 to +125°C

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ORDERING INFORMATION

PART NUMBERING Model Number+Bearing+Range+Analog Output+Connection

ED-18-XX-XXXX-X-X		Options:
Connection		P = Pin header
Analog Output		V = Voltage
		I = Current
Output Range		0545 = 0.5 Vdc to 4.5 Vdc
		0420 = 4 mA to 20 mA
Bearing		SB = Sleeve Bearing
		BB = Ball Bearing

Example: ED-18-SB-0545-V-P

Model ED-18, sleeve bearing, analog output voltage from 0.5 Vdc to 4.5 Vdc, pin header

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