

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 available 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

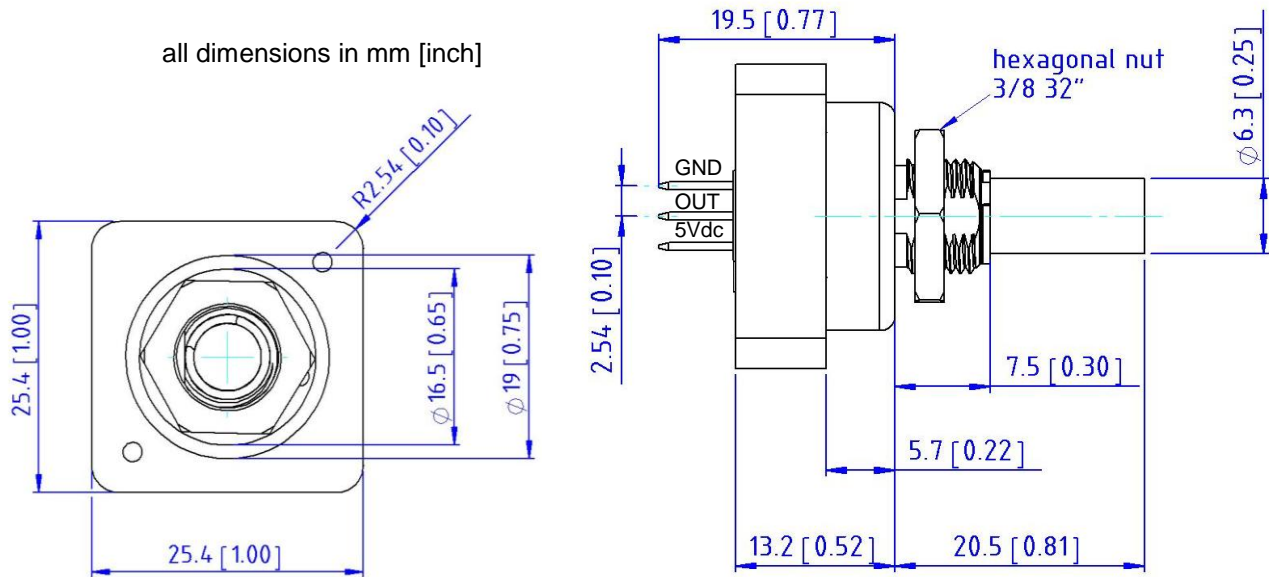


figure 1: Dimensions of the ED-18-SB-XXXX-X-X (top and side view)

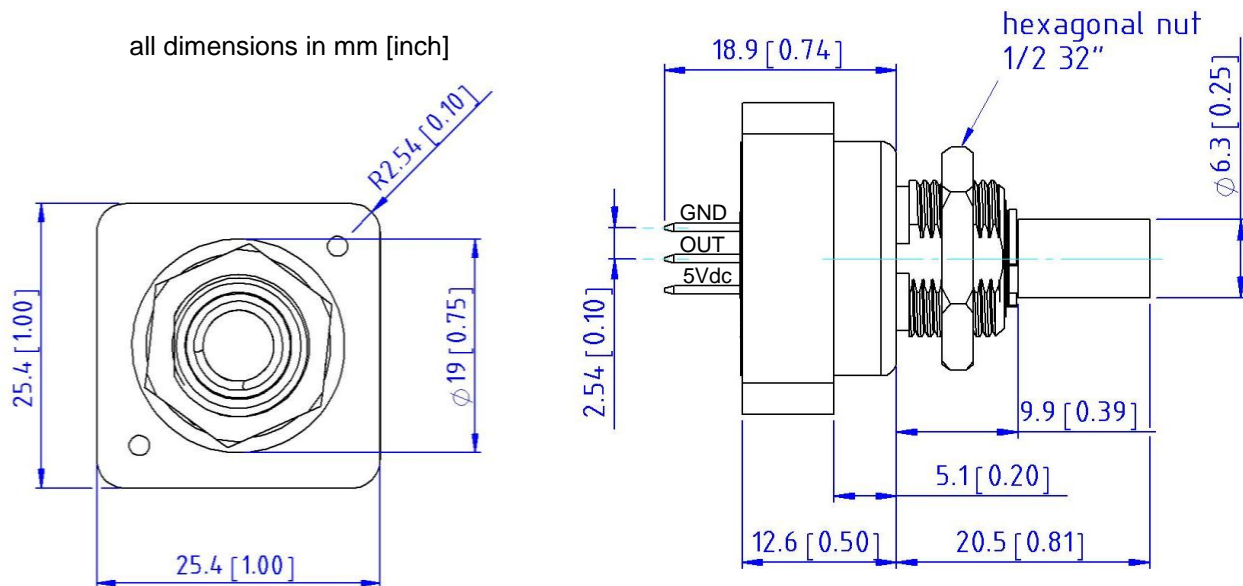


figure 2: Dimensions of the ED-18-BB-XXXX-X-X (top and side view)

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PINNING

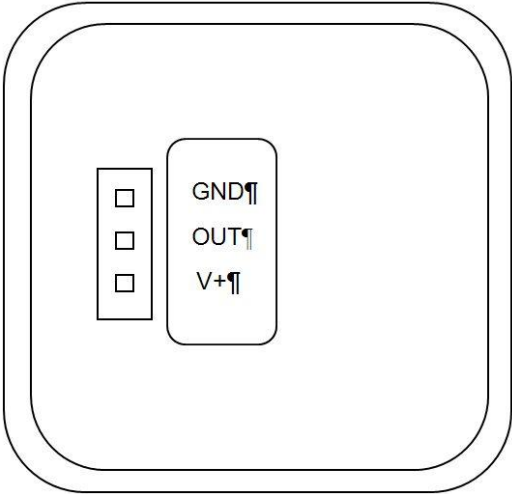


figure 3: Pinning of the ED-18-XX-XXXX-X-X (bottom view)

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TYPICAL PERFORMANCE CURVES

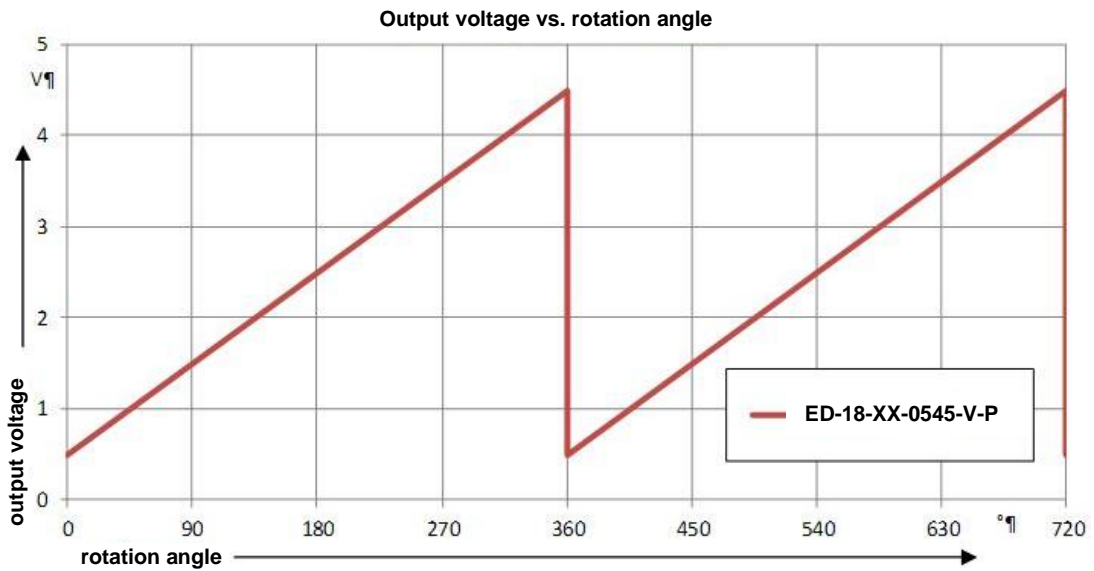


figure 4: Output voltage vs. rotation angle

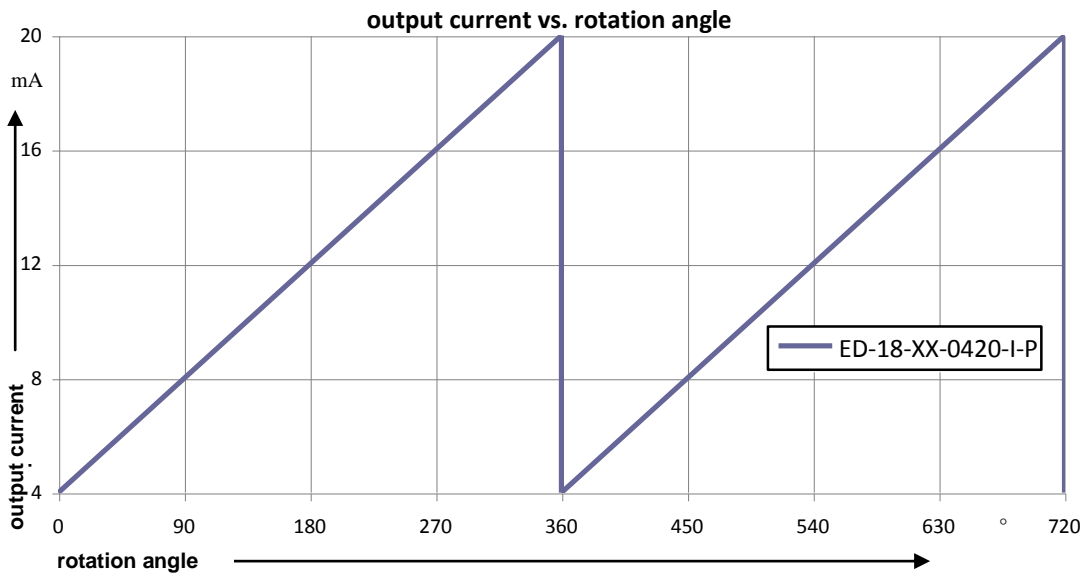


figure 5: Output current vs. rotation angle

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ENVIRONMENTAL

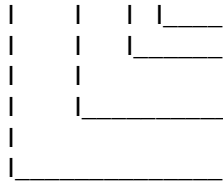
| | |
|-----------------------|--|
| Vibration | MIL-STD-202F Method 204D Test Condition B |
| Shock | MIL-STD-202F Method 213B Test Condition C |
| Humidity | MIL-STD-202F Method 103B Test Condition A |
| Thermal Shock | MIL-STD-202F Method 107G Test Condition A |
| Operating Temperature | -40 to +85°C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



Connection
Analog Output
Output Range
Bearing

Options:

P = Pin header
V = Voltage
I = Current
0545 = 0.5 Vdc to 4.5 Vdc
0420 = 4 mA to 20 mA
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

联系方式



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