



ED-19

Quadrature Output Series Magnetic Encoder

SPECIFICATIONS

- ◆ Low profile with open collector output
- ◆ Wide operational temperature range
- ◆ IP52 sealing
- ◆ Sleeve or ball bearing

The ED-19 series magnetic encoder is designed for medium duty feedback applications. Resolutions are available from 200 to 400 counts per revolution.

The magnetic technology used in the ED-19 series is plug-in compatible with existing encoder products, with the advantages of an extended temperature range and fully sealed electronics.

The ED-19 suffers no LED/LD degradation, as with conventional optical encoders, meaning it has a virtually unlimited life.

FEATURES

- ◆ Magnetic sensing technology
- ◆ Encapsulated electronics/sealed unit
- ◆ Harsh environment compatibility
- ◆ Quadrature outputs
- ◆ Low profile
- ◆ Consistent torque
- ◆ Resistant to contamination
- ◆ IP52 sealing
- ◆ Metallic threaded bushing mounting
- ◆ Excellent stability – no optical degradation
- ◆ Magnetic sensing technology
- ◆ Encapsulated electronics/sealed unit

APPLICATIONS

- ◆ Marine, avionics, motor speed and position control
- ◆ Marine steering
- ◆ Monitor pump speed and direction
- ◆ Camera position and control
- ◆ XY stage positioning
- ◆ Motor feedback
- ◆ Medical diagnostic equipment
- ◆ Video and sound editing equipment
- ◆ Valve position
- ◆ Syringe pump

PERFORMANCE SPECS (Note1)

Quadrature outputs:

Parameters	ED-19-XX-XXXX-Q-P
Supply current	18 mA
Operating voltage (Vcc)	5 VDC \pm 0.25 VDC
Voltage output high (min.)	4.75 V
Voltage output low (max.)	125 mV
Duty cycle	50% \pm 25%
Phase angle	90° \pm 45°
Output type	Open collector with internal 10k pull-up
Standard resolutions	400, 200 counts per revolution (4 counts = 1 pulse)
Operating temperature	-40 °C to 85 °C

Bearing:

Parameters	ED-19-SB-XXXX-Q-P	ED-19-BB-XXXX-Q-P
Bearings	Sleeve	Ball
Maximum speed	300 RPM	3000 RPM
Bearing life	3,000,000 cycles	30,000,000 cycles

(NOTE1): Vcc = 5 V, Ambient Temperature 25 °C

MECHANICAL

Parameters	ED-19-XX-XXXX-Q-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

DIMENSIONS

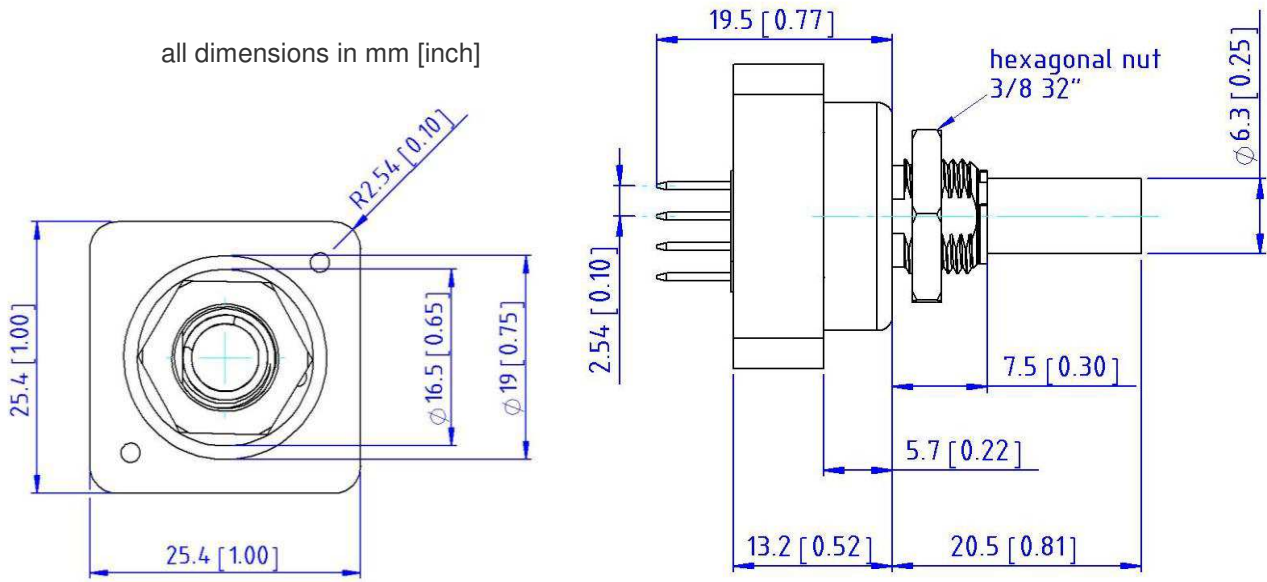


Figure 1: Dimensions of the ED-19-SB-XXXX-X-X (top and side view)

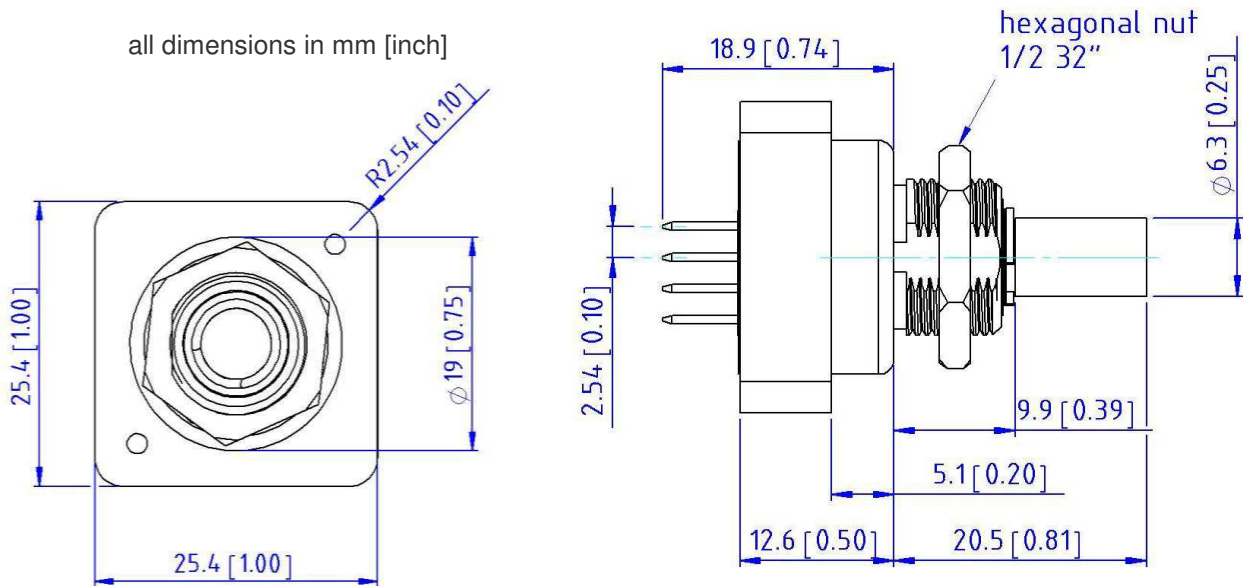


Figure 2: Dimensions of the ED-19-BB-XXXX-X-X (top and side view)

PINNING

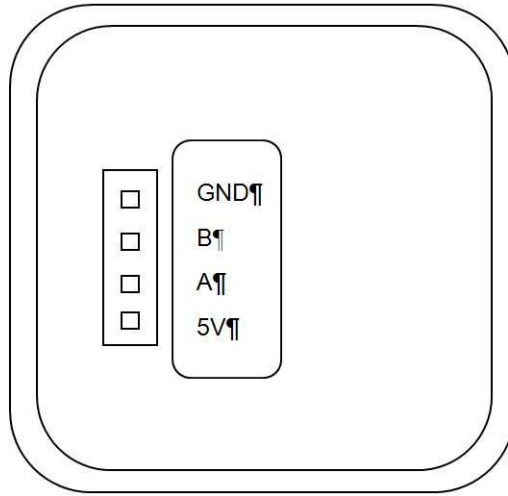


Figure 3: Pinning of the ED-19-XX-XXXX-X-X (bottom view)

TYPICAL PERFORMANCE CURVES

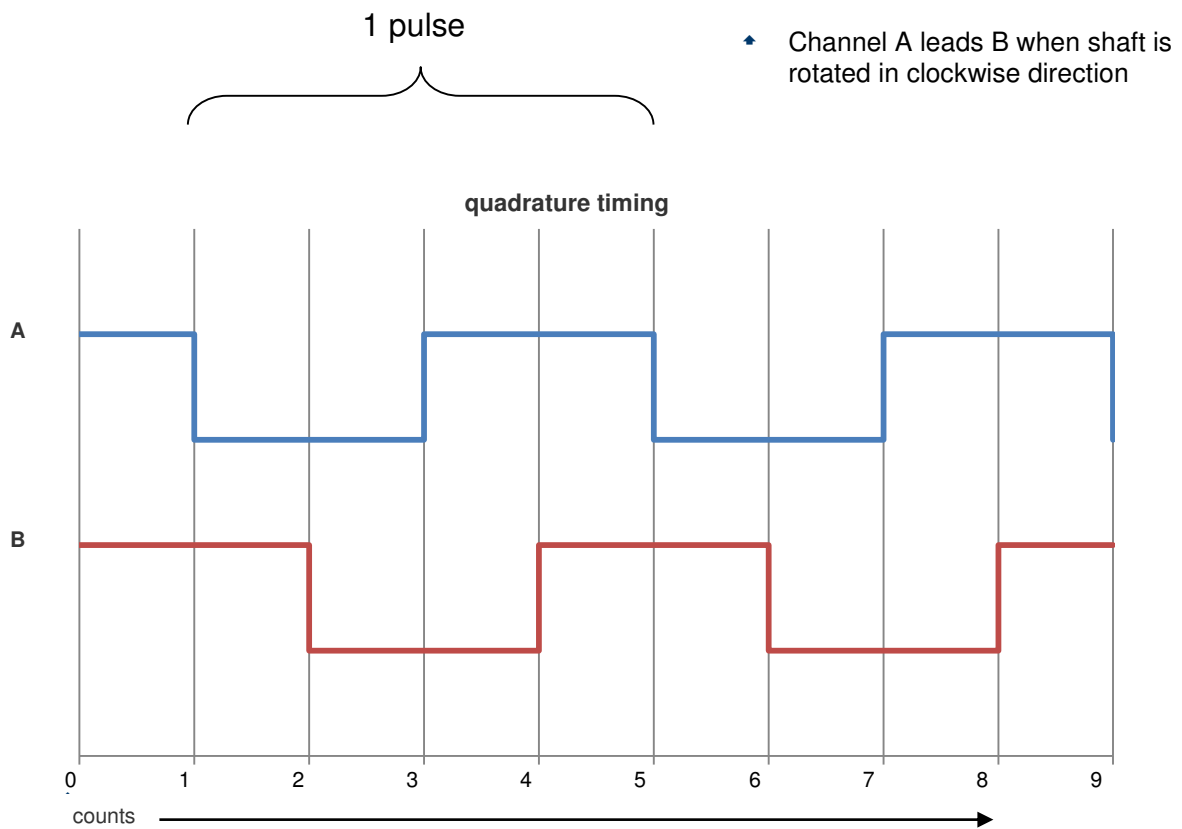


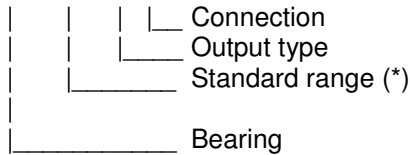
Figure 3: quadrature timing

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

ORDERING INFORMATION

PART NUMBERING: Model Number - Bearing - Standard range - Output type - Connection

ED-19-XX-XXXX-Q-P

Options:

P = Pin header

Q = Quadrature

0200 = 200 counts per revolution

0400 = 400 counts per revolution

SB = Sleeve bearing

BB = Ball bearing

(*) = Different ranges available, contact sales department for details

Example: ED-19-SB-0400-Q-P

Model ED-19, quadrature output with open collector, sleeve bearing, 400 counts per revolution, pin header

STANDARD CONFIGURATION: ED-19-BB-0400-Q-P*Consult factory for other available models.*

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