

ED-19 Quadrature Output Series Magnetic Encoder

The **ED-19 Series Magnetic Encoder** is designed for medium duty feedback applications. Resolutions are available from 64 to 256 counts per revolution. The magnetic technology used in the ED19 series is plug-in compatible with existing encoder products, with the wadded advantages of an extended temperature range and fully sealed electronics. The ED19 suffers no LED degradation, as with conventional optical encoders, meaning it has a virtually unlimited life.



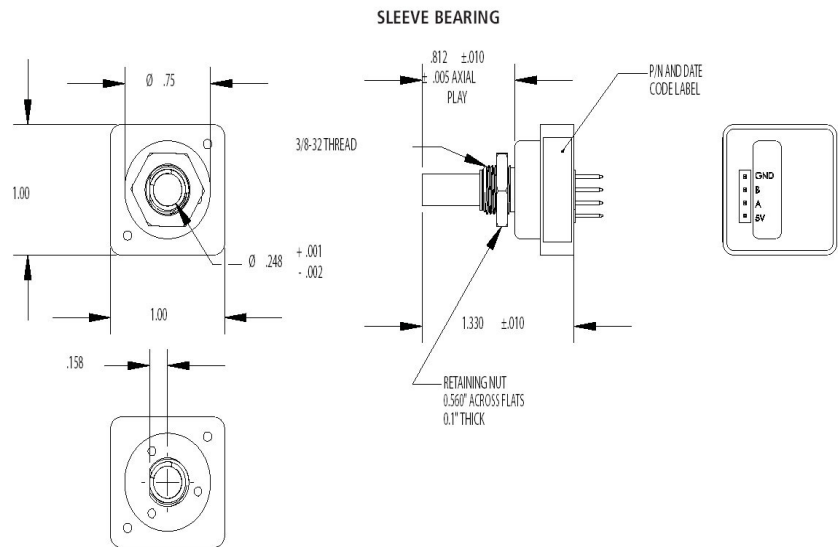
FEATURES

- Magnetic Sensing Technology
- Encapsulated Electronics/Sealed Unit
- Harsh Environment Compatibility
- Quadrature Outputs
- Low Profile
- Consistent Rotational Torque
- Resistant to Contamination
- IP52 Sealing
- Metallic Threaded Bushing Mounting
- Wide Operational Temperature Range (-40°C to 85°C)
- Custom Housings, Shafts, Connectors Available in Most Cases with No Additional Tooling Required
- Sleeve Bearing
- Excellent Stability – No Optical Degradation

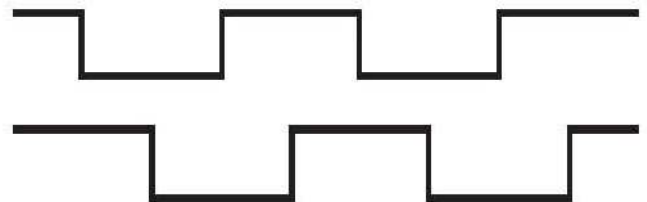
APPLICATIONS

- Marine, Avionics, Motor Speed and Position Control
- Marine Steering and Throttle Position Control/Feedback
- 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
- Motor Feedback

dimensions



sample quadrature output



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Measurement Specialties reserves the right to update and change these specifications without notice.

PERFORMANCE SPECIFICATIONS

Standard Resolution	256, 128 and 64 counts per revolution (CPR) 4 counts=1 pulse
Operating Temperature	-40°C to +85°C (Extended temperature range available, contact factory for details)
Maximum Speed	300 RPM
Bearing Life	3,000,000 cycles
Bearings	Sleeve
Run Out	.010" max @ .75" from mounting surface
Bushing Mounting Torque	10 in-lb max

ELECTRICAL

Maximum Current Draw	15 mA
Operating Voltage (VDC)	5 +/- 0.25 VDC
Output Type	Open Collector with internal 10 kΩ pullup
Voltage Output High (Voh)	Minimum 4.75 Vdc
Voltage Output Low (Vol)	Maximum 125mV @ 16 mA
Duty Cycle	50% +/- 25%
Phase Angle	90° +/-45° (Ch. A leads Ch. B Clockwise)

Note: All specifications are specified with Vdd @ 5.00 Vdc and Ambient Temperature Ta @ 25 Degrees Celsius.

MECHANICAL

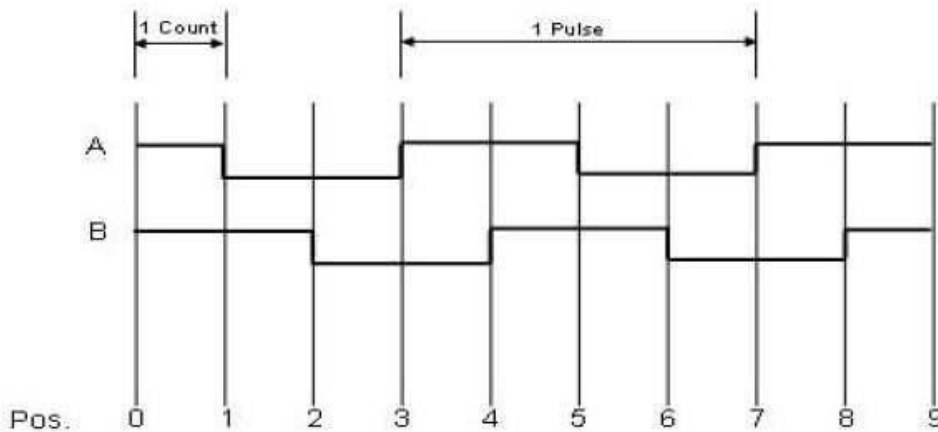
Axial Load (lbs)	4.5 [20 N] Max.
Radial Load (lbs)	2.25 [10 N] Max.
Operating Speed (rpm)	300 = Sleeve
Shaft End Play (in)	.005 [.10] Max.
Shaft Radial Play (in)	.010 [.25] Max. @ .6 [15.2] from mounting surface
Shaft Push-in Force (lbs)	40 [9N]
Shaft Pull-out Force (lbs)	6 [1.3N]

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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Quadrature timing



Channel A leads when Channel B shaft is rotated in Clockwise direction.

Timing diagram for incremental output

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ordering info

ED-19 - SB - RRRR - Q - P

Connection
P= pin header

Output
Q= Quadrature

Range
0064= 64 counts/ rev
0128= 128 counts/ rev
0200= 200 counts/rev
0256= 256 counts/ rev
0400= 400 counts/rev
0512= 512 counts/ rev
1024= 1024 counts/ rev

Catalogue Units

ED-19-SB-0064-Q-P
ED-19-SB-0128-Q-P
ED-19-SB-0256-Q-P
ED-19-SB-0512-Q-P
all others will be subject to minimum order quantities