

ES25

Environmentally Sealed Incremental Encoder



The **ES25** is a rugged incremental encoder that is environmentally sealed through the use of a magnetic shaft coupling connection. This connection allows the encoder to be completely enclosed and sealed against water ingress. It is rated to IP67 and can operate while fully immersed in one meter of water for up to 30 minutes. The magnetic coupling isolates the encoder from external equipment, protecting it from high shock, vibration and environmental debris. Since the ES25 is not physically coupled to external equipment, the problem of shaft misalignment is eliminated, meaning no more broken couplings! The ES25 is ideal for applications with heavy wash-downs, temporary water immersions, and excessive environmental debris. It combines the high accuracy, repeatability and robustness needed for use in harsh environments and can help reduce costly downtime of your system.

Specifications

Mechanical

Mating Shaft Diameter: 1/4" and metric versions
Magnetic Coupling Cover: Engineered plastic
Starting Torque: 0.5 oz-in max
Enclosure: Aluminum (sealed aluminum castings)
Maximum RPM: 5000 RPM
Moment of Inertia: 62.3 X 10⁻⁴ oz-in-sec²
Maximum Acceleration: 24,000 rad/s/s
Torsional flexibility: 0.37 deg/oz-in
Kinematic Error: 3 arc-min_{RMS}
Weight: 18 oz

Electrical

Supply Voltage: 5 to 28 VDC available
Voltage/ Output:
 28V/V: Line Driver, 5-28 VDC in, V out = V in
 28V/5: Line Drive, 5-28 VDC in, V out = 5 VDC
 28V/OC: Open Collector, 5-28 VDC in, OC out
Current Requirements: 100 mA typical + output load, 250 mA (max)
Protection Level: reverse, overvoltage and output short circuit
Code: Incremental
Output Format: 2 Channels in quadrature, with 1/2 cycle index gated with negative B channel
Cycles per Shaft Turn: 1 to 2,048 (See Table 1)
Frequency Response: 100 KHz
Output Terminations: (See Table 2)

Environmental

Temperature: Operating, 0° to 70°C; storage (non-operating), -25° to 90°C. Consult factory for extended temperature ratings.
Shock: 25 g's for 11 msec duration
Vibration: 5 to 2000 Hz @ 10 g's
Humidity: 100% RH with condensation
Enclosure Rating: IP67 / IP68 (Consult factory for IP68 applications)

ES25 Environmentally Sealed Incremental Encoder Ordering Options

Use this diagram, working from left to right, to construct your model number.

Example: **ES25D-37-500-ABZC-28V/V-SM18-S** (-S: special shaft, diameter/ length, output level or termination)

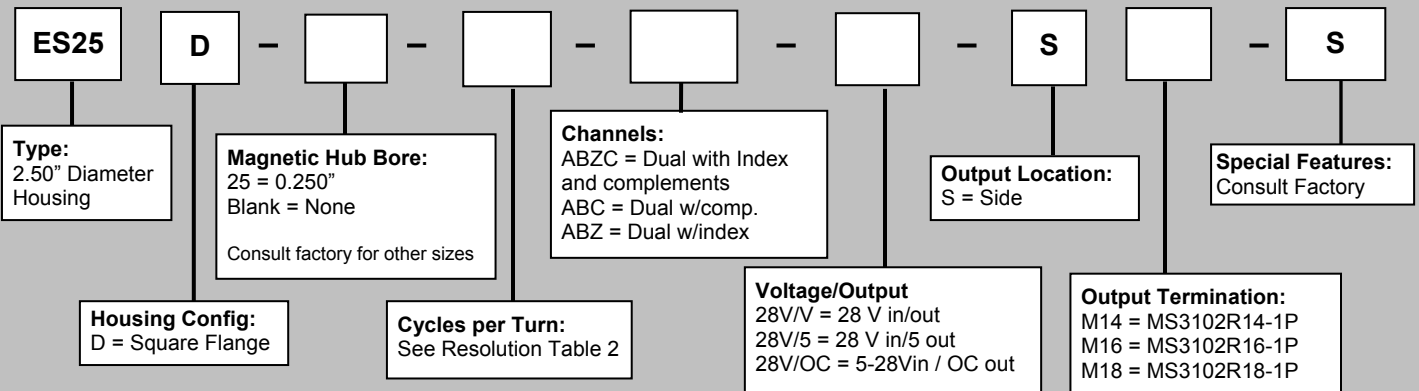
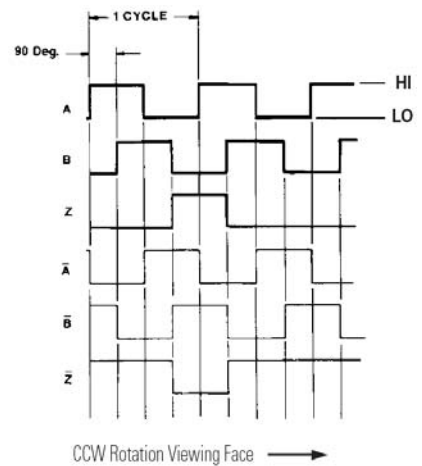




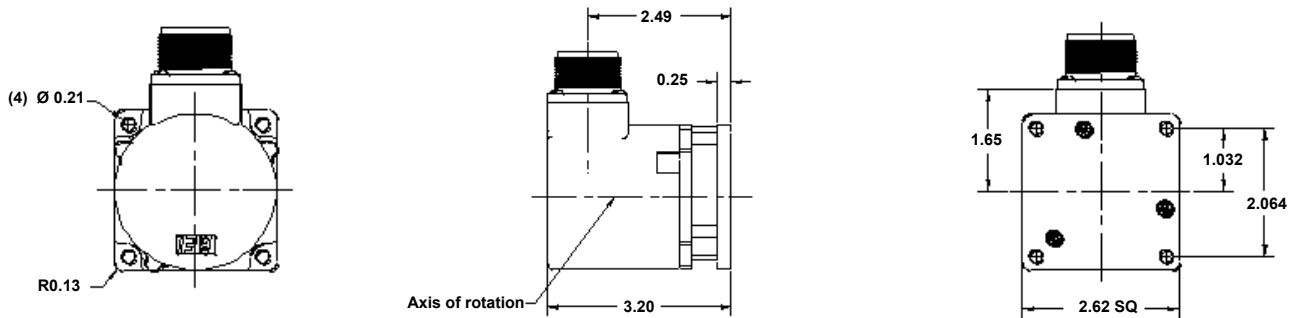
Table 2: Output Terminations

M18 Connector	
PIN	Channel
A	A
B	B
C	Z
D	+V
E	---
F	0V
G	CG
H	A/
I	B/
J	Z/

Output Waveform



ES25 Dimensions



Magnetic Hub

Magnetic Hub Bore .250"
 BEI Part No. 924-38540-250
 (supplied with encoder)

Consult factory for other bore sizes

