

ED-22 Analog Output Series Magnetic Encoder



- **Analog voltage output**
- **Low profile**
- **Standard industry package size**
- **Sleeve bearing**
- **Custom housings, shafts, connectors available, in most cases with no additional tooling required**

DESCRIPTION

The ED-22 series magnetic encoder can be used to replace a conventional potentiometer. This product offers 270 degrees of electrical travel, integrated rotational stop system, 300 degrees of mechanical travel, utilizing a sleeve bearing and shaft fitted with an O-ring seal. This sensor is designed for rotary human machine input (HMI) applications. The Non-contact magnetic sensor design utilized in the ED-22 is well suited for industrial applications where extreme temperatures, high vibration and shock, and contamination are present. The ED-22 is designed using our standard modular and flexible construction methods. We can customize housings, shafts, and terminations to meet your exact specifications at little or no tooling costs.

FEATURES

- Magnetic sensing technology
- Encapsulated electronics/sealed unit
- Harsh environment compatibility
- 0 to 5 Vdc outputs
- Consistent rotational torque
- Resistant to contamination
- Highly resistant to vibration
- Metal shaft and bushing
- Wide operational temperature range (-40°C to 85°C)

APPLICATIONS

- Machine tool control
- Paint spraying system control
- Medical equipment
- Industrial test and measuring equipment
- Off highway cab controls
- Marine
- Exercise equipment
- Value positioning
- Industrial joysticks

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PERFORMANCE SPECS (NOTE1)

Analog voltage output:

Parameters	ED-22-SB-0050-V-X
Standard output range 0 - 270°	0 Vdc to 5.0 Vdc
Supply current	15 mA
Operating voltage (Vcc)	5 Vdc ± 0.25 Vdc
Resolution	1.4°
Accuracy	2.8°
Operating temperature	-40°C to +85°C

Bearing:

Parameters	ED-22-SB-0050-V-X
Bearings	Sleeve
Maximum speed	300 RPM
Bearing life	3,000,000 cycles

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

MECHANICAL SPECS

Parameters	ED-22-SB-0050-V-X
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

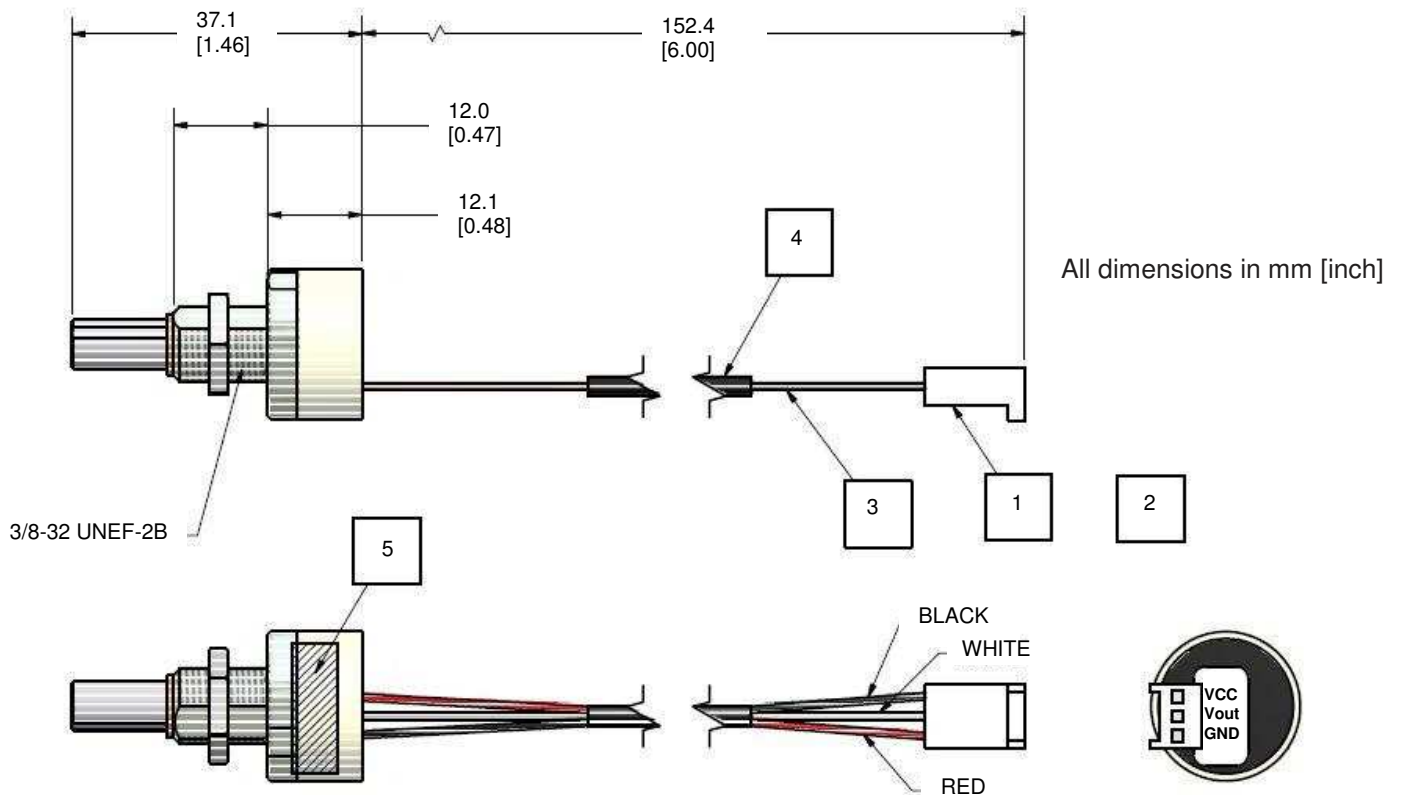
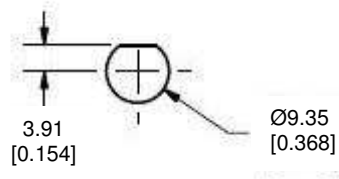


figure 1: Dimension of the ED-22 (side view)

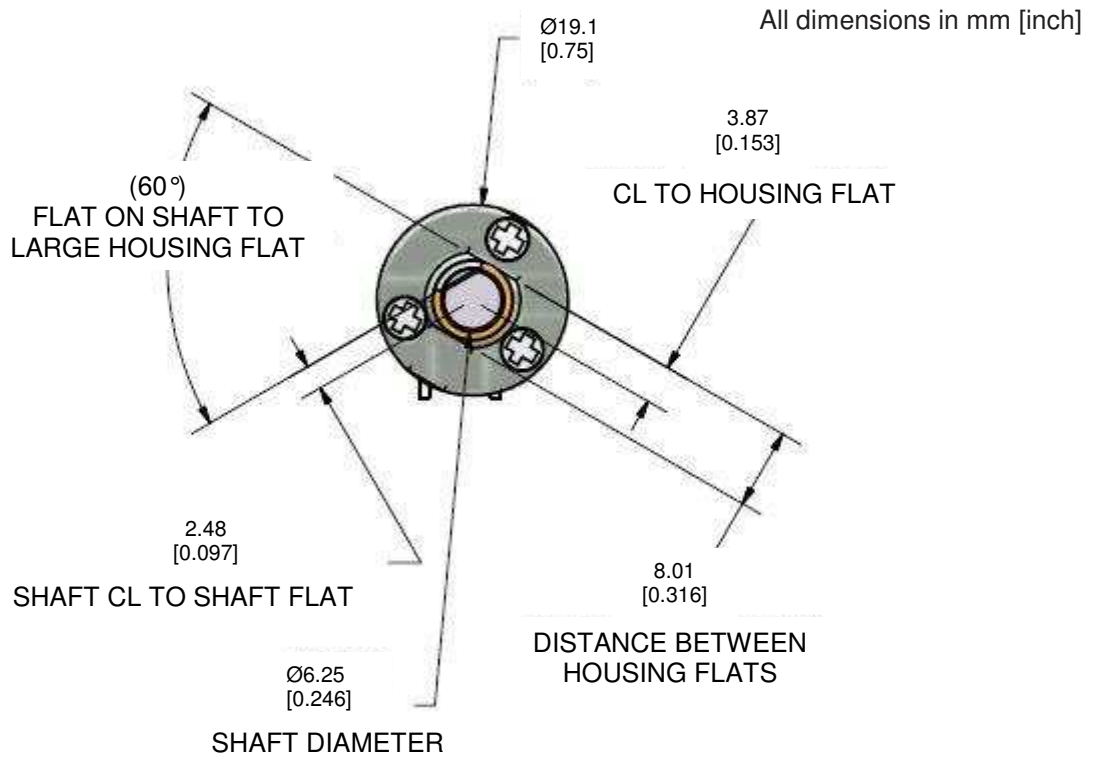
Notes	Description
1	Housing - MOLEX #22-01-3037
2	Terminals - (3X) MOLEX #08-55-0102 or # 08-55-0101
3	Wire - 24 AWG stranded copper with TFE or FEP insulation
4	Heat shrink wires leaving both ends exposed min 1.0" free
5	Encoder label

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All dimension s in mm [inch]

figure 2: Recommended cutout shape for the shaft



All dimensions in mm [inch]

figure 3: Dimension of the ED-22 (front view)

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TYPICAL PERFORMANCE CURVES

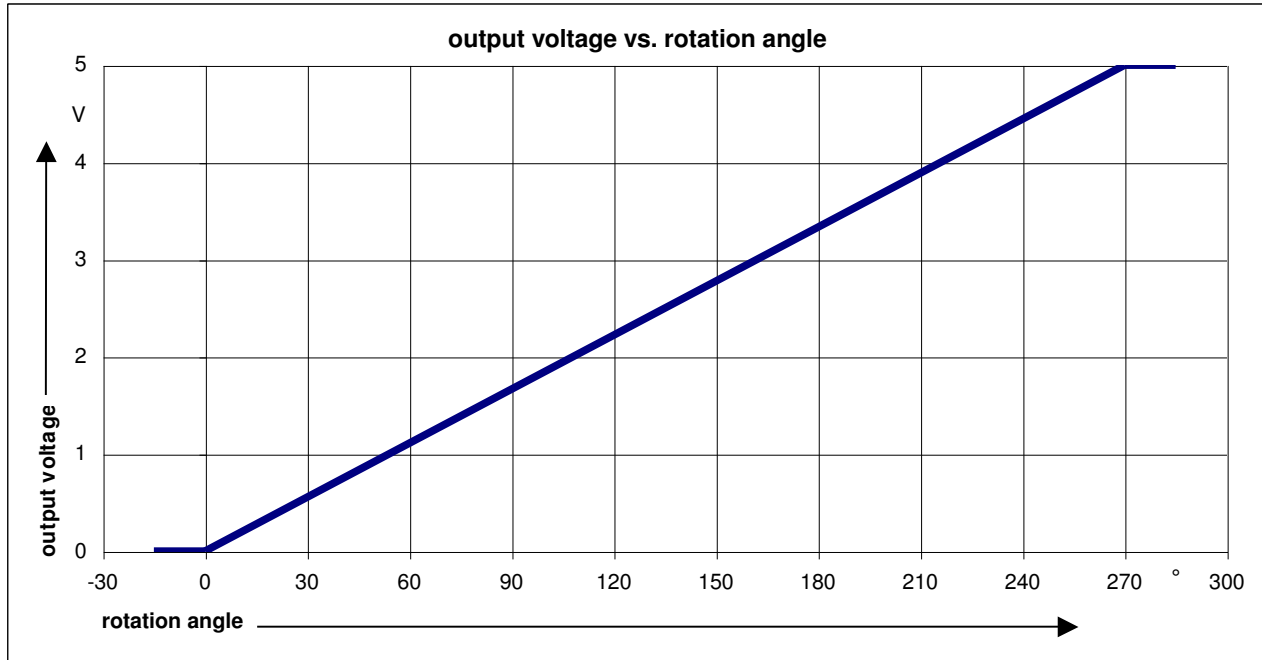


figure 4: Output voltage vs. rotation angle

ENVIRONMENTAL

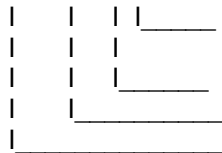
Vibration	MIL-STD-202F Method 204D Test Condition B
Shock	MIL-STD-202F Method 213B Test Condition C
Humidity	MIL-STD-202F Method 103B Test Condition A
Thermal Shock	MIL-STD-202F Method 107G Test Condition A
Operating Temperature	-40 to +85°C
Storage Temperature	-55 to +125°C

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ORDERING INFORMATION

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

ED-22-SB-0050-V-X



Connection

Analog Output

Output Range

Bearing

Options:

P = Pin header

C = Cable

V = Voltage

0050 = 0 Vdc to 5.0 Vdc

SB = Sleeve bearing

Example: ED-22-SB-0050-V-P

Model ED-22, sleeve bearing, analog output voltage from 0 Vdc to 5 Vdc, pin header

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