



## ED-22

### Analog Output Series Magnetic Encoder

#### SPECIFICATIONS

- ◆ Analog voltage output
- ◆ Low profile
- ◆ Standard industry package size
- ◆ Sleeve bearing

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.

#### FEATURES

- ◆ Magnetic sensing technology
- ◆ Encapsulated electronics/sealed
- ◆ Harsh environment compatibility
- ◆ 0 to 5 VDC outputs
- ◆ Consistent 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

## 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 $\pm$ 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): Vcc = 5 V, Ambient Temperature 25 °C

## 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

**DIMENSIONS**

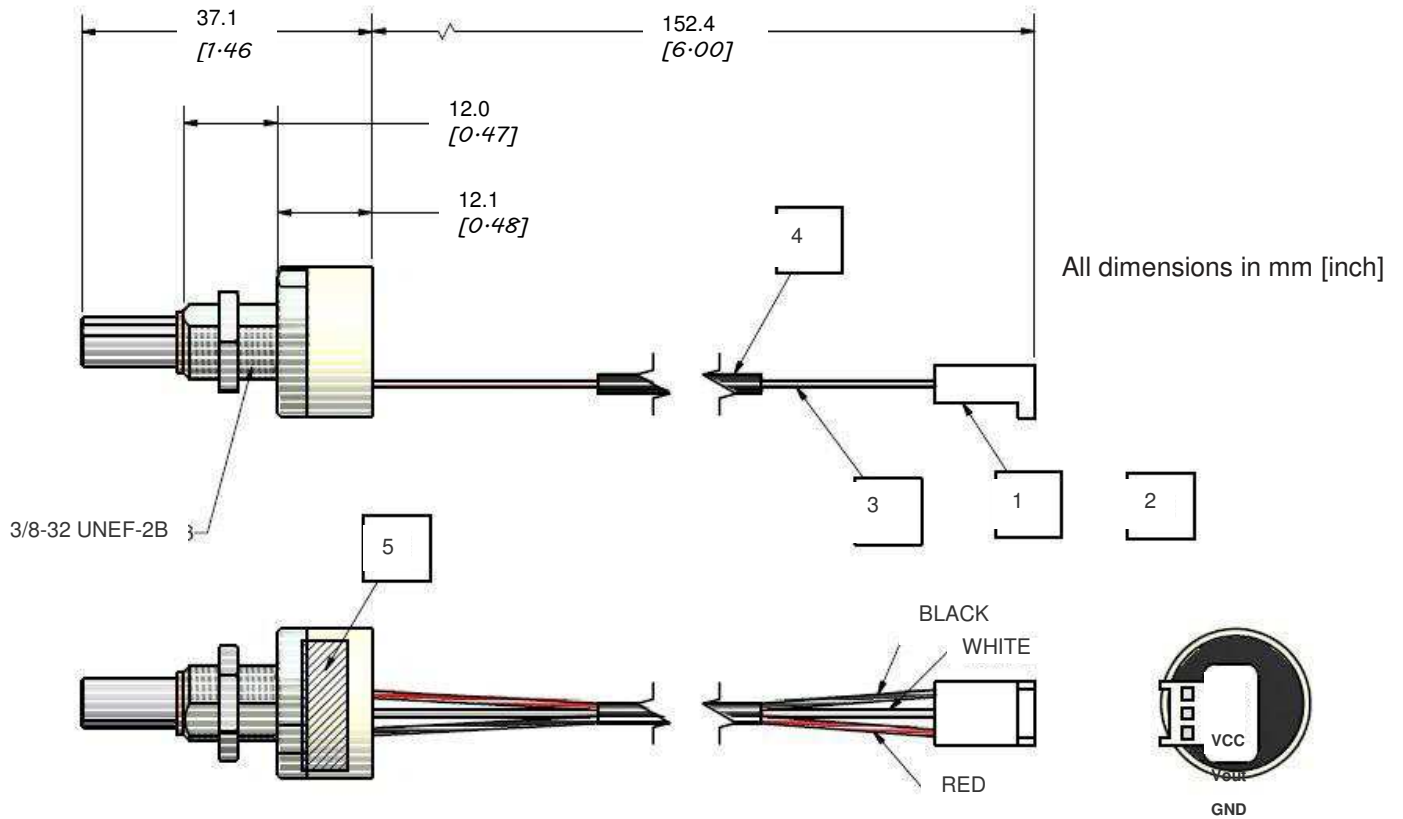
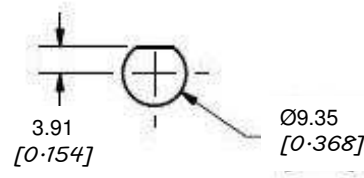


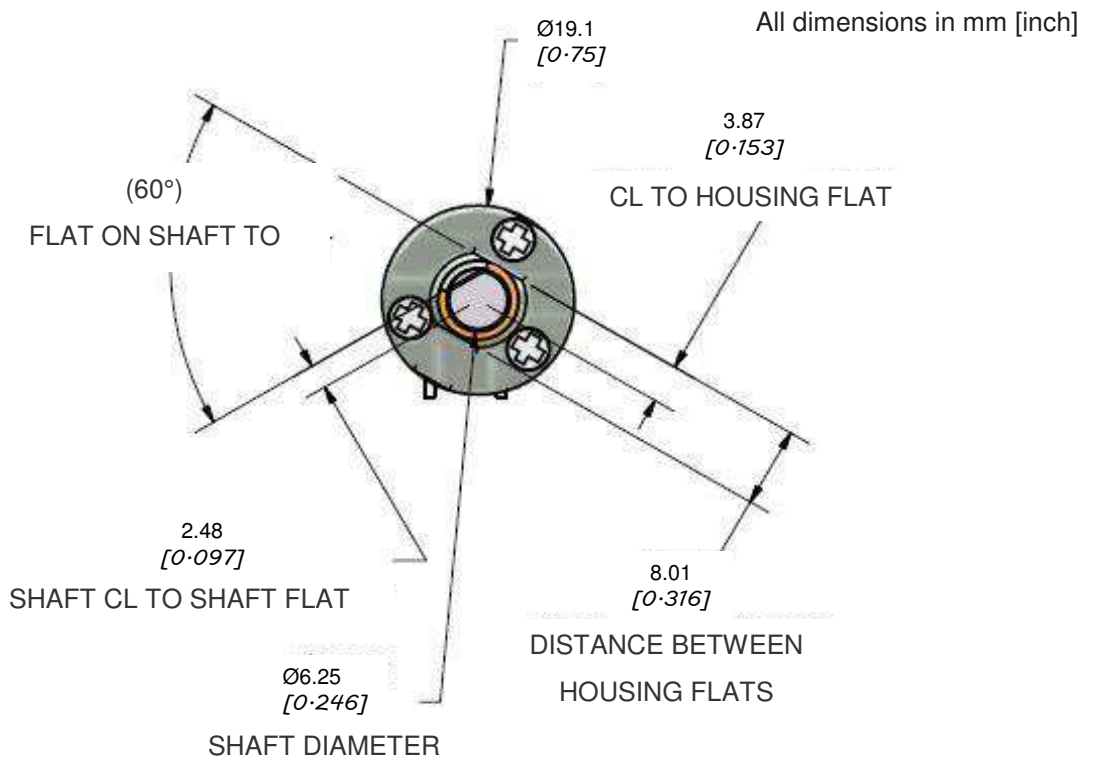
Figure 1: Dimension of the ED-22 (side view)

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



All dimension s in mm [ich]

Figure 2: Recommended cutout shape for the shaft



All dimensions in mm [inch]

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

### TYPICAL PERFORMANCE CURVES

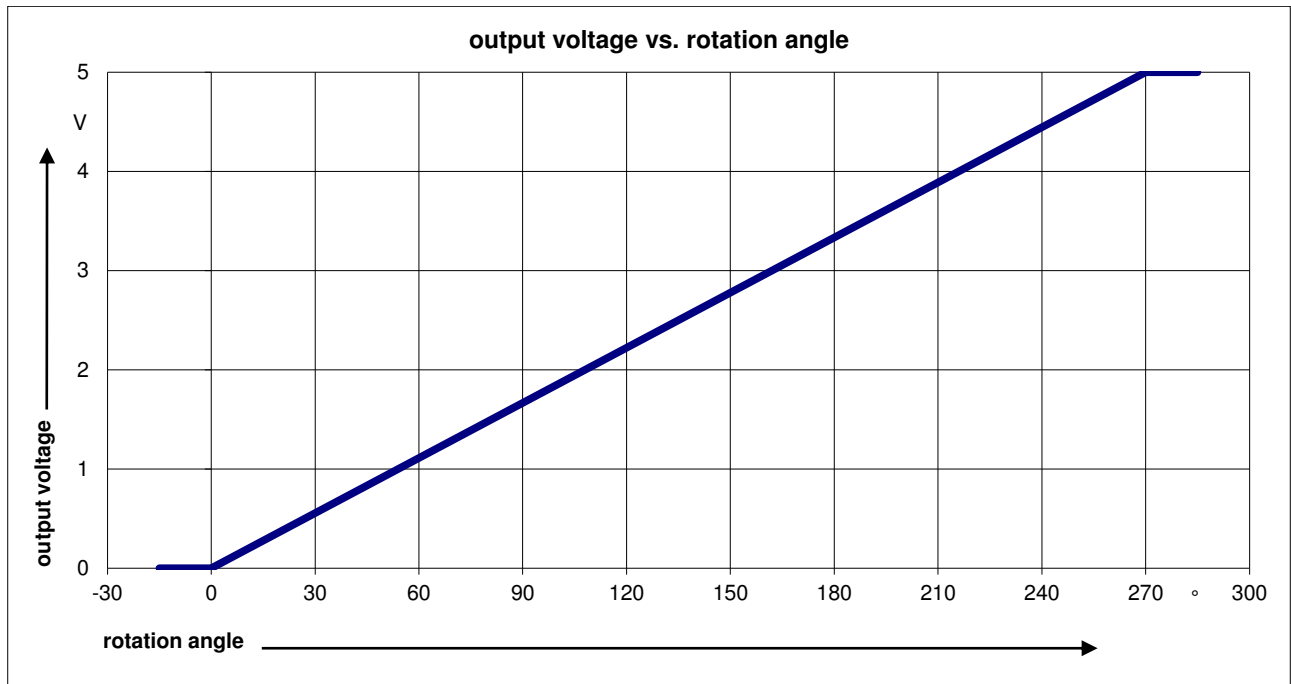


Figure 4: Output voltage vs. rotation angle

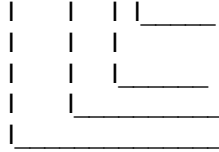
### ENVIRONMENTAL

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

### 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

### STANDARD CONFIGURATION: ED-22-SB-0050-V-C

*Consult factory for other available models.*

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