



## ED-18

### Analog Output Series Magnetic Encoder SPECIFICATIONS

- Analog voltage or current output
- Low profile
- IP52 sealing
- Sleeve or ball bearing
- Excellent stability – no optic degradation

The ED-18 Series Magnetic Encoder can be used for example as rotational feedback sensor or as a human machine interface (HMI) device.

As a light duty feedback sensor it can provide rotation speed, direction or positioning information.

The analog output provides absolute angular position information even when power is cycled on and off.

As an HMI device it can be used as a rotary input control for use on instrumentation panels.

The ED-18 Series is designed with our modular and flexible construction methods.

## FEATURES

- Magnetic sensing technology
- Encapsulated electronics/sealed unit
- Harsh environment compatibility
- Analog voltage and current output
- Low profile
- Consistent rotational torque
- Resistant to contamination IP52 sealing
- Metallic threaded bushing mounting
- Wide operational temperature range (-40 °C to 85 °C)
- Excellent stability – no optic degradation
- Sleeve or ball bearing

## APPLICATIONS

- Marine, avionics motor speed and position control
- Marine steering
- 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 Potentiometer replacement
- Throttle position control/feedback

## BT360

360°rotational encoder (4-20mA current output)

### PERFORMANCE SPECS (Note1)

Analog voltage output:

Parameters	ED-18-XX-0545-V-P
Standard output range 0 - 360°	0.5 VDC to 4.5 VDC
Supply current	15 mA
Operating voltage (Vcc)	5 VDC
Resolution	1.4°
Accuracy	2.8°
Operating temperature	-40 °C to 85 °C

Analog current output:

Parameters	ED-18-XX-0420-I-P
Standard output range 0 - 360°	4.0 mA to 20.0 mA
Supply current	15 mA + output current loop
Operating voltage (Vcc)	12 VDC to 26 VDC
Resolution	1.4°
Accuracy	2.8°
Operating temperature	-40 °C to 85 °C

Bearing:

Parameters	ED-18-SB-XXXX-I-P / ED-18-SB-XXXX-V-P	ED-18-BB-XXXX-I-P / ED-18-BB-XXXX-V-P
Bearings	Sleeve	Ball
Maximum speed	300 RPM	3000 RPM
Bearing life	3,000,000 cycles	30,000,000 cycles

(NOTE1): Vcc= 5 V | 12 V, Ambient Temperature 25 °C

### MECHANICAL

Parameters	ED-18-XX-XXXX-I-P / ED-18-XX-XXXX-V-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

# BT360

360°rotational encoder (4-20mA current output)

## DIMENSIONS

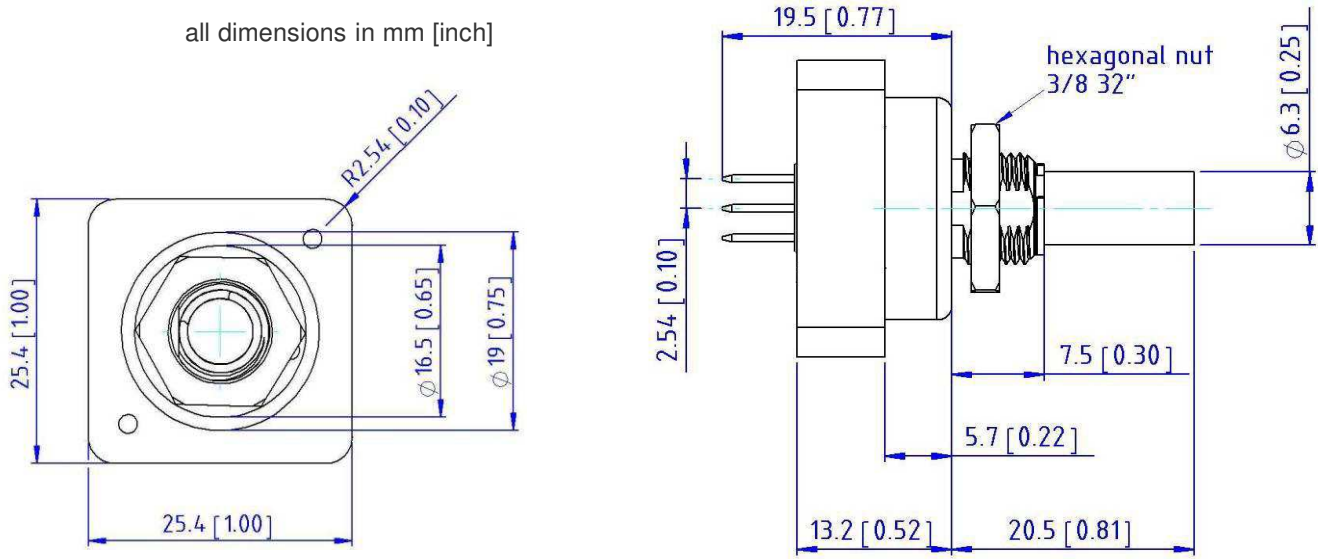


Figure 1: Dimensions of the ED-18-SB-XXXX-X-X (top and side view)

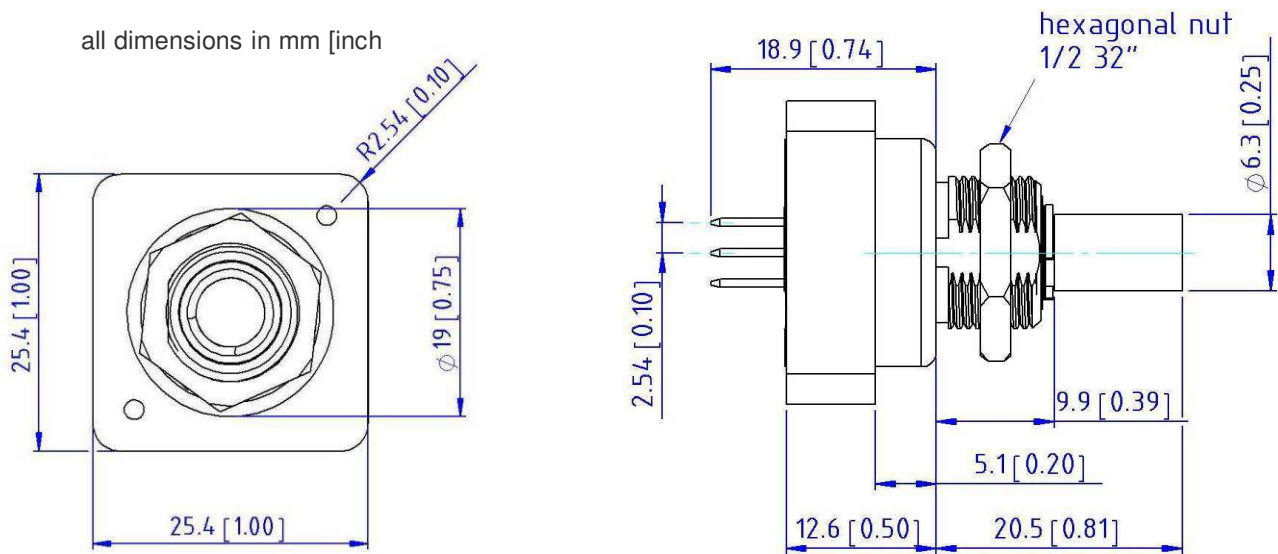


Figure 2: Dimensions of the ED-18-BB-XXXX-X-X (top and side view)

PINNING

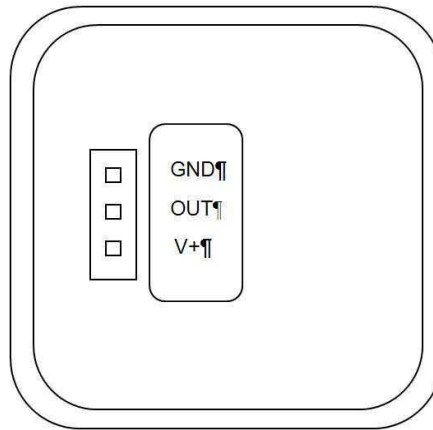


Figure 3: Pinning of the ED-18-XX-XXXX-X-X (bottom view)

TRANSFER CHARACTERISTIC | OUTPUT SIGNAL

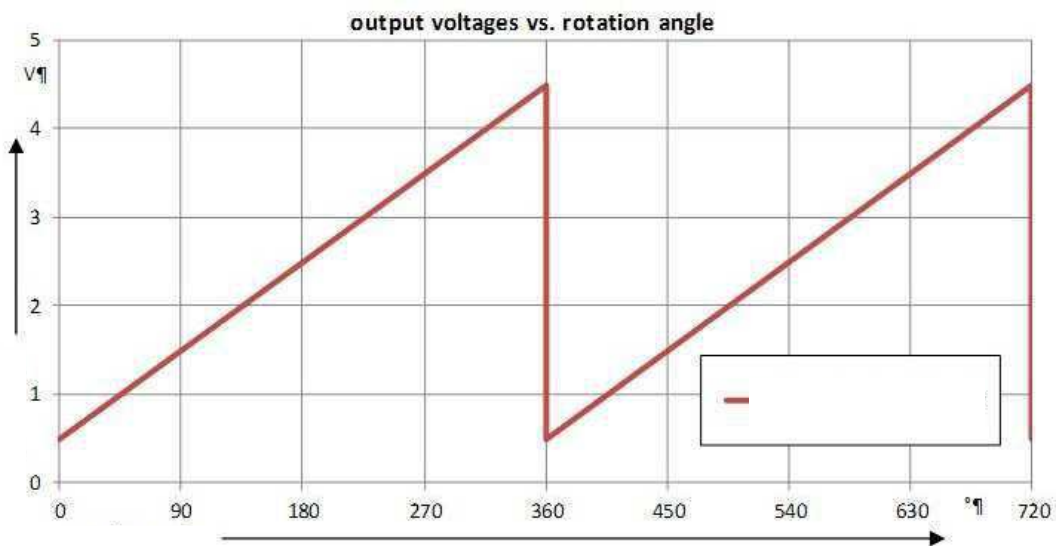


Figure 4: Output voltage vs. rotation

## BT360

360°rotational encoder (4-20mA current output)

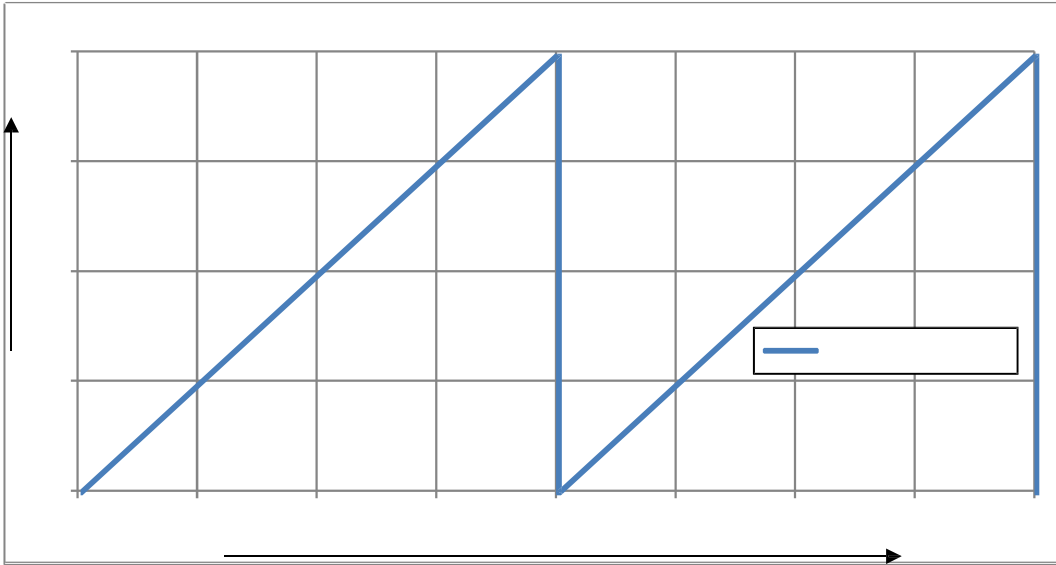


Figure 5: Output current vs. rotation angle

## 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

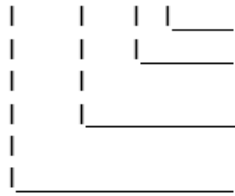
## BT360

360°rotational encoder (4-20mA current output)

## ORDERING INFORMATION

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

ED-18-XX-XXXX-X-X



Connection  
Analog Output  
Output Range  
Bearing

Options:

P = Pin header  
V = Voltage  
I = Current  
0545 = 0.5 VDC to 4.5 VDC  
0420 = 4 mA to 20 mA  
SB = Sleeve Bearing  
BB = Ball Bearing

Example: ED-18-SB-0545-V-P

Model ED-18, sleeve bearing, analog output voltage from 0.5 VDC to 4.5 VDC, pin header

## STANDARD CONFIGURATIONS: ED-18-BB-0545-V-P & ED-18-SB-0420-I-P

*Consult factory for other available models*

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