

# SERIES EN44

**NorthStar™ brand**

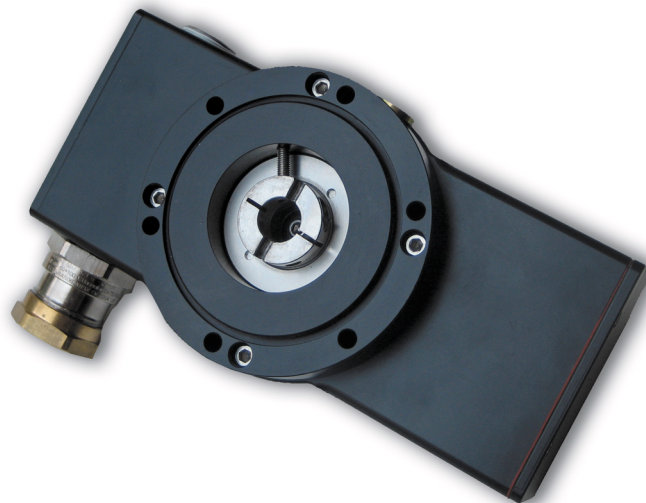
## Extreme Heavy Duty Encoder

### Key Features

- Encapsulated Electronics with Increased Safety Interface for Zone 1 Use
- Innovative Design Eliminates Need for I.S. Barriers
- Industry-leading -50 to +100°C Temperature Range
- High current line driver for long cable runs
- Perfect for use in Oilfield Drilling Motor Applications



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## SPECIFICATIONS

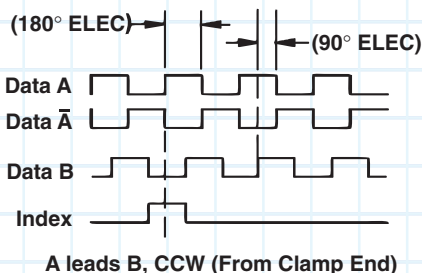
### STANDARD OPERATING CHARACTERISTICS

**Code:** Incremental  
**Resolution:** 1024, 2048 PPR  
**Format:** Two channel quadrature (AB) with optional Index (Z, ungated), and complementary outputs  
**Phase Sense:** A leads B for CCW shaft rotation viewing the shaft clamp end of the encoder  
**Quadrature Phasing:** For resolutions to 1200 PPR: 90° ± 15° electrical; For resolutions over 1250 PPR: 90° ± 30° electrical  
**Symmetry:** 180° ± 18° electrical  
**Waveforms:** Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf  
**Electrical Immunity:** 500VAC hypot from encoder shaft/frame to all connector pins

### ELECTRICAL

**Input Voltage:** 5-15VDC, 5-26VDC (see ordering information)  
**Input Current:** 65mA max., not including output loads  
**Outputs:** TC4428, 125mA Max per channel W/ ATEX output format 0, 2 (See ordering information); 15mA max per channel, W/ ATEX output format 1, 3 [certification pending] (See ordering information)  
**Frequency Response:** 125 kHz (data & index)  
**Termination:** Optional Ex gland with "S" seal for armored or non-armored cables .33" to .53" O.D. (See ordering information)

**DATA AND INDEX**  
 Not all complements shown  
 A shown for reference



### ELECTRICAL CONNECTIONS

Encoder Function	Terminal Box Connection
Sig. A	1
Sig. $\bar{A}$	2
Sig. B	3
Sig. $\bar{B}$	4
Sig. Z	5
Sig. $\bar{Z}$	6
Power +V	7
Com	8

### MECHANICAL

**Mechanical Interface:** Stainless steel shaft clamp  
**Mating Shaft Length:** 0.47" to 0.625" (11.9mm to 15.9mm)  
**Coupling:** 16mm or 5/8", flexible  
**Shaft Speed:** 6000 RPM, max.  
**Bearings:** 6107  
**Bearing life:** 5 x 10<sup>8</sup> revs at rated shaft loading, 5 x 10<sup>11</sup> revs at 10% of rated shaft loading. (manufacturers' specs)  
**Housing Material:** Aluminum Alloy, Black Anodized  
**Disc material:** Stainless steel  
**Weight:** 6 lb. 6 oz, typical

### ENVIRONMENTAL

**Operating Temperature:** -50 to 100°C  
**Storage temperature:** -50 to 100°C  
**Shock:** 50G's for 11msec duration  
**Vibration:** 5 to 2000Hz @ 20 G's  
**Humidity:** 100%  
**Enclosure Rating:** IP67

\* Specifications are for base models with standard features only unless otherwise noted. Specifications subject to change without notice in accordance with our DBS policy of continuous improvement. All product and brand names are trademarks of their respective owners. All rights reserved.

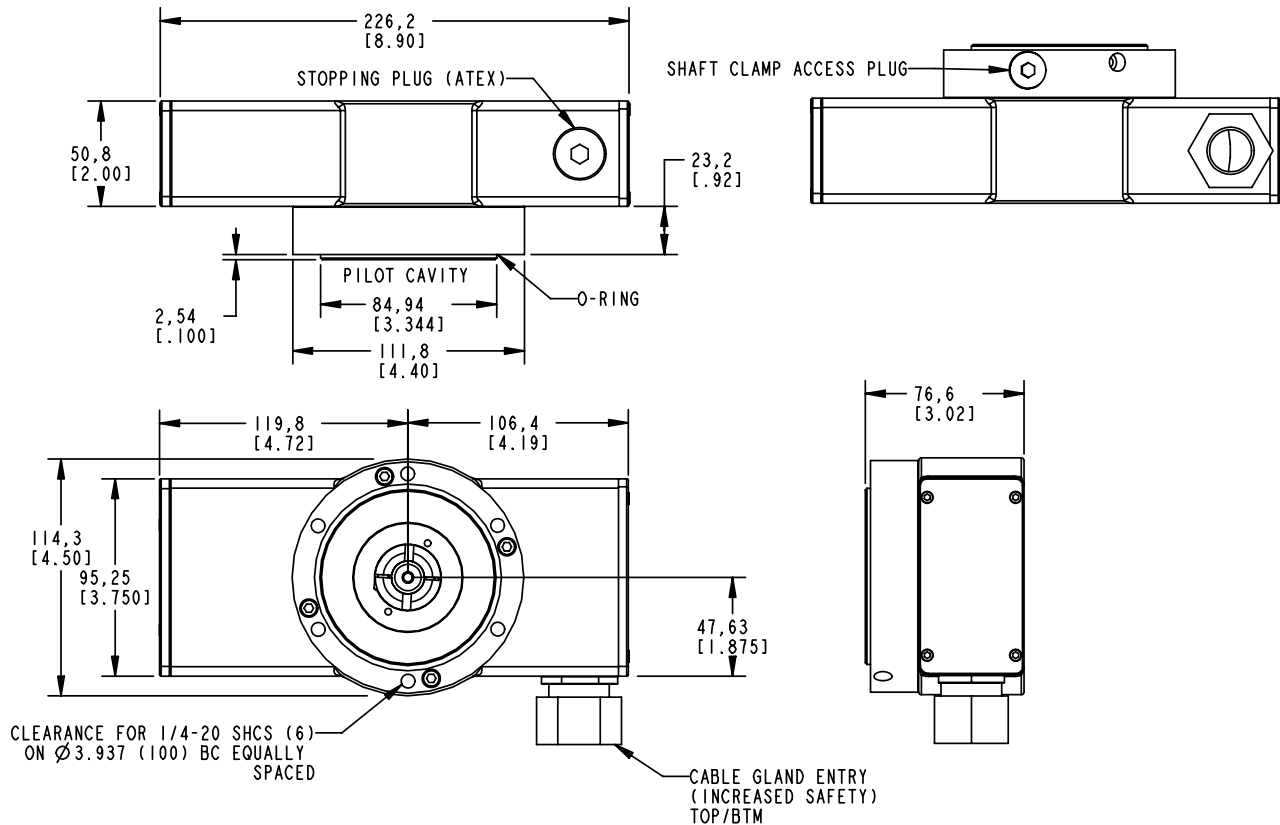
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## Ordering Information

To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: PPR	Code 3: Bore Size	Code 4: ATEX Output Format	Code 5: Termination
<b>EN44</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ordering Information				
<b>EN44</b> ATEX Zone 1 Barrier-Less Hubshaft Encoder	<b>1024</b> <b>2048</b>	<b>A</b> 16mm (5/8")	<b>0</b> Differential AB, 5-15V in, 5-15V out <b>1</b> Differential AB, 5-26V in, 5V out <b>2</b> Differential ABZ, 5-15V in, 5-15V out <b>3</b> Differential ABZ, 5-26V in, 5V out	<b>0</b> Dual exit conduit box with terminal block, 3/4" NPT <b>1</b> Dual exit conduit box with terminal block, 3/4" NPT with Ex gland for non-armored cables <b>2</b> Dual exit conduit box with terminal block, 3/4" NPT with Ex gland for armored cables

## DIMENSIONS (Inch [metric])



### Satellite Locations:

North America: North Carolina, South Carolina, Connecticut, Massachusetts, New York, Canada, St. Kitts • Europe: United Kingdom, Italy, France, Germany, Spain, Slovakia • Latin America: Brazil • Asia: China, Japan, Korea, Singapore

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