

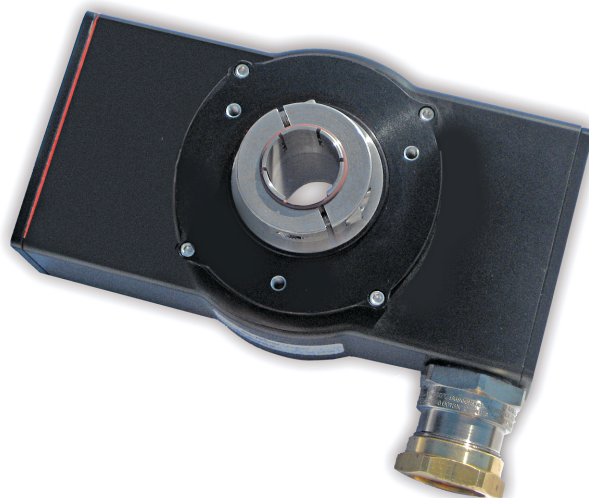
SERIES EN42

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



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental

Resolution: to 5000 PPR (pulses/revolution) See Ordering Information

Format: Two channel quadrature (AB) with optional Index (Z, ungated), and complementary outputs

Index: 180 degrees $\pm$ 18 degrees (electrical), ungated

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° $\pm$ 15° electrical; For resolutions over 1250 PPR: 90° $\pm$ 30° electrical

Symmetry: 180° $\pm$ 18° electrical

Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

ELECTRICAL

Input Voltage: 5-15VDC, 5-26VDC (see ordering information)

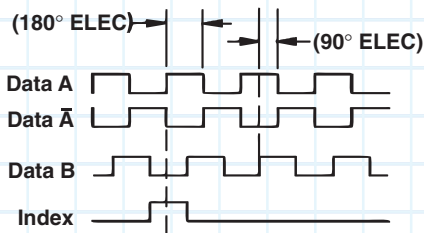
Input Current: 65mA max., not including output loads

Outputs: TC4428, 125mA Max per channel W/ ATEX output format 0, 2 (See ordering information); 10mA max per channel @100C, 15mA max per channel @95C w/ATEX output format 1, 3 (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



A leads B, CCW (From Clamp End)

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

Shaft Material: Stainless steel or anodized aluminum (See ordering information)

Bore Diameter: 1.00", 0.875, 0.750", 0.625", 16mm, 15mm. Insulated inserts provided for bores under 1 inch

Mating Shaft length: 1.25", Minimum; 1.60", Recommended

Starting torque: 8.0 in-oz. maximum (at 25°C)

Running Torque: 5.0 in-oz. maximum (at ambient)

Bearings: 61806-ZZ

Bearing Life: 5 x 10⁸ revs at rated shaft Loading, 5 x 10¹¹ revs at 10% of rated shaft loading. (manufacturers' specs)

Housing and Cover: Hard Anodized Aluminum.

Disc Material: Metal or Plastic

Weight: 6 lb, 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.

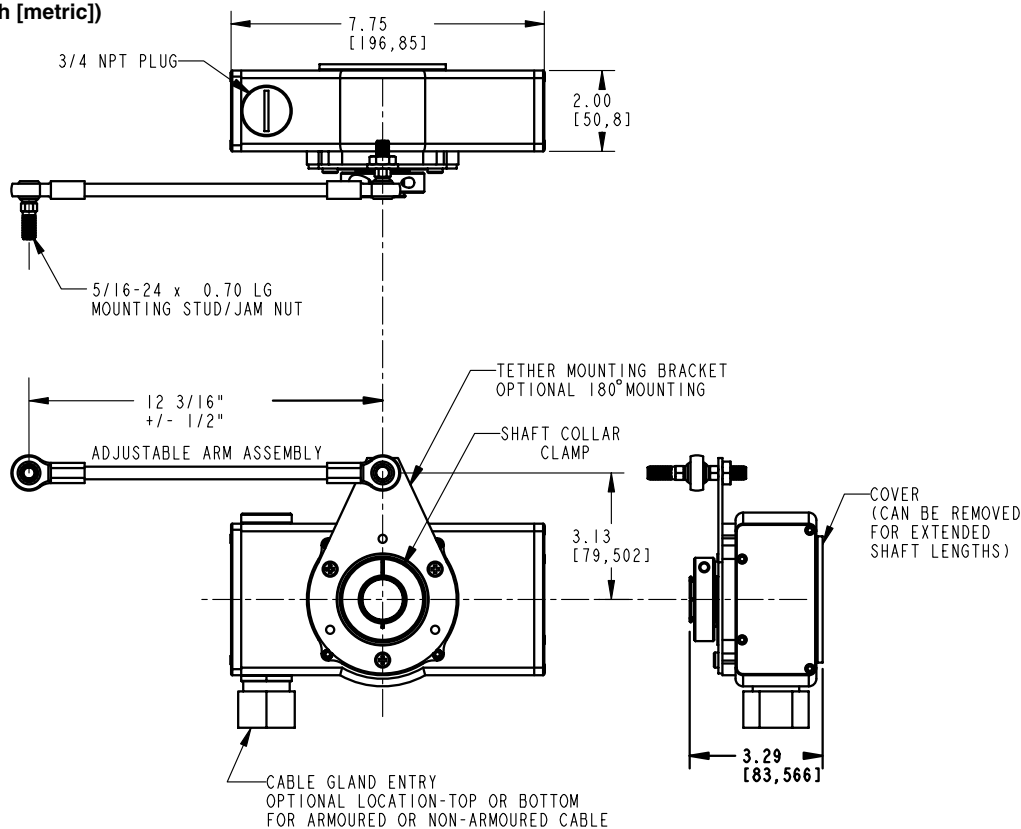
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Ordering Information

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	Code 6: Tether	Code 7: Cover
EN42	☐ ☐ ☐ ☐	☐	☐	☐	☐	☐
Ordering Information						
EN42 ATEX Zone 1 Barrier-Less Hollowshaft Encoder	0015 0032 0100 0200 0240 0250 0500 0512 0600 1000 1024 1200 2000 2048 2500 4000 5000	8 5/8" 9 15 mm A 16mm D 3/4" F 7/8" H 1" Non-Isolated R 1" Isolated	0 Differential AB, 5-15V in, 5-15V out 1 Differential AB, 5-26V in, 5V out 2 Differential ABZ, 5-15V in, 5-15V out 3 Differential ABZ, 5-26V in, 5V out	0 Dual exit conduit box with terminal block, 3/4" NPT 1 Dual exit conduit box with terminal block, 3/4" NPT with Ex gland for non-armored cables 2 Dual exit conduit box with terminal block, 3/4" NPT with Ex gland for armored cables	0 None 1 Heavy Duty 5/16" Swivel Rod Tether	0 Standard Flat cover

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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