

# SERIES HSD44

NorthStar™ brand

## Extreme Heavy Duty Encoder

### Key Features

- Integral Flexible Coupling Compensates for Motor Shaft Runout and Endplay
- Electrically Isolated Shaft Protects Internal Bearings
- Perfect for Off-Highway Vehicle Applications
- Robust Survivability with 400G Shock and 20G Vibration
- Special Pilot Flange for Motor Mounting

HD  
Heavy Duty



### SPECIFICATIONS

#### STANDARD OPERATING CHARACTERISTICS

**Code:** Incremental, Optical  
**Resolution:** 1024 and 2048 PPR (pulses/revolution)  
**Format:** Two channel quadrature (AB) with Index (Z) and complementary outputs  
**Phase Sense:** A leads B for CCW shaft rotation viewing the shaft clamp end of the encoder  
**Quadrature Phasing:**  $90^\circ \pm 15^\circ$  electrical  
**Index:**  $180^\circ$  default gated to B low  
**Symmetry:**  $180^\circ \pm 18^\circ$  electrical  
**Waveforms:** Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pF

#### ELECTRICAL

**Input Power:** 5-30VDC. 80 mA max., not including output loads.  
**Outputs:** 7272 Differential Line Driver: 40 mA, sink or source  
**Frequency Response:** 200 kHz (data and index)  
**Noise Immunity:** Tested to EN61326-1  
**Electrical Immunity:** Reverse polarity and short circuit protected  
**Termination:** 18" pigtail or 18" pigtail with MS Connector. See Ordering Information  
**Mating Connector:** 10 pin MS, style MS3106A-18-1S (MCN-N6) 10 Pin, NEMA4 Style (MCN-N6N4)

#### MECHANICAL

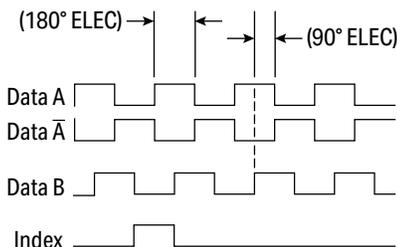
**Mechanical Interface:** Electrically isolated stainless steel shaft flex coupling  
**Coupling:** 16mm, flexible  
**Mating Shaft Length:** 0.47" to 0.625" (11.9mm to 15.9mm)  
**Shaft Speed:** 6000 RPM, max.  
**Bearings:** 6107  
**Housing Material:** Aluminum Alloy  
**Disc Material:** Aluminum  
**Weight:** 4 lbs.

#### ENVIRONMENTAL

**Operating Temperature:** -30 to 100°C  
**Storage temperature:** -40 to 100°C  
**Shock:** 400g, 6ms  
**Vibration:** 20g, 5-3000 Hz  
**Humidity:** Up to 98% (non-condensing)  
**Enclosure Rating:** NEMA 6 / IP67

#### STANDARD DATA AND INDEX

Not all complements shown  
 $\bar{A}$  shown for reference



Index Width:  $180^\circ$  Default  
 A leads B, CCW (from clamp end)

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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	Code 4: Output Format	Code 5: Termination	Code 6: Special Option
<b>HSD44T</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HSD44T Heavy Duty Hub Shaft Encoder	<b>1024</b> <b>2048</b>	<b>A</b> 16mm	<b>3</b> Differential ABZ, 5-30VDC in, 5-30VDC out (7272)	<b>A</b> 18" Cable <b>K</b> 1.5 ft (18") cable w/ in line 10 pin connector	<b>Blank</b> Standard Pilot (0.100") <b>01</b> Extended Pilot (0.156")

## ELECTRICAL CONNECTIONS

Encoder Function	Pin	Wire Color
Signal A	A	BRN
Signal B	B	ORG
Signal Z	C	YEL
Power +V	D	RED
Common	F	BLK
Case	G	GRN
N/C	E	—
Signal $\bar{A}$	H	BRN/WHT
Signal $\bar{B}$	I	ORG/WHT
Signal $\bar{Z}$	J	YEL/WHT

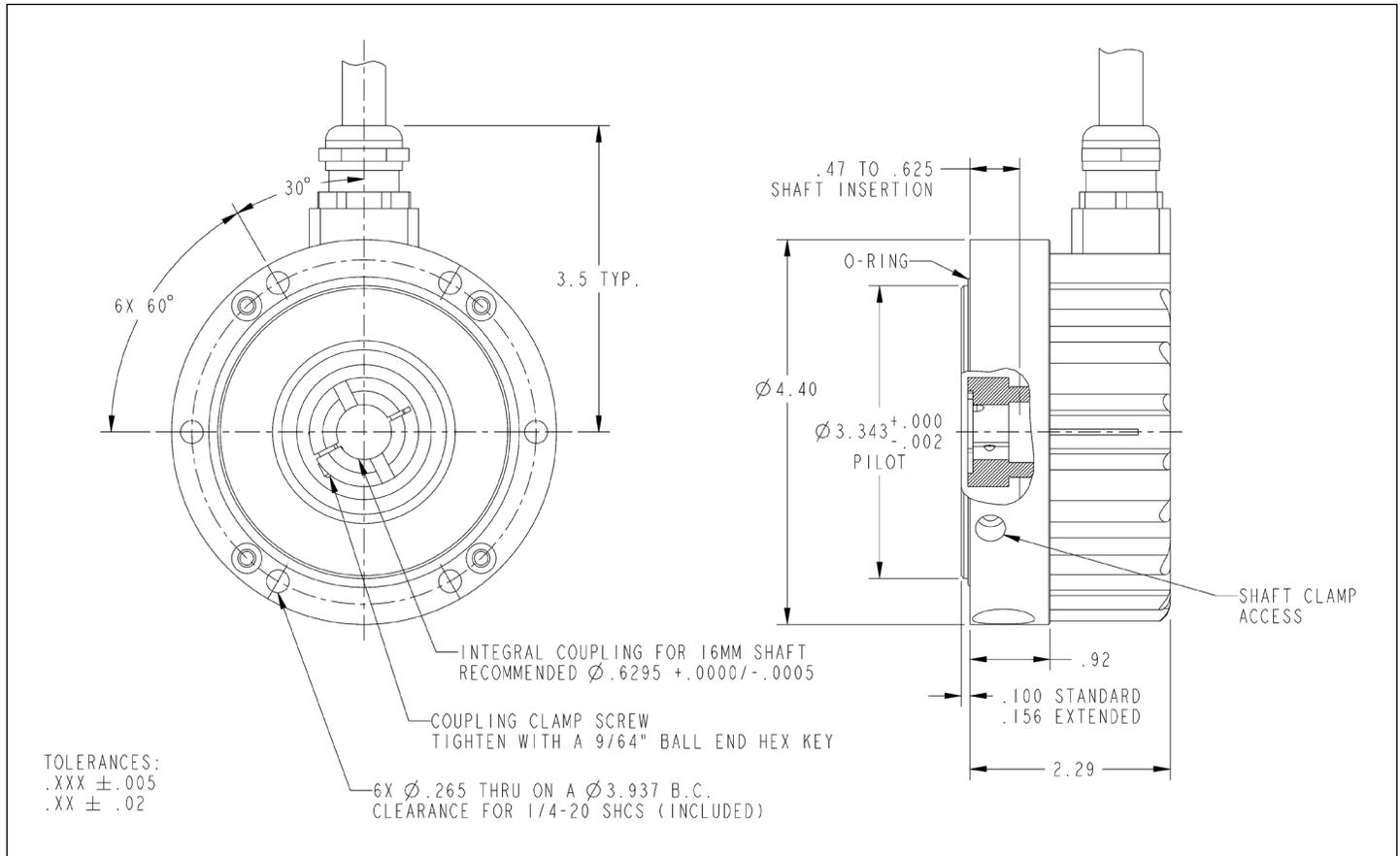
## COMPATIBLE ACCESSORIES

<b>MCN-N6</b>	10 pin, style MS3106A-18-1S
<b>MCN-N6N4</b>	10 pin, NEMA4 style
<b>HSD44ADAPTER45</b>	4-1/2" NEMA Motor Adapter Plate

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**NorthStar™ brand**

Dimensions: inch [mm]



**Worldwide Brands:** NorthStar™ • Dynapar™ • Hengstler™ • Harowe™

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