

SERIES HSD44

NorthStar™ brand

Extreme Heavy Duty Encoder

Key Features

- **O-Ring Housing with Pilot Seals Against Motor for the Ultimate in Protection**
- **Isolated Coupling Compensates for Motor Shaft Runout and Endplay**
- **Perfect for Off-Highway Vehicle Applications with High Shock and Vibration**
- **Unbreakable Code Disc**
- **400G Shock and 20G Vibration Independently Validated**



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Optical
Resolution: 15 to 5000 PPR (pulses/revolution), Others at special order
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° ± 15° electrical
Index: 150° to 300° A leads B, CCW (From Clamp End)
Symmetry: 180° ± 18° electrical
Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pF

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: Mylar
Weight: 4 lbs.

ENVIRONMENTAL

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

ELECTRICAL

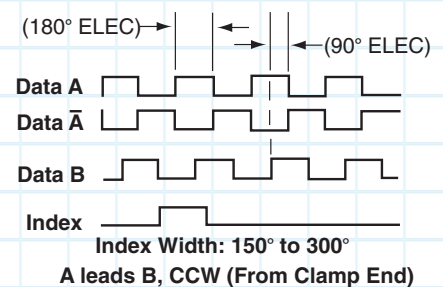
Input Power: 5-30VDC. 50 mA max., not including output loads.
Outputs: 7272 Differential Line Driver: 40 mA, sink or source
Frequency Response: 125 kHz (data & index)
Noise Immunity: Tested to EN61326-1
Electrical Immunity: Reverse polarity and short circuit protected
Termination: 18" pigtail or 18" pigtail with MS Connector. See Ordering Information
Mating Connector: 10 pin MS, style MS3106A-18-1S (MCN-N6)

ELECTRICAL CONNECTIONS

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

DATA AND INDEX

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



Ordering Information

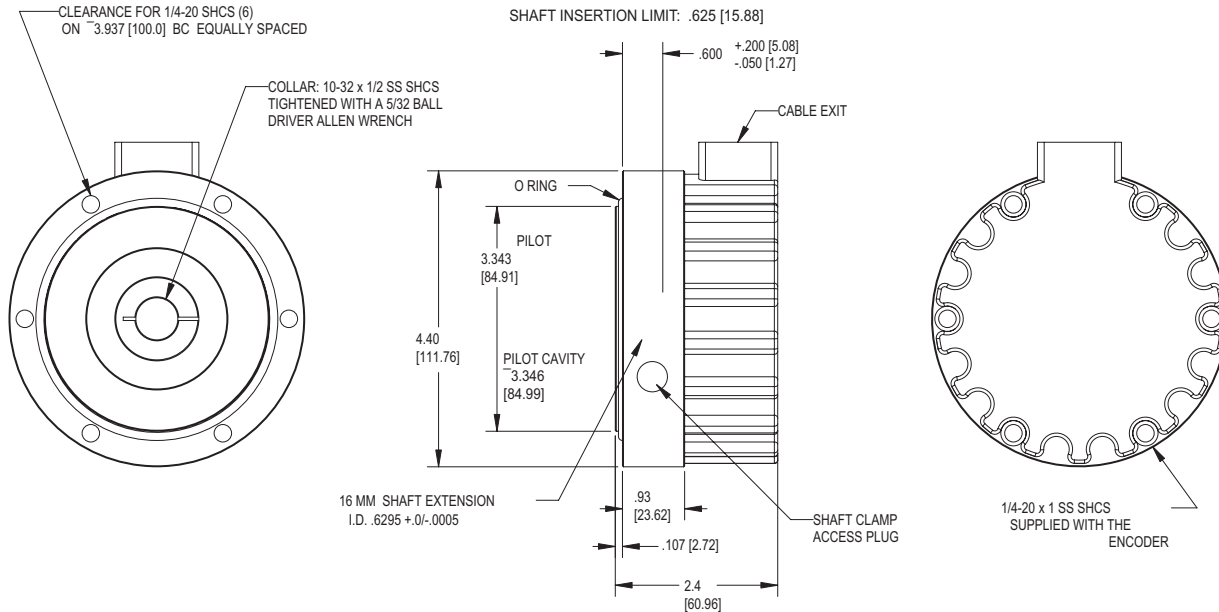
To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: PPR	Code 3: Bore	Code 4: Output Format	Code 5: Termination	Code 6: Options	Code 7: Special Option
HSD44	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Ordering Information						
HSD44 Heavy Duty Hub Shaft Encoder	0015 0032 0050 0060 0100 0200 0240 0250 0500 0512 0600 1000 1024 1200 2000 2048 3072 4000 4096 5000	A 16mm	3 Differential ABZ, 5-30 in, 5-30 out (7272)	A 18" Cable K 1.5 ft (18") cable w/ in line 10 pin connector	0 No Options 1 Slotted Tether 2 Single Point 4.5" C-face Tether 3 Single Point 8.5" C-face Tether 4 Dual Isolated Outputs, No Tether 5 Dual Isolated Outputs, Slotted Tether 6 Dual Isolated Outputs, 4.5" C-face Tether 7 Dual Isolated Outputs, 8.5" C-face Tether A Swivel Rod Tether C Metric Swivel Rod Tether D Dual Isolated Outputs, Swivel Rod Tether E Dual Isolated Outputs, Metric Swivel Rod Tether	Blank None 01 Extended Pilot (.156")

Accessories

HSD44ADAPTER45 4-1/2" NEMA Motor Adapter Plate

DIMENSIONS (in. [mm])



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