

SERIES HD35R

NorthStar™ brand

Heavy Duty Encoder

Key Features

- Phased Array Sensor for Reliable Signal Output
- Rugged Design with Wide-Spaced Oversized Bearings
- Unbreakable Code Disc up to 5000PPR
- Improved Seal Design for Increased Moisture Resistance



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental

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

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

Phase Sense: A leads B for CW shaft rotation viewing the shaft end of the encoder

Quadrature Phasing: For resolutions to 1200 PPR: $90^\circ \pm 15^\circ$ electrical; For resolutions over 1250 PPR: $90^\circ \pm 30^\circ$ electrical

Symmetry:

For resolutions to 1024PPR: $180^\circ \pm 18^\circ$ electrical

For resolutions over 1024PPR: $180^\circ \pm 25^\circ$ electrical

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

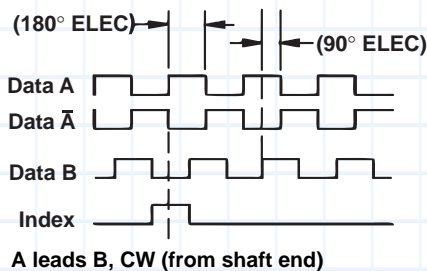
ELECTRICAL

Input Power: 5-26VDC, 5-15VDC. 50 mA max., not including output loads.

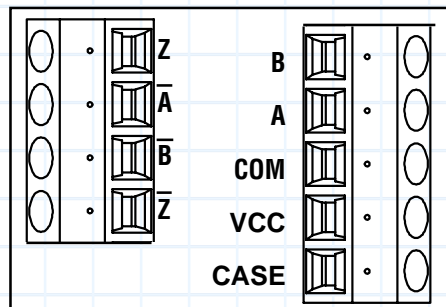
Frequency Response: 125 kHz (data & index)

Termination: Pluggable screw terminals inside terminal box with M20 cable gland exit

DATA AND INDEX Not all complements shown A shown for reference



TERMINAL CONNECTIONS



WIRE COLORS

WIRE	PRIMARY FUNCTION	ALTERNATE FUNCTION
Black paired w/ Green	VCC	+UB
Green paired w/ Black	COM	COM
Black paired w/ Blue	A	K1
Blue paired w/ Black	\bar{A}	$\bar{K}1$
Black paired w/ Red	B	K2
Red paired w/ Black	\bar{B}	$\bar{K}2$
Black paired w/ White	Z	K0
White paired w/ Black	\bar{Z}	$\bar{K}0$

MECHANICAL

Shaft Material: Stainless Steel

Shaft Diameter: 11mm with 4mm key

Shaft Speed: 6000 RPM, Maximum

Starting torque: 12.0 in-oz. maximum (at 25°C)

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

Bearings: Deep groove, Dual arrangement

Housing and cover: Hard Anodized Aluminum

Disc material: Mylar (unbreakable)

Weight: 4lb

ENVIRONMENTAL

Standard Operating Temperature: -40 to $+85^\circ\text{C}$.
At shaft speed above 3000 RPM, derate 10°C per 1000 RPM

Extended Temperature Range: -40 to $+100^\circ\text{C}$
(See ordering information)

Storage temperature: -40 to $+100^\circ\text{C}$

Shock: 400g, 6mSec

Vibration: 5 to 3000 Hz, 20g

Humidity: 98%, non-condensing

Enclosure Rating: IP67; Custom Seal Option
available for environments with pressurized carbon dust

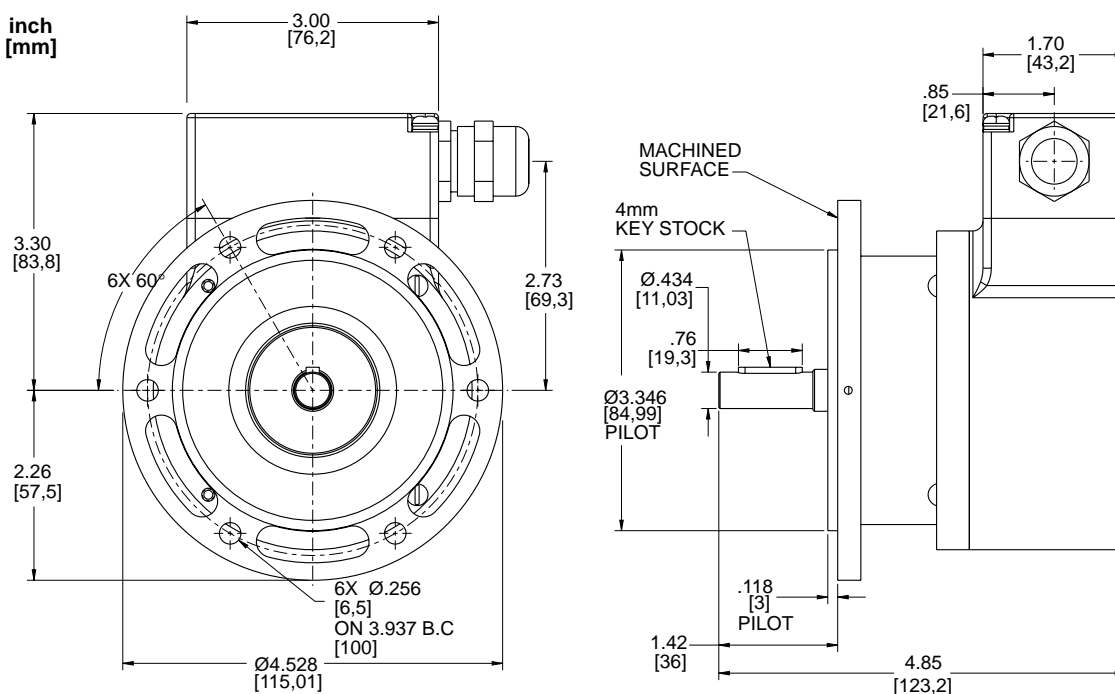
Ordering Information

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

Code 1: Model		Code 2: PPR		Code 3: Mounting		Code 4: Output Format		Code 5: Termination		Code 6: Housing		Code 7: Options	
HD35R		□□□□		□		□		□		□		□□	
Ordering Information													
HD35R Heavy Duty IEC Flange Encoder	0001	0500	0 100mm IEC "Euro" flange, 11mm shaft w/ 4mm key	0 Single Ended ABZ, 5-26VDC push-pull 1 Single Ended ABZ, 5-26VDC O/C 2 Single Ended ABZ, 5-26VDC O/C w2.2kOhm H Same as "0" with Extended temp range J Same as "1" with Extended temp range K Same as "2" with Extended temp range 4 Differential AB only, 5-26VDC, 5-26VDC out *(7272) 5 Differential AB only, 5-26VDC in, 5VDC out *(7272) A Differential AB only, 5-15VDC in, 5VDC out *(4469) C Differential AB only, 5-15VDC in, 5-15VDC out *(4469) L Same as "4" with Extended temp range M Same as "5" with Extended temp range 6 Differential ABZ, 5-26VDC in, 5VDC out *(7272) 7 Differential ABZ, 5-26VDC in, 5-26VDC out *(7272) 8 Differential ABZ, 5-15VDC in, 5VDC out *(4469) 9 Differential ABZ, 5-15VDC in, 5-15VDC out *(4469) N Same as "6" with Extended temp range P Same as "7" with Extended temp range W ABZ, 10-24VDC Line Driver for cable runs up to 500ft/120m * Line Driver Type	0 Terminal Box, M20 gland	0 Anodized Aluminum	Blank None 01 Wind Generator Application with Custom Sealing						
	0003	0512											
	0010	0600											
	0012	0900											
	0015	1000											
	0032	1024											
	0050	1200											
	0060	1500											
	0100	2000											
	0120	2048											
	0200	2400											
	0240	2500											
	0250	3072											
	0300	4000											
	0360	4096											
	5000												

Accessories: 114917-001, Isolated coupling, 11mm

DIMENSIONS inch [mm]



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



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