

SERIES HD35R

NorthStar™ brand

Heavy Duty Encoder

Key Features

- 100mm IEC EURO Flange
- Rugged Design with Wide-Spaced Oversized Bearings
- Resolution up to 20,000 PPR
- Optional Custom Sealing for Pressurized Carbon Dust Environments
- Built for Long Life and Reliability

HD
Heavy Duty



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Optical
Resolution: 1 to 20,000 PPR (pulses/revolution)
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: 90° ± 30° electrical
Symmetry: 180° ± 25° electrical
Index: 180° default gated to B low
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.
Outputs:
 7272 Push-Pull: 40mA, sink or source
 7272 Differential Line Driver: 40 mA, sink or source
 7273 Open collector: 40 mA sink max
 4469 Differential line driver: 100 mA sink or source
 2707 Differential Line Driver: 60mA, sink or source
Frequency Response: 200 kHz (data and index)
Noise Immunity: Tested to EN613261
Electrical Immunity: Reverse polarity (All models); Short circuit protection (7272, 7273, and 2707 line drivers only)
Termination: Pluggable screw terminals inside terminal box with M20 cable gland exit

MECHANICAL

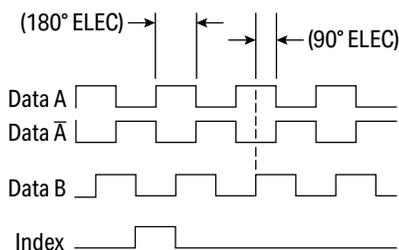
Shaft Diameter: 11mm with 4mm key
Mounting Configuration: 100mm IEC "Euro" Flange with 6 Hole Face
Shaft Speed: 6000 RPM, Maximum
Starting Torque: 12.0 in-oz. maximum (at 25°C)
Running Torque: 5.0 in-oz. maximum (at ambient)
Bearings: Deep groove, Dual arrangement
Housing and Cover: Hard Anodized Aluminum
Shaft Material: Stainless Steel
Disc Material: Aluminum
Weight: 4lb

ENVIRONMENTAL

Standard Operating Temperature: -40 to +85°C. At shaft speed above 3000 RPM, derate 10°C per 1000 RPM
Extended Temperature Range: -40 to +100°C (See ordering information)
Storage Temperature: -40 to +100°C
Shock: 400g, 6ms
Vibration: 5 to 3000 Hz, 20g
Humidity: Up to 98% (non-condensing)
Enclosure Rating: IP67; Custom Seal Option available for environments with pressurized carbon dust

STANDARD DATA AND INDEX

Not all complements shown
 A̅ shown for reference



Index Width: 180° Default
 A leads B, CW (from shaft end)

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ORDERING INFORMATION

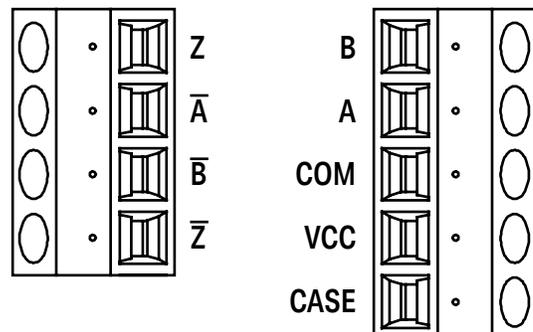
To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: PPR	Code 3: Mounting	Code 4: Output Format	Code 5: Termination	Code 6: Housing	Code 7: Options
HD35R	<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"/>
HD35R Heavy Duty IEC Flange Encoder	Enter Custom PPR from 1 to 20,000 Examples: 0001 = 1 PPR 0256 = 256 PPR 1000 = 1000 PPR 9999 = 9999 PPR A000 = 10,000 PPR B000 = 11,000 PPR C999 = 12,999 PPR : : G000 = 16,000 PPR G384 = 16,384 PPR H000 = 17,000 PPR J000 = 18,000 PPR K000 = 19,000 PPR L000 = 20,000 PPR Note: Letter "I" is skipped and not use	0 100mm IEC "Euro" flange, 11mm shaft with 4mm key	0 Single Ended ABZ, 5-26VDC push-pull (7272) 1 Single Ended ABZ, 5-26VDC O/C (7273) 2 Single Ended ABZ, 5-26VDC O/C w2.2kOhm (7273) 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 in, 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 Differential ABZ, 10-24VDC in, 10-24VDC out (2707)	0 Terminal Box, M20 gland	0 Anodized Aluminum	Blank None 01 Wind Generator Application with Custom Sealing

WIRE COLORS

Wire	Primary Function	Alternate Function
Black paired with Green	VCC	+UB
Green paired with Black	COM	COM
Black paired with Blue	A	K1
Blue paired with Black	\bar{A}	$\bar{K1}$
Black paired with Red	B	K2
Red paired with Black	\bar{B}	$\bar{K2}$
Black paired with White	Z	K0
White paired with Black	\bar{Z}	$\bar{K0}$

TERMINAL CONNECTIONS



COMPATIBLE ACCESSORIES

- 114917-0001** Isolated Coupling, 11 mm Bore, 50 mm Length
- 114917-0002** Isolated Coupling, 11 mm Bore, 68 mm Length

