

SERIES HDP30

NorthStar™ brand

Shaft-Less Encoder

Key Features

- No Shaft, Bearings, or Seals to Wear Out
- Eliminates Shaft Coupling Issues
- Completely Sealed & Encapsulated Electronics
- Wide Sensing Envelope is Tolerant to Misalignment
- Incredibly Small Package
- Standard Proximity Sensor Form Factor
- LED Indicators make Installation and Troubleshooting a Breeze
- CAN SAE J1939 Communication Protocol



SPECIFICATIONS

MECHANICAL

Enclosure Diameter: 30mm
Enclosure Height: 31mm, 50mm with M12 connector
Mounting: 30mm thread (standard prox thread)
Weight: 1.0 oz without mounting nuts, 2.2 oz with typical mounting nuts
Speed: 3000 RPM max

ELECTRICAL

Input Power: 6vdc min to 30vdc max at 60mA max, not including output loads
Outputs: 7272 Push-Pull : 40mA sink or source
Electrical Protection: Overvoltage, Reverse Voltage, Output Short Circuit Protected
LED Indicators: Power and Output Channels

ENVIRONMENTAL

Operating Temperature: -30 to +80 °C (-22 to 176 °F)
Storage Temperature: -40 to +90 °C
Enclosure Rating: Connector dependent
 – M12 on pigtail – IP68
 – Cable with flying leads – IP68

CONNECTIONS, Quadrature Output

Pin Designation	5-Pin M12	5 Conductor Cable	8-Pin M12	8 Conductor Cable
	Pin	Wire Color	Pin	Wire Color
+Vdc	1	BRN	2	BRN
Common	3	BLU	7	BLU
Data A	4	BLK	1	WHT
Data B	2	WHT	4	GRN
Data Z	5	GRY	6	GRY
Data A'			3	YLW
Data B'			5	RED
Data Z'			8	PNK

Proportional Analog Output

Pin Designation	Pin	Wire Color
+Vdc (VIN)	1	BRN
Dig. Limit Out *	2	WHT
Common/Ground	3	BLU
Prop. VDC Output	4	BLK
Not Used	5	GRY

J1939 Encoder

Pin Designation	Pin	Wire Color
+Vdc (VIN)	1	BRN
CAN High	2	WHT
Common/Ground	3	BLU
CAN Low	4	BLK
Optional Address Program Resistor	5	GRY

*Option, Consult Factory

Ordering Information

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

Code 1: Model	Code 2: PPR	Code 3: Format	Code 4: Connection	Code 5: Target Magnet
HDP30T	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ordering Information

HDP30T	0008 0100 0010 0125 0016 0128 0020 0200 0025 0250 0032 0256 0040 0400 0050 0500 0064 0512 0080	0 Single Ended A,B,Z Push-pull (7272) (Code 4 must = 0,1,2 or 3) 1 Differential line Driver A,B,Z (7272) (Code 4 must = 4, 5, or 6)	0 5 pin M12 1 5 pin M12 on Pigtail 2 5 Conductor Cable 3 5 pin Terminal Strip 4 8 pin M12 5 8 pin M12 on Pigtail 6 8 Conductor Cable	0 No Magnet, Customer Supplied 3 Dual Magnet Nylon Collar, 1/2" Bore 4 Dual Magnet Nylon Collar, 3/4" Bore 5 Dual Magnet Nylon Collar, 1" Bore 6 Dual Magnet Nylon Collar, 1-1/2" Bore 8 Dual Magnet Nylon Collar, 5/8" Bore R Ring Magnet w/Knurled Alumnum Bolt, 1/4-20
	Code 3 Must be J or P ABS0 Other resolutions available. Contact factory for details.	V1 5VDC Input Voltage, .5 - 4.5 Output 0-360 CW, Standard Output Voltage V2 6-24 VDC Input Voltage, .5 to 4.5 Output 0-360 CW, Standard Output Voltage I1 12-24VDC Input 4-20mA 0-360 CW, Standard Output Code 2 must = ABS0 and Code 4 must = 0 or 2 J CANbus J1939 Protocol (code 2 must = ABS0 and code 4 must = 0) P PWM 10-Bit Absolute Output w/ Single Ended A, B, Z Push-Pull (7272) Note: For V1, V2 and I1 Consult Factory for Special Sealing		

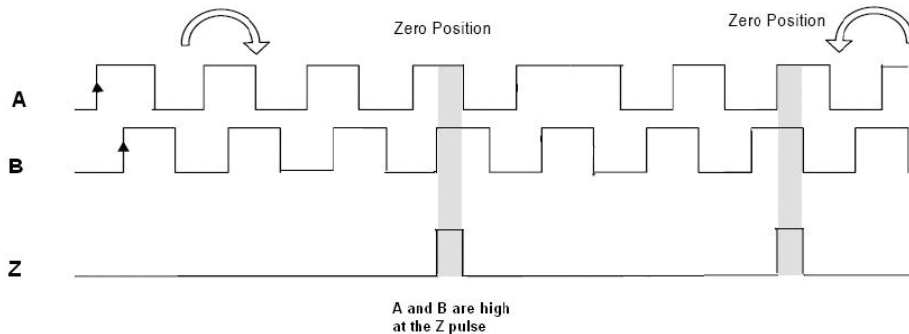
SERIES HDP30



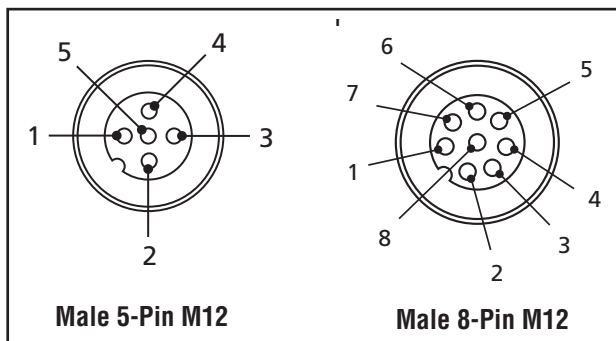
HDP30 OUTPUT FORMAT

30MM: QUADRATURE INCREMENTAL OUTPUT

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CONNECTOR DETAIL



HDP30 TARGET MAGNETS

- Neodymium
- Distance from user magnet to face of encoder: 0.01 to 0.5 inches
- Center alignment: 0 to 0.10 inches
- Planar tilt: 30 degrees



Dual magnet, Nylon collar



1/4 Bolt Magnet with Knurl



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