

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, A, B, Z

ENVIRONMENTAL

- Operating Temperature:** -25 to +80 degrees C (-13 to 176 degrees F)
Storage Temperature: -40 to +90 degrees 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

*Option, Consult Factory

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

Ordering Information

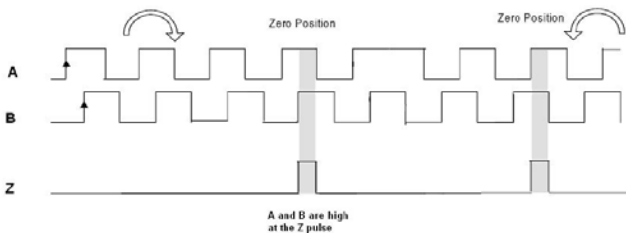
To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: Resolution	Code 3: Output	Code 4: Connections	Code 5: Target Magnet
HDP30T	□□□□	□	□	□
Ordering Information				
HDP30T	0008 0050 0250 0010 0064 0256 0016 0080 0400 0020 0100 0500 0025 0125 0512 0032 0128 0040 0200	0 Single Ended A,B,Z Push-pull (7272) (Code 4 must = 0,1, or 2) 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 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 aluminum bolt, 1/4-20
	Code 3 Must be J or P ABS0 Other resolutions available. Contact factory for details.	Code 2 Must be ABS0 and Code 4 must be 0 to 2 J CAN SAE J1939 P PWM 10-bit absolute output w/Single Ended A,B,Z Push-Pull (7272)		

HDP30 OUTPUT FORMAT

30MM: QUADRATURE INCREMENTAL OUTPUT

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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

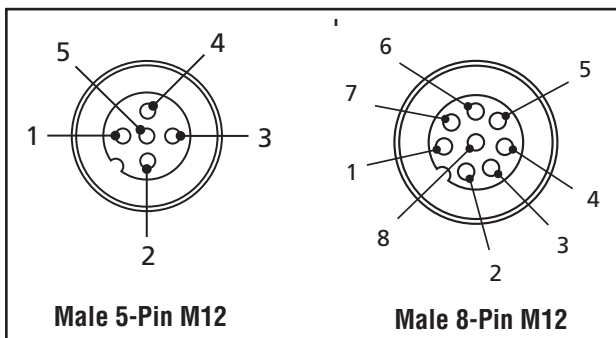


Dual magnet, Nylon collar



1/4 Bolt Magnet with Knurl

CONNECTOR DETAIL



Male 5-Pin M12

Male 8-Pin M12



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