

SERIES HDP18

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
- Incremental or Absolute Output
- Incredibly Small Package
- LED Indicators Make Installation and Troubleshooting a Breeze



SPECIFICATIONS

MECHANICAL

Enclosure Diameter: 18mm

Enclosure Height: 50.9mm

Mounting: 18mm thread (standard prox thread)

Weight: 3.0 oz with mounting nuts and 6" flying lead cable

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

PWM Output: 10 bit Pulse Width Modulation output signal proportional to absolute position. 0 degrees =1 usec of 1025 usec period, 359.65 degrees = 1024 usec of 1025 usec period.

LED Indicators: Power and Output Channels

ENVIRONMENTAL

Operating Temperature: -30 to +80 °C (-22 to 176 °F)

Storage Temperature: -40 to +90 °C

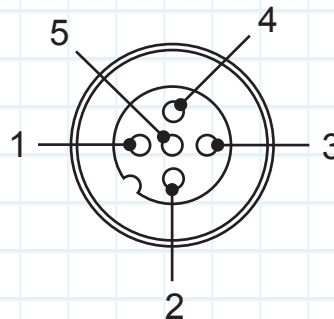
Enclosure Rating: Connector dependent

– M12 on pigtail – IP68

– Cable with flying leads – IP68

CONNECTIONS

Function	5 Pin M12 On Cable	5 Conductor Cable	5 Conductor Cable
	Pin	Wire Color	Wire Color
+Vdc	1	BRN	BRN
Common	3	BLU	BLU
Data A	4	BLK	BLK
Data B	2	WHT	WHT
Data Z	5	GRY	GRY
PWM Absolute Posirion			PNK



Male 5-pin M12

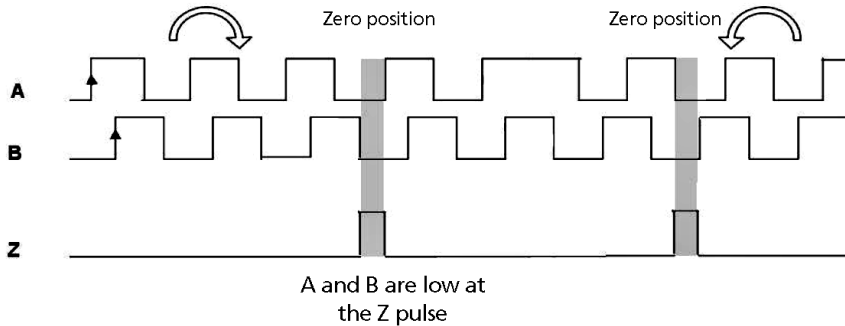
Ordering Information

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
HDP18T	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ordering Information				
HDP18T	0064	<p>0 Single Ended A,B,Z Push-pull (7272) (Code 4 must = 0,1,2 or 3)</p> <p>V1 5VDC Input Voltage, .5 - 4.5 Output 0-360 CW, Standard Output Voltage</p> <p>V2 6-24 VDC Input Voltage, .5 to 4.5 Output 0-360 CW, Standard Output Voltage</p> <p>I1 12-24VDC Input 4-20mA 0-360 CW, Standard Output</p> <p>P PWM 10-Bit Absolute Output w/ Single Ended A, B, Z Push-Pull (7272)</p> <p>Note: For V1, V2 and I1 Consult Factory for Special Sealing</p>	<p>1 5 pin M12 on Pigtail</p> <p>2 5 Conductor Cable</p> <p>7 6 Conductor Cable</p>	<p>0 No Magnet, Customer Supplied</p> <p>1 Dual Magnet w/ Nylon Bolt, 1/4-20</p> <p>2 Dual Magnet w/ Aluminum Bolt 1/4-20</p> <p>3 Dual Magnet Nylon Collar, 1/2" Bore</p> <p>4 Dual Magnet Nylon Collar, 3/4" Bore</p> <p>5 Dual Magnet Nylon Collar, 1" Bore</p> <p>6 Dual Magnet Nylon Collar, 1-1/2" Bore</p> <p>R Ring Magnet w/Knurled Alumnum Bolt, 1/4-20</p>

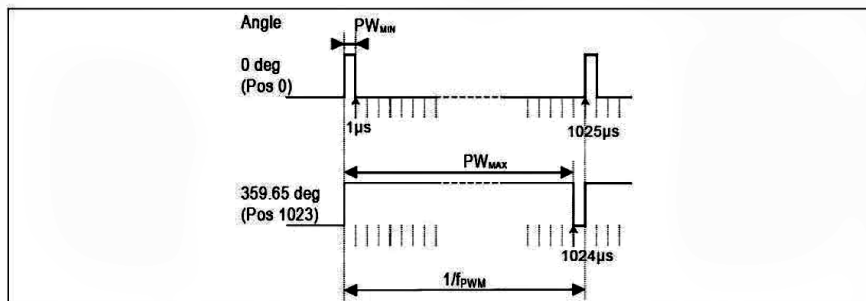
HDP18 OUTPUT FORMAT

18MM: QUADRATURE INCREMENTAL OUTPUT

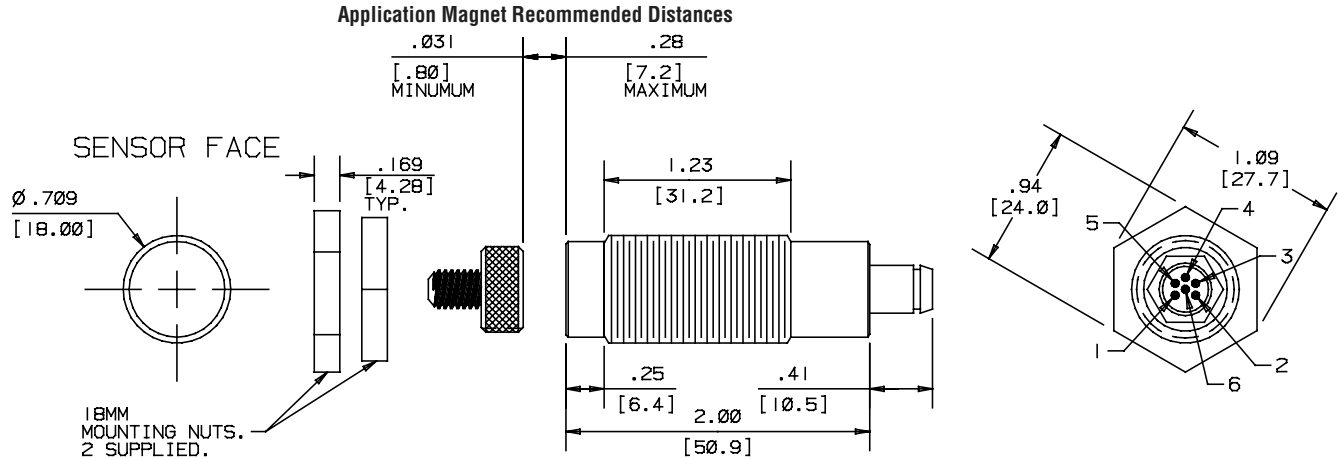


PULSE WIDTH MODULATION (PWM) OUTPUT

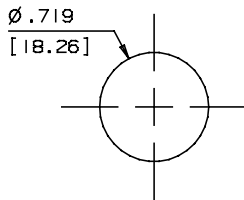
$$Position = \frac{t_{on} \cdot 1025}{(t_{on} + t_{off})} - 1$$



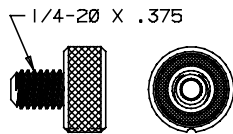
DIMENSIONS inch
 [mm]



RECOMENDED MOUNTING HOLE



APPLICATION MAGNET
MAG-RING-ASY.



HDP18 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

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

 **DYNAPAR™**
INNOVATION - CUSTOMIZATION - DELIVERY
WWW.DYNAPAR.COM

Headquarters: 1675 Delany Road • Gurnee, IL 60031-1282 • USA

Customer Service:
Tel.: +1.800.873.8731
Fax: +1.847.662.4150
custserv@dynapar.com

Technical Support
Tel.: +1.800.234.8731
Fax: +1.847.662.4150
northstar.techsupport@dynapar.com

European Sales Representative
Hengstler GmbH
Umlandstrasse 49, 78554 Aldingen
Germany
www.hengstler.com