SERIES HDP18

NorthStar™ brand

Shaft-Less Encoder

Key Features

- **Incremental, Analog & Absolute Outputs Available**
- **Non-Contact Magnetic Sensing**
- **LED Indicators for Easy Installation and Troubleshooting**
- **Sealed & Encapsulated Electronics**
- **Wide Sensing Envelope Tolerant to Misalignment**

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Resolution (Incremental): 64 or 256 quadrature pulses per revolution
Resolution (J1939 CAN): 13 Bits @ 256 positions per rotation
Resolution (Analog): See Config Table

ELECTRICAL

Input Power: Quadrature Output Type:
6-32VDC, 60mA max not including output load
Analog Voltage & Current Output Type:
5VDC/6-32VDC or 12-32VDC
J1939 CAN Output Type:
6-32VDC

Outputs: 7272 Single Ended Line Driver: 40mA sink or source
Analog Voltage: 0.5-4.5VDC
Analog Current: 4-20mA
J1939 CAN (250KB/s Baud): Optional
Addressing via varying value resistor connection
Electrical Protection: Over-voltage, Reverse Polarity, Output Short Circuit Protected
Connections: M12, M12 on Pigtail, Flying Lead Cable
LED Indicators: Power and Output Channels

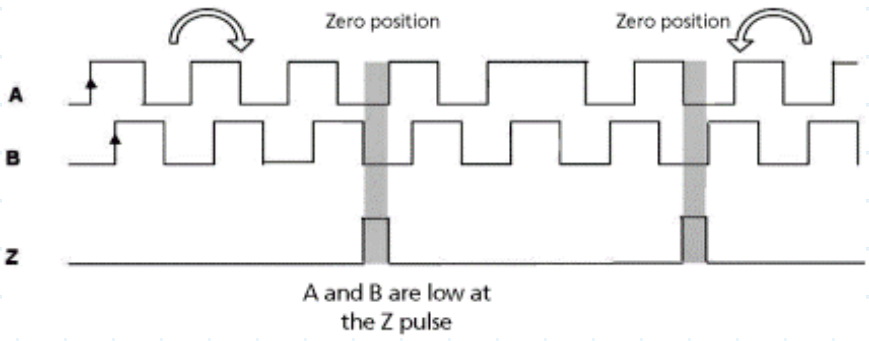
MECHANICAL

Housing Diameter: 18mm (0.71")
Housing Height (not including connection): 50.8mm (2.00")
Housing Material: Anodized Black Aluminum
Weight: 0.81 oz w/o Mounting Nuts
(2.2 oz w/ Recommended Nuts)
Target Magnet Type: Neodymium
Sensor-Target Magnet Ratings:
Air Gap (w/1/4-20 Magnet): Up to 0.50"
Center Alignment (w/ 1/4-20 Magnet): 0.1" max.
Rated Planar Tilt: 30 degrees
Maximum Speed: 3000 RPM

ENVIRONMENTAL

Operating Temperature: -30°C to +80°C
Storage temperature: -40°C to +90°C
Shock: 400g, 4000 m/s² (6ms)
Vibration: 20g, 200 m/s² (5 to 3000Hz)
Potting Compound: Non-Porous. Water & Chemical Resistant. ROHS Compliant
Humidity: 100%
Enclosure Rating:
M12 - IP67
M8 - IP67
Flying Leads/Pigtail - IP69K
RoHS Compliant: YES

HDP18 Quadrature Output Format



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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: Format	Code 4: Connection	Code 5: Target Magnet
HDP18T	□□□□	□	□	□
Ordering Information				
HDP18T	**Incremental Output: Code 3 must be 0** **0064** **0256** **Absolute Output: Code 3 must be J, V1, V2, or I1** **ABSO**	**Code 4 Must be 1, 2, or 3** **0** Single Ended A, B, Z Push-Pull (7272) 6-32VDC in, 6-32VDC Out **J** CANbus J1939 Protocol, 6-32VDC input at 256 Counts per rotation, Single Turn **Code 4 Must be 1 or 2** **V1** 5VDC Input Voltage, 0.5 to 4.5V Output 0-360 CW **V2** 6-32VDC Input Voltage, 0.5 to 4.5V Output 0-360 CW **I1** 12-32VDC Input Voltage, 4-20mA Output 0-360 CW	**1** 5 Pin M12 on 18" Pigtail, Axial **2** 5 Conductor 72" cable, Axial **3** 6 Pin M8, Axial	**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

TARGET MAGNET ACCESSORIES

Part Number	Description
MAGH-RING	1/4-20 Knurled Magnet Bolt
MAGCOLLAR1/2	Dual Magnet Nylon Collar 1/2" Bore
MAGCOLLAR3/4	Dual Magnet Nylon Collar 3/4" Bore
MAGCOLLAR5/8	Dual Magnet Nylon Collar 5/8" Bore
MAGCOLLAR1	Dual Magnet Nylon Collar 1" Bore
MAGCOLLAR11/2	Dual Magnet Nylon Collar 1-1/2" Bore

SERIES HDP18

DYNAPAR™

ELECTRICAL CONNECTIONS

Quadrature Signal Format

Function	5 Pin M12 on Cable	6 Pin M8 Connector	5 Conductor Cable
	Pin	Pin	Wire Color
+VDC	1	1	BRN
Common	3	3	BLU
Data A	4	4	BLK
Data B	2	2	WHT
Data Z	5	5	GRY

Analog Signal Format

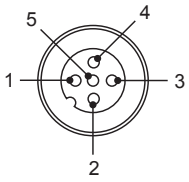
Function	5 Pin M12 on Cable	5 Conductor Cable
	Pin	Wire Color
+VDC (Vin)	1	BRN
Common/Ground	3	BLU
Voltage (0-5VDC)	2	WHT
Current (4-20mA)	4	BLK
Common/Ground	5	GRY

CAN J1939 Signal Format

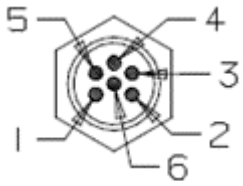
Function	5 Pin M12 on Cable	6 Pin M8 Connector	5 Conductor Cable
	Pin	Pin	Wire Color
+VDC (Vin)	1	1	BRN
Common/Ground	3	3, 6*	BLU, PNK*
CAN HIGH	2	2	WHT
CAN LOW	4	4	BLK
ADDRESS SET	5	5	GRY

*Pin or Wire Not Used or Connected.

CONNECTORS



Male 5-pin M12 (Code A)



Male 6-Pin M8 (Code A)

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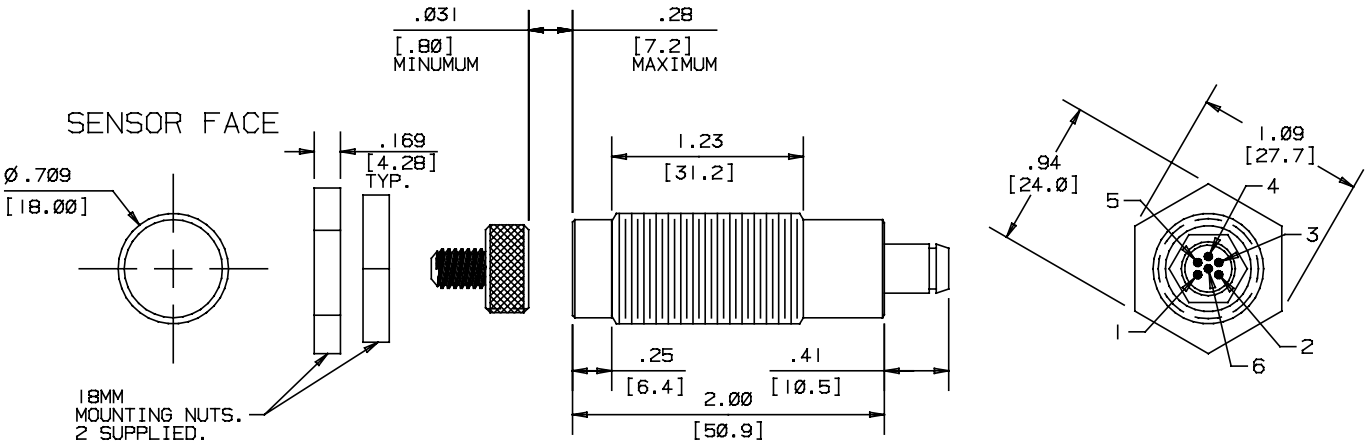
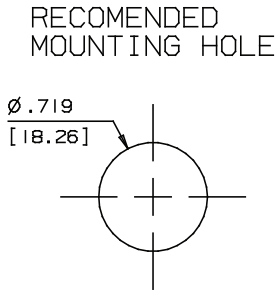
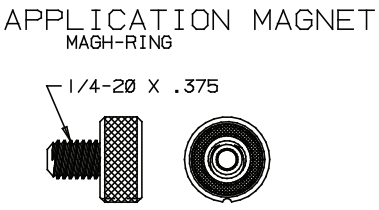
DIMENSIONS inch [mm]

Application Recommendations







HDP18 TARGET MAGNETS

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

(Magnet Options 3,4,5,6,8)

(Magnet Option R)

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 Representitive
Hengstler GmbH
Uhlandstrasse 49, 78554 Aldingen
Germany
www.hengstler.com

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