



# NorthStar™



## SERIES HDN58 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

## SPECIFICATIONS

### MECHANICAL

- Enclosure: 58mm diameter delron
- Weight: 2oz
- Maximum RPM: 3000 PRM

### ELECTRICAL

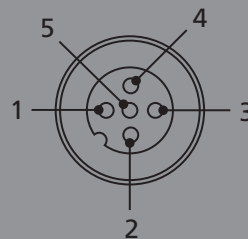
- **Supply Voltage:** 6 to 30 VDC, 60mA
- **Output Format:** Incremental quadrature (Ch A and Ch B, with optional Index)
- **Output Resolution:** 8 to 2048 quadrature pulses per revolution (13 bit)
- **Output Driver:** Push/Pull (OLP7272)
- **Protection:** reverse polarity, spike, noise, open circuit, short circuit
- **Electrical Connections:** 5-pin terminal strip, 5-pin M12, 8-pin M12, cable (see Connections)
- **LED Indicators:** Power, Channel and Index

### ENVIRONMENTAL

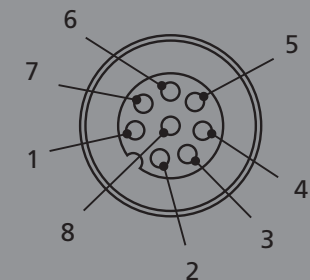
- **Temperature:** -25 to +70 degrees C
- **Humidity:** 100% relative humidity
- **Potting Compound:** Non-porous, water and chemical resistant, RoHS compliant
- **Shock & Vibration:** Meets MIL-STD-202  
Shock—half sine, 50g, 11ms Thermal  
Shock—-40 to + 125 one hour dwell  
Vibration—10 to 500 hz at 10g
- **Enclosure Rating:** IP65, 67 or 68 (depending on connection style)

## CONNECTIONS

| Pin Designation | 5-pin Terminal Strip | 5-pin M12 | 5 conductor cable | 8-pin M12 | 8 conductor cable |
|-----------------|----------------------|-----------|-------------------|-----------|-------------------|
|                 | Pin                  | Pin       | Wire Color        | Pin       | Wire Color        |
| +Vdc            | 1                    | 1         | BRN               | 2         | BRN               |
| Common          | 2                    | 3         | BLU               | 7         | BLU               |
| Data A          | 3                    | 4         | BLK               | 1         | WHT               |
| Data B          | 4                    | 2         | WHT               | 4         | GRN               |
| Data Z          | 5                    | 5         | GRY               | 6         | GRY               |
| Data A'         |                      |           |                   | 3         | YLV               |
| Data B'         |                      |           |                   | 5         | RED               |
| Data Z'         |                      |           |                   | 8         | PNK               |



Male 5-pin M12



Male 8-pin M12

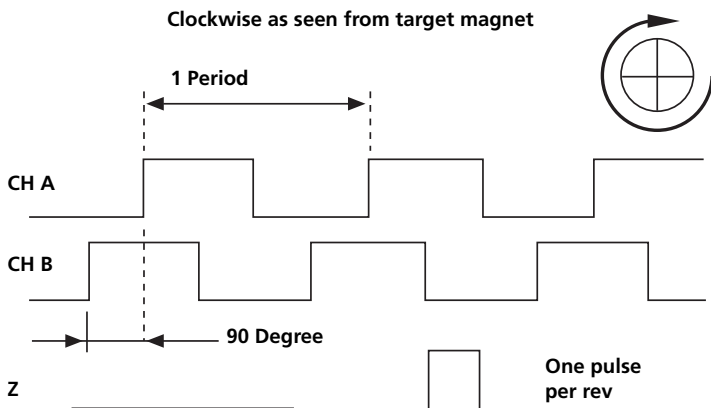


# NorthStar™

## HDN58 ORDERING INFORMATION

| Code 1: Model | Code 2: Resolution   | Code 3: Output   | Code 4: Connection  | Code 5: Target Magnet  |
|---------------|--|--|---|--|
| <b>HDN58</b>  | 0008 0050 0250   | <b>0</b> Single Ended A,B,Z Push-pull (7272) (Code 4 must = 0, 1, 2, or 3) | <b>0</b> 5 pin M12<br><b>1</b> 5 pin M12 on pigtail<br><b>2</b> 5 conductor cable<br><b>3</b> 5 pin terminal strip<br><b>4</b> 8 pin M12<br><b>5</b> 8 pin M12 on pigtail<br><b>6</b> 8 conductor cable | <b>0</b> No magnet, customer supplied<br><b>1</b> Dual magnet w/Nylon bolt, 1/4-20<br><b>2</b> Dual magnet w/Aluminum bolt, 1/4-20<br><b>3</b> Dual magnet nylon collar, 1/2" bore<br><b>4</b> Dual magnet nylon collar, 3/4" bore<br><b>5</b> Dual magnet nylon collar, 1" bore<br><b>6</b> Dual magnet nylon collar, 1-1/2" bore |
|               | 0010 0064 0256   |  |   |  |
|               | 0016 0080 0400   |  |   |  |
|               | 0020 0100 0500   |  |   |  |
|               | 0025 0125 0512   |  |   |  |
|               | 0032 0128 1024   |  |   |  |
|               | 0040 0200 2048   |  |   |  |
|               | <b>1</b> Differential line Driver A,B,Z (7272) (Code 4 must =4,5, or 6)  |  |   |  |
|               | <b>2</b> 13 bit-Absolute 0-5VDC (code 2 must = 2048 and code 4 must = 3) |  |   |  |
|               | <b>J</b> CANbus J1939 Protocol (code 4 must = 0)                         |  |   |  |

## HDN58 OUTPUT FORMAT



## HDN58 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



Aluminum bolt, 1/4-20

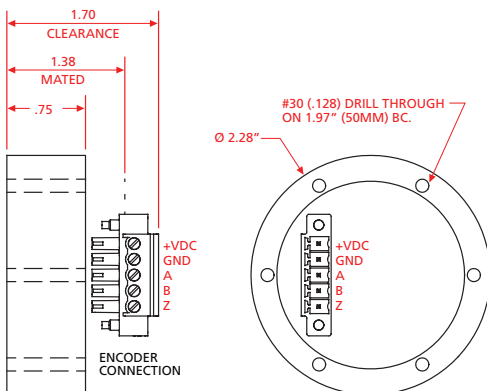


Nylon bolt, 1/4-20



Dual magnet, Nylon collar

## HDN58 DIMENSIONS



For additional information, contact your Dynapar representative at 1.800.873.8731 or visit our web site at: [www.dynapar.com](http://www.dynapar.com)

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