

# 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:** 47mm

**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, A, B, Z

### ENVIRONMENTAL

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

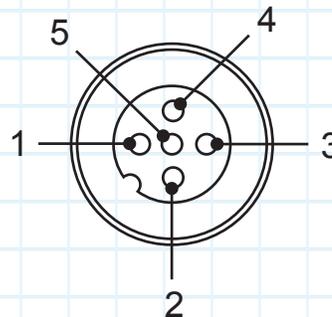
**Storage Temperature:** -40 to +90 degrees C

**Enclosure Rating:** Connector dependent

- M12 on pigtail – IP68
- Cable with flying leads – IP68

## CONNECTIONS

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



Male 5-pin M12

**Ordering Information**

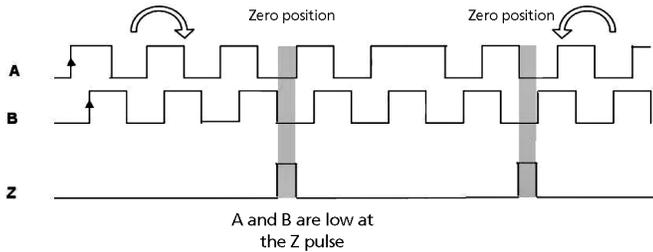
To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: Resolution	Code 3: Output	Code 4: Connections	Code 5: Target Magnet
<b>HDP18T</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ordering Information				
<b>HDP18T</b>	<b>0256</b>	<b>0</b> Single Ended A,B,Z Push-pull (7272)  Code 4 must = 7 <b>P</b> PWM 10-bit absolute output w/ Single ended A,B,Z Push-pull (7272)	<b>1</b> 5 pin M12 on pigtail <b>2</b> 5 conductor cable <b>7</b> 6 conductor cable	<b>0</b> No magnet, customer supplied <b>3</b> Dual magnet nylon collar, 1/2" bore <b>4</b> Dual magnet nylon collar, 3/4" bore <b>5</b> Dual magnet nylon collar, 1" bore <b>6</b> Dual magnet nylon collar, 1-1/2" bore <b>8</b> Dual magnet nylon collar, 5/8" bore <b>R</b> Ring magnet w/knurled alumnum bolt, 1/4-20

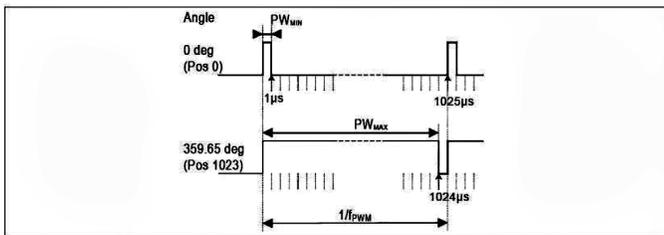
**HDP18 OUTPUT FORMAT**

18MM: QUADRATURE INCREMENTAL OUTPUT



PULSE WIDTH MODULATION (PWM) OUTPUT

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



**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



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