

# SERIES E14H

**Dynapar™ brand**

## Miniature Encoder

### Key Features

- Hubshaft with flex tether for simplified installation
- Up to 2540 PPR with optional index
- Rugged metal housing



## SPECIFICATIONS

### STANDARD OPERATING CHARACTERISTICS

**Code:** Incremental, Optical  
**Resolution:** 100 to 2540 PPR (pulses/revolution)  
**Format:** Two channel quadrature (AB) with optional Index (Z) outputs  
**Phase Sense:** A leads B for CW shaft rotation as viewed from the shaft end of the encoder  
**Accuracy:**  $\pm 3 \times (360^\circ \div \text{PPR})$  or  $\pm 2.5$  arc-min worst case pulse to any other pulse, whichever is less  
**Quadrature Phasing:**  $90^\circ \pm 36^\circ$  electrical  
**Symmetry:**  $180^\circ \pm 18^\circ$  electrical  
**Index:**  $90^\circ \pm 25^\circ$  (gated with A and B high)  
**Waveforms:** Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

### ELECTRICAL

**Input Power:**  
 5 VDC  $\pm 5\%$  at 80 mA max.;  
 12 or 15 VDC  $\pm 10\%$  at 80 mA max.; not including output loads  
**Outputs:**  
 7272 Push-Pull: 40mA, sink or source  
 7272 Differential Line Driver: 40 mA, sink or source  
**Frequency Response:** 100 kHz min.  
**Termination:** Cable

### MECHANICAL

**Bore Diameter:** 1/4" - 5/8", 6mm - 12mm  
**Hub Dia. Tolerance:** nominal -0/+0.0005" (0.013mm)  
**Shaft Speed:** 5,000 RPM max.  
**Mating Shaft Length:** 0.25" (6 mm) min.; 0.50" (12 mm) max.  
**Mating Shaft Runout:** 0.008" (0.2 mm) max. TIR  
**Mating Shaft Endplay:**  $\pm 0.010"$  (0.25 mm) max.  
**Starting Torque:** 0.9 oz-in max.at 25 °C  
**Running Torque:** 0.8 oz-in max.at 25 °C  
**Moment of Inertia:**  
 6 to 10 mm hub:  $6.03 \times 10^{-5}$  oz-in-sec<sup>2</sup>  
 12 mm to 5/8" hub:  $2.4 \times 10^{-4}$  oz-in-sec<sup>2</sup>  
**Housing and Cover:** Aluminum  
**Disc Material:** Glass  
**Weight:**  
 6 to 10 mm hub: 3.5 oz. max.  
 12 mm to 5/8" hub: 4.5 oz. max.

### ENVIRONMENTAL

**Operating Temperature:** 0 to +70 °C  
**Storage Temperature:** -25 to +70 °C  
**Humidity:** Up to 98% (non-condensing)  
**Enclosure Rating:** NEMA12/IP54 (dirt tight, splashproof)

### Electrical Connections

Wire Color Code	Function		
	Single-Ended Outputs	Differential Outputs	
		Unidirectional	Bidirectional
Red	Power Source	Power Source	Power Source
Black	Common	Common	Common
White	Signal A	Signal A	Signal A
Green	Signal B (if used)	Signal A	Signal B
Orange	Signal Z (if used)	No Connection	Signal B
Blue	No Connection	No Connection	Signal A
Shield	Floating	Floating	Floating
White/Black	—	—	Signal Z (if used)
Red/Black	—	—	Signal Z̄ (if used)

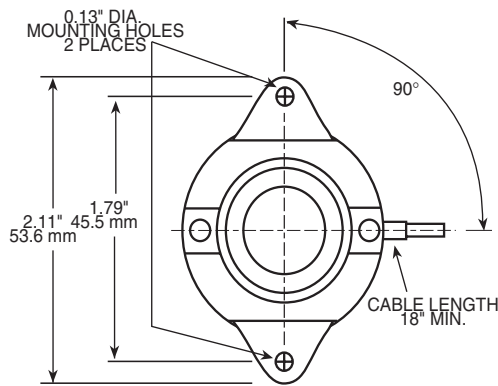
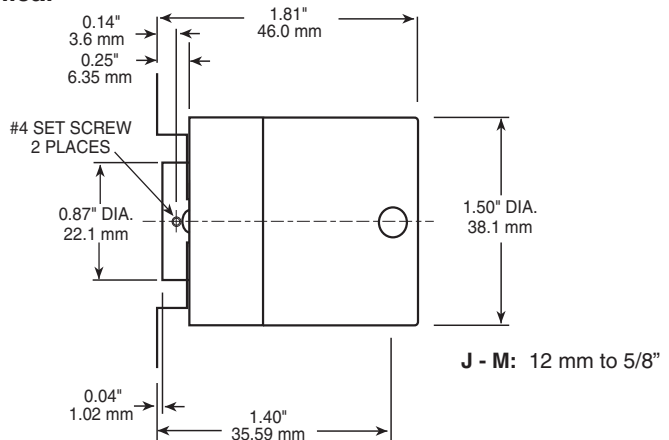
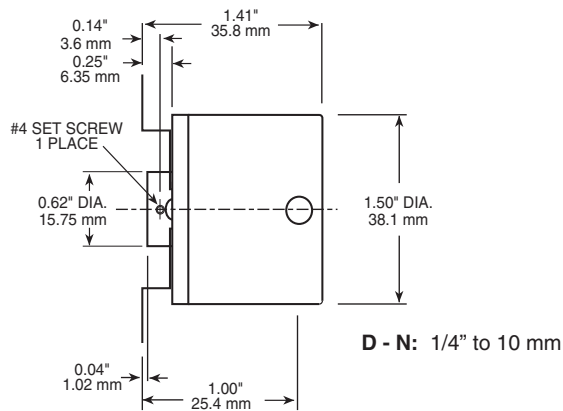
**Ordering Information**

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

Code 1: Model	Code 2: Pulses/Rev	Code 3: Mounting	Code 4: Hub Bore	Code 5: Output	Code 6: Electrical	Code 7: Termination
<b>E14</b>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>E14</b> Size 14, Hub Shaft	<b>0100 0750</b> <b>0200 0900</b> <b>0250 1000</b> <b>0256 1024</b> <b>0300 1250</b> <b>0400 1500</b> <b>0500 2000</b> <b>0600 2048</b> <b>0720 2500</b> <b>2540</b>	<b>0</b> Size E14	<b>D</b> 6 mm <b>E</b> 1/4" <b>F</b> 5/16" <b>G</b> 3/8" <b>H</b> 10 mm <b>J</b> 12 mm <b>K</b> 1/2" <b>L</b> 14 mm <b>M</b> 5/8" <b>N</b> 8 mm	<b>0</b> Single Ended, Unidirectional <b>2</b> Single Ended, Bidirectional, no Index <b>3</b> Single Ended, Bidirectional, with Index <b>4</b> Differential, Unidirectional <b>6</b> Differential, Bidirectional, no Index <b>7</b> Differential, Bidirectional, with Index	<b>0</b> 5 VDC <b>1</b> 12 VDC <b>2</b> 15 VDC	<b>0</b> 18" Cable <b>1</b> 3' Cable <b>2</b> 6' Cable <b>3</b> 10' Cable <b>4</b> 15' Cable

**Dimensions (inches/mm)**

**Code 4: Mechanical**



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**DYNAPAR™**  
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[WWW.DYNAPAR.COM](http://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](mailto:custserv@dynapar.com)

**Technical Support**

Tel.: +1.800.234.8731

Fax: +1.847.662.4150

[dynapar.techsupport@dynapar.com](mailto:dynapar.techsupport@dynapar.com)

**European Sales Representative**

Hengstler GmbH

Uhlandstrasse 49, 78554 Aldingen

Germany

[www.hengstler.com](http://www.hengstler.com)