

# SERIES HR26

# Dynapar™ brand

## Integral Coupling Encoder

### Key Features

- Unbreakable Code Disc with Rugged Dual Row Bearings
- Integral Coupling and Flange Provide Thermal and Electrical Isolation
- Field Replaceable Coupling

CE



## SPECIFICATIONS

### STANDARD OPERATING CHARACTERISTICS

**Code:** Incremental

**Resolution:** 1 to 1024 PPR (pulses/revolution)

**Accuracy:** (worst case any edge to any other edge)  $\pm 7.5$  arc-min.

**Format:** Two channel quadrature (AB) with optional Index (Z) and complementary outputs

**Phase Sense:** A leads B for CW or CCW shaft rotation as viewed from the shaft end of the encoder; see Ordering Information

**Quadrature Phasing:**  $90^\circ \pm 22.5^\circ$  electrical

**Symmetry:**  $180^\circ \pm 18^\circ$  electrical

**Index:**  $180^\circ \pm 18^\circ$  electrical (gated with B low)

**Waveforms:** Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

### ELECTRICAL

**Input Power:**

4.5 min. to 26 VDC max. at 80 mA max., not including output loads

**Outputs:**

7273 Open Collector: 30 VDC max., 40 mA sink max.

7272 Push-Pull and Differential Line Driver: 40 mA sink or source

4469 Differential Line Driver: 100 mA sink or source

**Frequency Response:** 100 kHz min.

**Electrical Protection:** Overvoltage, reverse voltage and output short circuit protected

**Noise Immunity:** Tested to EN61326 (Industrial) for Electro Static Discharge, Radio Frequency Interference, Electrical Fast Transients, Conducted and Magnetic Interference

**Mating Connector:**

7 pin, style MS3106A-16S-1S (MCN-N5)

10 pin, style MS3106A-18-1S (MCN-N6)

5 pin, style M12: Cable with connector available

8 pin, style M12: Cable with connector available

### MECHANICAL

**Shaft coupling:** accepts 1/4", 3/8" and 1/2" motor or machinery shafts

**Shafts alignment:** 0.002" max. TIR runout; 0.005" max. radial offset;  $3^\circ$  max. angular

**Shaft Speed:** 10,000 RPM max.

**Starting Torque:** (max at 25 °C) 1.0 oz-in

**Moment of Inertia:**  $4.3 \times 10^{-4}$  oz-in-sec<sup>2</sup>

### ENVIRONMENTAL

**Operating Temperature:**

Standard: 0 to +70 °C;

Extended: -40 to +85 °C

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

**Shock:** 50 G's for 11 milliseconds duration

**Vibration:** 5 to 2000 Hz at 20 G's

**Humidity:** to 98% without condensation

**Enclosure Rating:** NEMA12/IP54 (dirt tight, splashproof)



# SERIES HR26

## Ordering Information

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

Code 1: Model	Code 2: PPR	Code 3: Mechanical	Code 4: Output	Code 5: Electrical	Code 6: Termination	Code 7: Options
<b>HR526</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"/> <input type="checkbox"/>

### Ordering Information

<b>HR526</b> Size 25 with Integral Coupling and Flange Adapter	0001 0250 0005 0256 0010 0300 0012 0360 0050 0400 0060 0500 0086 0512 0100 0600 0120 0635 0125 0800 0180 0900 0200 1000 0240 1024	<b>A</b> Flange Adapter with Pilot <b>B</b> Flange Adapter without Pilot <b>C</b> Flange Adapter for NEMA Size 42 Motors	<b>7 Pin Connector or Cable</b> <b>0</b> Single Ended, no Index, Format A, Table 1 <b>1</b> Single Ended, with Index, Format A, Table 1 <b>4</b> Single Ended, with Index, Format B, Table 1 <b>A</b> Single Ended, with Index, Format C, Table 1 <b>C</b> Single Ended, no Index, Format C, Table 1 <b>G</b> Single Ended, with Index, Format D, Table 1	<b>0</b> 5-26V in; 5-26V Open Collector with 2.2kΩ Pullup out <b>1</b> 5-26V in; 5-26V Open Collector out <b>2</b> 5-26V in; 5V Totem Pole out <b>3</b> 5-26V in; 5V Differential Line Driver out (7272) <b>4</b> 5-26V in; 5-26V Differential Line Driver out (7272) <b>5</b> 5-26V in, 5 V Differential Line Driver out (4469) <b>6</b> 5-15V in, 5-15 V Differential Line Driver out (4469)	<b>0</b> End Mount Connector <b>1</b> Side Mount Connector <b>2</b> 18" Cable, Side <b>3</b> 3' Cable, Side <b>4</b> 6' Cable, Side <b>5</b> 10' Cable, Side <b>6</b> 15' Cable, Side	available when Code 4 is 0 thru G, and Code 6 is 0 or 1:  <b>PS</b> LED Output Indicator
			<b>10 Pin Connector or Cable</b> <b>2</b> Differential, no Index, Format A, Table 2 <b>3</b> Differential, with Index, Format A, Table 2 <b>5</b> Differential, with Index, Format B, Table 2 <b>B</b> Differential, with Index Format C, Table 2 <b>D</b> Differential, no Index, Format C, Table 2			
			<b>5 Pin M12 Connector</b> <b>H</b> Single ended, no index, Format A, Table 4 <b>J</b> Single ended, with index, Format A, Table 4 <b>K</b> Single ended, with index, Format B, Table 4 <b>L</b> Single ended, with index, Format C, Table 4 <b>M</b> Single ended, no index, Format C, Table 4 <b>N</b> Single ended, with index, Format D, Table 4			
			<b>8 Pin M12 Connector</b> <b>P</b> Single ended, no index, Format A, Table 5 <b>Q</b> Single ended, with index, Format A, Table 5 <b>R</b> Single ended, with index, Format B, Table 5 <b>S</b> Single ended, with index, Format C, Table 5 <b>T</b> Single ended, no index, Format C, Table 5 <b>U</b> Single ended, with index, Format D, Table 5 <b>V</b> Differential, no index, Format A, Table 6 <b>W</b> Differential, with index, Format A, Table 6 <b>X</b> Differential, with index, Format B, Table 6 <b>Y</b> Differential, with index, Format C, Table 6 <b>Z</b> Differential, no index, Format C, Table 6			
605512-0020	Flexible Coupling 3/8"; 1/4", 3/8", 1/2"					

**10 foot Cable Assemblies with MS Connector**

- 1400431-0010 7 Pin MS, Cable Assy. For Use with Single Ended w/Index Outputs
- 1400635-0010 10 Pin MS, Cable Assy. For Use with Differential Line Driver with Index Outputs

**15 foot Cable Assemblies with M12 Connector**

- 112859-0015 5 Pin M12, Cable Assy. For Use with Single Ended Outputs
- 112860-0015 8 Pin M12, Cable Assy. For Use with Single Ended Outputs
- 112860-0015 8 Pin M12, Cable Assy. For Use with Differential Line Driver Outputs

**Mating Connectors (no cable)**

- 7 pin, style MS3106A-16S-1S (MCN-N5)
- 10 pin, style MS3106A-18-1S (MCN-N6)

# SERIES HR26

**Dynapar™ brand**

## ELECTRICAL CONNECTIONS

### Prewired Cable or Accessory Cables with 7 or 10 Pin MS Connector - when Code 4= 0 to 5, or A, B, C, D or G

Note: Wire color codes are referenced here for models that are specified with pre-wired cable. Connector/cables are described in the Encoder Accessories section of this catalog and color-coding information is provided here for reference.

Table 1 – Single Ended			
Pin	Function (If Used)	Wire Color Code	Cable Accessory Color Code
A	Signal A	BRN	RED
B	Signal B	ORN	BLUE
C	Signal Z	YEL	YEL
D	Power Source	RED	WHT
E	No Connection	—	GRN
F	Common	BLK	BLK
G	Case	GRN	SHIELD

Cable Accessory: P/N 14004310010

Table 2 – Differential			
Pin	Function (If Used)	Wire Color Code	Cable Accessory Color Code
A	Signal A	BRN	BRN
B	Signal B	ORN	ORN
C	Signal Z	YEL	YEL
D	Power Source	RED	RED
E	No Connection	—	—
F	Common	BLK	BLK
G	Case	GRN	GRN
H	Signal $\bar{A}$	BRN/WH	BRN/WH
I	Signal $\bar{B}$	ORN/WH	ORN/WH
J	Signal $\bar{Z}$	YEL/WH	YEL/WH

Cable Accessory: P/N 14006350010

**Cable Configuration:** PVC jacket, 105 °C rated, overall foil shield; 3 twisted pairs 26 AWG (output signals), plus 2 twisted pairs 24 AWG (input power)

Connector pin numbers and cable assembly wire color information is provided here for reference.

Encoder Function	Table 4 5 Pin Single Ended		Table 5 8 Pin Single Ended		Table 6 8 Pin Differential	
	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color
Sig. A	4	BLK	1	BRN	1	BRN
Sig. B	2	WHT	4	ORG	4	ORG
†Sig. Z	5	GRY	6	YEL	6	YEL
Power +V	1	BRN	2	RED	2	RED
Com	3	BLU	7	BLK	7	BLK
Sig. $\bar{A}$	—	—	—	—	3	BRN/WHT
Sig. $\bar{B}$	—	—	—	—	5	ORG/WHT
†Sig. $\bar{Z}$	—	—	—	—	8	YEL/WHT

**Cable Configuration:** PVC jacket, 105 °C rated, overall foil shield; 24 AWG conductors, minimum

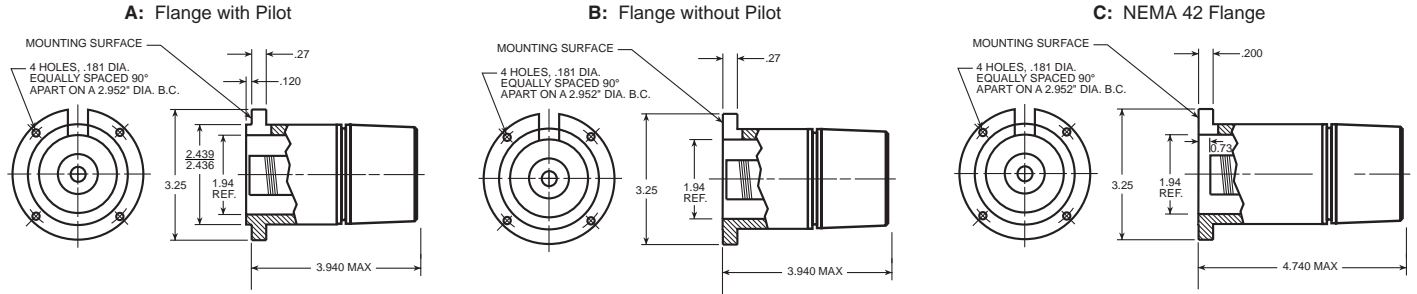
\*Note: Standard cable length is 10 feet but may be ordered in any length in 5 foot increment. For example, -0020 is a 20 foot cable.

†Note: Index not provided on all models. See ordering information

See “Accessories” Section for Connectors and Cable Assemblies Ordering Information

**DIMENSIONS**

**Code 3: Mechanical**



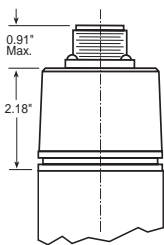
**Mating shaft lengths:** Typically: 0.5" max. available into the coupling as measured from the A/B mounting surface.  
1.3" max. available into the coupling as measured from the C mounting surface.

**Code 4: Output**

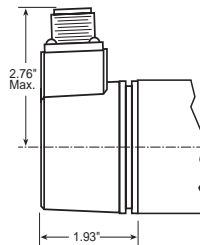


**Code 6: Termination**

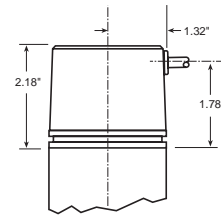
**0: End MS Connector**  
When Code 5 is 0 to 5 or A to G



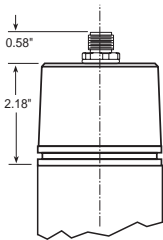
**1: Side MS Connector**  
When Code 5 is 0 to 5 or A to G



**2 - A: Side Cable**



**0: End M12 Connector**  
When Code 5 is H to Z



**1: Side M12 Connector**  
When Code 5 is H to Z

