

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



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Optical

Resolution: 1 to 1024 PPR (pulses/revolution)

Accuracy: (worst case any edge to any other edge) ± 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:

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

Outputs:

7273 Open Collector: 40mA, sink max

7272 Push-Pull: 40mA, sink or source

7272 Differential Line Driver: 40 mA, sink or source

4469 Differential Line Driver: 100mA, sink or source

Frequency Response: 100 kHz min. (index 75kHz min. for extended temperature range)

Noise Immunity: Tested to EN61326-1

Electrical Immunity: Reverse polarity and short circuit protected

Termination: MS Connector, M12 Connector, Cable Exit

Mating Connector:

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

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

Cable w/ 5 pin M12 Connector (112859-xxxx)

Cable w/ 8 pin M12 Connector (112860-xxxx)

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° max. angular
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.

Shaft Speed: 10,000 RPM max.

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

Moment of Inertia: 4.3×10^{-4} oz-in-sec²

Housing and Cover: Aluminum

Shaft Material: Stainless Steel

Disc Material: Mylar

Weight: 1.5 lbs

ENVIRONMENTAL

Operating Temperature:

Standard: 0 to +70 °C;

Extended: 0 to +85 °C (consult factory for low temperature operation to -40 °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: Up to 98% without condensation

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

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
HR526	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>				

Ordering Information

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

Cable Assemblies with MS Connector*

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

Cable Assemblies with M12 Connector*

- 112859-XXXX** 5 Pin M12, Cable Assy. For Use with Single Ended Outputs
- 112860-XXXX** 8 Pin M12, Cable Assy. For Use with Single Ended Outputs
- 112860-XXXX** 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)

Flexible Couplings

- CPLX1250375 Flexible Coupling 3/8"; 1/4", 3/8", 1/2"

*Note: Standard cable length is 10 feet but may be ordered in any length in 5 foot increments. For example, for a 20 foot cable, replace XXXX with -0020.

SERIES HR26



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			
Encoder Function	Cable Accessory P/N 1400431XXXX 7 Pin Single Ended w/ Index Outputs		
	Pin	Wire Color Code	Cable Accessory Color Code
Signal A	A	BRN	RED
Signal B	B	ORN	BLUE
Signal Z*	C	YEL	YEL
Power Source	D	RED	WHT
No Connection	E	—	GRN
Common	F	BLK	BLK
Case	G	GRN	SHIELD

Table 2 – Differential			
Encoder Function	** Cable Accessory: P/N 1400635XXXX 10 Pin Differential Line Driver w/ Index		
	Pin	Wire Color Code	Cable Accessory Color Code
Signal A	A	BRN	BRN
Signal B	B	ORN	ORG
Signal Z*	C	YEL	YEL
Power Source	D	RED	RED
No Connection	E	—	—
Common	F	BLK	BLK
Case	G	GRN	GRN
Signal \bar{A}	H	BRN/WHT	BRN/WHT
Signal \bar{B}	I	ORN/WHT	ORN/WHT
Signal \bar{Z}	J	YEL/WHT	YEL/WHT

5 & 8 Pin M12 Accessory Cables - when Code 4= H to Z

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

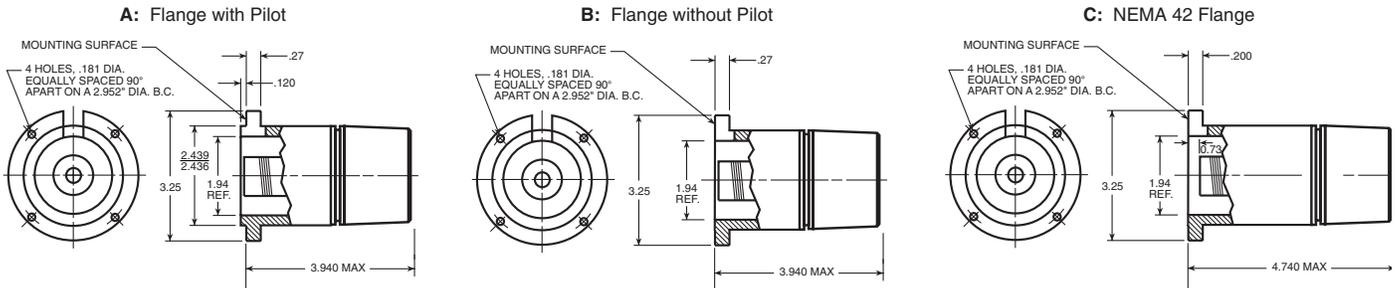
Encoder Function	Table 4		Table 5		Table 6	
	Cable # 112859-XXXX 5 Pin Single Ended		Cable # 112860-XXXX 8 Pin Single Ended		Cable # 112860-XXXX 8 Pin Differential	
	Pin	Wire Color Code	Pin	Wire Color Code	Pin	Wire Color Code
Signal A	4	BLK	1	BRN	1	BRN
Signal B	2	WHT	4	ORG	4	ORG
Signal Z*	5	GRY	6	YEL	6	YEL
Power +V	1	BRN BLU	2	RED	2	RED
Com	3	—	7	BLK	7	BLK
Signal \bar{A}	—	—	—	—	3	BRN/WHT
Signal \bar{B}	—	—	—	—	5	ORG/WHT
Signal \bar{Z} *	—	—	—	—	8	YEL/WHT

NOTES:

- 1) Cable Configuration (**Table 1**): Cable Configuration: PVC jacket, 105°C rated, overall foil shield; 22 AWG conductors, minimum
- 2) Cable Configuration (**Table 2**): PVC jacket, 105 °C rated, overall foil shield; 3 twisted pairs 26 AWG (output signals), plus 2 twisted pairs 24 AWG (input power)
- 3) Cable Configuration (**Tables 4, 5 and 6**): PVC jacket, 105 °C rated, overall foil shield; 24 AWG conductors, minimum
- 4) Standard cable length is 10 feet but may be ordered in any length in 5 foot increments. For example, for a 20 foot cable, replace -XXXX with -0020
- 5) * Index not provided on all models. See ordering information.
- 6) **For watertight applications, use NEMA4 10 pin cable & connector 1400635XXXX.
- 7) "MS" Type mating connectors and pre-build cables are rated NEMA 12
- 8) "M12" Cable assemblies are rated IP67

DIMENSIONS

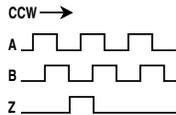
Code 3: Mechanical



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.

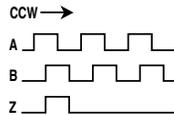
Code 4: Output

0 - 3: Format A



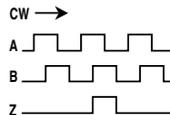
A Leads B CCW
 Index Width (180°) Gated to B̄

4 - 5: Format B



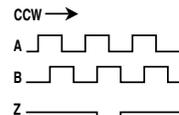
A Leads B CCW
 Index Width (180°) Gated to B

6 - D: Format C



A Leads B CW
 Index Width (180°) Gated to B

G: Format D

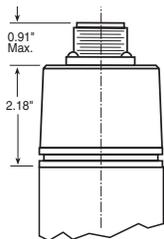


A Leads B CCW
 Inverted Index (180°) Gated to B

Code 6: Termination

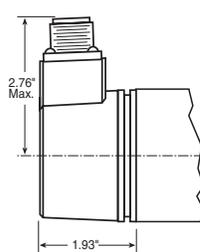
0: End MS Connector

When Code 5 is 0 to 5 or A to G

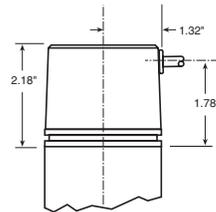


1: Side MS Connector

When Code 5 is 0 to 5 or A to G

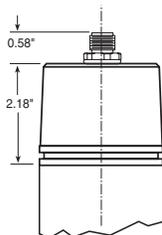


2 - A: Side Cable



0: End M12 Connector

When Code 5 is H to Z



1: Side M12 Connector

When Code 5 is H to Z

