

SERIES HA26

Dynapar™ brand

Integral Coupling Encoder

Key Features

- Industry Standard 2.5" Rugged Encoder Size
- Integral Coupling and Flange Provide Thermal and Electrical Isolation
- Field Replaceable Coupling



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental

Resolution: 1 to 2540 PPR (pulses/revolution)

Accuracy: (worst case any edge to any other edge) ± 2.5 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: 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. (index 75 kHz min. for extended temperature range)

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

Shafts 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

Shaft Speed: 5,000 RPM max.

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

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

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)

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
HA526	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>				

Ordering Information

HA526 Size 25 with Integral Coupling and Flange Adapter, Glass Code Disk	0001 0600 0005 0625 0010 0635 0012 0720 0050 0800 0060 0900 0100 1000 0120 1024 0150 1200 0180 1250 0200 1270 0240 1500 0250 1600 0256 1800 0300 1968 0360 2000 0400 2048 0500 2400 0512 2500 2540	A Flange Adapter with Pilot B Flange Adapter without Pilot C Flange Adapter for NEMA Size 42 Motors	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, 5 V Differential Line Driver out (4469) 6 5-15V in, 5-15 V 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
			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			
	For Resolutions above 2540, see Series HC526		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	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		
			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			
CPLX1250375 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 HA26



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	
	Cable # 112859-		Cable # 112860-		Cable # 112860-	
	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

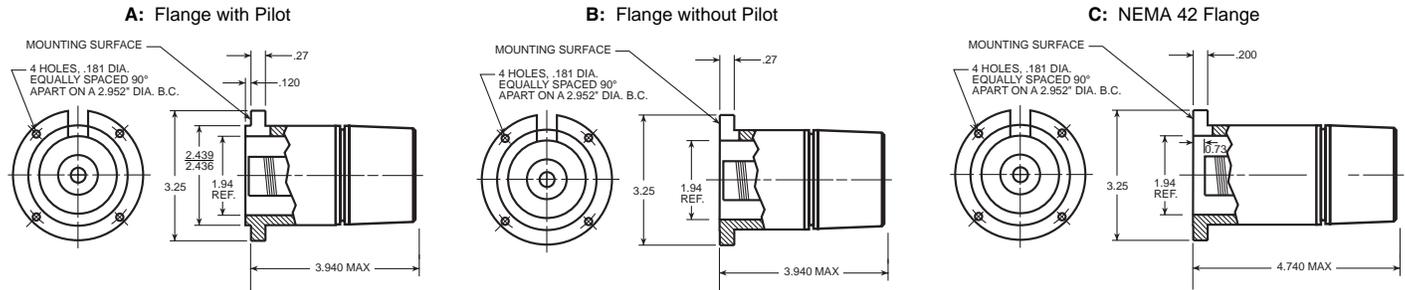
* Index not provided on all models. See ordering information

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

See "Accessories" Section for Connectors and Cable Assemblies Ordering Information

DIMENSIONS

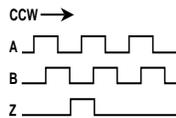
Code 3: Mechanical



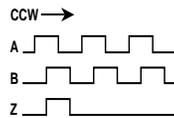
Mating shaft lengths: Typically: 0.5" max. available into the coupling as measured from the A/B mounting surface.
1.3" max. available into the coupling as measured from the C mounting surface.

Code 4: Output

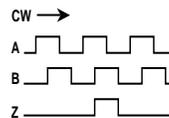
0 - 3: Format A



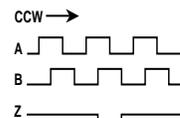
4 - 5: Format B



6 - D: Format C



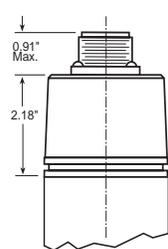
G: Format D



Code 6: Termination

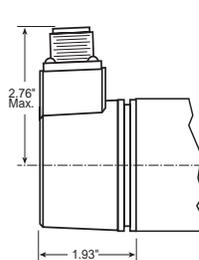
0: End MS Connector

When Code 5 is 0 to 5 or A to G

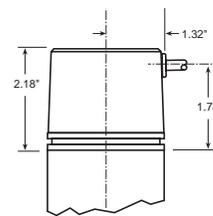


1: Side MS Connector

When Code 5 is 0 to 5 or A to G

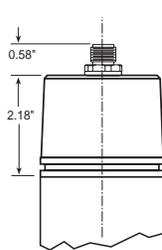


2 - A: Side Cable



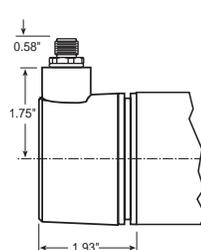
0: End M12 Connector

When Code 5 is H to Z



1: Side M12 Connector

When Code 5 is H to Z



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