

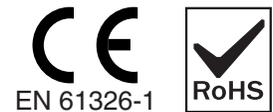
SERIES H58

Dynapar™ brand

Shafted Encoder

Key Features

- Industry Standard 58mm Mounting
- Multiple Connection Options
- Rugged Design with Long-Life Bearings



EN 61326-1

RoHS

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Optical

Resolution: 1 to 2540 PPR (pulses/revolution)

Accuracy: (Worst case any edge to any other edge) ≤ 1024 PPR (metal disk): ± 7.5 arc-min.
 > 1024 PPR (glass disk): ± 2.5 arc-min.

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

Phase Sense: A leads B for CCW shaft rotation as viewed from the shaft end of the encoder

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:

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)
75 kHz min. for extended temperature range)

Noise Immunity: Tested to EN61326-1

Electrical Immunity: Reverse polarity and short circuit protected

Termination: MS Connector, M12 Connector, M23 Connector, Cable Exit

Mating Connector:

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

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

12 pin style M23, CW (MCN-C1)

12 pin style M23, CCW (MCN-C2)

5 pin, style M12: Cable with connector available

8 pin, style M12: Cable with connector available

MECHANICAL

Shaft Sizes: 6 mm, 10 mm

Shaft Loading: (at 6 mm from encoder face)

Resolutions ≤ 1024 PPR: 356 N radial, axial

Resolutions > 1024 PPR: 178 N radial, axial

Shaft Speed:

Resolutions ≤ 1024 PPR: 10,000 RPM max.

Resolutions > 1024 PPR: 5,000 RPM max.

Starting Torque: (max at 25 °C)

without shaft seal: 0.007 N-m;

with shaft seal: 0.014 N-m

Moment of Inertia: 21.2 g-cm²

Housing and Cover: Aluminum

Shaft Material: Stainless Steel

Disc Material: Glass

Weight: 283 g. (10 oz.) max.

ENVIRONMENTAL

Operating Temperature:

Standard: 0 to +70 °C;

Extended: 0 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: Up to 98% (non-condensing)

Enclosure Rating: NEMA12/IP54 (dirt tight, splashproof); NEMA4/IP66 (dust proof, wash-down) when ordered with shaft seal and either MS connector or watertight cable exit

Ordering Information

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

Code 1: Model	Code 2: PPR	Code 3: Pilot, Face	Code 4: Shaft	Code 5: Shaft Seal	Code 6: Electrical	Code 7: Termination	Code 8: Connector	
H58	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ordering Information								
H58 Bidirectional with Index (Channels A, B and Z)	0001	0600	0 (3) M4 @ 42mm BC, no Pilot	0 6mm Dia. Shaft	0 no Shaft Seal	0 5-26V in, 5-26V Push-Pull out available when Code 7 is 2 thru B, E or F: 1 5-26V in, 5-26V Differential Line Driver out (7272) 2 5-26V in, 5V Differential Line Driver out (7272) 3 5-26V in, 5V Differential Line Driver out (4469) 4 5-15V in, 5-15V Differential Line Driver out (4469) A Same as "0" with extend. temp range B Same as "1" with extend. temp range C Same as "2" with extend. temp range	0 7 Pin Conn, End Mount 1 7 Pin Conn, Side Mount 2 10 Pin Conn, End Mount 3 10 Pin Conn, Side Mount 4 12 Pin CCW Conn, End Mount 5 12 Pin CCW Conn, Side Mount 6 12 Pin CW Conn, End Mount 7 12 Pin CW Conn, Side Mount C 5 pin M12 Conn, End Mount D 5 pin M12 Conn, Side Mount E 8 pin M12 Conn, End Mount F 8 pin M12 Conn, Side Mount available when Code 5 is 1: 8 1m Sealed Cbl, End Exit 9 1m Sealed Cbl, Side Exit A 3m Sealed Cbl, End Exit B 3m Sealed Cbl, Side Exit	0 no Mating Connector 1 7 Pin Mating Connector 2 10 Pin Mating Connector 3 12 Pin CCW Mating Connector 4 12 Pin CW Mating Connector
	0010	0800			1 Shaft Seal			
	0012	1000		1 10mm Dia. Shaft				
	0050	1024	1 (3) M3 @ 48mm BC, 36mm Dia. Pilot					
	0060	1200						
	0086	1250						
	0100	1270						
	0120	1500						
	0125	1600						
	0200	1800						
0240	1968							
0250	2000							
0300	2048							
0360	2400							
0400	2500							
0500	2540							
0512								

Cable Assemblies with MS Connector*

- 108595-XXXX** 7 Pin MS, Cable Assy. For Use with Single Ended w/Index Outputs
- 1400635-XXXX** 10 Pin MS, Cable Assy. For Use with Differential Line Driver with Index Outputs
- 108615-XXXX** 12 Pin CCW (if used) MS, Cable Assy. For Use with Differential Line Driver with Index Outputs
- 108616-XXXX** 12 Pin CW (if used) 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
- 112860-0015** 8 Pin M12, Cable Assy. For Use with Differential Line Driver Outputs

***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 H58



ELECTRICAL CONNECTIONS

7, 10 & 12 Pin MS Connectors and Cables - Code 7 =0 to 7

Connector & mate/accessory cable assembly pin numbers and wire color information is provided here for reference. Models with direct cable exit carry the color coding as shown in the right hand column.

Table 1								
Encoder Function	Cable # 108595-XXXX 7 Pin Single Ended		** Cable #1400635XXXX 10 Pin Dif Line Driver with Index		Cable # 108615-XXXX 12 Pin CCW		Cable # 108616-XXXX 12 Pin CW	
	Pin	Wire Color Code	Pin	Wire Color Code	Pin	Wire Color Code	Pin	Wire Color Code
Signal A	A	BRN	A	BRN	5	BRN	3	BRN
Signal B	B	ORG	B	ORG	8	ORG	4	ORG
Signal Z*	C	YEL	C	YEL	3	YEL	7	YEL
Power +V	D	RED	D	RED	12	RED	2	RED
N/C	E	—	E	—	7	—	—	—
Com	F	BLK	F	BLK	10	BLK	1	BLK
Case	G	GRN	G	GRN	9	—	—	—
Signal \bar{A}	—	—	H	BRN/WHT	6	BRN/WHT	5	BRN/WHT
Signal \bar{B}	—	—	I	ORG/WHT	1	ORG/WHT	6	ORG/WHT
Signal \bar{Z} *	—	—	J	YEL/WHT	4	YEL/WHT	8	YEL/WHT
5V Sense	—	—	—	—	2	GRN	—	—
0V Sense	—	—	—	—	11	BLK/WHT	—	—

5 & 8 Pin M12 Accessory Cables when Code 7 = C to F

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

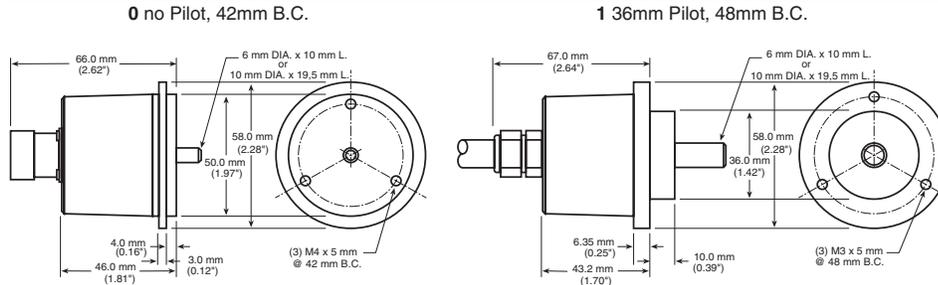
Table 2						
Encoder Function	Cable # 112859-XXXX 5 Pin Single Ended		Cable # 112860-XXXX 8 Pin Single Ended		Cable # 112860-XXXX 8 Pin Differential	
	Pin	Wire Color Code	Pin	Wire Color Code	Pin	Wire Color Code
Signal A	4	BLK	1	BRN	1	BRN
Signal B	2	WHT	4	ORG	4	ORG
Signal Z*	5	GRY	6	YEL	6	YEL
Power +V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

NOTES:

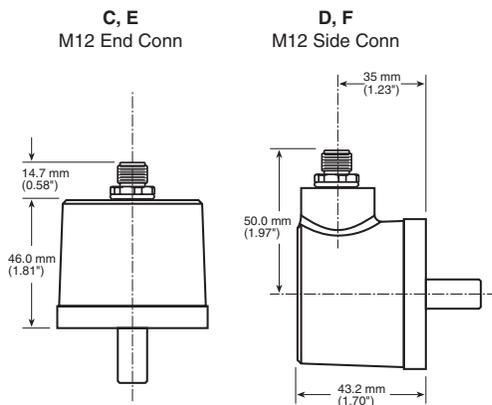
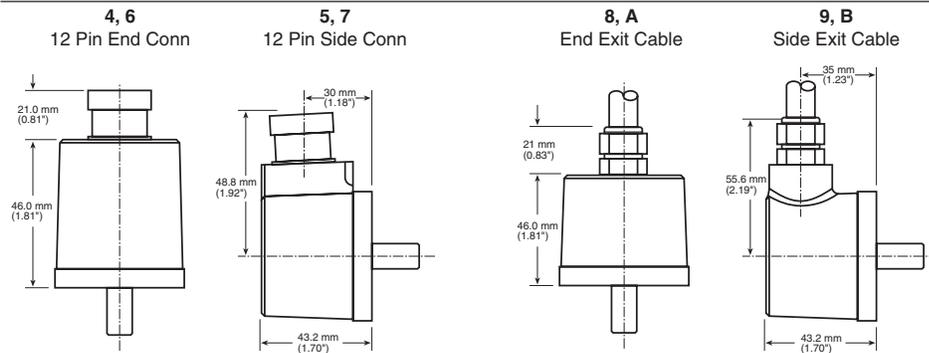
- 1) Cable Configuration (**Table 1**): PVC jacket, 105 °C rated, overall foil shield; 3 twisted pairs 26 AWG (output signals), plus 2 twisted pairs 24 AWG (input power)
- 2) Cable Configuration (**Table 2**): PVC jacket, 105 °C rated, overall foil shield; 24 AWG conductors, minimum
- 3) Standard cable 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
- 4) *Index not provided on all models. See ordering information.
- 5) **For watertight applications, use NEMA4 10 pin cable & connector 1400635-XXXX.
- 6) "MS" Type mating connectors and pre-build cables are rated NEMA 12
- 7) "M12" Cable assemblies are rated IP67

DIMENSIONS

Code 3: Pilot, Face Mounts



Code 7: Terminations



Code 7: Terminations

4, 5 CCW 6, 7 CW
(when looking at encoder)

