

SERIES H58

Dynapar™ brand

Shafted Encoder

Key Features

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



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental

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 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

CONNECTIONS

Mating Connector:

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

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

12 pin style M23, CW (605560-0001)

12 pin style M23, CCW (605560-0002)

5 pin, style M12: Cable with connector available

8 pin, style M12: Cable with connector available

MECHANICAL

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

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

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: to 98% without condensation

Enclosure Rating: NEMA12/IP54 (dirt tight, splashproof); NEMA4/IP66 (dust proof, washdown) 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	0 no Mating Connector
	0010	0800	1 (3) M3 @ 48mm BC, 36mm Dia. Pilot	1 10mm Dia. Shaft	1 Shaft Seal		1 7 Pin Conn, Side Mount	1 7 Pin Mating Connector
	0012	1000					2 10 Pin Conn, End Mount	2 10 Pin Mating Connector
	0050	1024					3 10 Pin Conn, Side Mount	3 12 Pin CCW Mating Connector
	0060	1200					4 12 Pin CCW Conn, End Mount	2 10 Pin Mating Connector
	0086	1250					5 12 Pin CCW Conn, Side Mount	3 12 Pin CCW Mating Connector
	0100	1270					6 12 Pin CW Conn, End Mount	3 12 Pin Mating Connector
	0120	1500					7 12 Pin CW Conn, Side Mount	4 12 Pin CW Mating Connector
	0125	1600					C 5 pin M12 Conn, End Mount	4 12 Pin CW Mating Connector
	0200	1800					D 5 pin M12 Conn, Side Mount	
0240	1968	E 8 pin M12 Conn, End Mount						
0250	2000	F 8 pin M12 Conn, Side Mount						
0300	2048	available when Code 5 is 1:						
0360	2400	8 1m Sealed Cbl, End Exit						
0400	2500	9 1m Sealed Cbl, Side Exit						
0500	2540	A 3m Sealed Cbl, End Exit						
0512		B 3m Sealed Cbl, Side Exit						

10 foot Cable Assemblies with MS Connector

- 108595-0010** 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
- 108615-0010** 12 Pin CCW (if used) MS, Cable Assy. For Use with Differential Line Driver with Index Outputs
- 108616-0010** 12 Pin CW (if used) 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

SERIES H58



ELECTRICAL CONNECTIONS

7, 10 and 12 Pin 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 same color coding as shown for each output configuration.

Encoder Function	Cable # 108595-7 Pin (If Used)		Cable # 1400635-10 Pin (If Used)		Cable # 108615-12 Pin CCW (If Used)		Cable # 108616-12 Pin CW (If Used)	
	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color
Sig. A	A	BRN	A	BRN	5	BRN	3	BRN
Sig. B	B	ORN	B	ORG	8	ORG	4	ORG
Sig. 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	—	—	—
Sig. \bar{A}	—	—	H	BRN/WHT	6	BRN/WHT	5	BRN/WHT
Sig. \bar{B}	—	—	I	ORG/WHT	1	ORG/WHT	6	ORG/WHT
Sig. \bar{Z}	—	—	J	YEL/WHT	4	YEL/WHT	8	YEL/WHT
5V Sense	—	—	—	—	2	GRN	—	—
0V Sense	—	—	—	—	11	BLK/WHT	—	—

Mating connector/cable assembly wire color information is provided here for reference. H58 models with direct cable exit carry the same color coding as shown for each output configuration.

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)

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.

Encoder Function	Cable # 112859-5 Pin Single Ended		Cable # 112860-8 Pin Single Ended		Cable # 112860-8 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

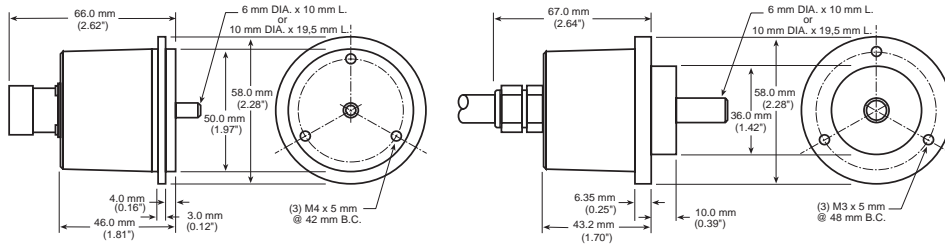
See "Accessories" Section for Connectors and Cable Assemblies Ordering Information

DIMENSIONS

Code 3: Pilot, Face Mounts

0 no Pilot, 42mm B.C.

1 36mm Pilot, 48mm B.C.



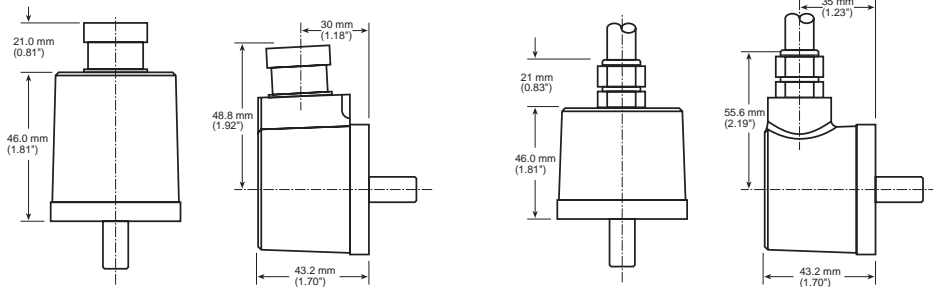
Code 7: Terminations

4, 6
12 Pin End Conn

5, 7
12 Pin Side Conn

8, A
End Exit Cable

9, B
Side Exit Cable



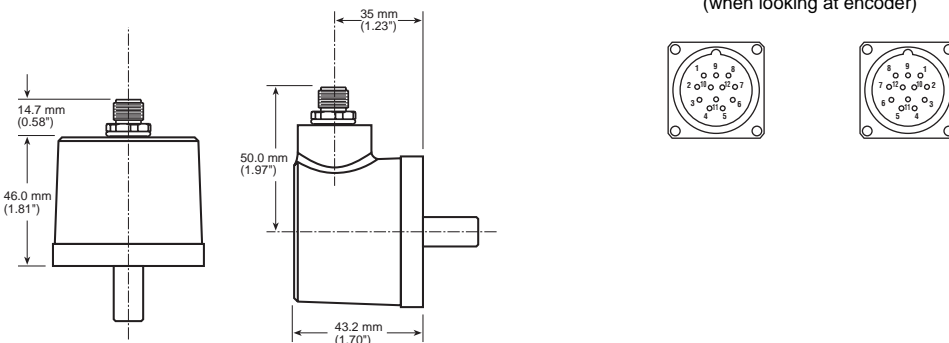
C, E
M12 End Conn

D, F
M12 Side Conn

Code 7: Terminations

4, 5 CCW

6, 7 CW
(when looking at encoder)



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