

Энкодер с валом HR25

Технические характеристики

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Россия +7(495)268-04-70

Казахстан +(727)345-47-04

Беларусь +(375)257-127-884

Узбекистан +998(71)205-18-59

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эл.почта: drx@nt-rt.ru || сайт: <https://dynapar.nt-rt.ru/>

SERIES HR25

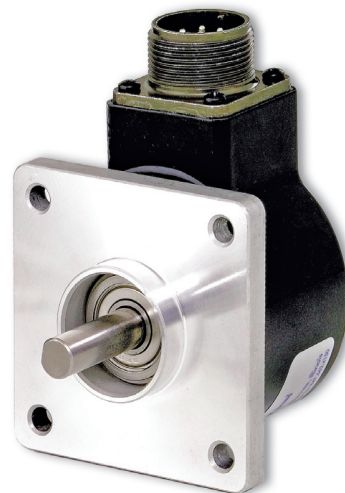
Dynapar™ brand

Shafted Encoder

Key Features

- Reliable Dual Row Bearing Design
- Unbreakable Code Disc
- Industry Standard Size 25 (2.5")

IND
Industrial Duty



CE
EN 61326-1



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:

4469 Differential Line Driver: 100mA, sink or source

7272 Push-Pull: 40mA, sink or source

7272 Differential Line Driver: 40 mA, sink or source

7273 Open Collector: 40mA, sink max

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, Cable Exits

Mating Connector:

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

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

10 pin, NEMA4 style (MCN-N6N4)

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

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

MECHANICAL

Shaft Sizes: 1/4" or 3/8"

Shaft Loading: (at 0.25" from encoder face) 80 lbs. radial, 80 lbs. axial

Shaft Speed: 10,000 RPM max.

Shaft Runout: 0.001" max. TIR

Moment of Inertia: 3.0×10^{-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% (non-condensing)

Enclosure Rating:

HR525: NEMA12/IP54 (dirt tight, splashproof);

HR625: NEMA4/IP66 (dust proof, washdown)

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	
HR 25													

Cable Assemblies with MS Connector

- 1400431XXXX** 7 Pin MS, Cable Assy. For Use with Single Ended w/Index Outputs
108596-XXXX 7 Pin MS, Cable Assy. For Use with Differential Line Driver w/o Index Outputs
1400635XXXX 10 Pin MS, Cable Assy. For Use with Differential Line Driver with Index Outputs
109209-XXXX NEMA4 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)

- MCN-N5** 7 pin, style MS3106A-16S-1S
MCN-N6 10 pin, style MS3106A-18-1S
MCN-N6N4 10 pin, NEMA4 style

***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 HR25



ELECTRICAL CONNECTIONS

Prewired Cable or Accessory Cables with 7 or 10 Pin MS Connector - when Code 4= 0 to 6, 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 – Differential			
Encoder Function	**Cable # 109209-XXXX or 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
N/C	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

Table 2 – Single Ended			
Encoder Function	Cable # 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 3 – Differential		
Encoder Function	Cable # 108596-XXXX 7 Pin Dif Line Driver w/o Index	
	Pin	Cable Accessory Color Code
Signal A	A	RED
Signal B	B	BLUE
Signal $\bar{A}$	C	YEL
Power Source	D	WHT
Signal $\bar{B}$	E	GRN
Common	F	BLK
Case	G	SHIELD

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.

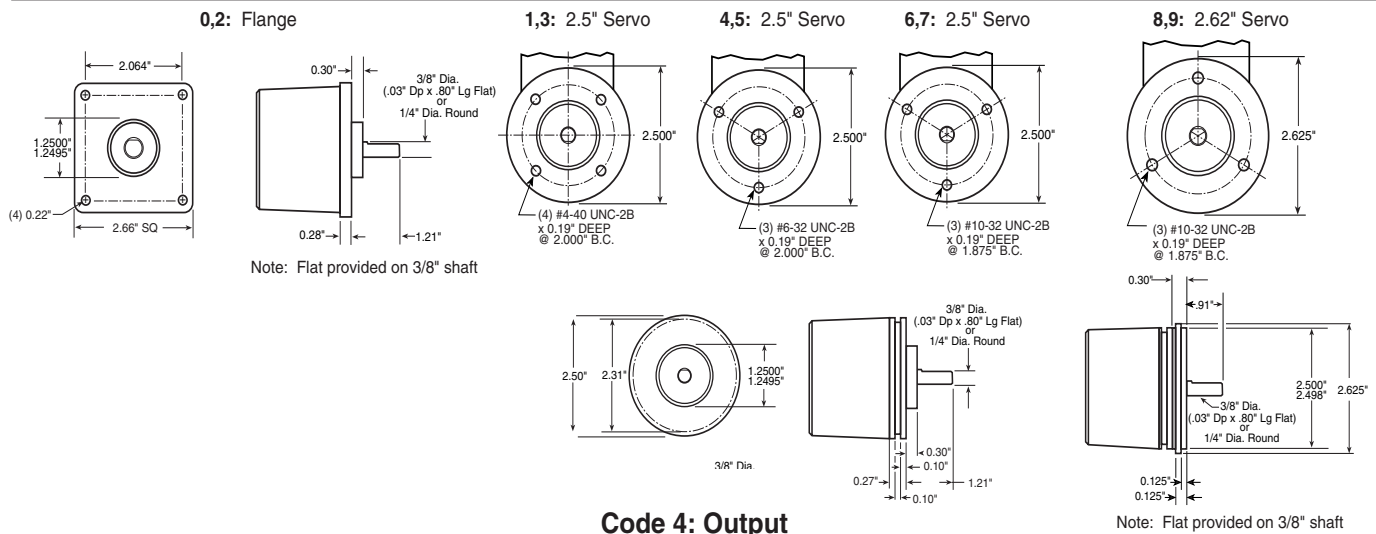
Encoder Function	Table 4 Cable # 112859-XXXX 5 Pin Single Ended		Table 5 Cable # 112860-XXXX 8 Pin Single Ended		Table 6 Cable # 112860-XXXX 8 Pin Differential	
	Pin	Wire Color Code	Pin	Wire Color Code	Pin	Wire Color Code
Signal A	4	BLK	1	BRN	1	BRN
Signal B	2	WHT	4	ORG	4	ORG
Signal Z*	5	GRY	6	YEL	6	YEL
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:

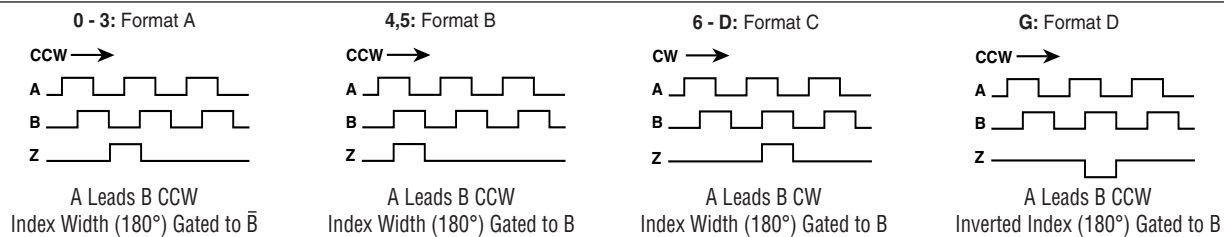
- 1) Cable Configuration (**Tables 1 and 3**): PVC jacket, 105 °C rated, overall foil shield; 3 twisted pairs 26 AWG (output signals), plus 2 twisted pairs 24 AWG (input power)
- 2) Cable Configuration (**Table 2**): PVC jacket, 105 °C rated, overall foil shield; 3 twisted pairs 26 AWG (output signals), 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 109209-XXXX.
- 7) "MS" Type mating connectors and pre-build cables are rated NEMA 12
- 8) "M12" Cable assemblies are rated IP67

DIMENSIONS

Code 3: Mechanical

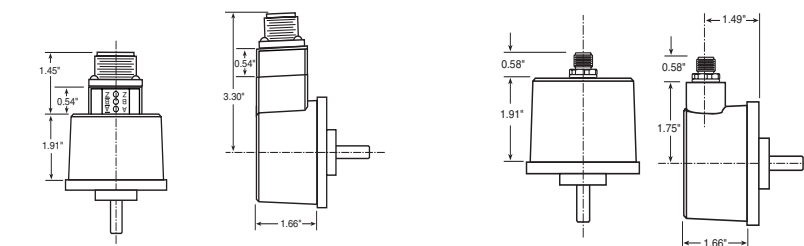


Code 4: Output

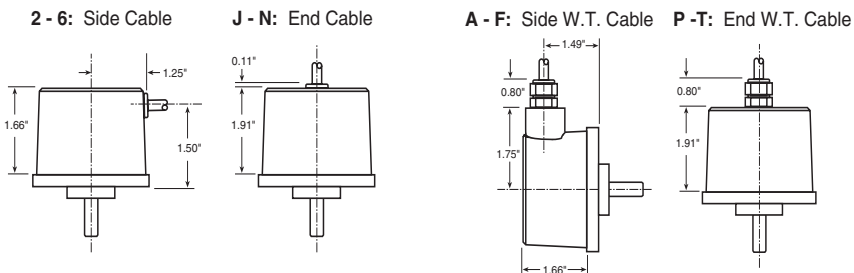


Code 6: Termination

0: End MS Connector **1: Side MS Connector** **0: End M12 Connector** **1: Side M12 Connector**
When Code 5 is 0 to 6 or A to G When Code 5 is H to Z



Code 6: 0 & 1 dimensions shown with LED Output Indicator Option (Code 7: PS)



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