

## INCREMENTAL ENCODERS

## SERIES HS35R

Dynapar™ brand

## Heavy Duty Hollowshaft Encoder

## Key Features

- Phased Array Sensor for Reliable Signal Output
- Rugged Design Withstands up to 400G Shock and 20G Vibration
- Unbreakable Code Disc up to 5000 PPR
- Heavy Duty Design Rated for IP67
- Customizable Mounting Options including Torque Arm with Optional Grounding Strap

IND  
Industrial DutyCE  
EN 61326-1

## SPECIFICATIONS

## STANDARD OPERATING CHARACTERISTICS

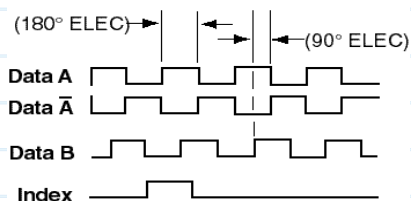
**Code:** Incremental, Optical**Resolution:** 1 to 5000 PPR (pulses/revolution) See Ordering Information**Format:** Two channel quadrature (AB) with optional Index (Z), and complementary outputs**Phase Sense:** A leads B for CW shaft rotation viewing the shaft clamp end of the encoder**Quadrature Phasing:**

For resolutions 200 to 300 PPR and 1200 PPR and above: 90° ±30° electrical; all other resolutions: 90° ±15°

**Symmetry:**

For resolutions 200-300 PPR and above: 1024

PPR: 180° ±25° electrical; all other resolutions: 180° ±18°

**Index:** 150° to 330° A leads B, CW (from clamp end) (Reverse Phasing, A leads B for CCW also available: See Code 7 in Ordering Information)**Waveforms:** Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pfDATA AND INDEX  
Not all complements shown  
A shown for reference

Index Width: 150° to 330°

A leads B, CW (from clamp end)

(Reverse Phasing, A leads B for CCW also available: See Code 7 in Ordering Information)

## ELECTRICAL

**Input Power:** 5-26VDC, 5-15VDC. 80 mA max., not including output loads.**Outputs:**

7272 Push-Pull: 40mA, sink or source

7272 Differential Line Driver: 40 mA, sink or source

7273 Open Collector: 40mA, sink max

4469 Differential Line Driver: 100mA, sink or source

High-Power Mosfet Line Driver

**Frequency Response:** 125 kHz (data & index)**Noise Immunity:** Tested to EN61326-1**Electrical Immunity:** Reverse polarity, short circuit

protected with 7272 or 7273 line drivers only

**Termination:** MS Connector; M12 Connector; cable exit w/seal. See Ordering Information**Mating Connector:**

6 pin MS, style MS3106A-14S-6S (MCN-N4)

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

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

10 pin, NEMA4 style (MCN-N6N4)

10 pin Bayonet, MS3116-F12-10S (MCN-B1)

12 Pin CCW M23 Connector (MCN-C2)

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

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

Note: "MS" type mating connectors and pre-built cables are rated NEMA 12. "M12" Cable assemblies are rated IP67

## MECHANICAL

**Bore Diameter:** 6mm to 28mm, 1/4" to 1-1/8", electrically isolated**Mating Shaft Length:** 1.25", Minimum, 1.60", Recommended**Shaft Speed:** 6000 RPM, Maximum (Enclosure Rating is IP64 at speed over 5000 RPM)**Starting Torque:** 8.0 in-oz. maximum (at 25°C)**Running Torque:** 5.0 in-oz. maximum (at ambient)**Bearings:** ABEC 1**Housing and Cover:** Powder Coated Aluminum**Shaft Material:** 6061-T6 Aluminum**Disc Material:** Mylar (unbreakable)**Weight:** 1.76lb (28 Oz) Typical

## ENVIRONMENTAL

**Standard Operating Temperature:** -40 to +85°C (0 to +70°C with 4469 line driver, see "Ordering Information"). At shaft speed above 3000 RPM, derate 10°C per 1000 RPM**Extended Temperature Range:** -40 to +100°C (See ordering information)**Storage temperature:** -40 to +100°C**Shock:** 400G, 6mSec**Vibration:** 5 to 3000 Hz, 20G**Humidity:** Up to 98% (non-condensing)**Enclosure Rating:** IP67 (IP64 at shaft speed above 5000 RPM)

INCREMENTAL ENCODERS



SERIES HS35R

Ordering Information

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

Code 1: Model	Code 2: PPR	Code 3: Bore Size	Code 4: Fixing	Code 5: Output Format	Code 6: Termination	Code 7: Options
<b>HS35R</b>	□□□□	□	□	□	□	□□
Ordering Information						
HS35R Heavy-Duty, Hollowshaft Encoder	0001 0500	0 6mm	0 None	0 ABZ, 5-26VDC push-pull (7272)	0 6 Pin Connector	Blank No Option 01 Reverse Phasing (A leads B, CCW)  Available when Code 5 is 0-9, A-G and when Code 6 is 0-2 or 5-7 PS LED Output
	0003 0512	1 1/4"	1 4.5" C-face tether	1 ABZ, 5-26VDC O/C (7273)	1 7 Pin Connector	
	0010 0600	2 5/16"	2 8.5" C-face tether	2 ABZ, 5-26VDC O/C w2.2kOhm (7273)	2 10 Pin Connector	
	0012 0900	3 8mm	3 Slotted tether (to fit standard AC motor fan cover)	H Same as "0" with Extended temp range	3 12 Pin Connector	
	0015 1000	4 3/8"	Not available when Code 5 is D,E,F,G, Q, R	J Same as "1" with Extended temp range	4 10 Pin Bayonet Connector	
	0032 1024	5 10mm		4 Same as "0" with Extended temp range	K Same as "2" with Extended temp range	5 6 Pin+Mating Connector
	0050 1200	6 12mm	5 Same as 3 w/cover	Not available when Code 6 is H	6 7 Pin+Mating Connector	
	0060 1500	7 1/2"	C Same as A with 56C cover (Single Only)	4 Differential AB only, 5-26VDC, 5-26VDC out (7272)	7 10 Pin+Mating Connector	
	0100 2000	8 5/8"	Available when Code 5 is D,E,F,G, Q, R	5 Differential AB only, 5-26VDC in, 5VDC out (7272)	8 12 Pin+Mating Connector	
	0120 2048	9 15mm		6 Same as 1 w/cover	A Differential AB only, 5-26VDC in, 5VDC out (4469)	9 10 Pin Bayonet+Mating Connector
	0200 2400	A 16mm	7 Same as 3 w/dual cover	C Differential AB only, 5-15VDC in, 5-15VDC out (4469)	A 0.5m (18") Cable	
	0240 2500	C 19mm	8 Same as 2 w/ 180 C-face cover (single or dual output)	L Same as "4" with Extended temp range	C 1m (36") Cable	
	0250 3072	D 3/4"	A Rod tether	M Same as "5" with Extended temp range	D 2m (72") Cable	
	0300 4000	E 20mm	B Rod tether with ground strap.	Not available when Code 6 is 0, 1, 5, 6, or H	E 3m (120") Cable	
	0360 4096	F 7/8"	D Same as B with 56C cover (Single Output)	6 Differential ABZ, 5-26VDC in, 5VDC out (7272)	F 0.3m (13") Cable with 10-Pin Bulk-head Connector and Mate	
	5000	G 24mm	K 1-1/4"	7 Differential ABZ, 5-26VDC in, 5-26VDC out (7272)	G 0.3m (13") Cable	
		H 1"		8 Differential ABZ, 5-26VDC in, 5VDC out (4469)	H 5 Pin M12 Connector	
		J 1-1/8"		9 Differential ABZ, 5-15VDC in, 5-15VDC out (4469)	J 8 Pin M12 Connector	
		M 14mm		D Dual isolated outputs, same as "6"		
		N 18mm		E Dual isolated outputs, same as "7"		
		P 25mm		F Dual isolated outputs, same as "8"		
		R 28mm		G Dual isolated outputs, same as "9"		
		Not Electrically Isolated		N Same as "6" with Extended temp range		
				P Same as "7" with Extended temp range		
				Q Same as "D" with Extended temp range		
				R Same as "E" with Extended temp range		
				W ABZ, 10-24VDC Line Driver for cable runs up to 500 ft/120m using the Dynapar cable assemblies listed below		

Cable Assemblies with MS Connector\*

- 108594-XXXX 6 Pin MS, Cable Assy. For Use with Single Ended Outputs
- 112123-XXXX 6 Pin MS, Cable Assy. For Use with Differential Line Driver w/o Index Outputs
- 108595-XXXX 7 Pin MS, Cable Assy. For Use with Single Ended Outputs
- 108596-XXXX 7 Pin MS, Cable Assy. For Use with Differential Line Driver w/o Index Outputs
- 1400635-XXXX 10 Pin MS, Cable Assy. For Use with Differential Line Driver with Index Outputs
- 114448-XXXX 10 Bayonet, 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 M23 Connector\*

- 108615-XXXX 12 M23, Cable Assy. For Use with Differential Line Driver with Index Outputs, CCW

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

\*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.

Mating Connectors (no cable)

- MCN-N4 6 pin, style MS3106A-14S-6S
- MCN-N5 7 pin, style MS3106A-16S-1S
- MCN-N6 10 pin, style MS3106A-18-1S
- MCN-N6N4 10 pin, NEMA4 style
- MCN-B1 10 pin bayonet, style MS3116-F12-10S
- MCN-C2 12 Pin CCW M23 Connector

Accessory Kits:

- 114573-0001 Tether Kit, 4.5" C-Face Single Point with 3/8" Bolt
- 114574-0001 Tether Kit, Slotted with T-bolts for Standard AC Motor Fan Covers
- 114575-0001 Tether Kit, 8.5" C-Face Single Point with 1/2" Bolt
- 114591-0001 Cover Kit, 56 C-Face
- 114592-0001 Cover Kit, Fan Cover
- 114593-0001 Dual Cover Kit, 56 C-Face
- 114928-0001 Dual Cover Kit, 180 C-Face
- 114594-0001 Dual Cover Kit, Fan Cover
- 116233-0001 Rod Tether Only
- 116233-0002 Rod Tether + 56 C-Face Cover (Single)
- 116233-0004 Rod Tether + Grounding Strap
- 116233-0005 Rod Tether + Grounding Strap +56 C-Face Cover (Single)

## INCREMENTAL ENCODERS

## SERIES HS35R

Dynapar™ brand

## ELECTRICAL CONNECTIONS

## 6, 7 &amp; 10 Pin MS Connectors and Cables - Code 6 = 0 to 9, A to G

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 #108594-XXXX 6 Pin Single Ended		Cable #112123-XXXX 6 Pin Dif Line Drv w/o Index		Cable #108596-XXXX 7 Pin Dif Line Drv w/o Index		Cable #108595-XXXX 7 Pin (If Used)		**Cable #109209-XXXX or 1400635XXXX 10 Pin Differential Line Driver w/ Index		Cable #114448-XXXX 10 Pin Bayonet		Cable #108615-XXXX 12 Pin CCW		Cable Exit with Seal
	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color	Wire Color
Sig. A	E	BRN	E	BRN	A	BRN	A	BRN	A	BRN	A	BRN	5	BRN	BRN
Sig. B	D	ORN	D	ORN	B	ORN	B	ORN	B	ORN	B	ORN	8	ORN	ORN
Sig. Z*	C	YEL	—	—	—	—	C	YEL	C	YEL	C	YEL	3	YEL	YEL
Power +V	B	RED	B	RED	D	RED	D	RED	D	RED	D	RED	12	RED	RED
N/C	F	—	—	—	—	—	E	—	E	—	E	—	7	—	—
Com	A	BLK	A	BLK	F	BLK	F	BLK	F	BLK	F	BLK	10	BLK	BLK
Case	—	—	—	—	G	GRN	G	GRN	G	GRN	G	GRN	9	—	GRN
Sig. A̅	—	—	C	BRN/WHT	C	BRN/WHT	—	—	H	BRN/WHT	H	BRN/WHT	6	BRN/WHT	BRN/WHT
Sig. B̅	—	—	F	ORN/WHT	E	ORN/WHT	—	—	I	ORN/WHT	J	ORN/WHT	1	ORN/WHT	ORN/WHT
Sig. Z̅*	—	—	—	—	—	—	—	—	J	YEL/WHT	K	YEL/WHT	4	YEL/WHT	YEL/WHT
0V Sense	—	—	—	—	—	—	—	—	—	—	—	—	2	BLK/WHT	—
5V Sense	—	—	—	—	—	—	—	—	—	—	—	—	11	GRN	—

## 5 &amp; 8 Pin M12 Accessory Cables when Code 6 = H or J

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

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	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. A̅	—	—	—	—	3	BRN/WHT
Sig. B̅	—	—	—	—	5	ORG/WHT
Sig. Z̅*	—	—	—	—	8	YEL/WHT

1) Cable Configuration (Table 1): PVC jacket, 105 °C rated, overall foil shield; 3 twisted pairs 24 AWG (output signals), plus 2 twisted pairs 22 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 109209-XXXX.

6) "MS" Type mating connectors and pre-build cables are rated NEMA 12

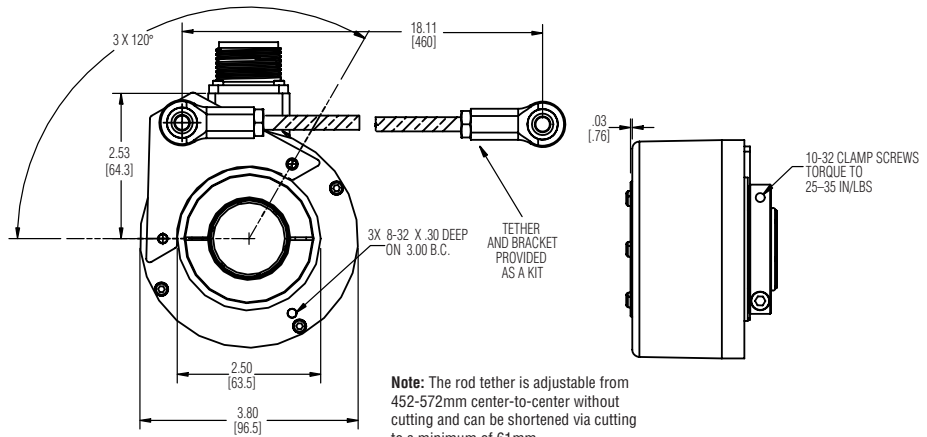
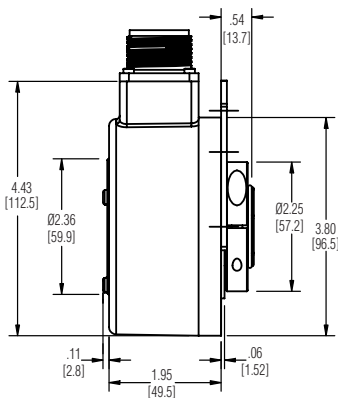
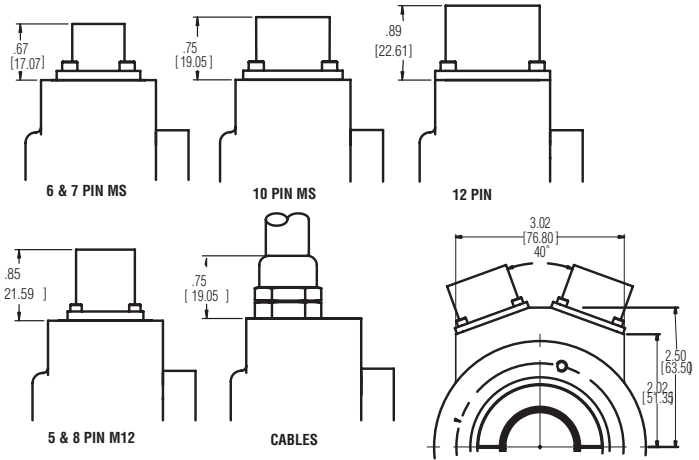
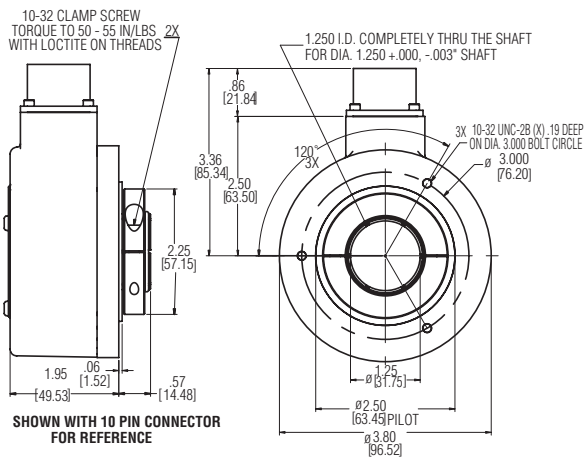
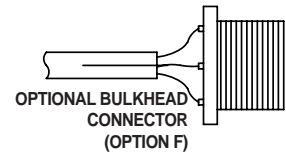
7) "M12" Cable assemblies are rated IP67

INCREMENTAL ENCODERS



SERIES HS35R

DIMENSIONS <sup>inch</sup> [mm]

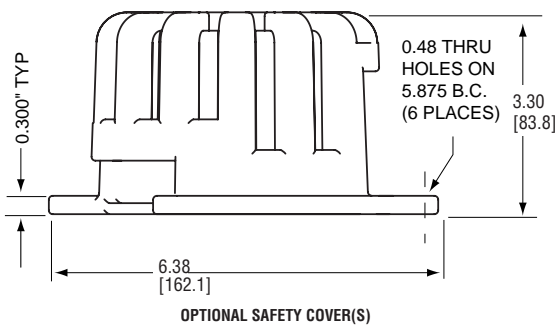
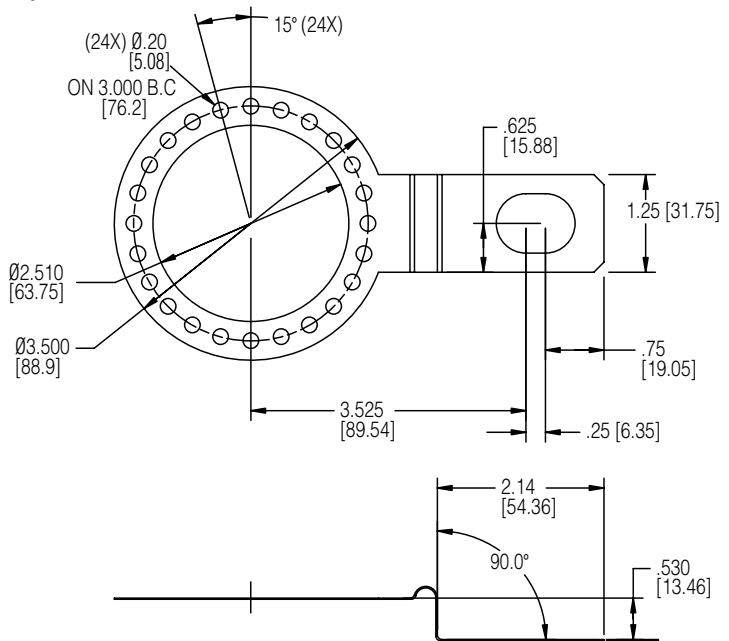
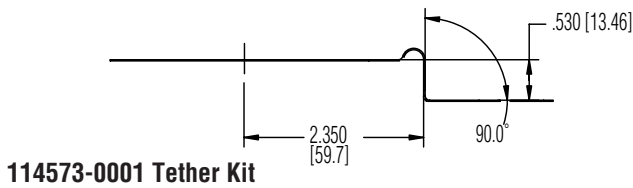
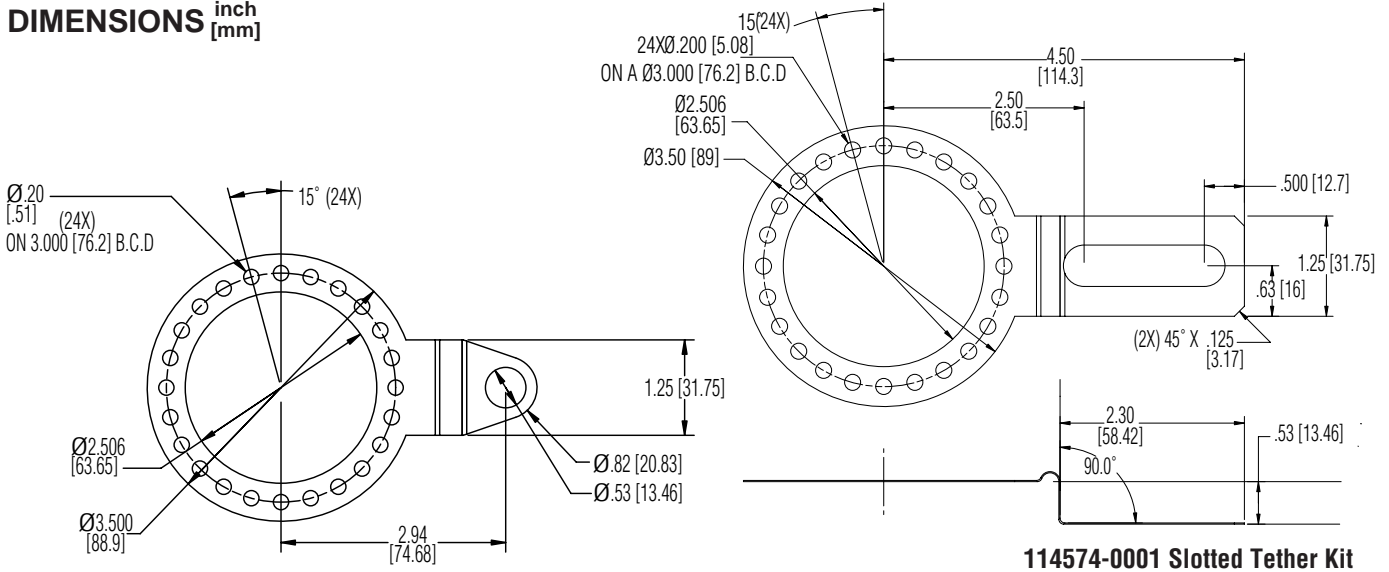


INCREMENTAL ENCODERS

SERIES HS35R

Dynapar™ brand

DIMENSIONS <sup>inch</sup>  
[mm]







## INCREMENTAL ENCODERS

## SERIES HS35M

Dynapar™ brand

## Heavy Duty Hollowshaft Encoder

IND  
Industrial Duty

## Key Features

- Rugged Design Withstands up to 400G Shock and 20G Vibration
- Heavy Duty Design Rated for IP67
- Accommodates Shaft Sizes up to 1.25" (Electrically Isolated up to 1.125")



## SPECIFICATIONS

## STANDARD OPERATING CHARACTERISTICS

**Code:** Incremental, Magnetic**Resolution:** 256, 512, 1024, 2048 PPR (Pulses per revolution)**Format:** Two channel quadrature (AB) with optional Index (Z), and complementary outputs**Phase Sense:** A leads B for CW shaft rotation viewing the shaft clamp end of the encoder**Quadrature Phasing:** 90° ±45°**Symmetry:** 50% ±15%**Index:** 22.5° to 90°**Waveforms:** Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

## ELECTRICAL

**Input Power:** 5-26VDC, 50 mA max., not including output loads.**Outputs:**

7272 Push-Pull: 40mA, sink or source

7272 Differential Line Driver: 40 mA, sink or source

7273 Open Collector: 40mA, sink max

**Frequency Response:** 180 kHz (data & index)**Noise Immunity:** Tested to EN61326-1**Electrical Immunity:** Reverse polarity, short circuit protected with 7272 or 7273 line drivers only**Termination:** MS Connector; M12 Connector; cable exit w/seal. See Ordering Information**Mating Connector:**

6 pin MS, style MS3106A-14S-6S (MCN-N4)

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

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

10 pin, NEMA4 style (MCN-N6N4)

10 pin Bayonet, MS3116-F12-10S (MCN-B1)

12 Pin CCW M23 Connector (MCN-C2)

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

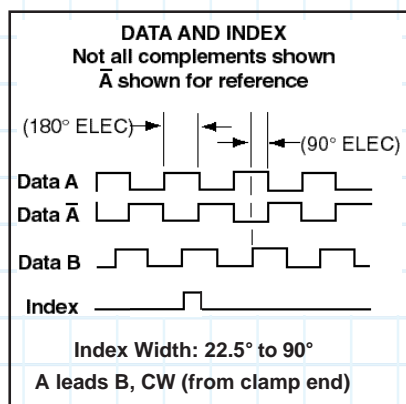
Cable w/ 8 pin M12 Connector(112860-XXXX)

Note: "MS" type mating connectors and pre-built cables are rated NEMA 12. "M12" Cable assemblies are rated IP67

## MECHANICAL

**Bore Diameter:** 6mm to 28mm, 1/4" to 1-1/8", electrically isolated**Mating Shaft Length:** 1.25", Minimum, 1.60", Recommended**Shaft Speed:** 6000 RPM, Maximum (Enclosure Rating is IP64 at speed over 5000 RPM)**Starting Torque:** 8.0 in-oz. maximum (at 25°C)**Running Torque:** 5.0 in-oz. maximum (at ambient)**Bearings:** ABEC 1**Housing and Cover:** Powder Coated Aluminum**Shaft Material:** 6061-T6 Aluminum**Weight:** 1.76lb (28 Oz) Typical

## ENVIRONMENTAL

**Standard Operating Temperature:** -40 to +120°C**Storage temperature:** -40 to +120°C**Shock:** 400G, 6mSec**Vibration:** 5 to 3000 Hz, 20G**Humidity:** Up to 98% (non-condensing)**Enclosure Rating:** IP67 (IP64 at shaft speed above 5000 RPM)



INCREMENTAL ENCODERS

SERIES HS35M

Ordering Information

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

Code 1: Model	Code 2: PPR	Code 3: Bore Size	Code 4: Fixing	Code 5: Output Format	Code 6: Termination	Code 7: Options
<b>HS35M</b>	□□□□	□	□	□	□	□□
Ordering Information						
<b>HS35M</b> Heavy-Duty, Hollowshaft Encoder	<b>0256</b> <b>0512</b> <b>1024</b> <b>2048</b>	<b>0</b> 6mm <b>1</b> 1/4" <b>2</b> 5/16" <b>3</b> 8mm <b>4</b> 3/8" <b>5</b> 10mm <b>6</b> 12mm <b>7</b> 1/2" <b>8</b> 5/8" <b>9</b> 15mm <b>A</b> 16mm <b>C</b> 19mm <b>D</b> 3/4" <b>E</b> 20mm <b>F</b> 7/8" <b>G</b> 24mm <b>H</b> 1" <b>J</b> 1-1/8" <b>M</b> 14mm <b>N</b> 18mm <b>P</b> 25mm <b>R</b> 28mm  Not Electrically Isolated <b>K</b> 1-1/4"	<b>0</b> None <b>1</b> 4.5" C-face tether <b>2</b> 8.5" C-face tether <b>3</b> Slotted tether (to fit standard AC motor fan cover)  Not available when Code 5 is D,E,F,G, Q, R <b>4</b> Same as 1 w/cover <b>5</b> Same as 3 w/cover <b>C</b> Same as A with 56C cover (Single Only)  Available when Code 5 is D,E,F,G, Q, R <b>6</b> Same as 1 w/dual cover <b>7</b> Same as 3 w/dual cover <b>8</b> Same as 2 w/ 180 C-face cover (single or dual output) <b>A</b> Rod tether	<b>0</b> ABZ, 5-26VDC push-pull (7272) <b>1</b> ABZ, 5-26VDC O/C (7273) <b>2</b> ABZ, 5-26VDC O/C w2.2kOhm (7273)  Not available when Code 6 is H <b>4</b> Differential AB only, 5-26VDC, 5-26VDC out (7272) <b>5</b> Differential AB only, 5-26VDC in, 5VDC out (7272)  Not available when Code 6 is 0, 1, 5, 6, or H <b>6</b> Differential ABZ, 5-26VDC in, 5VDC out (7272) <b>7</b> Differential ABZ, 5-26VDC in, 5-26VDC out (7272) <b>D</b> Dual isolated outputs, same as "6" <b>E</b> Dual isolated outputs, same as "7"	<b>0</b> 6 Pin Connector <b>1</b> 7 Pin Connector <b>2</b> 10 Pin Connector <b>3</b> 12 Pin Connector <b>4</b> 10 Pin Bayonet Connector <b>5</b> 6 Pin+Mating Connector <b>6</b> 7 Pin+Mating Connector <b>7</b> 10 Pin+Mating Connector <b>8</b> 12 Pin+Mating Connector <b>9</b> 10 Pin Bayonet+Mating Connector <b>A</b> 0.5m (18") Cable <b>C</b> 1m (36") Cable <b>D</b> 2m (72") Cable <b>E</b> 3m (120") Cable <b>F</b> 0.3m (13") Cable with 10-Pin Bulk-head Connector and Mate <b>G</b> 0.3m (13") Cable <b>H</b> 5 Pin M12 Connector <b>J</b> 8 Pin M12 Connector	<b>Blank</b> No Option

**Cable Assemblies with MS Connector\***

- 108594-XXXX 6 Pin MS, Cable Assy. For Use with Single Ended Outputs
- 112123-XXXX 6 Pin MS, Cable Assy. For Use with Differential Line Driver w/o Index Outputs
- 108595-XXXX 7 Pin MS, Cable Assy. For Use with Single Ended Outputs
- 108596-XXXX 7 Pin MS, Cable Assy. For Use with Differential Line Driver w/o Index Outputs
- 1400635-XXXX 10 Pin MS, Cable Assy. For Use with Differential Line Driver with Index Outputs
- 114448-XXXX 10 Bayonet, 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 M23 Connector\***

- 108615-XXXX 12 M23, Cable Assy. For Use with Differential Line Driver with Index Outputs, CCW

**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

\*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.

**Mating Connectors (no cable)**

- MCN-N4 6 pin, style MS3106A-14S-6S
- MCN-N5 7 pin, style MS3106A-16S-1S
- MCN-N6 10 pin, style MS3106A-18-1S
- MCN-N6N4 10 pin, NEMA4 style
- MCN-B1 10 pin bayonet, style MS3116-F12-10S
- MCN-C2 12 Pin CCW M23 Connector

**Accessory Kits:**

- 114573-0001 Tether Kit, 4.5" C-Face Single Point with 3/8" Bolt
- 114574-0001 Tether Kit, Slotted with T-bolts for Standard AC Motor Fan Covers
- 114575-0001 Tether Kit, 8.5" C-Face Single Point with 1/2" Bolt
- 114591-0001 Cover Kit, 56 C-Face
- 114592-0001 Cover Kit, Fan Cover
- 114593-0001 Dual Cover Kit, 56 C-Face
- 114928-0001 Dual Cover Kit, 180 C-Face
- 114594-0001 Dual Cover Kit, Fan Cover
- 116233-0001 Rod Tether Only
- 116233-0002 Rod Tether + 56 C-Face Cover (Single)
- 116233-0004 Rod Tether + Grounding Strap
- 116233-0005 Rod Tether + Grounding Strap +56 C-Face Cover (Single)



## INCREMENTAL ENCODERS

## SERIES HS35M

Dynapar™ brand

## ELECTRICAL CONNECTIONS

## 6, 7 &amp; 10 Pin MS Connectors and Cables - Code 6 = 0 to 9, A to G

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 #108594-XXXX 6 Pin Single Ended		Cable #112123-XXXX 6 Pin Dif Line Drv w/o Index		Cable #108596-XXXX 7 Pin Dif Line Drv w/o Index		Cable #108595-XXXX 7 Pin (If Used)		**Cable #109209-XXXX or 1400635XXXX 10 Pin Differential Line Driver w/ Index		Cable #114448-XXXX 10 Pin Bayonet		Cable #108615-XXXX 12 Pin CCW		Cable Exit with Seal
	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color	Pin	Wire Color	Wire Color
Sig. A	E	BRN	E	BRN	A	BRN	A	BRN	A	BRN	A	BRN	5	BRN	BRN
Sig. B	D	ORN	D	ORN	B	ORN	B	ORN	B	ORN	B	ORN	8	ORN	ORN
Sig. Z*	C	YEL	—	—	—	—	C	YEL	C	YEL	C	YEL	3	YEL	YEL
Power +V	B	RED	B	RED	D	RED	D	RED	D	RED	D	RED	12	RED	RED
N/C	F	—	—	—	—	—	E	—	E	—	E	—	7	—	—
Com	A	BLK	A	BLK	F	BLK	F	BLK	F	BLK	F	BLK	10	BLK	BLK
Case	—	—	—	—	G	GRN	G	GRN	G	GRN	G	GRN	9	—	GRN
Sig. $\bar{A}$	—	—	C	BRN/WHT	C	BRN/WHT	—	—	H	BRN/WHT	H	BRN/WHT	6	BRN/WHT	BRN/WHT
Sig. $\bar{B}$	—	—	F	ORN/WHT	E	ORN/WHT	—	—	I	ORN/WHT	J	ORN/WHT	1	ORN/WHT	ORN/WHT
Sig. $\bar{Z}^*$	—	—	—	—	—	—	—	—	J	YEL/WHT	K	YEL/WHT	4	YEL/WHT	YEL/WHT
0V Sense	—	—	—	—	—	—	—	—	—	—	—	—	2	BLK/WHT	—
5V Sense	—	—	—	—	—	—	—	—	—	—	—	—	11	GRN	—

## 5 &amp; 8 Pin M12 Accessory Cables when Code 6 = H or J

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

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	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

1) Cable Configuration (Table 1): PVC jacket, 105 °C rated, overall foil shield; 3 twisted pairs 24 AWG (output signals), plus 2 twisted pairs 22 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 109209-XXXX.

6) "MS" Type mating connectors and pre-build cables are rated NEMA 12

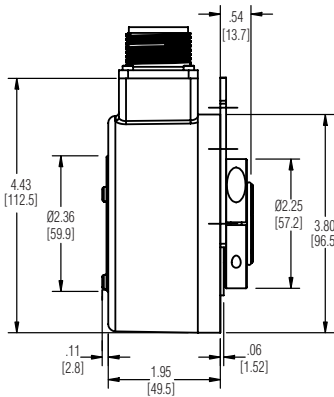
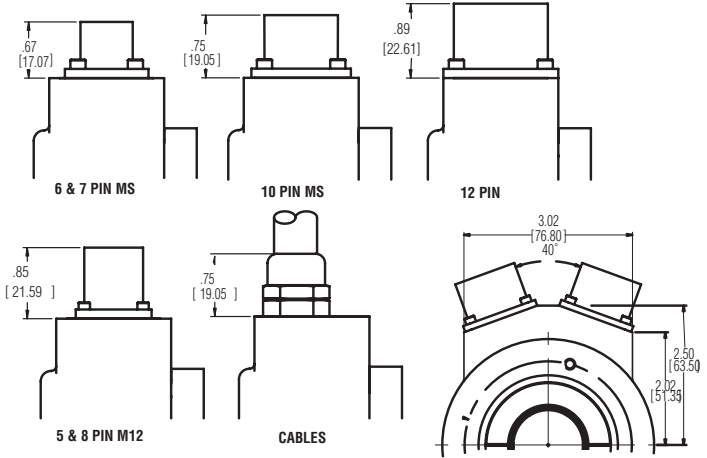
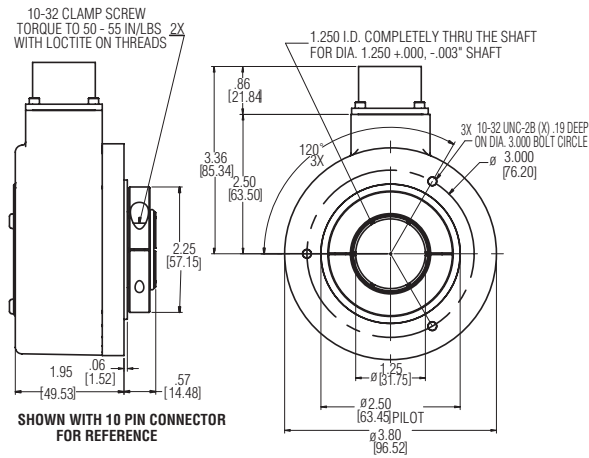
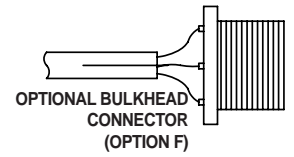
7) "M12" Cable assemblies are rated IP67



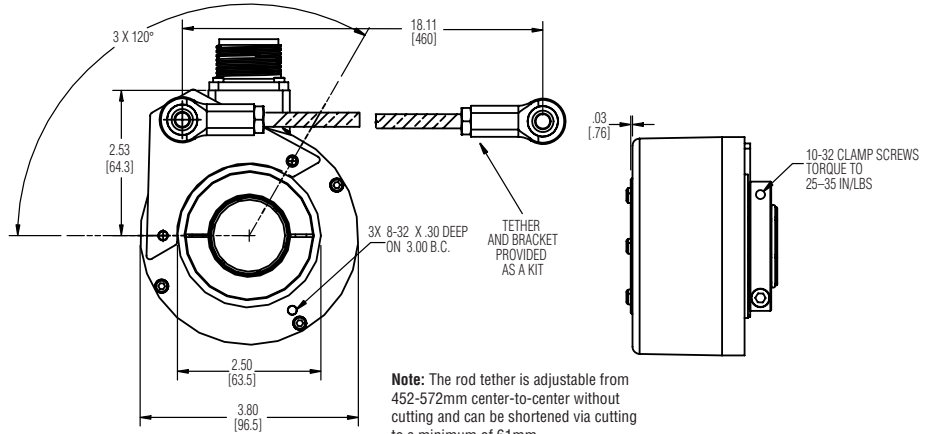
INCREMENTAL ENCODERS

SERIES HS35M

DIMENSIONS <sup>inch</sup> [mm]



SHOWN WITH TORQUE ARM



Note: The rod tether is adjustable from 452-572mm center-to-center without cutting and can be shortened via cutting to a minimum of 61mm.

INCREMENTAL ENCODERS

SERIES HS35M

DIMENSIONS <sup>inch</sup>  
[mm]

