INCREMENTAL ENCODERS

SERIES E12

Dynapar™ brand

Miniature Encoder

GP General Purpose

RoHS

Key Features

- **Rugged Metal Housing**
- **Sub-Compact 1.2” Diameter**
- **Up to 1024 PPR with Optional Index**

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Optical

Resolution: 250 to 1024 PPR (pulses/ revolution)

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

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

Accuracy: ±3 x (360 ° ÷PPR)or ± 2.5 arc-min worst case pulse to any other pulse, whichever is less

Quadrature Phasing: 90 ° ± 36 ° electrical

Symmetry: 180 ° ± 18 ° electrical

Index: 90 ° ± 25 ° (gated with A and B high)

Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

ELECTRICAL

Input Power: 5 VDC ± 5% at 80 mA max.; 12 or 15 VDC ± 10% 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

Frequency Response: 100 kHz min.

Termination: Cable

Cable: PVC Jacket, 105°C rated, overall foil shielded; 28 AWG wires

Electrical Connections

Function (If Used)	Wire Color Code
Supply	Red
Common	Black
Signal A	White
Signal B	Green
Signal Z	Orange
Floating	Shield

MECHANICAL

Shaft Size: 1/8”

Shaft Loading: 1 lb. radial,1 lb.axial max.

Shaft Speed: 5,000 RPM max.

Starting Torque:

Shielded Bearing: 0.1 oz-in max. at 25 °C
Sealed Bearing: 0.3 oz-in max.at 25 °C

Running Torque:

Shielded Bearing: 0.08 oz-in max.at 25 °C;
Sealed Bearing: 0.2 oz-in max. at 25 °C

Mechanical Bearing Life: 16 x 10^{6} revolutions at max. load

Moment of Inertia: 1.13 x 10^{-5} oz –in –sec ^{2}

Housing and Cover: Aluminum

Shaft Material: Stainless Steel

Disc Material: Glass

Weight: 3.0 oz.max.

ENVIRONMENTAL

Operating Temperature: 0 to +70 °C

Storage Temperature: –25 to +70 °C

Humidity: Up to 98% (non-condensing)

Enclosure Rating: NEMA12/IP54 (dirt tight, splashproof)

INCREMENTAL ENCODERS

by DYNAPAR™

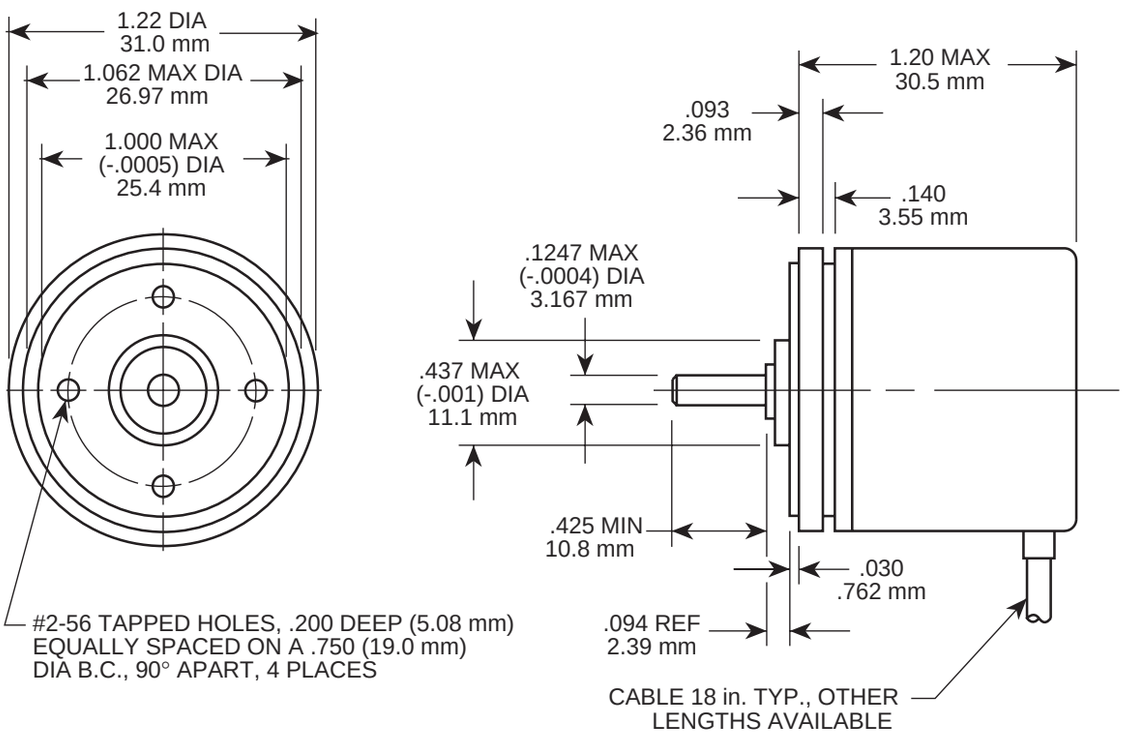
SERIES E12

Ordering Information

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

Code 1: Model	Code 2: Pulses/Rev	Code 3: Mechanical	Code 4: Output	Code 5: Voltage	Code 6: Termination
E12	□□□□	□	□	□	□
E12 Size 12, Light Duty Enclosed	**0250** **0256** **0360** **0500** **0600** **1000** **1024**	**0** Sealed Bearing **1** Shielded Bearing	**0** Unidirectional **2** Bidirectional, no Index **3** Bidirectional, with Index	**0** 5 VDC **1** 12 VDC **2** 15 VDC	**0** 18" Cable **1** 3' Cable **2** 6' Cable **3** 10' Cable **4** 15' Cable

Dimensions (inches/mm)



INCREMENTAL ENCODERS

SERIES E14

Dynapar™ brand

Miniature Encoder

GP General Purpose

Key Features

- **Rugged Metal Housing**
- **Optional Differential Line Driver Outputs**
- **Up to 2540 PPR with Optional Index**

RoHS

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Optical

Resolution: 100 to 2540 PPR (pulses/ revolution)

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

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

Accuracy: ±3 x (360 ° ÷PPR) or ± 2.5 arc-min worst case pulse to any other pulse,whichever is less

Quadrature Phasing: 90 ° ± 36 ° electrical

Symmetry: 180 ° ± 18 ° electrical

Index: 90 ° ± 25 ° (gated with A and B high)

Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

ELECTRICAL

Input Power: 5 VDC ± 5% at 80 mA max.;
12 or 15 VDC ± 10% 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

Frequency Response: 100 kHz min.

Termination: Cable

MECHANICAL

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

Shaft Loading: 5 lb. radial, 3 lb. axial max.

Shaft Speed: 5,000 RPM max.

Starting Torque:

Shielded Bearing: 0.1 oz-in max. at 25 °C
Sealed Bearing: 0.43 oz-in max. at 25 °C

Running Torque:

Shielded Bearing: 0.08 oz-in max. at 25 °C
Sealed Bearing: 0.42 oz-in max. at 25 °C

Moment of Inertia: 3.8 x 10^{-5} oz –in –sec^2

Housing and Cover: Aluminum

Shaft Material: Stainless Steel

Disc Material: Glass

Weight: 3.0 oz. max.

ENVIRONMENTAL

Operating Temperature: 0 to +70 °C

Storage Temperature: –25 to +70 °C

Humidity: Up to 98% (non-condensing)

Enclosure Rating: NEMA12/IP54 (dirt tight, splashproof)

Electrical Connections

Wire Color Code	Function		
	Standard Outputs 5, 12, or 15 VDC	w/ Line Driver Outputs	
		Unidirectional	Bidirectional
Red	Power Source	Power Source	Power Source
Black	Common	Common	Common
White	Signal A	Signal A	Signal A
Green	Signal B (if used)	Signal $\overline{A}$	Signal B
Orange	Signal Z (if used)	No Connection	Signal $\overline{B}$
Blue	No Connection	No Connection	Signal $\overline{A}$
Shield	Floating	Floating	Floating
White/Black	——	——	Signal Z (if used)
Red/Black	——	——	Signal $\overline{Z}$ (if used)

INCREMENTAL ENCODERS

by DYNAPAR™

SERIES E14

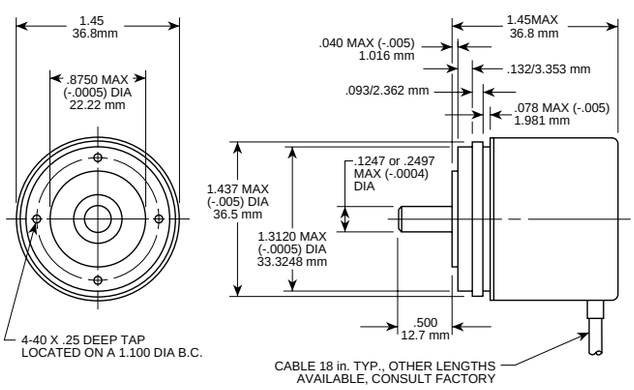
Ordering Information

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

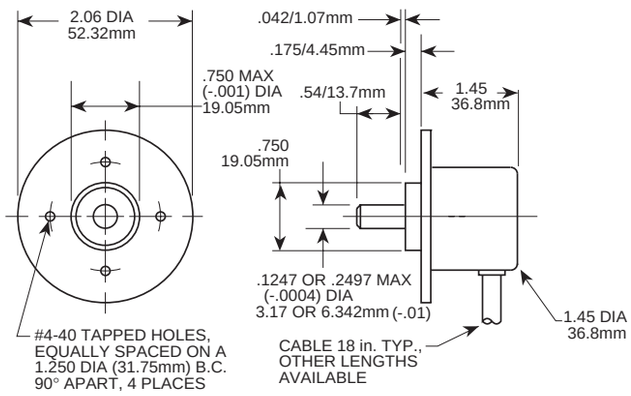
Code 1: Model	Code 2: Pulses/Rev	Code 3: Mounting	Code 4: Mechanical	Code 5: Output	Code 6: Electrical	Code 7: Termination
E14	□□□□	□	□	□	□	□
E14 Size 14, Light Duty Enclosed	**0100** **0750** **0200** **0900** **0250** **1000** **0256** **1024** **0300** **1250** **0400** **1500** **0500** **2000** **0600** **2048** **0720** **2500** **2540**	**0** Size E14 **1** Size E20 Servo **2** Size E20 Flange Available when code 4 is 2 **3** Size EC80 Flange	**0** 1/4" Shaft, Sealed Bearing **1** 1/8" Shaft, Sealed Bearing **2** 1/4" Shaft, Shielded Bearing **3** 1/8" Shaft, Shielded Bearing	**0** Single Ended, Unidirectional **2** Single Ended, Bidirectional, no Index **3** Single Ended, Bidirectional, with Index **4** Differential, Unidirectional **6** Differential, Bidirectional, no Index **7** Differential, Bidirectional, with Index	**0** 5 VDC **1** 12 VDC **2** 15 VDC	**0** 18" Cable **1** 3' Cable **2** 6' Cable **3** 10' Cable **4** 15' Cable

Dimensions (inches/mm)

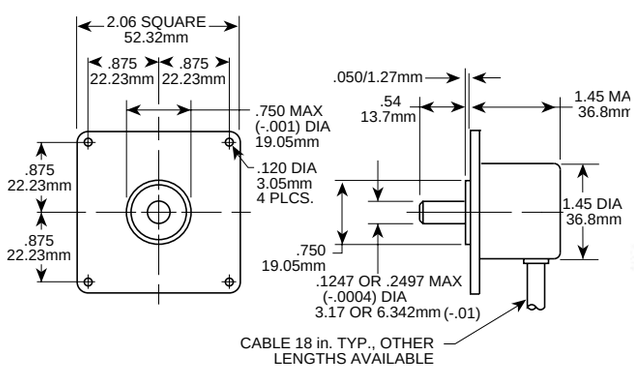
Code 3: 0



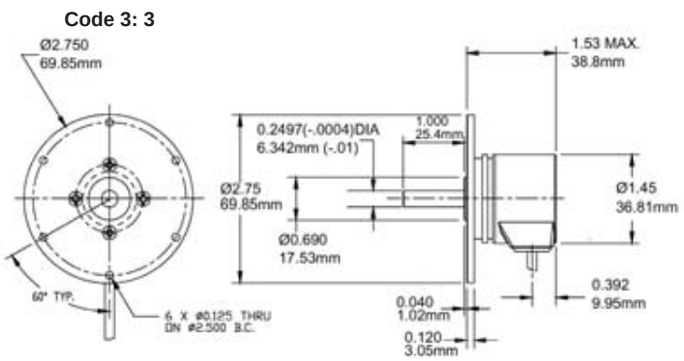
Code 3: 1



Code 3: 2



Code 3: 3



INCREMENTAL ENCODERS

SERIES E14IC

Dynapar™ brand

Miniature Encoder

GP General Purpose

RoHS

Key Features

- **Integrated coupling and "top-hat" for simple installation**
- **Compatible with NEMA size 23 and 24 motors**
- **Optional differential line driver outputs**

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Optical
Resolution: 100 to 2540 PPR (pulses/revolution)
Format: Two channel quadrature (AB) with optional Index (Z) outputs
Phase Sense: A leads B for CW shaft rotation as viewed from the shaft end of the encoder; Reverse phasing available, see Ordering Information
Accuracy: ±3 x (360° ÷ PPR) or ± 2.5 arc-min worst case pulse to any other pulse, whichever is less
Quadrature Phasing: 90° ± 36° electrical
Symmetry: 180° ± 18° electrical
Index: 90° ± 25° (gated with A and B high)
Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

ELECTRICAL

Input Power:
5 VDC ± 5% at 80 mA max.;
12 or 15 VDC ± 10% 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
Frequency Response: 100 kHz min.
Termination: Cable, Cable with DB25 Connector

MECHANICAL

Bore Diameter: 1/4", 3/8"
Shaft Speed: 5,000 RPM max.
Starting Torque: 0.1 oz-in max. at 25 °C
Running Torque: 0.08 oz-in max. at 25 °C
Moment of Inertia: 3.8 x 10^{-5} oz–in–sec^2
Bearing Life: (16 x 10^6 ÷ RPM) hours min.
Housing and Cover: Aluminum
Shaft Material: Stainless Steel
Disc Material: Glass
Weight: 7.0 oz. max.

ENVIRONMENTAL

Operating Temperature: 0 to +70 °C
Storage Temperature: –25 to +70 °C
Humidity: Up to 98% (non-condensing)
Enclosure Rating: NEMA12/IP54 (dirt tight, splashproof)

Electrical Connections

Wire Color Code	Function			DB 25 Connector Pin Number
	Single Ended Outputs	Differential Outputs		
		Unidirectional	Bidirectional	
Red	Power Source	Power Source	Power Source	23
Black	Common	Common	Common	14
White	Signal A	Signal A	Signal A	1
Green	Signal B (if used)	Signal $\overline{A}$	Signal B	3
Orange	Signal Z (if used)	No Connection	Signal $\overline{B}$	4
Blue	No Connection	No Connection	Signal $\overline{A}$	2
Shield	Floating	Floating	Floating	8
White/Black	——	——	Signal Z (if used)	5
Red/Black	——	——	Signal $\overline{Z}$ (if used)	6

INCREMENTAL ENCODERS

by DYNAPAR™

SERIES E14IC

Ordering Information

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

Code 1: Model	Code 2: Pulses/Rev	Code 3: Mounting	Code 4: Mechanical	Code 5: Output	Code 6: Electrical	Code 7: Termination
E14	□□□□	**0**	□	□	□	□
E14 Size 14, with Integral Shaft Coupling	**0100** **0750** **0200** **0900** **0250** **1000** **0256** **1024** **0300** **1250** **0400** **1500** **0500** **2000** **0600** **2048** **0720** **2500** **2540**	**0** Size E14	**A** NEMA Size 23 Flange Mount with 1/4" Motor Shaft Coupling **B** NEMA Size 23 Flange Mount with 3/8" Motor Shaft Coupling **C** NEMA Size 34 Flange Mount with 3/8" Motor Shaft Coupling	**0** Single Ended, Unidirectional **2** Single Ended, Bidirectional, no Index **3** Single Ended, Bidirectional, with Index **4** Differential, Unidirectional **6** Differential, Bidirectional, no Index **7** Differential, Bidirectional, with Index **8** Differential, Bidirectional, with Index, Reversed Phasing	**0** 5 VDC **1** 12 VDC **2** 15 VDC	**0** 18" Cable **1** 3' Cable **2** 6' Cable **3** 10' Cable **4** 15' Cable available when Code 5 = 7 or 8: **5** 10' Cable, DB25 Connector **7** 25' Cable, DB25 Connector

Flange Adapter Ordering Codes

Factory Option Code	Motor Frame Size	Motor Shaft Diameter	Model No. of Coupling Only
A	23	1/4"	605106-1
B	23	3/8"	605106-3
C	34	3/8"	605106-3

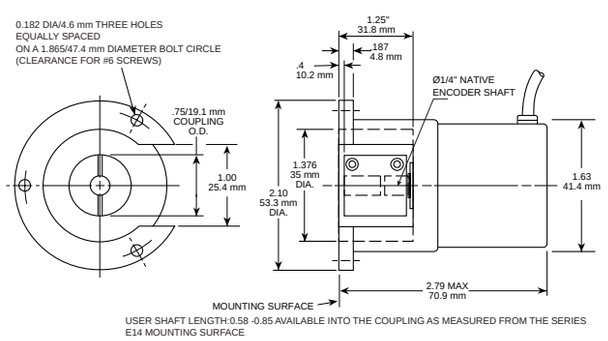
Other couplings available; consult factory.

Field Installed Kit:

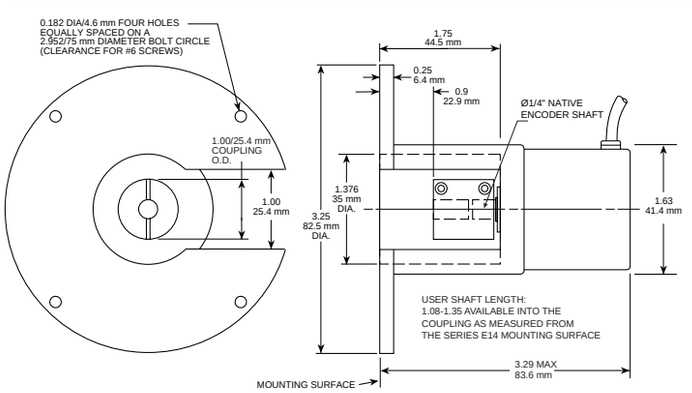
Field installed kits are available by ordering either Model No. E14-N1 (integral housing and mounting hardware for NEMA size 23 motors) or Model No. E14-N2 (integral housing & mounting hardware for NEMA size 34 motors), and the appropriate coupling listed in the table left.

Dimensions (inches/mm)

E14 for NEMA Size 23 Motors



E14 for NEMA Size 34 Motors



INCREMENTAL ENCODERS

SERIES E23

Dynapar™ brand

Miniature Encoder

GP General Purpose

Key Features

- **Up to 2540 PPR with Optional Index**
- **Optional Screw Terminal Connections**
- **Standard Size 23 (2.3” diameter)**

CE 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) ±2.5 arc-min.
Format: Two channel quadrature (AB) with optional Index (Z) 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° ± 18° electrical
Symmetry: 180° ± 9° electrical
Index: 180° ± 9° electrical, gated with B
Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

ELECTRICAL CONNECTIONS

Note: Wire color codes are referenced here for models that are specified with pre-wired cable.

Single Ended		
Term.	Function (If Used)	Wire Color Code
A	Signal A	BRN
B	Signal B	ORN
C	Signal Z	YEL
D	Power Source	RED
E	No Connection	—
F	Common	BLK
G	Case	GRN

ELECTRICAL

Input Power:
Open Collector or Totem Pole outputs: 5 to 26 VDC. at 200 mA max.;
Line Driver: 5 to 26 VDC at 80 mA max.
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: 100 mA, sink or source
Frequency Response: 100 kHz min.
Noise Immunity: Tested to EN61326-1
Electrical Immunity: Reverse polarity and short circuit protected
Termination: Cable, Screw Terminals
Cable: PVC jacket, 105 °C rated, overall foil shield; 3 twisted pairs 26 AWG (output signals), plus 2 twisted pairs 24 AWG (input power)

Differential		
Term.	Function (If Used)	Wire Color Code
A	Signal A	BRN
B	Signal B	ORN
C	Signal Z	YEL
D	Power Source	RED
E	No Connection	—
F	Common	BLK
G	Case	GRN
H	Signal $\bar{A}$	BRN/WH
I	Signal $\bar{B}$	ORN/WH
J	Signal $\bar{Z}$	YEL/WH

MECHANICAL

Shaft Size: 1/4”
Shaft Loading: 5 lbs. max. radial and axial
Shaft Speed: 5,000 RPM max.
Starting Torque: 0.2 oz-in max. at 25 °C
Moment of Inertia: 3.7 x 10^{-4} oz–in–sec^2
Housing and Cover: Aluminum
Shaft Material: Stainless Steel
Disc Material: Glass
Weight: 13 oz. max.

ENVIRONMENTAL

Operating Temperature: 0 to +70° C
Storage Temperature: –40 to +80 °C
Shock: 50 G’s for 11 msec duration
Vibration: 5 to 2000 Hz at 2 G’s
Humidity: Up to 98% (non-condensing)
Enclosure Rating: NEMA12/IP54 (dirt tight, splashproof)

by DYNAPAR™

SERIES E23

Ordering Information

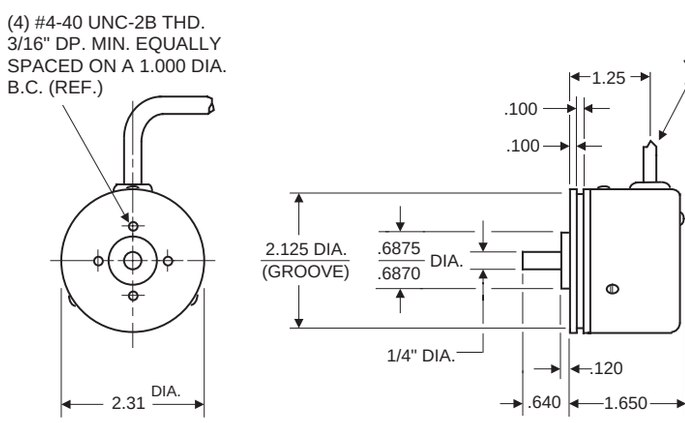
To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: Pulses/Rev	Code 3: Mechanical	Code 4: Output	Code 5: Electrical	Code 6: Termination
E23	□□□□	□	□	□	□
E23 Size 23 Enclosed	**0001** **0005** **0010** **0012** **0050** **0060** **0100** **0120** **0150** **0180** **0200** **0240** **0250** **0256** **0300** **0344** **0360** **0400** **0500** **0512** **0600** **0625** **0635** **0720** **0800** **0900** **1000** **1024** **1200** **1250** **1270** **1500** **1600** **1800** **1968** **2000** **2048** **2400** **2500** **2540** For Resolutions above 2540, see Series EC23	**0** 1/4" Shaft, Shielded Bearings **1** 1/4" Shaft, Sealed Bearings	**4** Single Ended, with Index, Format C **5** Differential, with Index, Format C **6** Single Ended, with Index, Format D **7** Differential, with Index, Format D **8** Single Ended, no Index, Format C **9** Differential, no Index, Format C	**0** 5-26V in; 5-26V Open Collector w/2.2kΩ Pullup out **1** 5-26V in; 5-26V Open Collector out **2** 5-26V in; 5V TTL Totem Pole out **3** 5-26V in; 5V Line Driver out (7272) **4** 5-26V in; 5-26V Line Driver out (7272) **5** 5-26V in, 5V Differential Line Driver out (4469) **6** 5-15V in, 5-15V Differential Line Driver out (4469)	**0** 18" Cable **1** 3' Cable **2** 6' Cable **3** 10' Cable **4** 15' Cable **8** Screw Terminals

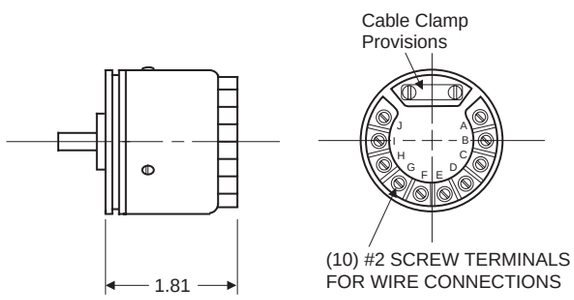
Dimensions (inches)

Code 6: Termination

0 - 4: Cable

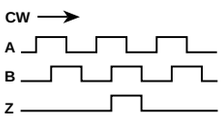


8: Terminals

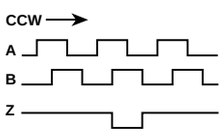


Code 4: Output

4,5,8,9: Format C



6,7: Format D



INCREMENTAL ENCODERS

SERIES EC23

Dynapar™ brand

Miniature Encoder

GP General Purpose

Key Features

- **High 5000 PPR Capability**
- **Optional Screw Terminal Connections**
- **Standard Size 23 (2.3” diameter)**

CE EN 61326-1

RoHS

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Optical

Resolution: 3000 to 5000 PPR (pulses/revolution)

Accuracy: (Worst case any edge to any other edge) ±10.8°/PPR

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° ± 25° electrical

Symmetry: 180° ± 25° electrical

Index: 90° ± 25° electrical, gated with B

Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

ELECTRICAL

Input Power:
5 min. to 26 VDC max. 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

7273 Open Collector: 40mA, sink max

Frequency Response: 250 kHz min.

Noise Immunity: Tested to EN61326-1
Electrical Immunity: Reverse polarity and short circuit protected
Termination: Cable, Screw Terminals

Cable: PVC jacket, 105 °C rated, overall foil shield; 3 twisted pairs 26 AWG (output signals), plus 2 twisted pairs 24 AWG (input power)

MECHANICAL

Shaft Size: 1/4”

Shaft Loading: 5 lbs. max radial and axial

Shaft Runout: 0.001” max. TIR

Shaft Speed: 10,000 RPM max. mechanical

Shaft Tolerance: Nominal -0.0004”/-0.0007”

Starting Torque:
Shielded bearings: 0.1 oz-in max.;
Sealed bearings: 0.2 oz.-in max.

Moment of Inertia: 2.83 x 10^{-4} oz–in–sec^2

Housing and Cover: Aluminum

Shaft Material: Stainless Steel

Disc Material: Glass

Weight: 13 oz. max.

ENVIRONMENTAL

Operating Temperature:
Standard: 0 to +70 °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)

ELECTRICAL CONNECTIONS

Note: Wire color codes are referenced here for models that are specified with pre-wired cable.

Single Ended		
Term.	Function (If Used)	Wire Color Code
A	Signal A	BRN
B	Signal B	ORN
C	Signal Z	YEL
D	Power Source	RED
E	No Connection	—
F	Common	BLK
G	Case	GRN

Differential		
Term.	Function (If Used)	Wire Color Code
A	Signal A	BRN
B	Signal B	ORN
C	Signal Z	YEL
D	Power Source	RED
E	No Connection	—
F	Common	BLK
G	Case	GRN
H	Signal $\bar{A}$	BRN/WH
I	Signal $\bar{B}$	ORN/WH
J	Signal $\bar{Z}$	YEL/WH

by DYNAPAR™

SERIES EC23

Ordering Information

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

Code 1: Model	Code 2: Pulses/Rev	Code 3: Mechanical	Code 4: Output	Code 5: Electrical	Code 6: Termination
EC23	□□□□	□	□	□	□

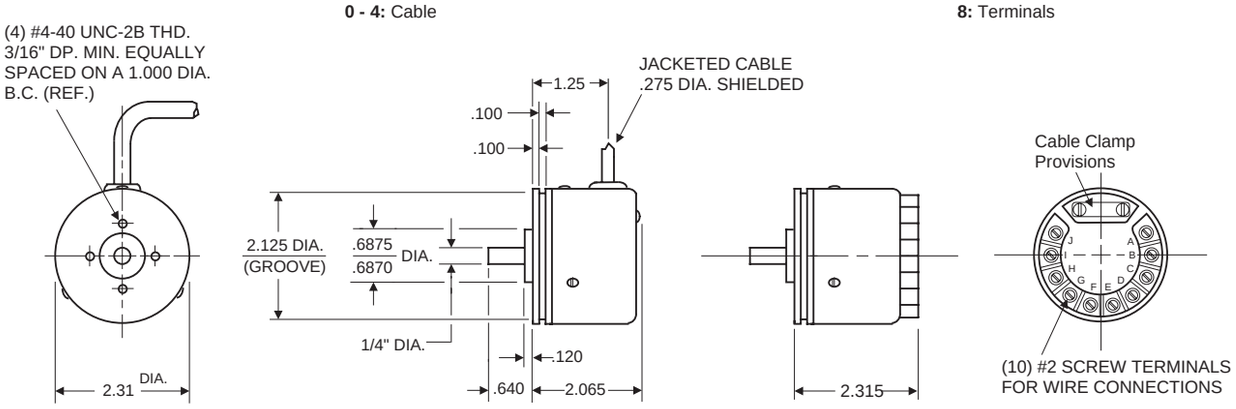
Ordering Information

EC23 Size 23 Enclosed	**3000** **3600** **4096** **5000**	**0** 1/4" Shaft, Shielded Bearings, 2.31" Dia. Servo Mount w/ 4-Hole Face Mount **1** 1/4" Shaft, Sealed Bearings, 2.31" Dia. Servo Mount w/ 4-Hole Face Mount	**4** Single Ended, with Index, Format C **5** Differential, with Index, Format C **6** Single Ended, with Index, Format D **7** Differential, with Index, Format D **8** Single Ended, No Index, Format C **9** Differential, No Index, Format C	**0** 5-26V in, 5-26V Open Collector w/2.2kΩ Pullups out **1** 5-26V in, 5-26V Open Collector out **2** 5-26V in; 5V out, Push-Pull out **3** 5-26V in; 5V Line Driver out **4** 5-26V in, 5-26V Line Driver out	**0** 18" Cable, Side Exit **1** 3' Cable, Side Exit **2** 6' Cable, Side Exit **3** 10' Cable, Side Exit **4** 15' Cable, Side Exit **8** Screw Terminals

Dimensions (inches/mm)

Code 6: Termination

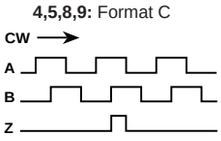
0 - 4: Cable



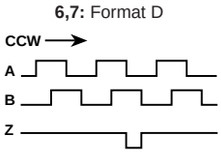
8: Terminals

Code 4: Output

4,5,8,9: Format C



6,7: Format D



INCREMENTAL ENCODERS

SERIES E14H

Dynapar™ brand

Miniature Encoder

GP General Purpose

RoHS

Key Features

- **Hubshaft with flex tether for simplified installation**
- **Up to 2540 PPR with optional index**
- **Rugged metal housing**

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Optical
Resolution: 100 to 2540 PPR (pulses/revolution)
Format: Two channel quadrature (AB) with optional Index (Z) outputs
Phase Sense: A leads B for CW shaft rotation as viewed from the shaft end of the encoder
Accuracy: ±3 x (360° ÷ PPR) or ± 2.5 arc-min worst case pulse to any other pulse, whichever is less
Quadrature Phasing: 90° ± 36° electrical
Symmetry: 180° ± 18° electrical
Index: 90° ± 25° (gated with A and B high)
Waveforms: Squarewave with rise and fall times less than 1 microsecond into a load capacitance of 1000 pf

ELECTRICAL

Input Power:
5 VDC ± 5% at 80 mA max.;
12 or 15 VDC ± 10% 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
Frequency Response: 100 kHz min.
Termination: Cable

MECHANICAL

Bore Diameter: 1/4" - 5/8", 6mm - 12mm
Hub Dia. Tolerance: nominal -0/+0.0005" (0.013mm)
Shaft Speed: 5,000 RPM max.
Mating Shaft Length: 0.25" (6 mm) min.; 0.50" (12 mm) max.
Mating Shaft Runout: 0.008" (0.2 mm) max. TIR
Mating Shaft Endplay: ±0.010" (0.25 mm) max.
Starting Torque: 0.9 oz-in max.at 25 °C
Running Torque: 0.8 oz-in max.at 25 °C
Moment of Inertia:
6 to 10 mm hub: 6.03 x 10^{-5} oz–in–sec^2
12 mm to 5/8" hub: 2.4 x 10^{-4} oz–in–sec^2
Housing and Cover: Aluminum
Disc Material: Glass
Weight:
6 to 10 mm hub: 3.5 oz. max.
12 mm to 5/8" hub: 4.5 oz. max.

ENVIRONMENTAL

Operating Temperature: 0 to +70 °C
Storage Temperature: –25 to +70 °C
Humidity: Up to 98% (non-condensing)
Enclosure Rating: NEMA12/IP54 (dirt tight, splashproof)

Electrical Connections

Wire Color Code	Function		
	Single-Ended Outputs	Differential Outputs	
		Unidirectional	Bidirectional
Red	Power Source	Power Source	Power Source
Black	Common	Common	Common
White	Signal A	Signal A	Signal A
Green	Signal B (if used)	Signal $\overline{A}$	Signal B
Orange	Signal Z (if used)	No Connection	Signal $\overline{B}$
Blue	No Connection	No Connection	Signal $\overline{A}$
Shield	Floating	Floating	Floating
White/Black	——	——	Signal Z (if used)
Red/Black	——	——	Signal $\overline{Z}$ (if used)

INCREMENTAL ENCODERS

by DYNAPAR™

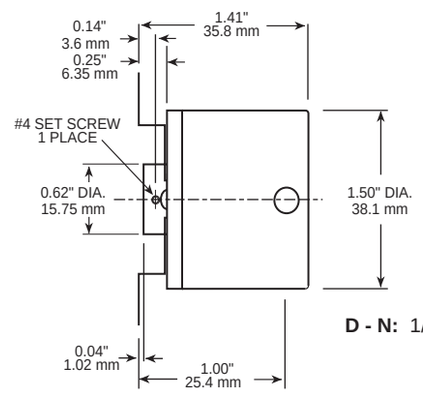
SERIES E14H

Ordering Information

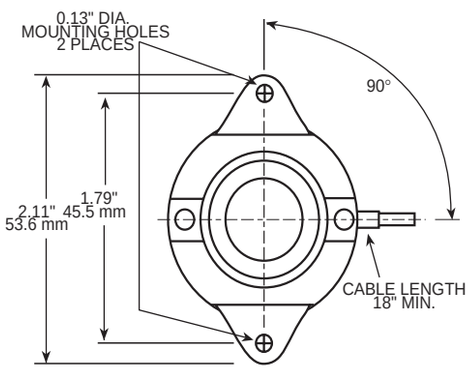
To order, complete the model number with code numbers from the table below:

Code 1: Model	Code 2: Pulses/Rev	Code 3: Mounting	Code 4: Hub Bore	Code 5: Output	Code 6: Electrical	Code 7: Termination
E14	□□□□	□	□	□	□	□
E14 Size 14, Hub Shaft	**0100** **0750** **0200** **0900** **0250** **1000** **0256** **1024** **0300** **1250** **0400** **1500** **0500** **2000** **0600** **2048** **0720** **2500** **2540**	**0** Size E14	**D** 6 mm **E** 1/4” **F** 5/16” **G** 3/8” **H** 10 mm **J** 12 mm **K** 1/2” **L** 14 mm **M** 5/8” **N** 8 mm	**0** Single Ended, Unidirectional **2** Single Ended, Bidirectional, no Index **3** Single Ended, Bidirectional, with Index **4** Differential, Unidirectional **6** Differential, Bidirectional, no Index **7** Differential, Bidirectional, with Index	**0** 5 VDC **1** 12 VDC **2** 15 VDC	**0** 18” Cable **1** 3’ Cable **2** 6’ Cable **3** 10’ Cable **4** 15’ Cable

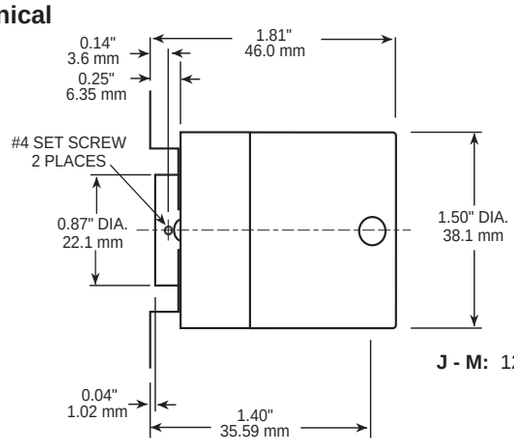
Dimensions (inches/mm)



D - N: 1/4” to 10 mm



Code 4: Mechanical



J - M: 12 mm to 5/8”