

SERIES EC23

Dynapar™ brand

Miniature Encoder

Key Features

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



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental, Optical

Resolution: 3000 to 5000 PPR (pulses/revolution)

Accuracy: (Worst case any edge to any other edge) $\pm 10.8^\circ$ /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: $90^\circ \pm 25^\circ$ electrical

Symmetry: $180^\circ \pm 25^\circ$ electrical

Index: $90^\circ \pm 25^\circ$ 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: 2.83×10^{-4} oz-in-sec²

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 A	BRN/WH
I	Signal B	ORN/WH
J	Signal Z	YEL/WH

Ordering Information

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

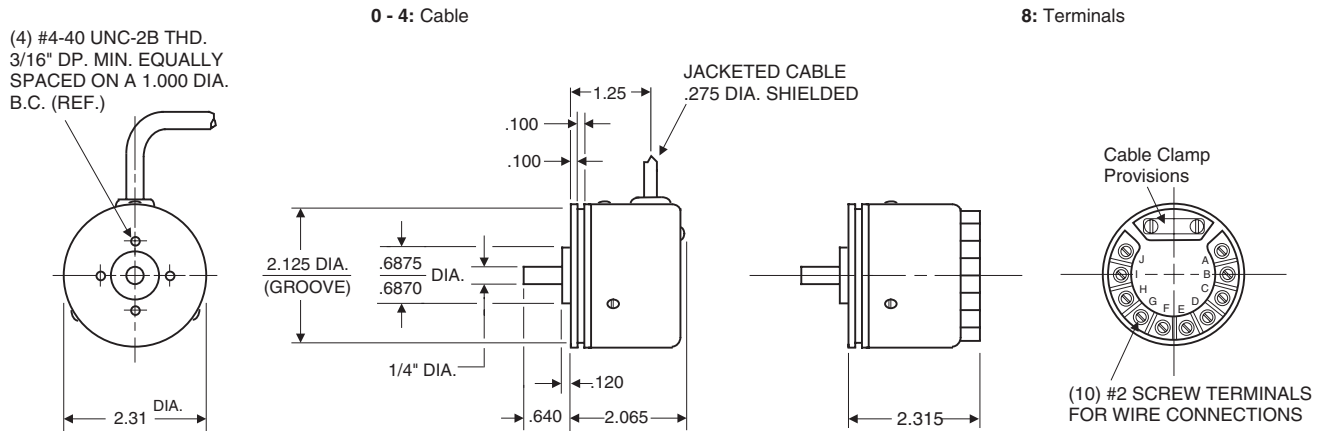
Code 1: Model	Code 2: Pulses/Rev	Code 3: Mechanical	Code 4: Output	Code 5: Electrical	Code 6: Termination
EC23	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ordering Information

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

Dimensions (inches/mm)

Code 6: Termination



Code 4: Output

