

# SERIES E9

**Dynapar™ brand**

## Miniature Encoder

### Key Features

- Super-Compact Modular Encoder for Small Servo and Stepper Motor Feedback
- Differential Outputs Available
- Low-Power Standby Mode is Ideal for Battery Powered Applications



## SPECIFICATIONS

### STANDARD OPERATING CHARACTERISTICS

**Code:** Incremental, Optical

**Resolution:** Incremental pulses per revolution; 100 to 512

**Phasing:** 90° ±18° electrical degrees

**Symmetry:** 180° ±18° electrical

**Index Pulse Width:** 90° ±36° electrical

### ELECTRICAL

**Supply Voltage:** 5 VDC ±10%

**Supply Current:** 10 mA, typ.

**Standby Current:** 50 µA, max.

**Output Signals:** 2.5 V min. high ( $V_{OH}$ ); 0.5 V max. low ( $V_{OL}$ ); 3 mA sink/source (25°C), 2 mA (100°C)

**Frequency Response:** 200 kHz

**Termination:** 10 pin header (accessory connector/ 12" ribbon cable, part no. CA0040012)

**Recommended Mating Connector:** Thomas & Betts part number 622-1030

### MECHANICAL

**Weight:** 0.18 oz (5.07 g)

**Moment of Inertia:** 0.28 x 10<sup>-5</sup> oz-in-sec<sup>2</sup> (0.20 gm-cm<sup>2</sup>)

**Hub Bore:** 1.5, 2.0, 2.5, 3.0, 4.0 mm; 0.125, 0.156 inch

**Hub Dia. Tolerance:** +0.0004"/-0.0000" (+0.010 mm/-0.000 mm)

**Mating Shaft Length:** See table

**Mating Shaft Runout:** 0.001 TIR

**Mating Shaft Endplay:** >256 ppr: ±0.003" (±0.076mm); 250, 256 ppr: +0.005/-0.003" (+0.127/-0.076mm); <250 ppr: +0.007/-0.003" (+0.178/-0.076mm)

### ENVIRONMENTAL

**Operating Temperature:** -20° to 100°C

**Storage Temperature:** -50° to 125°C

**Relative Humidity:** 90% non-condensing

### OUTPUT WAVEFORMS & CONNECTIONS (direction viewing encoder cover)

Code 4= 00

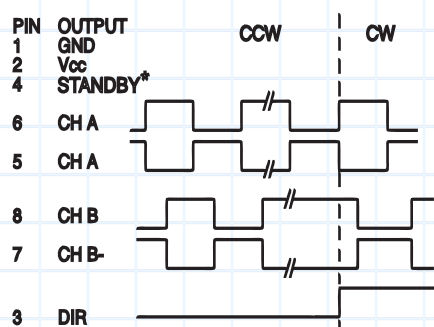


Figure 1

Code 4= 01

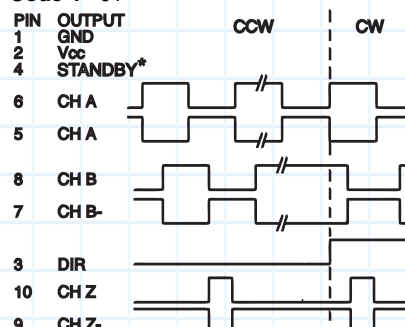


Figure 2

Code 4= 02

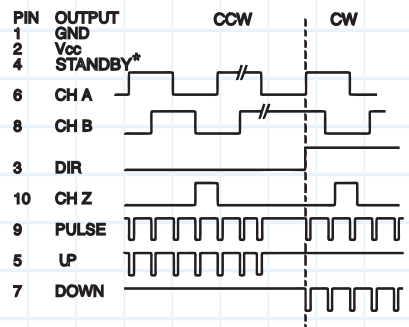


Figure 3

\* For operation, connect **STANDBY (4)** to **Vcc (2)**

