

EX11 Series— Miniature Incremental Rotary Optical Encoder

BEI Sensors



The EX11 Series was developed to provide a high precision, low cost enclosed shaft encoder for light duty applications. The EX11 offers benefits of the Opto-ASIC design with 1024 line counts in a 1.1 inch diameter size.

Packaged in a glass filled polycarbonate housing with 1/8" stainless steel shaft and precision bearings, the EX11 provides superior performance at a lower cost.

The EX11 Series is capable of operating over a temperature range of 0°C to +70°C without degradation of signals.

Proven design and Duncan Electronics' experience makes the EX11 perfectly suited for high volume OEM applications, including: robotics, process control and instrumentation.

Mechanical Specifications

Dimensions: See Figure 1

Weight: 2.0 oz. (Approx.)

Shaft Diameter: 0.1247 +0.0000/-0.0003

Torque Load: axial 2 lbs., Radial 1 lb.

Torque, starting: less than 0.4 oz. in.
running: less than 0.2 oz. in.

Inertia: 3.0 x 10⁻⁵ oz. in./sec

Motor Interface

Servo Mounting Holes: 4 places #2-56 @ 90° on 0.75"B.C.

Servo Mount: designed to accommodate motor mount cleat "PIC type" L2-2

Flange Mounting Holes: 4 places .100 dia. through holes

Shaft Coupling: must be flexible (do not hard mount)

Electrical Specifications

Code: incremental

Pulses per Revolution: see "Ordering Options"

Supply Voltage: +5 volts ± 5% @ 80mA max.

Output Format: dual channel Quadrature and index with complements (no index on EX112)

Output Type:

-EX116- Line driver 26LS31 or equivalent should be terminated into a line receiver

-EX112/EX113- Buffer driver 74F365 and 74F368 or equivalent. (not open collector)

Rise Time: 1.0µsec. max.

Frequency Response: see graph: Fig 3

Environmental Specifications

Temperature:

Operating: 0°C to +70°C

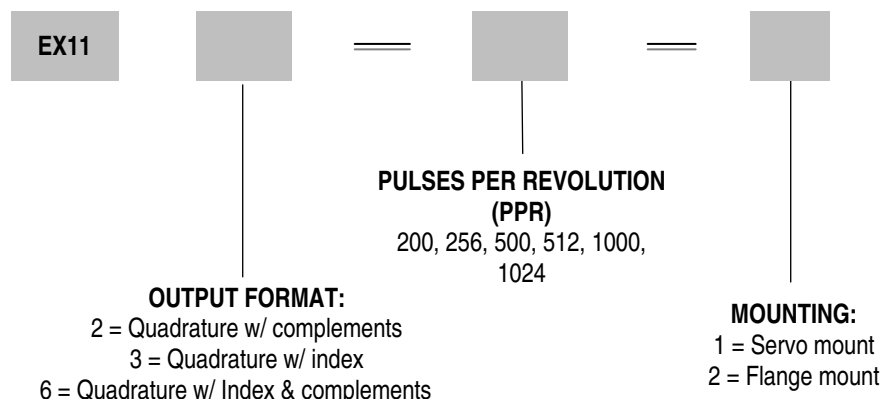
Storage: -25°C to +90°C

Termination Type: 28 AWG flat ribbon cable with 10 position connector FCI-Berg P/N 6690-310 or equivalent

Mates with FCI-Berg P/N 65863-165 or equivalent (mating connector not provided)

EX11 Incremental Ordering Options for assistance, call 800.350.2727

Use this diagram, working from left to right to construct your model number (example: EX113-500-2)



EX11 Series— Miniature Incremental Rotary Optical Encoder

BEI Sensors

Dimensions

Figure 1
Servo Mount

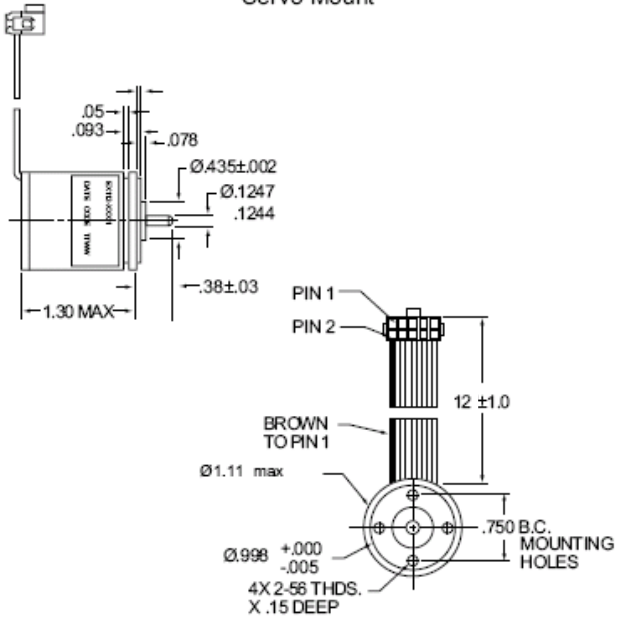
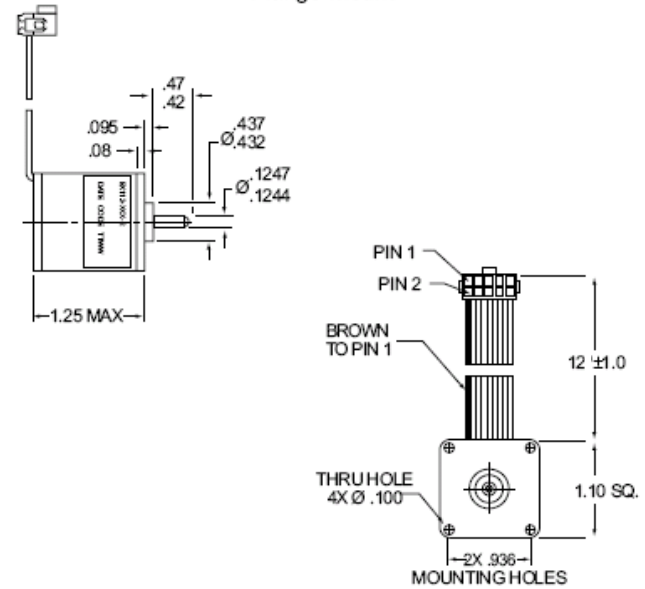
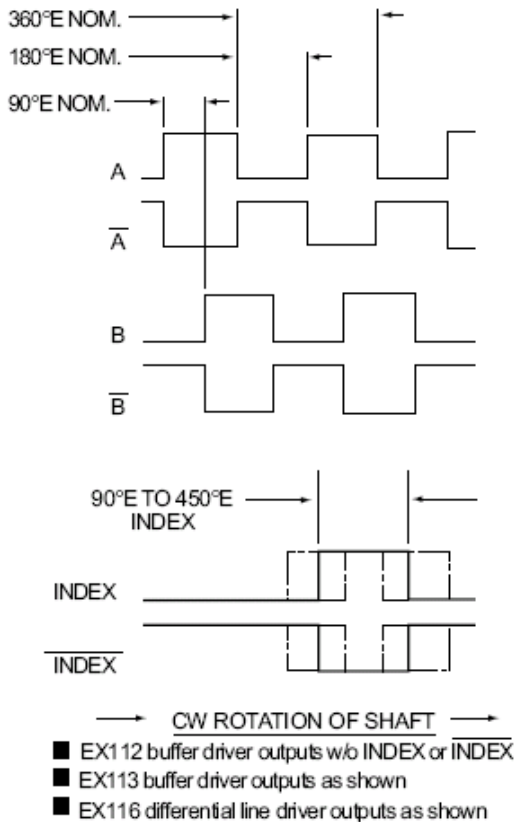


Figure 2
Flange Mount



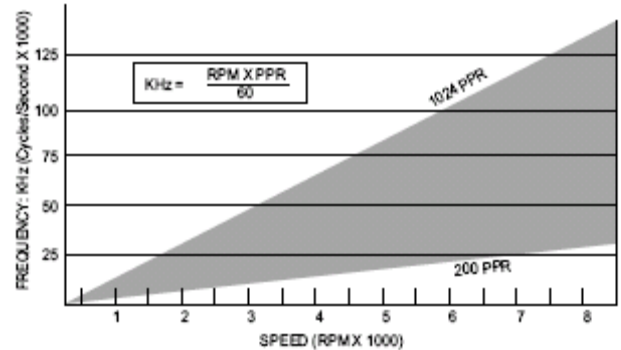
.xx = ±.02
.xxx = ±.005

Output Wave Form



Frequency Response

Figure 3



Pin Out

Pin No.	Color	Signal
1	Brown	N/C
2	Red	+5V
3	Orange	\bar{B}
4	Yellow	B
5	Green	$\bar{\text{index}}$
6	Blue	index
7	Violet	\bar{A}
8	Gray	A
9	White	N/C
10	Black	Ground

BEI SENSORS

Tel: 805-968-0782 / 800-350-2727 | Fax: 805-968-3154 / 800-960-2726
7230 Hollister Ave., Goleta, CA 93117 | www.beisensors.com
Specification No. 02118-001 Rev. 06/11

These commodities, technology or software if exported from the United States must be in accordance with the Bureau of Industry, and Security, Export Administration regulations. Diversion contrary to U.S law is prohibited.