Offering improved design and performance characteristics, the EX20 Series provides high precision angular position signals at an affordable price. They are ideally suited for robotic, process control, instrumentation and other related applications.

Based on an innovative design consisting of a patented disk and hub assembly, reliability is assured through the use of a single LED source and collimating lens, with increased reliability by means of Duncan® proprietary, single-chip Opto-ASIC detector. This also enables use in signal conditioning applications without need of additional electronics.

Models EX202 and EX203 offer 74F365 and 74F368 Buffer Driver outputs, yielding temperature stability and the ability to transmit signals over a long distance with high noise immunity.

Model EX206 features 26LS31 line driver output, ideal for applications where RS422 compatibility is needed.

The EX20 Series provides the combination of excellent electronics, reliability, and a lower component count approach, offering enhanced long-term operation and improved temperature stability.

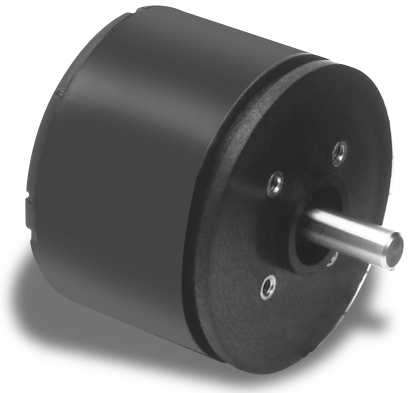


Figure 1

Servo Mount

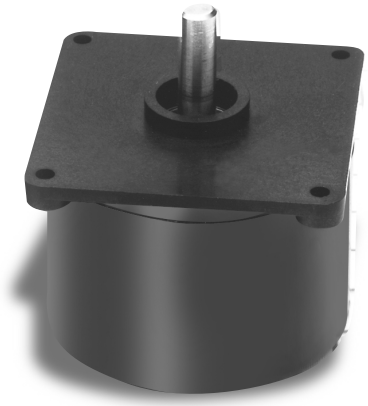


Figure 2

Flange Mount
(Dimensions not shown, same as Figure 1)

Standard Features

- ¥ Line count resolutions up to 2540 PPR
- ¥ High sink current capability (Models EX202 and EX203)
- ¥ RS422 compatible 26LS31 differential line driver (Model EX206)
- ¥ Index Pulse with gateable option (Models EX203 and EX206)
- ¥ Flange or Servo mount configurations
- ¥ Focused IR/LED
- ¥ 100kHz frequency response w/option to 350kHz
- ¥ 2-Year Warranty

All dimensions in inches .xx = ±.02
.xxx = ±.005

WWW.TW-SENSOR.COM
TEL:021-34130285
FAX:021-54800722
E-mail:haihwa@ yahoo.com.tw

EX20 Series
Enclosed Incremental Rotary Optical Encoder

Performance Specifications

Mechanical

Dimensions	see Figures 1 and 2
Weight	4 oz.
Shaft Size	0.2497 +0.0000 -0.0003
Shaft Load	axial 4 lbs., radial 8 lbs.
Torque, Starting	less than 0.4 oz. in.
Running	less than 0.2 oz. in.
Inertia	1.8 x 10^{-4} oz. in./sec^2

Electrical

Code	incremental
Pulses per Revolution	see "Ordering Information"
Supply Voltage	+5V ±5% @ 135mA max.
Output Format	Dual channel quadrature w/compliments on all models: INDEX pulse on EX203 and EX206
Output Type (EX202, EX203)	TTL buffer driver
Output Voltage	(74F365 and 74F368 or equiv.)
Sink Current	65mA
Output Type (EX206)	TTL differential line driver (26LS31 or equiv.) should be terminated into a line receiver (26LS32, or equivalent circuit)
Frequency Response	(Option to 350kHz)

Environmental

Temperature

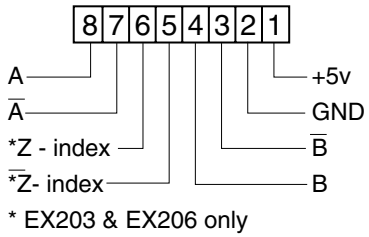
Operating 0° to +85°C
(Optional to 105°C Operating)
Storage -40°C to 105°C

Termination Options

Header	8 pin single row PC board header (Molex 22-23-2081 or equivalent)
Mating Connector included	Molex 22-01 3087 or equivalent with crimp terminals for 22-30 AWG wire
Terminal board	1/16" circuit board, one row of 8 holes, 0.40 dia. plated through on 0.10 centers for 22-30 AWG wire

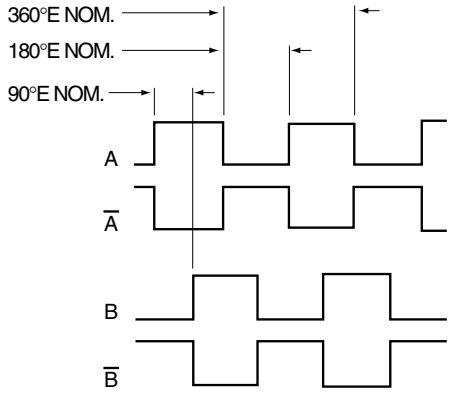
Figure 3

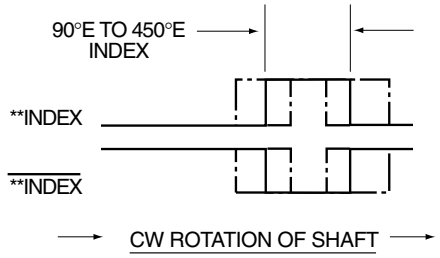
Pinout



* EX203 & EX206 only

Figure 4





- EX202 Outputs: A and B w/compliments only as shown above
- EX203 Outputs: A, B and Index w/compliments as shown above
- EX206 Outputs: as shown above

** Gateable index option available, consult factory

Ordering Information

EX20 # - #### - #

Basic Model No.

Output Format
- 2 = Quadrature w/complements (74F365 and 74F368 Buffer Driver)
- 3 = Quadrature w/index & complements (74F365 and 74F368 buffer driver)
- 6 = Quadrature w/index & complements (26LS31 line driver)

Pulses Per Revolution (PPR)
See Table 1

Mounting and Termination
- 1 = Servo mount w/header
- 2 = Servo mount w/terminal board
- 3 = Flange mount w/header
- 4 = Flange mount w/terminal board

EXAMPLE: EX203-1024-3

Table 1

AVAILABLE RESOLUTIONS (PPR):

200, 400, 500, 512, 1000, 1024,
2000, 2048, 2500 and 2540

Other resolutions available, consult factory.

BEI DUNCAN ELECTRONICS DIVISION
BEI TECHNOLOGIES, INC.
15771 Red Hill Avenue
Tustin, CA 92780-7303
(714) 258-7500 Fax: (714) 258-8120
email: sales@beiduncan.com
www.beiduncan.com

Specifications subject to change without notice. Printed in U.S.A.