Absolute Encoder

Key Features

- Up to 16 Bit of Singleturn and 12 Bits of True Multiturn Absolute Positioning
- Onboard Diagnostics
- CAN Open Interface
- Available with multiple shaft configurations
- Enclosure ratings of IP64 or IP67

Absolute Encoder

STANDARD OPERATING CHARACTERISTICS:

- Code: Absolute, Optical
- Resolution Single-turn: 10-16 Bit
- Resolution Multi-turn: 12 Bit
- Linearity: +/- 1/2 LSB
- Absolute Accuracy: ± 0.01° mechanical (36 arc-sec.)
- Repeatability: ± 0.002° mechanical (7.2 arc-sec.)

ELECTRICAL:

- Interface: CAN High-Speed according to ISO/ DIS 11898
- Protocol: CANopen according to DS 301 with profile DSP 406, programmable encoder according to C2
- Transfer mode:
  - Poll mode
  - Bit strobe (time-synchronous for all devices)
  - Change of State (automatic after change of values)
  - Cyclic, with adjustable cycle timer
- Output Code: Binary
- Input Power: 10-30 VDC
- Intrinsic Current Consumption: 200 mA (ST), 220 mA (MT)
- Frequency Response (Baud Rate): 10, 20, 50, 125, 250, 500, 800, 1000 kBaud
- Noise Immunity: Tested to EN 61326-1
- Electrical Immunity: Tested to EN 61326-1
- Termination: Bus Cover with spring terminal clamps; 12 pin Conin CW; Cable with Pigtail

MECHANICAL:

- Shaft Diameter: 6 mm (Servo Mount), 10 mm (Clamping Mount), 3/8” (Square Flange Mount)
- Hubshaft Size: 10mm, 12 mm, 3/8”, 1/2”
- Shaft Load (axial/radial): 40N (9lb.) / 60N (13lb.)
- Shaft Tolerance (hubshaft only): ± 0.15 mm axial, ± 0.02 mm radial
- Maximum Shaft Speed: 10,000 RPM (continuous), 12,000 RPM (peak)
- Starting Torque: < 1.4 in-oz
- Housing Material: Aluminum
- Shaft Material: Stainless Steel
- Disc Material: Glass
- Weight:
  - Single-Turn: approx. 12.3 oz (350 g)
  - Multi-Turn: approx. 14.1 oz. (400 g)

ENVIRONMENTAL:

- Operating Temperature: -40 °C ...+85 °C
- Storage Temperature: -40 °C ...+100 °C
- Shock: 100G, 1,000 m/s² for 6 msec
- Vibration: 10G, 100 m/s² (10 to 2,000 Hz)
- Humidity: Up to 75%, (no condensation allowed)
- Enclosure Rating: IP64 or IP67
**Ordering Information**

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

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</table>

Available when Code 4 is 0 or A

0 Servo*

Available when Code 4 is 1, 2 or B, C

1 Clamping*

2 Square Flange**

Available when Code 4 is 3, 4, 5 or 6

3 Hubshaft w/Tether†

† 58mm Dia. "2.5" Square

† 63mm BC

w/o shaft seal (IP64)

0 6 mm 1 3/8"*

1 10 mm 3 3/8" Hubshaft

2 12 mm Hubshaft

3 10 mm Hubshaft w/ shaft seal (IP67)

A 6 mm B 3/8" C 10 mm

8 CANopen (OL)

2 10-30 VDC

S CANopen (OC)

0 Cable, axial

1 Cable, radial

2 M23 Conin 12 pin axial, CW

3 M23 Conin 12 pin radial, CW

4 M23 Connector (Conin), 12 pole, axial, CCW

5 M23 Connector (Conin), 12 pole, radial, CCW

E Bus Cover with 3 sealed cable exits

F Bus Cover 1 M12, 5-Pole Connector

H Bus Cover with 2x M23 Connector (Conin), 9 pole, radial, CW

**DIMENSIONS**

<table>
<thead>
<tr>
<th>Code 3: Mounting</th>
<th>Code 7: Connector</th>
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<tbody>
<tr>
<td>0 Servo</td>
<td>26 +/- 0.3 mm 0.12 +/- 0.012 in</td>
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<tr>
<td>1 Clamping</td>
<td>0 Cable, axial</td>
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<tr>
<td>2 Square Flange</td>
<td>1 Cable, radial</td>
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<tr>
<td></td>
<td>2 M23 Conin 12 pin axial, CW</td>
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<td>3 M23 Conin 12 pin radial, CW</td>
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<td>4 M23 Connector (Conin), 12 pole, axial, CCW</td>
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<tr>
<td></td>
<td>5 M23 Connector (Conin), 12 pole, radial, CCW</td>
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<tr>
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<td>E Bus Cover with 3 sealed cable exits</td>
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</table>

**Note:**

- When Code 4 is 0 or A, available when Code 5 is 0 or B.
- When Code 4 is 1, 2 or B, C, available when Code 5 is 1 or A.
- When Code 4 is 3, 4, 5 or 6, available when Code 5 is 3 or A.
- Code 6 is 0 or A when Code 5 is 0 or B.
- Code 6 is 1 or A when Code 5 is 1 or A.
- Code 6 is 3 or A when Code 5 is 3 or A.
- Code 7 is 0 or A when Code 5 is 0 or B.
- Code 7 is 1 or A when Code 5 is 1 or A.
- Code 7 is 3 or A when Code 5 is 3 or A.