### FEATURES

- Single Turn/Multi-Turn Absolute Encoder (16 Bit ST / 43 Bit MT)
- SSI or CANopen® communication
- Maintenance-free and environmentally friendly all-magnetic design
- Energy harvesting magnetic multi-turn technology
- No gears or batteries
- Standard Size 36 mm (1.42”) blind hollow bore encoder
- Flex mount eliminates couplings and is ideal for motors or shaft
- Meets CE/EMC standards for immunity and emissions

The Model A36HB absolute encoder offers a high performance solution for your absolute feedback needs. It provides maintenance-free feedback thanks to its innovative battery-free and gear-free multi-turn technology. This encoder is especially suited for applications where position information must be retained after loss of system power. Its rugged magnetic technology and high IP rating make the Model A36HB an excellent choice, even in tough industrial environments. Available with a 1/4” or 6 mm blind hollow bore and a wide selection of flexible mounting options, the Model A36HB is easily designed into a variety of applications.

### COMMON APPLICATIONS

Robotics, Telescopes, Antennas, Medical Scanners, Wind Turbines, Elevators, Lifts, Motors, Automatic Guided Vehicles, Rotary and X/Y Positioning Tables

### MODEL A36HB ORDERING GUIDE

Blue type indicates price adder options

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<tr>
<th>Mechanical</th>
<th>Electrical</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODEL</td>
<td>A36HB Absolute Series</td>
</tr>
<tr>
<td>BORE SIZE</td>
<td>blind hollow bore</td>
</tr>
<tr>
<td>06 A36HB</td>
<td>06</td>
</tr>
<tr>
<td>SF MOUNTING TYPE</td>
<td>1.812” (46 mm) slotted flex mount</td>
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<tr>
<td>SD</td>
<td>1.575” (40 mm) slotted flex mount</td>
</tr>
<tr>
<td>SW</td>
<td>1.653” (42 mm) slotted flex mount</td>
</tr>
<tr>
<td>SINGLE TURN RESOLUTION</td>
<td>01 to 16</td>
</tr>
<tr>
<td>COMMUNICATION PROTOCOL</td>
<td>CO</td>
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<tr>
<td>SOFTWARE REV</td>
<td>A</td>
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<tr>
<td>OUTPUT CODE</td>
<td>B</td>
</tr>
<tr>
<td>CONNECTOR TYPE</td>
<td>AMJ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ELECTRICAL</th>
<th></th>
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<tbody>
<tr>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>CO</td>
<td>A</td>
</tr>
<tr>
<td>V2</td>
<td>AMJ</td>
</tr>
</tbody>
</table>

### Notes:

3. Available with SSI only.
4. For mating connectors, cables, and cordsets see Accessories at encoder.com. For Connector Pin Configuration Diagrams, see Technical Information or see Connector Pin Configuration Diagrams at encoder.com.
5. Available with CANopen only.

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### MODEL A36HB SPECIFICATIONS

**Electrical**
- Input Voltage: 5 to 32 VDC maxSSI or CANopen
- Input Current: 50 mA typical for 5 to 32 VDC
- Power Consumption: 0.5 W max
- Resolution (Single): 01 to 16 bit
- Resolution (Multi): 01 to 43 bit
- Accuracy: ± 0.0878°
- Repeatability: ± 0.0878°
- CE/EMC: Immunity tested per EN 61000-6-2:2006
- Emissions tested per EN 61000-6-3:2011

**CANopen Interface**
- Protocol: CANopen
- Device profile for encoder CiA 406 V3.2 class C2
- Node Number: 0 to 127 (default 127)
- Baud Rate: 10 Kbaud to 1 Mbaud with automatic bit rate detection

**SSI Interface**
- Clock Input: Via opto coupler
- Clock Frequency: 100 KHz to 500 KHz, Higher frequencies may be available. Contact Customer Service.
- Data Output: RS485 / RS422 compatible
- Output Code: Gray or binary
- SSI Output: Angular position value
- Parity Bit: Optional (even/odd)
- Error Bit: Optional
- Turn On Time: < 1.5 sec
- Pos. Counting Dr.: Connect DIR to GND for CW
- Connect DIR to VDC for CCW (when viewed from shaft end)
- Set to Zero: Yes, see Technical Bulletin TB-529: Understanding EPC’s SSI Encoders
- Protection: Galvanic Isolation

**Mechanical**
- Max Shaft Speed: 12,000 RPM
- Bore Depth: 17 mm (0.669")
- User Shaft Radial Runout: < 0.005" max
- Starting Torque: < 0.45 oz-in typical
- Radial Shaft Load: 17 lb (80 N) = bearing life of 1.4x10^6 revolutions
- Axial Shaft Load: 11 lb (50 N) = bearing life of 1.4x10^6 revolutions
- Housing: All metal with protective finish
- Weight: 5 oz typical

**Environmental**
- Operating Temp: 40° to 85 °C
- Storage Temp: 40° to 100 °C
- Humidity: 95% RH non-condensing
- Vibration: 38.6 g @ 10 to 2000 Hz
- Shock: 510 g @ 6 ms duration
- Sealing: IP67, shaft sealed to IP65

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**MODEL A36HB 1.812" (46 MM) SLOTTED FLEX MOUNT (SF)**

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**MODEL A36HB 1.812" (46 MM) (SF) RADIAL**

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**1.575" (40 MM) SD AXIAL**

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**1.575" (40 MM) SD RADIAL**

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Primary dimensions are in mm, secondary dimensions [inches] in brackets for reference only.
MODEL A36HB - ABSOLUTE HOLLOW BORE ENCODER

1.653" (42 MM) SW AXIAL

1.653" (42 MM) SW RADIAL

WIRING TABLE
For EPC-supplied mating cables, refer to wiring table provided with cable. For CE (Conformity European) requirements, use M12 cordset with shield connected to M12 coupling nut. Trim back and insulate unused wires.

<table>
<thead>
<tr>
<th>SSI Encoders 8-pin M12</th>
<th>CANopen Encoders 5-pin M12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Function</strong></td>
<td><strong>Gland cable wire color†</strong></td>
</tr>
<tr>
<td>Ground (GND)</td>
<td>White</td>
</tr>
<tr>
<td>+VDC</td>
<td>Brown</td>
</tr>
<tr>
<td>SSI CLK+</td>
<td>Green</td>
</tr>
<tr>
<td>SSI CLK-</td>
<td>Yellow</td>
</tr>
<tr>
<td>SSI DATA+</td>
<td>Gray</td>
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<tr>
<td>SSI DATA-</td>
<td>Pink</td>
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<tr>
<td>PRESET</td>
<td>Blue</td>
</tr>
<tr>
<td>DIR</td>
<td>Red</td>
</tr>
<tr>
<td></td>
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</tbody>
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†Standard cable is 24 AWG conductors with foil and braid shield.