FEATURES
European Size 58 (58 mm) Package
Resolutions up to 12 Bit (4096 PPR equivalent)
Incorporates Opto-ASIC Technology
Industrial Grade, Heavy Duty Housing
Wide Range of Operating Voltages (4.75 to 26 VDC)

The Model 958 Single Turn Absolute Encoder is ideal for a wide variety of industrial applications requiring an encoder with European Size 58 (58 mm) mounting and absolute positioning output. With an industrial grade housing and innovative Opto-ASIC circuitry, the Model 958 is both rugged and reliable, performing especially well in situations with high levels of electrical noise. Available with a choice of either Clamping Flange (Type 20) or Synchro Flange (Type 26) servo mounting, sealing up to IP66, and a variety of connector and cabling options. The Model 958 is easily designed into a variety of applications. With so many options that make the Model 958 ultra-durable, this absolute encoder can handle the toughest environments.

COMMON APPLICATIONS
Machine Tools, Robotics, Telescopes, Antennas, Rotary & X-Y Positioning Tables, Medical Scanners

MODEL 958 ORDERING GUIDE
Blue type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.

MODEL 958 RESOLUTION TABLE

<table>
<thead>
<tr>
<th>Output Code</th>
<th>Counts Per Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray Code</td>
<td>0180 0250 0360 0500 0720 1000</td>
</tr>
<tr>
<td>Natural Binary</td>
<td>0250 0256 0360 0500 0512 0720 1024 1440</td>
</tr>
<tr>
<td>Excess Gray</td>
<td>0250 0256 0360 0500 0720 1000</td>
</tr>
</tbody>
</table>

NOTES:
1. For additional connector styles please contact Customer Service.
2. 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.
3. For non-standard cable lengths, add a forward slash (/) plus cable length expressed in feet. Example: G/6 = 6 feet of cable.
4. Also available in stainless steel housing. Contact Customer Service for details.
**MODEL 958 SPECIFICATIONS**

**Electrical**
- Input Voltage: 4.75 to 26 VDC max
- Regulation: 100 mV peak-to-peak, max ripple at 0 to 100 kHz
- Input Current: 100 mA max with no external load
- Output Format: Absolute – Parallel Outputs
- Output Type: Open Collector – 20 mA max per channel
- Code: Gray Code, Natural Binary Code, Excess Gray Code
- Max Frequency: 50 kHz (LSB)
- Rise Time: Less than 1 microsecond
- Resolution: Up to 12 bit
- Accuracy: +1/2 LSB

**Control**
- Directional Control: Field selectable for increasing counts (CW or CCW)

**Mechanical**
- Max Shaft Speed: 6000 RPM continuous
- Radial Shaft Load: 27 lb max
- Axial Shaft Load: 27 lb max
- Starting Torque: 1.0 oz-in typical for no seal
  - 2.0 oz-in with IP64 shaft seal
  - 3.0 oz-in typical with IP66 shaft seal
- Housing: Aluminum
- Weight: 22 oz typical

**Environmental**
- Storage Temp: -20° to 85° C
- Humidity: 98% RH non-condensing
- Vibration: 10 g @ 58 to 500 Hz
- Shock: 20 g @ 11 ms duration
- Sealing: IP54 (standard), IP64, or IP66 (NEMA 13 and 4) optional

**MODEL 958 CLAMPING FLANGE 20 TYPE (20)**

**MODEL 958 SYNCHRO FLANGE 26 TYPE (26)**

All dimensions are in millimeters with a tolerance of ±0.17 mm unless otherwise specified.

**WIRING TABLE**

For EPC-supplied mating cables, refer to wiring table provided with cable.
Trim back and insulate unused wires.

<table>
<thead>
<tr>
<th>Function</th>
<th>Gland Cable†</th>
<th>Wire Color</th>
<th>19-pin Bayonet</th>
<th>16-pin M23</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 MSB</td>
<td>Brown</td>
<td>A</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>S2</td>
<td>White</td>
<td>B</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>S3</td>
<td>Green</td>
<td>C</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>S4</td>
<td>Orange</td>
<td>D</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>S5</td>
<td>Blue</td>
<td>E</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>S6</td>
<td>Violet</td>
<td>F</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>S7</td>
<td>Gray</td>
<td>G</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>S8 LSB 8-bit</td>
<td>Pink</td>
<td>H</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>S9 LSB 9-bit</td>
<td>Red/Green</td>
<td>J</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>S10 LSB 10-bit</td>
<td>Red/Yellow</td>
<td>K</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>S11 LSB 11-bit</td>
<td>Turquoise</td>
<td>L</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>S12 LSB 12-bit</td>
<td>Yellow</td>
<td>M</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Direction**</td>
<td>Red/Blue</td>
<td>R</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Case Ground</td>
<td>Drain/Screen</td>
<td>S</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>0V Common</td>
<td>Black</td>
<td>T</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Special*</td>
<td>White/Red</td>
<td>U</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>+VDC</td>
<td>Red</td>
<td>V</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

*Where fitted.
**Direction control standard is CW increasing when viewed from the shaft end. Direction pin is pulled high to 5V internally. Direction pin must be pulled low (GND, Common) to reverse count direction.
Applied voltage to direction pin should not exceed 5V.
†Standard cable is 24 AWG conductors with foil and braid shield.