PEC16 - 16 mm Incremental Encoder

**Features**

- Compact design, long life and high reliability
- Low cost compared to optical type encoders
- Available in a wide variety of configurations to meet many user requirements

### Electrical Characteristics

- **Output**: 2-bit quadrature code
- **Closed Circuit Resistance**: 3 ohms maximum
- **Contact Rating**: 1 mA @ 5 VDC
- **Insulation Resistance**: 10 megohms @ 50 VDC
- **Dielectric Withstanding Voltage**: 50 VAC minimum
- **Sea Level Electrical Travel**: Continuous
- **Contact Bounce (15 RPM)**: 5.0 ms. maximum**
- **RPM (Operating)**: 100 maximum**

### Environmental Characteristics

- **Operating Temperature Range**: -30 °C to +70 °C (-22 °F to +158 °F)
- **Storage Temperature Range**: -40 °C to +85 °C (-40 °F to +185 °F)
- **Humidity**: MIL-STD-202, Method 103B, Condition B
- **Vibration**: 10-55-10 Hz / 1 min. / Amplitude 1.5 mm
- **Shock**: 100 G
- **Rotational Life**: 100,000 cycles minimum
- **Switch Life**: 20,000 cycles minimum
- **IP Rating**: IP 40
- **Moisture Sensitivity Level**: 1
- **ESD Classification (HBM)**: N/A

### Mechanical Characteristics

- **Mechanical Angle**: 360° continuous
- **Torque**: 30.6 to 204 g-cm (0.42 to 2.83 oz.-in.)
- **Mounting**: 10.2 kgf. cm (8.83 lb.-in.) maximum
- **Shaft Side Load (Static)**: 3.06 kgf (6.7 lbs.) minimum
- **Weight**: 8 gm (0.28 oz.) maximum
- **Terminals**: Printed circuit board terminals
- **Terminals**: Printed circuit board terminals
- **Soldering Condition**: Wave Soldering...Sn95.5/Ag2.8/Cu0.7 solder with no-clean flux: 260 °C max. for 3-5 seconds
- **Hand Soldering**: Not recommended
- **Hardware**: One flat washer and one mounting nut supplied with each encoder.

### Switch Characteristics

- **Switch Type**: Contact Push ON Momentary SPST
- **Power Rating (Resistive Load)**: 10 mA at 5 V DC
- **Switch Travel**: 0.5 +0.4/-0.3 mm
- **Switch Actuation Force**: 360 ±153-102 gf (5 +2.1/-1.4 oz.-in.)

### How To Order

- **Model**: PEC16 - 4 0 20 F - S 0012
- **Terminal Configuration**:
  - 2 = PC Pin Vertical/Down Facing
  - 4 = PC Horizontal/Rear Facing
- **Detent Option**: 0 = No Detents 1 = 12 Detents 2 = 24 Detents
- **Standard Shaft Length**:
  - 15 = 15 mm 25 = 25.0 mm²
  - 20 = 20.0 mm 30 = 30.0 mm²
- **Shaft Style**: F = Insulated Flatted Shaft
- **Switch Configuration**: S = Push Momentary Switch N = No Switch
- **Resolution**: 
  - 0012 = 12 Pulses per 360° Rotation
  - 0024 = 24 Pulses per 360° Rotation

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**Additional Information**

Click these links for more information:

- **PRODUCT LIBRARY**
- **INVENTORY**
- **SAMPLES**
- **CONTACT**

**Quadrate Output Table**

<table>
<thead>
<tr>
<th>CW</th>
<th>AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Signal</td>
<td>ON</td>
</tr>
<tr>
<td>B Signal</td>
<td>OFF</td>
</tr>
</tbody>
</table>

**Switch Circuit**

```
O
S
W
CCW
```

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**WARNING**

Cancer and Reproductive Harm
www.P65Warnings.ca.gov


**Devices are tested using standard noise reduction filters. For optimum performance, designers should use noise reduction filters in their circuits.**

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**CAUTION**

Do not store product in high temperature and humidity, direct sunlight and/or places where corrosive gases may be generated. Please use product within 6 months from the date of delivery and promptly after unpacking.
Applications
Level control, tuning and timer settings in:
- Audio-visual equipment
- Consumer electric appliances
- Radios
- Musical instrumentation
- Communications equipment

PEC16 - 16 mm Incremental Encoder

Product Dimensions

PEC16-2xxxF-Sxxxx

PEC16-4xxxF-Sxxxx

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<thead>
<tr>
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<tbody>
<tr>
<td>L1</td>
<td>15.0 (0.591)</td>
<td>20.0 (0.797)</td>
</tr>
<tr>
<td>LB</td>
<td>6.0 (0.236)</td>
<td>7.0 (0.276)</td>
</tr>
<tr>
<td>F</td>
<td>7.0 (0.276)</td>
<td>12.0 (0.472)</td>
</tr>
</tbody>
</table>

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