PEC11D Series - 12 mm Dual Concentric Rotary Encoder w/Switch

**Features**
- Two push switch options
- Dual concentric shaft
- Two encoders in a single package
- Metal bushing/shaft
- Switch stroke options
- RoHS compliant*

**Electrical Characteristics**
- Output: 2-bit quadrature code
- Contact Rating: 10 mA @ 5 VDC
- Insulation Resistance: 100 megohms @ 250 VDC
- Dielectric Withstanding Voltage: 300 VAC minimum
- Electrical Travel: Continuous
- Mechanical Angle: 360 ° continuous
- Contact Bounce (15 RPM): 2.0 ms maximum**
- RPM (Operating): 60 maximum**

**Environmental Characteristics**
- Operating Temperature Range: -40 °C to +85 °C (-40 °F to +185 °F)
- Storage Temperature Range: -40 °C to +85 °C (-40 °F to +185 °F)
- Rotational Life: 15,000 cycles minimum
- Switch Life: 20,000 cycles minimum
- ESD Classification (HBM): IP 40
- Soldering Condition: Sn95.5/Ag2.8/Cu0.7 solder with no-clean flux: 260 °C max. for 5 ±1 sec.

**Mechanical Characteristics**
- Mechanical Angle: 360 ° continuous
- Torque: 100 ±70 gf-cm (1.39 ± 0.97 oz-in)
- Shaft Side Load (Static): 2.04 kgf (4.5 lbs.) minimum
- Weight: 3 gm (0.17 oz.) maximum
- Terminals: Printed circuit board terminals
- Soldering Condition: Sn95.5/Ag2.8/Cu0.7 solder with no-clean flux: 260 °C max. for 5 ±1 sec.
- Hand Soldering: 350 °C for 3 sec. max.
- Hardware: None

**Switch Characteristics**
- Switch Type: Contact Push ON Momentary SPST
- Power Rating (Resistive Load): 10 mA @ 5 V DC
- Switch Travel: 0.5 ±0/0.3 mm
- H (High): 1.5 ± 0.5 mm
- Switch Actuation Force:
  - S (Standard): 350 ± 100 gf (12.35 ± 3.53 oz.)
  - H (High): 400 ± 200 gf (14.10 ± 7.05 oz.)
- Contact Resistance: 200 milliohms @ 5 VDC

**How To Order**
PEC11D - 4 1 20 F - S 0015

**Quadrate Output Table**

<table>
<thead>
<tr>
<th>A Signal</th>
<th>ON</th>
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<tbody>
<tr>
<td>B Signal</td>
<td>ON</td>
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<td>D</td>
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**Devices are tested using standard noise reduction filters. For optimum performance, designers should use noise reduction filters in their circuits.
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Users should verify actual device performance in their specific applications.
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Applications
Level control, tuning and menu select in:
- Audio-visual equipment
- Professional audio, broadcast and lighting consoles
- Musical instrumentation
- Communications equipment

PEC11D Series - 12 mm Dual Concentric Rotary Encoder w/Switch

Product Dimensions

PEC11D-4120F-S0015

PEC11D-4120F-H0015

Recommended PCB Layout

Switch Circuit

Suggested Filter Circuit

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