PEC11L Series - 11 mm Low Profile Encoder

Features
- Push switch option
- Compact, low profile
- High rotational life and switch life
- Metal bushing/shaft
- RoHS compliant

Electrical Characteristics
Output: 2-bit quadrature code
Contact Rating: 10 mA @ 5 VDC
Insulation Resistance: 100 megohms maximum
Dielectric Withstanding Voltage: 300 VAC minimum
Sea Level Electrical Travel: 10 mb maximum
Rotational Life: 100,000 cycles minimum

Environmental Characteristics
Operating Temperature Range: -25 °C to +80 °C (+13 °F to +176 °F)
Storage Temperature Range: -40 °C to +85 °C (-40 °F to +185 °F)
Humidity: MIL-STD-202, Method 103B, Condition A
Vibration: 10-55-10 Hz / 1 min. / Amplitude 1.5 mm
Shock: 100 G
Rotational Life: 100,000 cycles minimum
IP Rating: IP 40
Power Rating (Resistive Load): 10 mA at 5 V DC

Mechanical Characteristics
Mechanical Angle: 360 ° continuous
Torque: 20-200 gf-cm (0.27 to 2.8 oz-in)
Running: 10 to 150 gf-cm (0.14 to 2.1 oz-in)
Mounting: 70 N-cm (6.2 lb-in) maximum
Shaft Side Load (Static): 2.04 kgf (4.5 lbs) minimum
Shaft Strength (Push-Pull): 200 N (22.5 lbs)
Weight: 5 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 ±5 °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
Switch Life: 100,000 actuations minimum
Power Rating (Resistive Load): 10 mA at 5 V DC
Switch Travel: 0.5 ± 0.3 mm
Switch Actuation Force: 610 ± 306 gf (8.47 ± 4.24 oz.-in.)

How To Order
PEC11L - 4 0 20 F - S 0015

Model
Terminal Configuration
4 = PC Pin Horizontal/Rear Facing
Detent Option
0 = No Detents (15, 20 pulses)
1 = 20 Detents (20 pulses)
2 = 30 Detents (15 pulses)
Standard Shaft Length
15 = 15.0 mm
20 = 20.0 mm
25 = 25.0 mm
Shaft Style
F = Metal Flattened Shaft
K = Metal Knurled Shaft
Switch Configuration
S = Push Momentary Switch
N = No Switch
Resolution
0015 = 15 Pulses per 360 ° Rotation
0020 = 20 Pulses per 360 ° Rotation

**Devices are tested using standard noise reduction filters. For optimum performance, designers should use noise reduction filters in their circuits. Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.
Applications
Level control, tuning and timer settings in:
- Audio-visual equipment
- Consumer electric appliances
- Environmental controls
- Musical instrumentation
- Communications equipment

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Product Dimensions

PEC11L-4xxxF-Nxxxx

<table>
<thead>
<tr>
<th>Dim.</th>
<th>Tol.</th>
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<tbody>
<tr>
<td>&lt;10.0</td>
<td>±0.3 (±0.012)</td>
</tr>
<tr>
<td>10.0 ~ 100</td>
<td>±0.5 (±0.020)</td>
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Quadrature Output Table

Switch Circuit

Suggested Filter Circuit

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