



Features

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

PEC11L Series - 11 mm Low Profile Encoder

Electrical Characteristics

Output	2-bit quadrature code
Closed Circuit Resistance	100 milliohms maximum
Contact Rating	10 mA @ 5 VDC
Insulation Resistance	100 megohms @ 250 VDC
Dielectric Withstanding Voltage	
Sea Level	300 VAC minimum
Electrical Travel	Continuous
Contact Bounce (60 RPM)	10 ms maximum**
RPM (Operating)	60 maximum**

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

Mechanical Characteristics

Mechanical Angle	360 ° continuous
Torque	
Detent	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)	100 N (22.5 lbs)
Weight	5 gm (0.17 oz) maximum
Terminals	Printed circuit board terminals
Soldering Condition	
Wave SolderingSn95.5/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 VDC
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	PEC11L
Terminal Configuration	4 = PC Pin Horizontal/Rear Facing
Detent Option	0 = No Detents (15, 20 pulses) 2 = 30 Detents (15 pulses) 1 = 20 Detents (20 pulses) 3 = 18 Detents (9 pulses)
Standard Shaft Length	15 = 15.0 mm 20 = 20.0 mm 25 = 25.0 mm
Shaft Style	F = Metal Flatted Shaft K = Metal Knurled Shaft
Switch Configuration	S = Push Momentary Switch N = No Switch
Resolution	0009 = 9 Pulses per 360 ° Rotation 0015 = 15 Pulses per 360 ° Rotation 0020 = 20 Pulses per 360 ° Rotation

Additional Information

Click these links for more information:



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WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
**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. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.



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

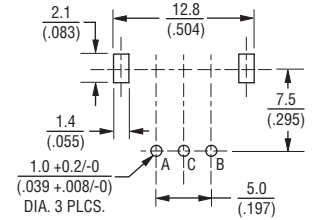
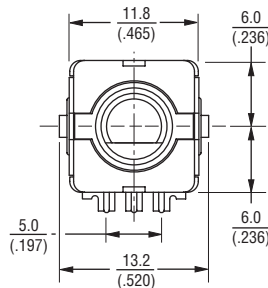
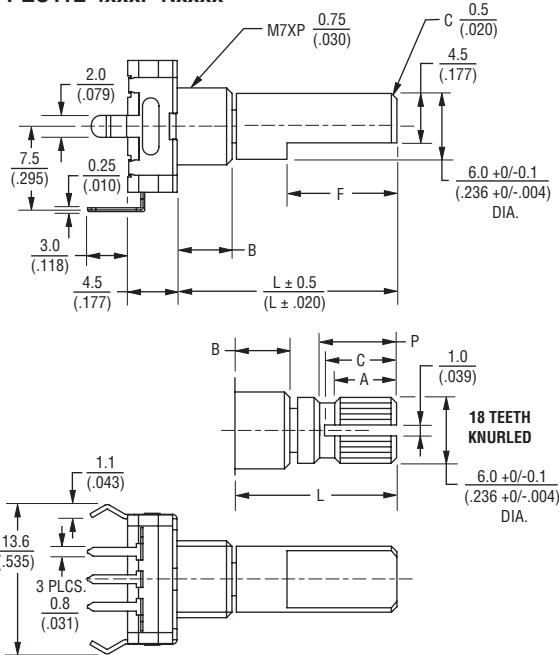
Level control, tuning and timer settings in:

- Audio-visual equipment
- Consumer electric appliances
- Environmental controls
- Musical instrumentation
- Communications equipment

PEC11L Series - 11 mm Low Profile Encoder **BOURNS®**

Product Dimensions

PEC11L-4xxxF-Nxxxx

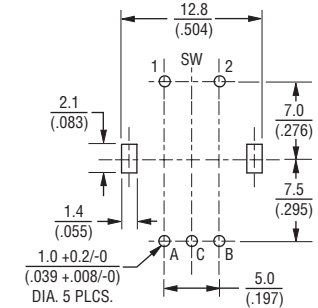
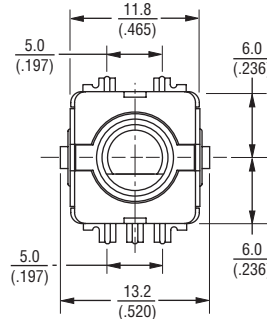
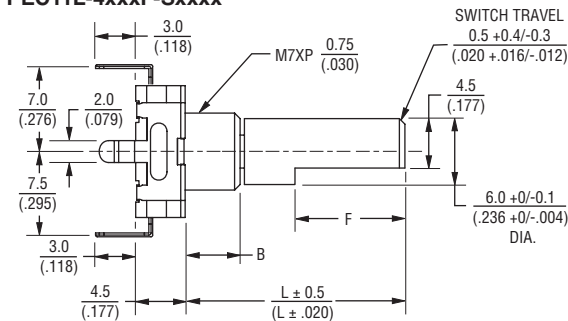


L	B	F	P	A	C
15 (.591)	5.0 (.197)	7.0 (.276)	7.0 (.276)	6.0 (.236)	7.0 (.276)
20 (.787)	7.0 (.276)	10.0 (.394)	7.0 (.276)	6.0 (.236)	7.0 (.276)
25 (.984)	7.0 (.276)	12.0 (.472)	12.0 (.472)	10.0 (.394)	11.0 (.433)

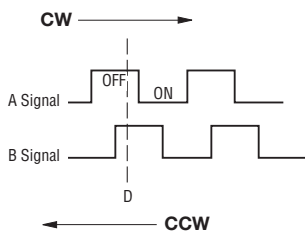
Dim.	Tol.
<10.0 (.394)	±0.3 (±.012)
10.0 ~ 100 (.394 ~ 3.937)	±0.5 (±.020)

DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

PEC11L-4xxxF-Sxxxx



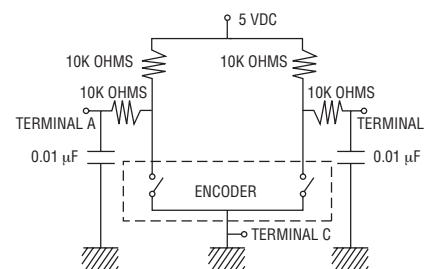
Quadrature Output Table



Switch Circuit



Suggested Filter Circuit



REV. 12/23

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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