



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 Soldering .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 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 _____

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:

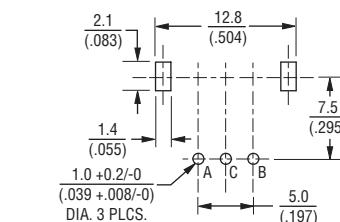
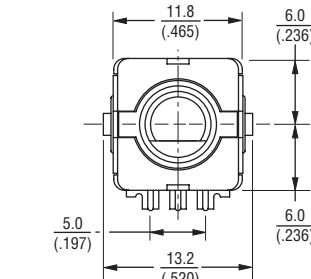
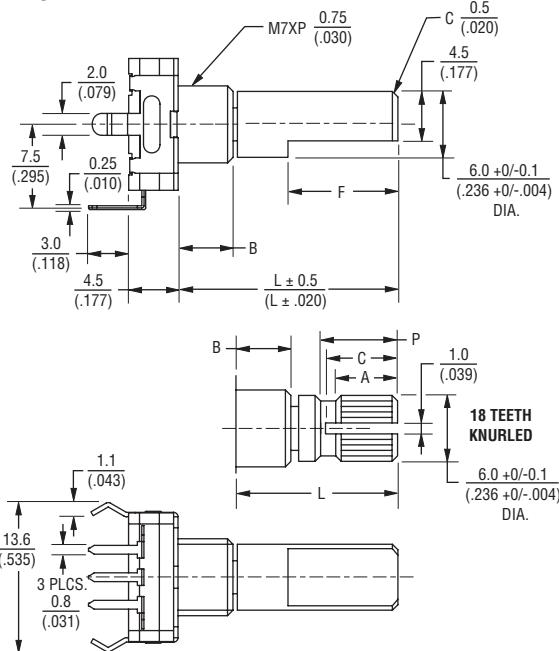
- Audio-visual equipment
- Consumer electric appliances
- Environmental controls
- Musical instrumentation
- Communications equipment

PEC11L Series - 11 mm Low Profile Encoder

BOURNS®

Product Dimensions

PEC11L-4xxxF-Nxxxx

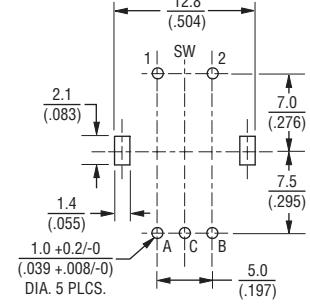
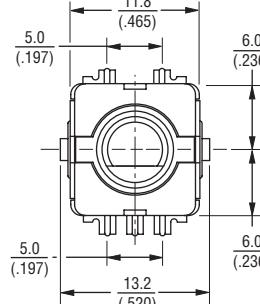
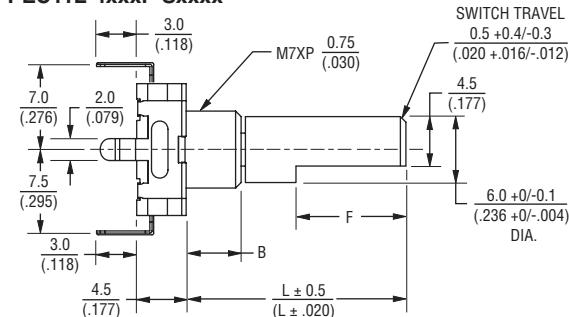


L	B	F	P	A	C	Dim.	Tol.
15 (.591)	5.0 (.197)	7.0 (.276)	7.0 (.276)	6.0 (.236)	7.0 (.276)	<10.0 (<.394)	±0.3 (±.012)
20 (.787)	7.0 (.276)	10.0 (.394)	7.0 (.276)	6.0 (.236)	7.0 (.276)	10.0 ~ 100 (.394 ~ 3.937)	±0.5 (±.020)
25 (.984)	7.0 (.276)	12.0 (.472)	12.0 (.472)	10.0 (.394)	11.0 (.433)		

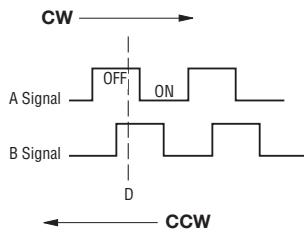
Dim.	Tol.
<10.0 (<.394)	±0.3 (±.012)
10.0 ~ 100 (.394 ~ 3.937)	±0.5 (±.020)

DIMENSIONS: MM (INCHES)

PEC11L-4xxxF-Sxxxx



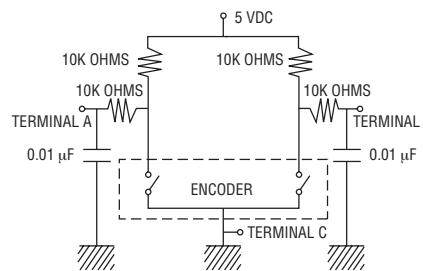
Quadrature Output Table



Switch Circuit



Suggested Filter Circuit



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