

Features

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



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

Electrical Characteristics

Output.....	2-bit quadrature code
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 (15 RPM).....	2.0 ms maximum**
RPM (Operating).....	60 maximum**

Additional Information

Click these links for more information:



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)
Operating Humidity.....	25 % to 85 % R.H.
Rotational Life.....	15,000 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	
Detent.....	100 ±70 gf-cm (1.39 ± 0.97 oz-in)
Shaft Side Load (Static).....	2.04 kgf (4.5 lbs.) minimum
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 max. for 5 ±1 sec.
Hand Soldering.....	350 °C for 3 sec. max.
Hardware.....	None

Switch Characteristics

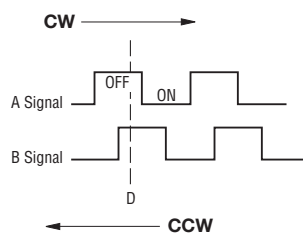
Switch Type.....	Contact Push ON Momentary SPST
Power Rating (Resistive Load).....	10 mA at 5 V DC
Switch Travel	
S (Standard).....	0.5 +0.0/-0.3 mm
H (High).....	1.5 ± 0.5 mm
Switch Actuation Force	
S (Standard).....	350 ± 100 gf (12.35 ± 3.53 oz.)
H (High).....	400 ± 200 gf (14.10 ± 7.05 oz.)
Contact Resistance.....	200 milliohms @ 5 VDC

How To Order

PEC11D - 4 1 20 F - S 0015

Model.....	PEC11D - 4 1 20 F - S 0015
Terminal Configuration	
4 = PC Pin Horizontal/ Rear Facing	
Detent Option	
1 = 30 Detents (15 pulses)	
Standard Shaft Length	
20 = 20.0 mm	
Shaft Style	
F = Metal Flatted Inner Shaft with Slotted Outer Shaft	
Switch Configuration	
S = 0.5 mm Momentary Switch Stroke (Standard)	
H = 1.5 mm Momentary Switch Stroke (High)	
Resolution	
0015 = 15 Pulses per 360 ° Rotation	

Quadrature Output Table



Asia-Pacific:

Tel: +886-2 2562-4117
Email: asiacus@bourns.com

Europe:

Tel: +36 88 885 877
Email: eurocus@bourns.com

The Americas:

Tel: +1-951 781-5500
Email: americus@bourns.com

www.bourns.com

*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 disclaimers as set forth on the last page of this document, and at www.bourns.com/legal/disclaimer.pdf.

Applications

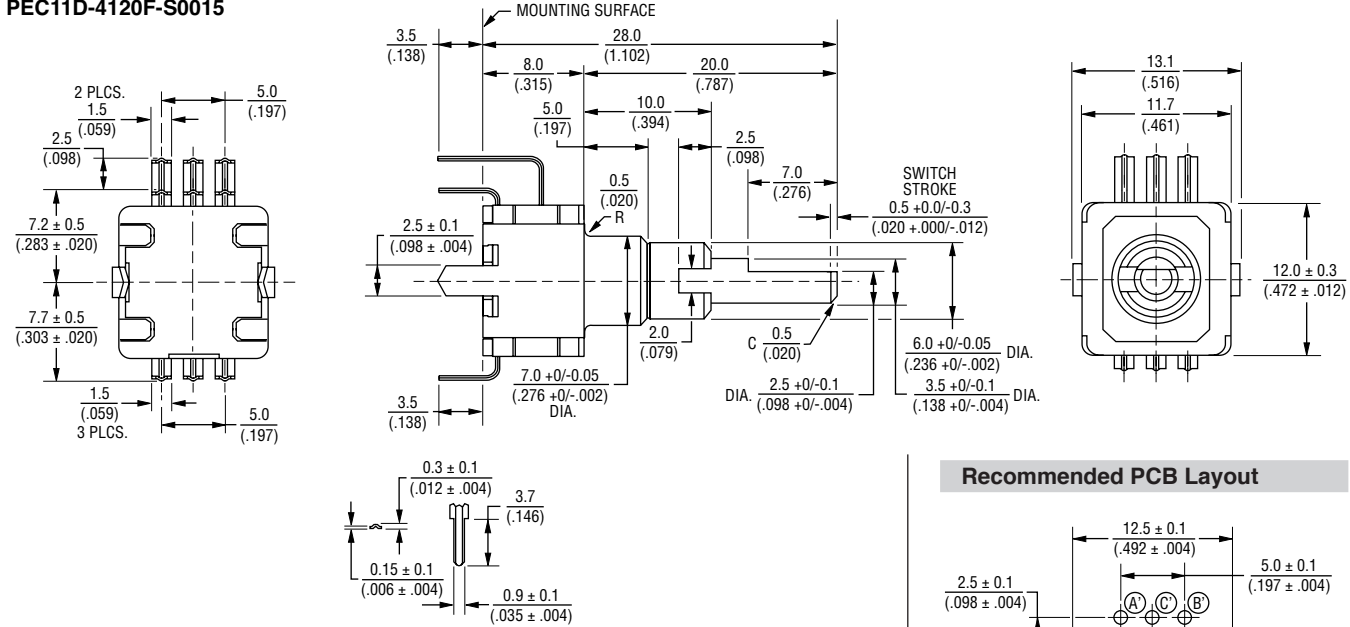
Level control, tuning and menu select in:

- Audio-visual equipment
- Professional audio, broadcast and lighting consoles
- Musical instrumentation
- Communications equipment

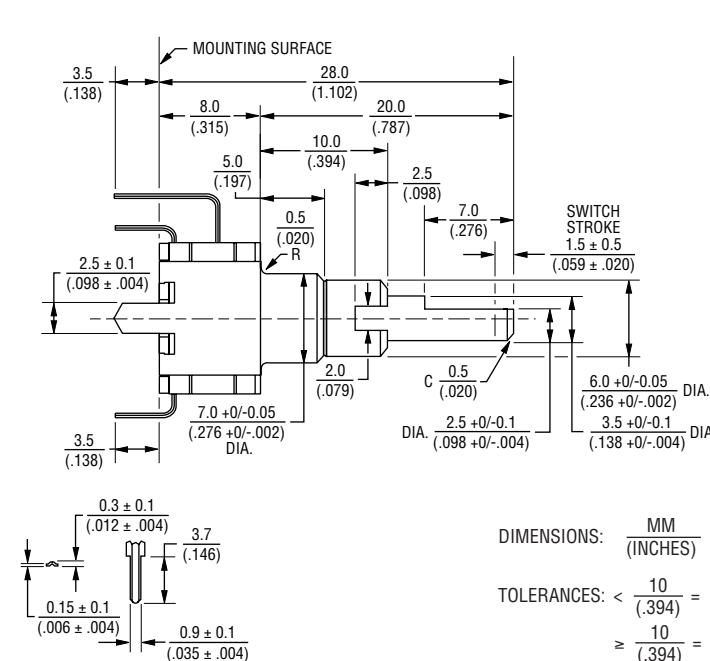
PEC11D Series - 12 mm Dual Concentric Rotary Encoder w/Switch BOURNS®

Product Dimensions

PEC11D-4120F-S0015

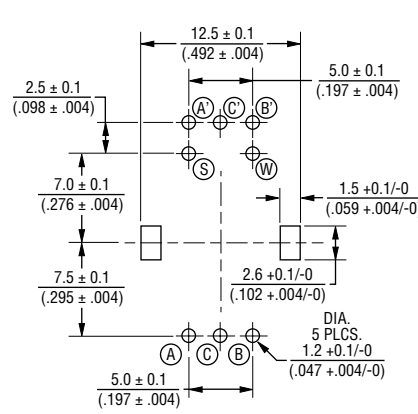


PEC11D-4120F-H0015

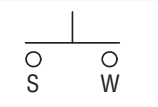


DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$
 TOLERANCES: $< \frac{10}{.394} = \pm \frac{0.3}{.012}$
 $\geq \frac{10}{.394} = \pm \frac{0.5}{.020}$

Recommended PCB Layout



Switch Circuit



Suggested Filter Circuit

