



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**

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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

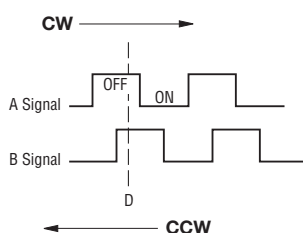
Switch Type.....	Contact Push ON Momentary SPST
Power Rating (Resistive Load).....	10 mA at 5 V DC
Switch Travel.....	
S (Standard).....	0.5 +0.0/-0.3 mm
H (High).....	1.5 ± 0.5 mm
Switch Actuation Force.....	
S (Standard).....	350 ± 100 gf (12.35 ± 3.53 oz.)
H (High).....	400 ± 200 gf (14.10 ± 7.05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

How To Order

PEC11D - 4 1 20 F - S 0015

Model.....	
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



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*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.

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Applications

Level control, tuning and menu select in:

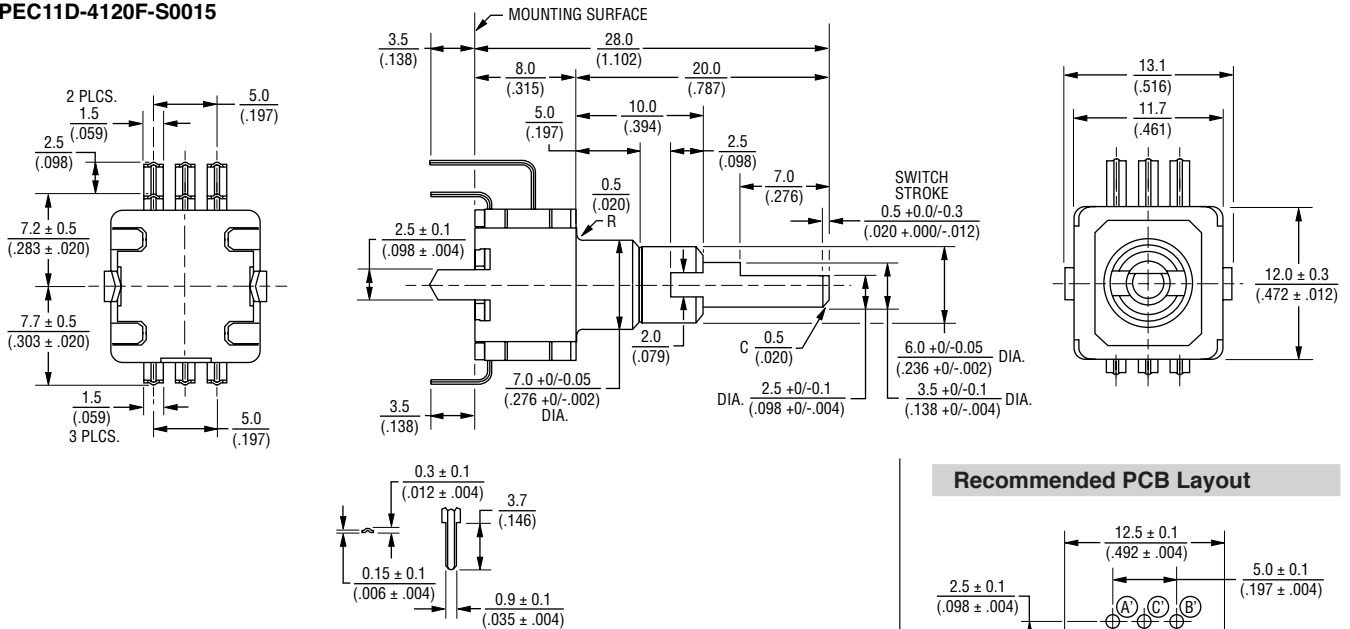
- Audio-visual equipment
- Professional audio, broadcast and lighting consoles
- Musical instrumentation
- Communications equipment

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

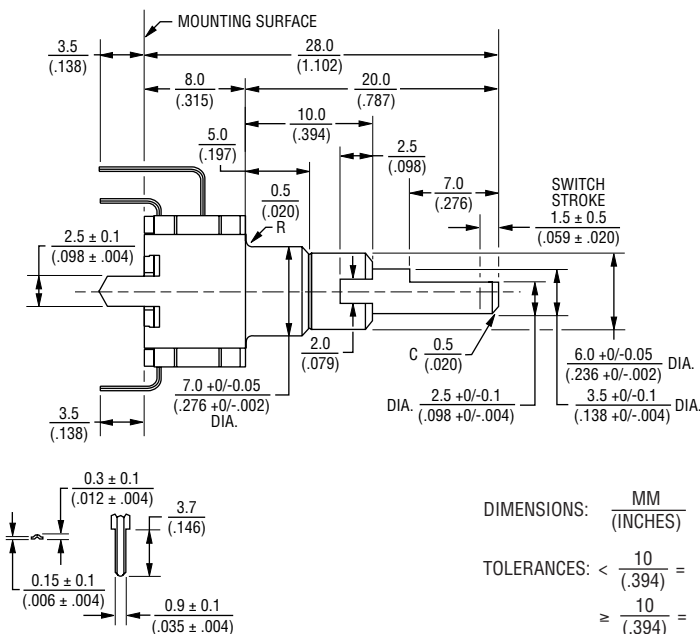
BOURNS®

Product Dimensions

PEC11D-4120F-S0015



PEC11D-4120F-H0015

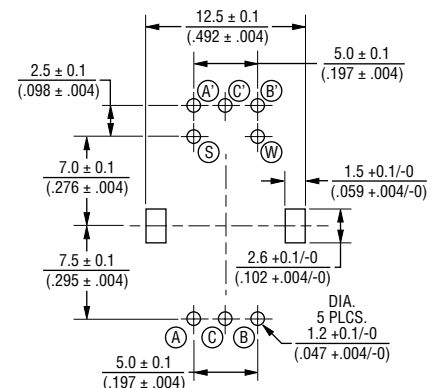


DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

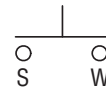
TOLERANCES: $< \frac{10}{(0.394)} = \pm \frac{0.3}{(0.012)}$

$\geq \frac{10}{(0.394)} = \pm \frac{0.5}{(0.020)}$

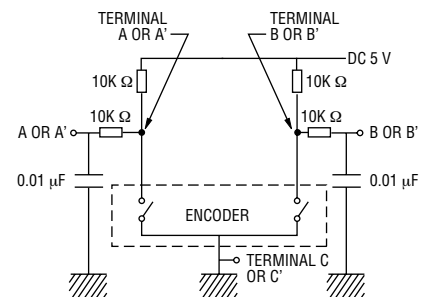
Recommended PCB Layout



Switch Circuit



Suggested Filter Circuit



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