Features

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

BOURNS® PRO AUDIO

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:

PRODUCT | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

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

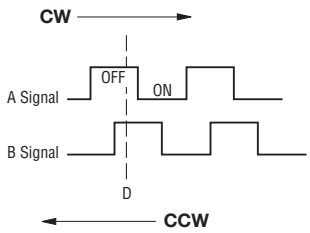
Switch Type	Contact Push ON Momentary SPST
Power Rating (Resistive Load)	10 mA at 5 V DC
Switch Travel	
S (Standard)	0.5 +0.0/-0.3 mm
H (High)	1.5 ± 0.5 mm
Switch Actuation Force	
S (Standard)	350 ± 100 gf (12.35 ± 3.53 oz.)
H (High)	400 ± 200 gf (14.10 ± 7.05 oz.)
Contact Resistance	200 milliohms @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

Applications

Level control, tuning and menu select in:

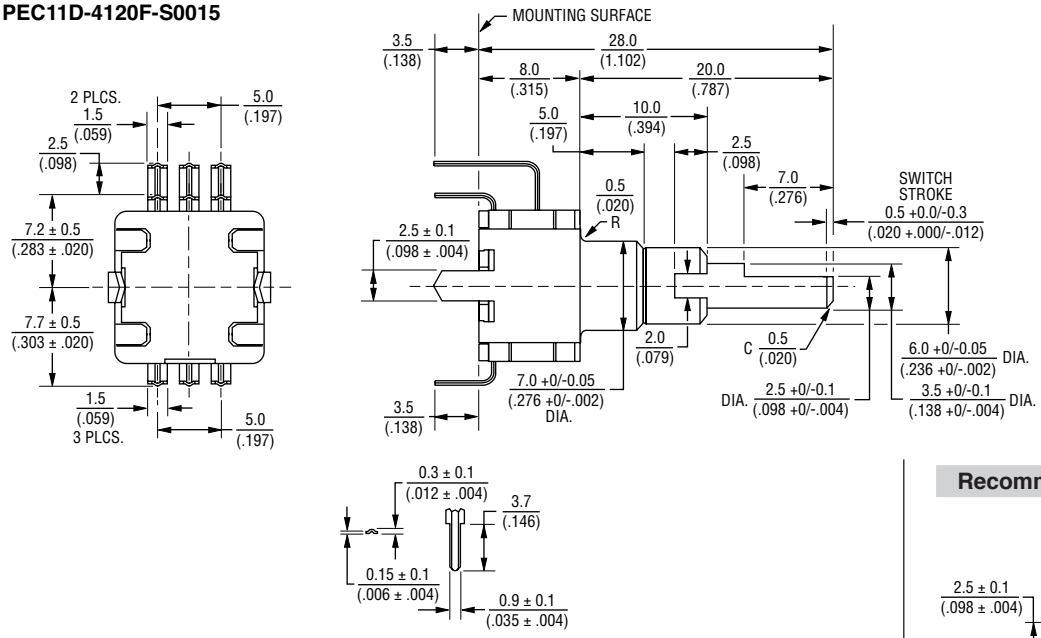
- Audio-visual equipment
- Professional audio, broadcast and lighting consoles
- Musical instrumentation
- Communications equipment

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

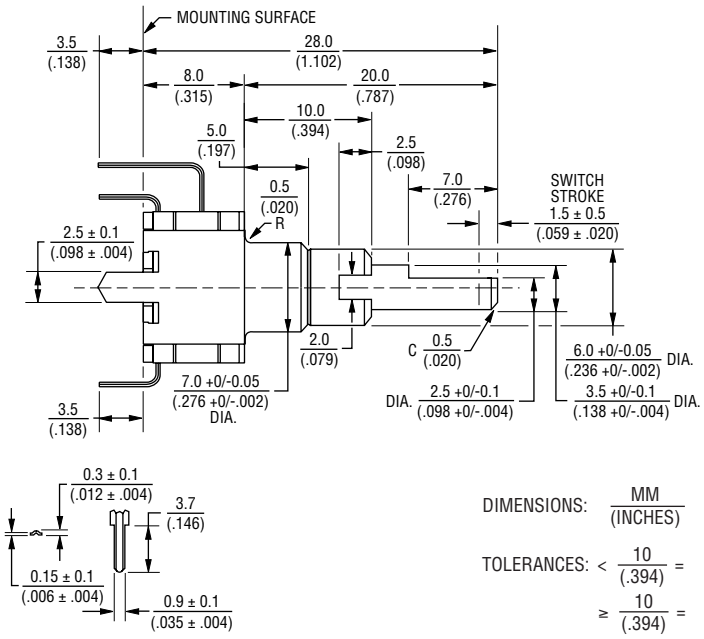
BOURNS®

Product Dimensions

PEC11D-4120F-S0015



PEC11D-4120F-H0015

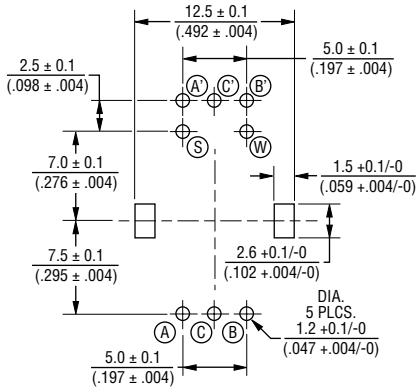


DIMENSIONS: MM (INCHES)

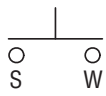
TOLERANCES: < 10 (.394) = ± 0.3 (.012)

≥ 10 (.394) = ± 0.5 (.020)

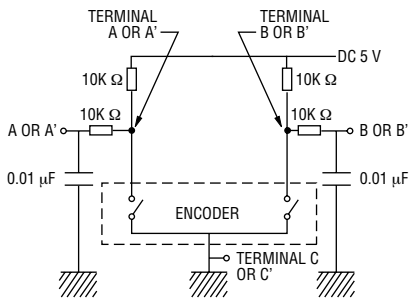
Recommended PCB Layout



Switch Circuit



Suggested Filter Circuit



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