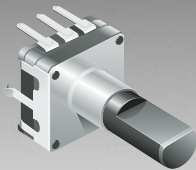


*RoHS COMPLIANT



BOURNS®

Features

- Compact design, long life and high reliability
- Low cost compared to optical type encoders
- Available in a wide variety of configurations to meet many user requirements

Applications

Level control, tuning and timer settings in:

- Audio-visual equipment
- Consumer electric appliances
- Radios
- Musical instrumentation
- Communications equipment

PEC12 - 12 mm Incremental Encoder

Electrical Characteristics

Output	2-bit gray code
Closed Circuit Resistance	3 ohms maximum
Contact Rating	1 mA @ 5 VDC
Insulation Resistance	10 megohms @ 250 VDC
Dielectric Withstanding Voltage	
Sea Level	50 VAC minimum
Electrical Travel	Continuous
Contact Bounce (15 RPM)	5.0 ms. maximum
RPM (Operating)	100 maximum

Environmental Characteristics

Operating Temperature Range	-30 °C to +70 °C (-22 °F to +158 °F)
Storage Temperature Range	-40 °C to +85 °C (-40 °F to +185 °F)
Humidity	MIL-STD-202, Method 103B, Condition B
Vibration	30 G
Contact Bounce	10-55-10 Hz / 1 min. / Amplitude 1.5 mm
Shock	100 G
Rotational Life	30,000 cycles minimum
Switch Life	20,000 cycles minimum
IP Rating	IP 40

Mechanical Characteristics

Mechanical Angle	360 ° continuous
Running Torque	30.6 to 204 g-cm (0.42 to 2.83 oz.-in.)
Shaft Side Load (Static)	2.04 kgf (4.5 lbs.) minimum
Weight	3 gm (0.1 oz.) maximum
Terminals	Printed circuit board terminals
Terminals	Printed circuit board terminals
Soldering Condition	
Wave Soldering	Sn95.5/Ag2.8/Cu0.7 solder with no-clean flux: 260 °C max. for 3-5 seconds
Hand Soldering	Not recommended
Hardware	No hardware supplied

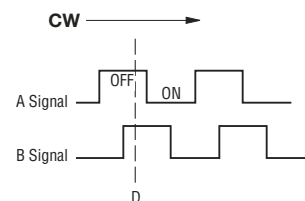
Switch Characteristics

Switch Type	Contact Push ON Momentary SPST
Power Rating (Resistive Load)	10 mA at 5 V DC
Switch Travel	0.5 +0.4/-0.3 mm
Switch Actuation Force	360 +153/-102 gf (5 +2.1/-1.4 oz.-in.)

How to Order

Model	PEC12 - 4 0 20 F - S 0012
Terminal Configuration	2 = PC Pin Vertical/Down Facing 4 = PC Horizontal/Rear Facing
Detent Option	0 = No Detents 1 = 12 Detents (available with 12 pulses only) 2 = 24 Detents (available with 24 pulses only)
Standard Shaft Length	17 = 17.5 mm 20 = 20.0 mm 25 = 25.0 mm 30 = 30.0 mm (available with switch option only)
Shaft Style	F = Insulated Flatted Shaft
Switch Configuration	S = Push Momentary Switch N = No Switch
Resolution	0012 = 12 Pulses per 360 ° Rotation 0024 = 24 Pulses per 360 ° Rotation

Quadrature Output Table



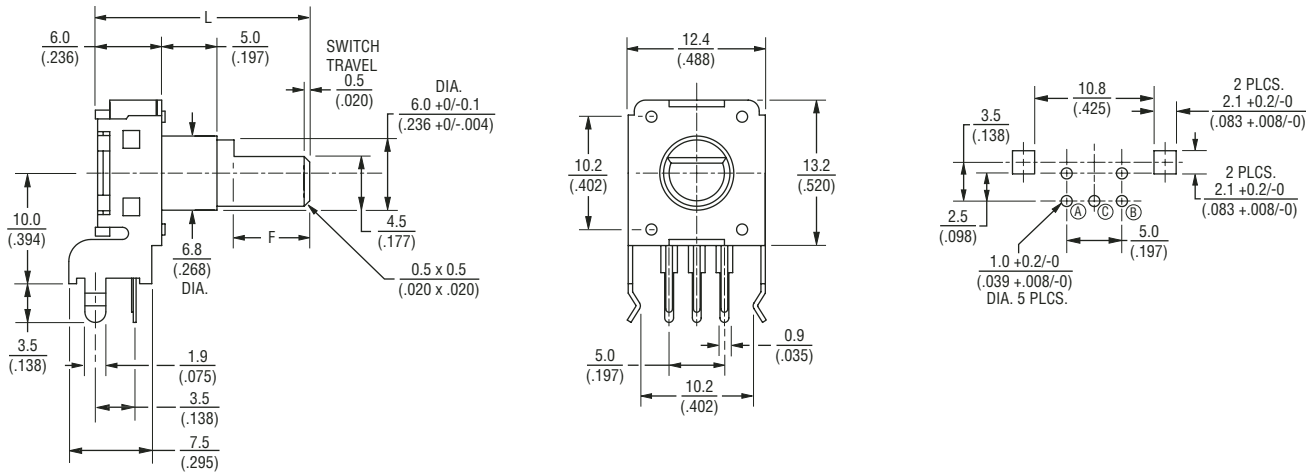
*RoHS Directive 2002/95/EC Jan 27 2003 including Annex
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

PEC12 - 12 mm Incremental Encoder

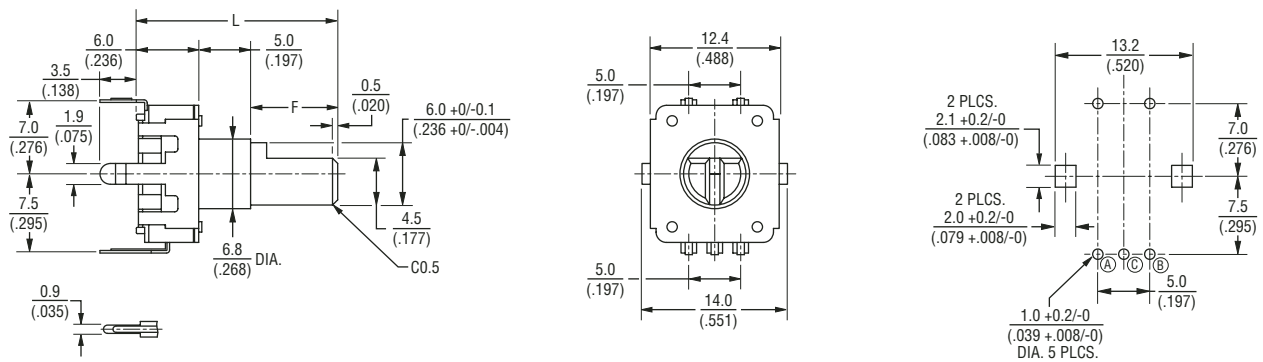
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Product Dimensions

PEC12-2xxxF-Sxxxx



PEC12-4xxxF-Sxxxx



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

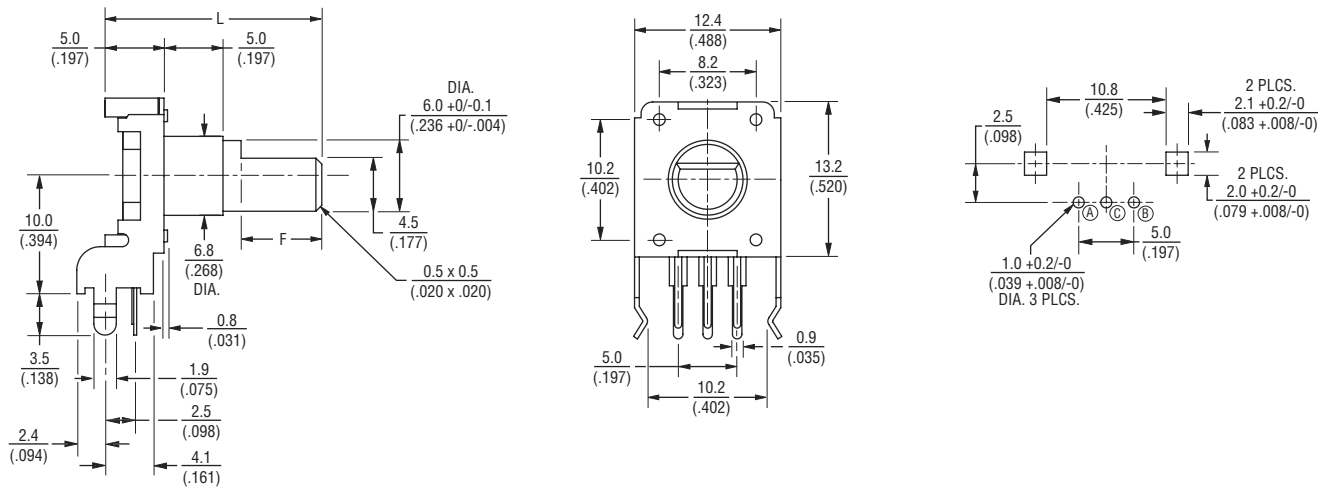
L	$\frac{17.5}{(.688)}$	$\frac{20.0}{(.787)}$	$\frac{25.0}{(.984)}$	$\frac{30.0}{(1.181)}$
F	$\frac{5.0}{(.197)}$	$\frac{7.0}{(.276)}$	$\frac{12.0}{(.472)}$	$\frac{12.0}{(.472)}$

PEC12 - 12 mm Incremental Encoder

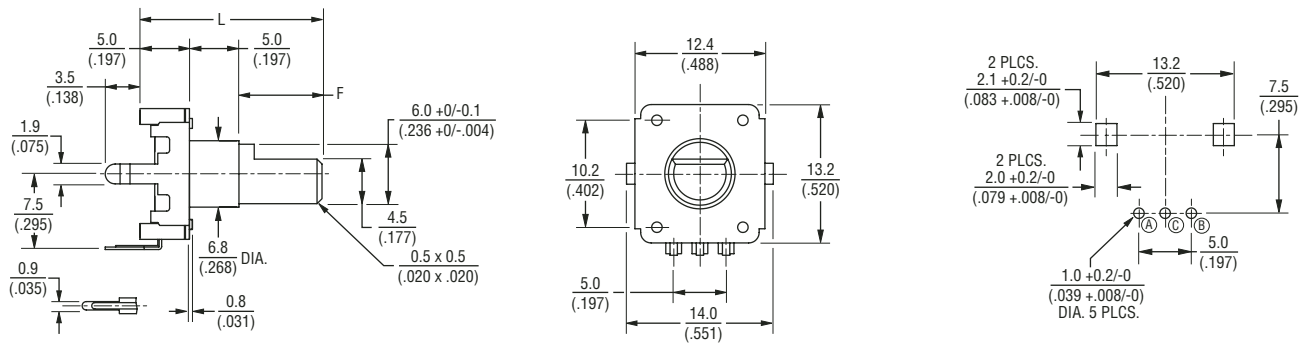
BOURNS®

Product Dimensions

PEC12-2xxxF-Nxxxx



PEC12-4xxxF-Nxxxx



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

L	$\frac{17.5}{(.688)}$	$\frac{20.0}{(.787)}$	$\frac{25.0}{(.984)}$
F	$\frac{5.0}{(.197)}$	$\frac{7.0}{(.276)}$	$\frac{12.0}{(.472)}$