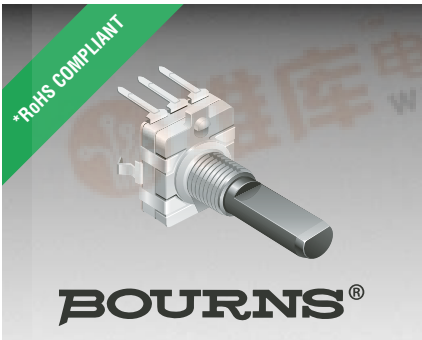




Features

- 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

PEC16 - 16 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 @ 50 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	100,000 cycles minimum
Switch Life	20,000 cycles minimum
IP Rating	IP 40

Mechanical Characteristics

Mechanical Angle	360 ° continuous
Torque	
Running	30.6 to 204 g-cm (0.42 to 2.83 oz.-in)
Mounting	10.2 kgf. cm (8.83 lb.-in.) maximum
Shaft Side Load (Static)	3.06 kgf (6.7 lbs.) minimum
Weight	8 gm (0.28 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	One flat washer and one mounting nut supplied with each encoder.

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

Quadrature Output Table

Model _____ **PEC16 - 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 12 or 24 pulses)

Standard Shaft Length _____

 15 = 15 mm

 20 = 20.0 mm

 25 = 25.0 mm*

 30 = 30.0 mm*

Shaft Style _____

 F = Insulated Flatted Shaft

Switch Configuration _____

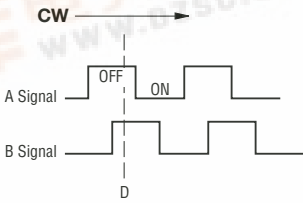
 S = Push Momentary Switch

 N = No Switch

Resolution _____

 0012 = 12 Pulses per 360 ° Rotation

 0024 = 24 Pulses per 360 ° Rotation



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Figure 1 is a dimensional drawing of a mounting surface. It shows a vertical profile with various dimensions and tolerances. Key dimensions include: 7.5 (.295) for the top width, 3.1 (.122) for a step, 2.6 (.102) for another step, 14.4 (.567) for the main body height, 2.0 (.079) for a base step, 5.0 (.197) for a top flange width, 10.0 (.394) for the flange height, 1.2 +0.1/-0 (.047 +.004/-0) for a hole diameter, and 2.1 +0.1/-0 (.083 +.004/-0) for a hole diameter. A 'MOUNTING SURFACE' is indicated by a dashed line. Callouts A, B, and C point to specific features.

L1	$\frac{15.0}{(.591)}$	$\frac{20.0}{(.787)}$
LB	$\frac{5.0}{(.197)}$	$\frac{7.0}{(.276)}$
F	$\frac{7.0}{(.276)}$	$\frac{12.0}{(.472)}$

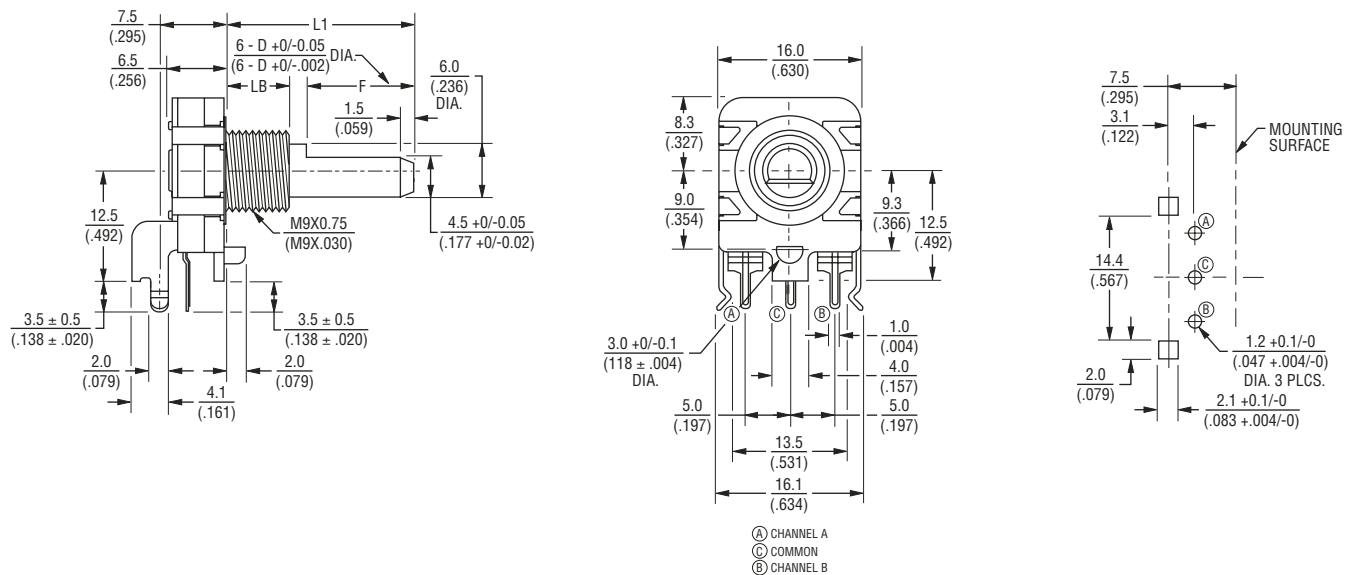
DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

PEC16 - 16 mm Incremental Encoder

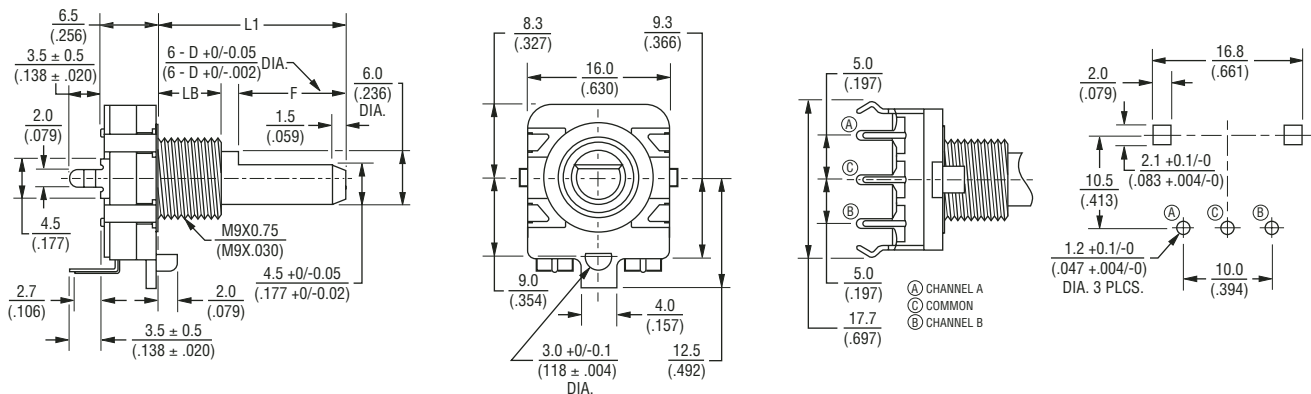
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Product Dimensions

PEC16-2xxxF-Nxxxx



PEC16-4xxxF-Nxxxx



L1	15.0 (.591)	20.0 (.787)
LB	5.0 (.197)	7.0 (.276)
F	7.0 (.276)	12.0 (.472)

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