

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

BOURNS® PRO AUDIO

PEC16 - 16 mm Incremental Encoder

Electrical Characteristics

Output	2-bit quadrature 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	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
Moisture Sensitivity Level	1
ESD Classification (HBM)	N/A

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
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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

PEC16 - 4 0 20 F - S 0012

Model

Terminal Configuration
2 = PC Pin Vertical/Down Facing 4 = PC Horizontal/Rear Facing

Detent Option
0 = No Detents 1 = 12 Detents 2 = 24 Detents

Standard Shaft Length
15 = 15 mm 25 = 25.0 mm[1]
20 = 20.0 mm 30 = 30.0 mm[1]

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

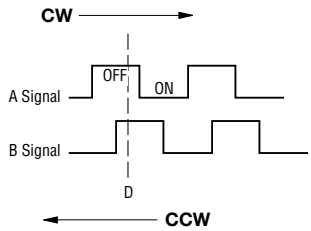
[1] Not available with switch.

Additional Information

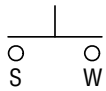
Click these links for more information:

PRODUCT | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

Quadrature Output Table



Switch Circuit



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WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*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.
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CAUTION
Do not store product in high temperature and humidity, direct sunlight and/or places where corrosive gases may be generated. Please use product within 6 months from the date of delivery and promptly after unpacking.

Applications

Level control, tuning and timer settings in:

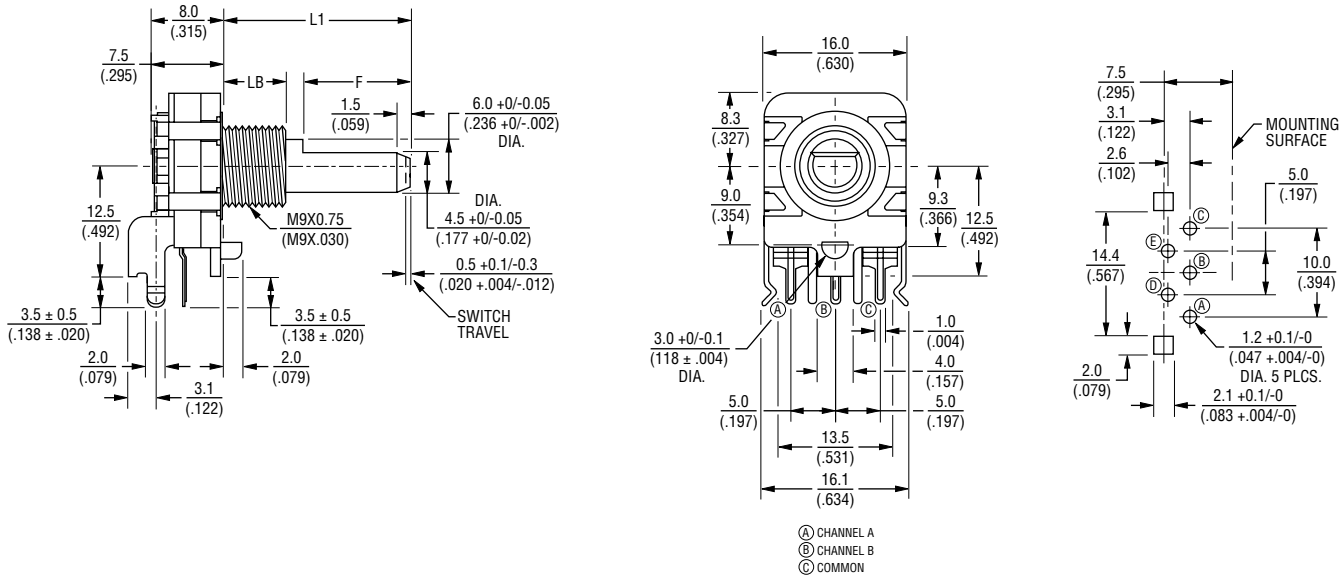
- Audio-visual equipment
- Consumer electric appliances
- Radios
- Musical instrumentation
- Communications equipment

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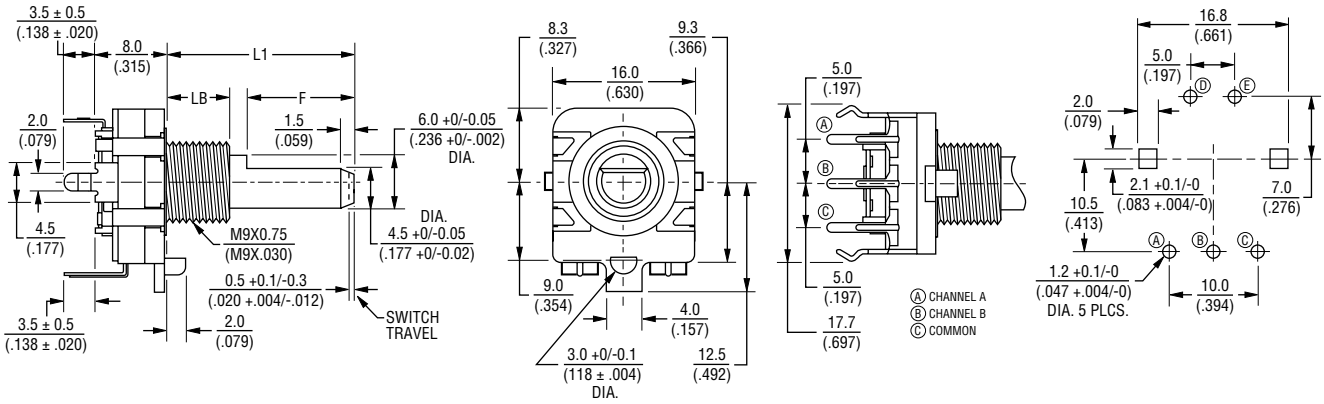
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Product Dimensions

PEC16-2xxxF-Sxxxx



PEC16-4xxxF-Sxxxx



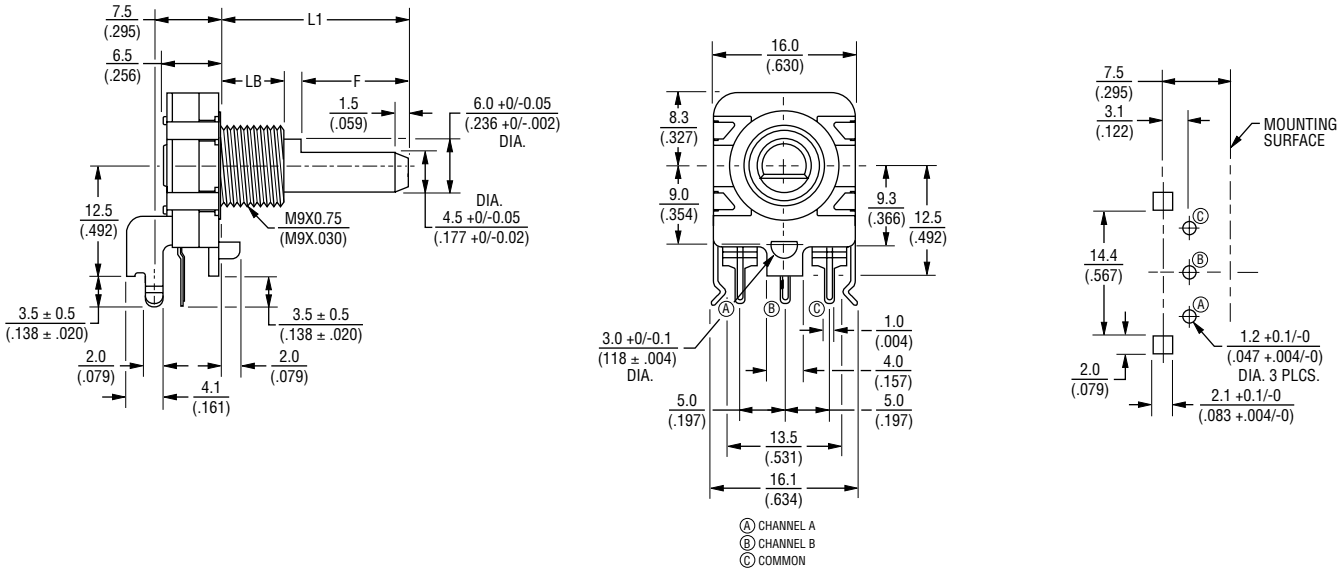
L1	15.0 (.591)	20.0 (.787)	25.0 (.984)	30.0 (1.181)
LB	5.0 (.197)	7.0 (.276)	7.0 (.276)	7.0 (.276)
F	7.0 (.276)	12.0 (.472)	12.0 (.472)	12.0 (.472)

DIMENSIONS: MM (INCHES)

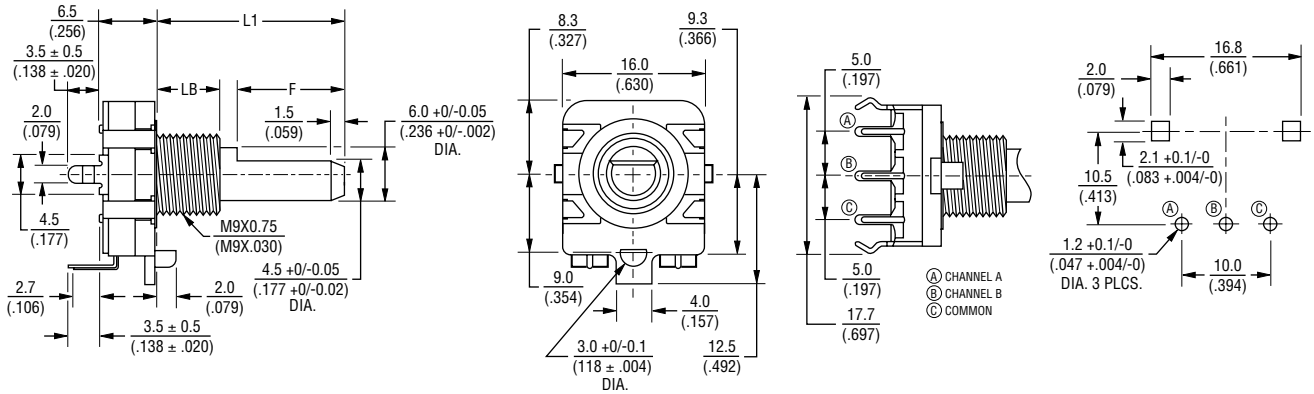
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Product Dimensions

PEC16-2xxxF-Nxxxx



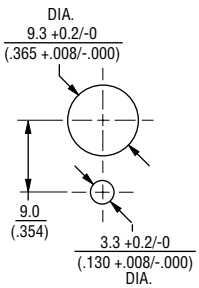
PEC16-4xxxF-Nxxxx



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DIMENSIONS: MM (INCHES)

Panel Hole Detail



REV. 07/21

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