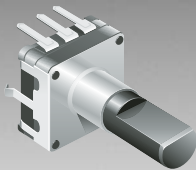


*RoHS COMPLIANT



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 |
| Hardware..... | No hardware supplied |

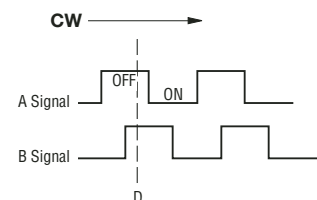
Switch Characteristics

| | |
|-------------------------------------|--|
| 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 | 4 = PC Horizontal/Rear Facing |
| 2 = PC Pin Vertical/Down 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 | 20 = 20.0 mm |
| 17 = 17.5 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

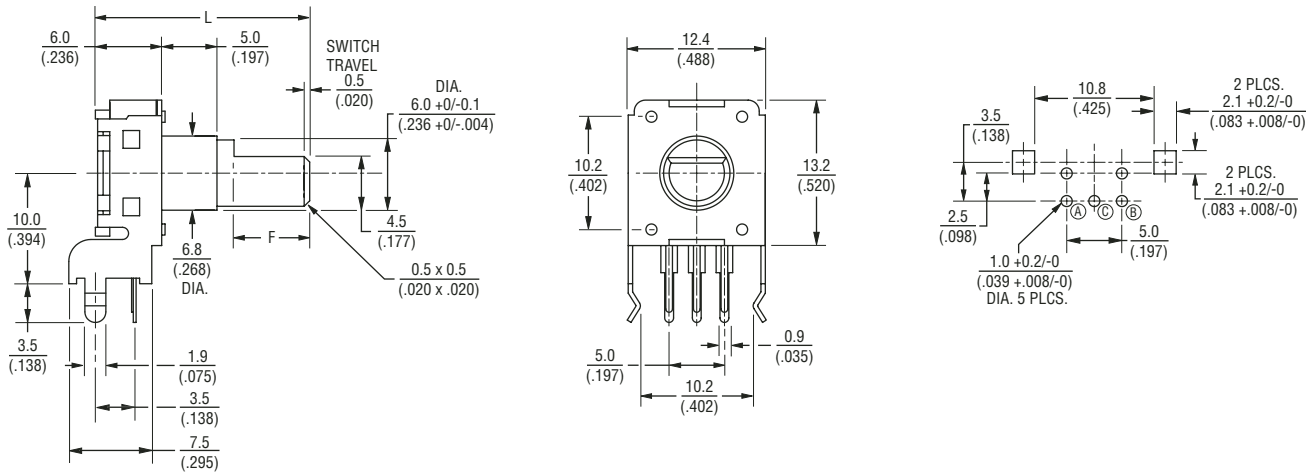


PEC12 - 12 mm Incremental Encoder

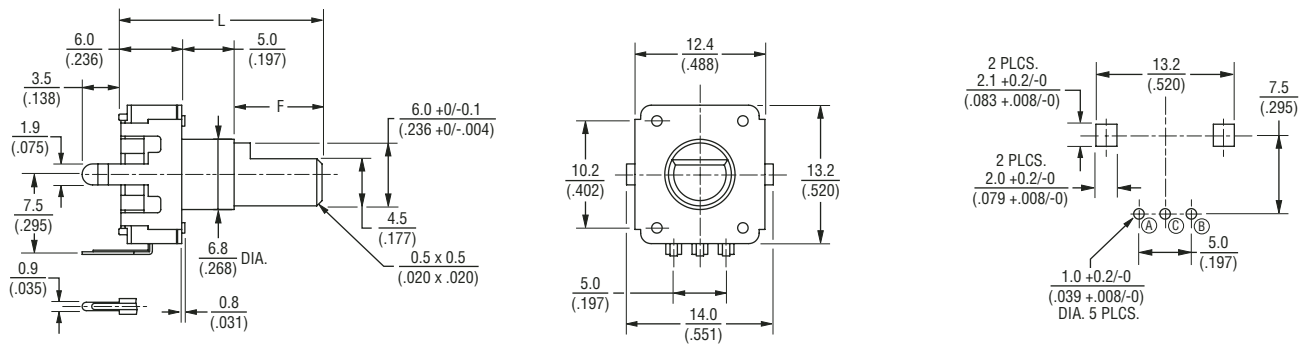
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Product Dimensions

PEC12-2xxxF-Sxxxx



PEC12-4xxxF-Sxxxx



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

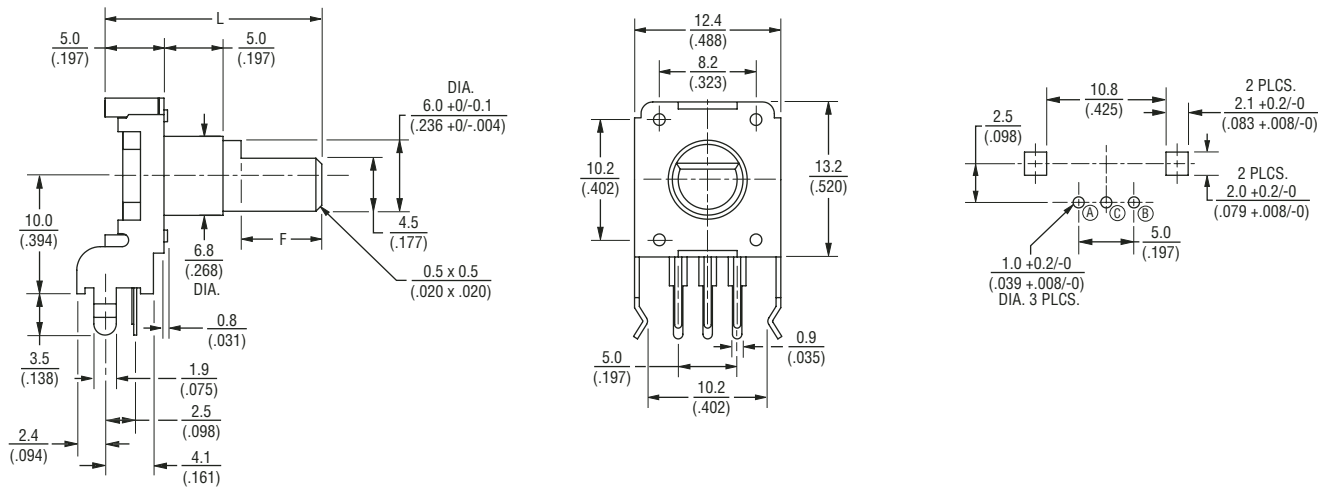
| | | | | |
|---|-----------------------|-----------------------|-----------------------|------------------------|
| L | $\frac{17.5}{(.688)}$ | $\frac{20.0}{(.787)}$ | $\frac{25.0}{(.984)}$ | $\frac{30.0}{(1.181)}$ |
| F | $\frac{5.0}{(.197)}$ | $\frac{7.0}{(.276)}$ | $\frac{12.0}{(.472)}$ | $\frac{12.0}{(.472)}$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

PEC12 - 12 mm Incremental Encoder

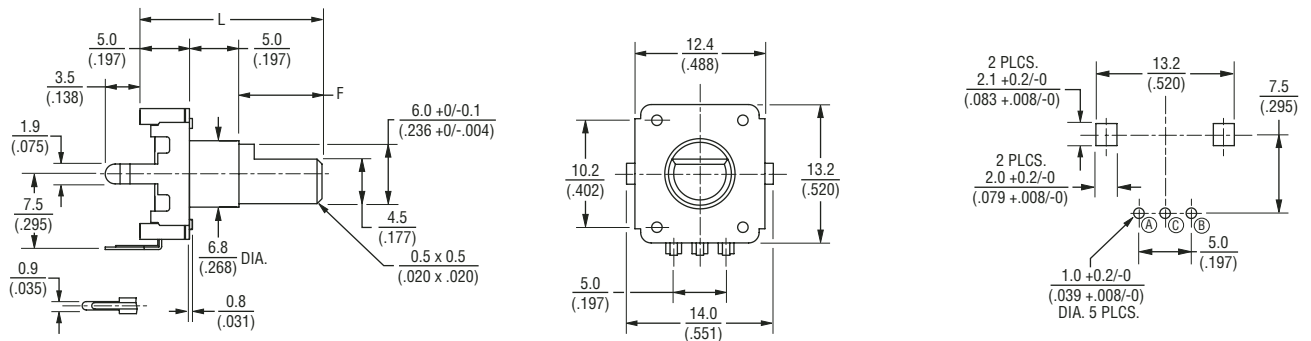
BOURNS®

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 | $\frac{5.0}{(.197)}$ | $\frac{7.0}{(.276)}$ | $\frac{12.0}{(.472)}$ |