



Features

- Push switch option
- Compact, low profile
- High rotational life and switch life
- Metal bushing/shaft
- RoHS compliant*



PEC11L Series - 11 mm Low Profile Encoder

Electrical Characteristics

| | |
|---------------------------------------------------|-----------------------|
| Output..... | 2-bit quadrature code |
| Closed Circuit Resistance..... | 100 milliohms maximum |
| 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 (60 RPM)..... | 10 ms maximum** |
| RPM (Operating)..... | 60 maximum** |

Environmental Characteristics

| | |
|----------------------------------|-----------------------------------------|
| Operating Temperature Range..... | -25 °C to +80 °C (-13 °F to +176 °F) |
| Storage Temperature Range..... | -40 °C to +85 °C (-40 °F to +185 °F) |
| Humidity..... | MIL-STD-202, Method 103B, Condition A |
| Vibration..... | 10~55~10 Hz / 1 min. / Amplitude 1.5 mm |
| Shock..... | 100 G |
| Rotational Life..... | 100,000 cycles minimum |
| IP Rating..... | IP 40 |

Mechanical Characteristics

| | |
|---------------------------------|---------------------------------------------------------------------------------|
| Mechanical Angle..... | 360 ° continuous |
| Torque | |
| Detent..... | 20-200 gf-cm (0.27 to 2.8 oz-in) |
| Running..... | 10 to 150 gf-cm (0.14 to 2.1 oz-in) |
| Mounting..... | 70 N-cm (6.2 lb-in) maximum |
| Shaft Side Load (Static)..... | 2.04 kgf (4.5 lbs) minimum |
| Shaft Strength (Push-Pull)..... | 100 N (22.5 lbs) |
| 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 ±5 °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 |
| Switch Life..... | 100,000 actuations minimum |
| Power Rating (Resistive Load)..... | 10 mA at 5 V DC |
| Switch Travel..... | 0.5 ± 0.3 mm |
| Switch Actuation Force..... | 610 ± 306 gf (8.47 ± 4.24 oz.-in.) |

How To Order

PEC11L - 4 0 20 F - S 0015

| | |
|-----------------------------|--------------------------------------------------------------------------------------------|
| Model..... | PEC11L - 4 0 20 F - S 0015 |
| Terminal Configuration..... | 4 = PC Pin Horizontal/Rear Facing |
| Detent Option..... | 0 = No Detents (15, 20 pulses) 1 = 20 Detents (20 pulses) 2 = 30 Detents (15 pulses) |
| Standard Shaft Length..... | 15 = 15.0 mm 20 = 20.0 mm 25 = 25.0 mm |
| Shaft Style..... | F = Metal Flatted Shaft K = Metal Knurled Shaft |
| Switch Configuration..... | S = Push Momentary Switch N = No Switch |
| Resolution..... | 0015 = 15 Pulses per 360 ° Rotation 0020 = 20 Pulses per 360 ° Rotation |

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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.

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

Applications

Level control, tuning and timer settings in:

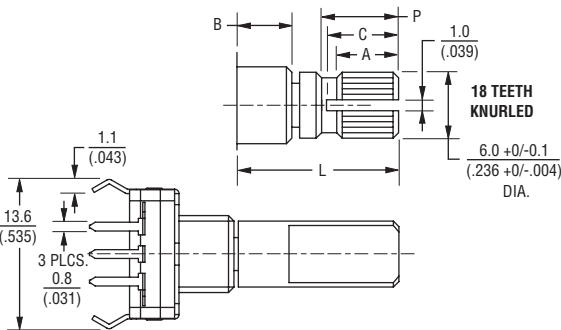
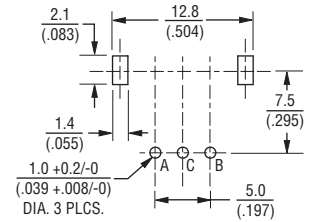
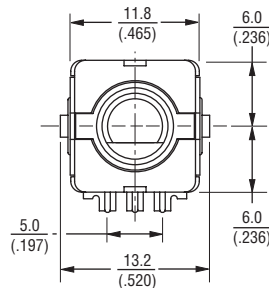
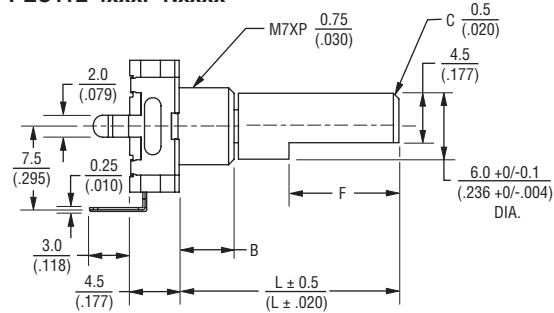
- Audio-visual equipment
- Consumer electric appliances
- Environmental controls
- Musical instrumentation
- Communications equipment

PEC11L Series - 11 mm Low Profile Encoder

BOURNS®

Product Dimensions

PEC11L-4xxxF-Nxxxx

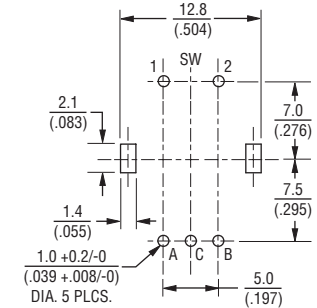
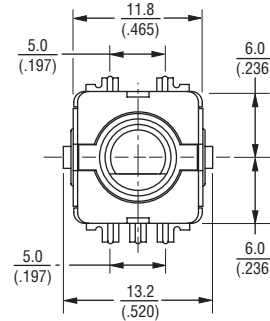
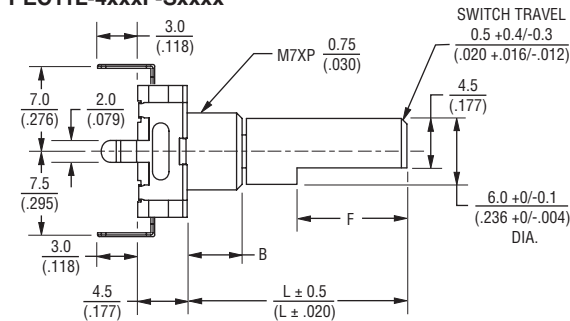


| L | B | F | P | A | C |
|--------------|---------------|----------------|----------------|----------------|----------------|
| 15 (.591) | 5.0 (.197) | 7.0 (.276) | 7.0 (.276) | 6.0 (.236) | 7.0 (.276) |
| 20 (.787) | 7.0 (.276) | 10.0 (.394) | 7.0 (.276) | 6.0 (.236) | 7.0 (.276) |
| 25 (.984) | 7.0 (.276) | 12.0 (.472) | 12.0 (.472) | 10.0 (.394) | 11.0 (.433) |

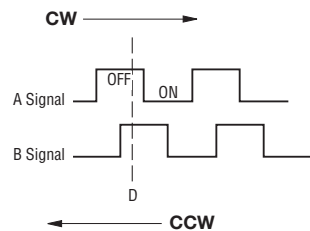
| Dim. | Tol. |
|------------------------------|-----------------|
| <10.0 (<.394) | ±0.3 (±.012) |
| 10.0 ~ 100 (.394 ~ 3.937) | ±0.5 (±.020) |

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

PEC11L-4xxxF-Sxxxx



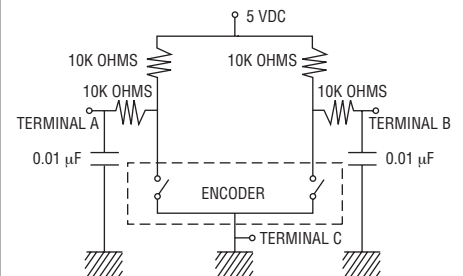
Quadrature Output Table



Switch Circuit



Suggested Filter Circuit



REV. 01/20

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