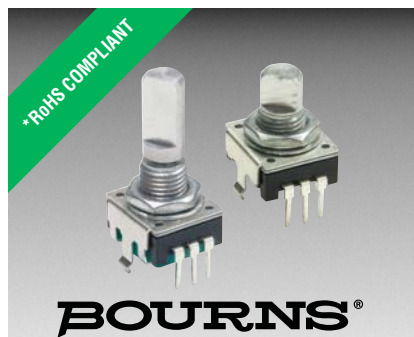




Features

- Push switch option
- Compact, rugged design
- High reliability
- Metal bushing/shaft



PEC11R Series - 12 mm Incremental Encoder

Electrical Characteristics

Output.....	2-bit quadrature code
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 (15 RPM).....	2.0 ms maximum**
RPM (Operating).....	60 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.....	30,000 cycles minimum
Switch Life.....	20,000 cycles minimum
IP Rating.....	IP 40

Mechanical Characteristics

Mechanical Angle.....	360 ° continuous
Torque	
Running.....	50 to 200 gf.cm (0.68 to 2.7 oz.-in.)
Mounting.....	10.2 kgf.cm (8.83 lb.-in.) maximum
Shaft Side Load (Static).....	2.04 kgf (4.5 lbs.) minimum
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 max. for 3 ±1 sec.
Hand Soldering.....	Not recommended
Hardware.....	One flat washer and one mounting nut supplied with each encoder

Switch Characteristics

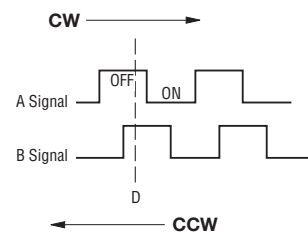
Switch Type.....	Contact Push ON Momentary SPST
Power Rating (Resistive Load).....	10 mA at 5 V DC
Switch Travel.....	0.5 ± 0.3 mm
Switch Actuation Force.....	610 ± 306 gf (8.47 ± 4.24 oz.-in.)
Contact Resistance.....	100 milliohms @ 5 VDC

How To Order

	PEC11R - 4 0 20 F - S 0012
Model.....	
Terminal Configuration.....	
4 = PC Pin Horizontal/Rear Facing	
Detent Option.....	
0 = No Detents (12, 18, 24 pulses)	
1 = 18 Detents (18 pulses)	
2 = 24 Detents (12, 24 pulses)	
3 = 12 Detents (12, 24 pulses)	
Standard Shaft Length.....	
15 = 15.0 mm	
20 = 20.0 mm	
25 = 25.0 mm	
30 = 30.0 mm	
Shaft Style.....	
F = Metal Flatted Shaft	
K = Metal Knurled Shaft ¹	
Switch Configuration.....	
S = Push Momentary Switch	
N = No Switch	
Resolution.....	
0012 = 12 Pulses per 360 ° Rotation	
0018 = 18 Pulses per 360 ° Rotation	
0024 = 24 Pulses per 360 ° Rotation	

¹ Metal knurled shaft without switch is available in 15, 20 and 30 mm shaft lengths.
Metal knurled shaft with push momentary switch is available in 15 and 20 mm shaft lengths.

Quadrature Output Table



*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

**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.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

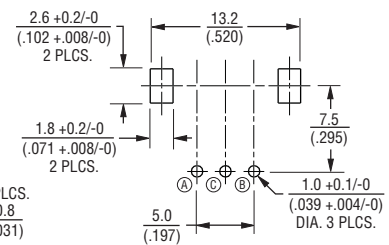
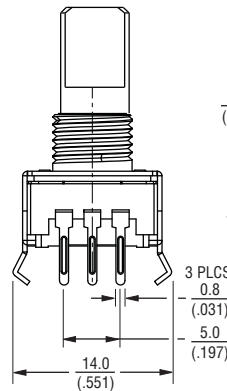
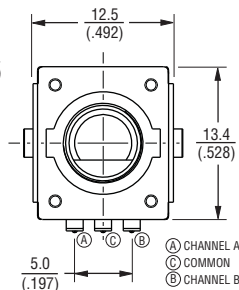
Level control, tuning and timer settings in:

- ## PEC11R Series - 12 mm Incremental Encoder

Product Dimensions

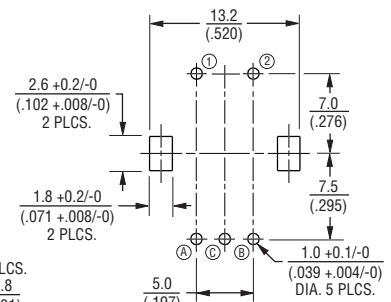
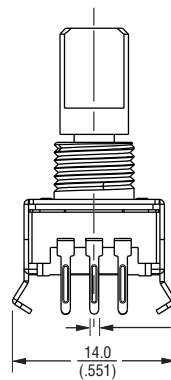
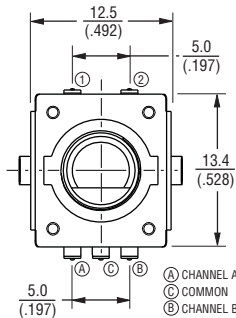
Technical drawing of a mounting bracket. Dimensions are given in inches (in parentheses) and millimeters (in brackets). Key features and dimensions include:

- Overall length: L
- Distance from mounting surface to center of hole: 6.5 ($.256$)
- Distance from mounting surface to center of hole: 2.5 ($.098$)
- Distance from mounting surface to center of hole: 7.5 ($.295$)
- Distance from mounting surface to center of hole: 3.7 ($.146$)
- Thread: $M7 \times 0.75 P$ ($.030$)
- Distance from thread to end of bracket: C 0.5 ($.020$)
- Distance from thread to end of bracket: F
- Distance from thread to end of bracket: 4.5 ± 0.05 ($.177 \pm 0.002$)
- Distance from thread to end of bracket: $DIA. \ 6.0$ ($.236$)
- Mounting surface: $MOUNTING \ SURFACE$



Technical drawing of a switch assembly showing dimensions and labels:

- Dimensions:**
 - 6.5 (.256)
 - 7.0 (.276)
 - 7.5 (.295)
 - 2.5 (.098)
 - 3.7 (.146)
 - LB
 - L
 - 0.5 (.020)
 - 0.5 (.020)
 - 0.5 (+0/-0.002) (.177 +0/-0.002)
 - 4.5 (+0/-0.05) (.177 +0/-0.002)
 - 6.0 (.236)
- Labels:**
 - SWITCH TRAVEL
 - C
 - P
 - F
 - MOUNTING SURFACE
 - M7 X 0.75 (.030)



Switch Circuit


$$\begin{aligned} \text{TOLERANCES: } &< \frac{10}{(.394)} = \pm \frac{0.3}{(.012)} \\ &\geq \frac{10}{(.394)} = \pm \frac{0.5}{(.020)} \end{aligned}$$

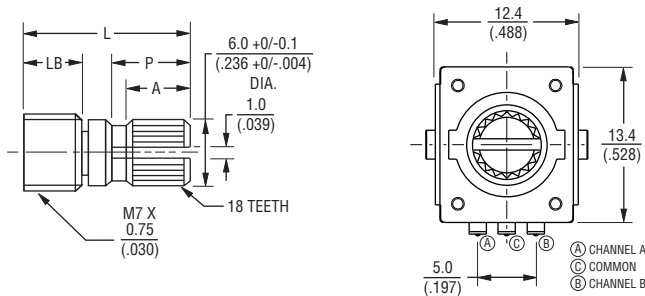
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

PEC11R Series - 12 mm Incremental Encoder

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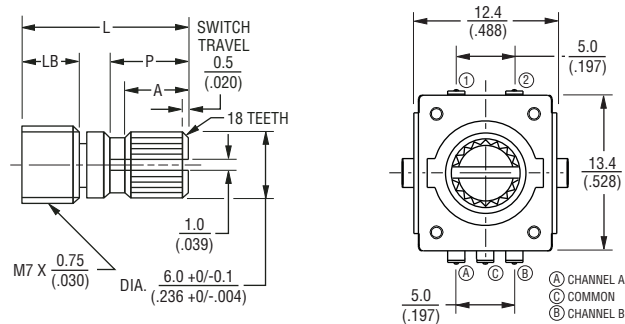
Product Dimensions

PEC11R-4xxxK-Nxxxx



L	LB	P	A
15 (.591)	5.0 (.197)	7.0 (.276)	6.0 (.236)
20 (.787)	7.0 (.276)	7.0 (.276)	6.0 (.236)
30 (1.181)	7.0 (.276)	16.0 (.630)	12.0 (.472)

PEC11R-4xxxK-Sxxxx



L	LB	P	A
15 (.591)	5.0 (.197)	7.0 (.276)	6.0 (.236)
20 (.787)	7.0 (.276)	7.0 (.276)	6.0 (.236)

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

TOLERANCES: $< \frac{10}{(.394)} = \pm \frac{0.3}{(.012)}$
 $\geq \frac{10}{(.394)} = \pm \frac{0.5}{(.020)}$

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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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