



Features

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



PEC09 Series - 9 mm Incremental Encoder

Electrical Characteristics

| | |
|---------------------------------|-----------------------|
| Output..... | 2-bit quadrature code |
| Closed Circuit Resistance..... | 3 ohms 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 (15 RPM)..... | 5.0 ms maximum** |
| RPM (Operating)..... | 60 maximum** |

Environmental Characteristics

| | |
|----------------------------------|---------------------------------------|
| Operating Temperature Range..... | -10 °C to +70 °C (+14 °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 |
| Rotational Life..... | 30,000 cycles minimum |
| IP Rating..... | IP 40 |

Mechanical Characteristics

| | |
|-------------------------------|---|
| Mechanical Angle..... | 360 ° continuous |
| Torque | |
| Running/Detent..... | 30 to 200 gf.cm (0.42 to 2.7 oz.-in.) |
| Mounting..... | 10.0 kgf.cm (8.67 lb.-in.) maximum |
| Terminal Bend Strength..... | 300 gf (10.6 ozf) |
| Shaft Push-Pull Strength..... | 10 kgf (22 lbf) |
| 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 3-5 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..... | 20,000 cycles minimum |
| Power Rating (Resistive Load)..... | 10 mA at 5 V DC |
| Switch Travel..... | See How to Order |
| Switch Actuation Force..... | 300 ± 200 gf (10.6 ± 7.0 ozf) |

How To Order

PEC09 - 2 0 20 F - S 0012

| | |
|-----------------------------|--|
| Model..... | PEC09 - 2 0 20 F - S 0012 |
| Terminal Configuration..... | 2 = PC Pin Vertical/Side Exit |
| Detent Option..... | 0 = No Detents (12, 15 pulses) 1 = 12 Detents (12 pulses) 2 = 24 Detents (12 pulses) 3 = 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..... | N = No Switch S = Push Momentary (0.5 mm stroke) T = Push Momentary (1.5 mm stroke) |
| Resolution..... | 0012 = 12 Pulses per 360 ° Rotation 0015 = 15 Pulses per 360 ° Rotation |

Quadrature Output Table



Suggested Filter Circuit



Switch Circuit



* RoHS Directive 2002/95/EC Jan 27, 2003 including 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.

Customers should verify actual device performance in their specific applications.

Applications

Level control, tuning and timer settings in:

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

PEC09 Series - 9 mm Incremental Encoder

BOURNS®

Product Dimensions

PEC09-2xxxF-Nxxxx



PEC09-2xxxF-Sxxxx

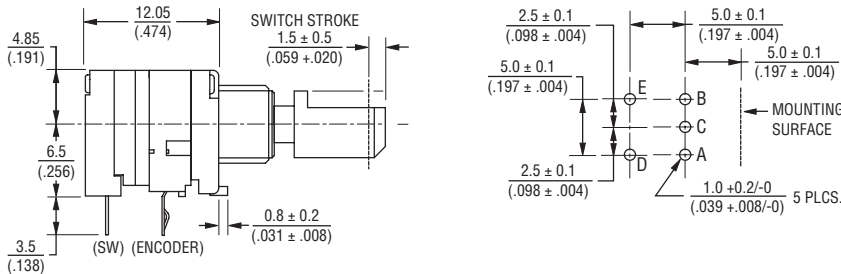


Locating Lug Detail



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

PEC09-2xxxF-Txxxx



Hardware



Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

PEC09 Series - 9 mm Incremental Encoder

BOURNS®

Shaft Options

PEC09-2xxxx-Nxxxx



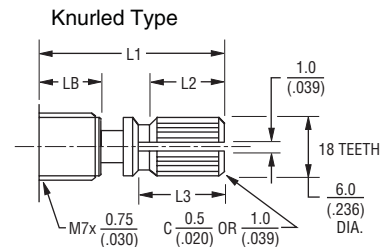
| L1 | LB | L2 | L3 |
|--------------|----------------|----------------|----------------|
| 15 (.591) | 5.0 (.197) | 6.0 (.236) | 7.0 (.276) |
| 20 (.787) | 7.0 (.276) | 10.0 (.394) | 11.0 (.433) |
| 25 (.984) | 10.0 (.394) | 10.0 (.394) | 11.0 (.433) |

PEC09-2xxxx-Sxxxx (0.5 mm Switch Stroke)



| L1 | LB | L2 | L3 |
|--------------|----------------|---------------|----------------|
| 15 (.591) | 5.0 (.197) | 6.0 (.236) | 7.0 (.276) |
| 20 (.787) | 7.0 (.276) | 9.0 (.354) | 10.0 (.394) |
| 25 (.984) | 10.0 (.394) | 9.0 (.354) | 10.0 (.394) |

PEC09-2xxxx-Txxxx (1.5 mm Switch Stroke)



| L1 | LB | L2 | L3 |
|--------------|----------------|---------------|---------------|
| 15 (.591) | 5.0 (.197) | 5.0 (.197) | 6.0 (.236) |
| 20 (.787) | 7.0 (.276) | 8.0 (.315) | 9.0 (.354) |
| 25 (.984) | 10.0 (.394) | 8.0 (.315) | 9.0 (.354) |



| L1 | LB | L2 |
|--------------|----------------|----------------|
| 15 (.591) | 5.0 (.197) | 7.0 (.276) |
| 20 (.787) | 7.0 (.276) | 12.0 (.472) |
| 25 (.984) | 10.0 (.394) | 12.0 (.472) |



| L1 | LB | L2 |
|--------------|----------------|----------------|
| 15 (.591) | 5.0 (.197) | 7.0 (.276) |
| 20 (.787) | 7.0 (.276) | 10.0 (.394) |
| 25 (.984) | 10.0 (.394) | 10.0 (.394) |



| L1 | LB | L2 |
|--------------|----------------|----------------|
| 15 (.591) | 5.0 (.197) | 7.0 (.276) |
| 20 (.787) | 7.0 (.276) | 10.0 (.394) |
| 25 (.984) | 10.0 (.394) | 10.0 (.394) |

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

BOURNS®

Asia-Pacific: Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

Europe: Tel: +41-41 768 5555 • Fax: +41-41 768 5510

The Americas: Tel: +1-951 781-5500 • Fax: +1-951 781-5700

www.bourns.com

REV. 10/11

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.



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

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.