



### Features

- Low profile incremental encoder
- High-class rotational feel
- Haptic detent feedback
- RoHS compliant\*

## PER21 - 21 mm Low Profile Incremental Ring Encoder

### Additional Information

Click these links for more information:



### Electrical Characteristics

Output.....2-bit quadrature code  
 Contact Rating..... 10 mA @ 5 V DC  
 Insulation Resistance  
 ..... 100 megohms @ 250 V DC  
 Dielectric Withstanding Voltage  
 Sea Level.....300 V AC  
 Electrical Travel.....Continuous  
 Contact Bounce (15 RPM)..... 3 ms max.\*\*

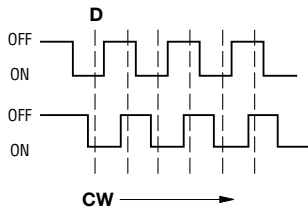
### Environmental Characteristics

Operating Temperature..... -10 °C to +60 °C  
 Storage Temperature..... -40 °C to +85 °C

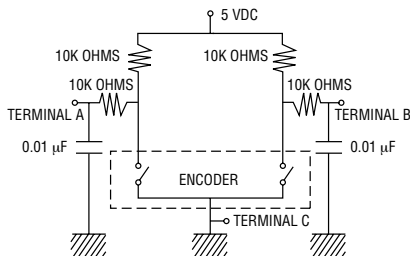
### Mechanical Characteristics

RPM (Operating) ..... 60 max.  
 Mechanical Angle ..... 360 ° continuous  
 Detent Torque..... 70 to 170 gf-cm  
 Rotational Life..... 50,000 cycles  
 Soldering Condition  
 Wave Soldering..... 260 °C for 3 seconds  
 Manual Soldering... 300 °C for 3 seconds

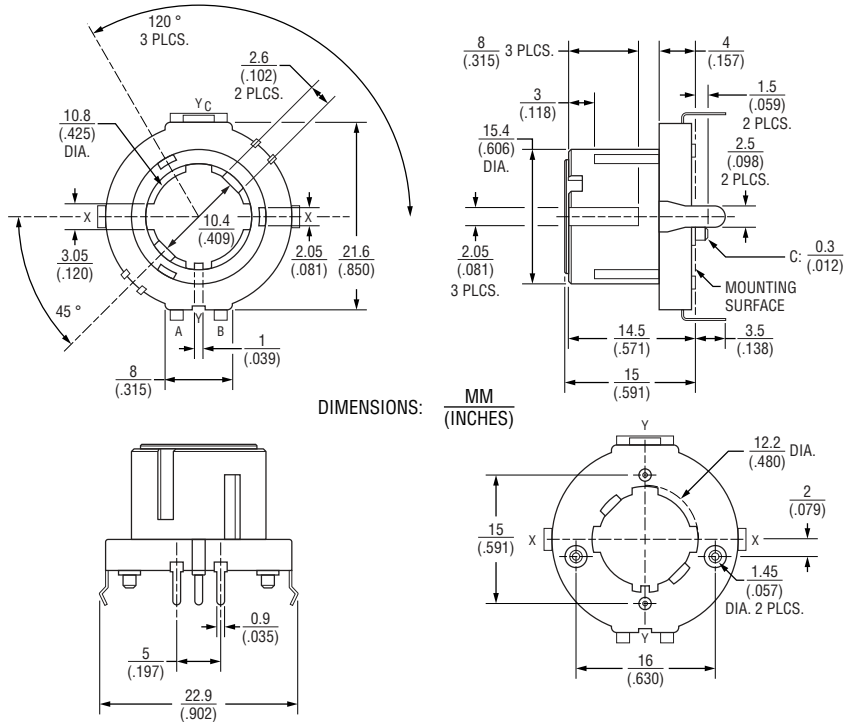
### Quadrature Output Table



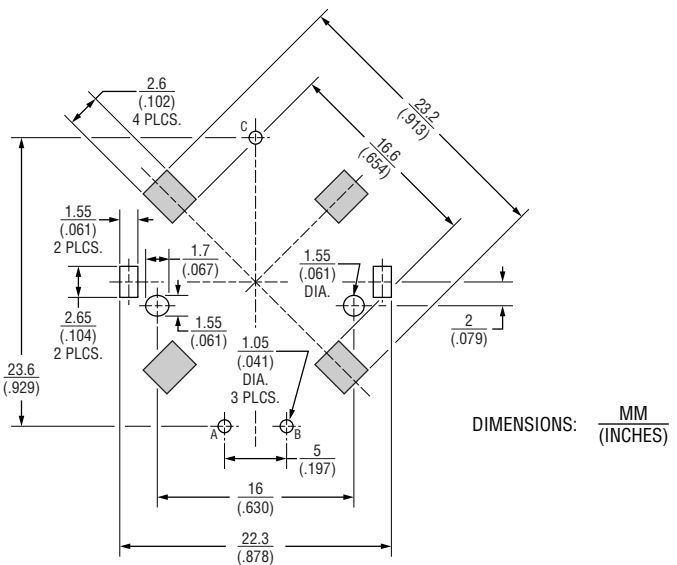
### Suggested Filter Circuit



### Product Dimensions



### Recommended PCB Layout



\* 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. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).



# PER21 - 21 mm Low Profile Incremental Ring Encoder

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## How To Order

PER21 1 - P1 15 - N 0009

Model	PER21
Number of Units	1
Orientation	P1
Detent Option	15
Ring Height	15
Switch Configuration	N
Resolution	0009

1 = Single  
P = PC Pins Down Facing  
1 = 18 Detents (9 Pulses)  
15 = 15 mm  
N = No Switch  
0009 = 9 Pulses per 360 ° Rotation

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Users should verify actual device performance in their specific applications.

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