

## Features

- Miniature package for design flexibility
- Long operating life
- Conductive plastic element
- Bushing or PC board mount
- Quadrature output
- RoHS compliant versions available\*

# 3315 - 9 mm Square Sealed Incremental Encoder

## Electrical Characteristics

Output .....	2-bit gray code, Channel A leads Channel B electrically turning clockwise (CW)
Closed Circuit Resistance .....	5 ohms maximum
Contact Rating .....	TTL compatible loads
Insulation Resistance (500 VDC) .....	1,000 megohms minimum
Dielectric Withstanding Voltage	
Sea Level .....	900 VAC minimum
Electrical Travel .....	Continuous
Contact Bounce .....	5 milliseconds maximum
RPM (Operating) .....	120 maximum

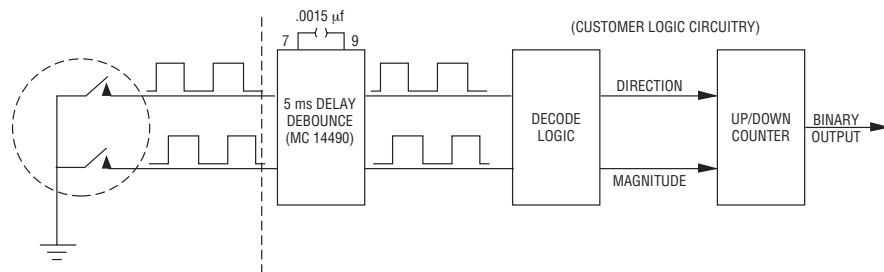
## Environmental Characteristics

Operating Temperature Range .....	-40 °C to +125 °C (-40 °F to +257 °F)
Storage Temperature Range .....	-55 °C to +125 °C (-67 °F to +257 °F)
Humidity .....	MIL-STD-202, Method 103B, Condition B
Vibration .....	30 G
Contact Bounce .....	5.0 millisecond maximum
Shock .....	100 G
Contact Bounce .....	5.0 millisecond maximum
Rotational Life .....	100,000 cycles @ 6 PPR 25,000 cycles @ 16 PPR
IP Rating .....	IP 67

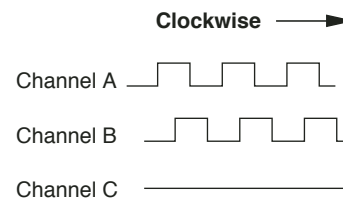
## Mechanical Characteristics

Mechanical Angle .....	360 ° Continuous
Running Torque .....	3.53 N-cm (5 oz.-in.) maximum
Mounting Torque	
Plastic Bushing .....	45.19 N-cm (4.0 lb.-in.) maximum
Metal Bushing .....	79 N-cm (7.0 lb.-in.) maximum
Weight .....	4.5 gm (0.15 oz.)
Terminals .....	Solderable pins
Soldering Condition	
Manual Soldering .....	96.5Sn/3.0Ag/0.5Cu solid wire or no-clean rosin cored wire; 370 °C (700 °F) max. for 3 seconds
Wave Soldering .....	96.5Sn/3.0Ag/0.5Cu solder with no-clean flux; 260 °C (500 °F) max. for 5 seconds
Wash Processes .....	For recommended wash processes, please refer to <a href="http://www.bourns.com/pdfs/sldclen.pdf">http://www.bourns.com/pdfs/sldclen.pdf</a>
Marking .....	Manufacturer's trademark, part number, and date code
Hardware .....	One lockwasher and one mounting nut are shipped with each encoder, except where noted in the part number.

## Suggested Incremental Control Diagram



## Quadrature Output Table



\*RoHS Directive 2002/95/EC Jan 27 2003 including Annex  
Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

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## Part Numbering System

3315 Y - 0 0 1 - 006 L

Model Number Designator  
3315 = 9 mm Encoder

Terminal Style Designator  
C = In-line Straight Terminals Side Exit  
R = In-line Terminals Rear Exit  
P = 5.08 mm x 2.54 mm Triangular Pattern Rear Exit  
Y = 5.08 mm x 5.08 mm Triangular Pattern Rear Exit

Shaft End Designator  
0 = Shaft End Slotted  
1 = Shaft End Flatted

Shaft Length Designator  
0 = 12.7 mm FMS Long Plastic Shaft (Available w/bushing only)  
1 = 19.05 mm FMS Long Plastic Shaft (Available w/bushing only)  
2 = 5.59 mm FMS (Bushingless version only)

Bushing Designator  
1 = 6.35 mm x 6.35 mm Plastic  
2 = 6.35 mm x 6.35 mm Ni Plated Brass  
5 = Bushingless (Board Level)

Pulses per Revolution Code  
006 = 6 PPR  
016 = 16 PPR

RoHS Identifier  
L = Compliant  
Blank = Non-Compliant

# 3315 - 9 mm Square Sealed Incremental Encoder

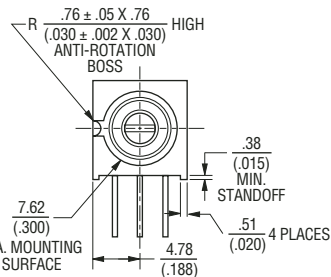
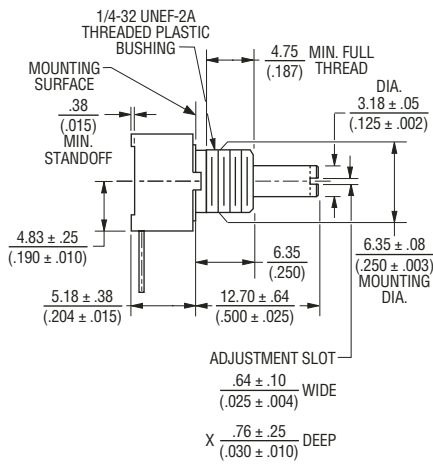
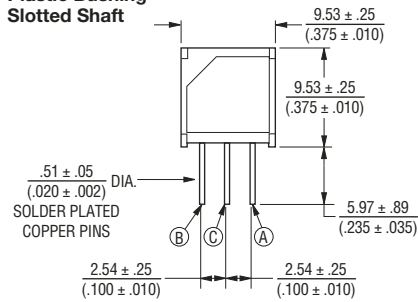
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## Product Dimensions

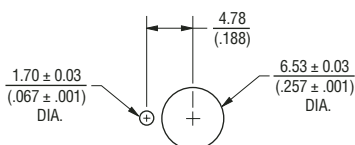
### COMMON DIMENSIONS

#### 3315-001

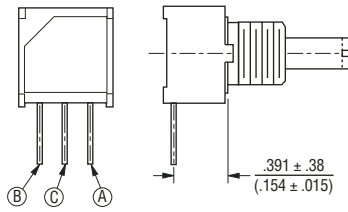
Plastic Bushing  
Slotted Shaft



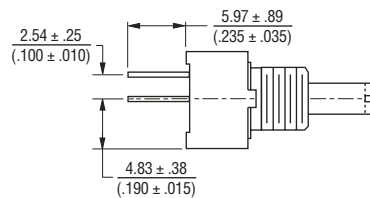
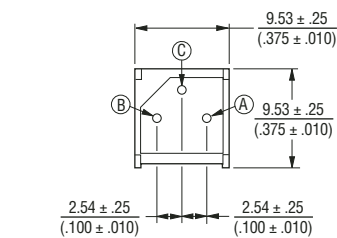
#### MOUNTING HOLE PATTERN



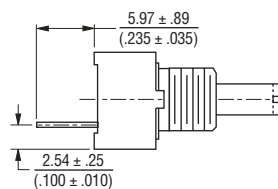
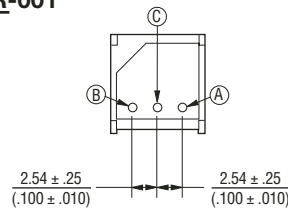
#### 3315C-001



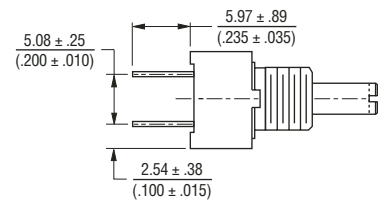
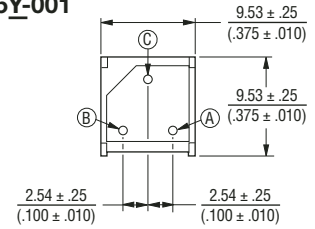
#### 3315P-001



#### 3315R-001



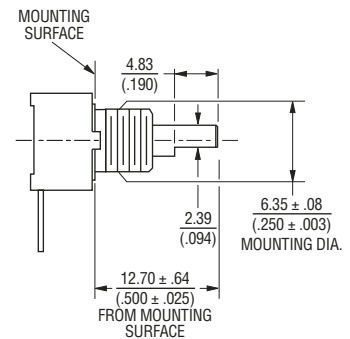
#### 3315Y-001



### COMMON DIMENSIONS

#### 3315C-101

Plastic Flatted Shaft



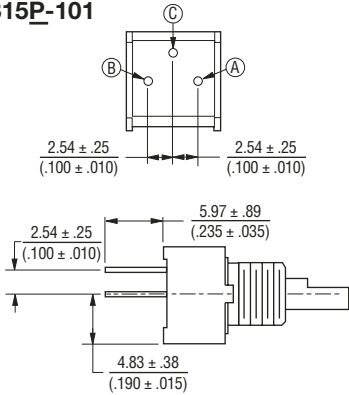
DIMENSIONS:  $\frac{MM}{(IN.)}$

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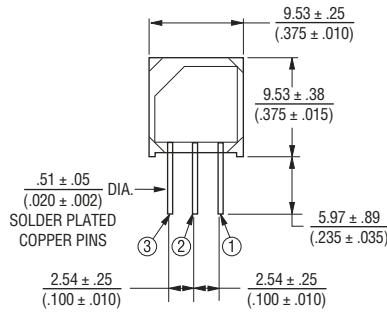
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## Product Dimensions

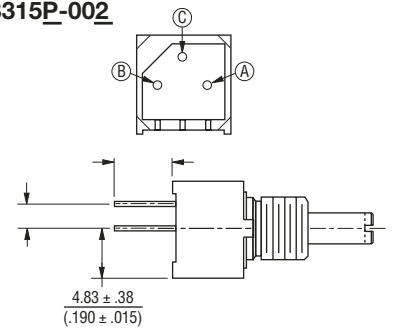
### 3315P-101



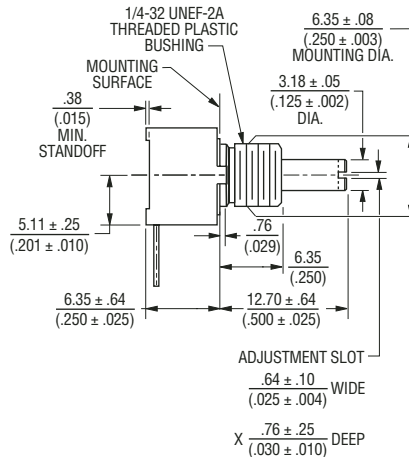
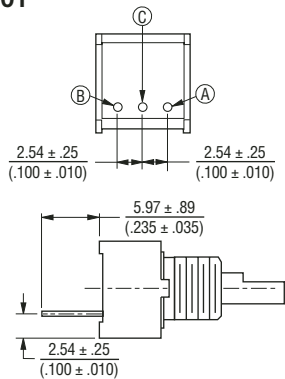
### COMMON DIMENSIONS 3315-002 Metal Bushing



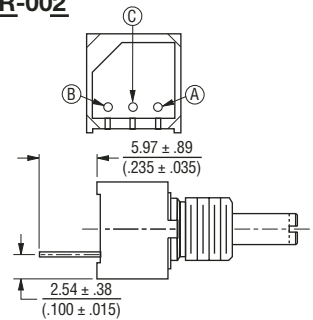
### 3315P-002



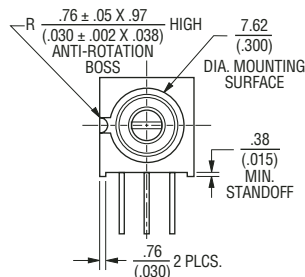
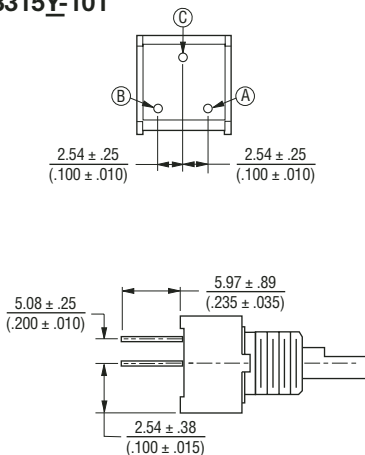
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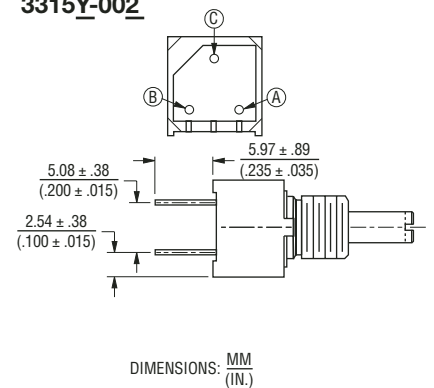
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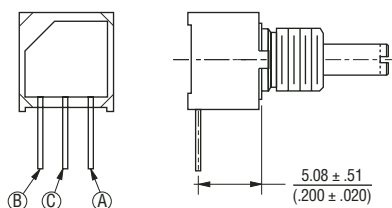
### 3315Y-101



### 3315Y-002



### 3315C-002



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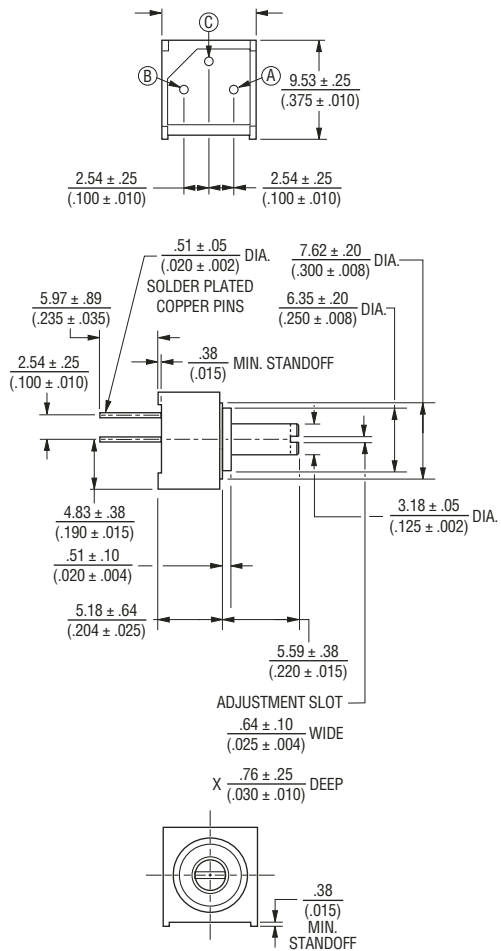
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## Product Dimensions

### 3315P-025

Bushingless



### 3315Y-025

Bushingless

