

### Features

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

## 3315 - 9 mm Square Sealed Incremental Encoder

### Electrical Characteristics

Output.....	2-bit quadrature 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

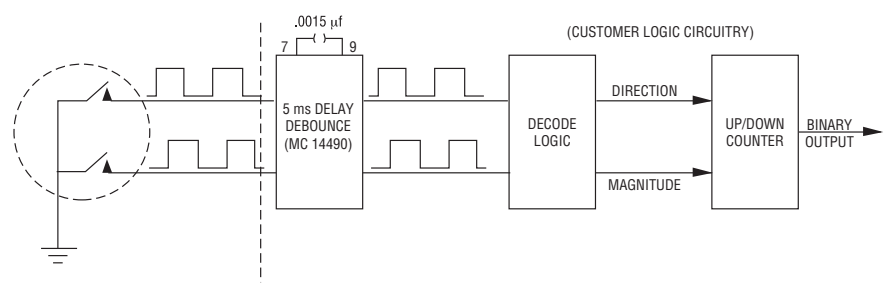
### Environmental Characteristics

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

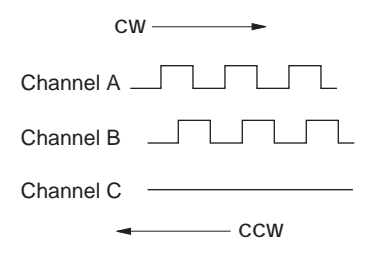
### Mechanical Characteristics

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



**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
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## How to Order

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					

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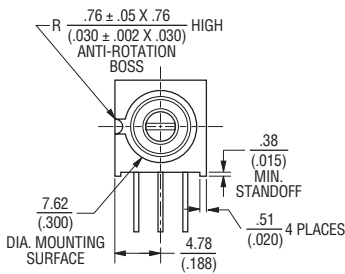
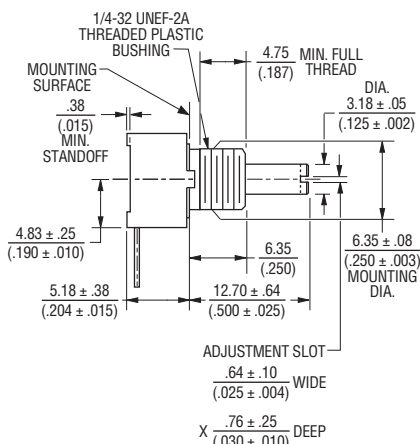
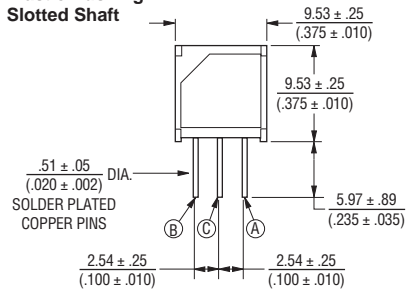
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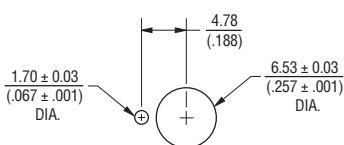
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## Product Dimensions

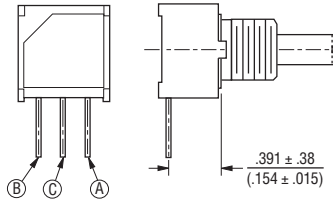
### COMMON DIMENSIONS 3315-001 Plastic Bushing Slotted Shaft



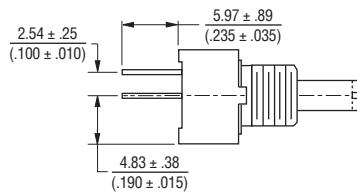
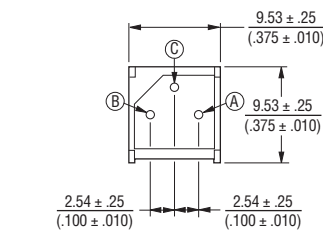
### MOUNTING HOLE PATTERN



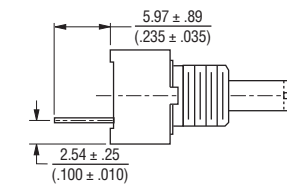
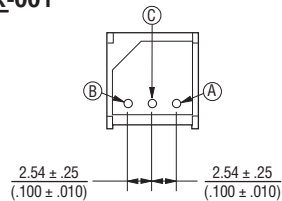
### 3315C-001



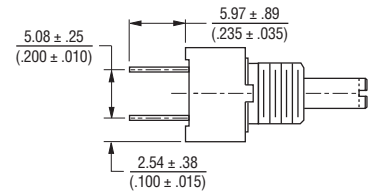
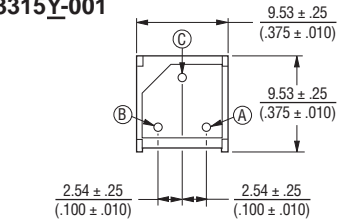
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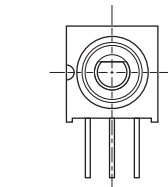
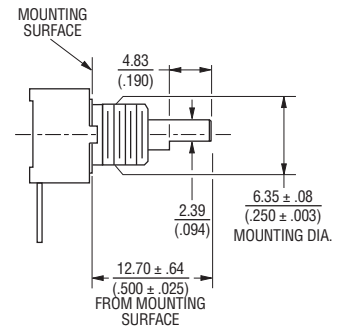
### 3315R-001



### 3315Y-001



### COMMON DIMENSIONS 3315C-101 Plastic Flatted Shaft



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

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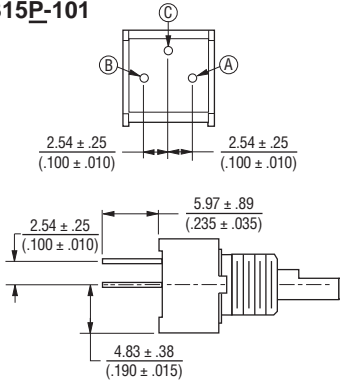
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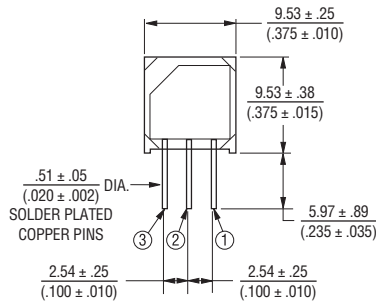
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## Product Dimensions

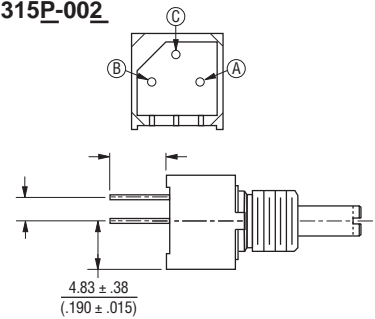
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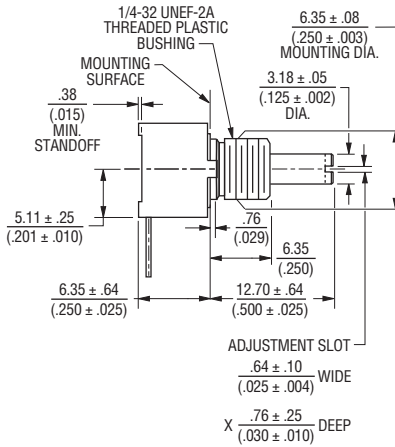
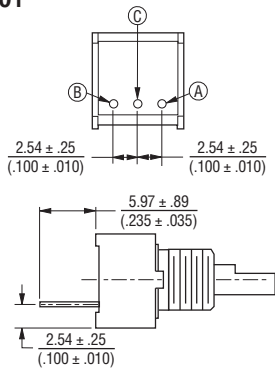
### COMMON DIMENSIONS 3315-002 Metal Bushing



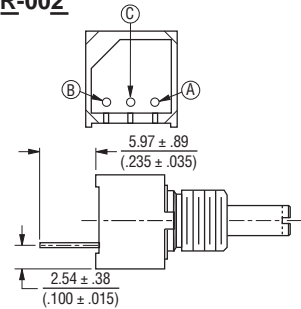
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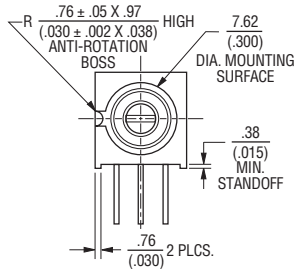
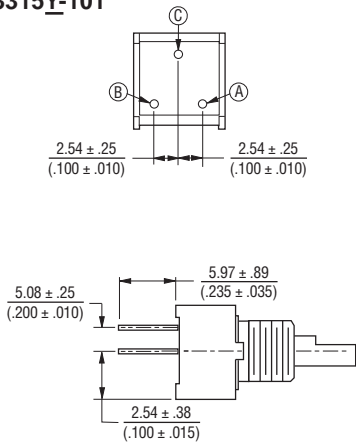
### 3315R-101



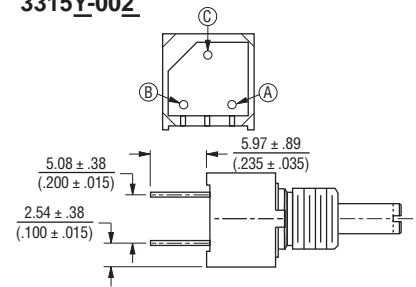
### 3315R-002



### 3315Y-101

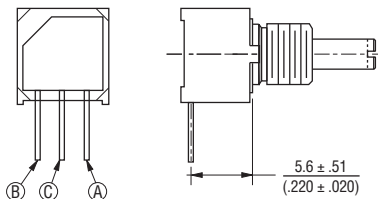


### 3315Y-002



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

### 3315C-002



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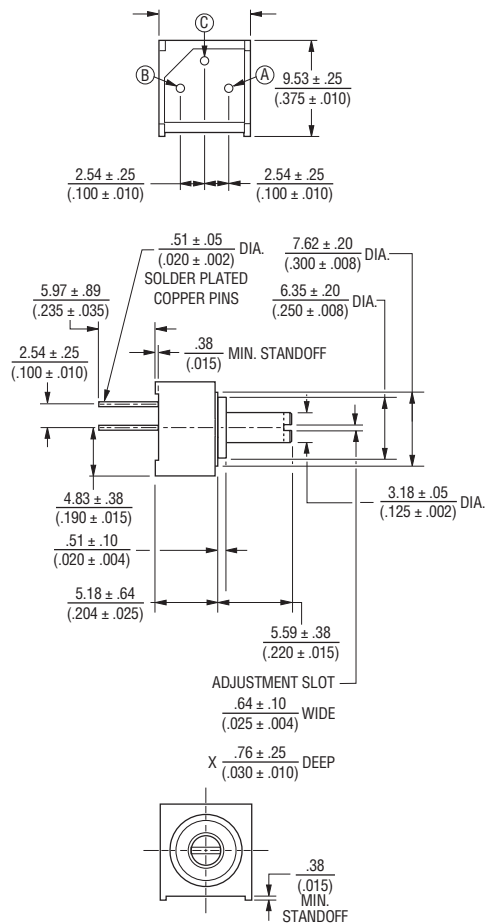
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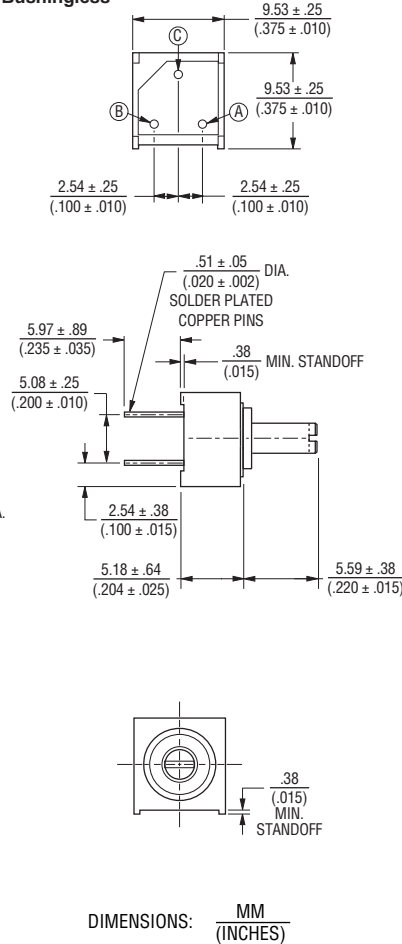
### 3315P-025

Bushingless



### 3315Y-025

Bushingless



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