

### 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 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

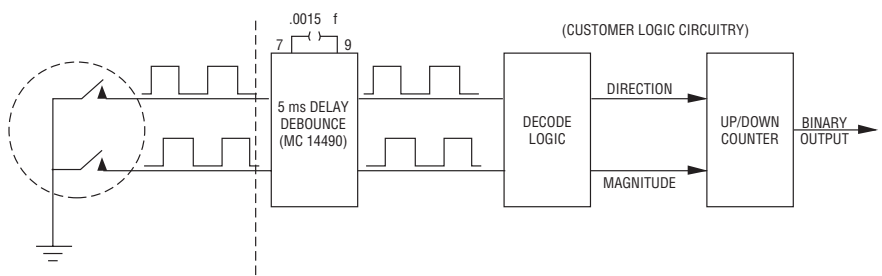
### Environmental Characteristics

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

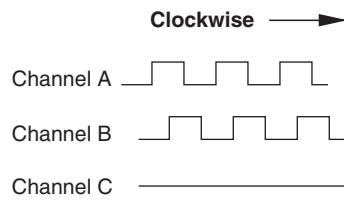
### Mechanical Characteristics

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



\*RoHS Directive 2002/95/EC Jan 27, 2003 including 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 Blank = Non-Compliant					

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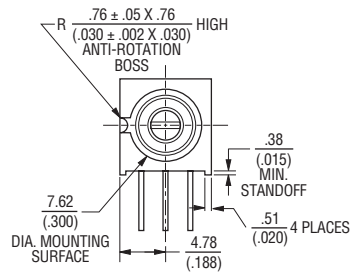
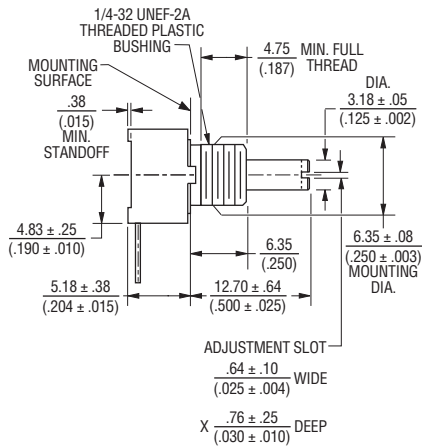
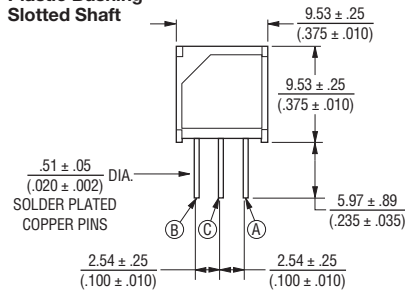
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## Product Dimensions

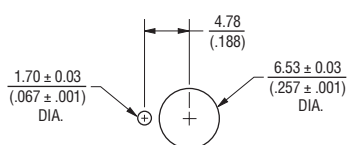
### COMMON DIMENSIONS

#### 3315-001

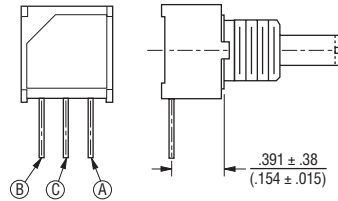
Plastic Bushing  
Slotted Shaft



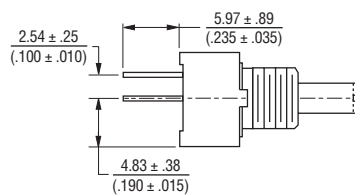
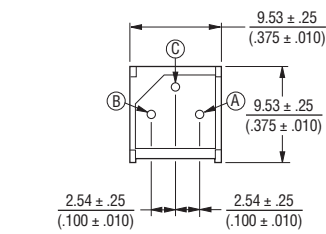
#### MOUNTING HOLE PATTERN



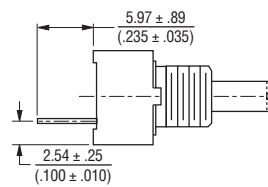
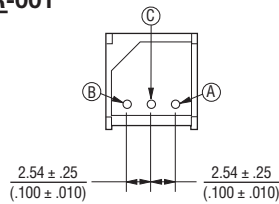
#### 3315C-001



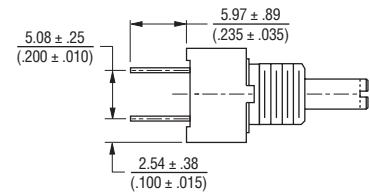
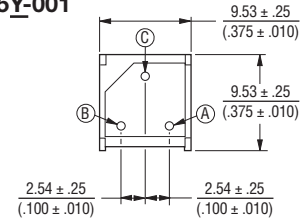
#### 3315P-001



#### 3315R-001



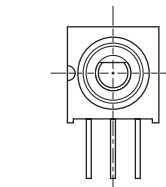
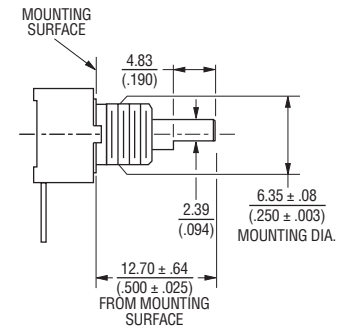
#### 3315Y-001



### COMMON DIMENSIONS

#### 3315C-101

Plastic Flatted Shaft



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

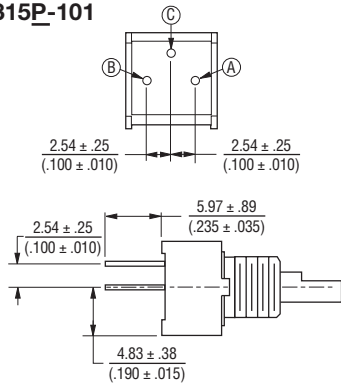
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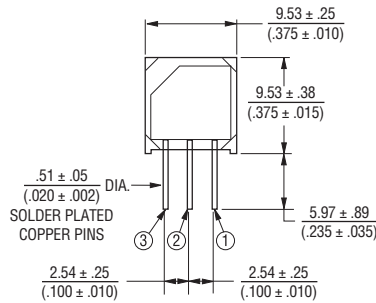
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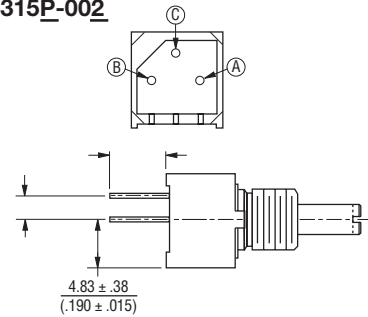
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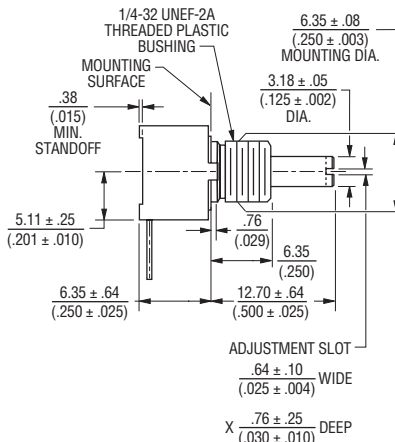
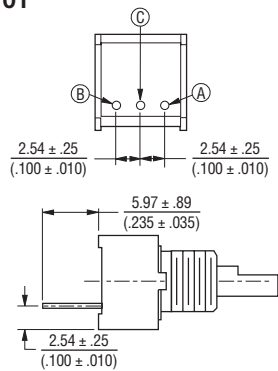
### COMMON DIMENSIONS 3315-002 Metal Bushing



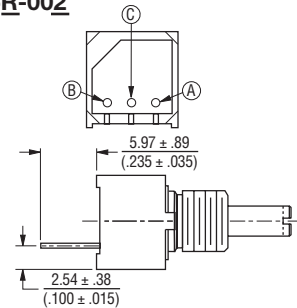
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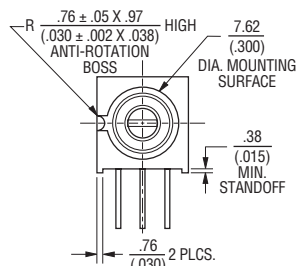
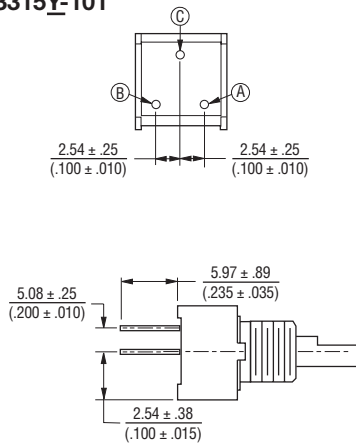
### 3315R-101



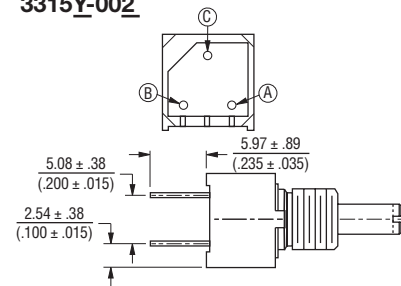
### 3315R-002



### 3315Y-101

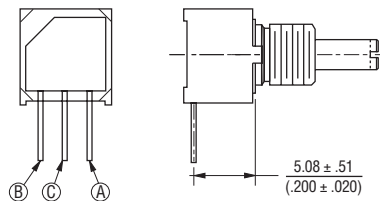


### 3315Y-002



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

### 3315C-002



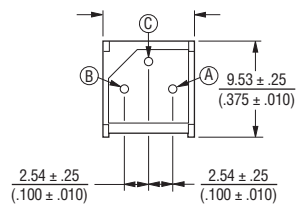
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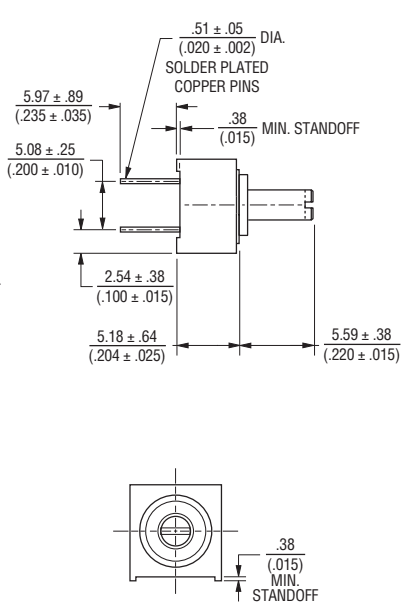
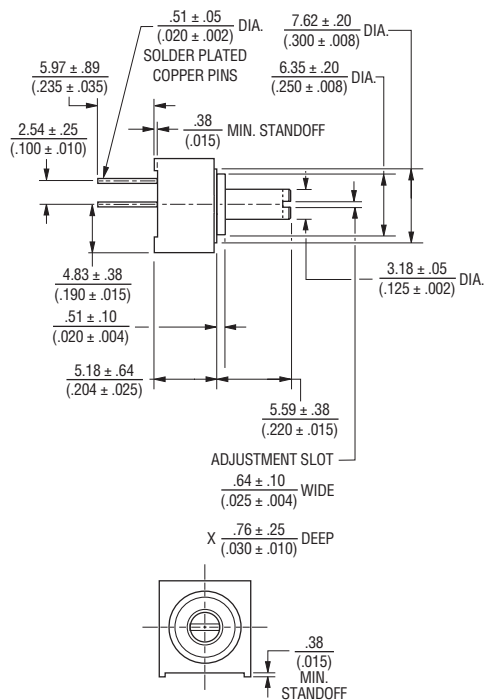
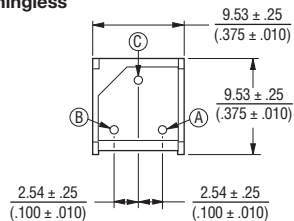


## Product Dimensions

**3315P-025**  
Bushingleess



**3315Y-025**  
Bushingleess



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

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