

### 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

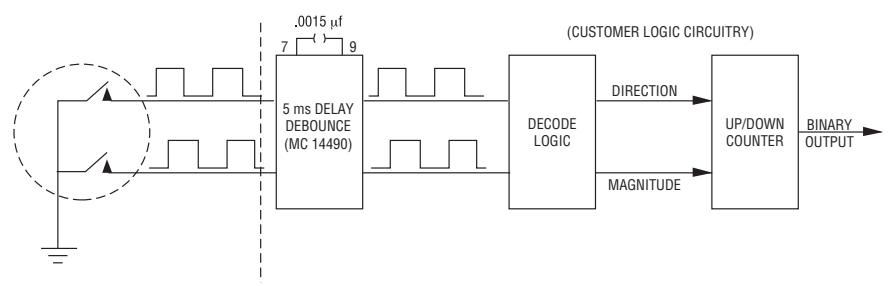
### Environmental Characteristics

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

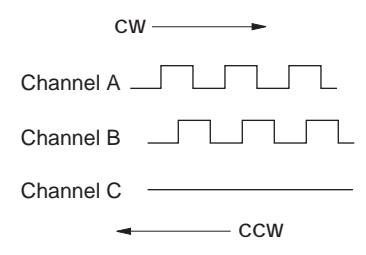
### Mechanical Characteristics

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.  
 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).

# 3315 - 9 mm Square Sealed Incremental Encoder

**BOURNS®**

## 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						

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

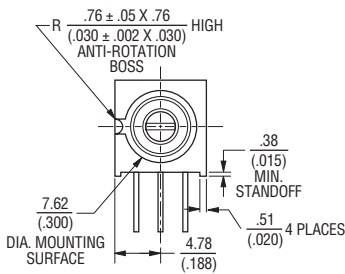
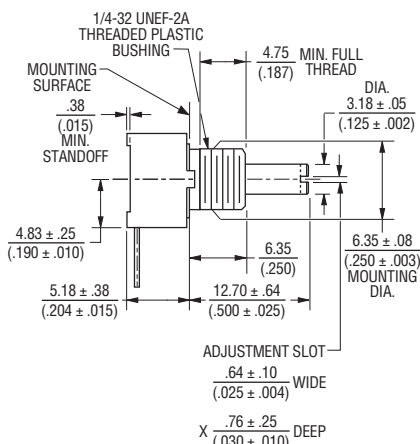
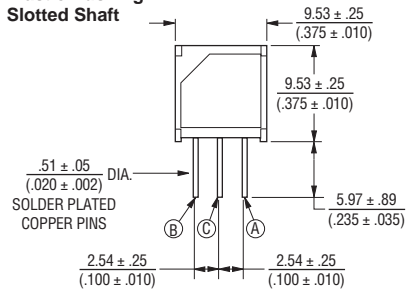
The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

# 3315 - 9 mm Square Sealed Incremental Encoder

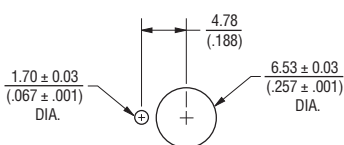
**BOURNS®**

## Product Dimensions

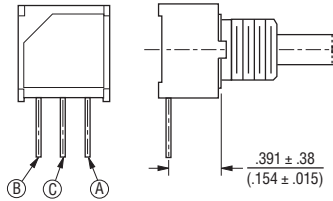
### COMMON DIMENSIONS 3315-001 Plastic Bushing Slotted Shaft



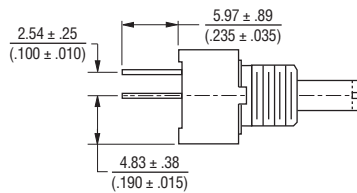
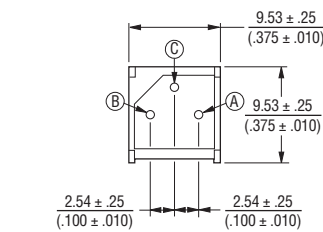
### MOUNTING HOLE PATTERN



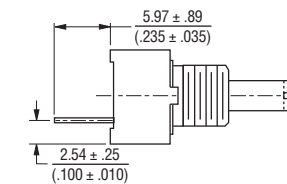
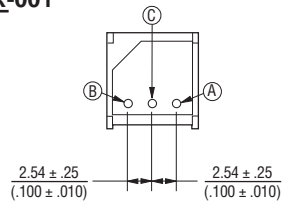
### 3315C-001



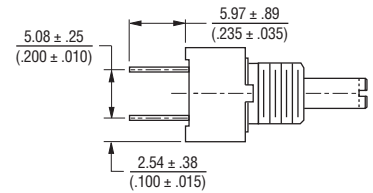
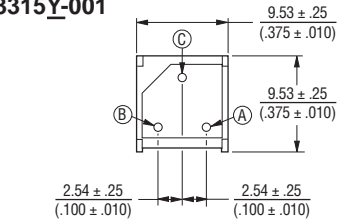
### 3315P-001



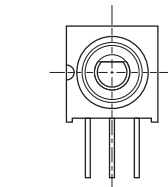
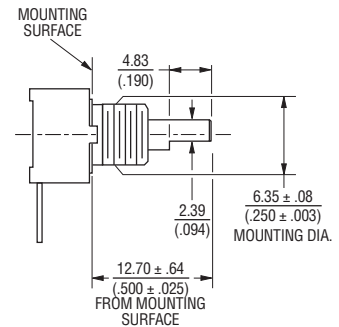
### 3315R-001



### 3315Y-001



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



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

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

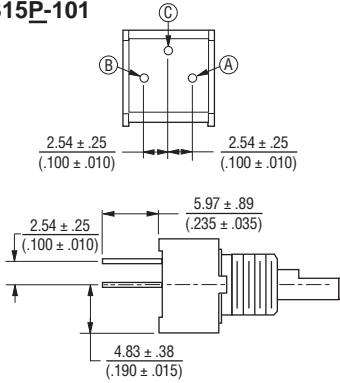
The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

# 3315 - 9 mm Square Sealed Incremental Encoder

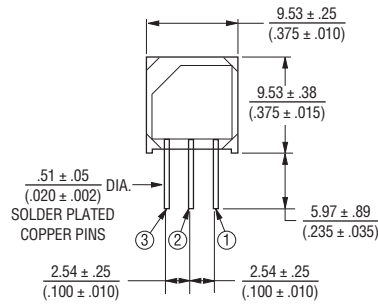
**BOURNS®**

## Product Dimensions

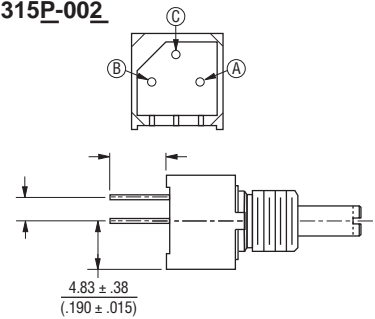
### 3315P-101



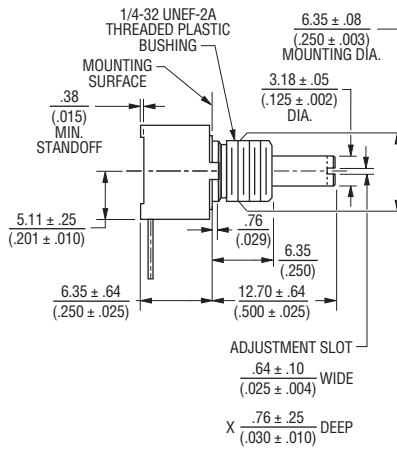
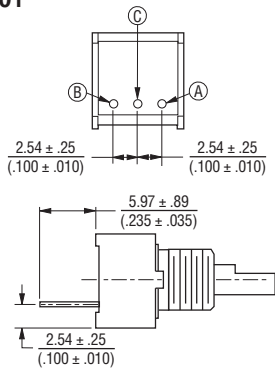
### COMMON DIMENSIONS 3315-002 Metal Bushing



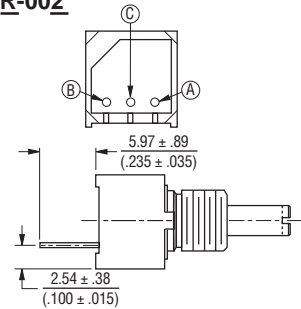
### 3315P-002



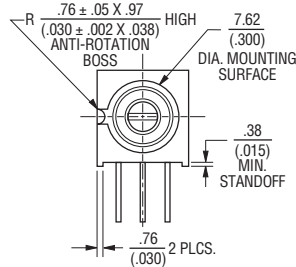
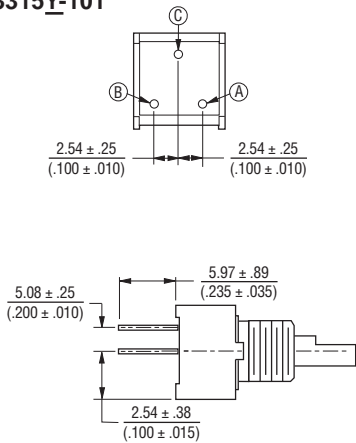
### 3315R-101



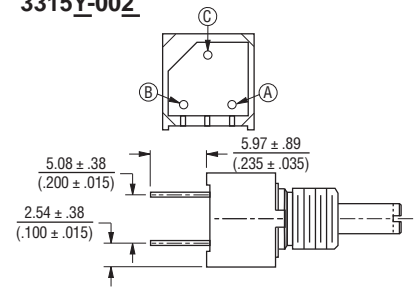
### 3315R-002



### 3315Y-101

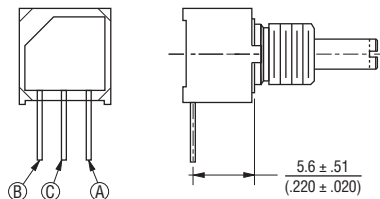


### 3315Y-002



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

### 3315C-002



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).

