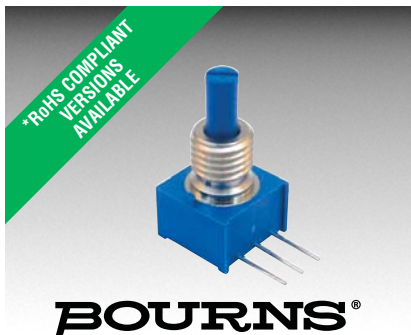




Features

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



Model 3315 is currently available, but not recommended for new designs. See [Product Obsolescence Memo](#) for details. Models [PEC09](#), [PEC11L](#), [PEC11](#) and [PEC12](#) are preferred.

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

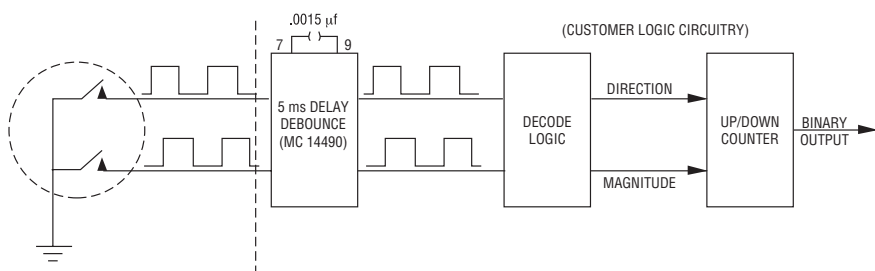
Environmental Characteristics

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

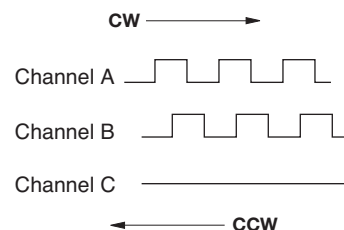
Mechanical Characteristics

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 http://www.bourns.com/pdfs/sldclen.pdf
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



3315 - 9 mm Square Sealed Incremental Encoder

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How to Order

3315 Y - 0 0 1 - 006 L

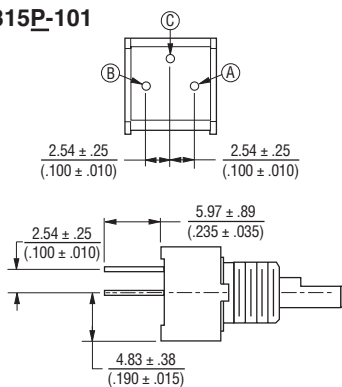
Model Number Designator	_____	_____	_____	_____	_____	_____
3315 = 9 mm Encoder						
Terminal Style Designator	_____	_____	_____	_____	_____	_____
C = In-line Straight Terminals Side Exit						
R = In-line Terminals Rear Exit						
P = 5.08 mm x 2.54 mm Triangular Pattern Rear Exit						
Y = 5.08 mm 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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Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

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3315P-101



Technical drawing of the 1000 Series connector showing top and side views with dimensions.

Top View Dimensions:

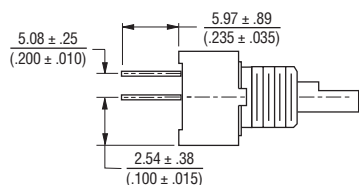
- Overall width: $2.54 \pm .25$ ($.100 \pm .010$)
- Pin pitch (distance between pins): $2.54 \pm .25$ ($.100 \pm .010$)
- Pin diameter (indicated by circle C): $5.97 \pm .89$ ($.235 \pm .035$)

Side View Dimensions:

- Overall height: $2.54 \pm .25$ ($.100 \pm .010$)

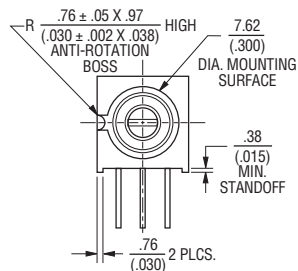
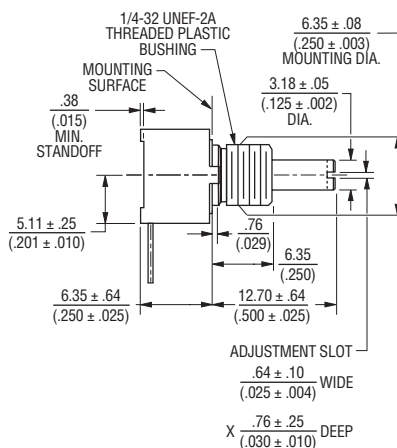
Y-101

$\frac{2.54 \pm .25}{(.100 \pm .010)}$ $\frac{2.54 \pm .25}{(.100 \pm .010)}$



Technical drawing of a component showing dimensions and callouts:

- Top horizontal dimension: $9.53 \pm .25$ ($.375 \pm .010$)
- Top vertical dimension: $9.53 \pm .38$ ($.375 \pm .015$)
- Bottom horizontal dimension: $2.54 \pm .25$ ($.100 \pm .010$)
- Bottom vertical dimension: $5.97 \pm .89$ ($.235 \pm .035$)
- Left vertical dimension: $.51 \pm .05$ ($.020 \pm .002$) DIA.
- Callouts: ①, ②, ③
- Text: SOLDER PLATED COPPER PINS



The technical drawing consists of two parts:

- Top View (Left):** Shows a square mounting plate with three vertical pins labeled B, C, and A from left to right.
- Side View (Right):** Shows the profile of the sensor assembly. It includes a horizontal dimension line indicating a length of $5.08 \pm .51$ inches ($(200 \pm .020)$ mm).

315P-002

Technical drawing of the 315P-002 component. The drawing includes a top view and a side view. The top view shows a square flange with three mounting holes labeled A, B, and C. The side view shows the component's profile with a central shaft and a threaded section. A dimension line indicates a distance of $4.83 \pm .38$ inches ($190 \pm .015$ mm) from the center of the shaft to the center of the mounting holes.

Technical drawing of the R-002 component. The top view shows a square base with a central circular feature labeled 'C' and two side features labeled 'A' and 'B'. The side view shows a rectangular block with a threaded section on the right. Dimensions are provided for the side view:

- Overall width: $5.97 \pm .89$ ($.235 \pm .035$)
- Overall height: $2.54 \pm .38$ ($.100 \pm .015$)

3315Y-002

5.08 ± .38
(200 ± .015)

2.54 ± .38
(.100 ± .015)

5.97 ± .89
(235 ± .035)

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

Specifications are subject to change without notice.
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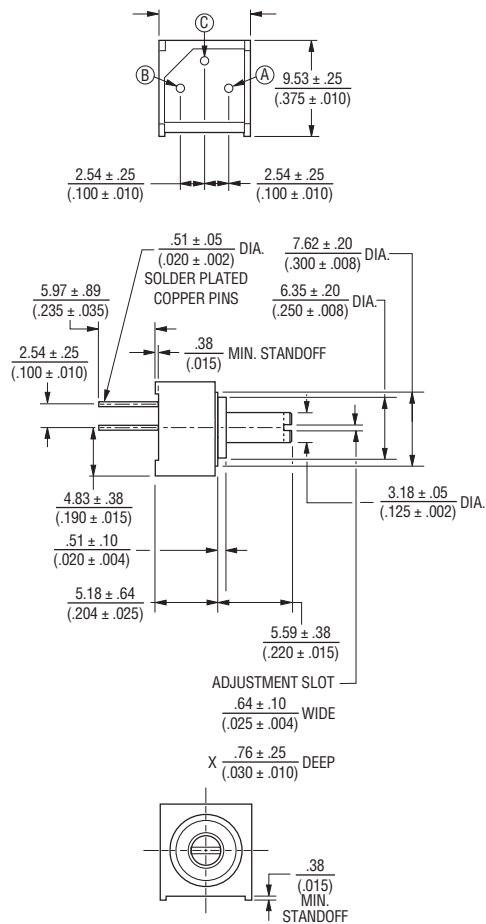
3315 - 9 mm Square Sealed Incremental Encoder

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Product Dimensions

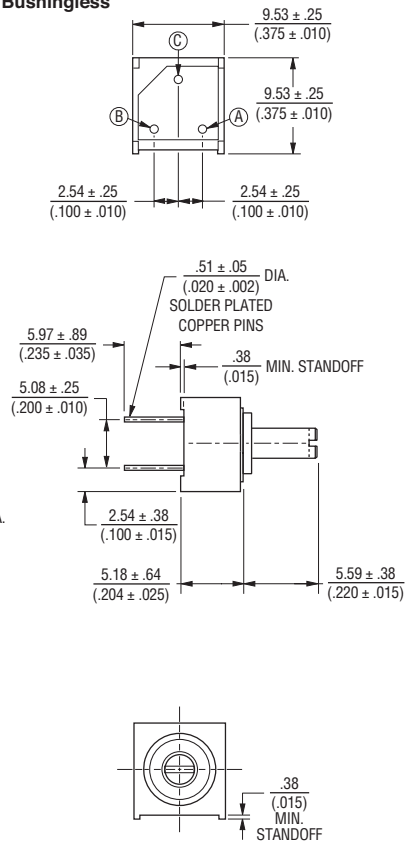
3315P-025

Bushingless



3315Y-025

Bushingless



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

REV. 11/11

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