

## Features

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

# 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

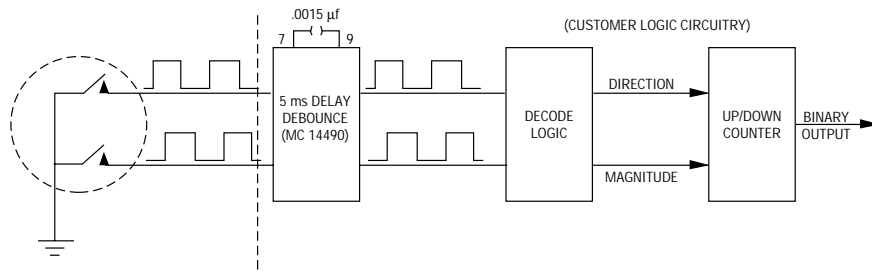
### Environmental Characteristics

Operating Temperature Range .....	+1 °C to +125 °C (+33 °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

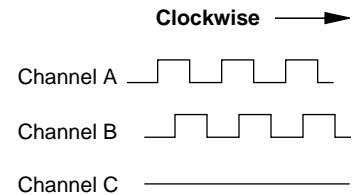
### Mechanical Characteristics

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 .....	5 seconds at 360 °C (680 °F) maximum
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



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## Part Numbering System

3315 Y - 0 0 1 - 006

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

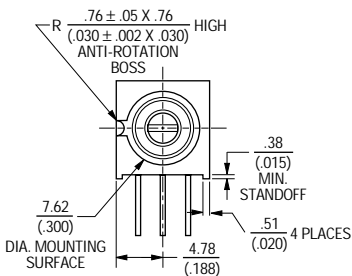
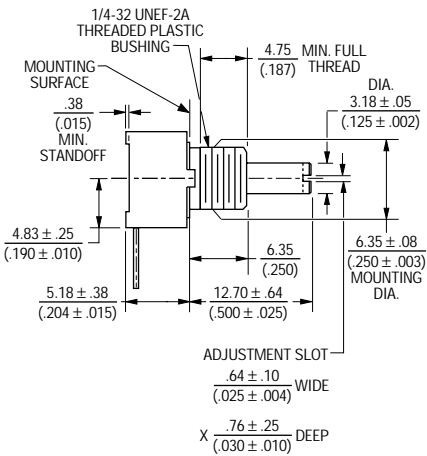
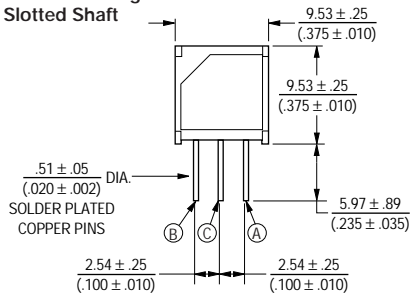
# 3315 - 9 mm Square Sealed Incremental Encoder

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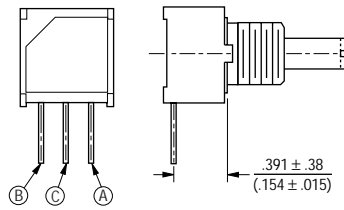
## Product Dimensions

### COMMON DIMENSIONS

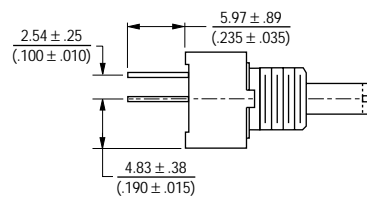
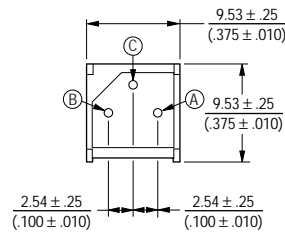
#### 3315-001 Plastic Bushing Slotted Shaft



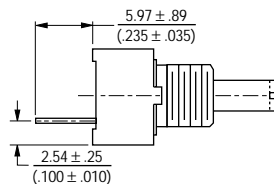
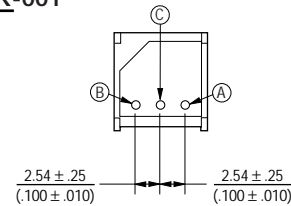
#### 3315C-001



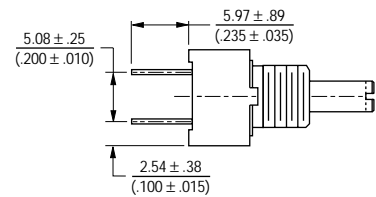
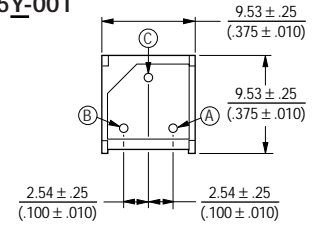
#### 3315P-001



#### 3315R-001

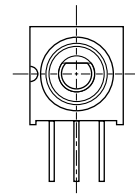
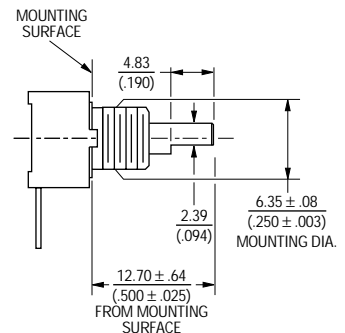


#### 3315Y-001



### COMMON DIMENSIONS

#### 3315C-101 Plastic Flatted Shaft



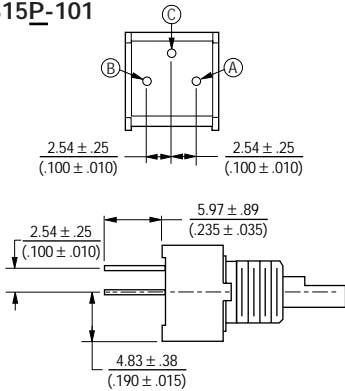
DIMENSIONS: MM  
(IN.)

# 3315 - 9 mm Square Sealed Incremental Encoder

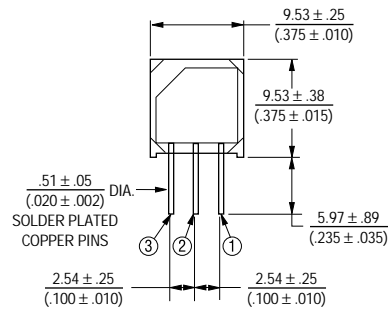
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## Product Dimensions

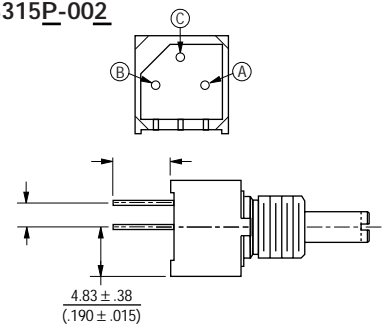
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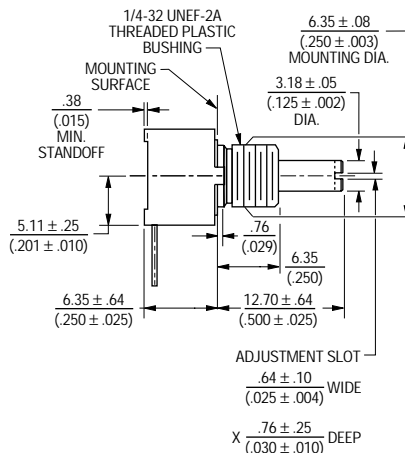
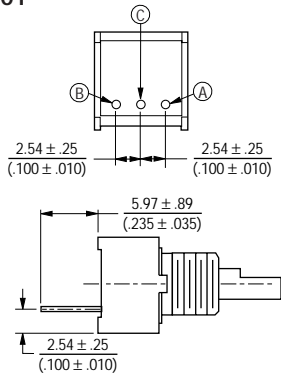
### COMMON DIMENSIONS 3315-002 Metal Bushing



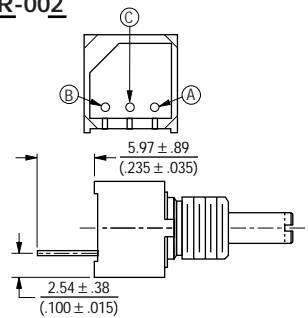
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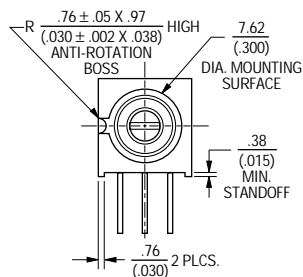
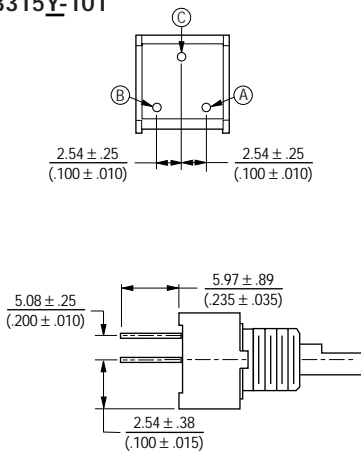
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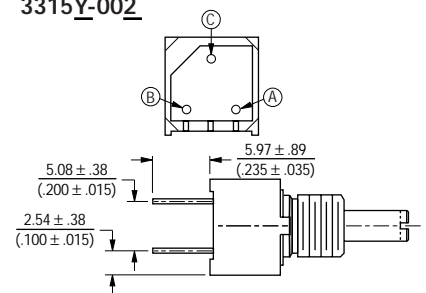
### 3315R-002



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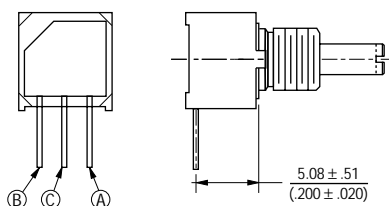


### 3315Y-002



DIMENSIONS: MM (IN.)

### 3315C-002

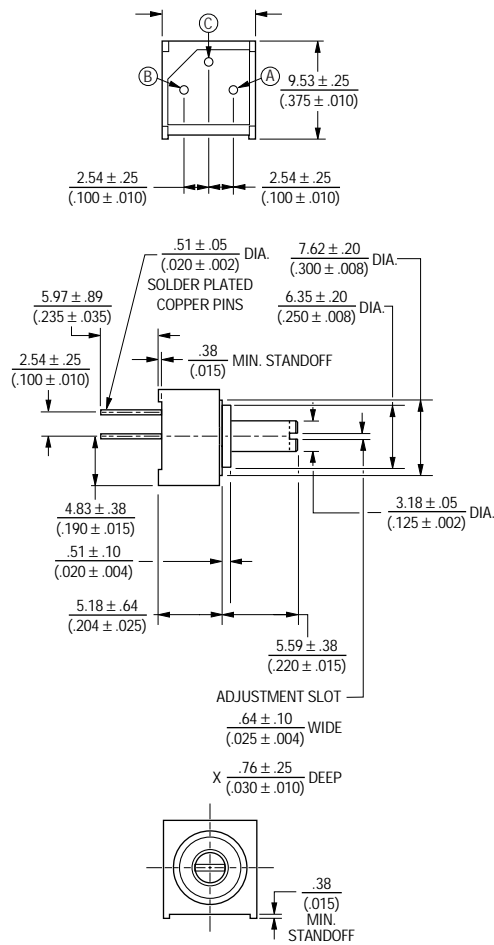


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## Product Dimensions

**3315P-025**  
Bushingless



**3315Y-025**  
Bushingless

