# 3315 - 9 mm Square Sealed Incremental Encoder

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

### 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 megoohms minimum
- Dielectric Withstanding Voltage: 900 VAC minimum
- 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)
- Vibration: 30 G
- Shock: 100 G
- Rotational Life: 100,000 cycles @ 6 PPR
- IP Rating: IP 67

### Mechanical Characteristics
- Mechanical Angle: 360 ° Continuous
- Running Torque: 3.53 N-cm (5 oz.-in.) maximum
- Mounting Torque: 4.5 gm (0.15 oz.)
- Soldering Condition:
  - Plastic Bushing: 45.19 N-cm (4.0 lb.-in.) maximum
  - Metal Bushing: 79 N-cm (7.0 lb.-in.) maximum
- Terminal: Solderable pins

### Suggested Incremental Control Diagram

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## How to Order

<table>
<thead>
<tr>
<th>Designator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3315</td>
<td>9 mm Encoder</td>
</tr>
<tr>
<td>C</td>
<td>In-line Straight Terminals Side Exit</td>
</tr>
<tr>
<td>R</td>
<td>In-line Terminals Rear Exit</td>
</tr>
<tr>
<td>P</td>
<td>5.08 mm x 2.54 mm Triangular Pattern Rear Exit</td>
</tr>
<tr>
<td>Y</td>
<td>5.08 mm x 5.08 mm Triangular Pattern Rear Exit</td>
</tr>
<tr>
<td>0</td>
<td>Shaft End Slotted</td>
</tr>
<tr>
<td>1</td>
<td>Shaft End Flatted</td>
</tr>
<tr>
<td>0</td>
<td>12.7 mm FMS Long Plastic Shaft (Available w/bushing only)</td>
</tr>
<tr>
<td>1</td>
<td>19.05 mm FMS Long Plastic Shaft (Available w/bushing only)</td>
</tr>
<tr>
<td>2</td>
<td>5.99 mm FMS (Bushingless version only)</td>
</tr>
<tr>
<td>1</td>
<td>6.35 mm x 6.35 mm Plastic</td>
</tr>
<tr>
<td>2</td>
<td>6.35 mm x 6.35 mm Ni Plated Brass</td>
</tr>
<tr>
<td>5</td>
<td>Bushingless (Board Level)</td>
</tr>
<tr>
<td>006</td>
<td>6 PPR</td>
</tr>
<tr>
<td>016</td>
<td>16 PPR</td>
</tr>
<tr>
<td>L</td>
<td>RoHS Compliant</td>
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</tbody>
</table>

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.
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Product Dimensions

**COMMON DIMENSIONS**

**3315-001**

Plastic Bushing
Slotted Shaft

**3315C-001**

**3315Y-001**

**3315P-001**

**3315R-001**

**MOUNTING SURFACE**

4.83 ± 0.08
(.190 ± .003) MOUNTING DIA.

**ADJUSTMENT SLOT**

4.75 ± 0.08
(.187 ± .003) MIN. FULL THREAD

**SOLDER PLATED COPPER PINS**

2.54 ± 0.25
(.100 ± .010)

**DIMENSIONS: MM (INCHES)**

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Product Dimensions

3315P-101

3315R-101

3315Y-101

3315C-002

3315-002

COMMON DIMENSIONS

Metal Bushing

DIMENSIONS: MM (INCHES)

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Product Dimensions

3315P-025
Bushingless

3315Y-025
Bushingless

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DIMENSIONS: MM (INCHES)