



## Features

- Conductive plastic
- PC board and bushing mount
- Plastic or metal bushing and plastic shaft
- Withstands typical industrial washing processes
- Compact package saves board and panel space



# 3310 - 9 mm Square Sealed Panel Control

### Electrical Characteristics

|   |                                     |
|---|-------------------------------------|
| Standard Resistance Range - Linear .....  | 1 K ohms to 1 megohm                |
| Total Resistance Tolerance - Linear Tapers .....  | ±20 %                               |
| Independent Linearity .....   | ±5 %                                |
| Absolute Minimum Resistance .....   | 2 ohms maximum                      |
| Effective Electrical Angle .....  | 270 ° ±15 °                         |
| Contact Resistance Variation .....  | 1 % or 1 ohm (whichever is greater) |
| Dielectric Withstanding Voltage (MIL-STD-202 – Method 301)  |                                     |
| Sea Level .....   | 900 VAC minimum                     |
| 70,000 Feet .....   | 350 VAC minimum                     |
| Insulation Resistance .....   | 1,000 megohms minimum               |
| Power Rating @ 70 °C (Derate to 0 at 125 °C - Voltage Limited By Power Dissipation or 200 VAC, Whichever is Less) ..... | 0.25 watts                          |
| Theoretical Resolution .....  | Essentially infinite                |

### 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) |
| Temperature Coefficient Over Storage Temperature Range ..... | ±1,000 ppm/°C                         |
| Vibration .....  | 30 G                                  |
| Total Resistance Shift .....                                 | ±1 % maximum                          |
| Voltage Ratio Shift .....                                    | ±1 % maximum                          |
| Shock .....  | 100 G                                 |
| Total Resistance Shift .....                                 | ±1 % maximum                          |
| Voltage Ratio Shift .....                                    | ±1 % maximum                          |
| Load Life .....  | 1,000 hours                           |
| Total Resistance Shift .....                                 | ±10 % TRS maximum                     |
| Rotational Life (No Load) .....                              | 50,000 cycles                         |
| Total Resistance Shift .....                                 | ±5 % TRS maximum                      |
| Contact Resistance Variation .....                           | 3 % or 3 ohms, whichever is greater   |
| Moisture Resistance .....                                    | MIL-STD-202, Method 103, Condition B  |
| Total Resistance Shift .....                                 | ±10 % TRS maximum                     |
| IP Rating .....  | IP67                                  |

### Mechanical Characteristics

|                                    |   |
|------------------------------------|---|
| Stop Strength .....                | 5.65 N-cm (8 oz.-in.)   |
| Mechanical Angle .....             | 300 ° nominal   |
| Torque                             |   |
| Starting .....                     | 3.53 N-cm (5.0 oz.-in.) maximum   |
| Running .....                      | 3.53 N-cm (5.0 oz.-in.) maximum   |
| Mounting (Torque on Bushing) ..... | 45 N-cm (4.0 lb.-in.) max [plastic bushing]; 79 N-cm (7.0 lb.-in.) max [metal bushing]  |
| Weight (Single Section) .....      | 4.5 grams   |
| (Each Additional Section) .....    | 2.5 grams   |
| 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, model number, product code, terminal style, resistance code and date code   |
| Ganging .....                      | 2 cups maximum  |
| Hardware .....                     | One lockwasher and one mounting nut is shipped with each potentiometer, except where noted in the part number.                              |
| Flammability .....                 | Conforms to UL94V-0   |
| Epoxy .....                        | Conforms to UL 94V-1  |
| IP Rating .....                    | IP67  |

### Switch Characteristics

|                                     |                 |
|-------------------------------------|-----------------|
| Switch Life .....                   | 10K cycles      |
| Contact Resistance .....            | 2 ohms max.     |
| Dielectric Strength .....           | 350 VDC         |
| Detent Torque .....                 | 0.5 oz-in min.  |
| Power Rating (Resistive Load) ..... | 100 mA @ 16 VDC |

\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.  
 Specifications are subject to change without notice.  
 Customers should verify actual device performance in their specific applications.

## Additional Features

- Audio taper versions available as special order
- RoHS compliant\*

# 3310 - 9 mm Square Sealed Panel Control

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### Standard Resistance Table

| Resistance (Ohms) | Resistance Code |
|-------------------|-----------------|
| <b>1,000</b>      | <b>102</b>      |
| <b>2,000</b>      | <b>202</b>      |
| <b>5,000</b>      | <b>502</b>      |
| <b>10,000</b>     | <b>103</b>      |
| <b>20,000</b>     | <b>203</b>      |
| 50,000            | 503             |
| 100,000           | 104             |
| 200,000           | 204             |
| 500,000           | 504             |
| 1,000,000         | 105             |

Popular values listed in boldface. Consult factory for special resistances.

### How To Order

**3310 Y - 0 0 1 - 103 L**

Model Number Designator \_\_\_\_\_  
 3310 = 9 mm Panel Control

Terminal Style Designator \_\_\_\_\_  
 Single Cup:  
 C = In-line Straight Terminals Side Exit 2.54 mm centers  
 R = In-line Terminals Rear Exit 2.54 mm centers  
 P = 5.08 mm x 2.54 mm Triangular Pattern Rear Exit  
 Y = 5.08 mm x 5.08 mm Triangular Pattern Rear Exit

Dual Cup (Pot/Pot or Pot/Switch):  
 H = Dual In-line Straight Terminals Rear Exit 2.54 mm centers

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 Long Plastic Shaft (Bushingless version only)

Bushing Designator \_\_\_\_\_  
 Pot (or Pot/Pot):  
 1 = 6.35 mm x 6.35 mm Plastic  
 2 = 6.35 mm x 6.35 mm Ni Plated Brass  
 5 = Bushingless (Board Level Control)

Pot/Switch Bushing Designator (use with "H" terminal style only.)  
 3 = 6.35 mm x 6.35 mm Plastic  
 4 = 6.35 mm x 6.35 mm Ni Plated Brass  
 6 = Bushingless (Board Level)

Resistance Code \_\_\_\_\_  
 (1st 2 digits are significant, 3rd digit is number of 0s to follow)

RoHS Identifier \_\_\_\_\_  
 L = Compliant

# 3310 - 9 mm Square Sealed Panel Control

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## Product Dimensions

### COMMON DIMENSIONS 3310-001

Plastic Bushing  
Slotted Shaft



### MOUNTING HOLE PATTERN



### 3310C-001



### 3310P-001



### 3310R-001



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

### 3310Y-001



### COMMON DIMENSIONS 3310C-101

Plastic Flatted Shaft



The shaft flat position as shown above is at 50 % of the mechanical travel.

# 3310 - 9 mm Square Sealed Panel Control

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## Product Dimensions

### COMMON DIMENSIONS 3310-002 Metal Bushing



### 3310P-025\* Bushingsless



### 3310C-002



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

NOTE: \* Only recommended shaft length for bushingsless version

# 3310 - 9 mm Square Sealed Panel Control

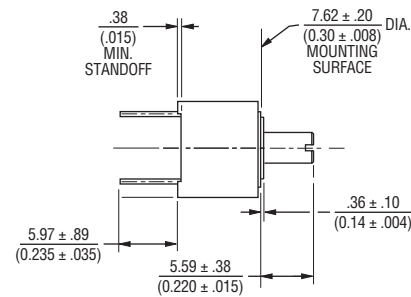
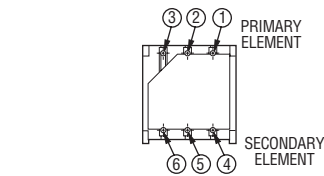
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## Product Dimensions

### COMMON DIMENSIONS 3310H-003 Pot/Switch Dual Cup Plastic Bushing



### 3310H-025\* Pot/Pot Dual Cup Bushingsless

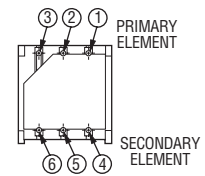


Pot/Pot Dual Cup



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

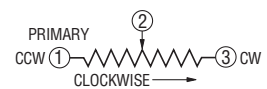
### 3310H-002 Pot/Pot Dual Cup Metal Bushing



Pot/Switch Dual Cup



Pot Single Cup



NOTE: \* Only recommended shaft length for bushingsless version

REV. 08/12

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