

## Features

- RoHS compliant\*
- Space saving design
- Wide range of resistance values
- PC pin or solder lug terminals
- Metric shaft and bushing option
- Mounting brackets available

## PC - "Slimline" 22 mm Square Single-Turn Panel Control

### Electrical Characteristics<sup>1</sup>

Standard Resistance Range	
Linear Tapers .....	500 ohms to 1 megohm
Audio Tapers .....	1 K ohms to 500 K ohms
Total Resistance Tolerance .....	±20 %
Independent Linearity .....	±5 %
Absolute Minimum Resistance .....	5 ohms maximum
Effective Electrical Angle .....	270 ° ± 5 °
Contact Resistance Variation .....	7 % of total resistance
Dielectric Withstanding Voltage (MIL-STD-202, Method 301)	
Sea Level .....	1,000 VAC minimum
70,000 Feet .....	500 VAC minimum
Insulation Resistance (500 V) .....	1,000 ohms minimum
Power Rating @ 70 °C (Voltage Limited by Power Dissipation or 350 VAC, Whichever is Less)	
Linear .....	.75 watt
Audio .....	.25 watt
Theoretical Resolution .....	Essentially infinite

### Environmental Characteristics

Operating Temperature Range .....	+1 °C to +125 °C
Storage Temperature Range .....	-40 °C to +125 °C
Temperature Coefficient Over Storage Temperature Range .....	±1000 ppm/°C
Vibration .....	.20 G
Total Resistance Shift .....	±1 % maximum
Voltage Ratio Shift .....	±20 % maximum
Shock .....	.50 G
Total Resistance Shift .....	±1 % maximum
Voltage Ratio Shift .....	±20 % maximum
Load Life .....	1,000 Hours @ Rated Power, 20 % RH, 70 °C
Total Resistance Shift .....	±10 % maximum
Rotational Life (No Load) .....	50,000 cycles
Total Resistance Shift (Linear taper) .....	±10 ohms or 12 %, whichever is greater
Total Resistance Shift (Audio taper) .....	±20 % maximum
Contact Resistance Variation .....	±5 % maximum
Moisture Resistance .....	MIL-STD-202, Method 103, Condition B
Total Resistance Shift .....	±20 % maximum
IP Rating .....	IP 40

### Mechanical Characteristics

Stop Strength (1/4" and 6 mm Shaft Diameters) .....	79.09 N-cm (7 lb.-in.)
Mechanical Angle .....	300 ° ± 5 °
Torque	
Starting (Detented) .....	0.5-1.5 N-cm (0.75-2.25 oz.-in.)
Starting (Undetented) .....	1.5 N-cm (2.25 oz.-in.) maximum
Running (Undetented) .....	0.18 to 1.06 N-cm (0.25 to 1.5 oz.-in.)
Mounting .....	79.09 N-cm (7 lb.-in.) maximum
Weight (Single Section) .....	21 gm (0.75 oz.) maximum
Terminals .....	PC pin or solder lug
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 .....	Not recommended
Marking .....	Manufacturer's trademark, resistance value, part number, and date code
Ganging .....	1 cup maximum
Hardware .....	One lockwasher (H-37-2) and one mounting nut (H-38-11) is shipped with each potentiometer
Detents .....	Center, 10, 20, 30, none

For additional features or specifications not shown, consult factory.

FOR ORDERING INFORMATION SEE PAGE 4.

<sup>1</sup> Electrical specifications tested at 200 RPM, at room ambient: +25 °C nominal.

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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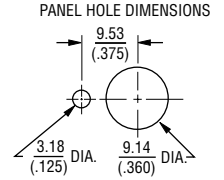
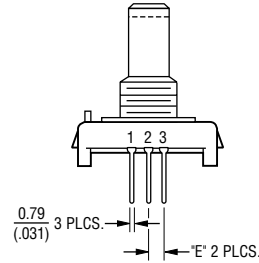
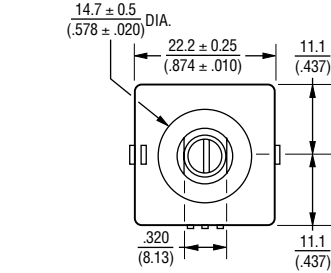
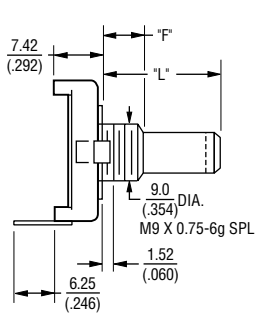
**WARNING**  
**Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# PC – “Slimline” 22 mm Square Single-Turn Panel Control

# BOURNS®

## Product Dimensions

### Axial PC Pins

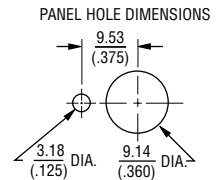
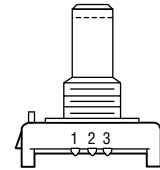
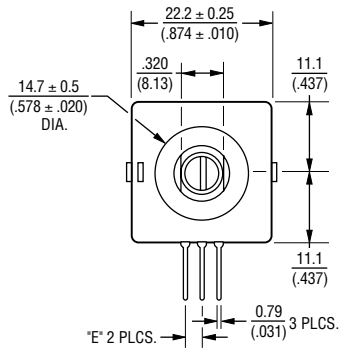
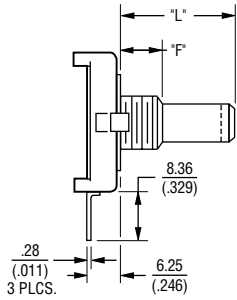


$$F = \frac{6.35}{(.250)} \text{ OR } \frac{9.53}{(.375)}$$

$$E = \frac{2.54}{(.100)} \text{ OR } \frac{5.08}{(.200)}$$

\*L\* = SEE SHAFT LENGTH TABLE

### Radial PC Pins

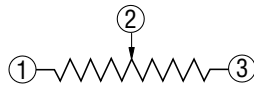


$$F = \frac{6.35}{(.250)} \text{ OR } \frac{9.53}{(.375)}$$

$$E = \frac{2.54}{(.100)} \text{ OR } \frac{5.08}{(.200)}$$

\*L\* = SEE SHAFT LENGTH TABLE

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



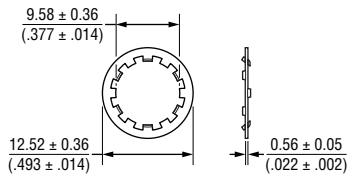
TOLERANCES EXCEPT WHERE NOTED:

$$.XX = \pm \frac{.25}{(.010)}$$

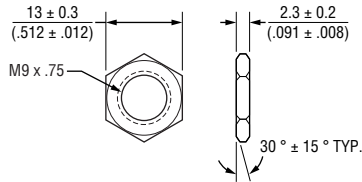
$$.XXX = \pm \frac{.13}{(.005)}$$

## Hardware

### LOCKWASHER H-37-2



### NUT H-38-11



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

## Date Code Description

### YYWWMM

- M = COUNTRY OF MANUFACTURE (MEXICO)
- WW = WEEK NUMBER
- YY = LAST TWO DIGITS OF YEAR MANUFACTURED

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# How to Order PC "Slimline" Panel Controls

# BOURNS®

P C W 1 J - B 2 4 - B A B 1 0 3 L

RoHS IDENTIFIER	
Code	Description
L	Compliant

SHAFT LENGTH (FMS)		
Code	Description	Available Shaft Styles
16	1/2 " (12.7 mm) Length	B
20	5/8 " (15.9 mm) Length	J
<b>24</b>	<b>3/4 " (19 mm) Length</b>	B, C, J, Y
<b>28</b>	<b>7/8 " (22.2 mm) Length</b>	B, C, J, Y
32	1 " (25.4 mm) Length	B, C, J, Y
36	1-1/8 " (28.6 mm) Length	B, C, J, Y
Metric		
19	19 mm Length	R
22	22 mm Length	R
<b>24</b>	<b>24 mm Length</b>	R

RESISTANCE VALUES					
Code	TR	Code	TR	Code	TR
501	500 Ω	<b>103</b>	<b>10 KΩ</b>	<b>104</b>	<b>100 KΩ</b>
102	1 KΩ	203	20 KΩ	254	250 KΩ
252	2.5 KΩ	253	25 KΩ	504	500 KΩ
<b>502</b>	<b>5 KΩ</b>	<b>503</b>	<b>50 KΩ</b>	105	1 MΩ

ELEMENT TAPER VERSIONS	
Code	Taper Description
<b>B</b>	<b>Lin. CP ±20 %</b>
D	CW Audio CP ±20 %
G	CCW Audio CP ±20 %

SHAFT STYLES (See Outline Drawing)	
Code	Description
<b>B</b>	<b>1/4 " (6.35 mm) Dia. Slotted</b>
C	1/4 " (6.35 mm) Dia. Flatted
J	3/16 " (4.76 mm) Dia. Flatted
<b>R</b>	<b>6 mm Dia. Slotted (Use Metric Lengths Only)</b>
Y	3/16 " (4.76 mm) Dia. Split Shaft

DETENT CONFIGURATIONS	
Code	Taper Description
<b>A</b>	<b>No Detents</b>
B	10 Detents
C	Center Detent Only
D	20 Detents
E	30 Detents
F	CCW Detent Only

ANTI-ROTATION LUG	
Code	Description
<b>J</b>	<b>9:00 Position</b>
D	None

NO. SECTIONS	
Code	Description
<b>1</b>	<b>Single</b>

Features	HOUSING TERMINAL CONFIGURATION												
	A	B	C	D	E	F	G	H	J	K	L	M	N
Rear Mounting Bracket		X								X	X		X
Side Mounting Bracket					X		X				X	X	
Axial Terminals .100" (2.54 mm) Centers	X	X									X		
Radial Terminals .100" (2.54 mm) Centers				X	X							X	
Radial Terminals .200" (5.08 mm) Centers						X	X						X
Solder Lugs .200" (5.08 mm) Centers			X										
Axial Terminals .200" (5.08 mm) Centers								X	X				X
Hardware Included	X	X	X	X	X	X	X	X	X	X	X	X	X

BUSHING CONFIGURATION		
Code	Description	Available Shaft Styles
<b>W</b>	<b>9 mm x .250" (6.35 mm) Length Threaded M9 x 0.75 6g 5 Pl</b>	All
L	9 mm x .375" (9.53 mm) Length Threaded M9 x 0.75 6g 5 Pl	B, C, R

Panel mount hardware not included as standard on bracketed versions. The sample part number demonstrates the identification code for Bourns Slimline Potentiometers. The part number shown is a commonly used model, typically available from stock.

Boldface features are Bourns standard options. All others are available with higher minimum order quantities.

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