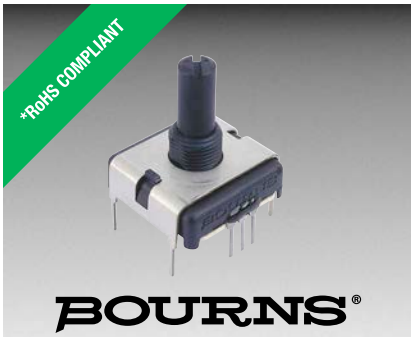




**THE DATASHEET OF
PCW1D-R24-BAB103L**





Features

- RoHS compliant*
- Space saving design
- Wide range of resistance values
- Metric shaft and bushing option
- Mounting brackets available
- Linear or audio taper versions

Additional Information

Click these links for more information:



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

Electrical Characteristics¹

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
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.

¹ 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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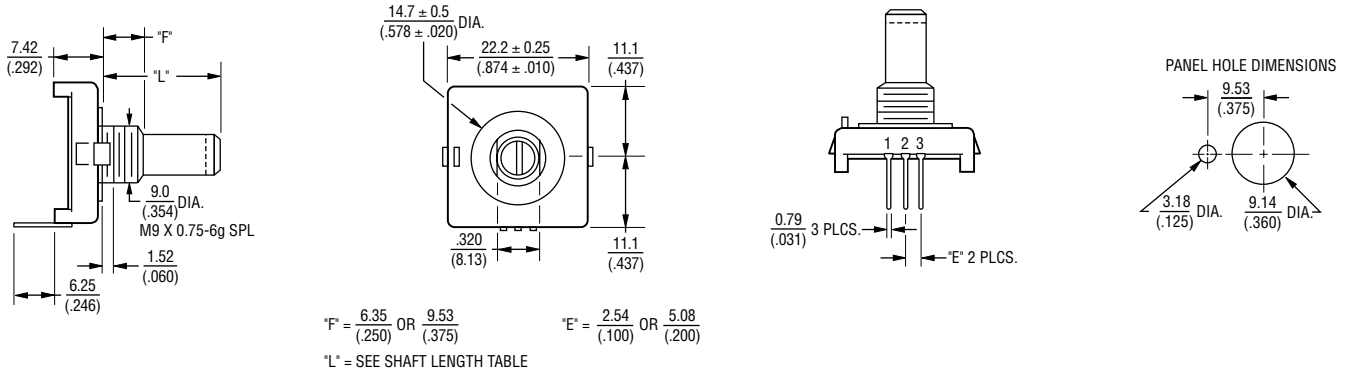
WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

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

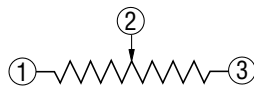
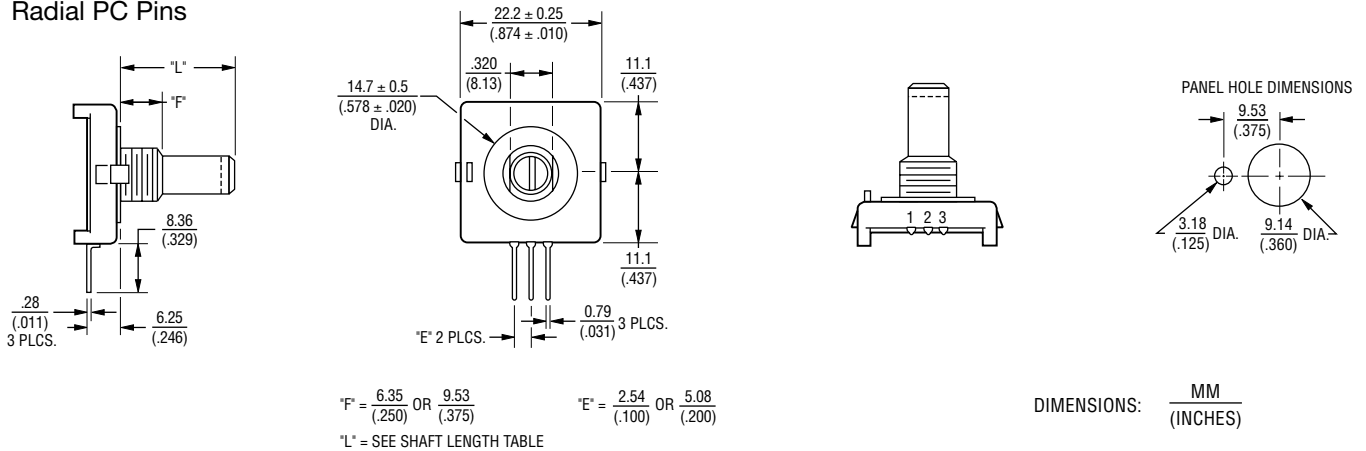
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Product Dimensions

Axial PC Pins



Radial PC Pins

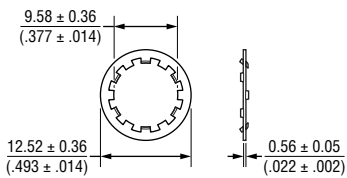


TOLERANCES EXCEPT WHERE NOTED:

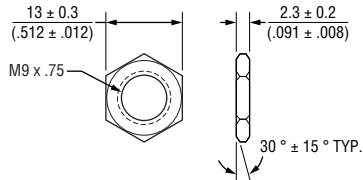
.XX = ± $\frac{.25}{(0.010)}$
 .XXX = ± $\frac{.13}{(0.005)}$

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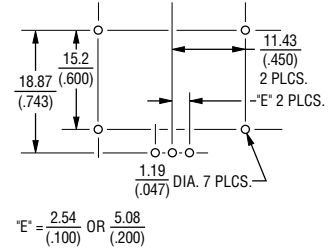
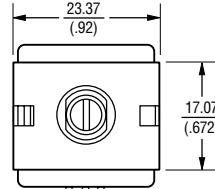
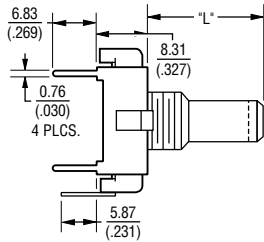
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PC – “Slimline” 22 mm Square Single Turn Panel Control

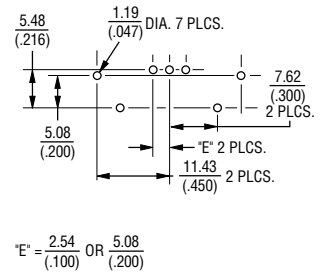
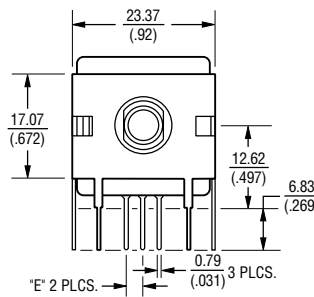
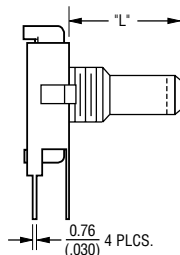
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Product Dimensions

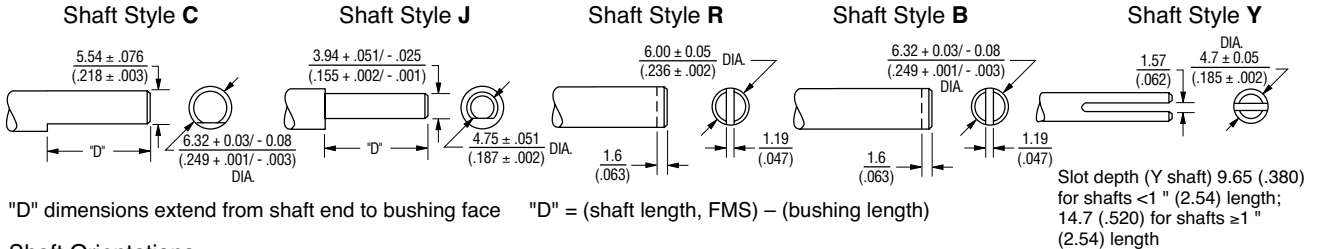
Axial PC PINS With Rear Mounting Bracket



Radial PC PINS With Side Mounting Bracket

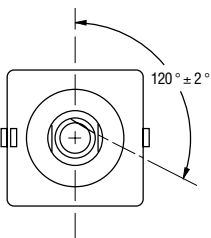


SHAFT STYLES AND ORIENTATION (Full CCW Rotation)

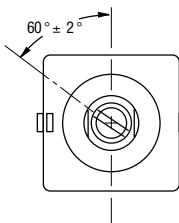


Shaft Orientations

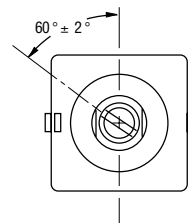
Shaft Styles C, J



Shaft Styles B, R



Shaft Style Y



TOLERANCES EXCEPT WHERE NOTED:

.XX ± $\frac{.25}{(.010)}$
.XXX ± $\frac{.13}{(.005)}$

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

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How to Order PC "Slimline" Panel Controls

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

SHAFT LENGTH (FMS)		
Code	Description	Available Shaft Styles
16	1/2 " (12.7 mm) Length	B
20	5/8 " (15.9 mm) Length	J
24	3/4 " (19 mm) Length	B, C, J, Y
28	7/8 " (22.2 mm) Length	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
24	24 mm Length	R

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

ANTI-ROTATION LUG	
Code	Description
J	9:00 Position
D	None

NO. SECTIONS	
Code	Description
1	Single

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

RoHS IDENTIFIER	
Code	Description
L	Compliant

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

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

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

Features	HOUSING TERMINAL CONFIGURATION												
	A	B	D	E	F	G	H	J	K	L	M	N	
Rear Mounting Bracket		X						X	X			X	
Side Mounting Bracket				X	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	

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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