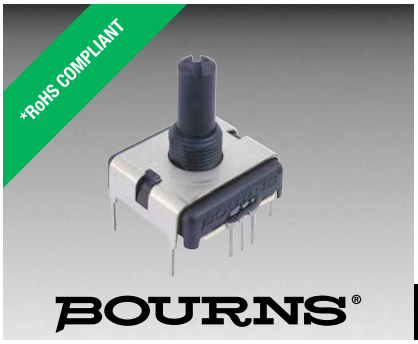

Features

- 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:

PRODUCT | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

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

Electrical Characteristics[1]

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 ºC (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 ºC
- 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.

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

[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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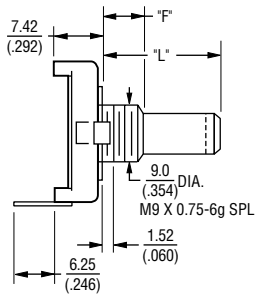
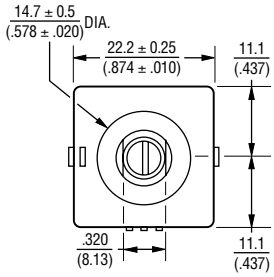
PC – "Slimline" 22 mm Square Single Turn Panel Control

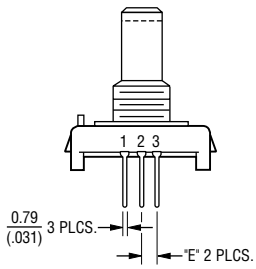
BOURNS®

Product Dimensions

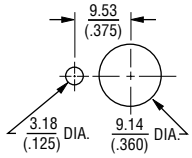
Axial PC Pins







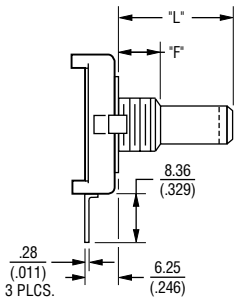
PANEL HOLE DIMENSIONS

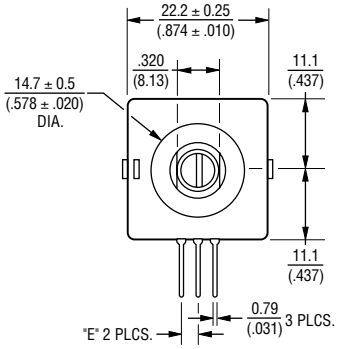


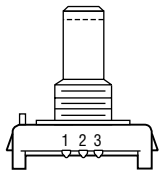
"F" = $\frac{6.35}{(.250)}$ OR $\frac{9.53}{(.375)}$ "E" = $\frac{2.54}{(.100)}$ OR $\frac{5.08}{(.200)}$

"L" = SEE SHAFT LENGTH TABLE

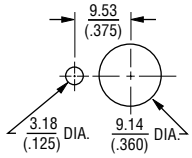
Radial PC Pins







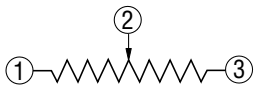
PANEL HOLE DIMENSIONS



"F" = $\frac{6.35}{(.250)}$ OR $\frac{9.53}{(.375)}$ "E" = $\frac{2.54}{(.100)}$ OR $\frac{5.08}{(.200)}$

"L" = SEE SHAFT LENGTH TABLE

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



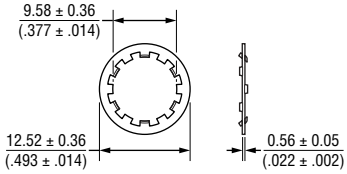
TOLERANCES EXCEPT WHERE NOTED:

.XX = ± $\frac{.25}{(.010)}$

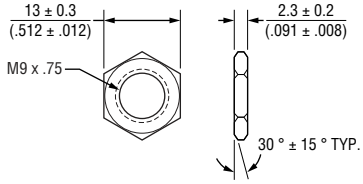
.XXX = ± $\frac{.13}{(.005)}$

Hardware

LOCKWASHER H-37-2

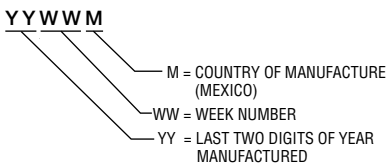


NUT H-38-11



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

Date Code Description



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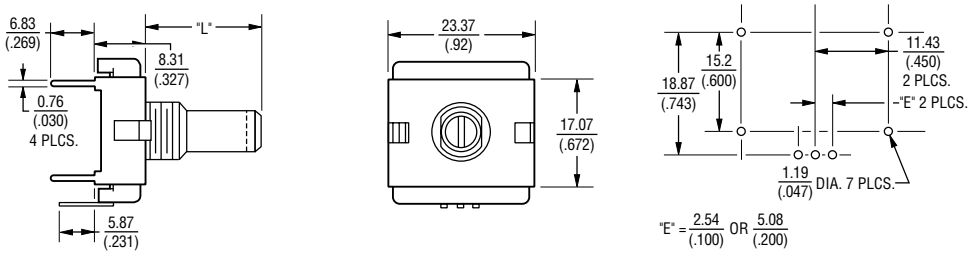
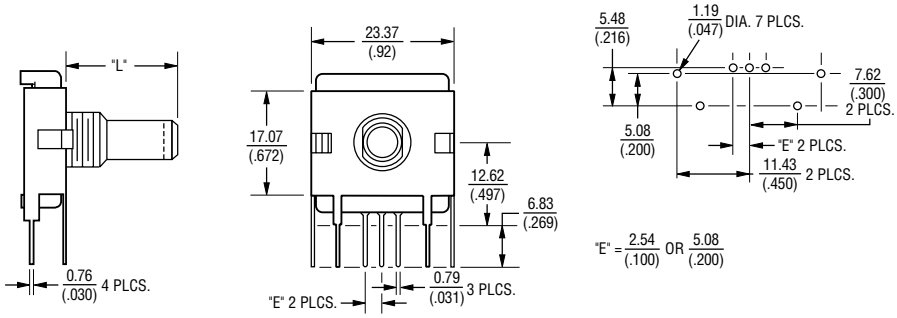
Product Dimensions

Axial PC PINS
With Rear Mounting Bracket

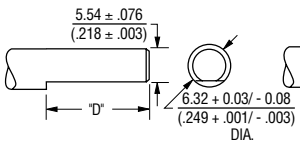


Radial PC PINS
With Side Mounting Bracket

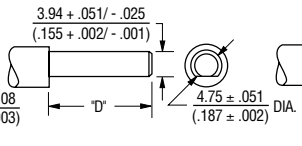


SHAFT STYLES AND ORIENTATION (Full CCW Rotation)

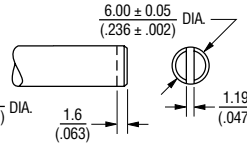
Shaft Style **C**



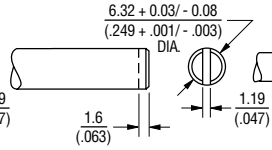
Shaft Style **J**



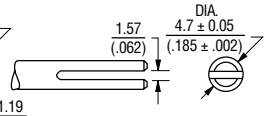
Shaft Style **R**



Shaft Style **B**



Shaft Style **Y**

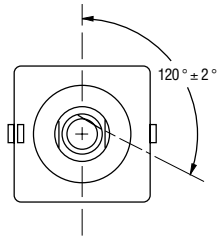


Slot depth (Y shaft) 9.65 (.380) for shafts <1 " (2.54) length; 14.7 (.520) for shafts ≥1 " (2.54) length

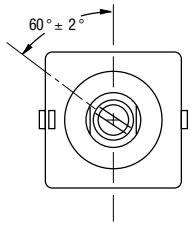
"D" dimensions extend from shaft end to bushing face "D" = (shaft length, FMS) – (bushing length)

Shaft Orientations

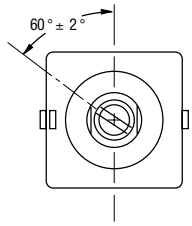
Shaft Styles **C, J**



Shaft Styles **B, R**



Shaft Style **Y**



TOLERANCES EXCEPT WHERE NOTED:

.XX = ± .25 (.010)

.XXX = ± .13 (.005)

DIMENSIONS: MM / (INCHES)

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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
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

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 %

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

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

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

HOUSING TERMINAL CONFIGURATION												
	Code											
Features	**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	
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

NO. SECTIONS	
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

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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