

BOURNS®



Features

- Carbon element
- Ganging up to 8 sections available
- Knurled and flattened shaft styles
- Audio taper option
- Tracking error within 3 dB
- RoHS compliant*

PTR90 Series - 9 mm Multi-Ganged Potentiometer w/Rotary Switch

Electrical Characteristics

Standard Resistance Range 1 K ohms to 1 M ohms				
Total Resistance Tolerance $\pm 10\%$ or $\pm 20\%$				
Standard Tapers Linear & audio				
Maximum Operating Voltage 150 VAC, 20 VDC				
Rated Power	<table border="0"> <tr> <td>Linear Taper</td><td>..... 0.05 watts</td> </tr> <tr> <td>Audio Taper</td><td>..... 0.025 watts</td> </tr> </table>	Linear Taper 0.05 watts	Audio Taper 0.025 watts
Linear Taper 0.05 watts				
Audio Taper 0.025 watts				
Noise 100 mV max.				
Insulation Resistance @ 250 VDC 100 M ohms				
Dielectric Withstanding Voltage 300 VAC				
End Resistance 20 ohms max.				
Tracking Error (-40 dB to 0 dB) ± 3 dB				

Environmental Characteristics

Operating Temperature -10 °C to +50 °C
Rotational Life 15,000 cycles
IP Rating IP 40

Switch Characteristics

Contact Resistance 50 milliohms max.
Rated Power 3 A @ 16 VDC
Detent Torque 400 g-cm max.
Switch Activation Angle 50 ° max.

Mechanical Characteristics

Mechanical Angle 300 ° ± 10 °
Running Torque 10 to 250 g-cm

Stop Strength 4.0 kg-cm

Shaft Push/Pull Strength 5.0 kgf min.

Shaft Wobble 0.6 x L/20 mm p-p max.

Mounting Torque 7.0 kg-cm min.

Soldering Condition

Manual Soldering

..... 96.5 Sn/3.0 Ag/0.5 Cu solid wire
or no-clean rosin cored wire
270 °C max. for 3 seconds

Wave Soldering

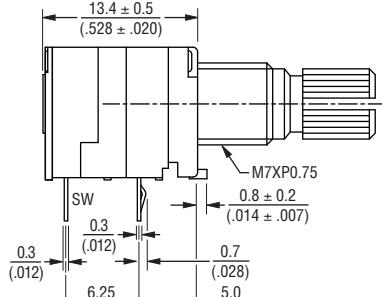
..... 96.5 Sn/3.0 Ag/0.5 Cu solder
with no-clean flux
260 °C max. for 5 seconds

Wash Process Not recommended

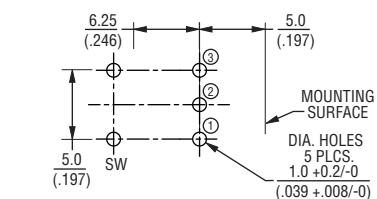
Mounting Hardware One flat washer
and one mounting nut supplied
per potentiometer

Product Dimensions

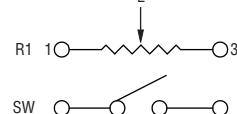
PTR901



RECOMMENDED PCB LAYOUT

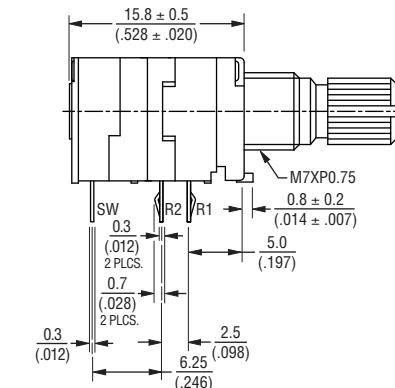


SCHEMATIC

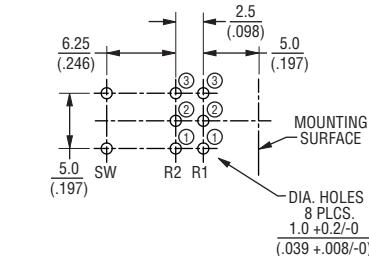


DIMENSIONS: MM
(INCHES)

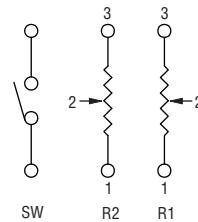
PTR902



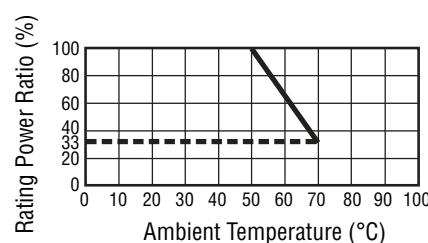
RECOMMENDED PCB LAYOUT



SCHEMATIC



Derating Curve



Standard Resistance Table

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



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

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

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Applications

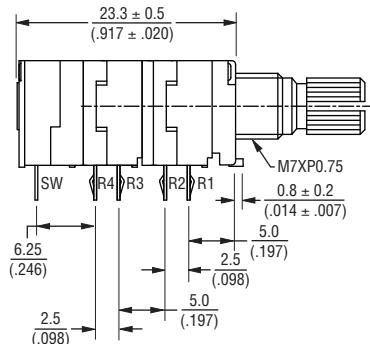
- Audio/TV sets
- Amplifiers/mixers/drum machines/synthesizers/DJ equipment
- Multimedia sound systems
- Portable electronics

PTR90 Series - 9 mm Multi-Ganged Potentiometer w/Rotary Switch

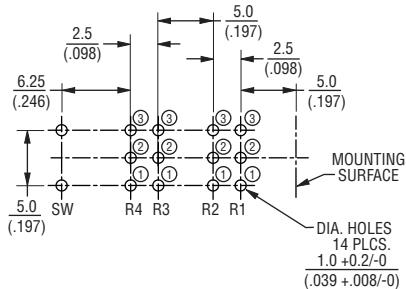
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Product Dimensions

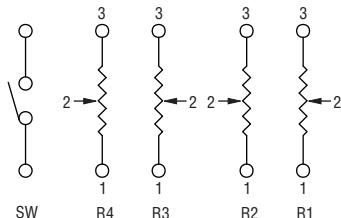
PTR904



RECOMMENDED PCB LAYOUT

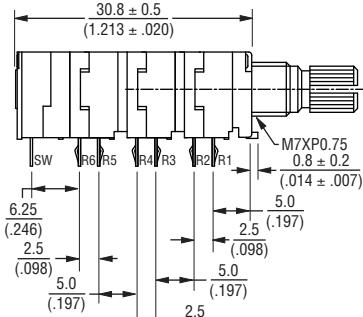


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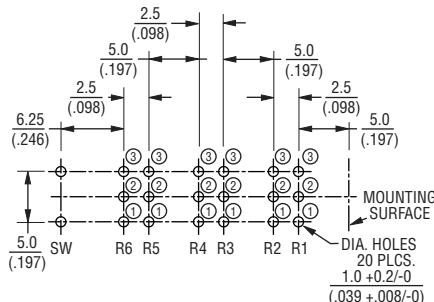


DIMENSIONS: MM
(INCHES)

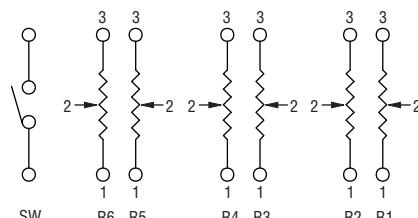
PTR906



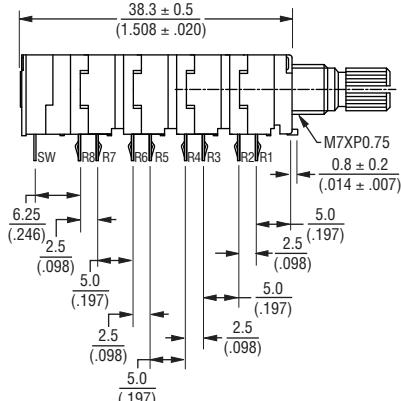
RECOMMENDED PCB LAYOUT



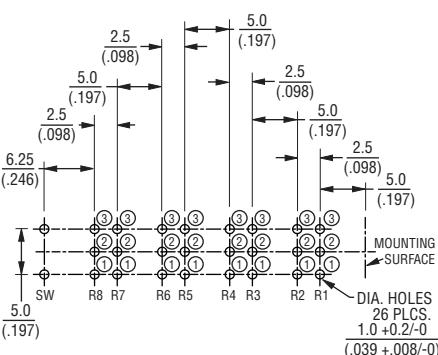
SCHEMATIC



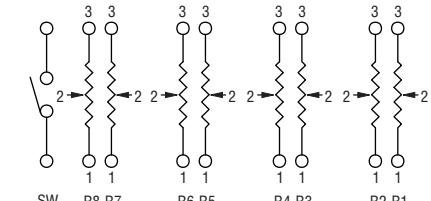
PTR908



RECOMMENDED PCB LAYOUT



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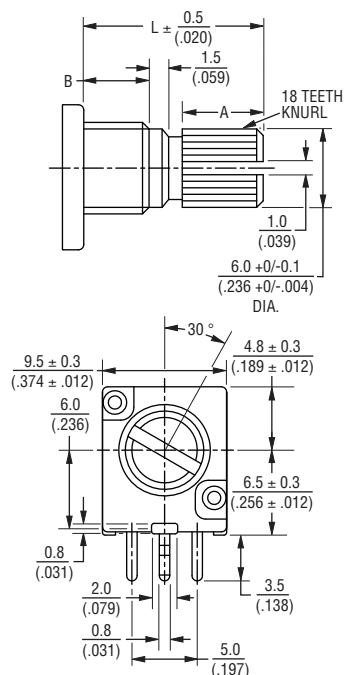
PTR90 Series - 9 mm Multi-Ganged Potentiometer w/Rotary Switch

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Product Dimensions

SHAFT STYLE

"K"



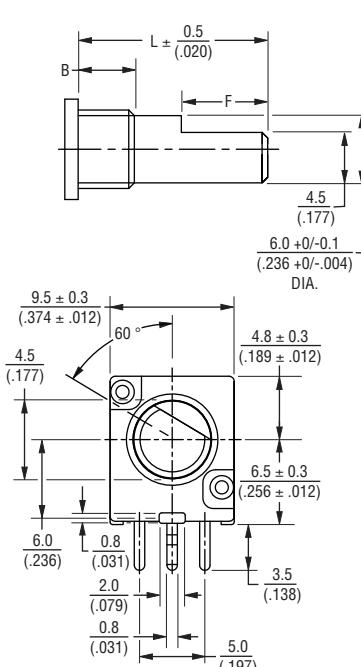
SHAFT SHOWN IN CCW POSITION

L	15 (.591)	20 (.787)	25 (.984)
B	5 (.197)	7 (.276)	10 (.394)
A	6 (.236)	10 (.394)	12 (.472)

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

SHAFT STYLE

"F"



SHAFT SHOWN IN CCW POSITION

L	15 (.591)	20 (.787)	25 (.984)
B	5 (.197)	7 (.276)	10 (.394)
F	7 (.276)	12 (.472)	12 (.472)

How To Order

PTR90 1 - 2 0 20 K - B 203

Model

- PTR90 = With Rotary Switch

No. of Sections

- 1 = 1 Section
- 2 = 2 Sections
- 3 = 3 Sections
- 4 = 4 Sections
- 5 = 5 Sections
- 6 = 6 Sections
- 8 = 8 Sections

Pin Style

- 1 = PC Pins vertical/ down facing and $\pm 10\%$ Total Resistance Tolerance
- 2 = PC Pins vertical/ down facing and $\pm 20\%$ Total Resistance Tolerance

Center Detent Option

- 0 = No Detent
- 2 = Center Detent

Standard Shaft Length

- 15 = 15 mm
- 20 = 20 mm
- 25 = 25 mm

Shaft Styles

- K = Knurled Type Shaft (Metal)
- 18 = 18 Toothing Serration Type
- F = Flattened Metal Shaft

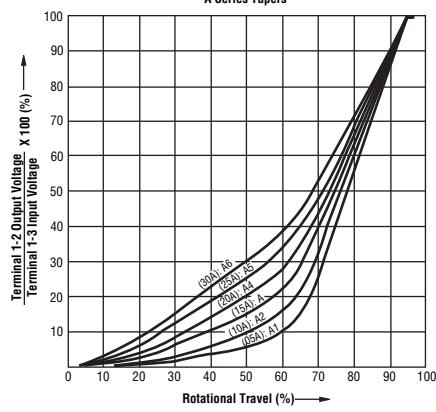
Resistance Taper (See Taper Charts)
Taper Series followed by Curve Number

Resistance Code (See Table)

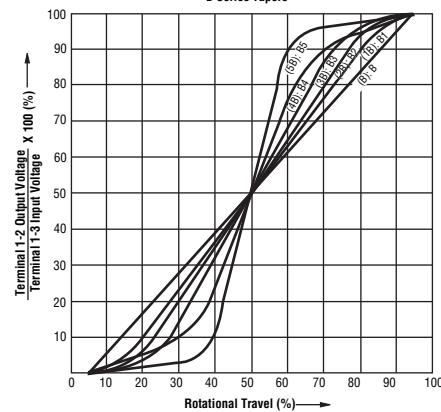
Other shaft styles available.

Tapers

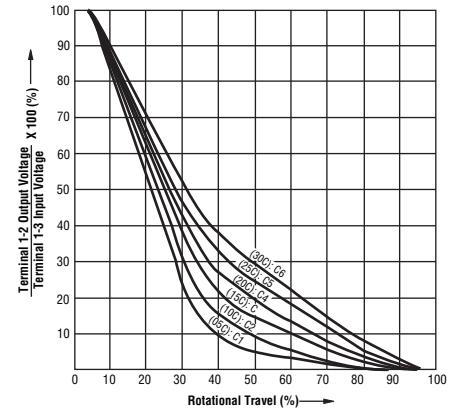
A Series Tapers



B Series Tapers



C Series Tapers



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Bourns:

PTR901-2015K-B203	PTR901-2015K-B502	PTR903-22AAH-A/B	PTR901-2015F-B102	PTR902-2015K-B502
PTR901-2015K-A103	PTR901-2015K-B103	PTR901-2015K-B104	PTR901-2020K-A103	PTR901-2020K-A204
PTR901-20ABF-B503	PTR901-20ACK-A103	PTR902-2015K-A104	PTR902-2020K-A103	PTR902-2020K-A203
PTR902-2020K-A204	PTR902-2025R-B502	PTR902-20AAF-A203	PTR902-1015F-A203	PTR902-2015F-A203
PTR901-1015F-B203	PTR901-2015K-B503	PTR902-1220F-B103	PTR902-2015K-B103	PTR902-2020F-A503
PTR902-2020K-A504	PTR901-2015K-B202	PTR901-2015K-B504	PTR901-2020K-B102	PTR901-2020K-B504
PTR901-2025K-B503	PTR901-2025F-A103	PTR902-2015F-B102	PTR901-2015F-B503	PTR902-2015F-B103
PTR902-2015F-C104	PTR901-2015F-A103	PTR902-2015K-A103	PTR902-1015K-A103	PTR902-1020K-A502
PTR901-2015F-B502	PTR901-2015F-A104	PTR901-2025F-B503	PTR901-1025F-B503	PTR901-1025K-B503