



## Features

- Carbon element
- Assortment of resistance tapers
- Variety of shaft lengths
- Dual gang element
- Flatted, slotted and knurled shaft styles
- Center detent option
- Rotary switch option



This series is obsolete and not recommended for new designs.

## PTH90 Series Dual Concentric Shaft Panel Control w/Rotary Switch

### Electrical Characteristics

Standard Resistance Range ..... 1K ohms to 1 megohm  
 Standard Resistance Tolerance  
 R < 250K ohms ..... ±20 %  
 R ≥ 250K ohms ..... ±30 %  
 End Resistance  
 R < 50K ohms ..... 30 ohms max.  
 R ≥ 50K ohms ..... 0.1 % of TR max.  
 Insulation Resistance @ 250 VDC  
 ..... 100 megohms min.  
 Dielectric Withstanding Voltage .... 300 VAC  
 Standard Taper ..... Linear, Audio  
 Power Rating  
 Linear ..... 0.05 watt  
 Audio ..... 0.05 watt  
 Slider Noise ..... 100 mV max.  
 Operating Voltage ..... 50 VAC / 10 VDC

### Environmental Characteristics

Operational Life ..... 15,000 cycles  
 TR Shift ..... ±15 %  
 Operating Temperature Range  
 ..... -10 °C to +55 °C  
 Resistance to Solder Heat ..... ±5 %  
 IP Rating ..... IP 40

### Mechanical Characteristics

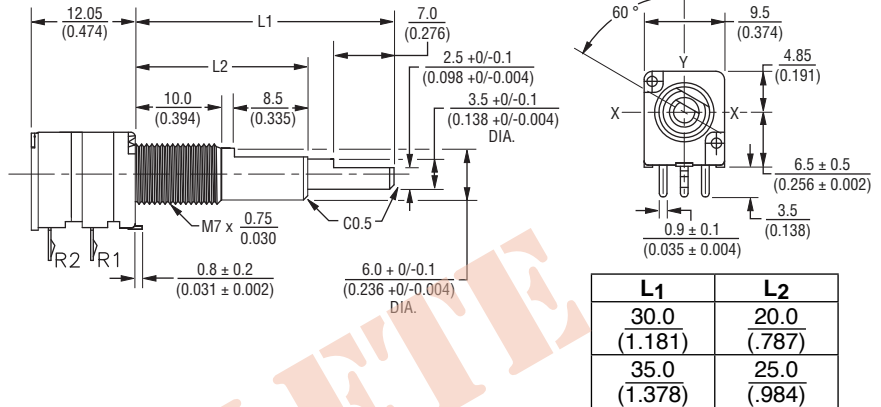
Mechanical Angle ..... 300 ° ±3 °  
 Operating Torque ..... 20~250 gf-cm  
 Stop Strength ..... 5 kgf-cm max.  
 Mounting Torque ..... 10 kgf-cm max.  
 Shaft Push/Pull Strength ..... 10 kgf max.  
 Soldering Condition  
 Manual ..... 300 °C ±5 °C for 3 sec.  
 Wave ..... 260 °C ±5 °C for 5 sec.  
 Wash ..... Not recommended  
 Hardware ..... One flat washer and one mounting nut supplied with each potentiometer

### Switch Characteristics

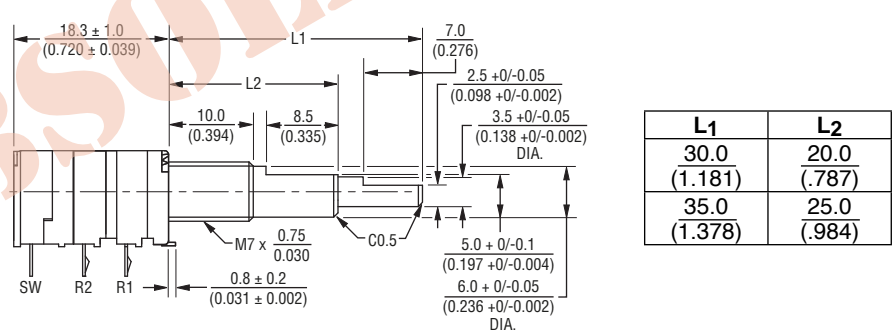
Power Rating ..... 3 A @ 16 VDC  
 Contact Resistance ..... 100 milliohms  
 Dielectric Strength  
 Bushing to Terminals ..... 300 VAC  
 Switch Terminals ..... 50 VAC  
 Insulation Resistance  
 Bushing to Terminals @ 250 VAC  
 ..... 100 megohms  
 Switch Terminals @ 50 VAC  
 ..... 10 megohms  
 Switch Type ..... Rotary  
 Contact Arrangement ..... SPST  
 Switching Angle ..... 50 ° max.  
 Detent Torque ..... 500 kgf-cm  
 Operating Life ..... 10,000 cycles

### Product Dimensions

PTH901 (Shown with Flatted Shaft)

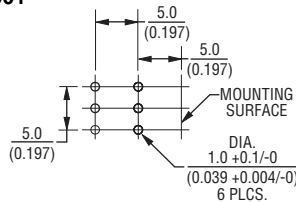


PTH902 (Shown with Flatted Shaft)

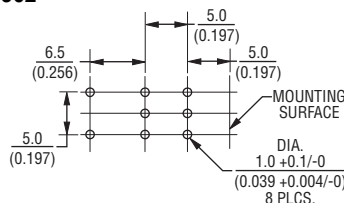


### Mounting Hole Detail

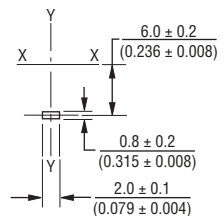
PTH901



PTH902

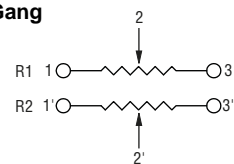


### Locating Lug Detail



### Schematic

#### Dual Gang



#### Switch Circuit



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

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

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

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# Applications

- Multimedia sound systems
- Mixers / drums / DJ equipment
- Portable electronics
- Portable appliances

## PTH90 Series Dual Concentric Shaft Panel Control w/Rotary Switch BOURNS®

### Additional Shaft Styles

**Knurled Shaft**

L1	L2
30.0 (1.181)	20.0 (.787)
35.0 (1.378)	25.0 (.984)

**Slotted Shaft**

L1	L2
30.0 (1.181)	20.0 (.787)
35.0 (1.378)	25.0 (.984)
40.0 (1.575)	25.0 (.984)

### Hardware

**Nut** **Washer**

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

### How To Order

PTH90 2 - 0 30 F - 103 B2

Model Number Designator: PTH90 = Dual Concentric Shaft Panel Control

Number of Sections: 1 = Dual Gang, No Switch; 2 = Dual Gang w/Rotary Switch

Center Detent: 0 = No Detent; 1 = Center Detent

Shaft Length (FMS): 30 = 30 mm; 35 = 35 mm; 40 = 40 mm

Shaft Style: F = Flatted Metal; S = Slotted Metal; K = Knurled (18 tooth serrated)

Resistance Code: (See Standard Resistance Table)

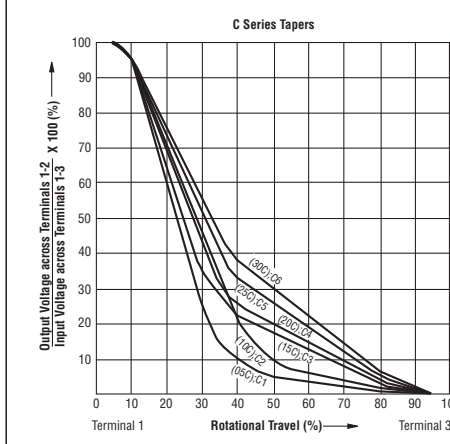
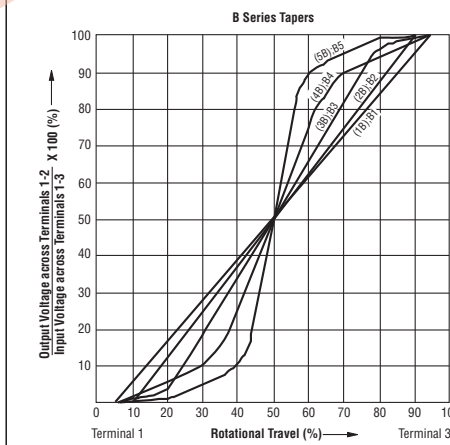
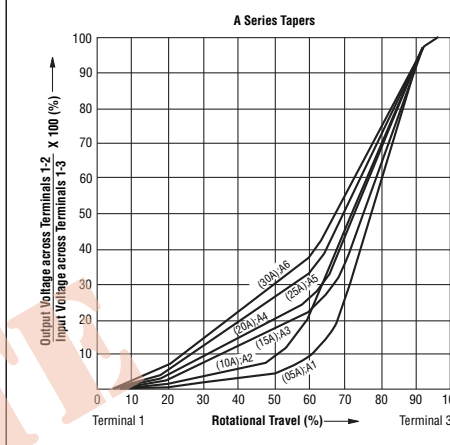
Resistance Taper: (See Taper Charts)

Taper Series followed by Curve Number

### 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

### Tapers



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