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

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

### Product Dimensions

<table>
<thead>
<tr>
<th>PTR901</th>
<th>PTR902</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Schematic" /></td>
<td><img src="image" alt="Schematic" /></td>
</tr>
</tbody>
</table>

### Derating Curve

<table>
<thead>
<tr>
<th>Ambient Temperature (°C)</th>
<th>Rating Power Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td>40</td>
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<tr>
<td>50</td>
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<td>70</td>
<td>30</td>
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<td>80</td>
<td>20</td>
</tr>
<tr>
<td>90</td>
<td>10</td>
</tr>
<tr>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>

### Standard Resistance Table

<table>
<thead>
<tr>
<th>Resistance (Ohms)</th>
<th>Resistance Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000</td>
<td>102</td>
</tr>
<tr>
<td>2,000</td>
<td>202</td>
</tr>
<tr>
<td>5,000</td>
<td>502</td>
</tr>
<tr>
<td>10,000</td>
<td>103</td>
</tr>
<tr>
<td>20,000</td>
<td>203</td>
</tr>
<tr>
<td>50,000</td>
<td>503</td>
</tr>
<tr>
<td>100,000</td>
<td>104</td>
</tr>
<tr>
<td>200,000</td>
<td>204</td>
</tr>
<tr>
<td>500,000</td>
<td>504</td>
</tr>
<tr>
<td>1,000,000</td>
<td>105</td>
</tr>
</tbody>
</table>

### Electrical Characteristics
- **Standard Resistance Range**: 1 K ohms to 1 M ohms
- **Total Resistance Tolerance**: ±10% or ±20%
- **Standard Tapers**: Linear & audio
- **Maximum Operating Voltage**: 150 VAC, 20 VDC
- **Rated Power**: 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 Range**: -10 °C to +50 °C
- **Storage Temperature Range**: -20 °C to +70 °C
- **Storage Humidity Range**: 70% RH max.
- **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 350 °C max. for 3 seconds
  - **Wave Soldering**: 96.5 Sn/3.0 Ag/0.5 Cu solder with no-clean flux 260 °C ±5 °C for 3 ±1 seconds
- **Wash Process**: Not recommended
- **Mounting Hardware**: One flat washer and one mounting nut supplied per potentiometer

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**WARNING**
Cancer and Reproductive Harm

www.P65Warnings.ca.gov

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

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

Product Dimensions

PTR904

SPECIFICATIONS
- MOUNTING SURFACE
- RECOMMENDED PCB LAYOUT
- SCHEMATIC

PTR906

SPECIFICATIONS
- MOUNTING SURFACE
- RECOMMENDED PCB LAYOUT
- SCHEMATIC

PTR908

SPECIFICATIONS
- MOUNTING SURFACE
- RECOMMENDED PCB LAYOUT
- SCHEMATIC

DIMENSIONS:

<table>
<thead>
<tr>
<th>MILLIMETERS</th>
<th>INCHES</th>
</tr>
</thead>
<tbody>
<tr>
<td>23.3 ± 0.5</td>
<td>(0.917 ± 0.020)</td>
</tr>
<tr>
<td>30.8 ± 0.5</td>
<td>(1.213 ± 0.020)</td>
</tr>
<tr>
<td>38.3 ± 0.5</td>
<td>(1.508 ± 0.020)</td>
</tr>
</tbody>
</table>

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

**PTR90 1 - 2 0 20 K - B 203**

<table>
<thead>
<tr>
<th>Pin Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PC Pins vertical/down facing and ±10% Total Resistance Tolerance</td>
</tr>
<tr>
<td>2</td>
<td>PC Pins vertical/down facing and ±20% Total Resistance Tolerance</td>
</tr>
</tbody>
</table>

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)
- **B** = 18 Toothed 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.

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**Specifications**

- **A Series Tapers**
- **B Series Tapers**
- **C Series Tapers**

**Dimensions**

<table>
<thead>
<tr>
<th>L</th>
<th>15 (0.59)</th>
<th>20 (0.79)</th>
<th>25 (0.98)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>5 (0.197)</td>
<td>7 (0.276)</td>
<td>10 (0.394)</td>
</tr>
<tr>
<td>A</td>
<td>6 (0.236)</td>
<td>10 (0.394)</td>
<td>12 (0.472)</td>
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</table>

**Tapers**

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**REV. 01/23**

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