Single-Turn Cermet Potentiometers

PC262 Series

Special features
• very small dimensions
• $100 \times 10^3$ movements
• linearity $\pm 2\%$
• high resolution – better than 0.1°
• very robust

Low-cost potentiometer with a Cermet resistance element for control electronics and measuring applications.

The Cermet potentiometer combines the high resolution of a screen-printed resistor element with the robustness of a wirewound potentiometer.

The careful selection of the materials and high quality of components ensure a constant and high level of quality throughout the entire service life of the angle sensor.

Special designs with other angular ranges, and shaft dimensions are available on request.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>housing diameter 20 mm</td>
</tr>
<tr>
<td>Housing</td>
<td>high-quality, temperature-consistent plastic</td>
</tr>
<tr>
<td>Shaft</td>
<td>brass, nickel plated</td>
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<tr>
<td>Bearings</td>
<td>sleeve bearings</td>
</tr>
<tr>
<td>Resistor element</td>
<td>Metalloceramic (Cermet)</td>
</tr>
<tr>
<td>Wiper assembly</td>
<td>precious metal multi-finger wiper</td>
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<tr>
<td>Electrical connections</td>
<td>tin plated</td>
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</table>
### Order designations / Abbreviations

1A: connecting solder pin radial
4A: connecting pin, radial
MB: bushing M10 x 0.75, axis Ø 6 mm with slot

### Included in delivery
1 nut M 10 x 0.75
1 serrated washer 3/8" in delivery

### Recommended accessories
Fork coupling Z104 G6, Art. no. 005690;
Fork coupling Z105 G6 (backlash-free), Art. no. 005691,
MAP process-control indicators and display.

### Electrical Data
- **Actual electrical travel:** 270 ±3 °
- **Resistance values:** 1; 5; 10; 100; 1kΩ
- **Resistance tolerance:** ±10 %
- **Repeatability:** 0.04 (+ 0.1 °)
- **Effective temperature coefficient of the output-to-applied voltage ratio:** 100 ppm/K
- **Independent linearity:** ±2 %
- **Max. permissible applied voltage:** 42 V
- **Recommended operating wiper current:** ≤ 1 µA
- **Max. wiper current in case of malfunction:** 100 mA
- **Dielectric strength (AC, 50 Hz, 1 min, 1 bar):** 1500 V

### Environmental Data
- **Temperature range:** -25...+125 °
- **Vibration:** 30...2000 Hz
- **Shock (DIN IEC 68-2-7):** A max = 0.75 mm/s², a max = 15 g
- **Life:** 100 x 10⁶ movements
- **Protection class (DIN 40050):** IP 50

### Important
All values given for this series – including linearity, lifetime, micro-linearity, resistance to external disturbances and temperature coefficient in voltage dividing mode – are quoted for the device operating with the wiper voltage driving an operational amplifier working as a voltage follower where virtually no load is applied to the wiper (I e ≤ 1 µA).