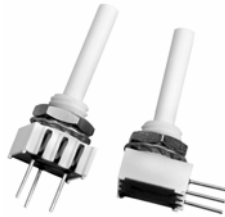


3/8" Square Panel Potentiometer Miniature - Cermet - Fully Sealed



P10 panel potentiometer combines the very good setting stability offered by Vishay Sfernice trimmers (due to their proprietary multifinger wiper), with a mechanical life of 10 000 cycles.

It is an ideal choice to set and control parameters such as temperature, time, volume levels, etc.

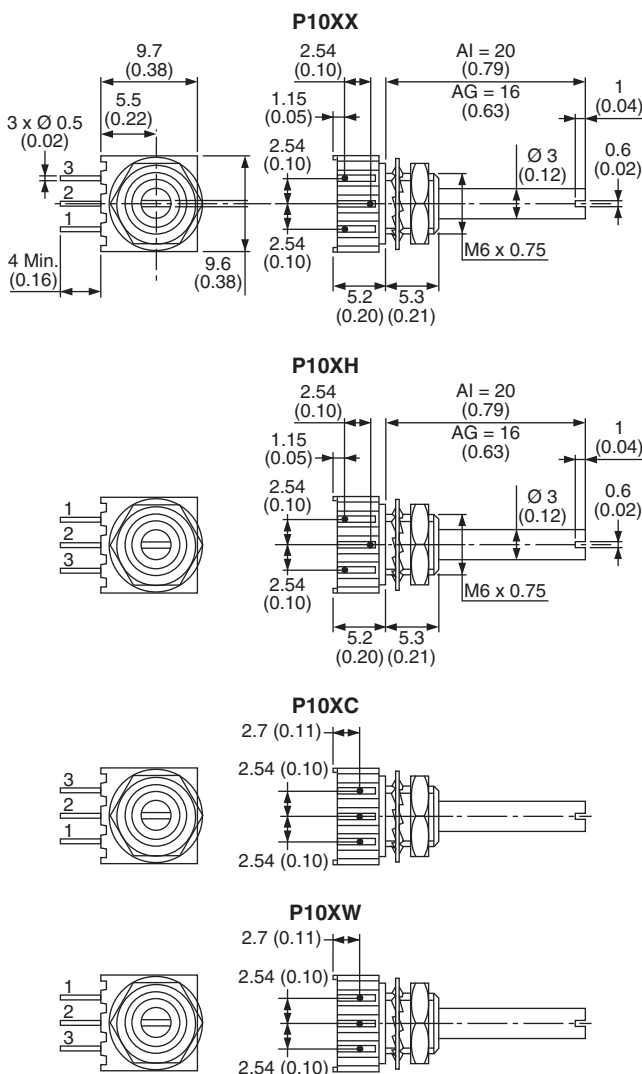
FEATURES

- Industrial grade
- 0.5 W at 70 °C
- Cermet element
- Miniature compact
- Plastic housing and shaft
- Fully sealed
- 7 standard pin styles
- Test according to CECC 41000 or IEC 60393-1
- 10 000 cycles rotational life
- Compliant to RoHS Directive 2002/95/EC

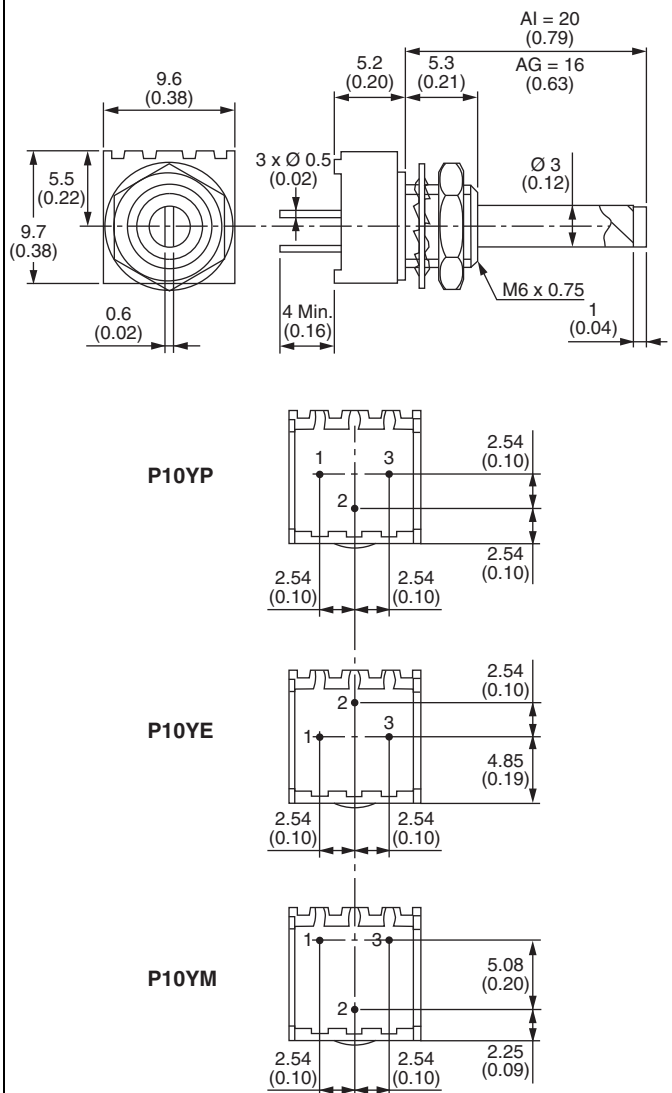


DIMENSIONS in millimeters (inches) ± 0.5 mm (± 0.02")

P10: Side Adjust



P10: Top Adjust



| ELECTRICAL SPECIFICATIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|----------------------------|-------------------------|----------------------|-------------------------|---|---|---|----|-----|-----|-----|----|-----|-----|------|----|-----|-----|------|----|----|-----|------|----|----|-----|------|----|----|-----|------|----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|------|------|-----|-----|------|------|-----|-----|----|------|-----|------|----|-------|-----|------|
| Resistive Element | Cermet | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Electrical Travel | 250° ± 15° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Standard Resistance Values | 100 Ω to 2 MΩ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tolerance | 10 % - 5 % on request | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Taper | Linear A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power Rating | 0.5 W at 70 °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Circuit Diagram | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Standard Resistance Element Data | <table border="1"> <thead> <tr> <th>Standard Resistance Values</th> <th>Max. Power at 70 °C</th> <th>Max. Working Voltage</th> <th>Max. Cur. Through Wiper</th> </tr> <tr> <th>W</th> <th>W</th> <th>V</th> <th>mA</th> </tr> </thead> <tbody> <tr><td>100</td><td>0.5</td><td>7.0</td><td>70</td></tr> <tr><td>200</td><td>0.5</td><td>10.0</td><td>50</td></tr> <tr><td>500</td><td>0.5</td><td>15.8</td><td>32</td></tr> <tr><td>1K</td><td>0.5</td><td>22.4</td><td>22</td></tr> <tr><td>2K</td><td>0.5</td><td>31.8</td><td>16</td></tr> <tr><td>5K</td><td>0.5</td><td>50.0</td><td>10</td></tr> <tr><td>10K</td><td>0.5</td><td>70.7</td><td>7.0</td></tr> <tr><td>20K</td><td>0.5</td><td>100</td><td>5.0</td></tr> <tr><td>50K</td><td>0.5</td><td>158</td><td>3.2</td></tr> <tr><td>100K</td><td>0.5</td><td>224</td><td>2.2</td></tr> <tr><td>200K</td><td>0.28</td><td>250</td><td>1.3</td></tr> <tr><td>500K</td><td>0.13</td><td>250</td><td>0.5</td></tr> <tr><td>1M</td><td>0.06</td><td>250</td><td>0.25</td></tr> <tr><td>2M</td><td>0.028</td><td>250</td><td>0.13</td></tr> </tbody> </table> | Standard Resistance Values | Max. Power at 70 °C | Max. Working Voltage | Max. Cur. Through Wiper | W | W | V | mA | 100 | 0.5 | 7.0 | 70 | 200 | 0.5 | 10.0 | 50 | 500 | 0.5 | 15.8 | 32 | 1K | 0.5 | 22.4 | 22 | 2K | 0.5 | 31.8 | 16 | 5K | 0.5 | 50.0 | 10 | 10K | 0.5 | 70.7 | 7.0 | 20K | 0.5 | 100 | 5.0 | 50K | 0.5 | 158 | 3.2 | 100K | 0.5 | 224 | 2.2 | 200K | 0.28 | 250 | 1.3 | 500K | 0.13 | 250 | 0.5 | 1M | 0.06 | 250 | 0.25 | 2M | 0.028 | 250 | 0.13 |
| Standard Resistance Values | Max. Power at 70 °C | Max. Working Voltage | Max. Cur. Through Wiper | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W | W | V | mA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | 0.5 | 7.0 | 70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 | 0.5 | 10.0 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | 0.5 | 15.8 | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1K | 0.5 | 22.4 | 22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2K | 0.5 | 31.8 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5K | 0.5 | 50.0 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10K | 0.5 | 70.7 | 7.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20K | 0.5 | 100 | 5.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50K | 0.5 | 158 | 3.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100K | 0.5 | 224 | 2.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 200K | 0.28 | 250 | 1.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500K | 0.13 | 250 | 0.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1M | 0.06 | 250 | 0.25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2M | 0.028 | 250 | 0.13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature Coefficient (Typical) | ± 150 ppm/°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contact Resistance Variation (Typical) | 1 % R _n or 2 Ω | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| End Resistance (Typical) | 1 Ω | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dielectric Strength (RMS) | 1000 V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Insulation Resistance (300 V _{DC}) | 10 ⁶ MΩ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



3/8" Square Panel Potentiometer
Miniature - Cermet - Fully Sealed

Vishay Sfernice

| MECHANICAL SPECIFICATIONS | | |
|-----------------------------------|---|--------------------------|
| Mechanical Travel | 290° ± 5 | |
| Operating Torque (Typical) | 2 Ncm max. | 2.83 oz.-inch max. |
| End Stop Torque | 7 Ncm max. | 9.9 oz.-inch max. |
| Tightening Torque of Mounting Nut | 25 Ncm max. | 2.2 lb-inch max. |
| Unit Weight | 1 g | 3.5 10 ⁻² oz. |
| Terminals | e3: Pure Sn | |
| Shafts | Standard shaft 20 mm length (R or AI code) and 16 mm length (D or AG code) is measured from the mounting face to the free end of the shaft. Vishay guarantee is lost if the customer modifies the shaft himself. | |
| Hardware | Nuts and washer are supplied separately (not mounted on the potentiometer) in a small bag placed in the packaging. | |

| ENVIRONMENTAL SPECIFICATIONS | |
|------------------------------|-------------------------------|
| Temperature Range | - 55 °C to 125 °C |
| Climatic Category | 55/100/56 |
| Sealing | Fully sealed - Container IP67 |

| MARKING | |
|---|---|
| <ul style="list-style-type: none">• Vishay trademark• Model• Ohmic value code• Tolerance code• Manufacturing date code• Marking of terminals 3 | <p>The ohmic value is indicated by a 3 figures code: The first two digits are significant figures, the third digit is the multiplier: Example: 101 = 100 Ω 102 = 1000 Ω 503 = 50 000 Ω</p> <p>The manufacturing date is indicated by a figures code. The first two digits are the year, the last two digits are the week.</p> |



| PERFORMANCES | | | | |
|-------------------------|--|---------------------------|------------------------------|---|
| TESTS | CONDITIONS | TYPICAL VALUES AND DRIFTS | | |
| | | $\Delta R_T/R_T$ (%) | $\Delta R_{1-2}/R_{1-2}$ (%) | OTHER |
| Electrical Endurance | 1000 h at rated power 90°/30° - ambient temp. 70 °C | ± 1 % | ± 2 % | Contact resistance variation: 1 % |
| Climatic Sequence | Phase A dry heat 100 °C Phase B damp heat Phase C cold - 55 °C Phase D damp heat 5 cycles | ± 1 % | ± 2 % | - |
| Damp Heat, Steady State | 56 days 40 °C 93 % HR | ± 1 % | ± 2 % | Dielectric strength: 1000 V _{RMS} Insulation resistance: > 10 ⁴ MΩ |
| Change of Temperature | 5 cycles - 55 °C at 100 °C | ± 1 % | - | $\Delta V_{1-2}/V_{1-3} \leq \pm 2 \%$ |
| Mechanical Endurance | 10 000 cycles | ± 3 % | - | Contact resistance variation: ≤ 2 % R _n |
| Shock | 50 g's at 11 ms 3 successive shocks in 3 directions | ± 0.5 % | ± 1 % | - |
| Vibration | 10 Hz to 55 Hz 0.75 mm or 10 g's during 6 h | ± 0.5 % | - | $\Delta V_{1-2}/V_{1-3} < \pm 1 \%$ |

| ORDERING INFORMATION (Part Number) | | | | | | | | | | | | | | | | | |
|------------------------------------|--|---|--|---|--------------------------------------|---|--|---|----------------------|---|---|---|---|--|--|--|--|
| P | 1 | 0 | X | X | A | G | 1 | 0 | 3 | K | B | 3 | 0 | | | | |
| MODEL | STYLE | | SHAFT | | RESISTANCE CODE | | TOLERANCE CODE | | PACKAGING CODE | | | SPECIAL NUMBER | | | | | |
| P10 | XC XH XW XX YE YM YP | | AG = Ø 3 mm to 16 mm (old code R) AI = Ø 3 mm to 20 mm (old code D) | | From 100 Ω to 2 MΩ 103 = 10 kΩ | | K = 10 % On request: J = 5 % | | B30 = Box 100 pieces | | | (If applicable) Given by Vishay for custom design | | | | | |

| PART NUMBER DESCRIPTION (for information only) | | | | | | | |
|--|-------|-------|-------|-----------|---------|-----------|----------------|
| P10 | XX | AG | 10K | 10 % | | BO100 | e3 |
| MODEL | STYLE | SHAFT | VALUE | TOLERANCE | SPECIAL | PACKAGING | LEAD (Pb)-FREE |



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