Precision potentiometer for measuring, control and instrumentation applications.

The distinguishing features of the SP 2500 include plastic housing, ball-bearings, a conductive resistance element and elastomer-damped wipers. Fixings are in the form of elongated slots which allow simplicity in mounting together with ease of mechanical adjustment.

Reliability, long life, linearity, resolution and corrosion resistance further differentiate the SP25.

### Special features
- Precision despite small dimensions for an inexpensive price
- Very long life $50 \times 10^6$ movements
- Very good linearity - standard $\pm 0.3\%$
- Very high resolution - better than 0.01°
- Unrestricted continuous rotation
- Easy assembly by a synchroflange with 3 mounting plates
- Optimal connection by an integrated snap-connector

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### Description

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<tr>
<th>Specification</th>
<th>Details</th>
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<tbody>
<tr>
<td>Size</td>
<td>Servo size 11</td>
</tr>
<tr>
<td>Housing</td>
<td>Two-part housing and cover high-grade, temperature-resistant plastic</td>
</tr>
<tr>
<td>Shaft</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Bearings</td>
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<td>Resistance element</td>
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<td>Wiper assembly</td>
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**Type Designations**

<table>
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<tr>
<th>Type</th>
<th>Designation</th>
<th>SPK2501 A5033</th>
<th>SPK2501 A1812</th>
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**Mechanical Data**

- Dimensions: see dimension drawing
- Mounting: with 3 cylinder screws M 2.5 and washers
- Mechanical travel: 360 continuous °
- Permitted shaft loading: (axial and radial) static or dynamic force: 15 N
- Torque: ≤ 0.1 Ncm
- Max. allowed rotational velocity: 10,000 rad/s²
- Weight: 15 g

**Electrical Data**

- Actual electrical travel: 335 ±2, 120 ±2 °
- Nominal resistance: 5.0, 1.8 kΩ
- Resistance tolerance: -0 ... +40 %
- Repeatability: 0.003 (0.01°) %
- Effective temperature coefficient of the output-to-applied voltage ratio: typical 5 ppm/K
- Independent linearity: ± 0.3 %
- Max. permissible applied voltage: 42 V
- Recommended operating wiper current: ≤ 1 µA
- Max. wiper current in case of malfunction: 10 mA
- Insulation resistance: (500 VDC, 1 bar, 3 s) ≥ 10 MΩ
- Dielectric strength: (50 Hz, 2 s, 1 bar, 500 VAC) ≤ 100 µA

**Environmental Data**

- Temperature range: -40...+85 °C
- Vibration: 5...200Hz
- Shock: 50 g
- Life: 50 x 10⁶ movements
- Protection class: IP 40 (DIN 400 50 / IEC 529)

**Recommended accessories**

- Fork coupling Z103 G3 (backlash free)
- Process-controlled indicators
- Signal conditioner MUP.../MUK... for standardized output signals

**Important**

All the values given in this data sheet for linearity, lifetime and temperature coefficient in the voltage divider mode are quoted for the device operating with the wiper voltage driving on operational amplifier working as a voltage follower, where virtually no load is applied to the wiper (Iw ≤ 1 µA).