CS18 Optional Extra
PR Measurement (PR-M®)

Applications

- **PR signal conditioner** power supply of piezo-resistive (bridge), variable capacitance and similar sensors used with the CS18 calibration system

Range of Use

- **Certified calibration laboratories**
- Departments of measuring instrument verification in research, development and industry, particularly in automotive crash test laboratories
- **Quality assurance** in sensor manufacturing

Features

- **Calibration** of piezo-resistive sensors
- Determination of **aptitude for calibration** (bridge resistance, offset, offset drift) of PR sensors in conjunction with software **PR measurement**
- Measurement of **input and output resistance**
- **Static calibration** in the local earth gravity field (+/- 1 g)
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Components
- Plug-in module to CS18 vibration control system SRS-35
- External connecting box for individual sensor adaptation
- Software for determining the electrical aptitude for calibration of PR sensors (measurement of bridge resistance, offset and offset drift, offset compensation, shunt calibration, isolation test)

Technical Specification PR Module

<table>
<thead>
<tr>
<th>Bridge Power Supply</th>
<th>4-wire or 6-wire technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage Range</td>
<td>-10 V&lt;sub&gt;DC&lt;/sub&gt; ... 0 V&lt;sub&gt;DC&lt;/sub&gt; ... +10 V&lt;sub&gt;DC&lt;/sub&gt;, adjustable</td>
</tr>
<tr>
<td>Current</td>
<td>max. 100 mA</td>
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<tr>
<td>Bridge Completion</td>
<td>resistors for completing a quarter or half bridge can be integrated in a connecting box (dimensioning according to specific sensor)</td>
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<tr>
<td>Shunt Resistors</td>
<td>2 units can be integrated in a connecting box, resistance values can be stored in a EEPROM</td>
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<tr>
<td>Accuracy of shunt calibration for shunt resistors in the range of 40 kΩ to 320 kΩ</td>
<td>Measurement of the DC Voltage shift and calculation of the equivalent acceleration with an expanded measurement uncertainty of 1.0 % with a coverage factor of k = 2.</td>
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<tr>
<td>Amplifier</td>
<td>0 ... 42 dB</td>
</tr>
<tr>
<td>Gain Steps (DC)</td>
<td>factors to be set by software: 1, 2, 4, 8, 16, 32, 64, 128</td>
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<tr>
<td>Offset</td>
<td>offset measurement and offset compensation can be performed</td>
</tr>
</tbody>
</table>

Options for the PR Module
- Individual external connection boxes
- TEDS for PR sensors
- Sensor identification module

SRS 35

All data are subject to change without notice