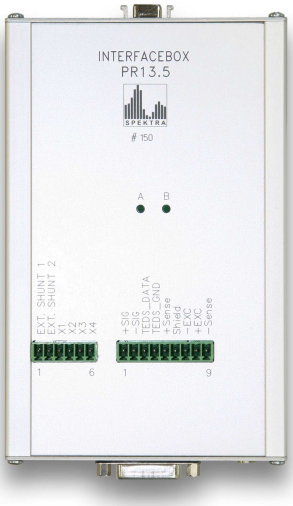
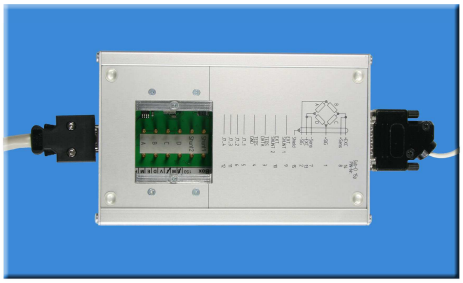
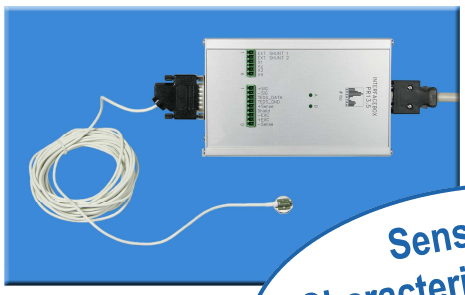
CS18 Optional Extra

PR Measurement (PR-M®)







Sensor Characterization of Piezo-Resistive Sensors

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_l)

CS18 Optional Extra

PR Measurement (PR-M®)

Components

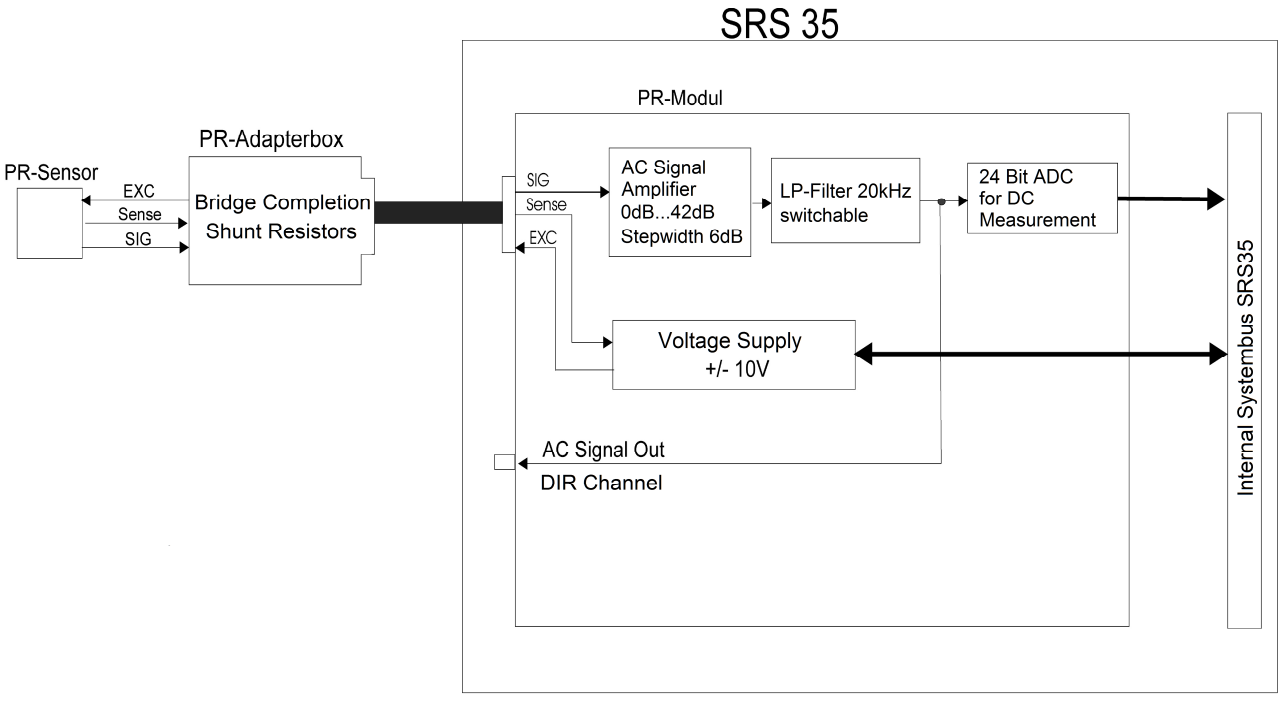
- Plug-in module to CS18 vibration control system **SRS-35**
- External connecting box for individual sensor adaptation
- Software for determining the electrical aptitude for calibration of PR sensors (measurement of bridge resistance, offset and offset drift, offset compensation, shunt calibration, isolation test)

Technical Specification PR Module

Bridge Power Supply	4-wire or 6-wire technique
Voltage Range	-10 V_{DC} ... 0 V_{DC} ... +10 V_{DC}, adjustable
Current	max. 100 mA
Bridge Completion	resistors for completing a quarter or half bridge can be integrated in a connecting box (dimensioning according to specific sensor)
Shunt Resistors	2 units can be integrated in a connecting box, resistance values can be stored in a EEPROM
Accuracy of shunt calibration for shunt resistors in the range of 40 kΩ to 320 kΩ	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.
Amplifier	0 … 42 dB
Gain Steps (DC)	factors to be set by software: 1, 2, 4, 8, 16, 32, 64, 128
Offset	offset measurement and offset compensation can be performed

Options for the PR Module

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



All data are subject to change without notice

February 2018