

Supplement

CV-10 Extension Module for PR Sensors



1. Intended use

This extension module is designed for use with SPEKTRA's **CV-10 Mobile Calibrator** only. It extends the CV-10's functional range by enabling users to also calibrate **piezoresistive (PR) sensors** that are based on a Wheatstone bridge type of electrical circuit inside the sensor. The extension module provides the electrical excitation voltage for the sensor and amplifies the sensor's output signal. The extension module is powered by the CV-10 via a connection to the extension port and neither needs nor allows any other external voltage supply.

The product must only be used for the intended purpose in its defined application area, as it is adapted to the respective circumstances. The risks of injury, material damage, and harm to the health of humans and animals are already reduced to the technically possible minimum through design measures and safety systems.

The product is intended solely for commercial use.

2. Technical Data

Bridge Power Supply

Voltage range

symmetric..... $\pm 0\text{ V} \dots \pm 10\text{ V}$

asymmetric..... $0\text{ V} \dots 10\text{ V}$

Current.....max. 20 mA

Excitation voltage:.....4-wire measurement at the excitation voltage output or via sense wires inside the sensor

Signal Amplifier

Gain0 dB / 20 dB / 40 dB

automatic gain control via
firmware

Signal Outputmax. $\pm 10\text{ V}$

Signal input (sensor)max. $\pm 10\text{ V}$

Offset.....Offset measurement and
compensation via firmware

Overload indication>90% full scale signal
(via digital signal for firmware)

Low pass filter30 kHz edge frequency with
3rd order Butterworth
characteristics

Calibration DataCorrection data is stored
inside the CV-10 PR module and read during initialization.

Input / Output	Extension port	Digital communication with CV-10 and power supply of the extension module
	Signal output	BNC connector
	Signal input (sensor)	Sub-D connector pin 1 and pin 2
	Excitation voltage	Sub-D connector pin 13 and pin 14
	Excitation voltage sense wires	Sub-D connector pin 7 and pin 8 (if available)
Case	Dimensions	102 mm x 35 mm x 200 mm (W x H x D)
	Weight.....	605 g
	IP class	IP52

All specifications are at laboratory temperature unless otherwise specified.



Note: To operate the PR module, the CV-10 Mobile Calibrator must be running firmware version 1.2.6 or higher.



For further details regarding the set-up and operation of the PR module, please refer to the **CV-10 Instruction Manual** and the **CV-10 Software Operation Manual**.

3. Environmental conditions

To use the product safely and efficiently, the following environmental conditions have to be met:

Operation	Temperature.....	0 °C...50 °C
	Relative humidity.....	20 %...100 %, no condensation
	Max. altitude	2 000 m at 25 °C, 800 mbar
Storage and transportation	Temperature.....	-25 °C...55 °C
	Relative humidity.....	5 %...80 %, no condensation

Protect the product against long periods of heat, cold, direct sunlight, moisture and wet conditions during transport. Do not operate the product close to water, open fire sources or in potentially explosive environments, such as in the presence of flammable liquids, gases or dust. Only use the product in compliance with the specified environmental conditions.