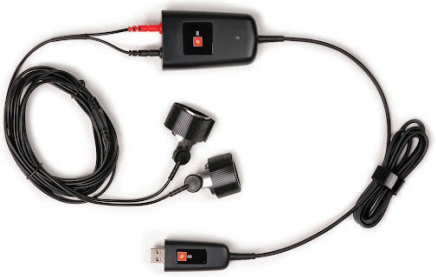
ADINSTRUMENTS

SEN2131 GSR Sensor

PowerLab Sensors Series

Description

The PowerLab Sensors Galvanic Skin Response (GSR) Sensor is a galvanically isolated, skin conductance response amplifier with low constant-voltage AC excitation and software-controlled zeroing. The low-level AC excitation reduces electrode polarization artifacts found in DC systems. It is supplied with a pair of MLT119F finger electrodes with Velcro™ attachment straps.



Operation

To use the GSR Sensor, plug the sensor into the USB port of a laptop or desktop computer with a Windows or Mac operating system. Alternatively, plug the sensor into the PowerLab T1 or a USB hub connected to a computer. A blue LED on the connector housing indicates the sensor is receiving power and is ready for use.

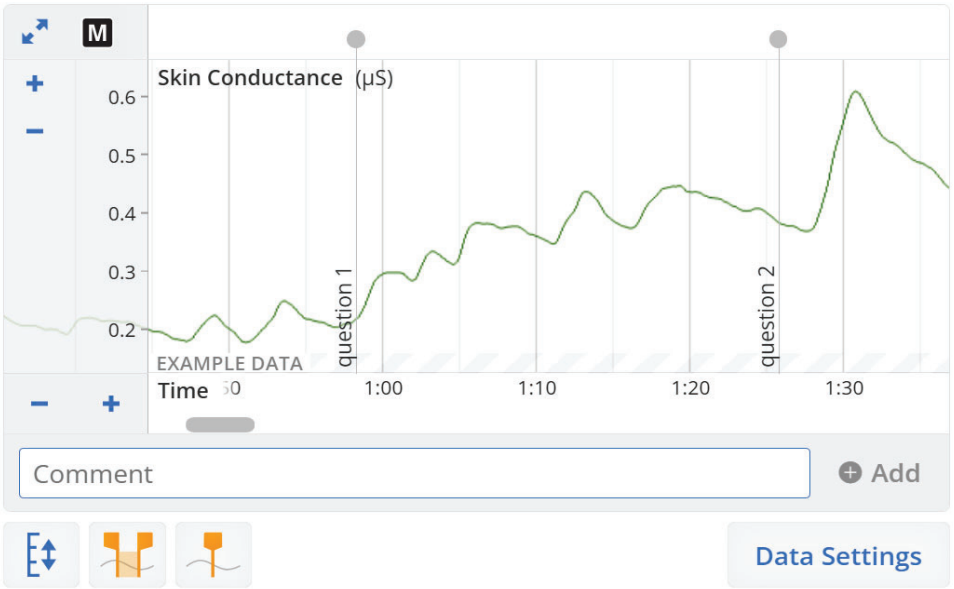
The 50 Hz oscillator supplies a square wave, low-impedance, low-voltage (22 mVrms) signal to an electrode on one finger of the subject. If the skin has a measurable conductance, current flows from the electrode on the other finger back into the transimpedance amplifier's very low-impedance input. The current is then converted to a voltage signal. The current will change as the autonomic reflexes change the skin's conductivity.

- Do not use recording gel with the electrodes. This tends to give higher basal readings, as the gel lowers skin resistance.
- Avoid measuring skin conductance if the subject is perspiring excessively at rest.

Application

The GSR Sensor measures the Féré effect, a general indicator of autonomic nervous system activity. It can be used to analyze the startle response to visual, auditory, or somatosensory stimuli.

Typical Data



Skin Conductance

Caution

Read “Statement of Intended Use” on our website.

Specifications

Weight (including electrode lead):	200 g
Enclosure size (l×w×h):	80 x 50 x 23 mm
Cable length:	1.8 m (5.9’)
Excitation:	Constant-voltage AC excitation (22 mVrms @50 Hz)
Current density:	≤0.5 µA cm–2
Configuration:	Galvanic isolation (AC bridge operation)
Isolation rating:	4000 V ACrms for 1 minute
Input range:	0 to 50 µS
Frequency response:	–3 dB at 30 Hz
Accuracy:	±1 %
Input leakage current:	<4 µArms at 240V, 50 Hz <4 µArms at 120V, 60 Hz
Zeroing and offset:	Software-controlled

All specifications were tested at the time of printing and are subject to change.

Ordering Information

SEN2131 GSR Sensor

For use with:
Laptop or desktop computer with Windows or Mac operating system

WARRANTY: 1 year as per ADInstruments warranty terms for PowerLab Sensors.