ADINSTRUMENTS

SEN2021 Finger Pulse Sensor

PowerLab Sensors Series

Description



The PowerLab Sensors Finger Pulse Sensor uses a piezo-electric element to convert force applied to the active surface of the transducer into an electrical analog signal.

Operation

The Sensor is kept in place using a hook-and-loop fastener around the finger when measuring finger pulse. Some repositioning may be required to obtain the best signal. If there are difficulties in obtaining a good signal, the following actions may be followed.

- Adjusting the placement of the sensor on the finger
- Adjusting the tightness of the strap
- Warming up the subject's hands

Blood pressure changes will change the finger circumference (expansion and contraction), which will then change the force applied to the active surface of the transducer. Therefore, changes in the electrical analog signal correspond to these force changes and can then be used to determine heart rate. The typical output is 50–200 mV (can reach as high as 500 mV).

NOTE: The transducer is sensitive to movement. To avoid large motion or artifacts and obtain good recordings, keep the transducer still. The thumb or the middle finger usually provides a good pulse measurement.

To use the Finger Pulse 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 that computer. A green LED on the connector housing indicates the transducer is receiving power and is ready for use.

Application

The Finger Pulse Sensor can be used to monitor finger pulse.

Typical Data



Finger pulse data and ECG

Caution

Read “Statement of Intended Use” on our website.

Specifications

Typical Output:	100 mV output for finger pulse (ranges from 20 mV to 500 mV depending on person)
Weight (including cable):	40 g (1.4 oz)
Size of Transducer:	23 mm diameter x 11 mm thick (0.87” x 0.47”)
Cable length:	1.8 m (5.9')

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

Ordering Information

SEN2021 Finger Pulse 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.