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Blood Pressure Sensor

Product Number: ENBLD098



Overview

The heart is essentially a pump using pressure to move blood through our circulatory system of veins and arteries. The Blood Pressure Sensor measures the intensity of this pressure on our arteries. While the heart needs pressure to circulate blood, too much can damage the arteries.

Blood pressure readings consist of two parts - the systolic reading which measures pressure as the heart contracts and forces blood through the system and the diastolic, taken when the heart is at rest. The systolic is always the higher of the two readings.

Blood pressure varies from person to person and can be affected by factors such as age, height, gender, and diet.

The Blood Pressure Sensor can be connected to all einstein™ data loggers. It can be used for various Biology experiments.



Typical experiments



Human Physiology

- Measure blood pressure before or after exercising
- See the difference in blood pressure between different age groups and genders
- Investigate how blood pressure changes during the day
- Study how certain foods affect blood pressure

How it works

Blood pressure readings are usually taken from a person's upper arm using a cuff and are expressed in terms of the systolic pressure over diastolic pressure. For example a reading of 120/80 is often generally considered normal.

Sensor specification

Hear Rate

Range:	36 to200 bpm
Accuracy	1 bpm

Blood Pressure

Range:	0 to 375 mmHg
Accuracy	± 3 mmHg
Typical Response Time	90 Seconds
Unites	mmHG
Temperature compensation	0 °C to 50 °C
Maximum pressure without damage	1030 mm Hg

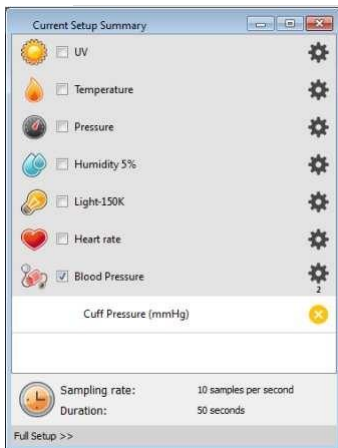
Data logging and Analysis

MiLABEx™

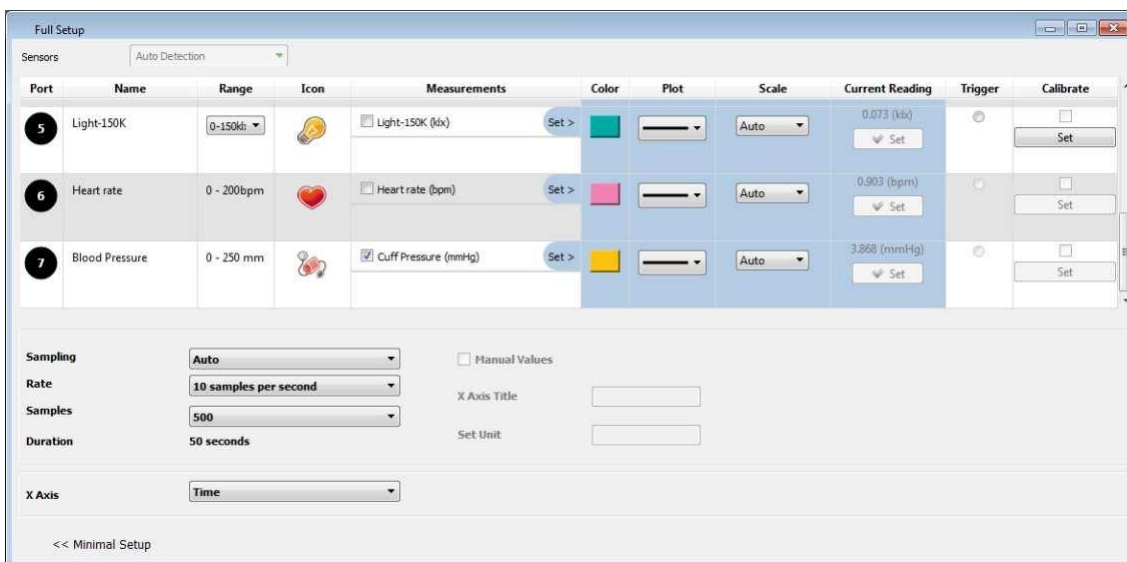
Desktop

1. Pair your einstein™LabMate™ with your PC, MAC, or Linux machine via Bluetooth, or connect it via the USB cable (found in the einstein™LabMate™ box)
2. Insert the sensor cable into one of the sensor ports
3. Launch MiLABEx
4. MiLABEx will automatically detect the sensor and show it in the Current Setup Summary window





Click Full Setup, located at the bottom of the Current Setup Summary window to program the data logger's sample rate, number of samples, units of measurement, and other options



Technical Notes

The Blood Pressure sensor was designed only for educational purposes and should not be used for industrial, medical, or research applications.

Calibration


Calibrating the sensor

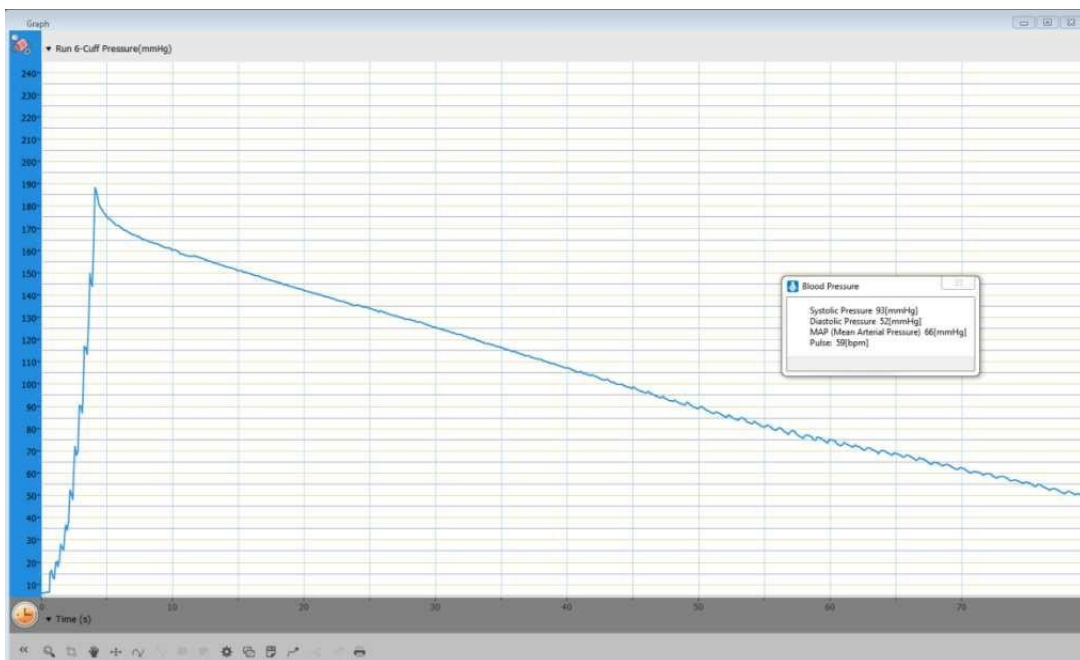
The Blood Pressure Sensor is shipped fully calibrated.

An example of using the Blood Pressure Sensor

1. Set the sample rate :
2. Put the cuff on the upper arm :



3. Click the Run button () to start logging.
4. Pump the cuff till it is very tight. Stop pumping and wait until the reading decreases to 50 mmHg. Measurement will stop automatically, and a result window will appear:



Note: A video detailing use of the Blood Pressure sensor can be found at <https://www.youtube.com/watch?v=bNJhZaNpFkw>

Trouble Shooting

If the Blood Pressure Sensor isn't automatically recognized by MiLAB, please contact Fourier Education's technical support.

Technical support

For technical support, you can contact the Fourier Education's technical support team at: Web:

www.einsteinworld.com/support

Email: support@fourieredu.com

Copyright and Warranty

All standard Fourier Systems sensors carry a one (1) year warranty, which states that for a period of twelve months after the date of delivery to you, it will be substantially free from significant defects in materials and workmanship.

This warranty does not cover breakage of the product caused by misuse or abuse.

This warranty does not cover Fourier Systems consumables such as electrodes, batteries, EKG stickers, cuvettes and storage solutions or buffers.

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