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Blood Pressure Sensor

Product Number: ENBLD098

Overview

The heart is essentially a pump using high pressure to move blood throughout our circulatory system of veins and arteries. The Blood Pressure Sensor measures the intensity of this pressure on our arteries. While the heart needs this 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 einstein™ Tablet, and einstein™Tablet+, einstein™Labmate™, and einstein™Labmate™+. 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

Heart Rate	
Range:	36 –200 bpm
Accuracy:	1 bpm
Blood Pressure	
Range	0 – 375 mmHg
Accuracy	± 3 mmHg
Response Time:	90 seconds (to 90% of final value)
Units:	mmHg, atm
Temperature Compensation:	0 °C to 50 °C
Response time	1 ms
Maximum pressure without permanent damage	1030 mm Hg

Technical Notes

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

Calibration

The Blood Pressure Sensor is shipped fully calibrated.

Data logging and analysis

MiLAB™

1. Take your einstein™ Tablet OR pair your einstein™LabMate with your Android or iOS tablet via Bluetooth
2. Insert the sensor cable into one of the sensor ports
3. Launch MiLAB
4. MiLAB will automatically detect the sensor and show it in the Launcher View
5. Check the icon next to the sensor ( ) to enable it for logging

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MultiLab4™

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 MultiLab4
4. MultiLab4 will automatically detect the sensor and show it in the Current Setup Summary window
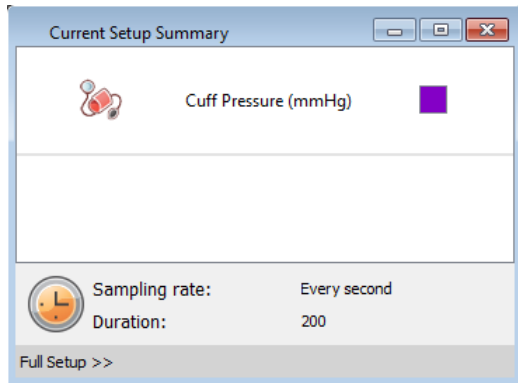
5. Click Full Setup, located at the bottom of the Current Setup Summary window to program the data logger's sample rate, number of samples, units of measurement, and other options
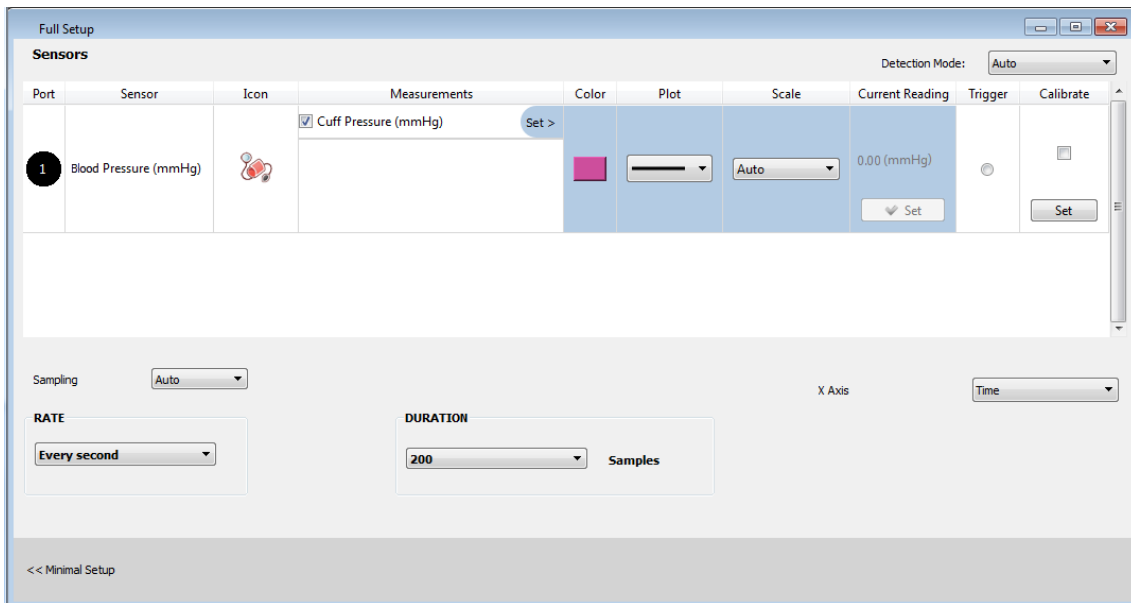
Click the Run button ( )on the main toolbar of the Launcher View to start logging

Troubleshooting

If the Blood Pressure Sensor isn't automatically recognized by MultiLab4/ 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
Phone (in the US): (877) 266-4066

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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