

# ELECTROCARDIOGRAM (ECG/EEG) SENSOR DATASHEET

## GENERAL DESCRIPTION

One of the essential parameters that are measured by a doctor to know the health of a person is cardiac muscle activity. Electrocardiography is one of the ways of measuring these activities in the form of electrical signals using electrodes placed on the skin. These electrodes measure the change in voltage that is a consequence of cardiac muscle depolarization followed by repolarization during each cardiac cycle (heartbeat). These signals are then represented in the form of a graph known as Electrocardiogram (ECG). The sensor employs a 3 electrode lead system to capture ECG. This signal is amplified and filtered at multiple stages before it is sent to the DCP Unit.

Brain function is not just fascinating, but also the most complex and least-understood at the moment. Study of the brain has a plethora of areas starting from medical treatment, research on the functioning of the brain, brain-computer interface, robotics, gaming interface etc.

The E3K EEG Sensor will help you in capturing these signals, by placing electrodes at different places on your head. Similar to other sensors, the signal through the electrodes is filtered and amplified, which is then presented in the form of Analog Output.

## SPECIFICATIONS

- 3 lead electrode cable operation
- Supply Voltage: 2.7V-5V
- Gain: 880 - 8800
- Range:  $\pm 0.18\text{mV}$  -  $\pm 1.87\text{mV}$  (with 3.3V)
- Bandwidth: 1Hz - 130Hz
- CMRR: 90dB
- Input impedance: 0.8GOhm
- 3.5mm electrode cable jack

## APPLICATIONS

- Cardiac activity monitor
- Biomedical and IoT projects
- Human-Computer Interaction
- Robotics & Cybernetics
- Fitness tracker
- Physiology studies
- Biofeedback

## FEATURES

- Voltage differential measurement
- Raw as well as integrated output
- High signal to noise ratio
- Generic connectors
- Plug-and-play

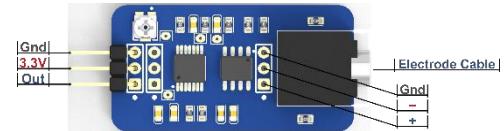


Figure 1: WallySci ECG/EEG Sensor

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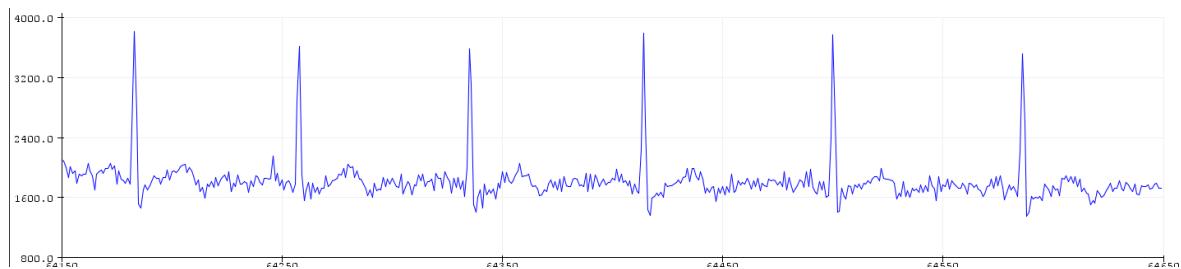


Figure 2: Sample data acquired with WallySci DCPU

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