ELECTROMYOGRAPHY (EMG) SENSOR DATASHEET

GENERAL DESCRIPTION

Electromyography (EMG) is a technique to capture and analyze the electrical activity of motor neurons, connected to skeletal muscles, by using electrodes. To measure the electrical activity of a muscle group, 2 electrodes (separated by approx. 2in distance) are placed on the surface of the skin near the muscle group. A third electrode (referred to as a reference electrode) is placed on the surface of the skin close to the bone, e.g., elbow. The sensor measures the difference in potential between two electrodes w.r.t. the reference electrode. This signal is amplified and filtered at multiple stages before it is sent to the DCP block.
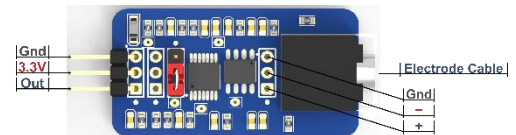

Figure 1: WallySci EMG Sensor

SPECIFICATIONS

- 3 lead electrode cable operation
- Supply Voltage: 2.7V-5V
- Gain: 1920
- Range: ±0.8mV (with 3.3V)
- Bandwidth: 50Hz - 2500Hz
- CMRR: 90dB
- Input impedance: 0.8GOhm
- Raw and Integrated data output
- 3.5mm electrode cable jack

APPLICATIONS

- Biomedical and IoT projects
- Human-Computer Interaction
- Robotics & Cybernetics
- Muscle health and fatigue measurement
- Fitness tracker
- Physiology studies
- Biofeedback

FEATURES

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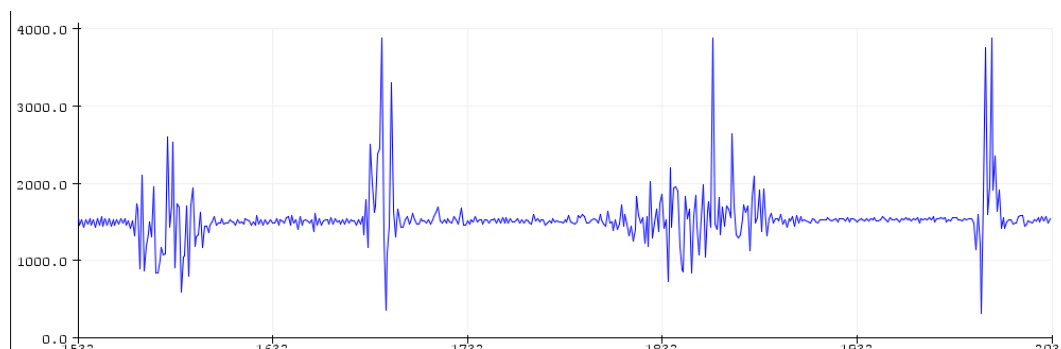- High signal to noise ratio
- Generic connectors
- Plug-and-play

Figure 2: Sample data acquired with WallySci DCPU on forearm