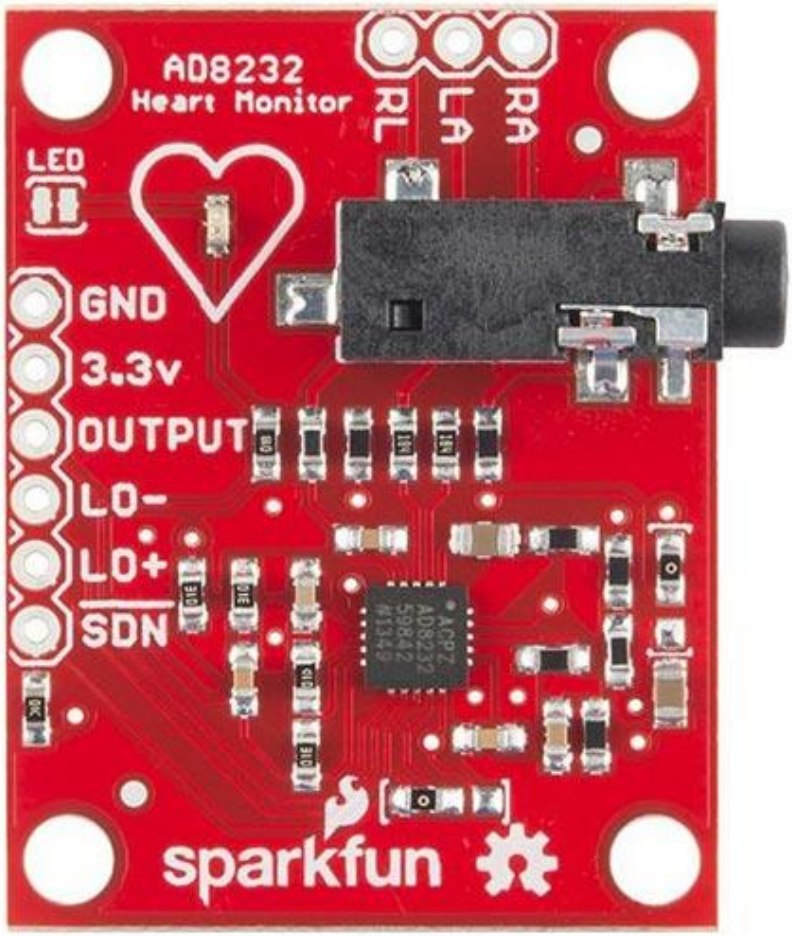
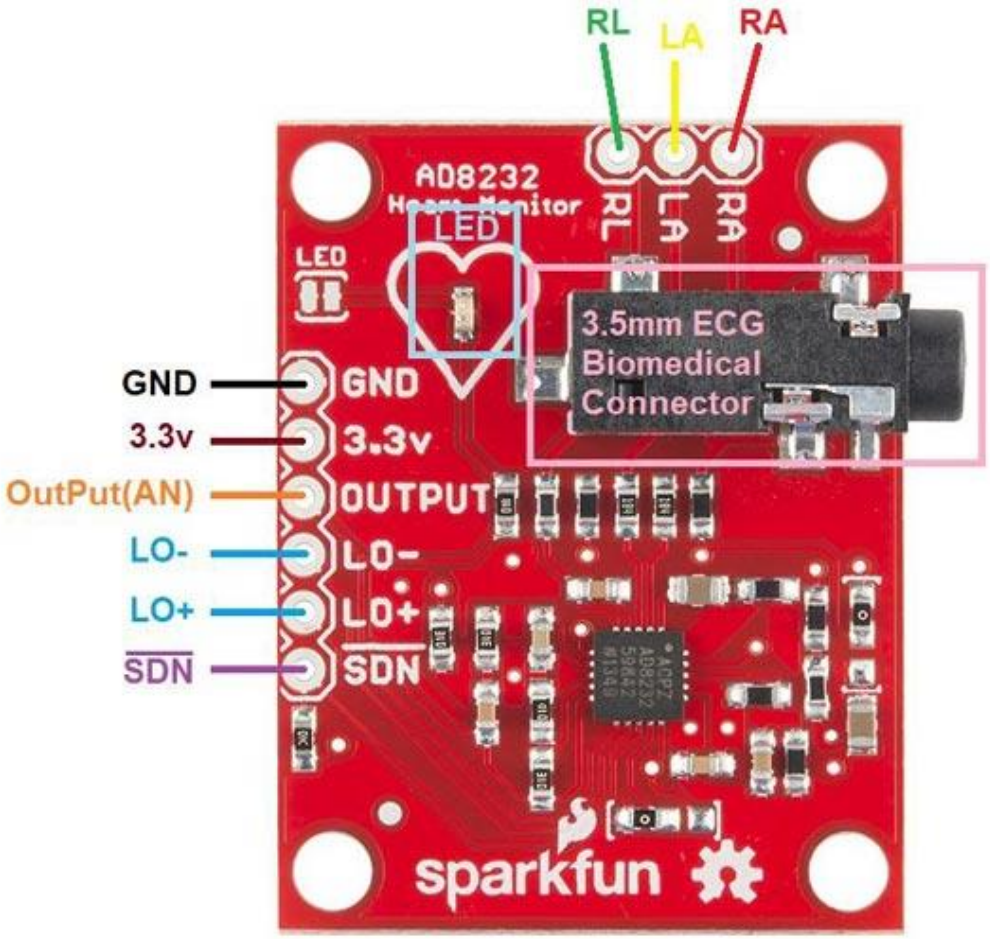
AD8232 ECG Module
Datasheet



AD8232 ECG Module Pinout:

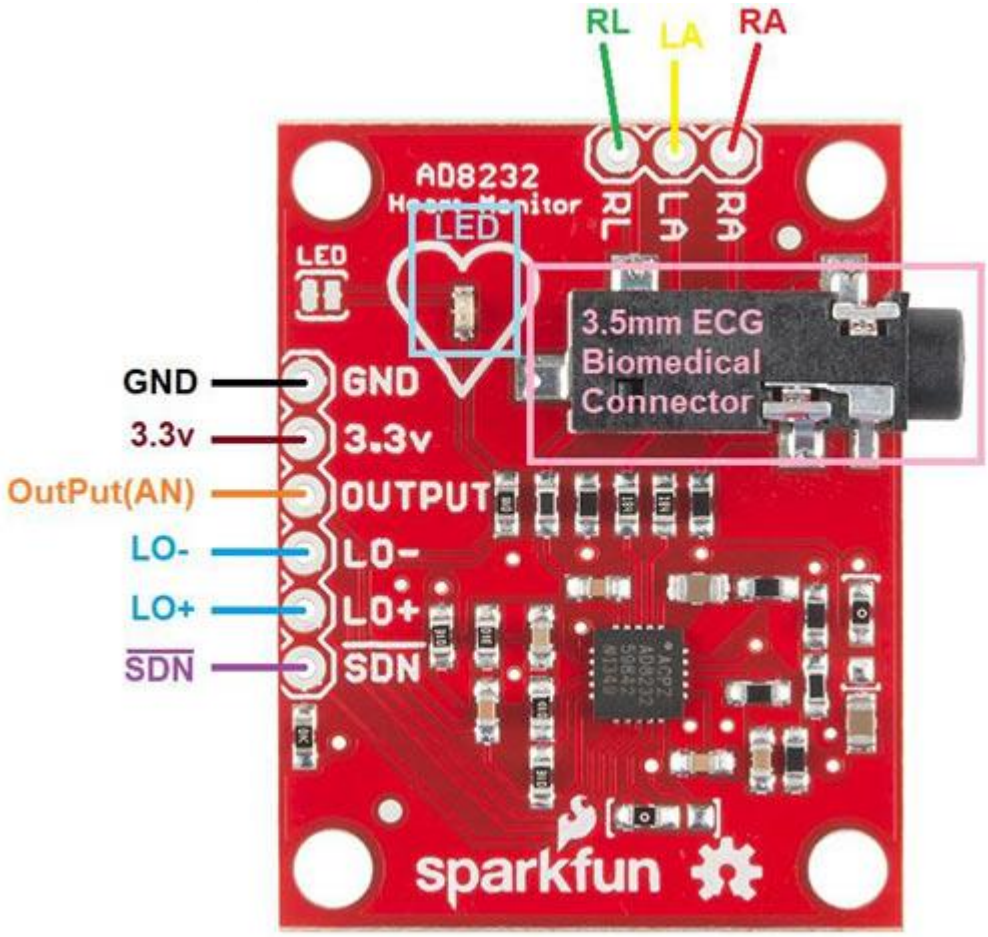


AD8232 ECG Module integrated with AD8232 IC from Analog Devices, which is a single-chip designed to extract, amplify, and filter biopotential signals for biopotential measurement applications (like ECG and others). ECGs can be extremely noisy so that the AD8232 Single Lead Heart Rate Monitor acts as an op-amp to help obtain a clear signal from the PR and QT Intervals easily.

Pin Description of the AD8232 ECG Module:

Pin Name	Description
GND	Power Supply Ground
3.3v	Power Supply 3.3v
Output (ADC)	Operational Amplifier Output. The fully conditioned heart rate signal is present at this output. OUT can be connected to the input of an ADC.
LO-	Leads Off Comparator Output. In dc leads off detection mode, LO− is high when the electrode to −IN is disconnected, and it is low when connected
LO+	Leads Off Comparator Output. In dc leads off detection mode, LOD+ is high when the +IN electrode is disconnected, and it is low when connected
SDN	Shutdown Control Input. Drive SDN low to enter the low power shutdown mode.
RA (Right Arm)	RED Biomedical electrode pad RA(input). Instrumentation Amplifier Negative Input. −IN is typically connected to the right arm (RA) electrode
LA (Left Arm)	YELLOW Biomedical electrode pad LA(input). Instrumentation Amplifier Positive Input. +IN is typically connected to the left arm (LA) electrode
RL(Right Leg)	GREEN Biomedical electrode pad RL(input). Right Leg Drive Output. Connect the driven electrode (typically, right leg) to the RLD pin.
3.5mm ECG Biomedical Electrode Connector Jack	Combine Biomedical Electrode pad Connector of RA, LA, RL

The pinout can be easily seen in the Board Legend.



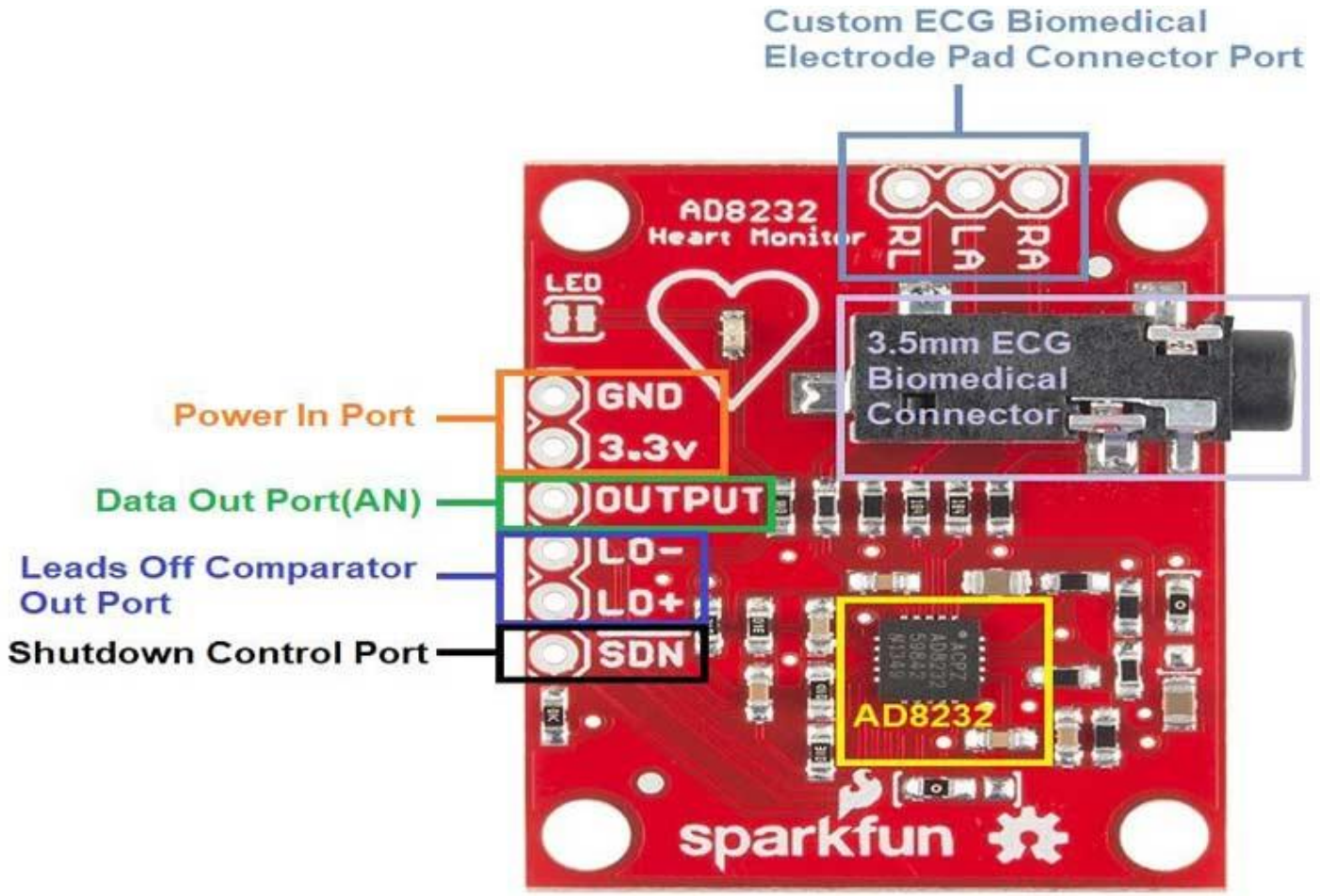
Features of the AD8232 ECG Module

- Fully integrated single-lead ECG front end
- Common-mode rejection ratio: 80 dB (dc to 60 Hz)
- Two or three-electrode configurations
- Qualified for automotive application
- Single-supply operation: 2.0 V to 3.5
- Fast restore feature improves filter settling
- Size: 3.5cm x 3cm

Note: Complete technical details can be found in the AD8232 Datasheet.

AD8232 ECG Module - Overview

The main biopotential measuring IC is AD8232.

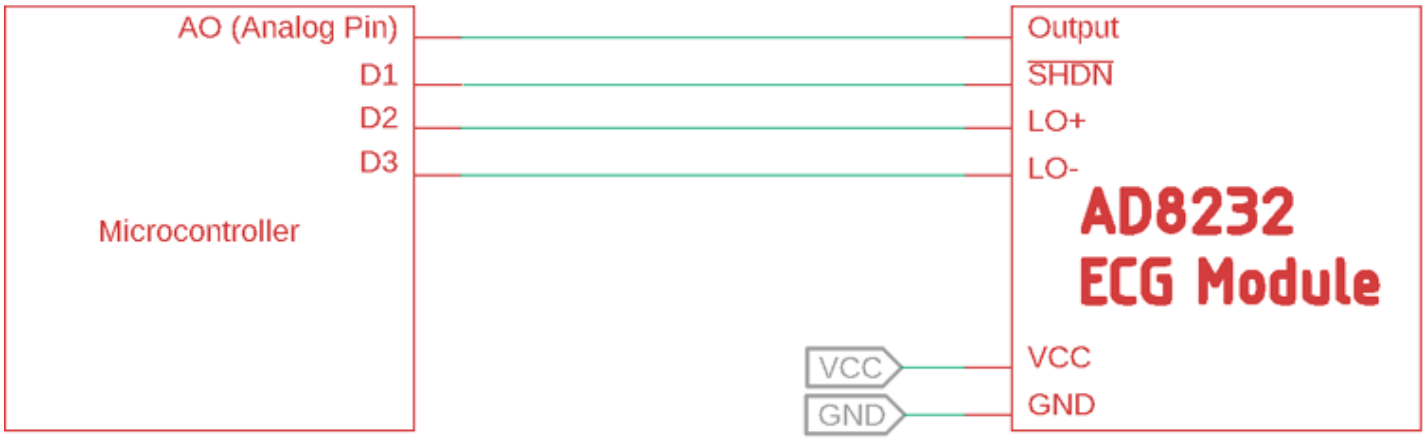


The AD8232 ECG Module is a cost-effective board used to measure the electrical activity of the heart. This electrical activity can be charted as an ECG or Electrocardiogram and output as an analog reading.

Additionally, this board includes pins like the right arm (RA), left arm (LA) & right leg (RL) pins to connect custom sensors. An LED indicator in this board is used to indicate the heartbeat rhythm of humans. The AD8232 ECG module comprises a function like quick restore used to decrease the length of long resolving tails of the HPFs.

Interfacing Diagram

AD8232 ECG module can be easily interfaced with any microcontroller unit. It requires one analog pin for getting the output of the sensor and three digital pins for control related operations.
Follow the below image for the interfacing related information.

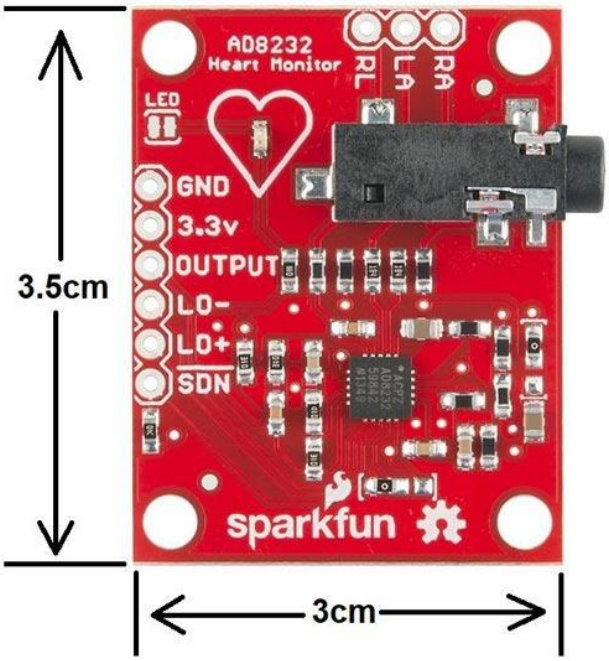


Application of AD8232 ECG Module

- Fitness and activity heart rate monitors
- Portable ECG
- Remote health monitors
- Gaming peripherals
- Biopotential signal acquisition

2D Model

The dimensions of the AD8232 ECG Module is shown below.



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