

## SparkFun Triple Axis Accelerometer Breakout - MMA8452Q (Qwiic)

SEN-14587 ROHS Open Source Hardware

This breakout board makes it easy to use the tiny MMA8452Q accelerometer communicate over I<sup>2</sup>C in your project. The MMA8452Q is a smart low-power, three-axis, capacitive MEMS accelerometer with 12 bits of resolution. This accelerometer is packed with embedded functions with flexible user programmable options, configurable to two interrupt pins. Embedded interrupt functions allow for overall power savings relieving the host processor from continuously polling data. This version of the SparkFun Triple Axis Accelerometer Breakout includes pre-soldered Qwiic connectors for rapid prototyping and better ease of use. With the connectors already soldered on, you can jump right into using this little board without any assembly!

The MMA8452Q has user selectable full scales of  $\pm 2g/\pm 4g/\pm 8g$  with high pass filtered data as well as non filtered data available real-time. The device can be configured to generate inertial wake-up interrupt signals from any combination of the configurable embedded functions allowing the MMA8452Q to monitor events and remain in a low power mode during periods of inactivity.

This board also breaks out the ground, power, I<sup>2</sup>C and two external interrupt outputs into 0.1" spaced pins.

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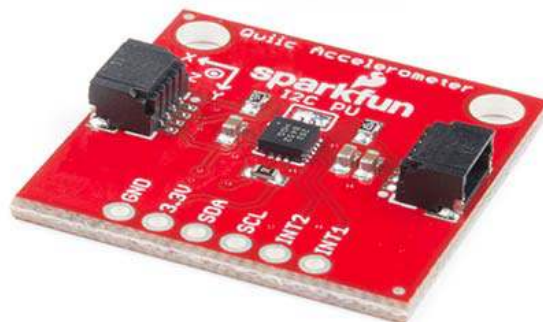
The SparkFun Qwiic Connect System is an ecosystem of I<sup>2</sup>C sensors, actuators, shields and cables that make prototyping faster and less prone to error. All Qwiic-enabled boards use a common 1mm pitch, 4-pin JST connector. This reduces the amount of required PCB space, and polarized connections mean you can't hook it up wrong.

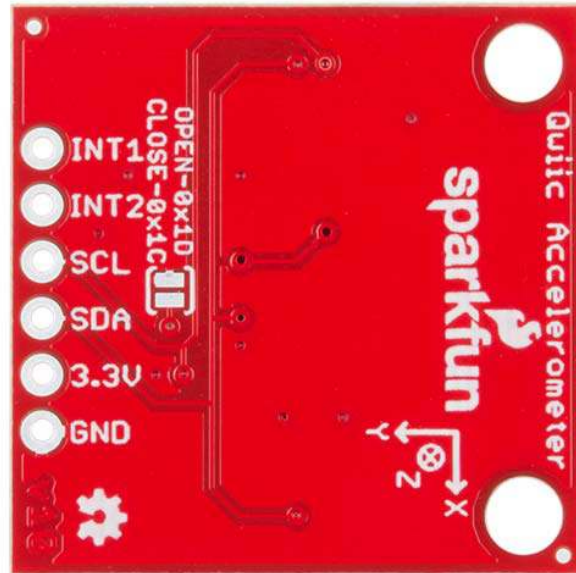
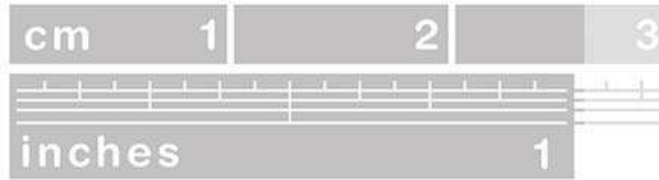
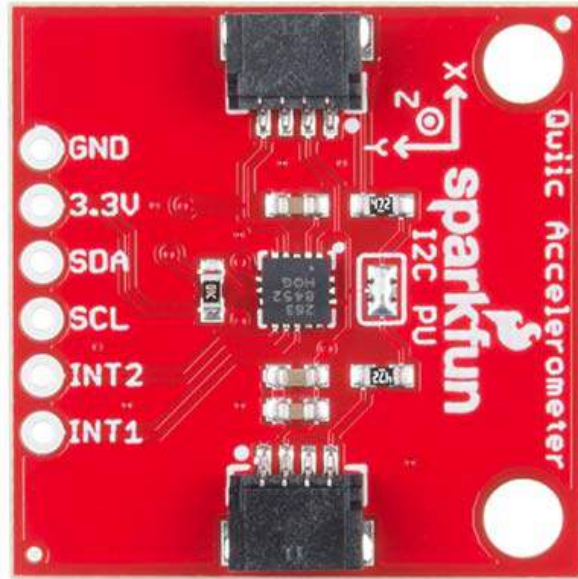
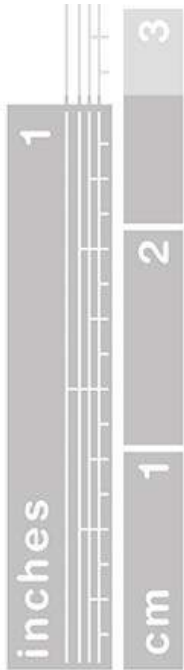
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GET STARTED WITH THE QWIIC MMA8452Q BREAKOUT HOOKUP GUIDE

## FEATURES

- 1.95 V to 3.6 V supply voltage
- 1.6 V to 3.6 V interface voltage
- $\pm 2g/\pm 4g/\pm 8g$  dynamically selectable full-scale
- Output Data Rates (ODR) from 1.56 Hz to 800 Hz
- 12-bit and 8-bit digital output
- I<sup>2</sup>C digital output interface (operates to 2.25 MHz with 4.7 k $\Omega$  pullup)
- Two programmable interrupt pins for six interrupt sources
- Three embedded channels of motion detection
- Orientation (Portrait/Landscape) detection with set hysteresis
- High Pass Filter Data available real-time
- Current Consumption: 6  $\mu$ A – 165  $\mu$ A
- 2x Qwiic Connection Ports





<https://www.sparkfun.com/products/14587> 4-9-18