

## SparkFun Distance Sensor Breakout - RFD77402 (Qwiic)

SEN-14539 ROHS

The SparkFun Distance Sensor Breakout utilizes the RFD77402 3D ToF (Time of Flight) sensor module from Simblee to give you the most accurate measurements at short range. The RFD77402 uses an infrared VCSEL (Vertical Cavity Surface Emitting Laser) module to measure the amount of time it takes to bounce off a target. This allows low-cost millimeter readings up to two meters! To make it even easier to use this breakout, all communication is enacted exclusively via I<sup>2</sup>C, utilizing our handy Qwiic system. However, we still have broken out 0.1" spaced pins in case you prefer to use a breadboard.

Thanks to the RFD77402's 850nm VCSEL and electronic driver and optical receiver sensor, this breakout is ideal for distance measurements ranging from 100mm to 2000mm, 1D gesture recognition, obstacle detection and avoidance in robotics applications, and more! The RFD77402 utilizes an I<sup>2</sup>C interface that supports a direct 8-bit addressing scheme to access the module user's register set and an additional 16-bit indirect addressing scheme that is mainly used for debugging purpose or special operations.

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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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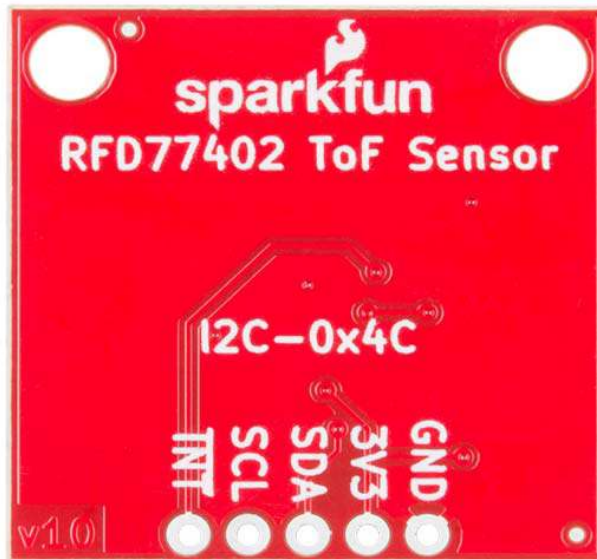
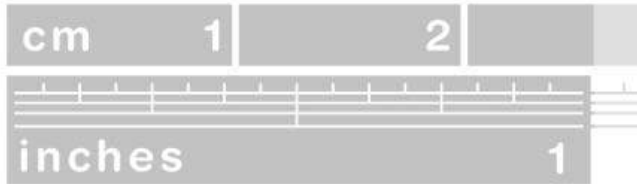
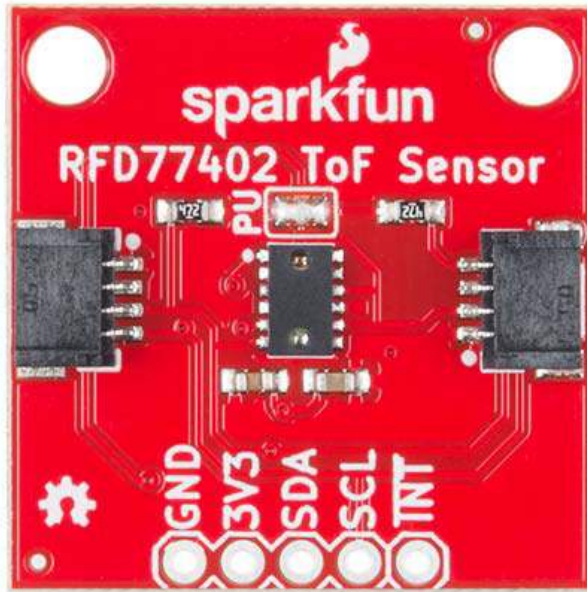
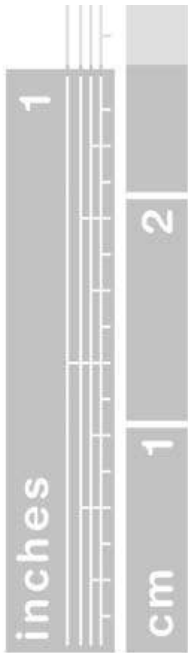
**Note:** CLASS 1 LASER PRODUCT CLASSIFIED IEC 60825-1 2014. [https://en.wikipedia.org/wiki/Laser\\_safety#Class\\_1](https://en.wikipedia.org/wiki/Laser_safety#Class_1)

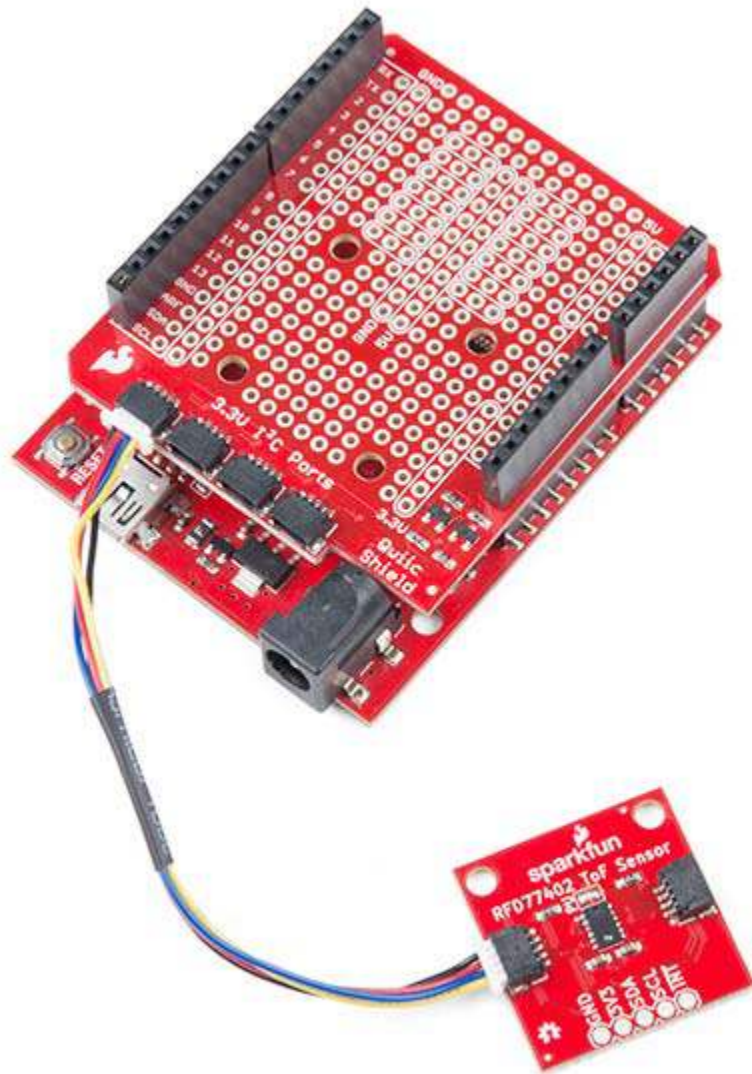
GET STARTED WITH THE QWIIC RFD77402 BREAKOUT HOOKUP GUIDE

## FEATURES

- Operating Voltage 3.3V
- Current 7 mA average at 10Hz
- Measurement Range: ~50mm to 2,000mm
- Precision: +/-10%
- Light Source: 850nm VCSEL
- I<sup>2</sup>C Address: 0x4C
- Field of View: 55°
- Field of Illumination: 23°
- Max Read Rate: 10Hz (We've seen up to 20Hz in practice)
- 2x Qwiic Connection Ports







<https://www.sparkfun.com/products/14539> 4-9-18