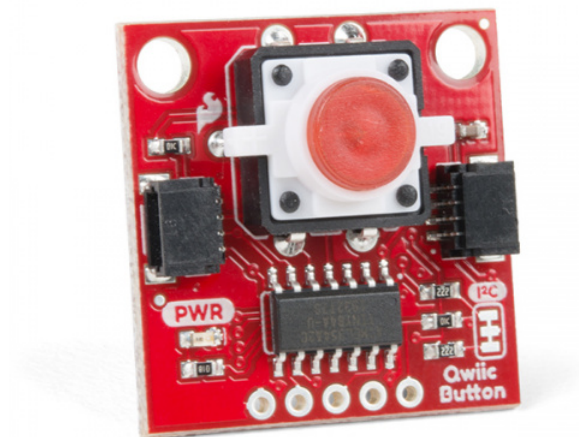


SparkFun Qwiic Button Hookup Guide

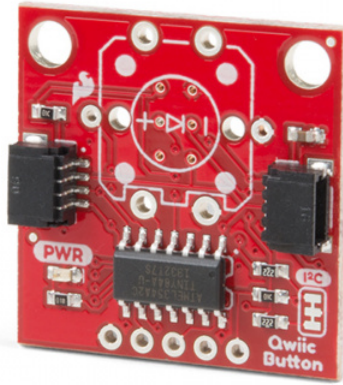
Introduction

Buttons are a great way to add a tactile input to your project but dealing with pull-up resistors, debouncing, polling, and using GPIO pins for each button can be a hassle. Enter the Qwiic Button (Red) and the Qwiic Button Breakout! These breakouts eliminate nearly all the inconvenience of using buttons by converting everything to an easy-to-use I²C connection using the Qwiic Interface.



SparkFun Qwiic Button - Red LED

© BOB-15932



SparkFun Qwiic Button Breakout

● BOB-15931

Product Showcase: SparkFun Qwiic Button



We have two versions of the Qwiic Button available. The Qwiic Button (Red) comes with a pre-populated red pushbutton with a built in LED to illuminate the button and the Qwiic Button Breakout leaves the button unpopulated so you can choose your own color for your tactile button.

Using the Qwiic Button is as simple as sending the command `button.isPressed()` to check the status of the button. In addition to handling status checks and debouncing, the Qwiic Button has a configurable interrupt pin which can be adjusted to activate upon a button press or click. This allows you to trigger specific behavior or functions in your code when the button is used and frees up processing time that would normally be used to constantly poll a button's state.

The Qwiic Button also includes a First-in First-Out (FIFO Queue) which keeps track of when the button was pressed so if you are hosting a game show you can easily keep track of which contestant pressed their button first without needing to constantly poll the buttons!

Required Materials

The Qwiic Button requires a Qwiic-enabled microcontroller:



SparkFun Thing Plus - ESP32 WROOM

● WRL-15663



SparkFun RedBoard Artemis

● DEV-15444



SparkFun RedBoard Qwiic

● DEV-15123



SparkFun Qwiic Micro - SAMD21 Development Board

● DEV-15423

And you will also need a Qwiic cable:



Qwiic Cable - 100mm

● PRT-14427



Qwiic Cable - 200mm

● PRT-14428



Qwiic Cable - 50mm

© PRT-14426



Qwiic Cable - 500mm

© PRT-14429

Or, if you want to use a microcontroller without a Qwiic connector, you can add one using one of our Qwiic Shields, the Qwiic Adapter board, or adapter cables:



Qwiic Cable - Breadboard Jumper (4-pin)

© PRT-14425



SparkFun Qwiic Shield for Arduino

© DEV-14352



SparkFun Qwiic Adapter

© DEV-14495



Qwiic Cable - Female Jumper (4-pin)

© CAB-14988

Finally, if you are using the Qwiic Button Breakout you'll need to solder a button to the board:



Momentary Pushbutton Switch - 12mm Square



LED Tactile Button- White

COM-09190

COM-10439



LED Tactile Button - Green

COM-10440



LED Tactile Button - Blue

COM-10443

Realistically, you can solder any pushbutton to the Qwiic Button Breakout so long as it fits the button footprint. We have a couple other options available in our Button Category that will work perfectly with the Qwiic Button Breakout.

⚠ Heads Up! If you choose an LED Tactile Button, pay close attention to the polarity marks on your button and Qwiic Button Breakout to place it correctly. If the button is inserted with reverse-polarity, the LED will not work. If you are not positive on the polarity of your LED Button, you can **use a multimeter to check**.

ADDITIONAL TOOLS FOR SOLDERING TO THE QWIIC BUTTON BREAKOUT

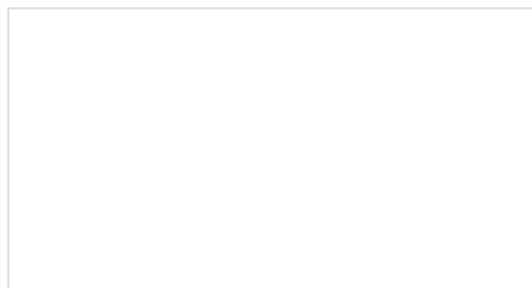
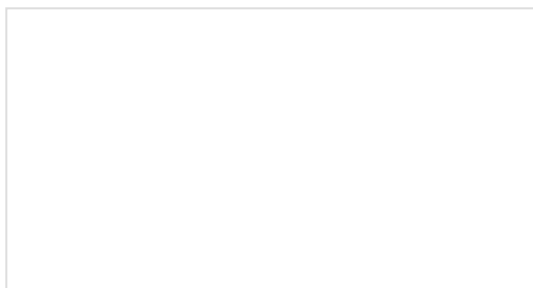
Suggested Reading

If you aren't familiar with the Qwiic system, we recommend reading here for an overview:



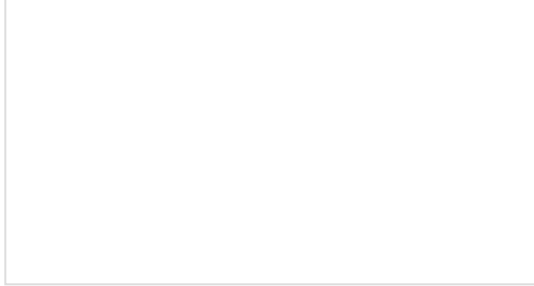
Qwiic Connect System

We would also recommend taking a look at the following tutorials if you aren't familiar with them.



Switch Basics

A tutorial on electronics' most overlooked and underappreciated component: the switch! Here we explain the difference between momentary and maintained switches and what all those acronyms (NO, NC, SPDT, SPST, ...) stand for.

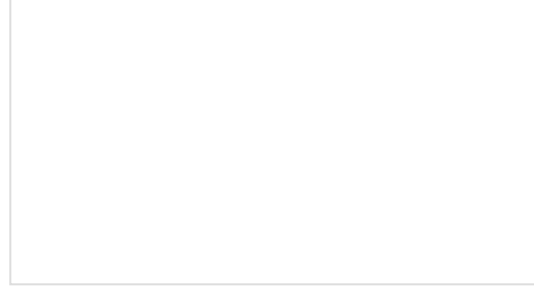


Processor Interrupts with Arduino

What is an interrupt? In a nutshell, there is a method by which a processor can execute its normal program while continuously monitoring for some kind of event, or interrupt. There are two types of interrupts: hardware and software interrupts. For the purposes of this tutorial, we will focus on hardware interrupts.

I2C

An introduction to I2C, one of the main embedded communications protocols in use today.



Qwiic Shield for Arduino & Photon Hookup Guide

Get started with our Qwiic ecosystem with the Qwiic shield for Arduino or Photon.

