SparkFun Qwiic Twist - RGB Rotary Encoder Breakout

DEV-15083

The SparkFun Qwiic Twist is a digital RGB rotary encoder breakout that is also able to connect to our Qwiic Connect System. The Twist takes care of all the various interrupts, switches, PWM'ing of LEDs, and presents all those features over an easy-to-use I²C interface. The Qwiic Twist was designed to get rid of the large mass of wires that are needed to implement an RGB encoder in a breadboard enabling you to stop messing around with interrupt debugging and get back to your project! Utilizing our handy Qwiic system, no soldering is required to connect it to the rest of your system. However, we still have broken out 0.1"-spaced pins in case you prefer to use a breadboard.

One rotation in the clockwise direction for the rotary encoder increases the overall count by 24 and -24 in the counter-clockwise direction. The number of ‘ticks’ or steps you have turned the knob are all transmitted over I²C. The red, green, and blue LEDs are all set via software commands and can be digitally mixed to achieve over 16 million colors!

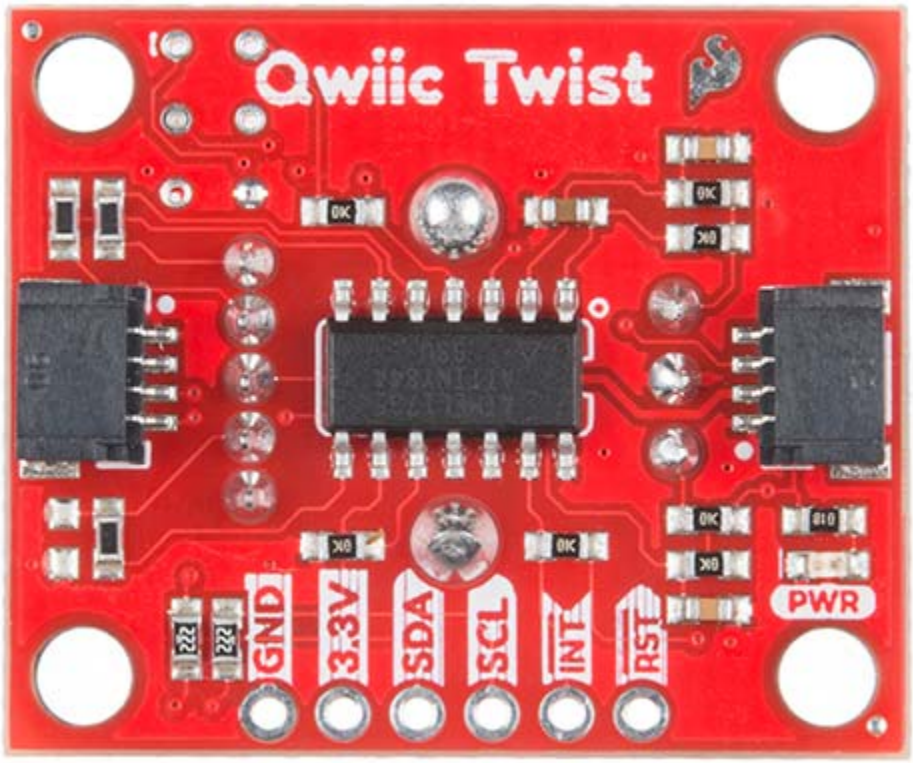
We designed Qwiic Twist with an indent encoder which gives the user a great ‘clicky’ feel. Additionally, the encoder has a built in button so the user can select an GUI menu or element by pressing down on the it. The Qwiic Twist uses a 6mm shaft and works great with our Clear Plastic Knob listed in the Hookup Accessories below or any other 6mm knob.

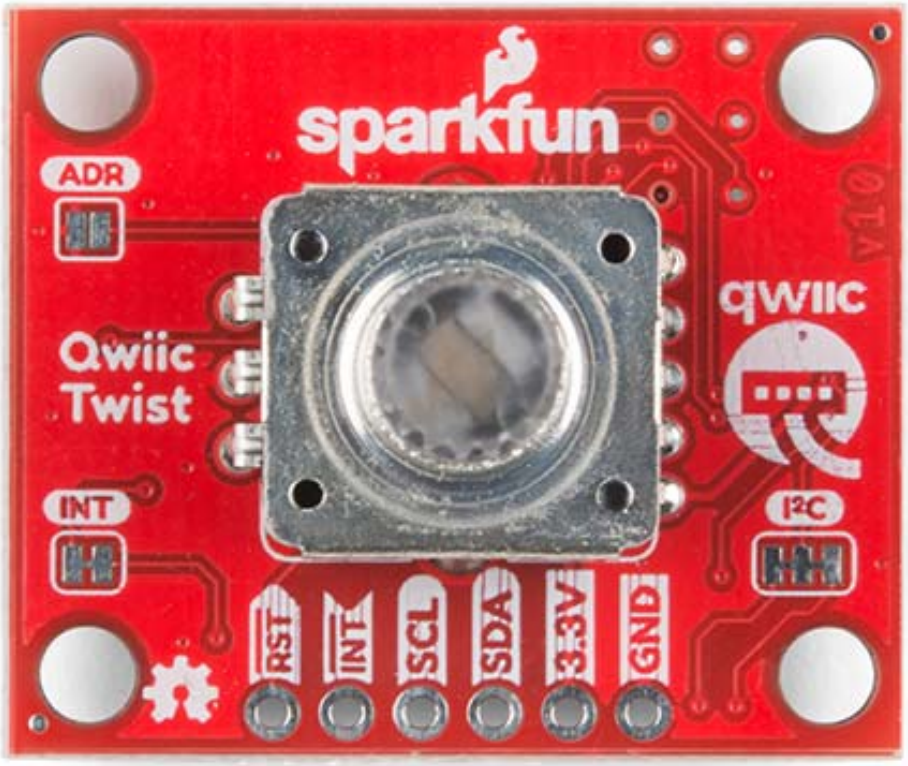
We’ve also written an Arduino library for the Qwiic Twist showing off all the different features of the Twist and for easy interfacing to the breakout including a litany of examples!

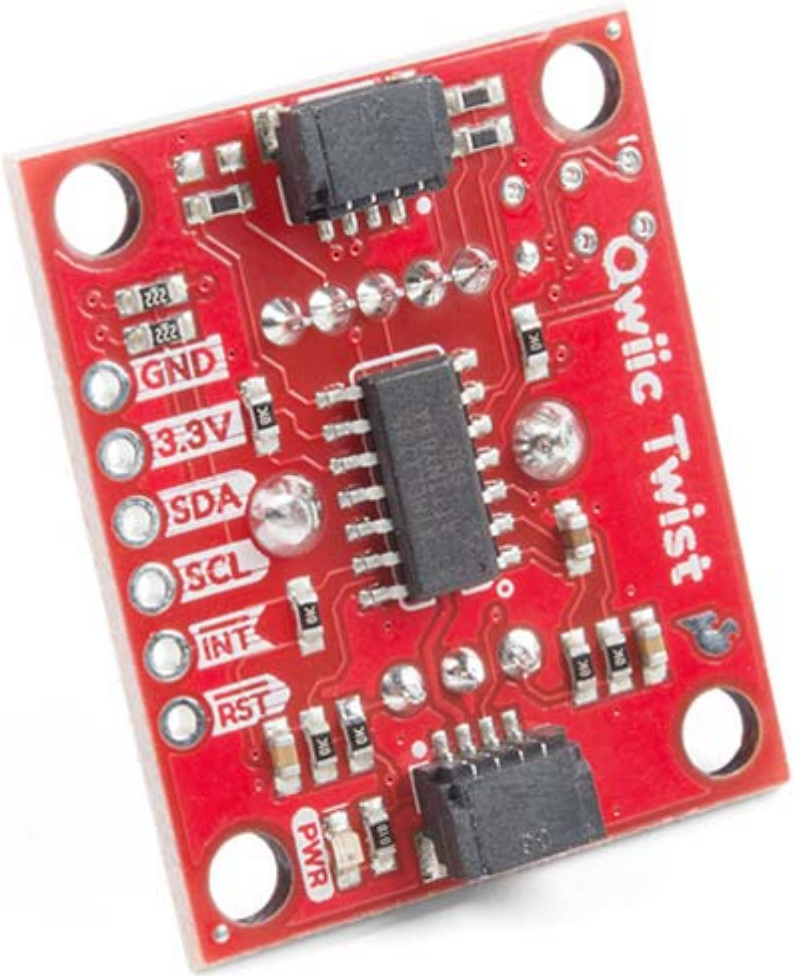
The SparkFun Qwiic Connect System is an ecosystem of I²C sensors, actuators, shields and cables that make prototyping faster and less prone to error. All Qwiic-enabled boards use a common 1mm pitch, 4-pin JST connector. This reduces the amount of required PCB space, and polarized connections mean you can’t hook it up wrong.

FEATURES

- Voltage: 3.3V
- Current:
    - Approximately 2.8mA LEDs off
    - Approximately 40.6mA with LEDs on 100%
- 24 ticks per rotation
- Clockwise and counterclockwise direction is detected
- Software configurable I²C address - up to 111 devices on a single bus
- Built-in momentary button
- RGB LED controlled via PWM allowing for up to 16M colors
- Up to 400kHz I²C communication
- Jumpers for address selection, interrupt pull up disable, and I²C pull up disable
- I²C Address: 0x3F (Jumper Open, Default), 0x3E (Jumper Closed)
- 2x Qwiic Connectors


Qwiic Twist
GND
3.3V
SDA
SCL
INT
RST
PWR


sparkfun
ADR
Qwiic
Twist
INT
qwiic
I2C
RST
INT
SCL
SDA
3.3V
GND



https://www.sparkfun.com/products/15083/12-18-18