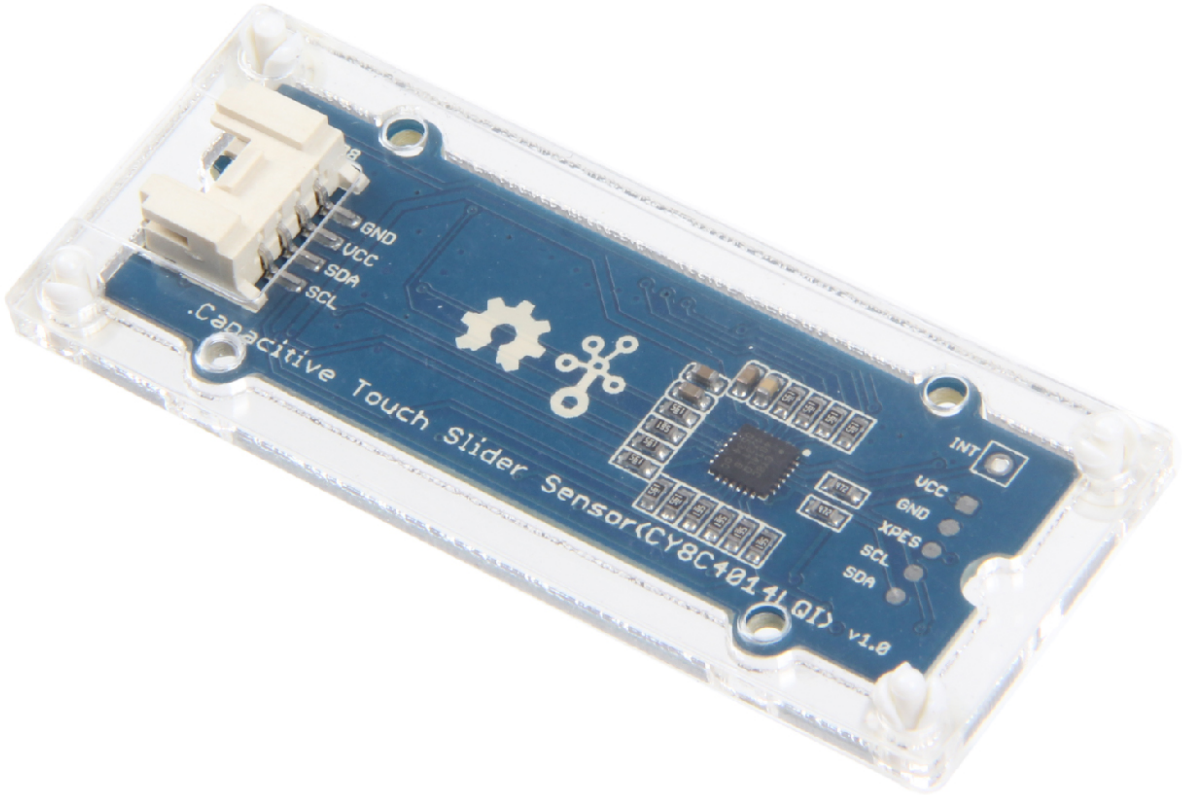
Grove - Capacitive Touch Slide Sensor(CY8C4014LQI) AKU:101020552



The Grove - Capacitive Touch Slide Sensor(CY8C4014LQI) is a multifunctional touch sensor. You can touch the two buttons or slide on the 5-segment slider, each touch pad has a corresponding LED to indicate the touch status. Also we provide a default high interrupt pin, once you touch the button or slide the slider, it will comes to low.

It will be a lot fun to use this module as a game controler or apply it to other touch applications.

!!!Notice The product comes with a acrylic case, and we strongly recommend that you do not remove the case to use it. It may be triggered by mistake when your finger touches the trace or pad on the back.

Version

Product Version	Changes	Released Date
Grove - Capacitive Touch Slide Sensor(CY8C4014LQI)	Initial	Jul 2018

Features

- 32-bit MCU Subsystem

- 16-MHz ARM Cortex-M0 CPU
- Up to 16KB of flash with Read Accelerator
- Up to 2KB of SRAM
- Automatic hardware tuning (SmartSense™) over a sensor range of 5 pF to 45 pF
- I^2^C interface

Specification

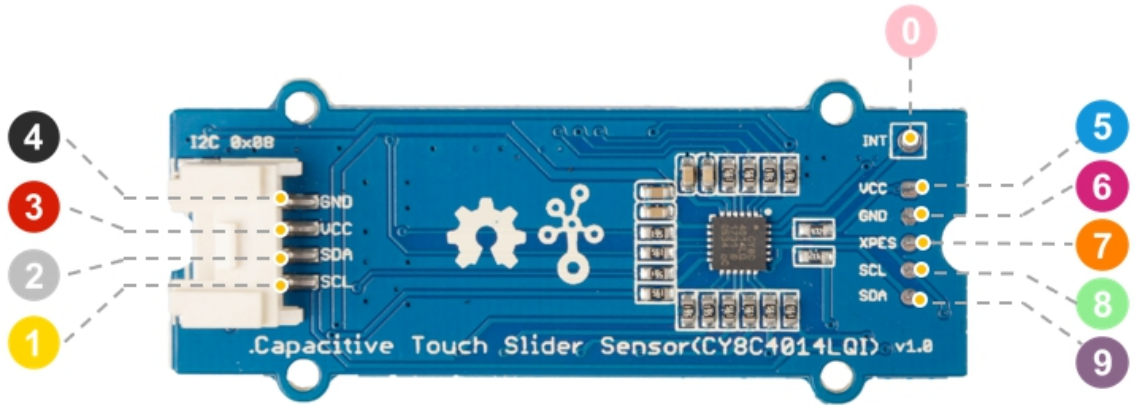
Item	Value
Operating Voltage	3.3V / 5V
Operating Ambient Temperature	-40°C to +85°C
Operating Junction Temperature	-40°C to +100°C
Interface	I^2^C
Default I^2^C Address	0x08
Size	L: 60mm W: 20mm H: 6mm
Weight	8g
Package size	L: 140mm W: 90mm H: 10mm
Gross Weight	15g

Applications

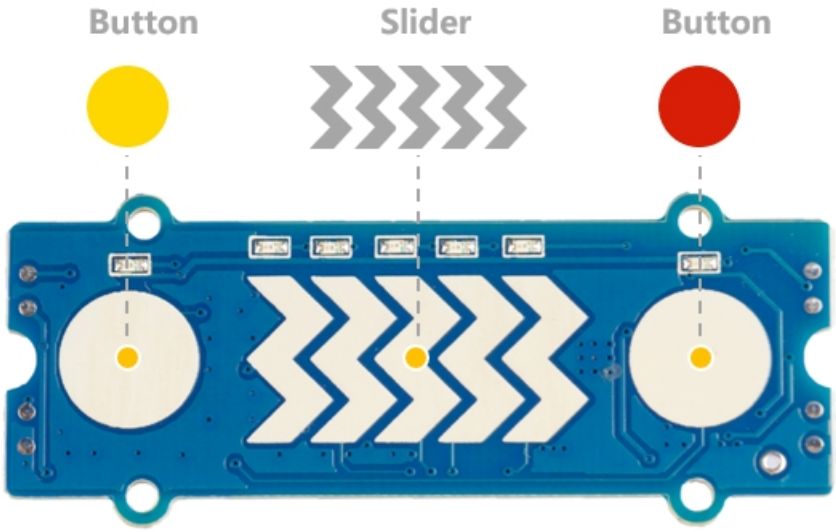
- Game controller
- Touch applications

Hardware Overview

Pin Out



4 GND: connect this module to the system GND
3 VCC: you can use 5V or 3.3V for this module
2 SDA: I²C serial data
1 SCL: I²C serial clock
5 VCC: you can use 5V or 3.3V for this module
6 GND: connect this module to the system GND
7 XPES: Connect to the XRES pin, external reset I/O pin
8 SCL: I²C serial clock, work as SWDCLK when burn the firmware
9 SDA: I²C serial clock, work as SWDDATA when burn the firmware
0 INT: Default High, turn to low when button or slider triggered



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Power

This module is based on **CY8C4014LQI**, the input voltage of this chip range from 1.71v-5.5v, so you can use both 3.3v and 5v pin of Arduino to supply for this module.

Platforms Supported

Arduino	Raspberry Pi	BeagleBone	Wio	LinkIt ONE

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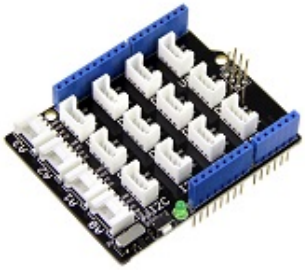
!!!Caution The platforms mentioned above as supported is/are an indication of the module's software or theoritical compatibility. We only provide software library or code examples for Arduino platform in most cases. It is not possible to provide software library / demo code for all possible MCU platforms. Hence, users have to write their own software library.

Getting Started

Play With Arduino

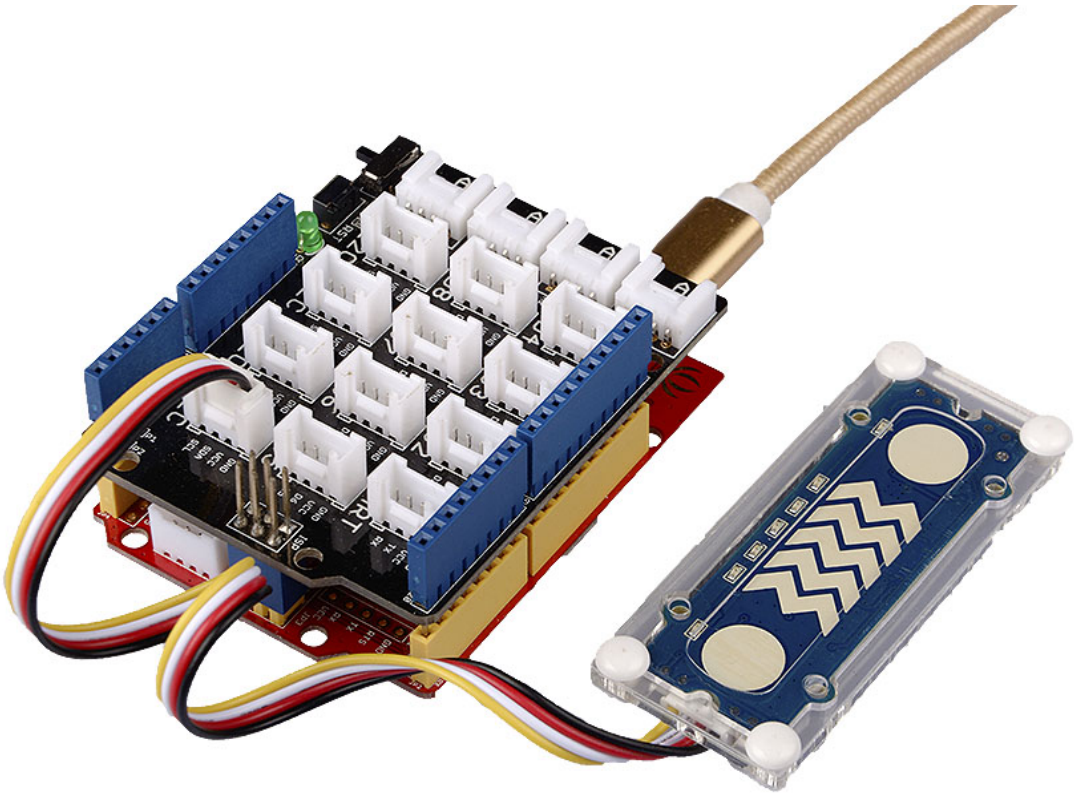
Hardware

Materials required

Seeeduino V4.2	Base Shield	Grove - Capacitive Touch Slide Sensor
		

!!!note **1** Please plug the USB cable gently, otherwise you may damage the port. Please use the USB cable with 4 wires inside, the 2 wires cable can't transfer data. If you are not sure about the wire you have, you can click here to buy. **2** Each Grove module comes with a Grove cable when you buy. In case you lose the Grove cable, you can click here to buy.

- **Step 1.** Connect the Grove - Capacitive Touch Slide Sensor to port **I^2^C** of Grove-Base Shield.
- **Step 2.** Plug Grove - Base Shield into Seeeduino.
- **Step 3.** Connect Seeeduino to PC via a USB cable.



!!!Note If we don't have Grove Base Shield, We also can directly connect this module to Seeeduino as below.

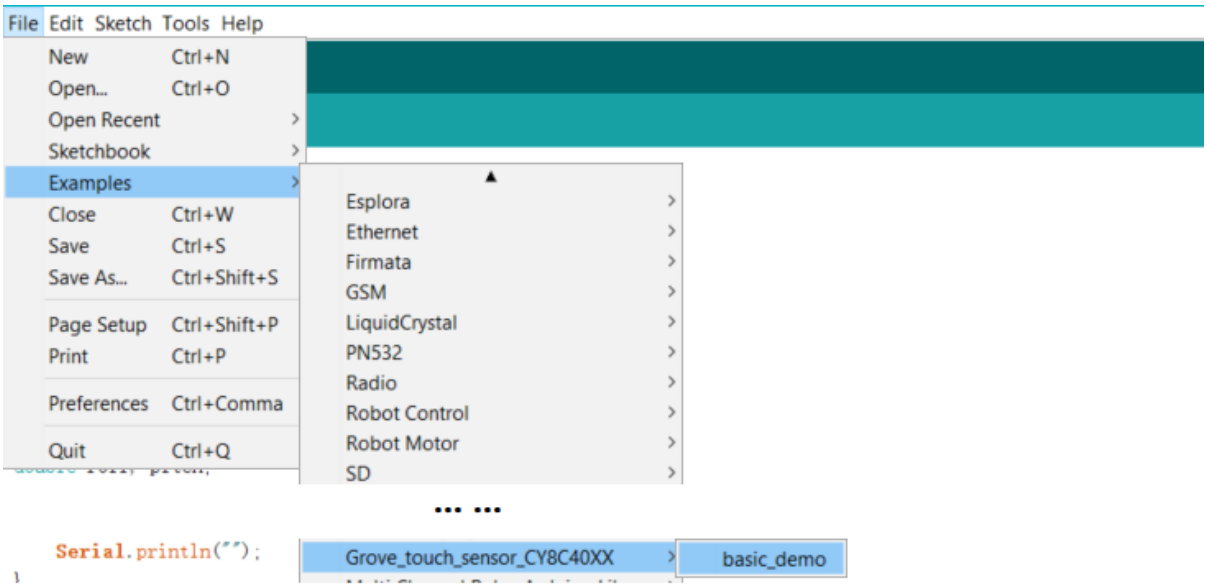
Seeeduino	Grove Cable	Grove - Capacitive Touch Slide Sensor
GND	Black	GND
5V or 3.3V	Red	VCC
SDA	White	SDA
SCL	Yellow	SCL

Software

!!!Attention If this is the first time you work with Arduino, we strongly recommend you to see Getting Started with Arduino before the start.

- **Step 1.** Download the Grove_touch_sensor_CY8C40XX Library from Github.
- **Step 2.** Refer to How to install library to install library for Arduino.
- **Step 3.** Restart the Arduino IDE. Open the example, you can open it in the following three ways：

    1. Open it directly in the Arduino IDE via the path: **File --> Examples --> Grove_touch_sensor_CY8C40XX --> basic_demo**.



2. Open it in your computer by click the **basic_demo.ino** which you can find in the folder **XXXX\Arduino\libraries\Grove_touch_sensor_CY8C40XX-master\examples\basic_demo**, **XXXX** is the location you installed the Arduino IDE.

3. Or, you can just click the icon in upper right corner of the code block to copy the following code into a new sketch in the Arduino IDE.

```
#include "Seeed_CY8C401XX.h"

#ifdef ARDUINO_SAMD_VARIANT_COMPLIANCE
  #define SERIAL SerialUSB
#else
  #define SERIAL Serial
#endif

CY8C sensor;
void setup()
{
    SERIAL.begin(115200);

    sensor.init();
}


void loop()
{
    u8 value=0;
    sensor.get_touch_button_value(&value);
    SERIAL.print("button value is");
    SERIAL.println(value,HEX);
    if(value&0x01)
        SERIAL.println("button 1 is pressed");
    if(value&0x2)
        SERIAL.println("button 2 is pressed");
```

```
    sensor.get_touch_slider_value(&value);
    SERIAL.print("slider value is");
    SERIAL.println(value,HEX);
    SERIAL.println(" ");


    delay(1000);
}
```

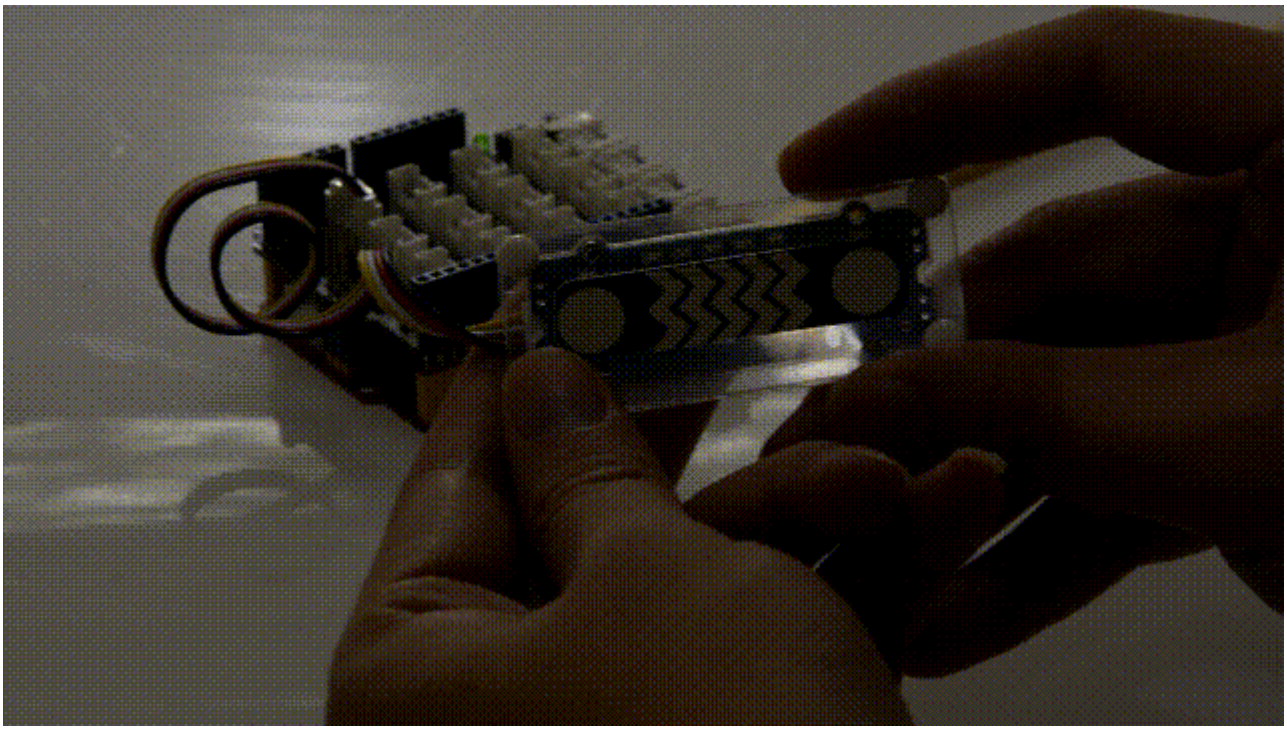
!!!Attention The library file may be updated. This code may not be applicable to the updated library file, so we recommend that you use the first two methods.

- **Step 4.** Upload the demo. If you do not know how to upload the code, please check How to upload code.
- **Step 5.** Open the **Serial Monitor** of Arduino IDE by click **Tool-> Serial Monitor**. Or tap the ++ctrl+shift+m++ key at the same time. Set the baud rate to **115200**.

!!!success If every thing goes well, when you open the Serial Monitor and touch the slide touch sensor, you will see the LED light up, and the Serial Monitor is shown below:

```
button value is1
button 1 is pressed
slider value is0

button value is3
button 1 is pressed
button 2 is pressed
slider value is9
```



Resources

- **[Zip]** Grove - Capacitive Touch Slide Sensor(CY8C4014LQI) Eagle Files
- **[Zip]** Grove touch sensor CY8C40XX Library
- **[PDF]** Datasheet of CY8C4014LQI

Tech Support

Please do not hesitate to submit the issue into our forum