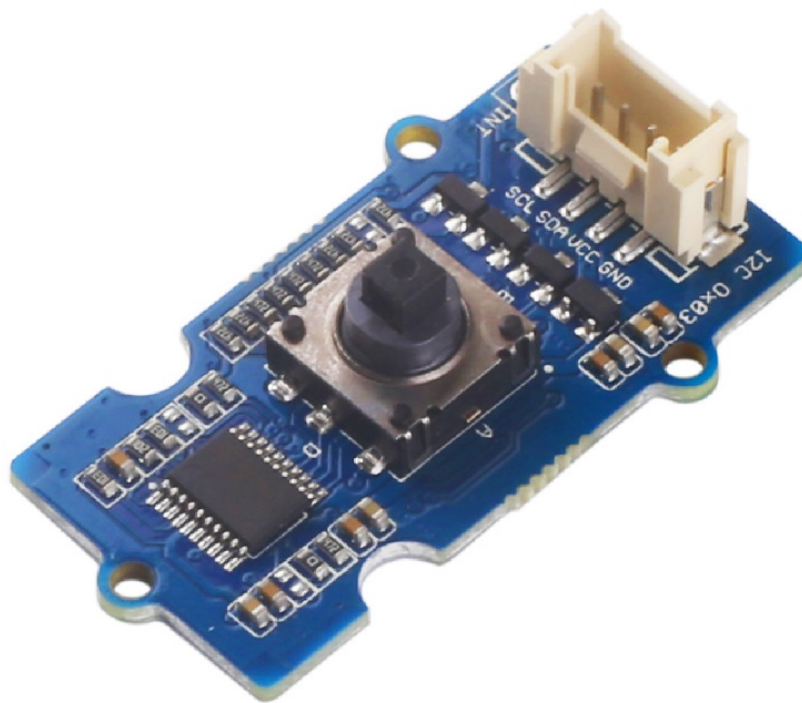


Grove - 5-Way Switch



The Grove - 5-Way Switch can be used to detect the switch position and event like single click/double click/long press, etc. It can detect left/right/up/down/center 5 directions. The 5-way switch will be a great option for multifunction control.

With only one small switch to meet all your needs for switch control!

[Get One Now !\[\]\(3dfb8d66e81160ad61421a3452093d1b_img.jpg\)](#)

[<https://www.seeedstudio.com/Grove-5-Way-Switch-p-3136.html>]

Version

Product Version	Changes	Released Date
Grove - 5-Way Switch	Initial	Jun 2018

Features

- 5 way individual switch
- Good heat resistance
- Long operating Life
- Grove compatible

Specification

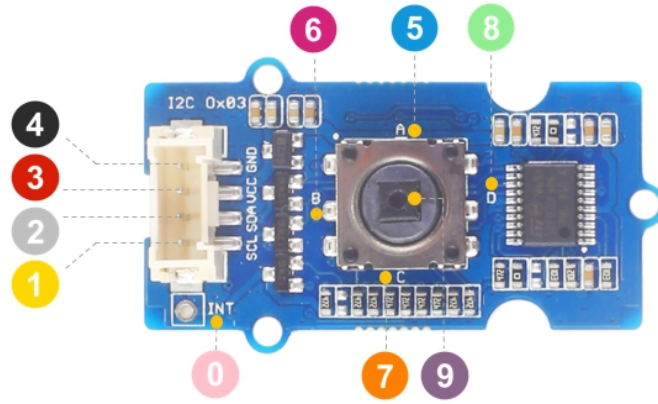
Item	Value
Operating voltage	3.3V / 5V
Interface	I ² C
Default I ² C Address	0x03
Size	L: 40mm W: 20mm H: 10mm
Weight	4.1g
Package size	L: 140mm W: 90mm H: 10mm
Gross Weight	10g

Applications

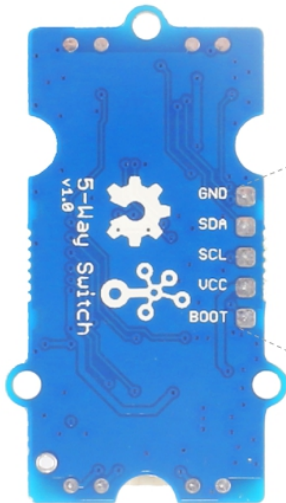
- Game control
- Multifunction control

Hardware Overview

Pin Map



- 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 KEY A: default High, output Low when pressing.
- 6 KEY B: default High, output Low when pressing.
- 7 KEY C: default High, output Low when pressing.
- 8 KEY D: default High, output Low when pressing.
- 9 KEY E: default High, output Low when pressing.
- 0 Interrupt: provide the interrupt pin for customer use.



GND: connect to the system GND

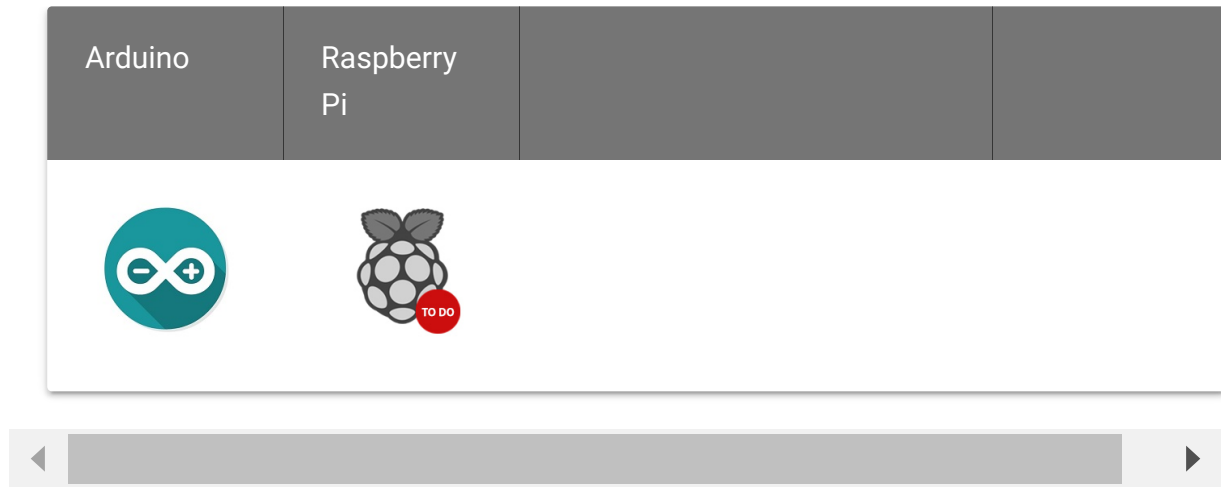
SDA: I²C serial data, act as UART_RX when burning firmware

SCL: I²C serial clock, act as UART_TX when burning firmware

VCC: when you burn the firmware, VCC should be 3.3V

BOOT: need to be pulled High, when use UART mode to burn firmware

Platforms Supported

**Caution**

The platforms mentioned above as supported is/are an indication of the module's software or theoretical 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



[Get One Now](#)

[<https://www.seeedstudio.com/Seeeduino-V4.2-p-2517.html>]

[Get One Now](#)

[<https://www.seeedstudio.com/Base-Shield-V2-p-1378.html>]

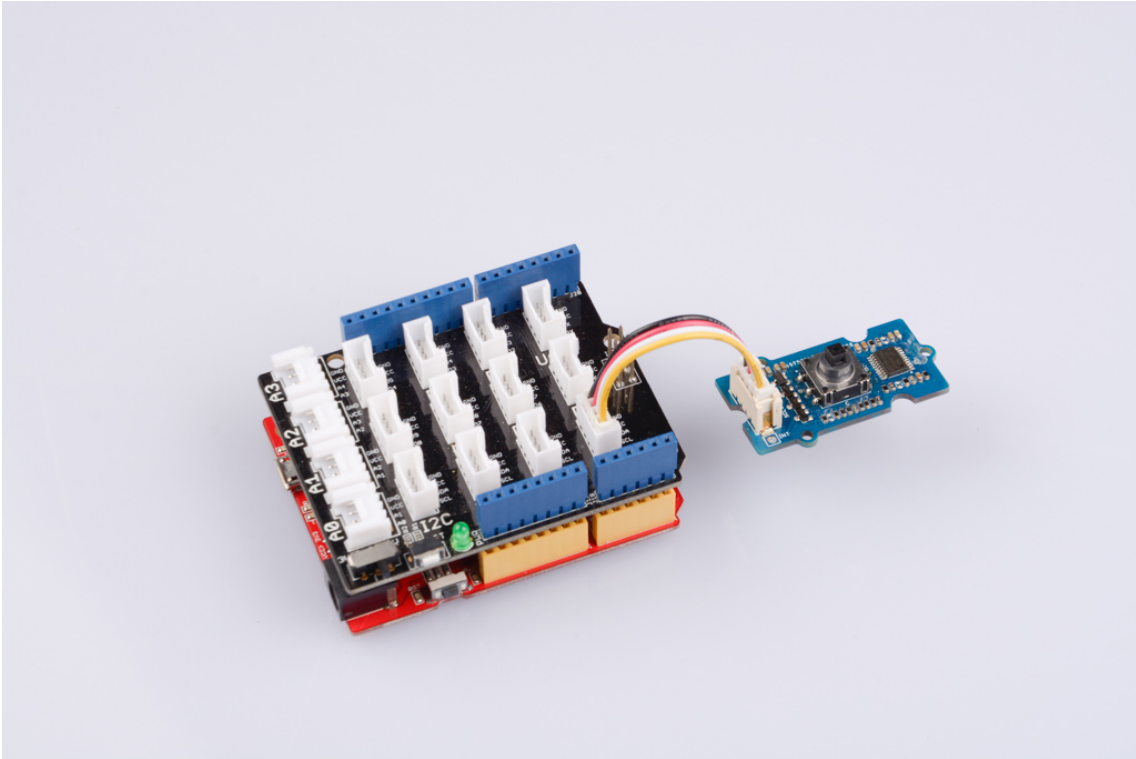


Note

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](https://www.seeedstudio.com/Micro-USB-Cable-48cm-p-1475.html) [<https://www.seeedstudio.com/Micro-USB-Cable-48cm-p-1475.html>] 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](https://www.seeedstudio.com/Grove-Universal-4-Pin-Buckled-20cm-Cable-%285-PCs-pack%29-p-936.html) [<https://www.seeedstudio.com/Grove-Universal-4-Pin-Buckled-20cm-Cable-%285-PCs-pack%29-p-936.html>] to buy.

- **Step 1.** Connect the Grove - 5-Way Switch to the **I²C** port of the 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.

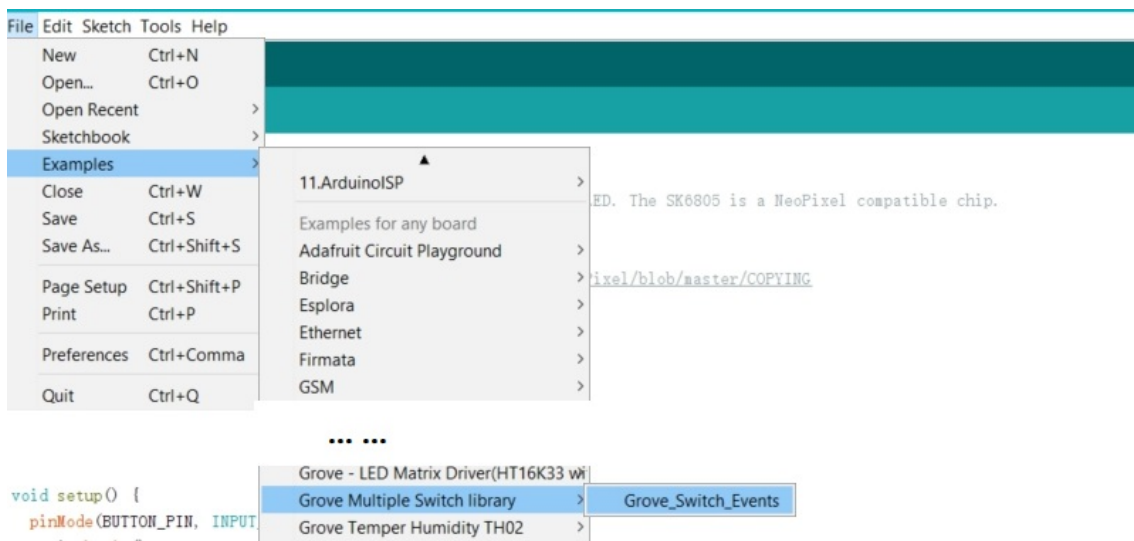
Seeeduino	Grove - 5-Way Switch
5V	Red
GND	Black
SDA	White
SCL	Yellow


Software

**Attention**

If this is the first time you work with Arduino, we strongly recommend you to see [Getting Started with Arduino](https://wiki.seeedstudio.com/Getting_Started_with_Arduino/) [https://wiki.seeedstudio.com/Getting_Started_with_Arduino/] before the start.

- **Step 1.** Download the [Grove Multi Switch](https://github.com/Seeed-Studio/Grove_Multi_Switch) [https://github.com/Seeed-Studio/Grove_Multi_Switch] Library from Github.
- **Step 2.** Refer to [How to install library](https://wiki.seeedstudio.com/How_to_install_Arduino_Library) [https://wiki.seeedstudio.com/How_to_install_Arduino_Library] to install library for Arduino.
- **Step 3.** Restart the Arduino IDE. Open example via the path: **File** → **Examples** → **Grove Multi Switch Library** → **Grove_Switch_Events**.



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.

```
1 #include "Grove_Multi_Switch.h"
2
```




```
3 GroveMultiSwitch mswitch[1];
4 const char* grove_5way_tactile_keys[] = {
5     "KEY A",
6     "KEY B",
7     "KEY C",
8     "KEY D",
9     "KEY E",
10 };
11 const char* grove_6pos_dip_switch_keys[] = {
12     "POS 1",
13     "POS 2",
14     "POS 3",
15     "POS 4",
16     "POS 5",
17     "POS 6",
18 };
19
20 const char** key_names;
21
22 int deviceDetect(void) {
23     if (!mswitch->begin()) {
24         Serial.println("***** Device probe failed *****");
25         return -1;
26     }
27
28     Serial.println("***** Device probe OK *****");
29     if (PID_VAL(mswitch->getDevID()) == PID_5_WAY_TACTI
30         Serial.println("Grove 5-Way Tactile Switch Inse
31         key_names = grove_5way_tactile_keys;
32     } else if (PID_VAL(mswitch->getDevID()) == PID_6_PO
33         Serial.println("Grove 6-Position DIP Switch Ins
34         key_names = grove_6pos_dip_switch_keys;
35     }
36
37     // enable event detection
38     mswitch->setEventMode(true);
39
40     // report device model
41     Serial.print("A ");
42     Serial.print(mswitch->getSwitchCount());
43     Serial.print(" Button/Switch Device ");
```

```
44     Serial.println(mswitch->getDevVer());
45     return 0;
46 }
47
48 void setup()
49 {
50     Serial.begin(115200);
51     Serial.println("Grove Multi Switch");
52
53     // Initial device probe
54     if (deviceDetect() < 0) {
55         Serial.println("Insert Grove 5-Way Tactile");
56         Serial.println("or Grove 6-Position DIP Switch"
57             for (;;);
58     }
59
60     return;
61 }
62
63 void loop()
64 {
65     GroveMultiSwitch::ButtonEvent_t* evt;
66
67     delay(1);
68
69     evt = mswitch->getEvent();
70     if (!evt) {
71         // dynamic device probe
72         deviceDetect();
73         delay(1000);
74         return;
75     }
76
77     if (!(evt->event & GroveMultiSwitch::BTN_EV_HAS_EVEI
78         #if 0
79         Serial.print("No event, errno = ");
80         Serial.println(mswitch->errno);
81         #endif
82         return;
83     }
84
```

```
85     for (int i = 0; i < mswitch->getSwitchCount(); i++)
86         Serial.print(key_names[i]);
87         Serial.print(": RAW - ");
88         Serial.print((evt->button[i] & GroveMultiSwitch
89                     "HIGH ": "LOW ");
90         if (PID_VAL(mswitch->getDevID()) == PID_5_WAY_T
91             Serial.print((evt->button[i] & GroveMultiSw
92                         "RELEASED ": "PRESSED ");
93         } else if (PID_VAL(mswitch->getDevID()) == PID_
94             Serial.print((evt->button[i] & GroveMultiSw
95                         "OFF ": "ON ");
96         }
97         Serial.println("");
98     }
99
100    for (int i = 0; i < mswitch->getSwitchCount(); i++)
101        if (evt->button[i] & ~GroveMultiSwitch::BTN_EV_
102            Serial.println("");
103            Serial.print(key_names[i]);
104            Serial.print(": EVENT - ");
105        }
106        if (evt->button[i] & GroveMultiSwitch::BTN_EV_S
107            Serial.print("SINGLE-CLICK ");
108        }
109        if (evt->button[i] & GroveMultiSwitch::BTN_EV_D
110            Serial.print("DOUBLE-CLICK ");
111        }
112        if (evt->button[i] & GroveMultiSwitch::BTN_EV_L
113            Serial.print("LONG-PRESS ");
114        }
115        if (evt->button[i] & GroveMultiSwitch::BTN_EV_L
116            Serial.print("LEVEL-CHANGED ");
117        }
118    }
119    Serial.println("");
120 }
```

- **Step 4.** Upload the demo. If you do not know how to upload the code, please check [How to upload code](#)

[https://wiki.seeedstudio.com/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, you will get the result. When you press the **KEY E**, it will trigger **KEY E: RAW - LOW PRESSED**

```
1 Grove Multi Switch
2 ***** Device probe Device BN-5E-0.1
3 Grove Multi Switch
4 ***** Device probe OK *****
5 Grove 5-Way Tactile Switch Inserted!
6 A 5 Button/Switch Device BN-5E-0.1
7 KEY A: RAW - HIGH RELEASED
8 KEY B: RAW - HIGH RELEASED
9 KEY C: RAW - HIGH RELEASED
10 KEY D: RAW - HIGH RELEASED
11 KEY E: RAW - LOW PRESSED
12
13 KEY E: EVENT - LEVEL-CHANGED
14 KEY A: RAW - HIGH RELEASED
15 KEY B: RAW - HIGH RELEASED
16 KEY C: RAW - HIGH RELEASED
17 KEY D: RAW - HIGH RELEASED
18 KEY E: RAW - HIGH RELEASED
19
20 KEY E: EVENT - SINGLE-CLICK LEVEL-CHANGED
21 KEY A: RAW - LOW PRESSED
22 KEY B: RAW - HIGH RELEASED
23 KEY C: RAW - HIGH RELEASED
24 KEY D: RAW - HIGH RELEASED
25 KEY E: RAW - HIGH RELEASED
26
27 KEY A: EVENT - LEVEL-CHANGED
28 KEY A: RAW - HIGH RELEASED
```



```
29 KEY B: RAW - HIGH RELEASED  
30 KEY C: RAW - HIGH RELEASED  
31 KEY D: RAW - HIGH RELEASED  
32 KEY E: RAW - HIGH RELEASED
```

Schematic Online Viewer



Resources

- **[Zip]** [Grove - 5-Way Switch eagle files](https://files.seeedstudio.com/wiki/Grove-5-Way_Switch/res/Grove-5-Way_Switch.zip)
[https://files.seeedstudio.com/wiki/Grove-5-Way_Switch/res/Grove-5-Way_Switch.zip]
- **[Zip]** [Grove Multi Switch Library](https://github.com/Seeed-Studio/Grove_Multi_Switch/archive/master.zip) [https://github.com/Seeed-Studio/Grove_Multi_Switch/archive/master.zip]

Project

This is the introduction Video of this product, simple demos, you can have a try.



Tech Support

Please do not hesitate to submit the issue into our [forum](https://forum.seeedstudio.com/)
[https://forum.seeedstudio.com/].



[https://www.seeedstudio.com/act-4.html?utm_source=wiki&utm_medium=wikibanner&utm_campaign=newproducts]