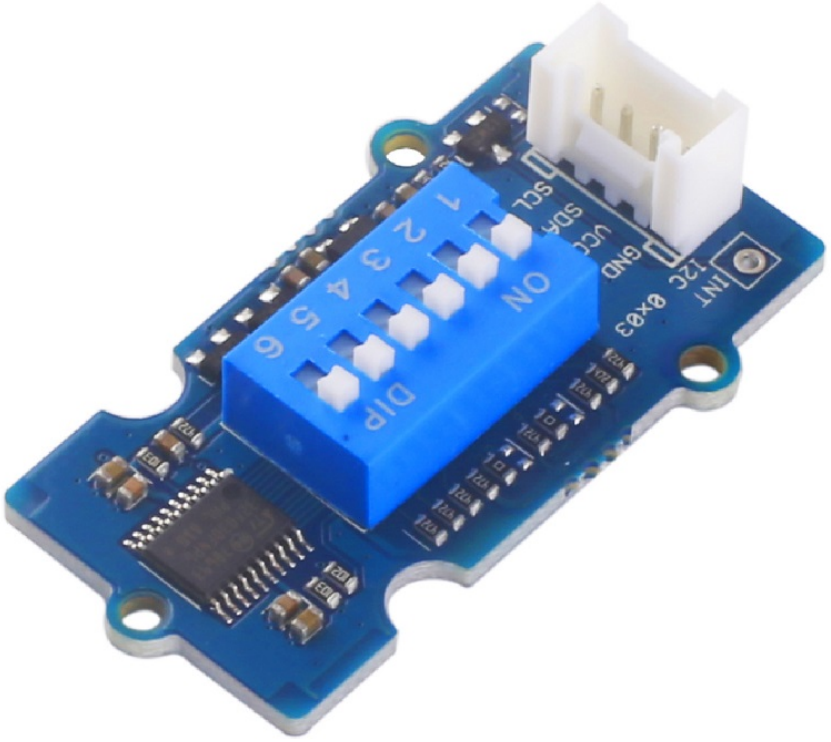
Grove - 6-Position DIP Switch



The Grove - 6-Position DIP Switch has 6 individual switch positions, which use I^2C to transmit date. It works great as a multi-channel control switches.

Get One Now

[https://www.seeedstudio.com/Grove-6-Position-DIP-Switch-p-

3137.html]

Version

Product Version	Changes	Released Date
Grove - 6-Position DIP Switch	Initial	Jun 2018

Features

- 6 individual switch
- Good heat resistance
- Long operating Life
- Grove compatible

Specification

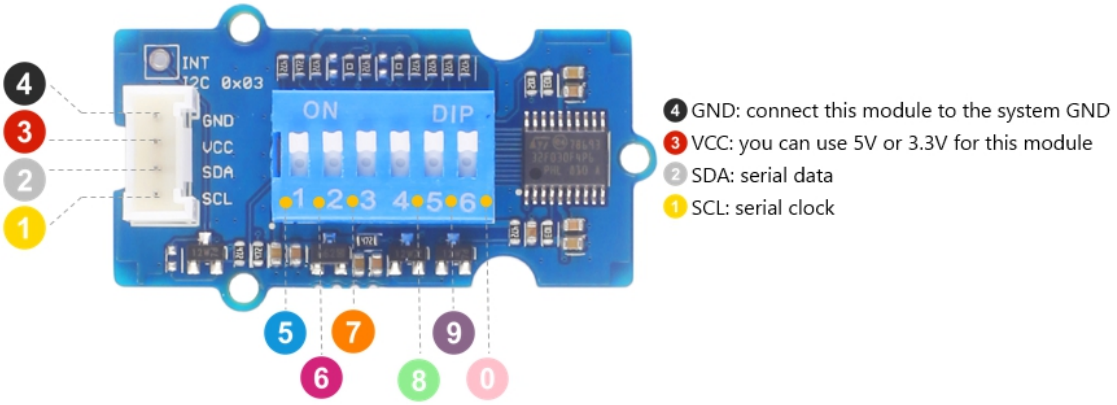
Item	Value
Operating voltage	3.3V / 5V
Interface	I^2C
Default I^2C Address	0x03
Size	L: 40mm W: 20mm H: 13mm
Weight	5g
Package size	L: 140mm W: 90mm H: 10mm
Gross Weight	11g

Applications

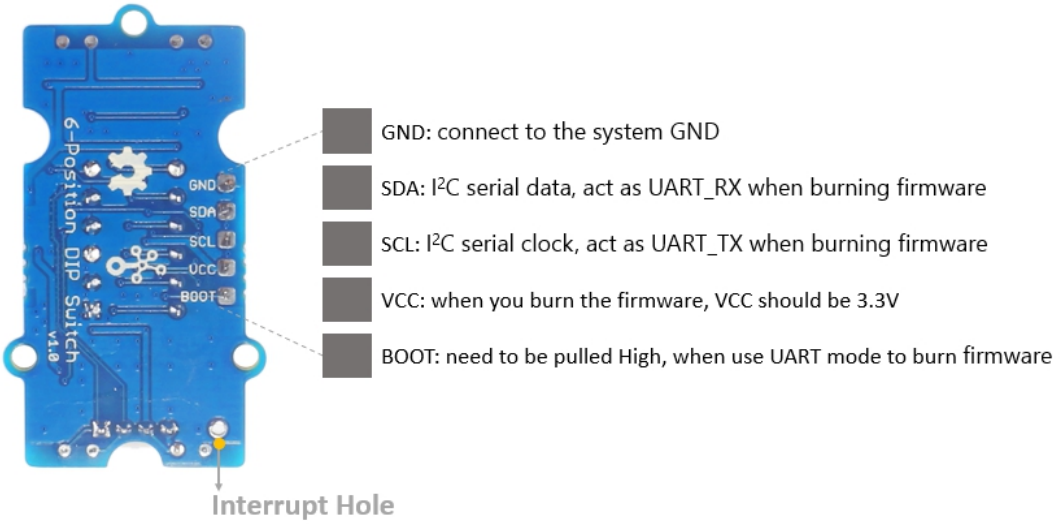
- Multifunction control

Hardware Overview

Pin Map



5 Switch 1: default High, become Low when turn the switch to **ON**
6 Switch 2: default High, become Low when turn the switch to **ON**
7 Switch 3: default High, become Low when turn the switch to **ON**
8 Switch 4: default High, become Low when turn the switch to **ON**
9 Switch 5: default High, become Low when turn the switch to **ON**
0 Switch 6: default High, become Low when turn the switch to **ON**



Platforms Supported

Arduino	Raspberry Pi		
			

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

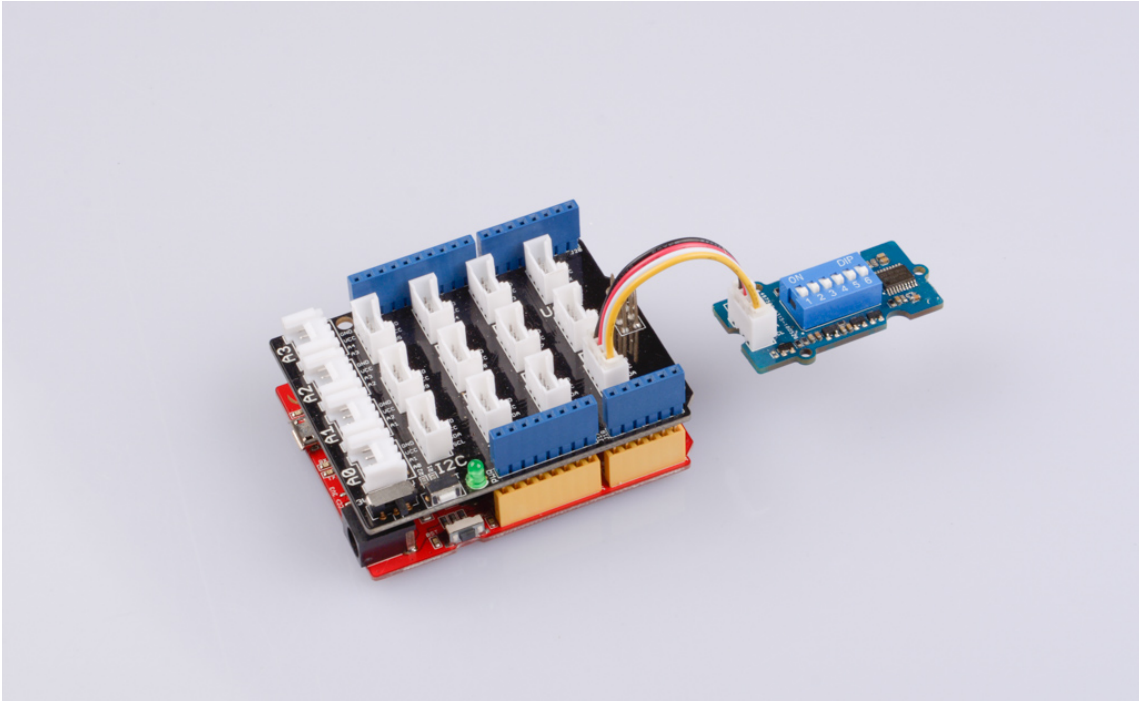
Seeeduino V4.2	Base Shield
	
Get One Now [https://www.seeedstudio.com/Seeeduino-V4.2-p-2517.html]	Get One Now [https://www.seeedstudio.com/Base Shield-V2-p-1378.html]

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] 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] to buy.

- **Step 1.** Connect the Grove - 6-Position DIP Switch to the **I^2C** 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.

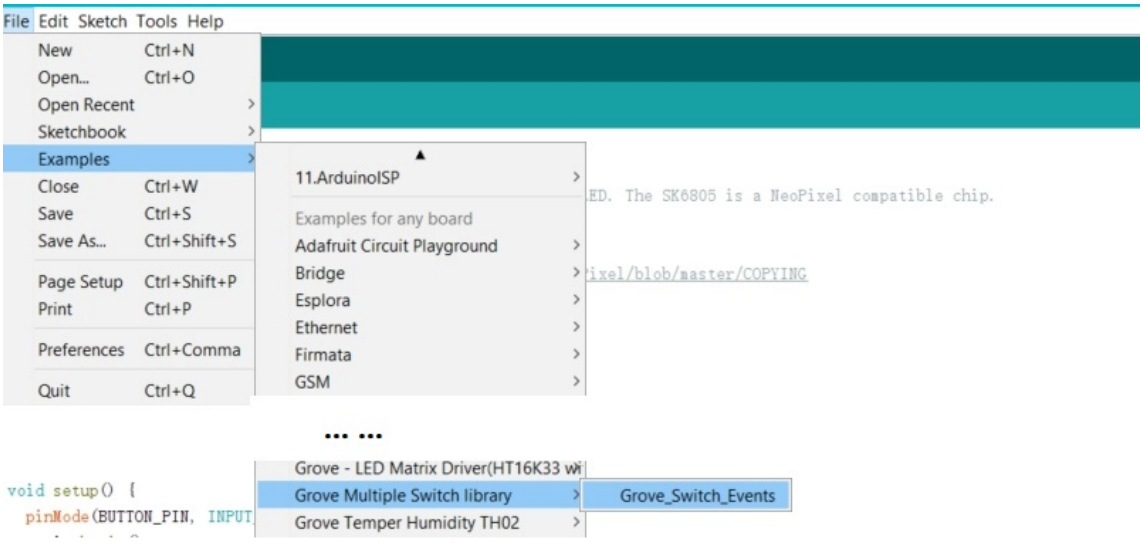
Seeeduino	Grove - 6-Position DIP Switch
5V	Red
GND	Black
SDA	White
SCL	Yellow

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/] before the start.

- **Step 1.** Download the 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] 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
```

```
GroveMultiSwitch mswitch[1];
const char* grove_5way_tactile_keys[] = {
    "KEY A",
    "KEY B",
    "KEY C",
    "KEY D",
    "KEY E",
};
const char* grove_6pos_dip_switch_keys[] = {
    "POS 1",
    "POS 2",
    "POS 3",
    "POS 4",
    "POS 5",
    "POS 6",
};

const char** key_names;

int deviceDetect(void) {
    if (!mswitch->begin()) {
        Serial.println("***** Device probe failed *****
        return -1;
    }

    Serial.println("***** Device probe OK *****");
    if (PID_VAL(mswitch->getDevID()) == PID_5_WAY_TACTI
        Serial.println("Grove 5-Way Tactile Switch Inse
        key_names = grove_5way_tactile_keys;
    } else if (PID_VAL(mswitch->getDevID()) == PID_6_PO
        Serial.println("Grove 6-Position DIP Switch Ins
        key_names = grove_6pos_dip_switch_keys;
    }

    // enable event detection
    mswitch->setEventMode(true);

    // report device model
    Serial.print("A ");
    Serial.print(mswitch->getSwitchCount());
    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_EVE
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. For instance, the default switch is off-High, when you turn the **Switch6** to **ON**, the output will be **POS 6: RAW - LOW ON**.

```
Grove Multi Switch
***** Device probe OK *****
Grove 6-Position DIP Switch Inserted!
A 6 Button/Switch Device BN-6--0.1
POS 1: RAW - HIGH OFF
POS 2: RAW - HIGH OFF
POS 3: RAW - HIGH OFF
POS 4: RAW - HIGH OFF
POS 5: RAW - HIGH OFF
POS 6: RAW - LOW ON

POS 6: EVENT - LEVEL-CHANGED
POS 1: RAW - LOW ON
POS 2: RAW - HIGH OFF
POS 3: RAW - HIGH OFF
POS 4: RAW - HIGH OFF
POS 5: RAW - HIGH OFF
POS 6: RAW - LOW ON
```

Schematic Online Viewer

Resources

- **[Zip]** Grove - 6-Position DIP Switch eagle files [https://files.seeedstudio.com/wiki/Grove-5-Way_Switch/res/Grove-5-Way_Switch.zip]
- **[Zip]** Grove Multi Switch Library [https://files.seeedstudio.com/wiki/Grove-6-Position_DIP_Switch/res/Grove-6-Position_DIP_Switch.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://www.seeedstudio.com/act-4.html?utm_source=wiki&utm_medium=wikibanner&utm_campaign=newproducts]