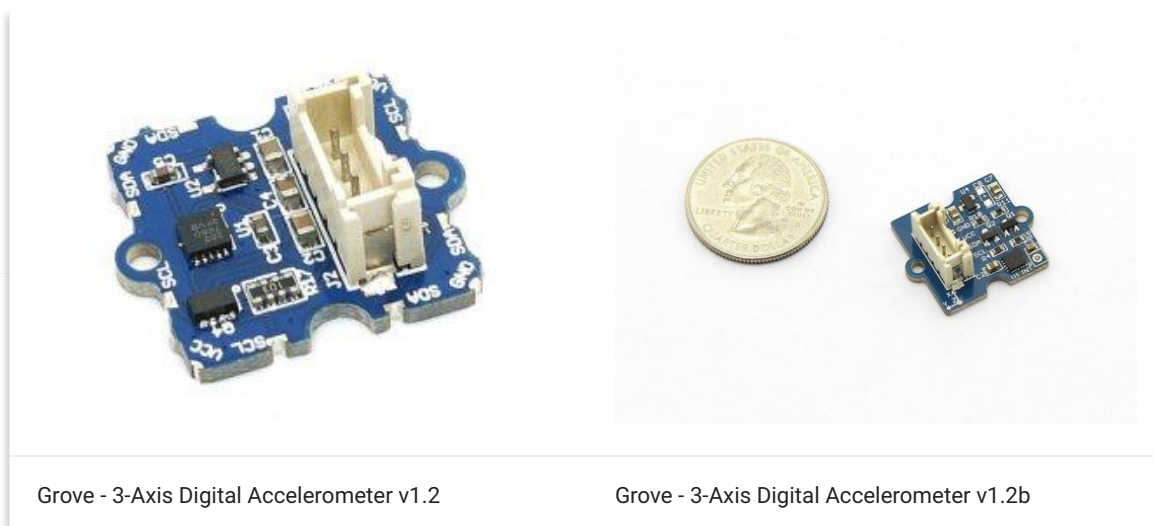




Grove - 3-Axis Digital Accelerometer($\pm 1.5g$)



3-Axis Digital Accelerometer is the key part in projects like orientation detection, gesture detection and Motion detection. This 3-Axis Digital Accelerometer($\pm 1.5g$) is based on Freescale's low power consumption module, MMA7660FC. It features up to 10,000g high shock survivability and configurable Samples per Second rate. For generous applications that don't require too large measurement range, this is a great choice because it's durable, energy saving and cost-efficient.

Get One Now

[[https://www.seeedstudio.com/Grove-3-Axis-Digital-Accelerometer\(%C2%B11.5g\)-p-765.html](https://www.seeedstudio.com/Grove-3-Axis-Digital-Accelerometer(%C2%B11.5g)-p-765.html)]

Specifications

- Working voltage: 3.0 - 5.5V
- Off Mode Current: 0.4 μ A
- Standby Mode Current: 2 μ A
- Active Mode Current: 47 μ A at 1 ODR

- Test Range: $\pm 1.5g$
- Sensitivity: 21LSB/g
- Suli-compatible Library

**Tip**

More details about Grove modules please refer to [Grove System](https://wiki.seeedstudio.com/Grove_System/) [https://wiki.seeedstudio.com/Grove_System/]

Platforms Supported

Arduino



Raspberry Pi

**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.

Demonstration

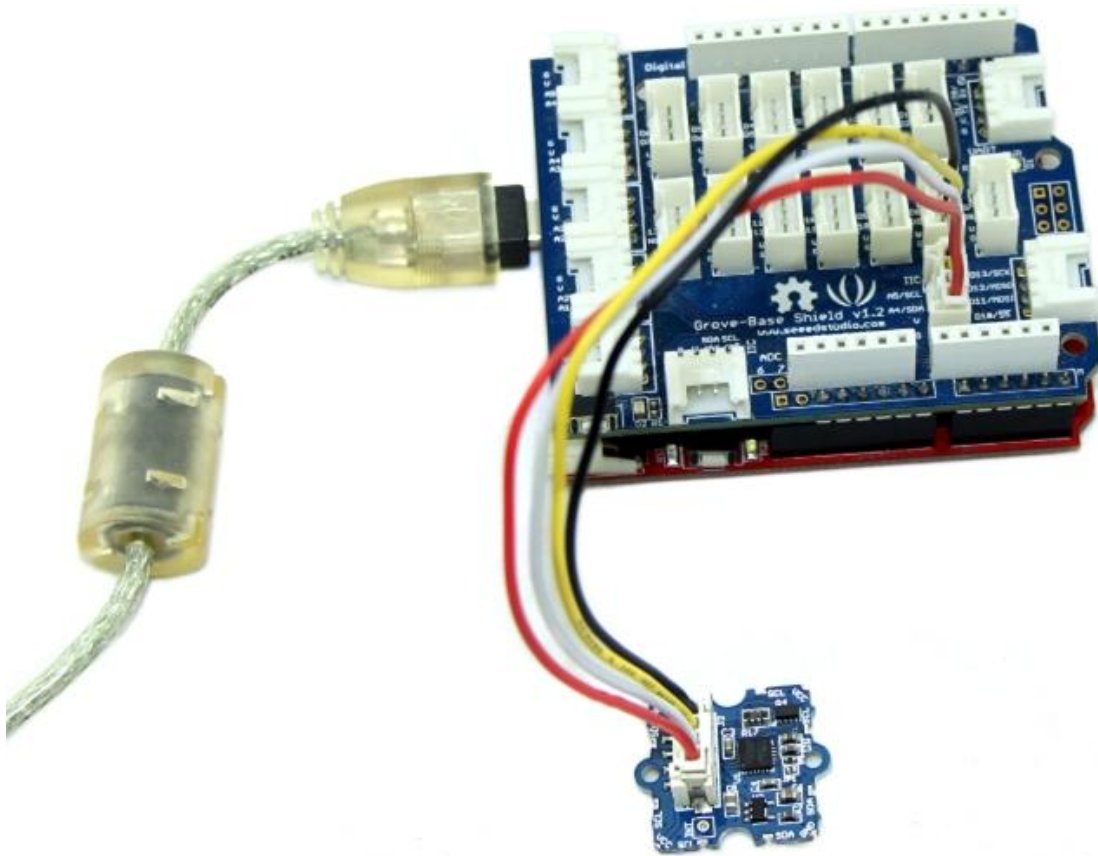
With [Arduino](#) [/Arduino]

Here we are going to show you how to get raw data and data measured by "g" from this sensor.

Connect this module to the I2C port of Grove - Base Shield via a Grove cable.

**Note**

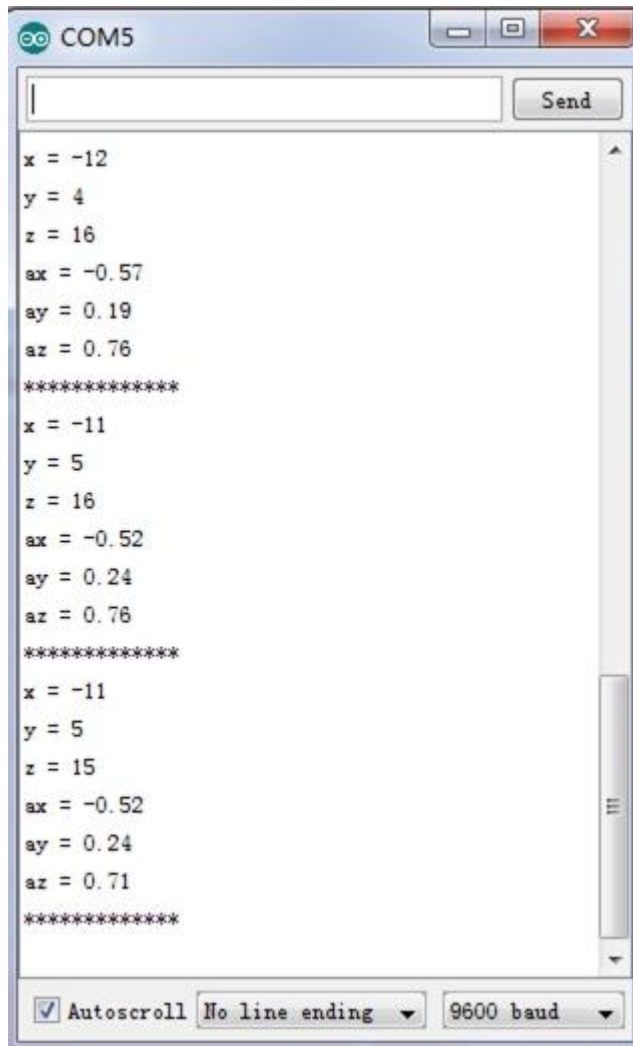
If you want to activate the Interrupt function of this module, you need to connect the INT soldering pad we broke out on the board with a pin of Arduino that's capable of Interrupt Service Routine.



Install the library we provide in the [Resources](#) [/Grove-3-Axis_Digital_Accelerometer-1.5g#resources] section.

Open the code directly by the path:File -> Example ->DigitalAccelerometer_MMA7660FC ->MMA7660FC_Demo.

In this program, acceleration information are sent from the sensor to Seeeduino via I2C bus and then Seeeduino printed them onto the serial monitor. Open the serial monitor to check the result.



```
COM5
x = -12
y = 4
z = 16
ax = -0.57
ay = 0.19
az = 0.76
*****
x = -11
y = 5
z = 16
ax = -0.52
ay = 0.24
az = 0.76
*****
x = -11
y = 5
z = 15
ax = -0.52
ay = 0.24
az = 0.71
*****
[Autoscroll] [No line ending] [9600 baud]
```

The outputs of this sensor consist of two parts: raw data and 3-axis acceleration info converted into the unit of gravity, "g".

With Raspberry Pi

- 1.You should have got a raspberry pi and a grovepi or grovepi+.
- 2.You should have completed configuring the development enviroment, otherwise follow [here](#) [/GrovePi_Plus].
- 3.Connection
 - Plug the sensor to grovepi socket i2c-x(1~3) by using a grove cable.

4.Navigate to the demos' directory:

```
1      cd yourpath/GrovePi/Software/Python/
```

- To see the code

```
      nano grove_i2c_accelerometer.py    # "Ctrl+x" to exit #
```

```
1      import time
2      import grovepi
3
4      # Connect the Grove Accelerometer (+/- 1.5g) to any I2C port eg. I2C-
5      # Can be found at I2C address 0x4c
6      # SCL,SDA,VCC,GND
7
8      while True:
9          try:
10             print grovepi.acc_xyz()
11             time.sleep(.5)
12
13         except IOError:
14             print "Error"
```

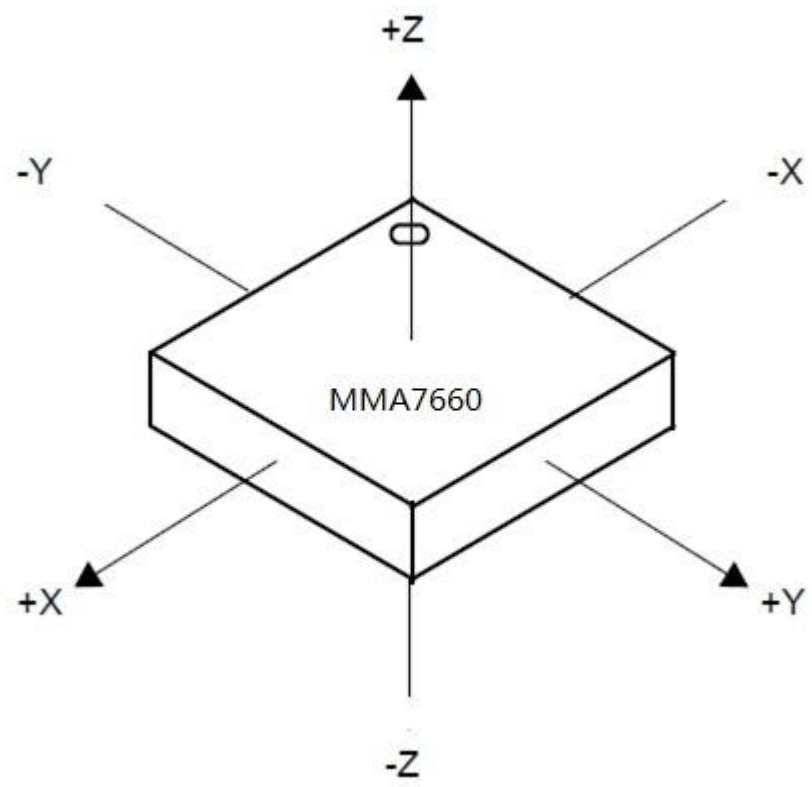
5.Run the demo.

```
      sudo python grove_i2c_accelerometer.py
```

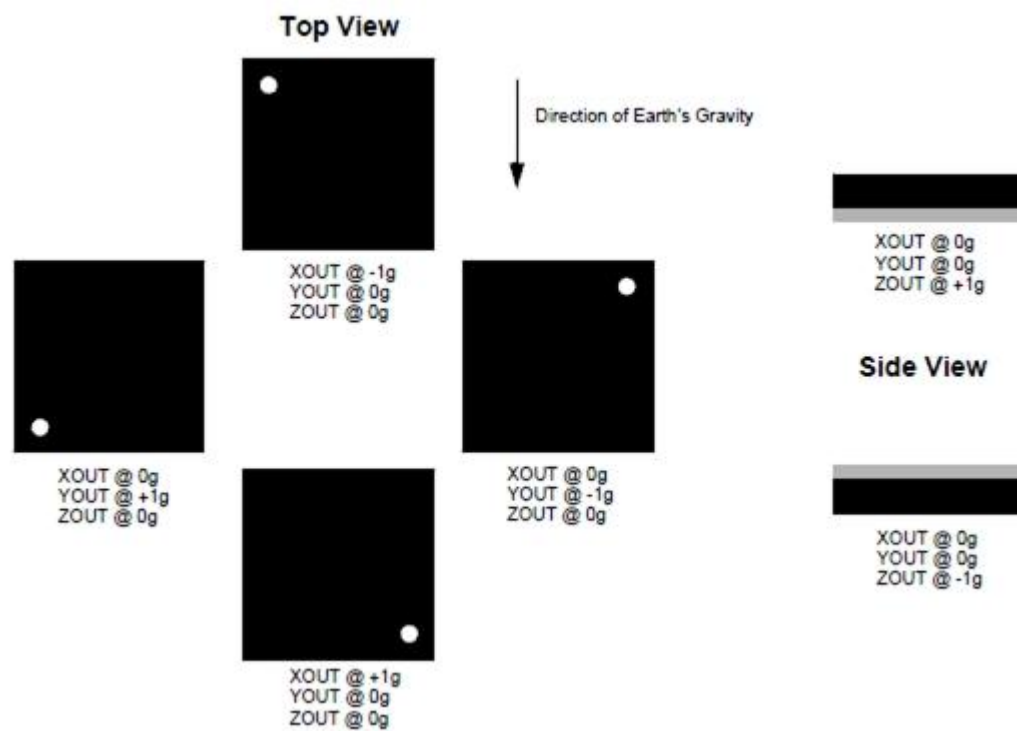
Reference

Below are two figures helping you understand the physical meaning of the result.

The first figure is about the direction of each axis:



The second figure gives some examples:



Schematic Online Viewer

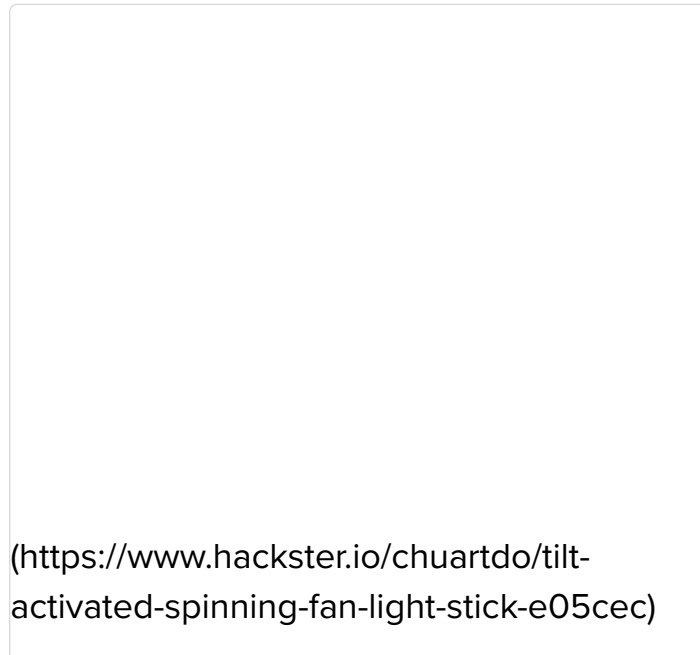


Resources

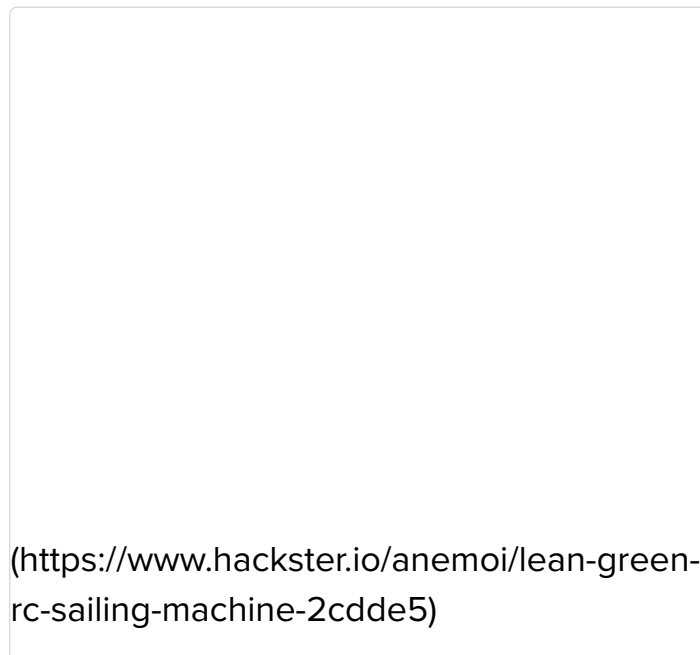
- [Datasheet of MMA7660FC](https://files.seeedstudio.com/wiki/Grove-3-Axis_Digital_Accelerometer-1.5g/res/MMA7660FC.pdf) [https://files.seeedstudio.com/wiki/Grove-3-Axis_Digital_Accelerometer-1.5g/res/MMA7660FC.pdf]
- [Grove - 3-Axis Digital Accelerometer Eagle File](https://files.seeedstudio.com/wiki/Grove-3-Axis_Digital_Accelerometer-1.5g/res/Grove-3-Axis_Digital_Accelerometer-1.5g-Eagle_File.zip) [https://files.seeedstudio.com/wiki/Grove-3-Axis_Digital_Accelerometer-1.5g/res/Grove-3-Axis_Digital_Accelerometer-1.5g-Eagle_File.zip]
- [github repository for 3-Axis Digital Accelerometer\(\$\pm 1.5g\$ \)](https://github.com/Seeed-Studio/Accelerometer_MMA7660) [https://github.com/Seeed-Studio/Accelerometer_MMA7660]

Project

Tilt Activated Spinning Fan Light Stick Portable LED color stick reacts to your shaking motion. With extra fan and alarm.



Lean Green RC Sailing Machine An Internet connected device that controls servos and sends sensor (GPS/gyro/accel/compass) updates in real time over a GSM cell link.



Tech Support

Please submit any technical issue into our [forum](https://forum.seeedstudio.com/) [https://forum.seeedstudio.com/].



The banner features the Seeed Studio logo on the left, which includes a green stylized leaf icon and the text "seeed studio The IoT Hardware Enabler". To the right of the logo, the words "New Products" are written in a large, bold, white font. Further to the right, there is a collection of six different IoT hardware products: two white rectangular modules, a black rectangular module with a screen, a small black square module with red sides, a blue PCB module with a black component, and a green PCB module with various components and connectors.

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