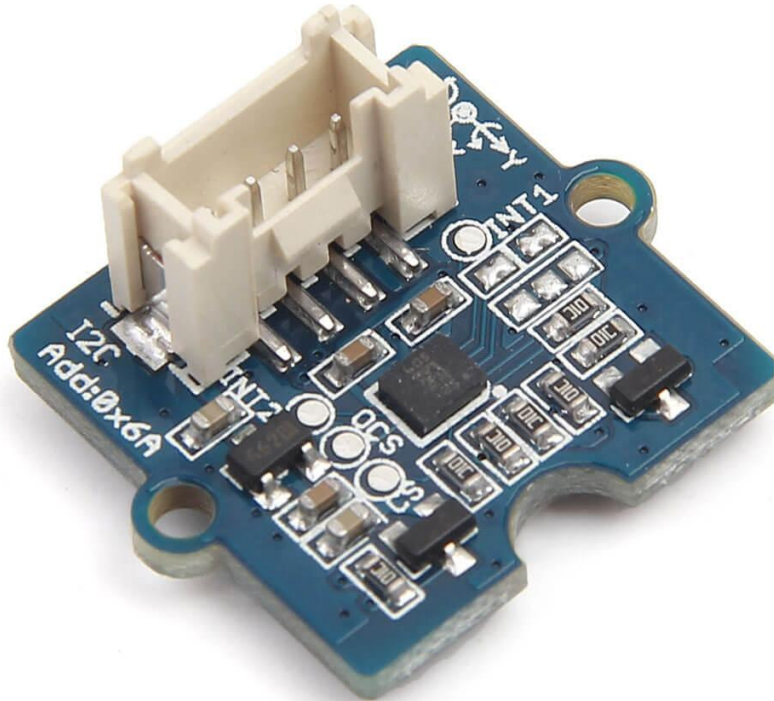


Grove - 6-Axis Accelerometer&Gyroscope

Introduction



Grove - 6-Axis Accelerometer&Gyroscope is a cost-effective Grove interfaced and integrated sensor combination of 3-axis digital accelerometer and 3-axis digital gyroscope.

With a serious low power consumption digital chip LSM6DS3([datasheet](#)) and power supply regulator inside, it features high sensitivity, green tech and low noise interference. It can be configured to different sensitivity levels of acceleration and different angular rate measurement range. Provided with detailed SDK, it can make the prototyping process quicker and easier.

This product can be used for different applications for tilt, motion, and tap sensings, such as robotics, IoT devices and consumer electronic devices.

Features

- Grove interfaced and cost-effective.
- Digital-output for 6 DOF motion data.
- $\pm 2/\pm 4/\pm 8/\pm 16$ g full scale leaner acceleration sensing range for various environment.
- $\pm 125, \pm 245, \pm 500, \pm 1000, \pm 2000$ degree per seconds(dps) for angular rate measurement range make it versatile.
- Detailed SDK for easier programming.
- Regulated power supply for reliable data to be collected.
- Programmed interrupts for different event.
- 8 kB data buffering.

Tip

More details about Grove modules please refer to [Grove System](#)

Application ideas

- Robotics
- Consumer-level aircraft
- Computer input devices
- Wearable devices.
- IoT things

Specifications

For detailed information please refer to [datasheet](#).

Parameter	Value
Analog supply voltage:	5V/3.3V(DC)
Power consumption:	0.9 mA in combo normal mode and 1.25 mA in combo high-performance mode up to 1.6 kHz
Linear acceleration measurement range	$\pm 2/\pm 4/\pm 8/\pm 16$ g full scale (typical value)
Angular rate measurement range	$\pm 125, \pm 245, \pm 500, \pm 1000, \pm 2000$ dps(typical value)
Linear acceleration sensitivity	0.061(FS = ± 2), 0.122(FS = ± 4), 0.244(FS = ± 8), 0.488(FS = ± 16) mg/LSB
Angular rate sensitivity	4.375(FS = ± 125), 8.75(FS = ± 245), 17.50(FS = ± 500), 35(FS = ± 1000), 70(FS = ± 2000)

Platforms Supported

Arduino	Wio	BeagleBone	Raspberry Pi	LinkIt ONE
				

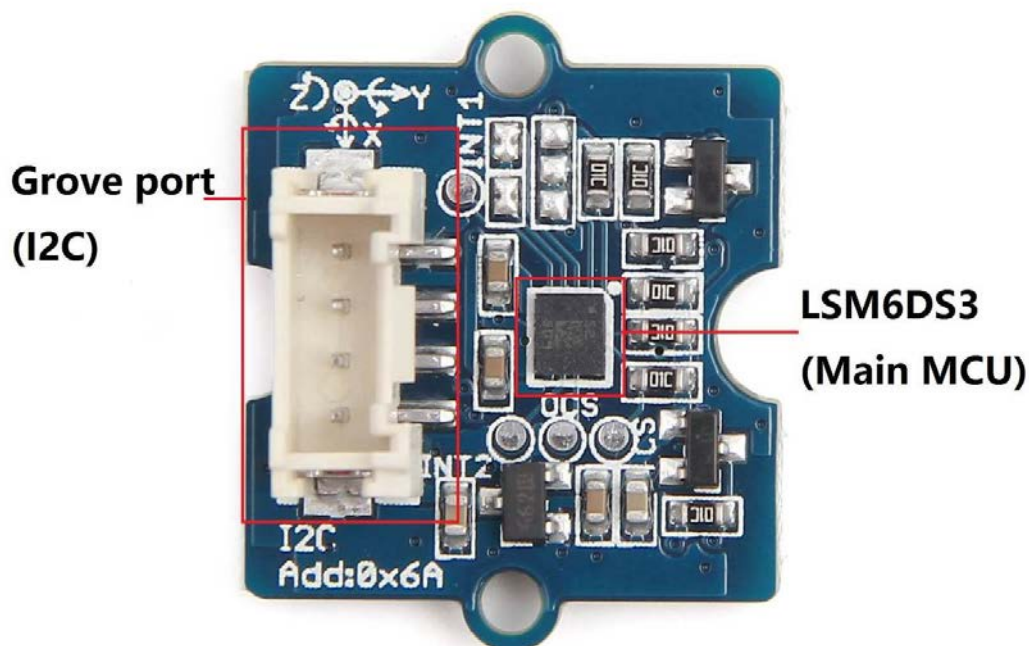
Caution

The platforms mentioned above as supported is/are an indication of the module's hardware 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.

Note

If no version number is not represented for a specific platform, it means this product support all versions within this platform. But you will need additional corresponding Grove shield board such as Grove - Base Shield v2.

Hardware Overview



Grove Port

Connect main control board such as Seeeduino board with driver board.

LSM6DS3

Main MCU.

Parts list

Parts name	Quantity
Grove - 6-Axis Accelerometer&Gyroscope	1PC
Grove wire	1PC

Get started

Material required

- Seeeduino * 1
- Grove - Base Shield v2

Preparations

Refer to following guides to build an appropriate IDE:

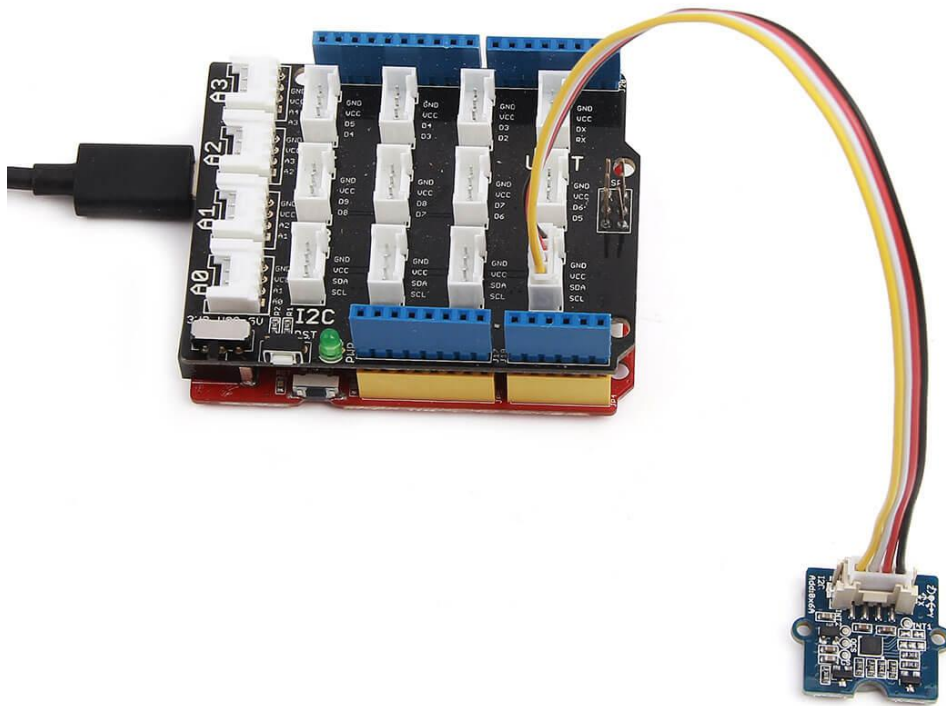
Note

We have chosen Seeeduino and it is compatible with Arduino in this case. You can also use Arduino board instead.

[Getting Started on Windows](#)

[Getting Started on Mac OS X](#)

Hardware connections



Note

Plug Grove - 6-Axis Accelerometer&Gyroscope to I²C interface on Grove - Base shield. Connect power supply with USB cable.

A little demo

Download the [library](#) for Grove - 6-Axis Accelerometer&Gyroscope. Refer to [Guide to use demos downloaded from Seeed's Github](#) for quicker flashing your code to main controller board. There are three demo examples in total in sub directory **examples**.