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# **Adafruit LSM9DS1 Library Documentation**

***Release 1.0***

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## Contents

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<b>1</b>	<b>Dependencies</b>	<b>3</b>
<b>2</b>	<b>Usage Example</b>	<b>5</b>
<b>3</b>	<b>Contributing</b>	<b>7</b>
<b>4</b>	<b>API Reference</b>	<b>9</b>
4.1	adafruit_lsm9ds1 .....	9
	<b>Python Module Index</b>	<b>11</b>



CircuitPython module for the LSM9DS1 accelerometer, magnetometer, gyroscope.



# CHAPTER 1

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## Dependencies

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This driver depends on:

- [Adafruit CircuitPython](#)
- [Bus Device](#)

Please ensure all dependencies are available on the CircuitPython filesystem. This is easily achieved by downloading the [Adafruit library and driver bundle](#).





## CHAPTER 2

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### Usage Example

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See `examples/simpletest.py` for a demo of the usage.



## CHAPTER 3

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### Contributing

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Contributions are welcome! Please read our [Code of Conduct](#) before contributing to help this project stay welcoming.



## 4.1 adafruit\_lsm9ds1

CircuitPython module for the LSM9DS1 accelerometer, magnetometer, gyroscope. Based on the driver from:

[https://github.com/adafruit/Adafruit\\_LSM9DS1](https://github.com/adafruit/Adafruit_LSM9DS1)

See examples/simpletest.py for a demo of the usage.

- Author(s): Tony DiCola

**class** `adafruit_lsm9ds1.LSM9DS1`

Driver for the LSM9DS1 accelerometer, magnetometer, gyroscope.

**accel\_range**

Get and set the accelerometer range. Must be a value of: - ACCELRange\_2G - ACCELRange\_4G - ACCELRange\_8G - ACCELRange\_16G

**accelerometer**

Get the accelerometer X, Y, Z axis values as a 3-tuple of m/s<sup>2</sup> values.

**gyro\_scale**

Get and set the gyroscope scale. Must be a value of: - GYROScale\_245DPS - GYROScale\_500DPS - GYROScale\_2000DPS

**gyroscope**

Get the gyroscope X, Y, Z axis values as a 3-tuple of degrees/second values.

**mag\_gain**

Get and set the magnetometer gain. Must be a value of: - MAGGain\_4GAUSS - MAGGain\_8GAUSS - MAGGain\_12GAUSS - MAGGain\_16GAUSS

**magnetometer**

Get the magnetometer X, Y, Z axis values as a 3-tuple of gauss values.

**read\_accel\_raw** ( )

Read the raw accelerometer sensor values and return it as a 3-tuple of X, Y, Z axis values that are 16-bit

unsigned values. If you want the acceleration in nice units you probably want to use the accelerometer property!

**read\_gyro\_raw()**

Read the raw gyroscope sensor values and return it as a 3-tuple of X, Y, Z axis values that are 16-bit unsigned values. If you want the gyroscope in nice units you probably want to use the gyroscope property!

**read\_mag\_raw()**

Read the raw magnetometer sensor values and return it as a 3-tuple of X, Y, Z axis values that are 16-bit unsigned values. If you want the magnetometer in nice units you probably want to use the magnetometer property!

**read\_temp\_raw()**

Read the raw temperature sensor value and return it as a 12-bit signed value. If you want the temperature in nice units you probably want to use the temperature property!

**temperature**

Get the temperature of the sensor in degrees Celsius.

**class** adafruit\_lsm9ds1.**LSM9DS1\_I2C**(*i2c*)

Driver for the LSM9DS1 connect over I2C.

**class** adafruit\_lsm9ds1.**LSM9DS1\_SPI**(*spi, xgcs, mcs*)

Driver for the LSM9DS1 connect over SPI.

### **a**

`adafruit_lsm9ds1`, 9





## A

`accel_range` (adafruit\_lsm9ds1.LSM9DS1 attribute), [9](#)  
`accelerometer` (adafruit\_lsm9ds1.LSM9DS1 attribute), [9](#)  
`adafruit_lsm9ds1` (module), [9](#)

## G

`gyro_scale` (adafruit\_lsm9ds1.LSM9DS1 attribute), [9](#)  
`gyroscope` (adafruit\_lsm9ds1.LSM9DS1 attribute), [9](#)

## L

`LSM9DS1` (class in adafruit\_lsm9ds1), [9](#)  
`LSM9DS1_I2C` (class in adafruit\_lsm9ds1), [10](#)  
`LSM9DS1_SPI` (class in adafruit\_lsm9ds1), [10](#)

## M

`mag_gain` (adafruit\_lsm9ds1.LSM9DS1 attribute), [9](#)  
`magnetometer` (adafruit\_lsm9ds1.LSM9DS1 attribute), [9](#)

## R

`read_accel_raw()` (adafruit\_lsm9ds1.LSM9DS1 method),  
[9](#)  
`read_gyro_raw()` (adafruit\_lsm9ds1.LSM9DS1 method),  
[10](#)  
`read_mag_raw()` (adafruit\_lsm9ds1.LSM9DS1 method),  
[10](#)  
`read_temp_raw()` (adafruit\_lsm9ds1.LSM9DS1 method),  
[10](#)

## T

`temperature` (adafruit\_lsm9ds1.LSM9DS1 attribute), [10](#)