AdafruitLSM303 Library Documentation

Release 1.0

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Adafruit CircuitPython module for the LSM303 6-DoF with 3-axis accelerometer and magnetometer

CHAPTER 1

Dependencies

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

Usage Example

```
import time
import board
import busio

import adafruit_lsm303

i2c = busio.I2C(board.SCL, board.SDA)
sensor = adafruit_lsm303.LSM303(i2c)

while True:
        raw_accel_x, raw_accel_y, raw_accel_z = sensor.raw_acceleration
        accel_x, accel_y, accel_z = sensor.acceleration
        raw_mag_x, raw_mag_y, raw_mag_z = sensor.raw_magnetic
        mag_x, mag_y, mag_z = sensor.magnetic

        print('Acceleration raw: ({0:6d}, {1:6d}, {2:6d}), (m/s^2): ({3:10.3f}, {4:10.
↪3f}, {5:10.3f})'.format(raw_accel_x, raw_accel_y, raw_accel_z, accel_x, accel_y,␣
↪accel_z))
        print('Magnetometer raw: ({0:6d}, {1:6d}, {2:6d}), (gauss): ({3:10.3f}, {4:10.
↪3f}, {5:10.3f})'.format(raw_mag_x, raw_mag_y, raw_mag_z, mag_x, mag_y, mag_z))
        print('')
        time.sleep(1.0)
```

CHAPTER 3

API Reference

3.1 adafruit_LSM303

CircuitPython driver for the LSM303 accelerometer + magnetometer.

- Author(s): Dave Astels

class adafruit_lsm303.**LSM303**(*i2c*)

Driver for the LSM303 accelerometer/magnetometer.

acceleration

The processed accelerometer sensor values. A 3-tuple of X, Y, Z axis values in meters per second squared that are signed floats.

mag_gain

The magnetometer's gain.

mag_rate

The magnetometer update rate.

magnetic

The processed magnetometer sensor values. A 3-tuple of X, Y, Z axis values in microteslas that are signed floats.

raw_acceleration

The raw accelerometer sensor values. A 3-tuple of X, Y, Z axis values that are 16-bit signed integers.

raw_magnetic

The raw magnetometer sensor values. A 3-tuple of X, Y, Z axis values that are 16-bit signed integers.

CHAPTER 4

Contributing

Contributions are welcome! Please read our Code of Conduct before contributing to help this project stay welcoming.

CHAPTER 5

Building locally

To build this library locally you'll need to install the circuitpython-build-tools package.

```
python3 -m venv .env
source .env/bin/activate
pip install circuitpython-build-tools
```

Once installed, make sure you are in the virtual environment:

```
source .env/bin/activate
```

Then run the build:

```
circuitpython-build-bundles --filename_prefix adafruit-circuitpython-lsm303 --library_
↪location .
```

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