
Adafruitmlx90614 Library Documentation

Release 1.0

Mikey Sklar

Jan 15, 2019

Contents

1	Dependencies	3
2	Usage Example	5
3	Contributing	7
4	Building locally	9
4.1	Zip release files	9
4.2	Sphinx documentation	9
5	Table of Contents	11
5.1	Simple test	11
5.2	adafruit_mlx90614	12
5.2.1	Implementation Notes	12
6	Indices and tables	13
	Python Module Index	15

CircuitPython module for the Melexis MLX90614 Contact-less Infrared Temperature sensor. See [examples/mlx90614_simpletest.py](#) for a demo of the usage.

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

See `examples/mlx90614_simpletest.py` for a demo of the usage.

CHAPTER 3

Contributing

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

4.1 Zip release files

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-mlx90614 --
↳library_location .
```

4.2 Sphinx documentation

Sphinx is used to build the documentation based on rST files and comments in the code. First, install dependencies (feel free to reuse the virtual environment from above):

```
python3 -m venv .env
source .env/bin/activate
pip install Sphinx sphinx-rtd-theme
```

Now, once you have the virtual environment activated:

```
cd docs
sphinx-build -E -W -b html . _build/html
```

This will output the documentation to `docs/_build/html`. Open the `index.html` in your browser to view them. It will also (due to `-W`) error out on any warning like Travis will. This is a good way to locally verify it will pass.

5.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/mlx90614_simpletest.py

```
1  # Designed specifically to work with the MLX90614 sensors in the
2  # adafruit shop
3  # ----> https://www.adafruit.com/product/1747
4  # ----> https://www.adafruit.com/product/1748
5  #
6  # These sensors use I2C to communicate, 2 pins are required to
7  # interface Adafruit invests time and resources providing this open
8  # source code,
9  # please support Adafruit and open-source hardware by purchasing
10 # products from Adafruit!
11
12 import board
13 import busio as io
14 import adafruit_mlx90614
15
16 # the mlx90614 must be run at 100k [normal speed]
17 # i2c default mode is is 400k [full speed]
18 # the mlx90614 will not appear at the default 400k speed
19 i2c = io.I2C(board.SCL, board.SDA, frequency=100000)
20 mlx = adafruit_mlx90614.MLX90614(i2c)
21
22 # temperature results in celsius
23 print("Ambient Temp: ", mlx.ambient_temperature)
24 print("Object Temp: ", mlx.object_temperature)
```

5.2 adafruit_mlx90614

CircuitPython module for the MLX90614 IR object temperature sensor.

- Author(s): Mikey Sklar based on code from these projects: Limor Fried - <https://github.com/adafruit/Adafruit-MLX90614-Library> Bill Simpson - https://github.com/BillSimpson/ada_mlx90614 Mike Causer - <https://github.com/mcauser/micropython-mlx90614>

5.2.1 Implementation Notes

Hardware:

- Adafruit Melexis Contact-less Infrared Sensor - MLX90614 3V (Product ID: 1747)
- Adafruit Melexis Contact-less Infrared Sensor - MLX90614 5V (Product ID: 1748)
- Sensors: <https://www.adafruit.com/product/1747> <https://www.adafruit.com/product/1748>
- Datasheet: <https://cdn-shop.adafruit.com/datasheets/MLX90614.pdf>

Software and Dependencies:

- Adafruit CircuitPython firmware for the supported boards: <https://github.com/adafruit/circuitpython/releases>

class `adafruit_mlx90614.MLX90614` (*i2c_bus*, *address=90*)

Create an instance of the MLX90614 temperature sensor. You must pass in the following parameters: - *i2c*: An instance of the I2C bus connected to the sensor. - *frequency=100000* - this sensor does not respond to the default 400000 i2c bus speed

Optionally you can specify: - *address*: The I2C address of the sensor. If not specified the sensor's default value will be assumed.

ambient_temperature

Ambient Temperature in celsius.

object_temperature

Object Temperature in celsius.

CHAPTER 6

Indices and tables

- `genindex`
- `modindex`
- `search`

a

adafruit_mlx90614, [11](#)

A

`adafruit_mlx90614` (module), [11](#)

`ambient_temperature` (`adafruit_mlx90614.MLX90614` attribute), [12](#)

M

`MLX90614` (class in `adafruit_mlx90614`), [12](#)

O

`object_temperature` (`adafruit_mlx90614.MLX90614` attribute), [12](#)