
Adafruit MLX90614 Library Documentation

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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

Installing from PyPI

On supported GNU/Linux systems like the Raspberry Pi, you can install the driver locally [from PyPI](#). To install for current user:

```
pip3 install adafruit-circuitpython-mlx90614
```

To install system-wide (this may be required in some cases):

```
sudo pip3 install adafruit-circuitpython-mlx90614
```

To install in a virtual environment in your current project:

```
mkdir project-name && cd project-name  
python3 -m venv .env  
source .env/bin/activate  
pip3 install adafruit-circuitpython-mlx90614
```


CHAPTER 3

Usage Example

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

CHAPTER 4

Contributing

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

CHAPTER 5

Documentation

For information on building library documentation, please check out [this guide](#).

6.1 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)
```

6.2 adafruit_mlx90614

CircuitPython module for the MLX90614 IR object temperature sensor.

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6.2.1 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 7

Indices and tables

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