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# **Adafruit AMG88xx Library Documentation**

***Release 1.0***

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Adafruit CircuitPython module for the AMG88xx GRID-Eye IR 8x8 thermal camera.



# CHAPTER 1

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## Dependencies

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This driver depends on:

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

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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### Installing from PyPI

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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-amg88xx
```

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

```
sudo pip3 install adafruit-circuitpython-amg88xx
```

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-amg88xx
```



## CHAPTER 3

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### Usage Example

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Of course, you must import the library to use it:

```
import busio
import adafruit_amg88xx
```

The way to create an I2C object depends on the board you are using. For boards with labeled SCL and SDA pins, you can:

```
import board
```

You can also use pins defined by the onboard microcontroller through the `microcontroller.pin` module.

Now, to initialize the I2C bus:

```
i2c_bus = busio.I2C(board.SCL, board.SDA)
```

Once you have created the I2C interface object, you can use it to instantiate the AMG88xx object

```
amg = adafruit_amg88xx.AMG88XX(i2c_bus)
```

You can also optionally use the alternate i2c address (make sure to solder the jumper on the back of the board if you want to do this)

```
amg = adafruit_amg88xx.AMG88XX(i2c_bus, addr=0x68)
```

Pixels can be then be read by doing:

```
print(amg.pixels)
```



## CHAPTER 4

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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.



## CHAPTER 5

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### Documentation

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





### 6.1 Pixel test

Ensure your device works with this test:

Listing 1: examples/amg88xx\_simpletest.py

```
1  # SPDX-FileCopyrightText: 2021 ladyada for Adafruit Industries
2  # SPDX-License-Identifier: MIT
3
4  import time
5  import busio
6  import board
7  import adafruit_amg88xx
8
9  i2c = busio.I2C(board.SCL, board.SDA)
10 amg = adafruit_amg88xx.AMG88XX(i2c)
11
12 while True:
13     for row in amg.pixels:
14         # Pad to 1 decimal place
15         print("{0:.1f}".format(temp) for temp in row)
16         print("")
17     print("\n")
18     time.sleep(1)
```

### 6.2 adafruit\_amg88xx - AMG88xx GRID-Eye IR 8x8 IR sensor

This library supports the use of the AMG88xx in CircuitPython.

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## 6.2.1 Implementation Notes

### Hardware:

**Software and Dependencies:** \* Adafruit CircuitPython: <https://github.com/adafruit/circuitpython/releases> \* Adafruit's Register library: [https://github.com/adafruit/Adafruit\\_CircuitPython\\_Register](https://github.com/adafruit/Adafruit_CircuitPython_Register) \* Adafruit's Bus Device library: [https://github.com/adafruit/Adafruit\\_CircuitPython\\_BusDevice](https://github.com/adafruit/Adafruit_CircuitPython_BusDevice)

### Notes:

**class** adafruit\_amg88xx.**AMG88XX** (*i2c, addr=105*)

Driver for the AMG88xx GRID-Eye IR 8x8 thermal camera.

**pixels**

Temperature of each pixel across the sensor in Celsius.

Temperatures are stored in a two dimensional list where the first index is the row and the second is the column. The first row is on the side closest to the writing on the sensor.

**temperature**

Temperature of the sensor in Celsius

## CHAPTER 7

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### Indices and tables

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