Adafruit AMG88xx Library Documentation

Release 1.0

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May 10, 2019

Contents

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

CHAPTER 1

Dependencies

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

Usage Example

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 3

Contributing

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

CHAPTER 4

Building locally

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

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

Then run the build:

CHAPTER 5

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5.1 Pixel test

Ensure your device works with this test:

Listing 1: examples/amg88xx_simpletest.py

```
import time
import busio
import board
import adafruit_amg88xx

i2c = busio.I2C(board.SCL, board.SDA)
amg = adafruit_amg88xx.AMG88XX(i2c)

while True:
    for row in amg.pixels:
        # Pad to 1 decimal place
        print(['{0:.1f}'.format(temp) for temp in row])
        print("")
    print("\n")
    time.sleep(1)
```

5.2 `adafruit_amg88xx` - AMG88xx GRID-Eye IR 8x8 IR sensor

This library supports the use of the AMG88xx in CircuitPython.

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5.2.1 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 * Adafruit's Bus Device library: 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 6

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