AdafruitCAP1188 Library Documentation

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CircuitPython driver for the CAP1188 8-Key Capacitive Touch Sensor Breakout.

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-cap1188
```

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

```
sudo pip3 install adafruit-circuitpython-cap1188
```

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-cap1188
```

CHAPTER 3

Usage Example

See usage examples in the examples folder.

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.

CHAPTER 6

Table of Contents

6.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/cap1188_simpletest.py

```
import board
import busio

# I2C setup
from adafruit_cap1188.i2c import CAP1188_I2C
i2c = busio.I2C(board.SCL, board.SDA)
cap = CAP1188_I2C(i2c)

# SPI setup
# from digitalio import DigitalInOut, Direction
# from adafruit_cap1188.spi import CAP1188_SPI
# spi = busio.SPI(board.SCK, board.MOSI, board.MISO)
# cs = DigitalInOut(board.D5)
# cap = CAP1188_SPI(spi, cs)

while True:
    for i in range(1, 9):
        if cap[i].value:
            print("Pin {} touched!".format(i))
```

6.2 adafruit_cap1188.cap1188

CircuitPython driver for the CAP1188 8-Key Capacitive Touch Sensor Breakout.

- Author(s): Carter Nelson

6.2.1 Implementation Notes

Hardware:

- CAP1188 - 8-Key Capacitive Touch Sensor Breakout

Software and Dependencies:

- Adafruit CircuitPython firmware for the supported boards: https://github.com/adafruit/circuitpython/releases
- Adafruit's Bus Device library: https://github.com/adafruit/Adafruit_CircuitPython_BusDevice

class `adafruit_cap1188.cap1188.`**`CAP1188`**

CAP1188 driver base, must be extended for I2C/SPI interfacing.

`delta_count`(*pin*)

Return the 8 bit delta count value for the channel.

`recalibrate`()

Perform a self recalibration on all the pins.

`recalibrate_pins`(*mask*)

Recalibrate pins specified by bit mask.

`sensitivity`

The sensitvity of touch detections. Range is 1 (least) to 128 (most).

`threshold_values`()

Return tuple of touch threshold values for all channels.

`thresholds`

Touch threshold value for all channels.

`touched`()

Return 8 bit value representing touch state of all pins.

`touched_pins`

A tuple of touched state for all pins.

class `adafruit_cap1188.cap1188.`**`CAP1188_Channel`**(*cap1188*, *pin*)

Helper class to represent a touch channel on the CAP1188. Not meant to be used directly.

`raw_value`

The raw touch measurement.

`recalibrate`()

Perform a self recalibration.

`threshold`

The touch threshold value.

`value`

Whether the pin is being touched or not.

6.3 `adafruit_cap1188.i2c`

CircuitPython I2C driver for the CAP1188 8-Key Capacitive Touch Sensor Breakout.

- Author(s): Carter Nelson

6.3.1 Implementation Notes

Hardware:

- CAP1188 - 8-Key Capacitive Touch Sensor Breakout

Software and Dependencies:

- Adafruit CircuitPython firmware for the supported boards: https://github.com/adafruit/circuitpython/releases
- Adafruit's Bus Device library: https://github.com/adafruit/Adafruit_CircuitPython_BusDevice

class `adafruit_cap1188.i2c.`**`CAP1188_I2C`**(*i2c*, *address=41*)

Driver for the CAP1188 connected over I2C.

6.4 `adafruit_cap1188.spi`

CircuitPython SPI driver for the CAP1188 8-Key Capacitive Touch Sensor Breakout.

- Author(s): Carter Nelson

6.4.1 Implementation Notes

Hardware:

- CAP1188 - 8-Key Capacitive Touch Sensor Breakout

Software and Dependencies:

- Adafruit CircuitPython firmware for the supported boards: https://github.com/adafruit/circuitpython/releases
- Adafruit's Bus Device library: https://github.com/adafruit/Adafruit_CircuitPython_BusDevice

class `adafruit_cap1188.spi.`**`CAP1188_SPI`**(*spi*, *cs*)

Driver for the CAP1188 connected over SPI.

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