
Adafruit SEESAW Library Documentation

Release 1.0

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May 01, 2018

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CircuitPython module for use with the Adafruit ATSAMD09 seesaw.

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/seesaw_simpletest.py` for usage example.

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-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-seesaw --library_
↳location .
```

4.1 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 5.1: examples/seesaw_simpletest.py

```
1  # Simple seesaw test using an LED attached to Pin 15.
2  #
3  # See the seesaw Learn Guide for wiring details:
4  # https://learn.adafruit.com/adafruit-seesaw-atsamd09-breakout?view=all#circuitpython-
   ↪ wiring-and-test
5  import time
6
7  from board import SCL, SDA
8  import busio
9  import adafruit_seesaw
10
11 i2c_bus = busio.I2C(SCL, SDA)
12
13 ss = adafruit_seesaw.Seesaw(i2c_bus)
14
15 ss.pin_mode(15, ss.OUTPUT)
16
17 while True:
18     ss.digital_write(15, True)    # turn the LED on (True is the voltage level)
19     time.sleep(1)                 # wait for a second
20     ss.digital_write(15, False)  # turn the LED off by making the voltage LOW
21     time.sleep(1)
```

5.2 adafruit_seesaw

An I2C to whatever helper chip.

- Author(s): Dean Miller

5.2.1 Implementation Notes

Hardware:

- Adafruit ATSAM09 Breakout with seesaw (Product ID: 3657)

Software and Dependencies:

- Adafruit CircuitPython firmware for the ESP8622 and M0-based boards: <https://github.com/adafruit/circuitpython/releases>
- Adafruit's Bus Device library: https://github.com/adafruit/Adafruit_CircuitPython_BusDevice

class `adafruit_seesaw.PWMChannel` (*seesaw, pin*)

A single seesaw channel that matches the `PWMOut` API.

duty_cycle

16 bit value that dictates how much of one cycle is high (1) versus low (0). 0xffff will always be high, 0 will always be low and 0x7fff will be half high and then half low.

frequency

The overall PWM frequency in herz.

class `adafruit_seesaw.Seesaw` (*i2c_bus, addr=73*)

Driver for Seesaw i2c generic conversion trip

Parameters

- **i2c_bus** (*I2C*) – Bus the SeeSaw is connected to
- **addr** (*int*) – I2C address of the SeeSaw device

sw_reset ()

Trigger a software reset of the SeeSaw chip

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