
AdafruitFocalTouch Library Documentation

Release 1.0

ladyada

Feb 10, 2021

Contents

1	Dependencies	3
2	Installing from PyPI	5
3	Usage Example	7
4	Contributing	9
5	Documentation	11
6	Table of Contents	13
6.1	Simple tests	13
6.2	adafruit_focaltouch	14
6.2.1	Implementation Notes	14
7	Indices and tables	17
	Python Module Index	19
	Index	21

CircuitPython driver for common low-cost FocalTech capacitive touch chips. Currently supports FT6206 & FT6236

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-focaltouch
```

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

```
sudo pip3 install adafruit-circuitpython-focaltouch
```

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-focaltouch
```


CHAPTER 3

Usage Example

```
import time
import board
import busio
import adafruit_focaltouch

# Create library object (named "ft") using a Bus I2C port
i2c = busio.I2C(board.SCL, board.SDA)

ft = adafruit_focaltouch.Adafruit_FocalTouch(i2c, debug=False)

while True:
    # if the screen is being touched print the touches
    if ft.touched:
        print(ft.touches)
    else:
        print('no touch')

    time.sleep(.15)
```


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 tests

Ensure your device works with these simple tests.

Listing 1: examples/focaltouch_print_touches.py

```
1  # SPDX-FileCopyrightText: 2021 ladyada for Adafruit Industries
2  # SPDX-License-Identifier: MIT
3
4  """
5  Example for getting touch data from an FT6206 or FT6236 capacitive
6  touch driver, over I2C
7  """
8
9  import time
10 import busio
11 import board
12 import adafruit_focaltouch
13
14 # Create library object (named "ft") using a Bus I2C port
15 i2c = busio.I2C(board.SCL, board.SDA)
16
17 ft = adafruit_focaltouch.Adafruit_FocalTouch(i2c, debug=False)
18
19 while True:
20     # if the screen is being touched print the touches
21     if ft.touched:
22         print(ft.touches)
23     else:
24         print("no touch")
25
26     time.sleep(0.15)
```

Listing 2: examples/focaltouch_paint_simpletest.py

```
1  # SPDX-FileCopyrightText: 2021 ladyada for Adafruit Industries
2  # SPDX-License-Identifier: MIT
3
4  """
5  Simple painting demo that draws on an Adafruit capacitive touch shield with
6  ILI9341 display and FT6206 captouch driver
7  """
8
9  import busio
10 import board
11 import digitalio
12 from adafruit_rgb_display import ili9341, color565
13 import adafruit_focaltouch
14
15 # Create library object using our Bus I2C & SPI port
16 i2c = busio.I2C(board.SCL, board.SDA)
17 spi = busio.SPI(clock=board.SCK, MOSI=board.MOSI, MISO=board.MISO)
18
19 # Adafruit Metro M0 + 2.8" Capacitive touch shield
20 cs_pin = digitalio.DigitalInOut(board.D10)
21 dc_pin = digitalio.DigitalInOut(board.D9)
22
23 # Initialize display
24 display = ili9341.ILI9341(spi, cs=cs_pin, dc=dc_pin)
25 # Fill with black!
26 display.fill(color565(0, 0, 0))
27
28 ft = adafruit_focaltouch.Adafruit_FocalTouch(i2c)
29
30 while True:
31     if ft.touched:
32         ts = ft.touches
33         point = ts[0] # the shield only supports one point!
34         # perform transformation to get into display coordinate system!
35         y = 320 - point["y"]
36         x = 240 - point["x"]
37         display.fill_rectangle(x - 2, y - 2, 4, 4, color565(255, 255, 255))
```

6.2 adafruit_focaltouch

CircuitPython driver for common low-cost FocalTech capacitive touch chips. Currently supports FT6206 & FT6236.

- Author(s): ladyada

6.2.1 Implementation Notes

Hardware:

- Adafruit 2.8" TFT LCD with Cap Touch Breakout Board w/MicroSD Socket (Product ID: 2090)
- Adafruit 2.8" TFT Touch Shield for Arduino w/Capacitive Touch (Product ID: 1947)

Software and Dependencies:

- Adafruit CircuitPython firmware for the ESP8622 and M0-based boards: <https://github.com/adafruit/circuitpython/releases>
- Adafruit's Bus Device library (when using I2C/SPI): https://github.com/adafruit/Adafruit_CircuitPython_BusDevice

```
class adafruit_focaltouch.Adafruit_FocalTouch(i2c,      address=56,      debug=False,
                                              irq_pin=None)
```

A driver for the FocalTech capacitive touch sensor.

touched

Returns the number of touches currently detected

touches

Returns a list of touchpoint dicts, with 'x' and 'y' containing the touch coordinates, and 'id' as the touch # for multitouch tracking

CHAPTER 7

Indices and tables

- `genindex`
- `modindex`
- `search`

a

`adafruit_focaltouch`, [14](#)

A

`Adafruit_FocalTouch` (class in *adafruit_focaltouch*), 15
`adafruit_focaltouch` (module), 14

T

`touched` (*adafruit_focaltouch.Adafruit_FocalTouch* attribute), 15
`touches` (*adafruit_focaltouch.Adafruit_FocalTouch* attribute), 15