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# AdafruitBMP3XX Library Documentation

*Release 1.0*

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**Jun 07, 2021**



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CircuitPython driver from BMP3XX Temperature and Barometric Pressure sensor.



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](#).

## 1.1 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-bmp3xx
```

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

```
sudo pip3 install adafruit-circuitpython-bmp3xx
```

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-bmp3xx
```





## CHAPTER 2

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### Usage Example

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See usage examples in the examples folder.



## CHAPTER 3

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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 4

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### Documentation

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



## 5.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/bmp3xx\_simpletest.py

```
1  # SPDX-FileCopyrightText: 2021 ladyada for Adafruit Industries
2  # SPDX-License-Identifier: MIT
3
4  import time
5  import board
6  import adafruit_bmp3xx
7
8  # I2C setup
9  i2c = board.I2C() # uses board.SCL and board.SDA
10 bmp = adafruit_bmp3xx.BMP3XX_I2C(i2c)
11
12 # SPI setup
13 # from digitalio import DigitalInOut, Direction
14 # spi = board.SPI()
15 # cs = DigitalInOut(board.D5)
16 # bmp = adafruit_bmp3xx.BMP3XX_SPI(spi, cs)
17
18 bmp.pressure_oversampling = 8
19 bmp.temperature_oversampling = 2
20
21 while True:
22     print(
23         "Pressure: {:6.4f} Temperature: {:5.2f}".format(bmp.pressure, bmp.
24         ↪temperature)
25     )
26     time.sleep(1)
```

## 5.2 adafruit\_bmp3xx

CircuitPython driver from BMP388 Temperature and Barometric Pressure sensor.

- Author(s): Carter Nelson

### 5.2.1 Implementation Notes

#### Hardware:

- Adafruit BMP388 - Precision Barometric Pressure and Altimeter (Product ID: 3966)

#### Software and Dependencies:

- Adafruit CircuitPython firmware for the supported boards: <https://circuitpython.org/downloads>
- Adafruit's Bus Device library: [https://github.com/adafruit/Adafruit\\_CircuitPython\\_BusDevice](https://github.com/adafruit/Adafruit_CircuitPython_BusDevice)

**class** `adafruit_bmp3xx.BMP3XX`

Base class for BMP3XX sensor.

#### **altitude**

The altitude in meters based on the currently set sea level pressure.

#### **filter\_coefficient**

The IIR filter coefficient.

#### **pressure**

The pressure in hPa.

#### **pressure\_oversampling**

The pressure oversampling setting.

#### **reset ()**

Perform a power on reset. All user configuration settings are overwritten with their default state.

#### **temperature**

The temperature in degrees Celsius

#### **temperature\_oversampling**

The temperature oversampling setting.

**class** `adafruit_bmp3xx.BMP3XX_I2C (i2c, address=119)`

Driver for I2C connected BMP3XX.

#### **Parameters**

- **i2c** (*I2C*) – The I2C bus the BMP388 is connected to.
- **address** (*int*) – I2C device address. Defaults to `0x77`. but another address can be passed in as an argument

#### **Quickstart: Importing and using the BMP388**

Here is an example of using the `BMP3XX_I2C` class. First you will need to import the libraries to use the sensor

```
import board
import adafruit_bmp3xx
```

Once this is done you can define your `board.I2C` object and define your sensor object



```
i2c = board.I2C() # uses board.SCL and board.SDA
bmp = adafruit_bmp3xx.BMP3XX_I2C(i2c)
```

Now you have access to the temperature and pressure attributes

```
temperature = bmp.temperature
pressure = bmp.pressure
```

**class** `adafruit_bmp3xx.BMP3XX_SPI` (*spi*, *cs*)  
Driver for SPI connected BMP3XX.

#### Parameters

- **spi** (*SPI*) – SPI device
- **cs** (*DigitalInOut*) – Chip Select

#### Quickstart: Importing and using the BMP388

Here is an example of using the `BMP3XX_SPI` class. First you will need to import the libraries to use the sensor

```
import board
import adafruit_bmp3xx
from digitalio import DigitalInOut, Direction
```

Once this is done you can define your `board.SPI` object and define your sensor object

```
spi = board.SPI()
cs = DigitalInOut(board.D5)
bmp = adafruit_bmp3xx.BMP3XX_SPI(spi, cs)
```

Now you have access to the temperature and pressure attributes

```
temperature = bmp.temperature
pressure = bmp.pressure
```



## CHAPTER 6

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### Indices and tables

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