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# **AdafruitTMP006 Library Documentation**

*Release 1.0*

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CircuitPython driver for the TMP006 contactless IR thermometer.



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-tmp006
```

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

```
sudo pip3 install adafruit-circuitpython-tmp006
```

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-tmp006
```





## CHAPTER 2

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### Usage Example

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Ensure your device works with the simple test 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/tmp006\_simpletest.py

```
1 import time
2 import board
3 import busio
4 import adafruit_tmp006
5
6 # Define a function to convert celsius to fahrenheit.
7 def c_to_f(c):
8     return c * 9.0 / 5.0 + 32.0
9
10
11 # Create library object using our Bus I2C port
12 i2c = busio.I2C(board.SCL, board.SDA)
13 sensor = adafruit_tmp006.TMP006(i2c)
14
15 # Initialize communication with the sensor, using the default 16 samples per_
16     ↪ conversion.
17 # This is the best accuracy but a little slower at reacting to changes.
18 # The first sample will be meaningless
19 while True:
20     obj_temp = sensor.temperature
21     print(
22         "Object temperature: {0:0.3F}*C / {1:0.3F}*F".format(obj_temp, c_to_f(obj_
23     ↪temp))
24     )
25     time.sleep(5.0)
```

## 5.2 adafruit\_tmp006

CircuitPython driver for the TMP006 contactless IR thermometer.

- Author(s): Carter Nelson

### 5.2.1 Implementation Notes

#### Hardware:

- TMP006 Contact-less Infrared Thermopile Sensor

#### 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](https://github.com/adafruit/Adafruit_CircuitPython_BusDevice)

**class** `adafruit_tmp006.TMP006` (*i2c, address=64, samplerate=2048*)

Class to represent an Adafruit TMP006 non-contact temperature measurement board.

#### **active**

True if sensor is active.

#### **read\_register** (*register*)

Read sensor Register.

#### **temperature**

Read object temperature from TMP006 sensor.



## CHAPTER 6

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### Indices and tables

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