
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

Usage Example

Ensure your device works with the simple test in the examples folder.

CHAPTER 3

Contributing

Contributions are welcome! Please read our [Code of Conduct](#) before contributing to help this project stay welcoming.

4.1 Zip release files

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-tmp006 --library_
↪location .
```

4.2 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 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 # Create library object using our Bus I2C port
11 i2c = busio.I2C(board.SCL, board.SDA)
12 sensor = adafruit_tmp006.TMP006(i2c)
13
14 # Initialize communication with the sensor, using the default 16 samples per
15 ↪ conversion.
16 # This is the best accuracy but a little slower at reacting to changes.
17 # The first sample will be meaningless
18 while True:
19     obj_temp = sensor.temperature
20     print('Object temperature: {0:0.3F}*C / {1:0.3F}*F'.format(obj_temp, c_to_f(obj_
21 ↪ temp)))
22     time.sleep(5.0)
```

5.2 adafruit_tmp006

CircuitPython driver for the TMP006 contactless IR thermometer.

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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

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

Indices and tables

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- `modindex`
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