
AdafruitTFmini Library Documentation

Release 1.0

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A CircuitPython/Python library for Benewake's TF mini distance sensor

CHAPTER 1

Dependencies

This driver depends on:

- [Adafruit CircuitPython](#)

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-tfmini
```

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

```
sudo pip3 install adafruit-circuitpython-tfmini
```

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-tfmini
```


CHAPTER 2

Usage Example

```
import time
import board # comment this out if using pyserial
import busio # comment this out if using pyserial
import adafruit_tfmini

# Use hardware uart
uart = busio.UART(board.TX, board.RX)

# Or, you can use pyserial on any computer
#import serial
#uart = serial.Serial("/dev/ttyS2", timeout=1)

# Simplest use, connect with the uart bus object
tfmini = adafruit_tfmini.TFmini(uart)

# You can put in 'short' or 'long' distance mode
tfmini.mode = adafruit_tfmini.MODE_SHORT
print("Now in mode", tfmini.mode)

while True:
    print("Distance: %d cm (strength %d, mode %x)" %
          (tfmini.distance, tfmini.strength, tfmini.mode))
    time.sleep(0.1)
```


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-tfmini --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/tfmini_simpletest.py

```
1 import time
2 import board # comment this out if using pyserial
3 import busio # comment this out if using pyserial
4 import adafruit_tfmini
5
6 # Use hardware uart
7 uart = busio.UART(board.TX, board.RX)
8
9 # Or, you can use pyserial on any computer
10 #import serial
11 #uart = serial.Serial("/dev/ttyS2", timeout=1)
12
13 # Simplest use, connect with the uart bus object
14 tfmini = adafruit_tfmini.TFmini(uart)
15
16 # You can put in 'short' or 'long' distance mode
17 tfmini.mode = adafruit_tfmini.MODE_SHORT
18 print("Now in mode", tfmini.mode)
19
20 while True:
21     print("Distance: %d cm (strength %d, mode %x)" %
22           (tfmini.distance, tfmini.strength, tfmini.mode))
23     time.sleep(0.1)
```

5.2 adafruit_tfmini

A CircuitPython/Python library for Benewake's TF mini distance sensor

- Author(s): ladyada

5.2.1 Implementation Notes

Hardware:

Software and Dependencies:

- Adafruit CircuitPython firmware for the supported boards: <https://github.com/adafruit/circuitpython/releases>

class `adafruit_tfmini.TFmini` (*uart*, *, *timeout=1*)

TF mini communication module, use with just RX or TX+RX for advanced command & control. :param *uart*: the pyserial or busio.uart compatible uart device :param *timeout*: how long we'll wait for valid data or response, in seconds. Default is 1

distance

The most recent distance measurement in centimeters

mode

The measurement mode can be MODE_SHORT (2) or MODE_LONG (7)

strength

The signal validity, higher value means better measurement

CHAPTER 6

Indices and tables

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