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# **Adafruit MCP9808 Library Documentation**

***Release 1.0***

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**Feb 10, 2021**



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The MCP9808 is an awesome, high accuracy temperature sensor that communicates over I2C. Its available on [Adafruit](#) as a [breakout](#).



# CHAPTER 1

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## Dependencies

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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

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### Installing from PyPI

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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-mcp9808
```

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

```
sudo pip3 install adafruit-circuitpython-mcp9808
```

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-mcp9808
```



## CHAPTER 3

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### Usage Notes

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Getting the temperature in Celsius is easy! First, import all of the pins from the board, busio for native I2C communication and the thermometer library itself.

```
from board import *
import busio
import adafruit_mcp9808
```

Next, initialize the I2C bus in a with statement so it always gets shut down ok. Then, construct the thermometer class:

```
# Do one reading
with busio.I2C(SCL, SDA) as i2c:
    t = adafruit_mcp9808.MCP9808(i2c)

# Finally, read the temperature property and print it out
print(t.temperature)
```



## CHAPTER 4

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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 5

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### Documentation

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





## 6.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/mcp9808\_simpletest.py

```
1  # SPDX-FileCopyrightText: 2021 ladyada for Adafruit Industries
2  # SPDX-License-Identifier: MIT
3
4  import time
5  import board
6  import busio
7  import adafruit_mcp9808
8
9  i2c_bus = busio.I2C(board.SCL, board.SDA)
10
11 # To initialise using the default address:
12 mcp = adafruit_mcp9808.MCP9808(i2c_bus)
13
14 # To initialise using a specified address:
15 # Necessary when, for example, connecting A0 to VDD to make address=0x19
16 # mcp = adafruit_mcp9808.MCP9808(i2c_bus, address=0x19)
17
18
19 while True:
20     tempC = mcp.temperature
21     tempF = tempC * 9 / 5 + 32
22     print("Temperature: {} C {} F ".format(tempC, tempF))
23     time.sleep(2)
```

## 6.2 adafruit\_mcp9808 - MCP9808 I2C Temperature Sensor

CircuitPython library to support MCP9808 high accuracy temperature sensor.

- Author(s): Scott Shawcroft

### 6.2.1 Implementation Notes

#### Hardware:

- Adafruit [MCP9808 High Accuracy I2C Temperature Sensor Breakout](#) (Product ID: 1782)

#### Software and Dependencies:

- Adafruit CircuitPython firmware (0.8.0+) for the ESP8622 and M0-based 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)

#### Notes:

1. Datasheet: <http://www.adafruit.com/datasheets/MCP9808.pdf>

**class** `adafruit_mcp9808.MCP9808` (*i2c\_bus*, *address=24*)

Interface to the MCP9808 temperature sensor.

**temperature**

Temperature in celsius. Read-only.

## CHAPTER 7

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### Indices and tables

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



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## Python Module Index

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