AdafruitMPRLS Library Documentation

Release 1.0

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Contents

CircuitPython library to support Honeywell MPRLS digital pressure sensors.

CHAPTER 1

Dependencies

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

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-mprls
```

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

```
sudo pip3 install adafruit-circuitpython-mprls
```

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-mprls
```

CHAPTER 3

Usage Example

```
import time
import board
import adafruit_mprls

i2c = board.I2C()

# Simplest use, connect to default over I2C
mpr = adafruit_mprls.MPRLS(i2c, psi_min=0, psi_max=25)

while True:
    print((mpr.pressure,))
    time.sleep(1)
```

CHAPTER 4

Contributing

Contributions are welcome! Please read our Code of Conduct before contributing to help this project stay welcoming.

CHAPTER 5

Documentation

For information on building library documentation, please check out this guide.

CHAPTER 6

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6.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/mprls_simpletest.py

```
# SPDX-FileCopyrightText: 2021 ladyada for Adafruit Industries
# SPDX-License-Identifier: MIT

import time
import board
import adafruit_mprls

i2c = board.I2C()

# Simplest use, connect to default over I2C
mpr = adafruit_mprls.MPRLS(i2c, psi_min=0, psi_max=25)

# You can also specify both reset and eoc pins
"""
import digitalio
reset = digitalio.DigitalInOut(board.D5)
eoc = digitalio.DigitalInOut(board.D6)
mpr = adafruit_mprls.MPRLS(i2c, eoc_pin=eoc, reset_pin=reset,
                           psi_min=0, psi_max=25)
"""

while True:
    print((mpr.pressure,))
    time.sleep(1)
```

6.2 adafruit_mprls

CircuitPython library to support Honeywell MPRLS digital pressure sensors

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6.2.1 Implementation Notes

Hardware:

- Adafruit Adafruit MPRLS Ported Pressure Sensor Breakout (Product ID: 3965)

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

class adafruit_mprls.**MPRLS**(*i2c_bus*, ***, *addr=24*, *reset_pin=None*, *eoc_pin=None*, *psi_min=0*, *psi_max=25*)

Driver base for the MPRLS pressure sensor

Parameters

- **i2c_bus** (*I2C*) – The I2C bus the MPRLS is connected to
- **addr** (*int*) – The I2C device address. Defaults to `0x18`
- **reset_pin** (*Pin*) – Optional `digitalio.pin` for hardware resetting
- **eoc_pin** (*Pin*) – Optional `digitalio pin` for getting End Of Conversion signal
- **psi_min** (*float*) – The minimum pressure in PSI, defaults to `0`
- **psi_max** (*float*) – The maximum pressure in PSI, defaults to `25`

Quickstart: Importing and using the MPRLS

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

```
import board
import adafruit_mprls
```

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
mpr = adafruit_mprls.MPRLS(i2c, psi_min=0, psi_max=25)
```

Now you have access to the *pressure* attribute

```
pressure = mpr.pressure
```

pressure

The measured pressure, in hPa

CHAPTER 7

Indices and tables

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Python Module Index

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