AdafruitAHTx0 Library Documentation

Release 1.0

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Contents

CircuitPython driver for the Adafruit AHT10 or AHT20 Humidity and Temperature Sensor

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-ahtx0
```

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

```
sudo pip3 install adafruit-circuitpython-ahtx0
```

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-ahtx0
```

CHAPTER 3

Usage Example

```
import time
import board
import adafruit_ahtx0

# Create sensor object, communicating over the board's default I2C bus
i2c = board.I2C()  # uses board.SCL and board.SDA
sensor = adafruit_ahtx0.AHTx0(i2c)

while True:
    print("\nTemperature: %0.1f C" % sensor.temperature)
    print("Humidity: %0.1f %%" % sensor.relative_humidity)
    time.sleep(2)
```

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/ahtx0_simpletest.py

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

"""
Basic `AHTx0` example test
"""

import time
import board
import adafruit_ahtx0

# Create sensor object, communicating over the board's default I2C bus
i2c = board.I2C()  # uses board.SCL and board.SDA
sensor = adafruit_ahtx0.AHTx0(i2c)

while True:
    print("\nTemperature: %0.1f C" % sensor.temperature)
    print("Humidity: %0.1f %%" % sensor.relative_humidity)
    time.sleep(2)
```

6.2 adafruit_ahtx0

CircuitPython driver for the Adafruit AHT10/AHT20 Temperature & Humidity Sensor

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6.2.1 Implementation Notes

Hardware:

- Adafruit AHT20 Temperature & Humidity Sensor breakout: (Product ID: 4566)

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_ahtx0.**AHTx0**(*i2c_bus*, *address=56*)
Interface library for AHT10/AHT20 temperature+humidity sensors

Parameters

- **i2c_bus** (*I2C*) – The I2C bus the AHT10/AHT20 is connected to.
- **address** (*int*) – The I2C device address. Default is 0x38

Quickstart: Importing and using the AHT10/AHT20 temperature sensor

Here is an example of using the *AHTx0* class. First you will need to import the libraries to use the sensor

```
import board
import adafruit_ahtx0
```

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
aht = adafruit_ahtx0.AHTx0(i2c)
```

Now you have access to the temperature and humidity using the *temperature* and *relative_humidity* attributes

```
temperature = aht.temperature
relative_humidity = aht.relative_humidity
```

calibrate()
Ask the sensor to self-calibrate. Returns True on success, False otherwise

relative_humidity
The measured relative humidity in percent.

reset()
Perform a soft-reset of the AHT

status
The status byte initially returned from the sensor, see datasheet for details

temperature
The measured temperature in degrees Celsius.

CHAPTER 7

Indices and tables

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- modindex
- search

Python Module Index

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