AdafruitDS18X20 Library Documentation

Release 1.0

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Contents

CircuitPython driver for Dallas 1-Wire temperature sensor.

CHAPTER 1

Dependencies

This driver depends on:

- Adafruit CircuitPython
- Adafruit OneWire

Please ensure all dependencies are available on the CircuitPython filesystem. This is easily achieved by downloading the Adafruit library and driver bundle.

CHAPTER 2

Usage Example

```
import board
from adafruit_onewire.bus import OneWireBus
from adafruit_ds18x20 import DS18X20
ow_bus = OneWireBus(board.D2)
ds18 = DS18X20(ow_bus, ow_bus.scan()[0])
ds18.temperature
```

CHAPTER 3

Contributing

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

CHAPTER 4

Building locally

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-ds18x20 --
↪library_location .
```

4.1 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.

CHAPTER 5

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5.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/ds18x20_simpletest.py

```
# Simple demo of printing the temperature from the first found DS18x20 sensor every second.
# Author: Tony DiCola
import time

import board

from adafruit_onewire.bus import OneWireBus
from adafruit_ds18x20 import DS18X20


# Initialize one-wire bus on board pin D5.
ow_bus = OneWireBus(board.D5)

# Scan for sensors and grab the first one found.
ds18 = DS18X20(ow_bus, ow_bus.scan()[0])

# Main loop to print the temperature every second.
while True:
    print('Temperature: {0:0.3f}C'.format(ds18.temperature))
    time.sleep(1.0)
```

5.2 adafruit_ds18x20

Driver for Dallas 1-Wire temperature sensor.

- Author(s): Carter Nelson

class adafruit_ds18x20.**DS18X20**(*bus*, *address*)

Class which provides interface to DS18X20 temperature sensor.

resolution

The programmable resolution. 9, 10, 11, or 12 bits.

temperature

The temperature in degrees Celsius.

CHAPTER 6

Indices and tables

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- modindex
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Python Module Index

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