AdafruitDS2413 Library Documentation

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Contents

1 Dependencies **3**

2 Installing from PyPI **5**

3 Usage Example **7**

4 Contributing **9**

5 Documentation **11**

6 Table of Contents **13**

6.1 Simple test 13

6.2 `adafruit_ds2413` 14

7 Indices and tables **15**

Python Module Index **17**

Index **19**

CircuitPython driver for the DS2413 one wire 2 channel GPIO breakout.

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

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-ds2413
```

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

```
sudo pip3 install adafruit-circuitpython-ds2413
```

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-ds2413
```

CHAPTER 3

Usage Example

```
import time
import board
from adafruit_onewire.bus import OneWireBus
import adafruit_ds2413

ow_bus = OneWireBus(board.D2)
ds = adafruit_ds2413.DS2413(ow_bus, ow_bus.scan()[0])

led = ds.IOA
button = ds.IOB
button.direction = adafruit_ds2413.INPUT

while not button.value:
    led.value = True
    time.sleep(0.5)
    led.value = False
    time.sleep(0.5)
```

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

Table of Contents

6.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/ds2413_simpletest.py

```
# This example shows how to access the DS2413 pins and use them for both input
# and output. In this example, it is assumed an LED is attached to IOA and a
# button is attached to IOB. See the datasheet for details about how to
# interface the external hardware (it is different than most Arduino examples).
import time
import board
from adafruit_onewire.bus import OneWireBus
import adafruit_ds2413

# Create OneWire bus
ow_bus = OneWireBus(board.D2)

# Create the DS2413 object from the first one found on the bus
ds = adafruit_ds2413.DS2413(ow_bus, ow_bus.scan()[0])

# LED on IOA
led = ds.IOA

# button on IOB
button = ds.IOB
button.direction = adafruit_ds2413.INPUT

# Loop forever
while True:
    # Check for button press
    if button.value:
        # Print a message.
```

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```
        print("Button pressed!")
        # Toggle LED
        led.value = not led.value
        # A little debounce
        time.sleep(0.25)
```

6.2 adafruit_ds2413

CircuitPython driver for the DS2413 one wire 2 channel GPIO breakout.

- Author(s): Carter Nelson

class adafruit_ds2413.**DS2413**(*bus*, *address*)

Class which provides interface to DS2413 GPIO breakout.

IOA

The pin object for channel A.

IOB

The pin object for channel B.

pio_state

The state of both PIO channels.

class adafruit_ds2413.**DS2413Pin**(*number*, *host*, *direction=1*)

Class which provides interface to single DS2413 GPIO pin.

direction

The direction of the pin, either INPUT or OUTPUT.

value

The pin state if configured as INPUT. The output latch state if configured as OUTPUT. True is HIGH/ON, False is LOW/OFF.

CHAPTER 7

Indices and tables

- genindex
- modindex
- search

Python Module Index

a

adafruit_ds2413, 14

Index

A

`adafruit_ds2413` (*module*), 14

D

`direction` (*adafruit_ds2413.DS2413Pin attribute*), 14
`DS2413` (*class in adafruit_ds2413*), 14
`DS2413Pin` (*class in adafruit_ds2413*), 14

I

`IOA` (*adafruit_ds2413.DS2413 attribute*), 14
`IOB` (*adafruit_ds2413.DS2413 attribute*), 14

P

`pio_state` (*adafruit_ds2413.DS2413 attribute*), 14

V

`value` (*adafruit_ds2413.DS2413Pin attribute*), 14