
AdafruitDRV2605 Library Documentation

Release 1.0

Tony DiCola

Apr 09, 2020

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_drv2605	14
7	Indices and tables	17
	Python Module Index	19
	Index	21

CircuitPython module for the DRV2605 haptic feedback motor driver.

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](#).

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-drv2605
```

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

```
sudo pip3 install adafruit-circuitpython-drv2605
```

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-drv2605
```


CHAPTER 3

Usage Example

See `examples/drv2605_simpletest.py` for a demo of the usage.

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](#).

6.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/drv2605_simpletest.py

```
1  # Simple demo of the DRV2605 haptic feedback motor driver.
2  # Will play all 123 effects in order for about a half second each.
3  # Author: Tony DiCola
4  import time
5
6  import board
7  import busio
8
9  import adafruit_drv2605
10
11
12 # Initialize I2C bus and DRV2605 module.
13 i2c = busio.I2C(board.SCL, board.SDA)
14 drv = adafruit_drv2605.DRV2605(i2c)
15
16 # Main loop runs forever trying each effect (1-123).
17 # See table 11.2 in the datasheet for a list of all the effect names and IDs.
18 # http://www.ti.com/lit/ds/symlink/drv2605.pdf
19 effect_id = 1
20 while True:
21     print("Playing effect #{0}".format(effect_id))
22     drv.sequence[0] = adafruit_drv2605.Effect(effect_id) # Set the effect on slot 0.
23     # You can assign effects to up to 7 different slots to combine
24     # them in interesting ways. Index the sequence property with a
25     # slot number 0 to 6.
26     # Optionally, you can assign a pause to a slot. E.g.
27     # drv.sequence[1] = adafruit_drv2605.Pause(0.5) # Pause for half a second
```

(continues on next page)

(continued from previous page)

```
28 drv.play() # play the effect
29 time.sleep(0.5) # for 0.5 seconds
30 drv.stop() # and then stop (if it's still running)
31 # Increment effect ID and wrap back around to 1.
32 effect_id += 1
33 if effect_id > 123:
34     effect_id = 1
```

6.2 adafruit_drv2605

CircuitPython module for the DRV2605 haptic feedback motor driver. See examples/simpletest.py for a demo of the usage.

- Author(s): Tony DiCola

class `adafruit_drv2605.DRV2605` (*i2c*, *address=90*)
TI DRV2605 haptic feedback motor driver module.

library

The library selected for waveform playback. Should be a value of:

- `LIBRARY_EMPTY`: Empty
- `LIBRARY_TS2200A`: TS2200 library A (the default)
- `LIBRARY_TS2200B`: TS2200 library B
- `LIBRARY_TS2200C`: TS2200 library C
- `LIBRARY_TS2200D`: TS2200 library D
- `LIBRARY_TS2200E`: TS2200 library E
- `LIBRARY_LRA`: LRA library

See the datasheet for the meaning and description of effects in each library.

mode

The mode of the chip. Should be a value of:

- `MODE_INTTRIG`: Internal triggering, vibrates as soon as you call `play()`. Default mode.
- `MODE_EXTTRIGEDGE`: External triggering, edge mode.
- `MODE_EXTTRIGLVL`: External triggering, level mode.
- `MODE_PWMANALOG`: PWM/analog input mode.
- `MODE_AUDIOVIBE`: Audio-to-vibration mode.
- `MODE_REALTIME`: Real-time playback mode.
- `MODE_DIAGNOS`: Diagnostics mode.
- `MODE_AUTOCAL`: Auto-calibration mode.

See the datasheet for the meaning of modes beyond `MODE_INTTRIG`.

play()

Play back the select effect(s) on the motor.

sequence

List-like sequence of waveform effects. Get or set an effect waveform for slot 0-6 by indexing the sequence property with the slot number. A slot must be set to either an Effect() or Pause() class. See the datasheet for a complete table of effect ID values and the associated waveform / effect.

E.g. 'slot_0_effect = drv.sequence[0]', 'drv.sequence[0] = Effect(88)'

set_waveform (*effect_id, slot=0*)

Select an effect waveform for the specified slot (default is slot 0, but up to 7 effects can be combined with slot values 0 to 6). See the datasheet for a complete table of effect ID values and the associated waveform / effect.

stop ()

Stop vibrating the motor.

use_ERM ()

Use an eccentric rotating mass motor (the default).

use_LRM ()

Use a linear resonance actuator motor.

class adafruit_drv2605.**Effect** (*effect_id*)

DRV2605 waveform sequence effect.

id

Effect ID.

raw_value

Raw effect ID.

class adafruit_drv2605.**Pause** (*duration*)

DRV2605 waveform sequence timed delay.

duration

Pause duration in seconds.

raw_value

Raw pause duration.

CHAPTER 7

Indices and tables

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

a

adafruit_drv2605, 14

A

`adafruit_drv2605` (*module*), 14

D

`DRV2605` (*class in adafruit_drv2605*), 14

`duration` (*adafruit_drv2605.Pause attribute*), 15

E

`Effect` (*class in adafruit_drv2605*), 15

I

`id` (*adafruit_drv2605.Effect attribute*), 15

L

`library` (*adafruit_drv2605.DRV2605 attribute*), 14

M

`mode` (*adafruit_drv2605.DRV2605 attribute*), 14

P

`Pause` (*class in adafruit_drv2605*), 15

`play()` (*adafruit_drv2605.DRV2605 method*), 14

R

`raw_value` (*adafruit_drv2605.Effect attribute*), 15

`raw_value` (*adafruit_drv2605.Pause attribute*), 15

S

`sequence` (*adafruit_drv2605.DRV2605 attribute*), 14

`set_waveform()` (*adafruit_drv2605.DRV2605 method*), 15

`stop()` (*adafruit_drv2605.DRV2605 method*), 15

U

`use_ERM()` (*adafruit_drv2605.DRV2605 method*), 15

`use_LRM()` (*adafruit_drv2605.DRV2605 method*), 15