MakersMotorControl Library Documentation

Release 1.0

Frank Morton

Oct 15, 2018

Contents

CircuitPython helper for Circuit Playground Express/Crickit motor control

Examples of products to use this library with:

- Circuit Playground Express
- Adafruit CRICKIT for Circuit Playground Express

CHAPTER 1

Dependencies

This driver depends on:

- Adafruit CircuitPython with Crickit support

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 time
import makers_motor_control

motors = makers_motor_control.MotorControl()

motors.set_throttle(0.0, 0.0)

while True:
    motors.set_throttle(0.5, 0.5, 0.25, True)   # forward
    motors.set_throttle(-0.5, -0.5, 0.25, True) # backward
    motors.set_throttle(0.0, 0.5, 0.25, True)   # left
    motors.set_throttle(0.5, 0.0, 0.25, True)   # right

    time.sleep(5.0)
```

CHAPTER 3

Contributing

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

CHAPTER 4

Building locally

4.1 Zip release files

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 makers-circuitpython-motor-control --
↪library_location .
```

4.2 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

Table of Contents

5.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/motor_control_simpletest.py

```
"""Motor control test"""
import time
import makers_motor_control

motors = makers_motor_control.MotorControl()

motors.set_throttle(0.0, 0.0)

while True:
    motors.set_throttle(0.5, 0.5, 0.25, True)    # forward
    motors.set_throttle(-0.5, -0.5, 0.25, True) # backward
    motors.set_throttle(0.0, 0.5, 0.25, True)    # left
    motors.set_throttle(0.5, 0.0, 0.25, True)    # right

    time.sleep(5.0)
```

5.2 makers_motor_control

- Author(s): Frank Morton

5.2.1 Implementation Notes

Hardware:

- Circuit Playground Express
- Adafruit CRICKIT for Circuit Playground Express

Software and Dependencies:

- Adafruit CircuitPython firmware for the supported boards: https://github.com/adafruit/circuitpython/releases

class makers_motor_control.**MotorControl**

Crickit motor control helper class

set_throttle(*left_throttle*, *right_throttle*, *delay=0.0*, *stop_after_moving=False*)

Set the motor throttles

stop_motors()

Stop both motors

CHAPTER 6

Indices and tables

- genindex
- modindex
- search

Python Module Index

m

Index

M

S