
ElectronutlabsLLI9163 Library Documentation

Release 1.0

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displayio driver for ILI9163 TFT-LCD displays.

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

Usage Example

```
import board
import displayio
import electronutlabs_ili9163

spi = board.SPI()
tft_cs = board.D4
tft_dc = board.D33

displayio.release_displays()
display_bus = displayio.FourWire(spi, command=tft_dc, chip_select=tft_cs)

display = electronutlabs_ili9163.ILI9163(display_bus, width=160, height=128)

# Make the display context
splash = displayio.Group(max_size=10)
display.show(splash)

color_bitmap = displayio.Bitmap(160, 128, 1)
color_palette = displayio.Palette(1)
color_palette[0] = 0xFF0000

bg_sprite = displayio.TileGrid(color_bitmap,
                                pixel_shader=color_palette,
                                x=0, y=0)
splash.append(bg_sprite)

while True:
    pass
```


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 electronutlabs-circuitpython-ili9163 --
↳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.

5.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/ili9163_simpletest.py

```
1  """
2  This test will initialize the display using displayio
3  and draw a solid red background
4
5  This example is set up for Electronut Labs Blip
6  """
7
8  import board
9  import busio
10 import displayio
11 import electronutlabs_ili9163
12
13 spi = busio.SPI(board.D29, MOSI=board.D30)
14 tft_cs = board.D4
15 tft_dc = board.D33
16
17 displayio.release_displays()
18 display_bus = displayio.FourWire(spi, command=tft_dc, chip_select=tft_cs)
19
20 display = electronutlabs_ili9163.ILI9163(display_bus, width=160, height=128)
21
22 # Make the display context
23 splash = displayio.Group(max_size=10)
24 display.show(splash)
25
26 color_bitmap = displayio.Bitmap(160, 128, 1)
27 color_palette = displayio.Palette(1)
```

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```
28 color_palette[0] = 0xFF0000
29
30 bg_sprite = displayio.TileGrid(color_bitmap,
31                                pixel_shader=color_palette,
32                                x=0, y=0)
33 splash.append(bg_sprite)
34
35 while True:
36     pass
```

5.2 electronutlabs_ili9163

displayio driver for ILI9163 TFT-LCD displays.

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5.2.1 Implementation Notes

Hardware:

- Electronut Labs Blip
- TFTM018

Software and Dependencies:

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

class electronutlabs_ili9163.**ILI9163** (*bus*, ***kwargs*)
ILI9163 display driver

CHAPTER 6

Indices and tables

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

e

electronutlabs_ili9163, [12](#)

E

`electronutlabs_ili9163` (*module*), [12](#)

I

`ILI9163` (*class in electronutlabs_ili9163*), [12](#)