
AdafruitTSL2591 Library Documentation

Release 1.0

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CircuitPython module for the TSL2591 high precision light sensor.

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

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

3.1 adafruit_tsl2591

CircuitPython module for the TSL2591 precision light sensor. See examples/simpletest.py for a demo of the usage.

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```
adafruit_tsl2591.GAIN_HIGH = 32
    High gain (428x)
adafruit_tsl2591.GAIN_LOW = 0
    Low gain (1x)
adafruit_tsl2591.GAIN_MAX = 48
    Max gain (9876x)
adafruit_tsl2591.GAIN_MED = 16
    Medium gain (25x)
adafruit_tsl2591.INTEGRATIONTIME_100MS = 0
    100 millis
adafruit_tsl2591.INTEGRATIONTIME_200MS = 1
    200 millis
adafruit_tsl2591.INTEGRATIONTIME_300MS = 2
    300 millis
adafruit_tsl2591.INTEGRATIONTIME_400MS = 3
    400 millis
adafruit_tsl2591.INTEGRATIONTIME_500MS = 4
    500 millis
adafruit_tsl2591.INTEGRATIONTIME_600MS = 5
    600 millis
```

class `adafruit_tsl2591.TSL2591` (*i2c*, *address*=<*sphinx.ext.autodoc._MockObject object*>)
TSL2591 high precision light sensor. :param busio.I2C *i2c*: The I2C bus connected to the sensor :param int *address*: The I2C address of the sensor. If not specified the sensor default will be used.

disable ()
Disable the device and go into low power mode.

enable ()
Put the device in a fully powered enabled mode.

full_spectrum
Read the full spectrum (IR + visible) light and return its value as a 32-bit unsigned number.

gain
Get and set the gain of the sensor. Can be a value of:

- `GAIN_LOW` (1x)
- `GAIN_MED` (25x)
- `GAIN_HIGH` (428x)
- `GAIN_MAX` (9876x)

infrared
Read the infrared light and return its value as a 16-bit unsigned number.

integration_time
Get and set the integration time of the sensor. Can be a value of:

- `INTEGRATIONTIME_100MS` (100 millis)
- `INTEGRATIONTIME_200MS` (200 millis)
- `INTEGRATIONTIME_300MS` (300 millis)
- `INTEGRATIONTIME_400MS` (400 millis)
- `INTEGRATIONTIME_500MS` (500 millis)
- `INTEGRATIONTIME_600MS` (600 millis)

lux
Read the sensor and calculate a lux value from both its infrared and visible light channels.

raw_luminosity
Read the raw luminosity from the sensor (both IR + visible and IR only channels) and return a 2-tuple of those values. The first value is IR + visible luminosity (channel 0) and the second is the IR only (channel 1). Both values are 16-bit unsigned numbers (0-65535).

visible
Read the visible light and return its value as a 32-bit unsigned number.

CHAPTER 4

Contributing

Contributions are welcome! Please read our [Code of Conduct](#) before contributing to help this project stay welcoming.

CHAPTER 5

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-tsl2591 --
→library_location .
```


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