
Chemios Documentation

Release 0.1.0

chemios

Dec 10, 2021

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The Chemios Framework is a simple, open-source (i.e. FREE) software package for laboratory automation and monitoring.

It is easy-to-use and extensible. It currently works with pumps, spectrometers and temperature controllers. And, the list of equipment will continue to grow.

The framework is written in python (the unofficial language of science) and actively maintained. It works with pumps, spectrometers and more.

Chemios Framework API Documentation

1.1 chemios.pumps

1.2 chemios.spectrometers

Chemios Ocean Optics Module

class chemios.spectrometers._oceanoptics.OceanOptics (*spectrometer_model*,
seabreeze)

Class to define the spectrometers

spectrometer_model

Model of the spectrometer (e.g., FLMS02673)

Type str

seabreeze (

obj): Seabreeze.spectrometers object

absorbance_read (*integration_time*, *scans_to_average*, *filter=0*, *normalized=False*)

Function to read the UV data from the spectrometer Stores the normalized absorbance and fluorescence data into Spectrometer Object

Parameters

- **integration_time** (*float*) – Integration time in microseconds
- **scans_to_average** (*int*) – Number of scans to average over
- **filter** (*int*, *optional*) – The starting point for the Spectrum (e.g, start from the 300th data point). Defaults to use the whole spectram
- **normalize** (*bool*) – If true, absorbances will be normalized to the maximum absorbance. Defaults to false.

Yields Numpy array with first column as wavelengths and second column as absorbance

read_spectrometer_raw (*integration_time*)

Function to print the raw data from the spectreomter

Parameters **integration_time** (*float*) – Integration time in microseconds

Yields Numpy matrix with first column as wavelengths and second column a intensisties

store_blank (*blank*)

Method to save blank intensisties

Parameters **blank** (*array*) – Two column array of wavelengths and intesities

store_dark (*dark*)

Method to save dark intensisties

Parameters **dark** (*array*) – Two column array of wavelengths and intesities

1.3 chemios.temperature_controllers

Omega Temperature Controller Module

class chemios.temperature_controllers._omega.OmegaCN9300Series (*port*,
slave_address)

Class to Control Omega CN 9311 Temperature Controller

port

Serial port over which communication should be sent

Type str

slave_address

Address of the temperature controller from 1 to 247

Type int

Notes

Set the address on the Level C of the menu of the omega temperature controller

get_current_temperature ()

Method to get the current temperature

Yields

update = { 'temp_set_point': setpoint in deg C, 'current_temp': temperature in deg C }

set_temperature (*temp_set_point*)

Method to set the temperature

Parameters **temp_set_point** (*float*) – temperature setpoint in deg C

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