

Pylux User Manual

for Pylux v0.1-alpha

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1 Introduction

Pylux is a program written in Python for the manipulation of OpenLighting Plot documents. Pylux currently allows for the basic editing of the OpenLighting Plot XML files, including referencing OpenLighting Fixture files to obtain additional data.

In the future, Pylux will be extended with modules that allow for the exporting of documentation in the L^AT_EX format, and creating lighting plots in SVG format.

Bugs and feature requests should be submitted to <https://github.com/jackdpage/pylux/issues>.

2 Command-line Options

Pylux is invoked simply by running the `plotter.py` program. Windows operating systems should automatically associate file with the Python interpreter. The program contains a shebang line for compatibility with UNIX systems.

`--help, -h` Display the usage message of the program then exit.

`--version, -v` Display the version number of the program then exit.

`--file FILE, -f FILE` Load the file with path *FILE* as the project file on launch.

`--interface INTERFACE, -i INTERFACE` Launch Pylux with the interface with identifier *INTERFACE*. *INTERFACE* is either `cli` or `gui` depending on whether you want to launch the command line interface or graphical user interface respectively. The default is `cli`.

3 Basic Concepts

Pylux uses the OpenLighting Plot format as its document format. This format specifies three main components of an XML document: the meta section, the fixtures section and the registries section. In its current version, Pylux can only read and write to the latter two sections.

The fixtures section contains multiple fixture elements, each of which has various data associated with it, depending on the fields as defined by the fixture's OpenLighting ID (olid).

The registries section contains one or more DMX registries, each of which contains some channel elements, which contain both the UUID of the fixture they control and their function.

4 Using the Command Line Interface

Pylux ships with two interface modes: a command line interface (CLI) and a graphical user interface (GUI). The interface that is loaded on launch is specified

by the interface flag when the program is run. However, the default interface is the CLI. When the CLI launches, you are presented with an interactive prompt, which accepts commands which may also have arguments. Each command is two letters long (apart from the utility commands), where the first letter represents the aspect that the command affects and the second letter represents the action of the command.

4.1 Utility Commands

h Display a list of the available commands for the interactive prompt. This prints the contents of `help.txt` to the output.

c Clears the screen of previous input and output. This uses the system screen clearing command. (`clear` on UNIX, `cls` on Windows)

q Exit the program and autosave any changes that have been made to the tree.

q! Exit the program without saving any changes to disk.

4.2 File Commands

fl *FILE* Load the file with path *FILE* as the project file. This will override any unsaved buffer associated with the previous project file, if there was one.

fs Save the current file buffer to its original location.

fS *PATH* Save the current file buffer to a new file with location *PATH*.

4.3 Metadata Commands

ml List all the metadata tags associated with the currently loaded project file.

ma *TAG VALUE* Add a new piece of metadata. Adds a new tag with the name *TAG* to the metadata section and sets its value to *VALUE*.

mr *TAG* Remove the piece of metadata from the file which has the name *TAG*.

mg *TAG* Get the value of a piece of metadata. Prints the value of the metadata with name *TAG* on the screen.

4.4 Fixture Commands

xa *OLID* Add a new fixture to the plot. This will add a fixture to the plot with olid *OLID*. It will also automatically assign a UUID and search the OLF file associated with this olid for any constants that this fixture has and add them to the fixture. This will not assign DMX addresses to the fixture, use **xA** for that.

xl List all the fixtures in the plot. This will generate a list of every fixture in the plot, listing an interface reference, the fixture olid, and the fixture UUID.

xf TAG VALUE List all the fixtures in the plot which have a tag called *TAG* with a value of *VALUE*. Like the list function, this will list an interface reference, the fixture olid and UUID, and also the value of the tag that was given for verification purposes.

xi REF List all the information associated with the fixture with interface reference *REF*. *REF* is the number given to a fixture by either the list or filter command. It must be the number given by the most recently run command, as this interface reference buffer is updated each time one of these commands is run.

xr REF Remove the fixture with the interface reference *REF*. This fixture will be removed from the plot, but associated DMX channels will not be removed, use **xp** for that.

xs REF TAG VALUE Set the value of *TAG* in fixture with interface reference *REF* to *VALUE*.

xA REF UNIVERSE ADDR Assign DMX addresses to the fixture with interface reference *REF*. This will add the fixture to the universe *UNIVERSE*, beginning at the start address *ADDR*. *ADDR* can either be a user-assigned number or auto to allow Pylux to choose the most appropriate start address.

4.5 DMX Registry Commands

r1 UNIVERSE List all the used channels in *UNIVERSE*. This will list the DMX address, fixture UUID and function of every channel in the DMX registry with identifier *UNIVERSE*.

5 Using the Graphical User Interface

You may instead choose to launch Pylux using its GUI. This is NYI so please don't.

6 Extensions

In the previous sections, we have discussed the usage of the base program in Pylux: **plotter**. This is the program that you will use to edit your plots, however, beyond that, it doesn't do much. That is why Pylux is also bundled with additional programs to extend functionality. In the current version, Pylux comes bundled with the **texlux** program only.

6.1 TeXlux

TeXlux is an extension to the base **plotter** program which allows for the creation of reports in the L^AT_EX format, which can then be post-processed to create a PDF file, or many other formats through the use of an external tool such as Pandoc.

6.1.1 Invoking

TeXlux is invoked as a separate program, although it does require **plotter** to be present as it is imported when TeXlux is run. TeXlux is invoked using: **texlux** *FILE* *TEMPLATE*, where *FILE* is the Pylux plot file to process and *TEMPLATE* is the built-in function to create the report from.

6.1.2 Command-line Options

TeXlux has very little in the way of command-line options.

--title *TITLE*, **-t** *TITLE* Sets the title of the report to be *TITLE*. If this is not specified, a generic title such as 'Dimmer Report' will be used.

6.1.3 Processing

TeXlux uses built-in functions to generate L^AT_EX documents with pre-defined structures. Each built-in function has a corresponding L^AT_EX style file installed in `./pylux/tex/` which is required to build the PDF report. Currently the only built-in function is **dimmer**, which produces a report categorised by dimmer and containing power draw totals.

6.1.4 Output

TeXlux generates the L^AT_EX source in STDOUT, which can be written to a file or piped directly into a L^AT_EX processing tool such as **pdflatex**. Any errors that were encountered during processing are written as L^AT_EX compatible comments at the top of the source.

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