

Thorlabs APT compatibility library in Python

This module provides Thorlabs APT controller compatibility to all PCs that run Python. It is platform independent and has one dependency on the PyFTDI library. This module is not a complete implementation of the protocol, more so a subset that is easily extendable.

Feel free to fork this repository and change it to your needs. It is currently designed to be compatible with the BPC-303 controller through USB connection.

Functionality

- Connection set-up to the FTDI chip inside the Thorlabs APT controllers.
- Automatic detection of bays which are in use.
- Disconnecting from the Thorlabs APT controller gracefully.
- Provides helper methods for message building.
- Piezo zero'ing.
- Changing the Piezo control mode.
- Piezo movement in closed loop mode.

How to use

```
from apt import APT
```

```
controller = APT()  
module1 = controller.modules["module1"]  
module2 = controller.modules["module2"]  
module3 = controller.modules["module3"]
```

```
module1.move(0.5)  
module2.move(0.1)  
module3.move(0.3)
```

```
module1.move(0)
```

The code above initialised the APT class which will set-up a connection to the Thorlabs APT controller and automatically check which bays are in use.

Every bay that's in use will be initialised as a module followed by it's index number.

Modules provide move, zero and set closed loop methods. These methods will automatically move a certain percentage, start the zero'ing proces or allow the developer to switch between open and closed loop modes.