



PIEZOMOTION

Serial Communication via Python

Equipment: LCS-E with Driver Board USB to USB Mini cable

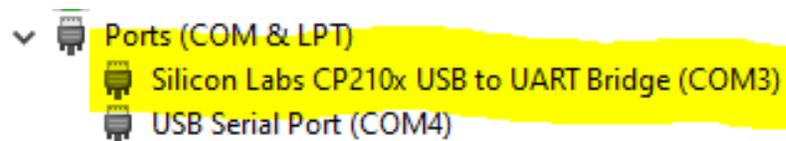
Discover **affordable precision** with piezoelectric **innovation**.

1.

Open your preferred Python Programming Environment for this walkthrough I used Eclipse (Version: 2021-06 (4.20), Build id: I20210611-1600) with the PyDev (Version: 8.3.0.202104101217) I have also added the Pyserial (Version: 3.5) Library to my environment for establishing a serial connection with Piezo Motion E-Board. You can download the PiezoMotion APIs (Public/Python API at master · dti-motors/Public · GitHub) from this link for easier implementation.

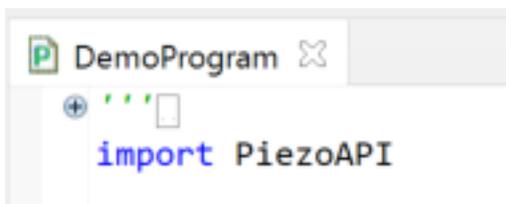
2.

Once you have your programming environment open and the needed libraries/APIs added connect your computer to you E-Board via USB. You should then see the following COM Port in your device manager. In this instance I am connected to the E-Board via "COM3"



3.

You can now start programming. The APIs have some built in objects to help get started and connected. You will need to begin by importing the APIs into your program in this instance have the APIs saved as "PiezoAPIs".



- 4.** You will then need to initialize a Piezomotor class. In my example I created a object "LCS1" since this is the motor that I am controlling. The only needed input is whether or not that it is a rotary or linear motor.

```
LCS1 = PiezoAPI.Piezomotor("Linear")
```

- 5.** The API has a function to connect to the E-board via the USB cable. To do this you will need to use the "connect" class. When you run the program and have connected properly you will get a message stating the program found a COM Port.

```
LCS1.connect()
```

- 6.** Once connected you can send it motion commands. Below is sample program for the LCS that moves the carriage to the left and then back to the right at different speeds.

```
velocity1 = 100
velocity2 = 5
timeout1 = 10
left = 'L'
right = 'R'
position1 = 5000
position2 = 2500
dwell = 1000

LCS1 = PiezoAPI.Piezomotor("Linear")
LCS1.connect()

LCS1.set_velocity(velocity1, timeout1)
LCS1.destination(left, position1, timeout1)
LCS1.pause(dwell)
LCS1.set_velocity(velocity2, timeout1)
LCS1.destination(right, position2, timeout1)
```