

HighFinesse  
The Standard of Accuracy

HighFinesse Tutorial

# Control the Wavelength Meter with your own application

This tutorial shows you how to ...

... control the Wavelength Meter  
with your own application.

This guide is intended to give you a short introduction on how to control a HighFinesse non-standalone wavelength meter or laser spectrum analyzer with external software. It is discussed how to use a Python example as a starting point for your own application on the computer running the wavelength meter software.

If you are interested in remote control via the network instead, please take a look at our tutorial »**Control the wavelength meter with your own application via the network**«

[https://www.highfinesse.com/en/howto/tutorial/How\\_To\\_Access\\_WS\\_EN.pdf](https://www.highfinesse.com/en/howto/tutorial/How_To_Access_WS_EN.pdf)



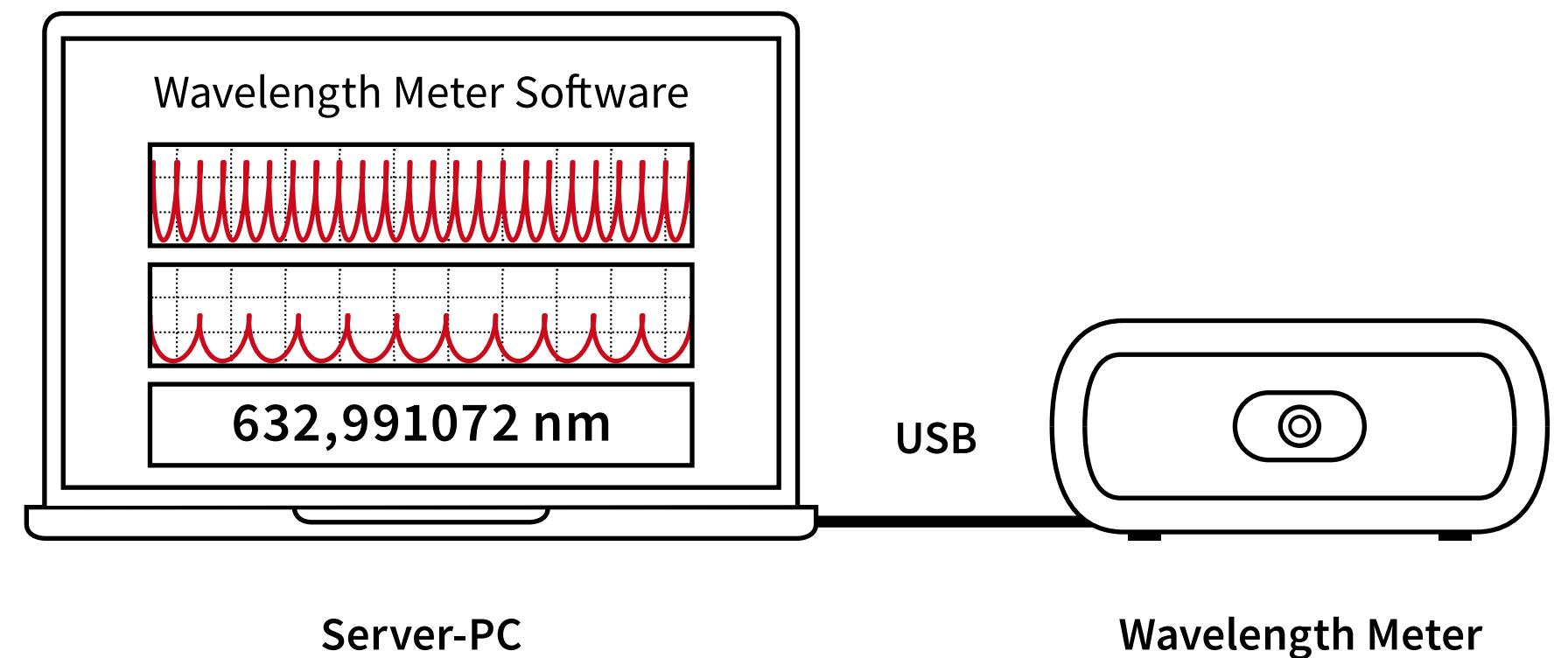
HighFinesse User Manual,  
Chapter 4

HighFinesse Python examples  
<https://www.highfinesse-downloads.com/download/t0849yd8uzpj>

HighFinesse Labview (beta version)  
<https://www.highfinesse-downloads.com/download/etugh84b4px8>

HighFinesse Matlab examples  
<https://www.highfinesse-downloads.com/download/2ytbyvzw8rb>

1



Install and connect the instrument as described in the **relevant quickstart guide**.

<https://www.highfinesse.com/en/support/quick-start-guide.html>



2

Download the **HighFinesse Python Examples** from the link below.

[https://  
www.highfinesse-downloads.com/  
download/  
edcsc5ypvsua](https://www.highfinesse-downloads.com/download/edcsc5ypvsua)

3

Run the wavelength meter software.

4

Make sure to **keep the files wlmData.py and wlmConst.py in the same path as the script you would like to run.**

Avoid copying any wlm Data.dll files to the path of the example.



5

The screenshot shows the Spyder Python IDE interface. The title bar says "Spyder". The menu bar includes File, Edit, Search, Source, Run, Debug, Consoles, Projects, Tools, View, Help. Below the menu is a toolbar with various icons. The main area shows a file named "DataDemo.py" with the following code:

```
29 import sys
30 #####
31 # Set the DLL_PATH variable according to your environment
32 ##### 
33 DLL_PATH = "wlmData.dll"
34 
35 
36 # Load DLL from DLL_PATH
37 try:
38     wlmData.LoadDLL(DLL_PATH)
39 except:
40     sys.exit("Error: Couldn't find DLL on path %s. Please check")
41 
42 # Checks the number of WLM server instance(s)
43 if wlmData.dll.GetWLMCount(0) == 0:
44     print("There is no running wlmServer instance(s).")
45 else:
46     # Read Type, Version, Revision and Build number
47     Version_type = wlmData.dll.GetWLMVersion(0)
48     Version_ver = wlmData.dll.GetWLMVersion(1)
49     Version_rev = wlmData.dll.GetWLMVersion(2)
50     Version_build = wlmData.dll.GetWLMVersion(3)
51     Pattern=wlmData.dll.GetPattern(0)
52     print("WLM Version: [%s.%s.%s.%s]" % (Version_type, Version_ver, Version_rev, Version_build))
```

Open **CallBackDemo.py** with a suitable program (for example Spyder).

This script shows you how to efficiently collect the wavelength data using the Callback procedure. This is a good starting point for your own application in Python.

Follow the instruction in the **the manual (chapter 4)** to write your own code.

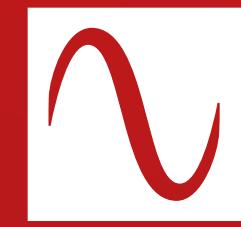
In most cases it is **not needed to specify the .dll path**. The example will work as it is.

## It is not working. What can I do?

- Check if both the **wavelength meter software and the script run on the same rights level.**
- Verify that the **wavelength meter software is running**, which is **needed for successful communication**. It is possible to start the wavelength meter software (also with GUI hidden) via the API using the command ControlWL
- Verify that your **software is up to date**.
- **Contact HighFinesse** with the **serial number** of your instrument.

## Looking for another example?

<b>Python example</b>	<b>Purpose</b>
CallBackDemo.py .....	Efficient wavelength read out
CallBackExDemo.py .....	Efficient wavelength read out for multiple wavelength meters
DataDemo.py .....	Basic example
DataDemoPIDSetting.py .....	Laser Control/PID
DataDemoStartSoftwareOperation.py	Start the software and a measurement
StatusGUIDemo.py .....	Building a custom GUI
InstrumentListGUIDemo.py .....	Building a custom GUI for multiple instruments
LSAAnalysisDataDemo.py .....	Read the spectrum provided by HighFinesse Laser Spectrum Analyzer
PatternDemo.py .....	Read the interferograms
SetAveragingSettingNum .....	Averaging settings



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