



## AvaSpec-spectrometer, with fiber

### Content of shipment

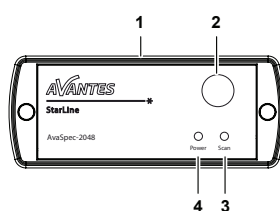
This shipment contains the following items; check carefully if all items are present:

- AvaSpec-spectrometer
- USB-cable
- Getting started card
- Wavelength Calibration data sheet



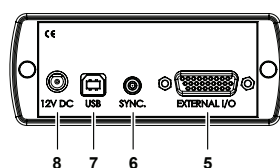
This quick installation guide is not a replacement of the original user's manual and safety prescriptions. For more detailed information we refer to the specific user's manual. You can download the applicable manual from our website: [www.avantes.com/gettingstarted](http://www.avantes.com/gettingstarted)

### Front view



1. Housing
2. SMA-connector
3. Scan-LED (Yellow)
4. Power indicator-LED (green)

### Rear view



5. External IO (26 pole)
6. Synchronisation connector (only for multi-channel)
7. USB connection
8. External power connection, 12 V dc (350 mA, only used with SPU2)

## Software installation



The software is developed for use with Microsoft-operating systems Windows (32- of 64-bits).

The Avantes-software must be installed before the spectrometer is connected to the PC.

1. Install the Avantes-software from [www.avantes.com](http://www.avantes.com)
2. When the software is installed, the spectrometer can be connected to a free USB port of the PC using the USB-cable.
3. The spectrometer is powered via USB. When an ETH connection is applied an external power supply is needed.
4. Follow the on screen instructions, given by the software, to finish the software installation.





## Start-up software

Start-up the AvaSoft program.

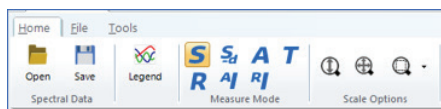
The software will show a popup screen to show you that it recognizes the spectrometer connected to the USB connection. When this is not the case, first check the USB connection.

If there are still questions or un-clarities please contact the Avantes support team.

**Measuring and saving a spectrum**

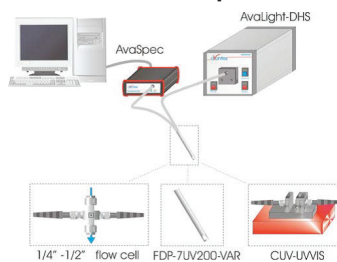
1. Click the blue 'Start' button to start a measurement. This button can be found on the top left of the screen.
2. Connect a fiber to the spectrometer input port(s) and any possible light sources and set up the experiment for taking a (reference) spectrum to verify the software settings.
3. Make sure that the light spectrum gets to the fiber. There should be a spectrum available now on the screen, although there is the possibility that there is too much or too little light reaching the spectrometer at the present data collection settings. Too much light means that, over a certain wavelength range, the signal is saturated. This results in a straight line at the maximum counts and the appearance of the label 'saturated' in the status bar of the spectrometer channel. Normally this can be resolved by taking a shorter integration time. The integration time can be changed in the main window, in the white box where Integration Time is stated. Besides changing the integration time the 'Auto-configure' button  can be used. The new integration time will take effect once Enter is pressed or when the box is left. Try to adjust the integration time, such that the maximum count over the wavelength range is around 90% of the full ADC scale. When at minimum integration the signal is still too high, an attenuator, a neutral density filter or fibers with a smaller diameter may be used. When not enough light reaches the spectrometer, likewise a longer integration time should be entered.
4. To improve the Signal/Noise ratio, a number of spectra may be averaged. To do so, the values in the white average box in the main window (next to integration time) can be increased. The new value will take effect when you press the 'Enter' key or leave the box.
5. When a good spectrum is displayed, switch off the light source.
6. Wait a few measurements, so that the dark signal is relatively flat. Save the dark data by pressing the open/empty bulb  (Save Dark) which is present in the main window. Always take a new dark when the integration time is changed.
7. For absorption, transmission and reflection measurements it is needed to save a reference spectrum. Switch on the light source again so a reference can be taken. Save the shown spectrum as a reference spectrum by pressing the filled bulb  (Save Reference). Always use Save Reference after the integration time has been changed. Now the Transmittance, Reflectance and Absorption (T, R and A button) spectra can be obtained online. To have a closer look at a part of the spectrum the magnifying glass with the arrows can be used.
8. When the green/red button is pressed  (Activate/Deactivate), the data collection is stopped and the last received spectrum will be displayed in a static mode. The collection of data will be started when this button is pressed again, the button will be displayed in green.
9. To save the spectrum (in the mode that you have chosen), the Save button can be pressed. This button can be found on the 'Home' Ribbon tab.
10. For further information you can check the software manual, this manual can be found by pressing the question mark (right corner) then click help.

**Home Ribbon Tab**

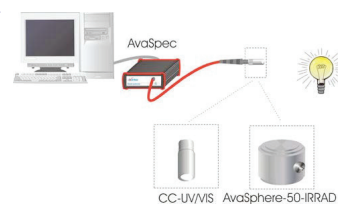


**Measurement setup**

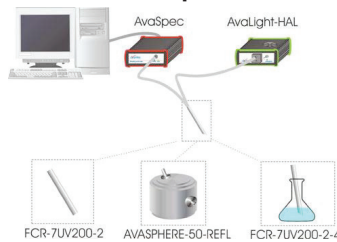
**UV/VIS Absorbance Transmission setup**



**Irradiance setup**



**Reflection setup**



**Fluorescence setup**

