



What is in the box

Contents of shipment

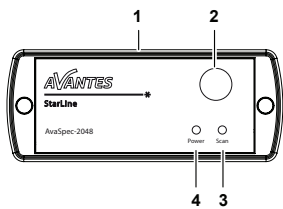
In your shipment box you will find following, please check carefully that all items are present:

- AvaSpec spectrometer.
- USB or RS-232 interface cable.
- AvaSpec Product CD-ROM.
- Wavelength Calibration Data Sheet.



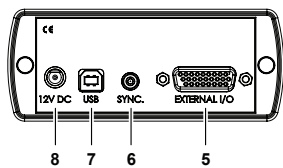
This quick installation instruction is not a replacement for the original user instructions and safety prescriptions. For more and detailed information we refer to the specific user manual (pdf on the CD-ROM), delivered with the Spectrometer. You can also download the applicable manual from our website www.avantes.com/downloads.

Front view



1. Housing
2. SMA entrance
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 system Windows Vista, Windows XP or Windows 7 (32 or 64 bits).

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

1. Place the CD with the Avantes software in the CD-ROM station of your PC and install the Avantes program.
2. During the installation select the next option:
 - Microsoft WinUSB.
3. When the software is installed, the spectrometer can be connected to a free USB port of the PC using the USB cable.
4. The spectrometer is powered via the USB connection.
5. Follow the on screen instructions, given by the software, to finish the software installation.

Start-up software

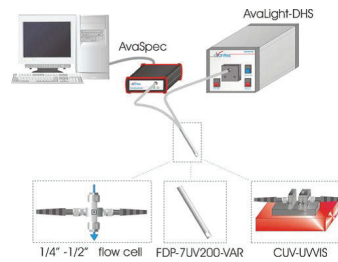
1. Start-up the AvaSoft program via START → All programs → Avantes Software → AvaSoft or via the AvaSoft icon at the desktop. The software will show a popup screen to show you that it recognizes the spectrometer connected to the USB connection.

Measuring and saving a spectrum

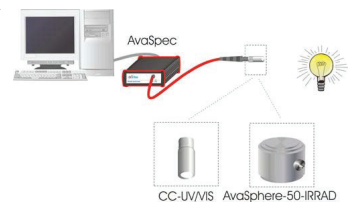
1. Click the green 'Start' button to start measuring.
2. Connect a fibre or probe to the light source and to the spectrometer input port(s) and set up the experiment for taking a reference spectrum.
3. Optimal smoothing is preset and stored on board in the EEPROM.
4. Switch on the light source. Usually some sort of spectrum may be seen on the screen, but it is possible that too much or too little light reaches the spectrometer at the present data collection settings.
 Too much light means that, over a certain wavelength range, the signal is saturated shown as a straight line at the maximum counts and the appearance of the label "saturated" in the status bar of the spectrometer channel. This can usually be solved by a shorter integration time. The integration time can be changed in the main window, in the white box below the 'Start/stop' button.
 The integration time can be changed in the main window, in the white box below the start/stop button or the Auto-configure Integration time button can be used. The new integration time can be entered in the box, and will take effect once you press the 'Enter' key or leave the box. Try to adjust the integration time, such that the maximum count over the wavelength range is around 90% of the full ADC scale (14750 counts for the 14-bit ADC, 59000 counts for the 16-bit ADC).
 When at minimum integration the signal is still too high, an attenuator, a neutral density filter or fibres with a smaller diameter may be used.
 When not enough light reaches the spectrometer, likewise a longer integration time should be entered.
5. When a good spectrum is displayed, switch off the light source.
6. Save the Dark data by selecting File → Save → Dark from the menu or by clicking the black square on the left top of the screen with the mouse.
 Always use Save Dark after the integration time has been changed.
7. Switch on the light source again. Save the present spectrum as a reference by selecting File → Save Reference from the menu or by clicking at the white square (next to the black one). Always use Save Reference after the integration time has been changed. Now the Transmittance/reflectance (T/R button) or Absorbance (A button) spectra can be obtained online.
 Click the cursor button to have a better look at the amplitude versus wavelength. A vertical line is displayed in the graph. If the mouse cursor is placed nearby this line, the shape of the mouse cursor changes from an arrow to a 'drag' shape. If this shape is displayed, the left mouse button can be used to drag (keep left mouse button down) the line with the mouse towards a new position. Moving this line shows the corresponding values of wavelength and amplitude in the main screen.
 By clicking the red 'Stop' button, the data acquisition is stopped and the last acquired spectrum is shown in static mode. The data acquisition can be started again by clicking the same button, which now shows a green 'Start'.
8. To save the spectrum (in the mode chosen before), choose File → Save → Experiment from the menu, or click the Save Experiment button from the button bar.
9. To improve the Signal/Noise ratio, a number of spectra may be averaged. To do this, the value 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.

Measurement setup

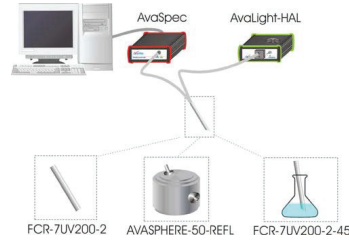
UV/VIS Absorbance/ Transmission setup



Irradiance setup



Reflection setup



Fluorescence setup

