Interface Packages and Libraries for Windows and Linux

AS-5216-DLL Windows and Linux interface packages

Available in both Linux and Windows (XP through 10) versions, the interface packages allow you to easily write custom software solutions for AvaSpec series spectrometers.

The Windows version, AS-5216-DLL, is 32-bit software that works seamlessly under 64-bit versions of Windows in a mode called WoW64. The Windows version also includes a 64-bit version (as5216x64.dll) which can be used when a 64-bit programming environment is used.

The software can be used for the following actions:
- Establishing connections to one or more connected USB spectrometers, activation and deactivation.
- Setting and retrieving device hardware parameters from the spectrometer's EEPROM. This includes wavelength coeffi-cients, gain and offset values and optional parameters that can be added. These include non-linearity calibration, irradiance calibration and others. Data collection parameters, such as integration time, averaging, smoothing and start/stop pixel can be stored to the EEPROM.
- Data acquisitioning and transferring of the spectra to your application
- Communicating with other devices by using TTL and/or analog output signals. The AvaSpec series spectrometers are equipped with a 26-pin digital I/O connector: 3 grounds, 1 digital-in (pre-defined for external hardware trigger), 3 programmable digital-in, 1 digital-out to control a pulsed light source (such as AvaLight-XE), 1 digital-out to synchronize a pulsed laser (e.g. for LIBS applications) and 10 programmable (TTL level with 6 outputs programmable with pulse width modulation – PWM) digital-out signals. 2 analog-out and 2 analog-in are included as well. The packages include options to control the TTLs of this external I/O connector. The hardware synchronization between the connected spectrometers can be software controlled.
The packages also include a number of sample programs to give examples on how to write your programs. They are an excellent starting position.

Example source code in multiple languages are included please visit website for complete list.

AvaSpec-DLL Windows interface packages

To fully support the ethernet functionality on the new AS-7010 platform, Avantes will soon replace the AS-5216-DLL with a new AvaSpec-DLL. The AvaSpec-DLL will be downward compatible with the AS-5216 to ensure ease of intergratrion.

FOM-DLL Windows interface package for fiber-optic multiplexer

To facilitate writing custom software solutions for the fiber-optic multiplexer under Windows, the FOM-DLL has been developed. It runs under Windows XP through 10 and contains options to control the position of the multiplexer to one of the 16 positions, travel to the step motor's reference position and to request status information. Example source code in Visual C++, Delphi, C++ Builder and LabView demonstrate how to use the MUX-DLL is included in the package.
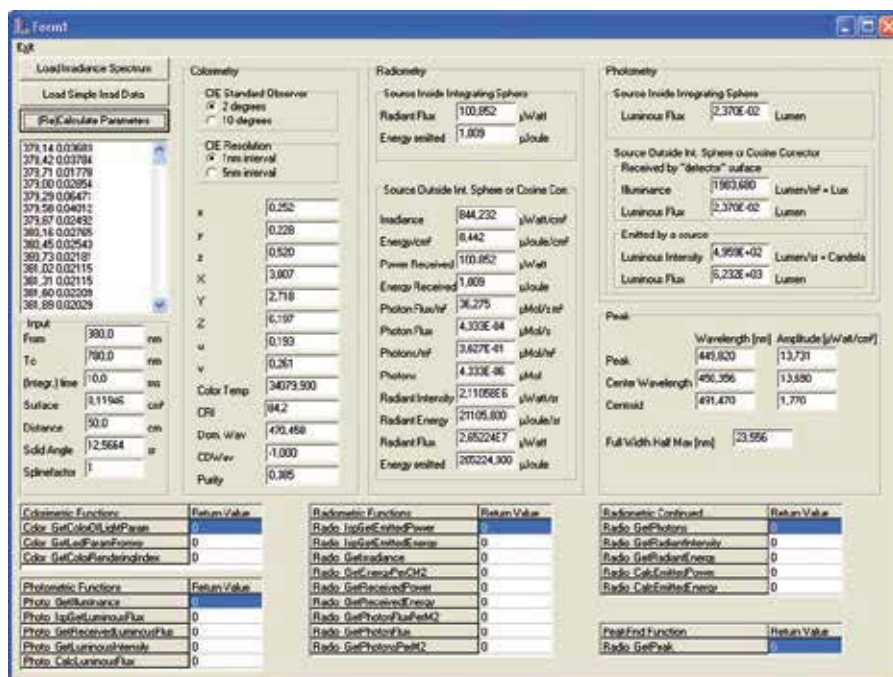
Color-DLL

The Color-DLL is used to calculate the color parameters L*, a* and b* as well as their hue angle (h*) and Chroma (C*) and X, Y, Z values from an array of reflection values, representing the reflectance values between 380 and 780 nm with a 5 nm interval. It runs under Windows XP through 10.

Besides the reflectance array, the function requires another input variable: the illuminant. A choice can be made between 7 different illuminants: A, B, C, D50, D55, D65 and D75.

An example program in Delphi is provided with the software package.

Irradiance-DLL

The Irradiance-DLL includes the possibility to calculate colorimetric, radiometric, photometric and peak parameters from an array of irradiance values ($\mu W/nm \cdot cm^2$) as well as the CRI. Example programs in C++ and Labview are included as well. It runs under Windows XP through 10.

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Ordering information

Ava-DLL	• Interface DLL package for AvaSpec-EVO platform for Windows XP through 10
AS-5216-DLL	• Interface DLL package for AvaSpec-USB2 platform for Windows XP through 8
FOM-DLL	• Interface DLL package for Fiber-optic Multiplexer (FOM-UVIR400-1x16, FOM-UVIR400-4x4 and FOM-UVIR400-2x8) for Windows XP through 8
COLOR-DLL	• DLL to calculate color coefficients, for Windows XP through 8
IRRAD-DLL	• 32-bit DLL for Irradiance/LED application for Windows XP through 8
LINUX-LIBRARY	• Linux interface package for AvaSpec-USB2 platform

We can also calibrate
your AvaSpec series
spectrometer

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