

SPECTRAL EVOLUTION

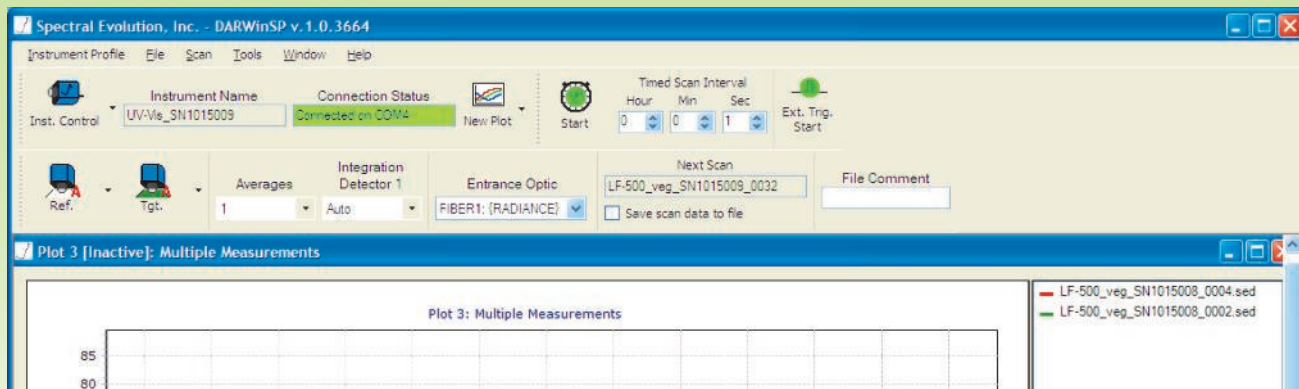
DARWin SP Data Acquisition Module Capabilities & Features

Only SPECTRAL EVOLUTION Spectrometers & Spectroradiometers offer the exclusive DARWin™ SP Data Acquisition Module software package – included free with every SPECTRAL EVOLUTION system!



**Fast data processing –
Right on your laptop!**

SPECTRAL EVOLUTION Spectroradiometers and companion DARWin SP Data Acquisition Module are ideal for one-touch full-range spectroscopic analysis of samples. The screen shot (left) demonstrates some of the capabilities of these systems. In the top panel, transreflectance of a plastic film was measured using the PSR+ Portable Spectroradiometer with its included 4° lens foreoptic (blue trace). The same setup was also used to measure spectral radiance of the incident light from a halogen source (red trace). Each scan takes less than 1 second. The lower panel shows transreflectance of three different plastic films measured with the same system and displayed concurrently in a different window. Multiple scans may be viewed concurrently to speed comparative analyses.



**Easy to use pushbutton console controls and pull down menus –
Take measurements and analyze data in minutes!**

DARWin SP Data Acquisition Module uses simple, intuitive pushbutton controls and pull down menus to achieve a broad range of operating modes and settings. For more info on capabilities, see back page ▶

DARWin SP Data Acquisition Module Capabilities

Data Collection:

- Collect reference or target scan spectra with a single click
- Automatic shutter for dark compensation
- Automatic integration time adjustment for each detector, or user can set values manually
- User-selectable averaging
- User-selectable radiometric calibration for instruments supplied with multiple entrance optic accessories
- Instrument status displayed after each scan (voltage, temperature, scan title, etc.)
- Automatically saves spectra to text files for later retrieval
- Timed mode: spectra can be collected at user adjustable intervals from 1 second to 1 hour.
- Trigger mode: instruments equipped with external trigger inputs can collect data when receiving a trigger signal, with adjustable 0-50 ms delay

Plotting Data:

- Spectrometry - display reflectance/transmittance data (percentage) or absorbance (logarithmic) vs. wavelength
- Spectroradiometry - display spectral radiance or irradiance vs. wavelength, depending on entrance optic
- Two types of spectral plots available: single and multiple
- Single scan plot displays active spectrum (radiometric/ratio/both with separate y-axes), with or without the associated reference.
- Single scan plot also features a data table window with user-selectable columns (channel #, wavelength, radiometric/ratio values for both reference and active spectra)
- Table data can be easily copied to spreadsheet software
- Multiple scan plot displays numerous scans on the same axes; easily compare current scans against ones collected over an extended time period or archived data
- Calculate first and second derivatives

- Selectable plot lines highlight the corresponding legend items. Selectable legend titles allow you to hide/show/delete plot lines or copy them to new plot windows
- All plots have automatic or manual vertical scaling adjustment and axis limits
- Zoom and pan functionality. Single scan plots can zoom multiple y-axes together or independently
- Adjustable plot titles, axis labels, color palettes, line thickness and antialiasing
- Optional adjustable-width moving average filtering

Scan Information Window:

- Displays up-to-date instrument parameters (device ID, voltage, detector temperature readings)
- Displays current scan parameters (title, averages setting, integration settings, dark current subtraction mode)
- Spectroradiometry: integrated radiance or irradiance, with user-adjustable wavelength range and display units
- Photometry: luminance/illuminance
- Colorimetry: x',y' coordinates and correlated color temperature

Colorimetry Window:

- CIE 1931 chromaticity diagram with sRGB gamut
- Scan result displayed graphically with cross-hair overlay
- Text display of x',y', XYZ and RGB coordinates and correlated color temperature

Solar Simulator Testing:

- IEC 60904-9/ASTM E927-05 table for comparison with AM1.5 Global Tilt standard, class grading for all wavelength bands

Additional Features:

- Pulldown access to 19 Vegetation Indices
- Access to USGS library
- Calculate first and second derivatives

Compatibility:

- Windows 7 and Windows 10



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