SM– 3500 Photodiode Array UV-VIS-NIR Compact, Portable Spectrometer

Technical Specifications

	SM-3500
Spectral Range	350–2500nm
Spectral Resolution	3nm (350-1000nm) 8nm @ 1500nm 6nm @ 2100nm
Spectral Sampling Bandwidth	Data output in 1nm increments; 2151 channels reported
Si Detectors	512 element Si array (350–1000nm)
InGaAs Detectors (TE-cooled)	256 element extended wavelength array (970–1900nm) 256 element extended wavelength array (1900-2500nm)
FOV Options	23° fiber optic, fiber mount 1,2,3,4,5,8° FOV lenses, available with contact reflectance probes, integrating spheres, leaf clips
Stray Light	0.10%
Minimum Scan Speed	100 milliseconds
Wavelength Reproducibility	0.1nm
Wavelength Accuracy	±0.5 bandwidth
Communications Interface	USB, Bluetooth
Size	8.5" x 12" x 3.5"
Weight	Less than 8 pounds
Software Included	DARWin SP Data Acquisition

SM-3500 Accessories

Contact Probe

Probe with Leaf Clip Attachment

Leaf Clip with External Trigger and ILM-105 Light

Benchtop Probe with Compactor

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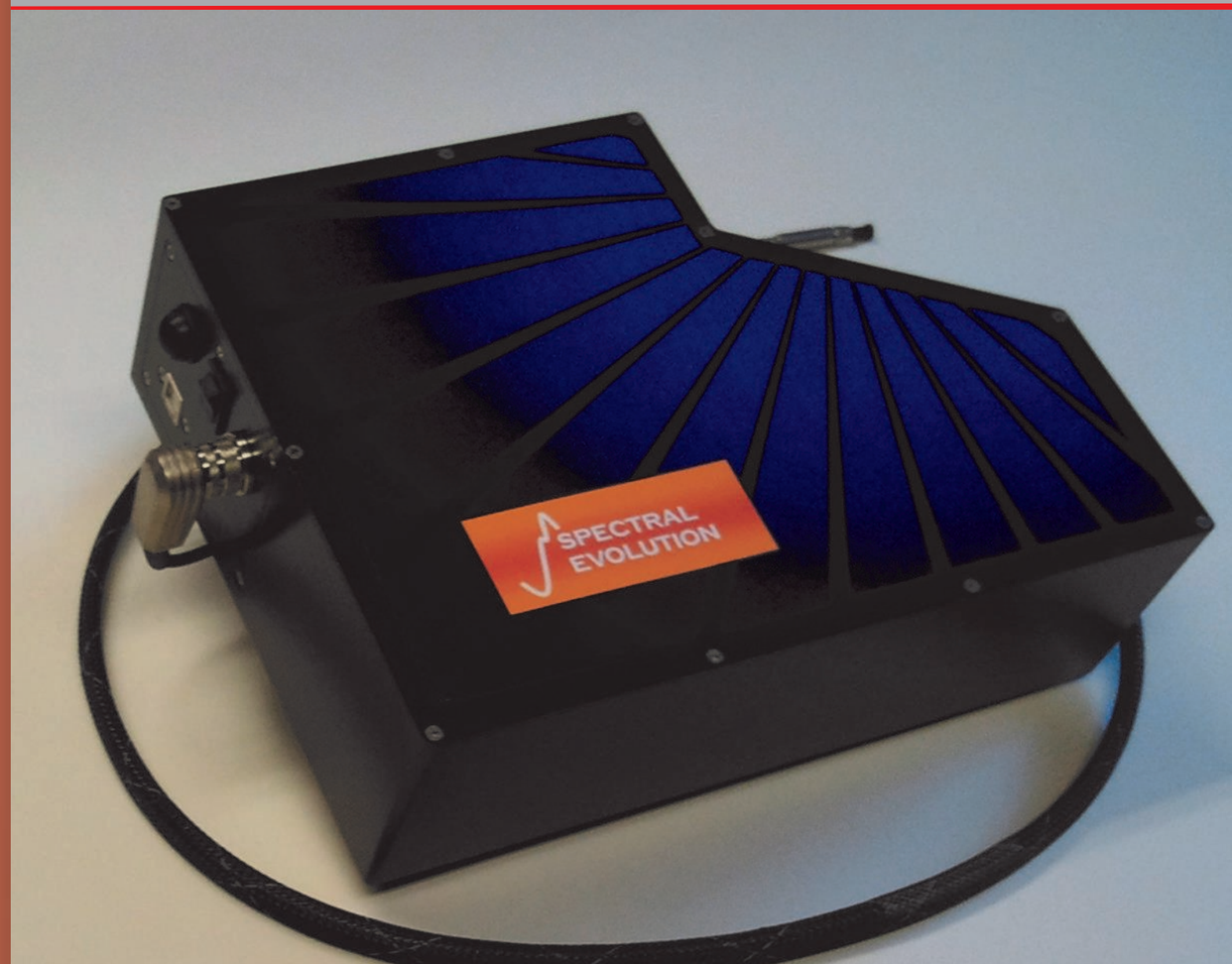
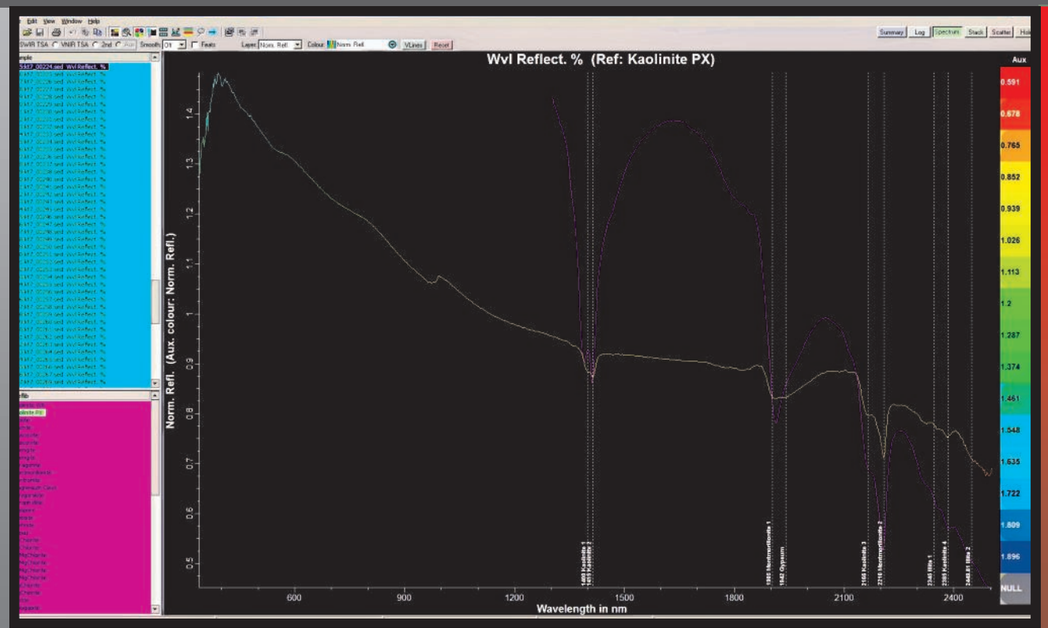
SM-3500 Full Range Spectrometer for Field, Laboratory, or Industrial Applications



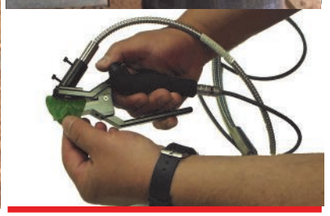
Versatile, Portable, Full Range

The SM-3500 Spectrometer offers high performance in a compact, portable instrument, for applications including:

- *Mining exploration and mineral identification*
- *Mining production and analysis*
- *Vegetation studies*
- *Soil and crop analysis*
- *Plastic and polymer identification and screening*
- *Light source measurement*
- *Process control*
- *Raw materials inspection*
- *Color measurement*
- *Food and beverage, including analysis of meat tenderness, dough consistency, beverage content*
- *Counterfeit drug inspection*

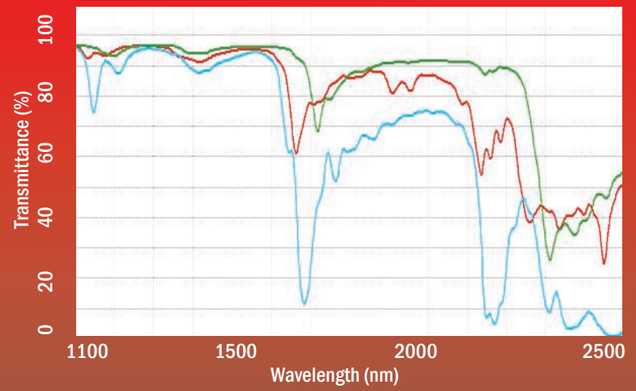


The SM-3500 includes DARWin SP Data Acquisition software that saves the scans you collect as ASCII files. In mining applications, these files can then be imported into third party analysis software without pre-processing. In the screen above, the scan data has been imported into TSG.™ and displayed. The cyan curve is a sample from the spectral library, the magenta curve is from the reference spectral library, the pink curve is the reference spectrum of Kaolinite, and the yellow curve is the target sample spectrum.



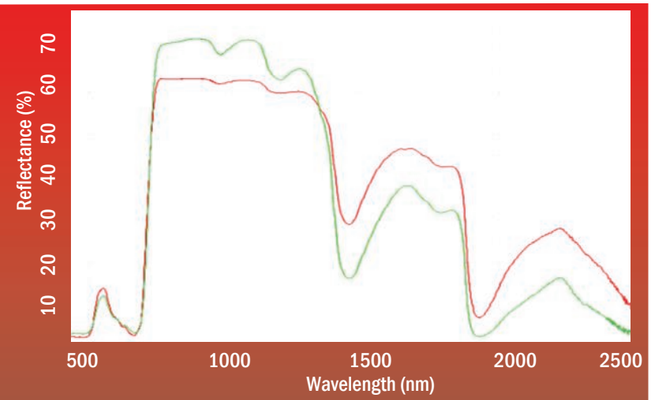
SM-3500 spectrometers increase productivity in the lab or the field. The SM-3500 delivers:

- *Fast, full spectrum UV/VIS/NIR with a single scan*
- *Auto-shutter, auto-exposure, and auto-dark correction —no optimization step—for one touch scanning*
- *Superior field reliability with no moving parts*
- *Lightweight and compact*
- *Optional external rechargeable lightweight Li-ion batteries*
- *Removable fiber optic cable—field swappable*
- *A wide range of FOV fiber mount lenses*
- *Bluetooth connectivity (Class 1)*
- *Optional rugged handheld Getac PS336 PDA with auto-focus digital camera, e-compass, altimeter, voice note capability, GPS/photo/voice note tagging, and sunlight readable 480x640 pixel display*
- *DARWin SP Data Acquisition software saves files as ASCII for use with analysis software*
- *DARWin SP pull down menus for access to USGS spectral library for minerals and vegetation and 19 vegetation indices*



Material QC and Process Control

SM–3500 spectrometers are ideal for one-touch full range spectroscopic analysis of a wide range of materials. Transreflectance of three different plastic films were measured using the SM-3500 with a f4 degree FOV lense. DARWin SP allows for the simultaneous display of multiple scans in a single plot for comparison. The red, green, and blue traces represent polyester, polystyrene, and acetate films, respectively.



Leaf Reflectance

Rhododendron decorum (green trace) and Acer saccharum (red trace) leaf reflectance were measured using an SM-3500 Spectrormeter using the companion SPECTRAL EVOLUTION ILM-105 Fiber Optic Illumination Module fitted with an optional 1 meter bifurcated fiber optic cable. The graphs were generated using the easy-to-use DARWin SP Data Acquisition software included with all instruments. The SM-3500 features automatic exposure control and auto-shutter for simple operation.

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