



Field Portable Spectrometers for Geology and Environmental Studies



SPECTRAL EVOLUTION PSM Series Si / InGaAs Multiple Array UV-VIS-NIR Full Range Portable Spectrometers

Technical Specifications

	PSM-3500	PSM-2500	PSM-1900
Spectral Range	350-2500nm	350-2500nm	350-1900nm
Spectral Resolution	3.5nm (350-1000nm) 10nm @ 1500nm 7nm @2100nm	3.5nm (350-1000nm) 22nm @ 1500nm 22nm @ 2100nm	3.5nm (350-1000nm) 10nm (1000-1900nm)
Spectral Sampling Bandwidth	1.5nm (350-1000nm) 3.8nm @ 1500nm 2.5nm @2100nm	1.5nm (350-1000nm) 6nm @ 1500nm 6nm @ 2100nm	1.5nm (350-1000nm) 3.8nm @ 1500nm
Si Detectors	512 element Si array (350-1000nm)	512 element Si array (350-1000nm)	512 element Si array (350-1000nm)
InGaAs Detectors	256 element extended wavelength array (970-1910nm) 256 element extended wavelength array (1900-2500nm)	256 element extended wavelength array (970-2500nm)	256 element extended wave- length array (970-1900nm)
FOV Options	4°, 8°, or 14° lens, 25° fiber optic, diffuser, integrating sphere	4°, 8°, or 14° lens, 25° fiber optic, diffuser, integrating sphere	4°, 8°, or 14° lens, 25° fiber optic, diffuser, integrating sphere
Stray light	0.10%	0.10%	0.10%
Minimum Scan Speed	100 milliseconds	100 milliseconds	100 milliseconds
Wavelength Reproducibility	0.1nm	0.1nm	0.1nm
Wavelength Accuracy	±0.5 bandwidth	±0.5 bandwidth	±0.5 bandwidth
Communications interface	USB, Bluetooth	USB, Bluetooth	USB, Bluetooth
Size	8.5" x 11.5" x 3.25"	8.5" x 11.5" x 3.25"	8.5" x 11.5" x 3.25"
Tripod mounting	2 each ¼-20 mounting holes provided	2 each ¼-20 mounting holes provided	2 each ¼-20 mounting holes provided
Weight	7.3 lbs	7.3 lbs	7.3 lbs
Batteries	Two lithium ion; 7.4V	Two lithium ion; 7.4V	Two lithium ion; 7.4V
Battery Operation	Removable battery; minimum 2 hour operation	Removable battery; minimum 2 hour operation	Removable battery; minimum 2 hour operation
On board memory	Storage of 500 spectra	Storage of 500 spectra	Storage of 500 spectra

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SPECTRAL EVOLUTION

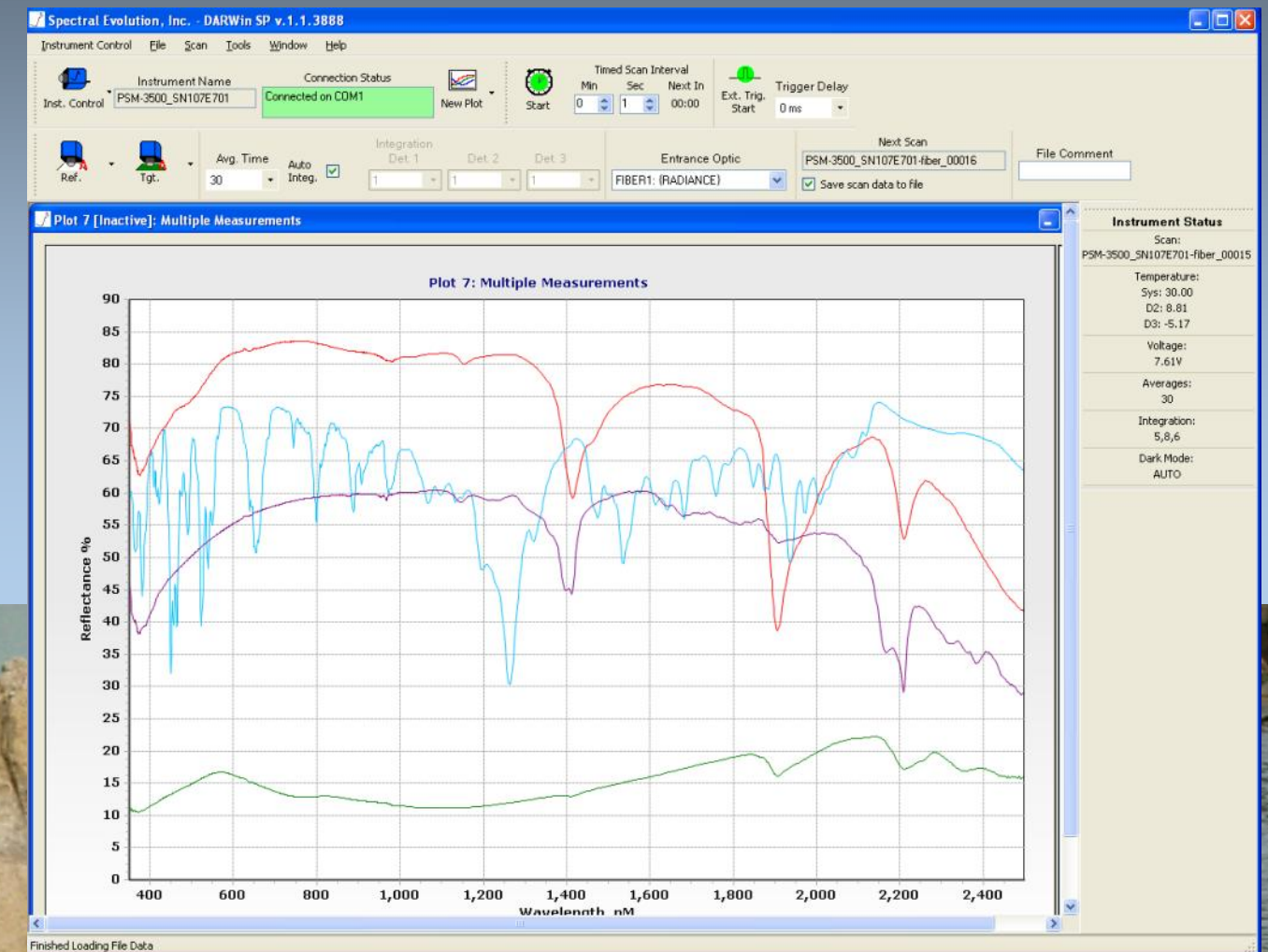
PSM Series Portable Spectrometers

The features you want– the high spectral resolution and sensitivity you need!

Fast, full featured and flexible– SPECTRAL EVOLUTION PSM Series Spectrometers are compact and easy to carry, set up and use– Precise and powerful to analyze the most demanding geological samples!

- ▶ Fast, full spectrum UV-VIS-NIR measurements– 350-2500nm with just one scan
- ▶ All 100% diode array optics with no moving gratings for improved field reliability
- ▶ Integral dark shutter for convenient, accurate scans
- ▶ Bluetooth interface for wireless, remote sensing
- ▶ High capacity Li-Ion Rechargeable batteries slide right into the unit– no heavy external batteries to carry around.
- ▶ Lightweight powder-coated aluminum case with low profile heat exchanger for added durability and temperature stability
- ▶ Software for both Windows-based laptops and Bluetooth-compatible personal digital assistant (PDA) for maximum flexibility
- ▶ Membrane control panel for stand-alone operation without a computer connection– internal memory holds up to 500 scans!
- ▶ Nylon carrying strap with sturdy, reinforced eyelets for added security

SPECTRAL EVOLUTION PSM Series Spectrometers use firmly attached diffraction grating-based internal optics with multiple photodiode array detectors. This ensures both high sensitivity and resolution without having to use light-robbing internal fiber optics, ultra-narrow slits or moving gratings & prisms that can get knocked out of alignment. PSM-Series Spectrometers can collect spectra in as little as 100 milliseconds. The exclusive DARWin SP Data Acquisition Module included with each unit allows for full featured instrument control and data handling and is compatible with UNSCRAMBLER for further data manipulation. LABVIEW drivers are also available (please inquire). In the chart below, the PSM-3500 was used to measure reflectance of kaolinite (purple), illite (green), montmorillonite (red) and SRM-1920 (cyan). The DARWin SP Data Acquisition Module allows multiple scans to be charted simultaneously for easy data analysis



SPECTRAL EVOLUTION PSM Series Portable Spectrometers come with full controls and a removable Li-Ion battery (a) for stand-alone data acquisition of up to 500 spectra without a computer. Weighing in at less than 8 pounds, all PSM Series units are small, lightweight and easy to carry and use. Units come with a hand strap and include reinforced hardware for shoulder straps (b) or for tripod mounting (c). Units can be ordered with a screw mount FOV lens (4, 8 or 14°) or with a removable fiber optic attachment to use with an illuminating reflectance probe (b, d) or integrating sphere (optional). For true portability, PSM Series Spectrometers can also be ordered with a lightweight backpack (d) or foam padded travel case with or without wheels. All PSM Series Spectrometers have both USB and wireless Bluetooth connectivity for remote sensing applications. For easy data processing in the field, we also offer the Getac PS236 ruggedized PDA (d). The PS236 features built in SiRFstar III GPS, 3 megapixel autofocus camera, e-compass, altimeter and high visibility 480x640 pixel VGA display. Each Getac PS236 comes fully loaded with our exclusive DARWin CE Mobile-compatible software package to view and tag scans and control the spectrometer via wireless Bluetooth interface.