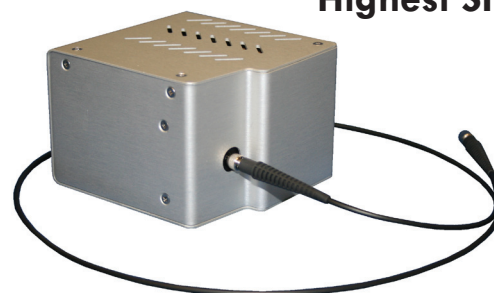


High-performance fiber-optic spectrometer for OEM volumes

VS7000-PDA Miniature PDA Spectrometer

- UV-VIS (200–860 nm), VIS (380–750 nm), or UV-NIR (200–1050 nm)
- Colossal full well (100 Me⁻ to 1 Ge⁻)
- Low noise (2.6 counts)
- High UV sensitivity
- High throughput (f/2.8)
- Ultra-low stray light
- Ideal for industrial bright-light applications such as emission, absorbance, reflectance

Highest SNR

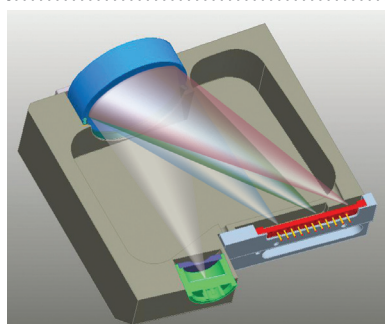


Available for OEM customers only

Feature

Spectroscopy Benefits for OEMs

Most popular UV-VIS range	Excellent peak symmetry in a miniature grating spectrometer
High readout speed	3.5 ms maximum readout speed
Advanced electronics	Low noise, Multi-Acq (streaming data through USB for improved speed)
PDA (Linear photodiode array)	More than 100 times deeper full well than any CCD mini-spectrometer
High signal-to-noise ratio	More than 10 times the S/N of any uncooled CCD mini-spectrometer
USB 2.0 high and full-speed	Standard connection interfaces to PCs with 100% data integrity
Order-sorting filter	Eliminates second-order interference
Windows® acquisition software and LabVIEW™ VIs and DLLs available	Software to integrate VS7000 as an OEM component
Sturdy single-optic design	Excellent light purity, with concave grating design
No moving parts or shutter	Excellent reliability for OEM integration



Concave-grating mini-spectrometer for
UV-VIS
VIS
UV-NIR



Specifications*

This VS7000 system for industrial applications uses a modified VS70 optical engine optimized for UV-VIS and a linear photodiode array.

Spectral coverage	UV-VIS (200–860 nm), 250 nm optimized grating, built-in order-sorting filter VIS (380–750 nm), VIS-blazed grating, built-in long-pass filter UV-NIR (200–1050 nm), dual-blaze grating, built-in order-sorting filter
Numerical aperture	f/2.8
Stray-light rejection Typical (Maximum)	0.01% (0.02%) for UV-VIS configuration with 500 μ m tall PDA, measured at 700 nm (measured with broad bandpass 510 nm filter, 75 μ m slit-width) >2.4 AU linear range (5% variation) with caffeine 273 nm absorption peak in 10 mm cuvette and D ₂ lamp.
PDA detector response	High UV sensitivity. Response range from 200 nm to 1000 nm
Detector height Fiber-optic option	500 μ m PDA height standard (2.5 mm optional); 600 μ m dia., 1.5 m long fiber-optic; or special bundle
Thermoelectric stabilization	None. Dark current and PDA-pattern noise must be subtracted. User must switch off light source or install manual shutter in optical path.
Spectral resolution	UV-VIS: 75 μ m slit, 1024 pixels, 2.7 nm resolution on 500 μ m tall PDA;
Pixel resolution	0.33 nm/pixel (can be customized for 512 pixels)
Slit (factory configuration)	Available slits: 12-25-37-50-62-75-100-125-150-200 μ m (contact us for other gratings)
Improved PDA full well	100 Me ⁻ (1 Ge ⁻ optional)
Typical dynamic range	26 000:1
A/D converter	16 bit, 500 kHz
Typical dark current	0.16 count/ms at 20°C (room temperature); typical offset = 300 counts
Typical readout noise	2.6 counts (3900 e ⁻); maximum = 3.5 counts
Readout speed	Multi-acquisition: 3.5 ms; 285 spectra/s Single acquisition: 10 ms; 100 spectra/s (with 0 exposure time)
Typical signal-to-noise ratio	10 000:1
Gain selection	1500 e ⁻ /count
Dimensions (W × D × H)	4.6" × 4.3" × 2.9" (117 mm × 109 mm × 73.7 mm)
Weight	1.8 lb (0.82 kg)

*Specifications, form factor, and spectrometer cover subject to change without notice.

- Acquisition software included (LabVIEW™ 2011 only)
- VIs and top-level code are provided for customization
 - Handles acquisition and signal-processing (smoothing, absorbance, transmittance, etc.)
 - Save data to Excel® or text file
 - On-board spectral calibration

No LabVIEW™ license is needed to run our acquisition software. LabVIEW™ license ver. 2011 required to edit our code. No code customization supported in price.

Gratings and OEM Spectrometers Division
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