

# USB2000+ Spectrometer

the powerful miniature fiber optic spectrometer



Starting at \$2,639  
USB2000+ Spectrometer Only

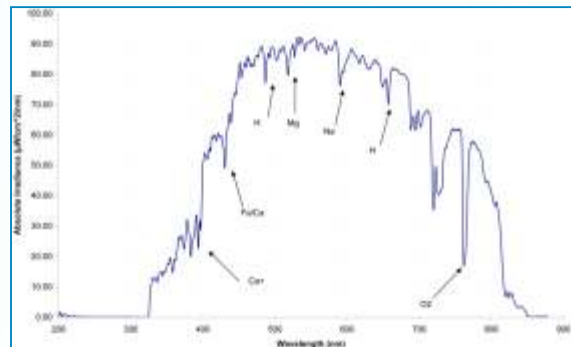
The USB2000+ Miniature Fiber Optic Spectrometer is a unique combination of technologies that delivers up to 1,000 spectra per second for applications where fast reactions are monitored.

The compact USB2000+ is ideal for chemical, biochemical and other applications where fast reactions need to be monitored. Its modular design and user-configured wavelength range and resolution make it as versatile as it is efficient.

The USB2000+ utilizes an onboard, 2-MHz A/D converter, which allows you to capture and transfer one full spectrum into memory every millisecond when the spectrometer is interfaced to a PC via the USB port.

Detector:	Sony ILX511B linear silicon CCD array
Detector range:	200-1100 nm
Pixels:	2048
Pixel size:	14 $\mu\text{m}$ x 200 $\mu\text{m}$
Pixel well depth:	~62,500 electrons
Focal length:	42 mm input; 68 mm output
Entrance aperture:	5, 10, 25, 50, 100 or 200 $\mu\text{m}$ wide slits
HC-1 grating option:	No
Order-sorting filters:	200-850 nm or 350-1000 nm
Other bench filter options:	Longpass OF-1 filters
Wavelength range:	Grating dependent
Optical resolution:	~0.3-10.0 nm FWHM
Signal-to-noise ratio:	250:1 (at full signal)
A/D resolution:	16 bit
Dark noise:	50 RMS counts
Dynamic range:	$2 \times 10^8$ (system); 1300:1 single acquisition
Integration time:	1 ms to 65 s (20 s typical max)
Stray light:	0.05% at 600 nm; <0.10% at 435 nm

USB2000+ Solar Irradiance Spectrum w/Absorption Bands of Atmospheric Elements



- 1,000 full spectra/second
- Programmable microcontroller
- Modular design
- User-configured wavelength range and resolution
- Automatically reads the wavelength calibration coefficients of the spectrometer and configures operating software
- USB-to-PC interface; no external power requirements
- RoHS and CE compliance

