

USB2000+

Plug-and-Play Spectrometer



Voted Most Popular

With its small-footprint design and plug-and-play convenience – its onboard A/D converter ensures a hassle-free instrument-to-PC interface – the USB2000 has become the most frequently specified miniature fiber optic spectrometer in the world.

Streamlined Start-up Software & Hot Swapping

The USB2000 plugs directly into the USB or serial port of any desktop or notebook PC. Interfacing the USB2000 to a PC via the USB port supports hot swapping of the spectrometer. Our software recognizes and reads data programmed on the USB2000 – such as calibration coefficients – saving time and reducing configuration errors. When connected to a PC via USB, the USB2000 draws its power from the computer.

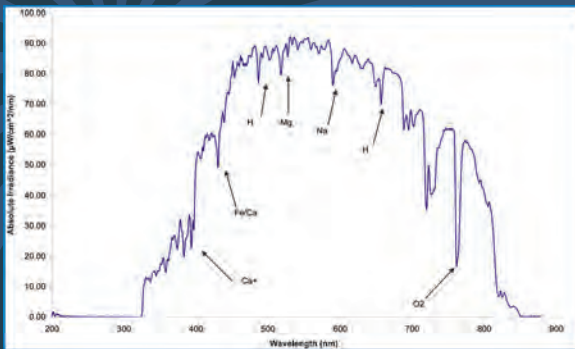
User-configured Setup

The "S" Optical Bench is used in the world's first, and still the best miniature spectrometer. We've sold over 55,000 spectrometer channels for thousands of applications, and we've used that experience to make the most flexible, versatile and cost-effective spectrometer ever built. What makes the "S" bench so special are several options that allow you to optimize the bench for your application. Choose from options such as the size of the entrance slit, the type of grating and detector add-ons for the Sony ILX511 linear CCD array.

"HR" Optical Bench

The HR2000+ is responsive from 200-1100 nm, but its specific range, resolution and sensitivity depend on your "HR" Optical Bench options. You select the grating, wavelength range, mirror coating, detector window and entrance aperture size. Choose from hundreds of accessories to create application-specific systems.





USB2000+ Solar Irradiance Spectrum with Absorption Bands of Atmospheric Elements



Solar Irradiance Measurements with USB2000+ Miniature Spectrometer

Physical

Dimensions:	89.1 mm x 63.3 mm x 34.4 mm
Weight:	190 g

Detector

Detector:	Sony ILX511B linear silicon CCD array
Detector range:	200-1100 nm
Pixels:	2048 pixels
Pixel size:	14 μm x 200 μm
Pixel well depth:	~62,500 electrons
Sensitivity:	75 photons/count at 400 nm; 41 photons/count at 600 nm

Optical Bench

Design:	f/4, Symmetrical crossed Czerny-Turner
Focal length:	42 mm input; 68 mm output
Entrance aperture:	5, 10, 25, 50, 100 or 200 μm wide slits or fiber (no slit)
Grating options:	14 different gratings, UV through Shortwave NIR
XR grating option:	Yes
Detector collection lens option:	Yes, L2
OFLV filter options:	OFLV-200-850; OFLV-350-1000
Other bench filter options:	Longpass OF-1 filters
Collimating and focusing mirrors:	Standard or SAG+
UV enhanced window:	Yes, UV2 quartz window
Fiber optic connector:	SMA 905 to 0.22 numerical aperture single-strand optical fiber

Spectroscopic

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 x 10 ⁸ (system); 1300:1 for a single acquisition
Integration time:	1 ms to 65 seconds (20 seconds typical)
Stray light:	<0.05% at 600 nm; <0.10% at 435 nm
Corrected linearity:	>99.8%

Electronics

Power consumption:	250 mA @ 5 VDC
Data transfer speed:	Full scans to memory every 1 ms with USB 2.0 or 1.1 port, 300 ms with serial port
Inputs/Outputs:	Yes, onboard digital user-programmable GPIOs
Trigger modes:	4 modes
Strobe functions:	Yes
Gated delay feature:	Yes
Connector:	22-pin connector

SPECTROMETERS | SAMPLING ACCESSORIES | WORLD CLASS SERVICE



www.oceanoptics.com | info@oceanoptics.com
+1 727-733-2447

