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Find the *Ocean Optics PC2000* at our website: ***Click HERE***

PC2000 PC Plug-in Spectrometer



The PC2000 PC Plug-in Spectrometer is a low-cost, 2048-element linear CCD-array fiber optic spectrometer mounted on a half-length, 1 MHz ISA-bus A/D converter. This sturdy spectrometer-A/D converter combination fits easily into ISA-slotted PCs.

The PC2000 uses the same high-sensitivity detector and miniature optical design that distinguishes our S2000 Miniature Fiber Optic Spectrometer. Like the S2000, the PC2000 is responsive from 200-1100 nm and couples via an SMA 905 connector to our extensive line of fiber optic light sources, probes, chemical sensors and other accessories. By mixing and matching the PC2000 and other components, users create convenient, small-footprint spectrophotometric systems for a variety of optical-sensing applications.

Multi-channel Systems

The PC2000's multiple-channel capacity allows users to configure systems for expanded wavelength range, multi-sampling or reference measurements. Installation and operation are straightforward: Small harness cables connect the master spectrometer channel to each successive slave channel. These slave channels operate using the power from the computer and the timing signals from the master channel.

The PC2000's A/D function includes a channel multiplexer rotator that permits rapid switching between channels. For example, acquisition with a triple-channel spectrometer can be configured so that Pixel #0 is acquired from the master channel, Pixel #1 from the first slave channel, and Pixel #2 from the second slave channel; as the sequence repeats, Pixel #3 is acquired from the master channel, and so on. The result is that spectra acquired by multiple spectrometer channels during the same integration period can be sampled by the A/D, making the PC2000 especially useful for applications involving pulsed light sources and transient spectral events.

The data acquired using the multi-channel scanning capability of the PC2000 is automatically de-interlaced (i.e., separated into individual spectra for each channel) by Ocean Optics software drivers, so that use of this feature is transparent to the user.

PC2000 Fiber Optic Spectrometer -- Specifications

Ocean Optics miniature fiber optic spectrometers offer high performance at low cost, in a convenient, modular package. Operating performance will vary according to a number of factors, including the spectrometer configuration -- especially the groove density of the grating and the size of the sampling optics selected -- as well as the application itself (for example, low vs. high light level applications).

Dimensions:	190.7 mmm x 130.5 mm x 18.1 mm (master channel only)
Weight:	180 g (master channel only)
Power consumption:	250 mA @ 5 VDC (master channel) 70 mA @ 5 VDC (ISA-bus and PCI-bus slave channels)
Detector range:	200-1100 nm
Detector:	2048-element linear silicon CCD array
Gratings:	14 gratings; UV through Shortwave NIR
Entrance aperture:	5, 10, 25, 100 or 200 µm wide slits or fiber (no slit0
Order-sorting filters:	Installed bandpass or longpass filters
Focal length:	42 mm (input); 68 mm (output)
Optical resolution:	~0.3-10.0 nm FWHM (depending on grating and size of entrance aperture)
Stray light:	<0.05% at 600 nm; <0.10% at 435 nm; <0.10% at 250 nm
Dynamic range:	2×10^{8} (system); 2000:1 for a single scan
Sensitivity (estimated):	86 photons/count; 2.9×10^{-17} joules/count; 2.9×10^{-17} watts/count (for 1-second integration)
Board architecture:	ISA-bus for master channels; PCI-bus and ISA-bus for slave channels
A/D frequency:	1 MHz
Fiber optic connector:	SMA 905 to single-strand optical fiber (0.22 NA)
Integration time:	3 milliseconds to 60 seconds

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