

HR4000CG-UV-NIR Spectrometer

The HR4000CG-UV-NIR Composite Grating Spectrometer has a new proprietary grating and order-sorting filter to provide a 200-1100 nm wavelength range with 0.5 nm optical resolution in one spectrometer.

The HR4000-CG-UV-NIR is functionally similar to the standard HR4000 Spectrometer. Follow the instructions in *Chapter 2: [Installing the HR4000](#)* to configure the HR4000CG-UV-NIR.

HR4000CG-UV-NIR Features

The HR4000CG-UV-NIR contains the following features that differ from the standard HR4000:

New HC-1 Landis Composite Grating

The HR4000CG-UV-NIR uses the new HC-1 Landis grating designed to provide a 200-1100 nm wavelength range. The HC-1 is fixed in place at the time of manufacture.

Variable Order-Sorting Filter

The HR4000CG-UV-NIR contains a new OFLV-200-1000 variable order sorting filter to eliminate second and third order effects.

HR4000CG-UV-NIR Spectrometer Specifications

Specification	Value
Dimensions:	148.6 mm x 104.8 mm x 45.1 mm
Weight	570 g
Power consumption	450 mA @ 5 VDC
Detector	3648-element linear silicon CCD array
Wavelength range	200-1100 nm
Optical resolution	0.75 nm FWHM

C: HR4000-UV-NIR Spectrometer

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Gratings	HC-1, 300 lines per nm grating
Entrance aperture	5 μ m-wide slit
Order-sorting filters	OFLV-200-1100 installed
Focal length	f/4, 101 mm
Dynamic range	2 X 10 ⁹ (system); 2000:1 for a single acquisition
Stray light	<0.05% at 600 nm; <0.10% at 435 nm
Fiber optic connector	SMA 905 to single-strand optical fiber (0.22 NA)
Data transfer rate	Full scans into memory every 4 milliseconds with the USB 2.0, every 18 ms with the USB 1.1, every 600 milliseconds with the serial port
Integration time	Continuous – 4 milliseconds to 20 seconds Shutter – 10 microseconds to 4 milliseconds
Operating systems	Windows 98/Me/2000/XP, MAC OS X, and Linux when using the USB port Any 32-bit Windows operating system when using the serial port
Onboard GPIO	10 user-programmable digital I/Os
Analog channels	One 13-bit analog input and one 9-bit analog output