

NI4000 PC Control UV-NIR Optical Spectrum Meter

Technical Specifications V1.00

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 UC INSTRUMENTS CORP.

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NI4000 PC Control UV-NIR Optical Spectrum Meter

NI4000 PC control UV-NIR optical spectrum meter was designed to provide full spectral output throughout the 200-1100 nm range, with best efficiency at 200-1050 nm.

The revolutionary NI4000 is a preconfigured Spectrometer with all of the optical bench options already selected for you.

This turn-key system is immediately available to you as off-the shelf.

Features

- Wide range
- Broadband
- High resolution
- Robust package

Application

- Spectral analysis
- Wavelength inspection
- Absorbance measurements
- Reflectivity measurements
- LED analysis

Specification

Physical	
Dimensions:	154 mm x 110 mm x 42.6 mm
Weight:	840 g
Detector	
Detector:	Toshiba TCD1304GP linear CCD array
Pixels:	3648 pixels
Pixel size:	8 μm x 200 μm
Pixel well depth:	~100,000 electrons
Sensitivity:	130 photons/count at 400 nm; 60 photons/count at 600 nm
Optical Bench	
Design:	f/4, Symmetrical crossed Czerny-Turner
Focal length:	101.6 mm input and output
Entrance aperture:	5 μm wide slit
Grating (mm ⁻¹):	300
Filter:	200-1100nm
Fiber optic connector:	SMA 905 to 0.22 numerical aperture single-strand fiber

Spectroscopic	
Wavelength range:	200-1100 nm
Optical resolution:	<0.75 nm FWHM
Signal-to-noise ratio:	300:1 (at full signal)
A/D resolution:	14 bit
Dark noise:	12 RMS counts
Dynamic range:	2 x 10 ⁹ (system); 1300:1 for a single acquisition
Integration time:	3.8 ms to 10 s
Stray light:	<0.05% at 600 nm; <0.10% at 435 nm
Corrected linearity:	>99.8%
Electronics	
Power consumption:	450 mA @ 5 VDC
Data transfer speed:	Full scans into memory every 4 milliseconds with USB 2.0; every 18 milliseconds with USB 1.1
Inputs/outputs:	10 onboard digital user-programmable GPIOs
Analog channels:	One 13-bit analog input one 9-bit analog output
Strobe functions:	Yes
Connector:	30-pin connector

Contact Information

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