

Analytical Instrumentation

Surf the New Wave in Portable Fiber Optic Spectrometry

High Resolution Spectrometers - for UV-VIS-NIR Applications

The HR High Resolution fiber optic spectrometers are available in several low cost models for UV, VIS, and NIR applications.

The HR spectrometers have double the resolution over standard models with the same grating. The wavelength range is reduced by the same factor. Resolutions better than 0.1nm can be achieved depending on selected model range, detector, and slit size.

Applications include wavelength monitoring and characterization for tunable lasers/LEDs and other sources such as elemental emissions from plasma & Laser Induced Breakdown Spectroscopy. Also, optical sensing of temperature, pressure, & position are enabled via Bragg grating technology.



High Resolution Configurations				Predicted Slit Resolutions			
Model	Wavelength Range in nm	Grating g/mm	Grating Range	Nm/pixel Dispersion	Slit-25 nm res.	Slit-14 nm res.	Slit-7 nm res.
UV3	200-340	1800	140	0.068	0.30	0.20	0.10
UV4	200-300	2400	100	0.048	0.21	0.14	0.07
NIR2	900-1075	1200	175	0.085	0.26	0.17	0.09
NIR3	750-850	1800	100	0.049	0.15	0.10	0.05
NIR4	500-580	2400	80	0.039	0.12	0.08	0.04
UVN-SR	200-1100	* 300	900	0.440	1.50	1.00	0.50

Specification		HR-UV-VIS-NIR Spectrometers	
Dynamic range:	2000:1 with 6 decades	Dimensions:	44 x 94 x 150 mm
Optical resolution:	see model table - to 0.1nm	Power consumption:	100 mA @ 5 VDC
Detector type:	2048 pixel CCD	Interface:	USB-2 and/or EPP Parallel
Detector range:	200-1200nm	Data transfer speed:	40x faster than USB-1
Pixel size:	14um x 200um	Detector Integration:	1ms to 65s
Diffraction Gratings:	Holographic & Ruled	Slit size options:	7, 14, 25, 50, 100, 200um
Grating g/mm:	300, 600, 1200, 1800, 2400	Stray light:	<.1% at 435nm; <.05% at 600nm
Spectrograph:	f/4, SymX-Czerny-Turner	Fiber optic input:	SMA905 0.22na single fiber
Order sorting filters:	Integrated & High Pass	Operating systems:	Win9x/WinXP/Vista/Win7
Signal to noise:	1000:1 CCD	Software included:	SpectraWiz program & apps
Digitizer:	16-bit or 14-bit	Also free programs for:	LabView, Excel+VBA, Delphi

