NWS4000 Spectrometer

Description

The series of miniature fiber optic spectrometers feature a compact and small appearance, are plug-and-play, easy to operate, and support high-speed data transmission via USB 2.0. Combined with various optical platform components, light sources, and sampling fibers, they can be used to build test solutions for thousands of applications involving absorption, reflection, transmission, etc.

Application

- Water quality analysis
- Smoke gas detection
- Biomedical
- Teaching and research
- Food, medicine and chemical industry
- Reflection/Transmission test
- Lens inspection
- Automobile exhaust detection

Feature

- **Broad spectral range:** 200 - 1100nm
- high sensitivity in ultraviolet
- **Low drift:** 0.1 pixel/℃
- **Low noise**: < 50 RMS (ADmax = 65535) with low stray light
- Automatic zero adjustment
- High cost-effectiveness
- Multiple communication methods
- External trigger function

Resolution

Wavelength Range	30μm slit	40μm slit	50μm slit	60μm slit	70μm slit	100μm slit	150μm slit	200μm slit
200-500nm	0.8	1	1.1	1.2	1.4	2.1	3	4
200-850nm	1.2	2	2.2	2.4	2.8	3.8	5.8	7.7
200-1100nm	1.7	2.2	2.7	3.2	3.6	5	7.2	9.7

Specification

Spectral Specification	
Spectral Range:	200 - 1100nm (according to the selection table)
Spectral Resolution：	Maximum 0.17nm
Optical Resolution：	Maximum 0.80nm FWHM (according to the selection table)
Higher-Order Diffraction：	Add high-order diffraction suppression filter (optional)
Stray Light：	< 0.1%
Detector:	
Detector Model:	Hamamatsu CMOS Linear Array Sensor
Spectral Detection Range:	200~1100nm
Pixel:	2048 pixels
Pixel Size:	14*200um
High Sensitivity:	1300V(Ix*s)
Fastest Speed:	10M
Optical Table	
Optical Path:	F/4, symmetrical crossed Czermy-Turner optical path
Focal Length:	70mm; 90mm
Incident Slit:	Standard 60um (optional)
Optical Fiber:	SMA905 0.22NA
Electronic Property	
Signal-to-Noise Ratio:	430:1
Linearity:	>99%
Integration Time:	0.4ms~1000ms
Dynamic Range:	1000:1
AD:	No distortion 16-bit
Test Speed:	2.8ms + integration time
Communication Interface:	USB 2.0
Expansion Interface:	USB 2.0;RS232;RS485
Power Consumption:	16-pin external expansion interface; with external trigger function
Cooling:	300mA@5VDC
Other Characteristics	
Support System:	Windows,Android,Linux,Wince
Dimensions:	128mm*72mm*40mm
Weight:	500g
Fixed:	3-direction standard installation holes