

Mini-spectrometers

[S4000-UV-NIR]



S4000-UV-NIR is a miniature spectrometer configured with crossed Czerny-Turner optical bench. Free Software and Software Development Kit(SDK) is available for spectrum analysis in various applications.

» Features

- Wavelength Range: 190nm ~ 1100nm
- UV Enhanced
- Free Software(SpectraPro V3.2 + Spectra V2.0)
- Software Development Kit(SDK) for Windows / Embedded system / Linux
- RS232 Communication Protocol Support for Embedded System
- High Resolution(4096 Pixels)

» Applications

- Transmission & Reflection Measurements
- Absorbance / Concentration Measurements / Chemical Research
- dsDNA / Protein Analysis (SpectroPhotometer) / Biomedical Research
- UV-VIS Light Analysis

» Structure

Parameter	Specification	Unit
Dimension	115 mm(L) x 80 mm (W) x 40 mm (H)	mm
Weight	500	g
Connector for Optical Fiber	SMA905	-
Slit	30 5/10/20/25/30/50/100/150/200um Available	um
Grating	600@250nm	groove/mm
Detector(Image Sensor)	CMOS Linear Image Sensor (UV Enhanced)	-
Number of Pixels	4096	pixels
A/D conversion	16bit high precision AD	-
USB Interface	USB2.0	
Communication Interface	USB RS232 and LAN is optional	-
Software	Spectra + SpectraPro	-
Software Development Kit(SDK)	Available on Windows / Embedded System / Linux	-

» Absolute maximum ratings

Parameter	Min.	Recommended	Max.	Unit
Power supply (USB Bus Power)	4.5V	5V	+6.0V	V
External Power Supply(Optional)	4.5V	5V	+6.0V	V

Operating temperature	-10℃	25℃	60℃	℃
Storage Temperature	-20℃	25℃	70℃	℃

» **Electrical and Optical characteristics(Ta=25℃, unless otherwise noted)**

Parameter	Min.	Typ.	Max.	Unit
Power Consumption	-	150mA@5V	170mA@5V	mA
Spectral Response Range	-	190nm ~ 1100nm	-	nm
Wavelength Accuracy	±0.2	±0.6nm	±1.0	nm
Wavelength Reproducibility	±0.20	±0.22nm	±0.25	nm
Wavelength Resolution	0.20	0.22nm	0.25	nm
Spectral Resolution (FWHM)	1.5	1.8nm	2.5	nm
Wavelength Temperature Dependence	-	0.05	-	nm/℃
Spectral Stray light	0.05	0.2%	0.4	%
Linearity correction	99.0	99.8%	-	-
Numeric Aperture	-	0.22	-	-
Signal to Noise Ratio(SNR)	-	600:1	-	-
Integration time	-	0.05ms to 30000ms	-	ms

» **Dimensional outline(unit:mm,tolerance unless otherwise noted:±0.5)**

