

YSM-8103-04 Series UV-VIS Area Array Uncooled Spectrometer

Description

YSM-8103-04 series spectrometer is developed based on the Hamamatsu S10420-01 series back-illuminated area array CCD. Its superior performance and optimized optical structure design greatly improve the sensitivity with a dynamic range of up to 50,000:1 (typical). YSM-8103-04 is UV enhanced with a better sensitivity range of 200nm-500nm, especially used for weak light in the UV range. You can choose different gratings to make different resolution and wavelength range in the range of 200 nm to 1100nm. At the mean time, RS232, Trigger modes, SDK and Deep customization are available for industrial or scientific applications.



Application

Weak light measurement in the range of UV-VIS, especially for 200-500nm
Can be competent for more research application

Model List

Model	Wavelength Range	Sub Model	Resolution	Slit	Grating	Filter	Lens
YSM-8103-04-01	200-900nm	16S03L02F06G01	~ 1nm	25μm	600g/mm, 400nm	F06	L02
YSM-8103-04-02	200nm-1100nm	16S03L02F06G13	~ 1.5nm	25μm	500g/mm, 330nm	F06	L02
YSM-8103-04-03	180nm-880nm	16S03L02F06G17	~ 1nm	25μm	600g/mm, 250nm	F06	L02

*Other wavelength ranges and resolutions can be customized.

*Cylinder lenses can be added to some models to increase the sensitivity.

Packing List

1EA spectrometer, 1EA USB data cable, 1EA CD with software and manual, 1EA calibration report



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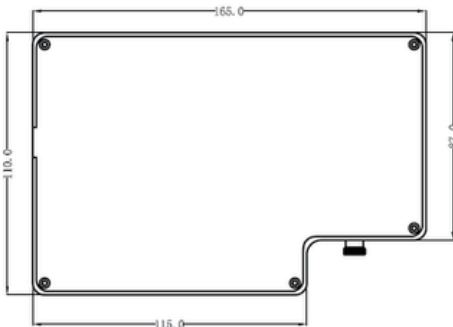
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Grating Selection

Slit (μm)	Grating (grooves/mm)	Wavelength Range Width (nm)	Resolution (nm)
25	500	800	~ 1.5
	600	700	~ 1
	1200	350	~ 0.5
	1800	233	~ 0.35
50	500	800	~ 3
	600	700	~ 2
	1200	350	~ 1
	1800	233	~ 0.7
100	500	800	~ 6
	600	700	~ 4
	1200	350	~ 2
	1800	233	~ 1.4
200	500	800	~ 12
	600	700	~ 8
	1200	350	~ 4
	1800	233	~ 2.8

*Note: Using 1800 line grating, the width of the wavelength range in the long-wave area may not reach 233nm.

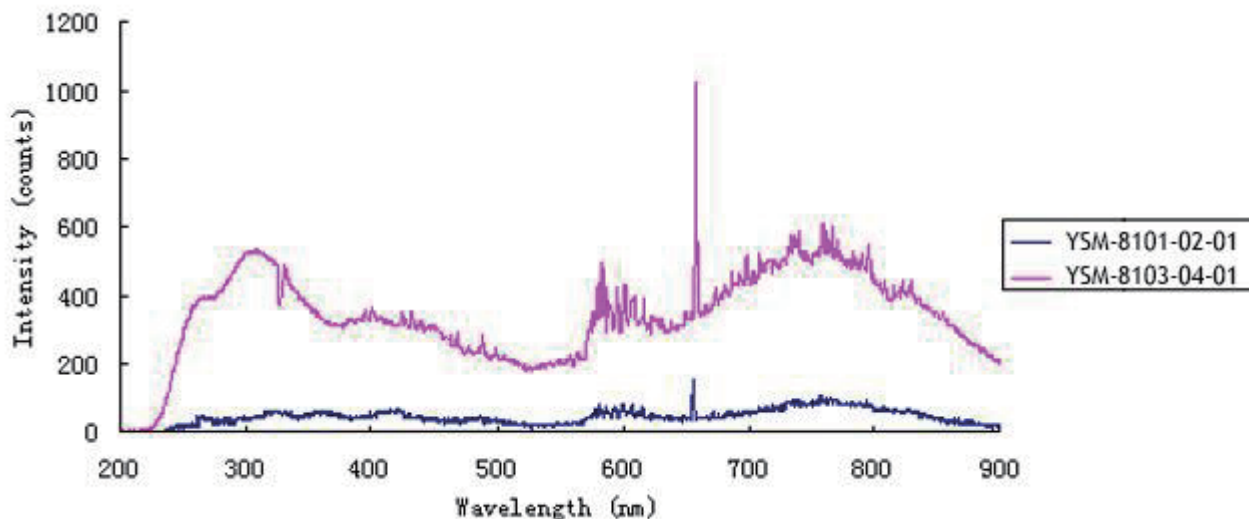
Dimension



Specification

Model	YSM-8103-04
Dimension	165mm x 110mm x 38mm
Weight	0.7 Kg
Detector wavelength range	200nm - 1100nm
Wavelength range width	700nm , 350nm , 233nm(Optional)
Optical Resolution	0.35nm - 1.5nm (Confirmed at order)
Fiber connector	SMA905
Detector	Hamamatsu S10420-01 back-illuminated image CCD
Detector Pixel	2048 x 64 Pixels. Pixel size is 14μm x 14μm
Signal to noise ratio	800:1
Linearity	>99%
Stray light	≤0.05% (600nm)
A/D resolution	16 bit
Integration time	1ms - 10s
Dynamic range	50000 : 1 (typical)
Trigger mode	Software, hardware, synchronous
Power consumption	5VDC ,500mA
Operating temperature	5°C -35°C (25°C recommend)
Communication Interface	USB2.0 , RS232
Operating system	Win XP, Win7,Win8, Win10
Power supply	USB

Typical Testing



Deuterium tungsten lamp spectrum (1ms, 50 averages)

YSM-8101-02 VS YSM-8103-04