

High Sensitivity Cooled Spectrometer (200-1100nm)

MC-series

The core component of the SIMTRUM MC-series which adopts a surface back-illuminated CCD, is a professional spectrometer for research-grade applications. It has a small size, easy operation, and excellent performance.

Features

- GPIO support
- Batch consistency control
- High signal to noise ratio, low stray light
- High quantum efficiency, high UV response
- Symmetrical cross CT optical path, incident focal length 100mm



Technical Advantages

1. High sensitivity, high dynamic range

The MC-series spectrometer adopts Hamamatsu's FFT-CCD array back-illuminated detector, with TEC cooling (up to -20°C , cooling function models available), which enables the detector to have a lower noise level and is more conducive to low light detection. The pixel merging process of the array CCD greatly improves the sensitivity and signal-to-noise ratio ($>800:1$) and increases the processing speed. The system uses an asymmetrical cross CT optical path design, low noise circuit design, and its equipment dynamic range can reach more than $5000:1$, for fluorescence detection and absorbance detection, extending the detection limit and increasing the concentration detection range.

2. Powerful PC software

PC software provided with the spectrometer: FLAVOR is powerful software. In addition to the basic spectrum acquisition control functions, it also has functions such as saturation and automatic adjustment of the integration time, recording of the real integration time, and automatic peak finding. At the same time, the software also includes characteristic functions such as wavelet smoothing with patented technology. SDK supports Windows, Android, and Linux operating systems, and can provide secondary development packages in C#, C++, Java, Python, and other languages.

3. High stability

$0\sim 40^{\circ}\text{C}$, the spectral resolution remains unchanged, which is the best choice for industrial applications.

4. Simple to use

No configuration, preheating, plug and play

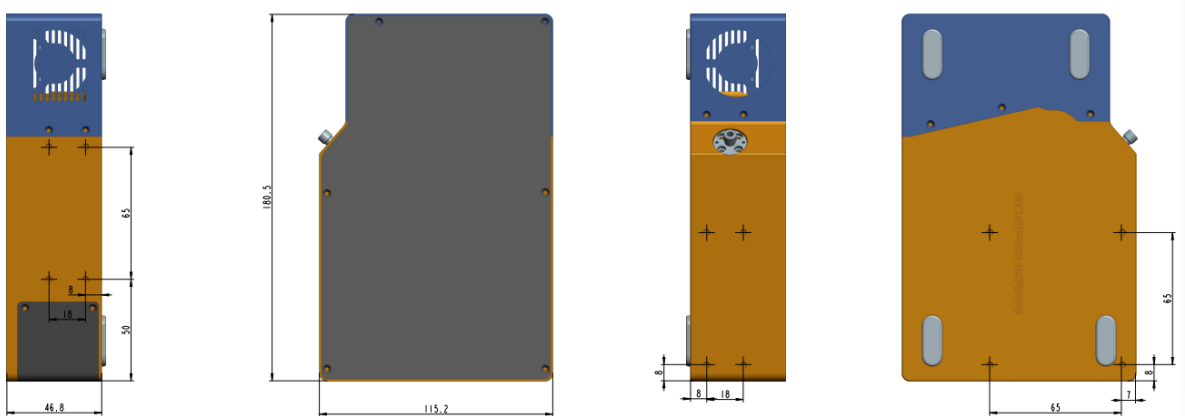
Product Specifications*

Model	Wavelength Range	Grating Scribe / Blaze Wavelength	Slit Width				
			10 μm	25 μm	50 μm	100 μm	200 μm
MC/200-1000	200-1000nm	300/300nm & 550nm	1.6nm	1.7nm	1.8nm	3nm	6nm
MC/300-1100	300-1100nm	300/300nm & 550nm	1.6nm	1.7nm	1.8nm	3nm	6nm
MC/400-930	400-930nm	400/500nm	1.4nm	1.5nm	1.6nm	2.6nm	5nm
MC/350-740	350-740nm	600/500nm	0.9nm	1nm	1.2nm	1.6nm	3nm
MC/530-630	530-630nm	1800/500nm	0.25nm	0.3nm	0.4nm	0.5nm	1nm
MC/710-1050	710-1050nm	600/800nm	0.9nm	1nm	1.2nm	1.6nm	3nm
MC/780-1030	780-1030nm	830/900nm	0.55nm	0.6nm	0.7nm	0.95nm	1.8nm

Product Parameters

Size	180.5*115.2*46.8mm
Weight	1.328 kg
Slit	10 μm , 25 μm , 50 μm , 100 μm , 200 μm optional
Fiber Holder	SMA905 or FC/PC optional
Resolution	0.2nm FWHM or above
Signal to Noise Ratio	1000:1
Integration Time	7mS ~ 30min

Product Size

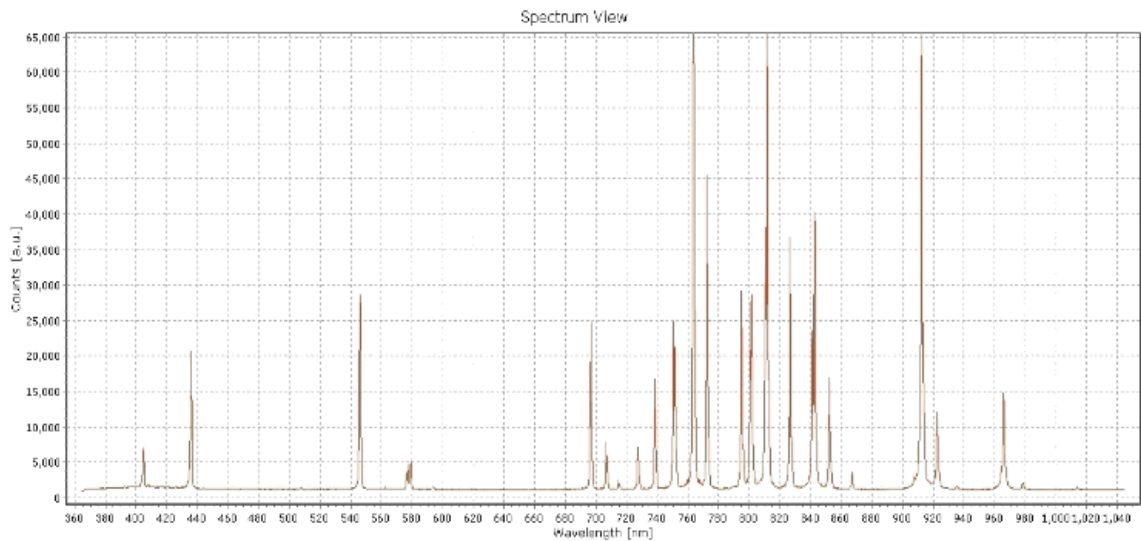


Applications

- Microspectroscopy
- Transmittance measurements
- Jewellery / Ore Spectroscopy
- Desktop Raman Spectroscopy
- Desktop LIBS
- Desktop Fluorescence Spectrometer

Configuration Example

- 364.87 ~ 1044.91 nm / Slit 25 μm / FWHM 0.66 nm @ 794 nm



*Due to ongoing continuous product improvement, specifications are subject to change without notice.