



DATASHEET
EOC-SI-R3110LT
Scientifically, long time integration, Low temperature
Portable Raman Spectrometer

Description:

Features:

- Ultra-low Dark Current, especially fit to long time integration time setting;
- Suit to low signal materials measure;
- Ultra-high sensitivity FFT-CCD TECooled;
- Detector cooled down to -20 °C;
- Ultra-low noise circuit;
- Powerful embedded software;
- Fluorescence background elimination;
- Peak finding and display;
- USB 2.0;
- User-friendly interface;

EOC-SI-R3110LT Scientifically Portable Raman Spectrometer, LT means long time integration time. It especially fits to weak signal; long integration time reach up to 30minutes suit to laboratory research. Unique reliability ensures accurate detect result. Excellent low stray condition make a wide application to biochemical analyzer, food safety, pharmaceutical engineer.

Application:

- Art, Art of Work, Craft,Archaeology,Antique
- Bioscience and Medical diagnosis
- Pharmaceutical Engineer
- Forensic Analysis & Criminal Investigate
- Agriculture and Food Safety
- Gemstones Identification
- Environmental Science
- Geology & Mines exploration
- Semi-conductor and solar energy

Models	Wavelen gths (nm)	Wavenumber(cm ⁻¹)	Resolution (cm ⁻¹) *
EOC-SI-R3110LT-27	785	250-2300	6
EOC-SI-R3110LT-35		200-3000	8
EOC-SI-R3110LT-43		200-3800	10
EOC-SI-R3110LT-266	266	200-2500	25
EOC-SI-R3110LT-532	532	200-2800	11
EOC-SI-R3110LT-633	633	200-2800	10
EOC-SI-R3110LT-830	830	200-2600	7

Remarks :

- ASTM E2529-06 measurement method;

Specifications (Eg: 785nm Raman)

EOC-SI-R3110LT System			
Interface	USB 2.0		
Integration Time	4ms - 30 min		
Voltage	DC 5V(+/-5%), 4.5A		
Working Temp.	-10~40 °C		
Working Humidity	< 95%		
Dimension (L*W*H)	30×22.5×13.2 cm ³		
Weight	5.5 Kg		
Reliability			
Spectral Stability	$\sigma/\mu < 0.5\%$ (COT 8 hours)		
Temperature Stability	Shift $\leq 1 \text{ cm}^{-1}$ (10-40 °C)		
Spectral intensity shift (in 5 ~ 40 °C)	<±5%		
Optical Parameters			
Spectral Range (cm ⁻¹)	250-2300	200-3000	200-3800
Resolution (cm ⁻¹)	6	8	10
SNR	>3000:1 (918 cm ⁻¹ of Acetonitrile , 10s accumulation, 200mW)		
Entrance slit	50 μm		
Optical system	f/4 C-T		
Focal distance	98 mm for incidence and output		
Detector			
Models	Scientific fast cooed FFT CCD		
Detector cooled down to	-20 °C		
Detect Range	200-1100 nm		
Effective pixels	1044*64 Area Array CCD		
Dynamic Range	75000: 1		
Pixel Size	24 μm ×24 μm		
Full Well	300 Ke ⁻		
Sensitivity	QE>40%, 6.5 $\mu\text{V}/\text{e}^-$		
Laser			

Wavelength	785nm (+/-1nm)
FWHM	0.08 nm
MAX Power Output	≥550 mW
Power Stability	$\sigma/\mu < \pm 0.2\%$
Raman Probe	
Working Distance	6 mm
OD	OD>8
NA	0.3
Aperture	7mm