

Portable Raman Spectrometer

ATR3110-633

Feature:

- Ultra-high sensitivity FFT-CCD TE-cooled;
- low noise circuit;
- High stable narrow band laser;
- Powerful embedded software;
- Fluorescent background eliminate;
- Peak finding and displaying;
- User friendly human-machine interface;
- Identify spectrum;

Application:

- Bioscience
- Material science
- Pharmaceutical engineering
- Forensic analysis
- Agriculture and food safety
- Gemstones identification
- Environmental science

Description:

ATR3110-633 portable Raman spectrometer fit to field work. With high reliable measuring accuracy, excellent low stray light condition, it enables a wide range of application, especially in sectors of biochemical analyzer, public safety, food safety, pharmaceutical engineering etc. The multi-function software facilitated the spectral analysis process in application. The remote experiment through internet access makes the test item much easier.

ATR3110-633 built-in excellent algorithm, which can identify substances at ease, meanwhile it can add one's own spectral data.

A user-friendly interface for both technical & non-technical users to make their job easier. High-quality hardware configuration and robust multivariate algorithms guarantee accurate, uniform and reliable results detected.



Operation system	
Interface	USB 2.0/LAN
Operate system	Windows
Integration time	1ms - 120s
Power voltage	DC 5V(+/-5%)
Operate temp.	-25~50 °C
Operate humidity	< 95%
Size (L*W*H)	30×22.5×13.2 cm ³
Weight	7Kg
Reliability	
Spectral stability	$\sigma/\mu < 0.5\%$ (COT 8 hours)
Temp. stability	$\leq 1 \text{ cm}^{-1}$ (5-40 °C)
Spectral intensity shift (in 5 ~ 40 °C)	$< \pm 5\%$
Optical parameters	
Spectral range	200-2700 cm ⁻¹ 200-3500 cm ⁻¹ 200-4200 cm ⁻¹
Resolution	6-8 cm ⁻¹ ; 8-10 cm ⁻¹ ; 10-12 cm ⁻¹
SNR	>2000:1
Incident slit	50 μm
Optical path	f/4 C-T
Focus distance	98 mm for incidence and output
Detector	
Model	Ultra-high sensitivity TE-cooled CCD
Effective pixels	2048
Dynamic range	10000:1
Pixel size	14 μm ×200 μm
Full well capacity	300 Ke-
Sensitivity	25 $\mu\text{V}/\text{e}^-$
Laser	
Central wavelength	633nm ($\pm 0.5\text{nm}$)
FWHM	<0.1 nm
Power output	$\leq 100 \text{ mW}$
Power stability	$\sigma/\mu < \pm 0.2\%$
Raman probe	
Working distance	6 mm
Rayleigh scattering resistance	OD>6
Numerical aperture	0.3
Light through aperture	7mm