

Portable Raman Spectrometer

ATR3000-1064

Features

- InGaAs CCD sensor;
- Ultra-low temperature cooled:-20°C;
- HD touch screen, 1920X1080;
- Android 6.0 operating system;
Battery life> 5h;
- Support LAN remote control;
- IP67 waterproof and dustproof;
- USB 2.0

Application

- Pharmaceutical Engineering
- Police and forensic analysis
- Agriculture and Food Security
- Gem identification
- environmental science
- Biology

Description

ATR3000-1064 is equipped with a laser with a wavelength of 1064nm and uses a highly sensitive InGaAs array detector and ultra-low temperature TE cooled to obtain better Signal-to-noise ratio and higher dynamic range. Its low fluorescence characteristics make it suitable for detecting a large number of highly fluorescent samples, such as dyes, Stamp ink, petroleum, biological samples, etc. The spectrum of ATR3000-1064 covers 200~2600cm⁻¹, and the spectral resolution is 13 cm⁻¹. The design features of small size, light weight and low power consumption enable the ATR3000-1064 to provide laboratory-grade Raman detection anywhere.



1. parameter

ATR3000-1064 system	
interface	USB 2.0 and WIFI
operating system	Android 6.0
Display	11.6'HD capacitive touch screen, multi-touch
Screen Resolution	1920X1080
Battery power time	>5 h
Integration time	4ms - 120s
voltage	DC 19V(+/-5%)
Operating temperature	-10~40 °C
Working humidity	< 95%
Size(L*W*H)	40×30× 18 cm ³
weight	7.5 Kg
Stability	
Spectral stability	$\sigma/\mu < 0.5\%$ (COT 8 hours)
temperature stability	spectrum shift $\leq 1 \text{ cm}^{-1}$ (10-40 °C)
Spectral intensity change (in 5 ~ 40 °C)	<±5%
Optical parameters	
Spectral range (cm-1)	200-2600
Resolution (cm-1)	13
signal-to-noise ratio	>3000:1
entrance slit	50 μm
focal length	98 mm for incidence and output
Detector	
Model	Highly sensitive 512-pixel InGaAs detector
Detector cooling temperature	-10 °C
Detection range	900-1700 nm
Effective Pixels	512
Dynamic Range	50000: 1
cell size	25 ×500 μm
Laser	
central wavelength	1064 nm (+/-0.5nm)
FWHM	0.1 nm
Maximum output power	$\geq 500 \text{ mW}$

Power stability	$\sigma/\mu < \pm 0.2\%$
Raman probe	
working distance	6 mm
Transmission rate	OD>8
numerical aperture	0.3
Aperture	7mm



Figure 1 ATR3000- 1064 physical picture

2. Selection guide

Model	Detectable items	Application areas
ATR3000-1064	Self-built database	Scientific research field
ATR3000DH-1064	Can detect drugs, chemicals, flammable and explosive, precursor drugs and pesticides	Public security, customs, subways, courts, prisons, public places, etc.
ATR3000PH-1064	Raw material testing	pharmaceutical factory

ATR3000GM-1064	Diamonds, jade, agate, emerald, gemstones, minerals, etc.	Jewelry appraisal
ATR3000CH-1064	Various chemicals, toxic and harmful substances, etc.	Chemical composition identification