



ATR3000

532nm Portable Raman Analyzer



Datasheet

2. Technical Index

ATR3000 System	
Interface	USB 2.0 and WIFI
Operating system	Android
Screen	11.6-inch capacitive touch screen, Multi-touch
Integration time	4ms - 120s
Power voltage	DC 220V(+/-5%)
Operating Temp	-10~40 °C
Operating humidity	< 95%
Dimension(L*W*H)	40×30×18 cm ³
Weight	7.5 Kg
Reliability	
Spectral stability	$\sigma/\mu < 0.5\%$ (COT 8 hours)
Temp stability	Spectral shift ≤ 1 cm ⁻¹ (10-40 °C)
Variation of intensity (in 5 ~ 40 °C)	<±5%
Optical parameters	
Spectral range (nm)	540-745
resolution (cm ⁻¹)	19
SNR	>2000:1
Entrance slit	50 μ m
Optical system	f/4 C-T crossed optical path
focusing	98 mm for incidence and output
Detector	
Item	Ultra-high sensitivity, quick cooling CCD
Detector cooled down to	-10 °C

Detecting range	200-1100 nm
Effective pixels	2048*64
Dynamic range	>10000: 1
Pixel size	14 μ m \times 200 μ m
Full well capacity	300 Ke-
Sensitivity	QE>40%, 6.5 μ V/e-
Exciting Laser	
Central wavelength	532nm (+/-1nm)
FWHM	0.08 nm
Power output	\geq 100 mW
Power stability	$\sigma/\mu < \pm 0.2\%$
Raman probe	
Operating distance	3 mm
Rayleigh scattering resistance	OD>8
Numerical Aperture	0.3
Aperture	7mm

3.Features


- NDT, Fast ID
- Accurately identify materials categories and chemical components
- Non-contact, glass, plastic bags, transparent or semi-transparent containers
- Safe radiation free, 532 laser
- High resolution can identify fine fingerprint differences
- Multiple modes option, fast detect, accurate detect and precision detect
- Detect results can be stored and exported


4.Hardware Screen



4.1 Probe


When users detect, the probe aims at samples detected, it requires fine-adjusting distance between probe and different samples, in order to ensure emergent laser can focus on surface of samples detected. Keep lens surface clean, avoid accident damage of probe.

 : It produces laser during detection, when laser indicator on, laser on the surface light up, it prohibits probe aiming at eyes or skins, where could be burned for high power at the moment.

 : Probe shall not direct to windows or sun light during detection, which makes deviation of laboratory results.

4.2 Screen

It uses 10-inch 1024×600 touch screen, simple interface and easy to operate

 : Organize attachments back to places and secure before closing suitcase, and open/close suitcase in gentle, otherwise rude operation can damage screen and harm human life.

4.3 Indicator


Electric quantities indicator locates in the upper right corner to monitor electric quantities used up. Power on, power indicator lights up. Laser on, laser indicator lights up. Pay attention to laser.


4.4 USB

USB port used to export data and transfer files.

4.5 Power

Power supply uses 220V, and first to connect power chord, open suitcase, press power button till screen light on, the power LED light up.

 : Only use certified adaptor or connector to supply power, unsuitable adaptor or connector can burn laser and hurt human body.

 : **It's not allowed to dismantle/modify the instrument in order to prevent potential damage to the instrument or even harm human life.**