

Datasheet

FT-IR Spectrometer

ATP8900plus-Laptop

Features:

- **Michelson interferometer** with wear free and reliability of 10 year guaranty, with cube-corner mirror resist mechanical and temperature vibration
- Higher stability of optical system is designed with **gold mirror** improve reflectivity by >5% than traditional aluminum mirror.
- Super sensitivity and reliable temperature controlled **DLATGS detectors**
- Reliable performance of **solid laser** life up to 10 years
- Vacuum cooling ceramic **IR light source** with high performance

Description:

ATP8900plus-laptop is winner-award handheld FT-IR spectrometer with a resolution of 1cm^{-1} , compact design fit to field application

It's widely applied to online in real time monitor industrial gases, identify unknown narcotics, drugs and explosives by force enforcement, identify oil product quality, manufacturer, and gemstones classification, and gemstones classification, relics and museum antiques.

ATP8900plus-Laptop has strictly satisfied standards of Design Qualification, Installation qualification, Operation Qualification and Performance Qualification verification.



Datasheet

Parameters	
General	
Model No	ATP8900plus-laptop
Spectral Range	5000-500cm-1 / 7800~350cm-1
Resolutio	< 1 cm-1
SNR	30,000:1 (1 min sample measurement, 4 cm-1, peak-to-peak. Transmission modular SNR is 140000:1 (RMS)
Wavenumber Accuracy	< 0.01 cm-1
Wavenumber Precision	< 0.1 cm-1
Detector	High-sensitivity DLATGS Detector with moisture proof coating (built in ADC)
Power Backup	>5hrs built-in battery, external battery support (18-24V)
Power	AC220V / 50Hz
Modules	plug-and-play
Analysis time	About 5 seconds
System	Windows 10
Software	* Infrared control,spectrum processing, * Quantitative analysis of multi-component samples, * Auto inspect software, * Advanced macro programming software * Online continuous monitor of optical components say laser light source, sensor , beam splitter so as to ensure best working status. Auto remove air water and CO2.
Operation condition	Designed for field use.IP67 rating for dust and water resistance.
Instrument Component	
Beam Splitter	ZnSe Beam Splitter
Infrared Source:	Air-cooled ceramic source,
Light Source	Solid-state laser & High-Performance Ceramic SiC light source ;support 10 years work life span
Interferometer	High Stability Solid angle mirror interferometer with permanent collimation, Cube Mirror Michelson Interferometer
Programs and Functions	
Sample Handling & Compatibility	Compatible with Universal ATR Accessory (Pure Diamond ATR) for solid and liquid sample analysis; ATR-Diamond + transmission modular
Programs	Infrared control, spectrum processing, quantitative analysis, macro programming

Datasheet

Parameters	
Measurement	Real-time spectral acquisition, atmospheric correction, auto baseline adjustment
Hardware Monitor	Auto Inspect Feature: Continuous monitoring of optical components (laser, sensor, beam splitter)
Display	10" touch screen
Search Functions	About 10000 pcs different samples library, including drugs, explosives, routine chemicals and gases
Quantitative Functions	Multi-component quantitative analysis, peak identification
Data System	Windows 10-compatible software with spectral processing, analysis, and comparison functions
Software Compatibility	Windows 10
Weight	Host 8 kgs; Compact
Functional Description	• One-Touch Measurement, Evaluation & Storage • Pre-loaded IR Spectra Database: Over 10,000 reference spectra, including drugs, explosives, chemicals, and gases. • User-Defined Spectra Database: Capability to add user-generated spectra for custom applications. • Real-Time Monitoring: Monitoring of Battery level, charge / discharge status, and temperature • Closed Drying System • Plug-and-Play Modules: Optional measurement modules for easy replacement. • ATR Accessory: High-strength pure diamond ATR accessory for solid and liquid sample analysis. Foldable / Rotatable High-Pressure Head Design • Data Processing Features: Advanced macro programming, quantitative analysis, spectrum processing, and auto removal of air, water, and CO₂ interferences.
Application Description	• Forensic and Law Enforcement: Rapid analysis of drugs (e.g., heroin, fentanyl, cocaine, methamphetamine) and explosives (e.g., TNT, RDX, black powder, ammonium nitrate). • Emergency Response: Identification of unknown chemicals and hazardous substances in field operations.
Encasing material	• Rugged and impact resistant, Integrated Portable Box design

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1. Optional Built-in Modules & Attachments

FT-IR spectrometer is widely applied to IR measure modules of solid transmission, ATR reflectance, and diffuse transmission etc.

- **Solid Transmission**

- 1 . Many solid powder press
- 2 . Thin film Quantitative analysis
- 3 . Heating press module quantitative analysis
- 4 . Transparent IR materials of various glasses, Jades, crystal materials, and material properties change

- **Solid / Liquid Attenuated Total Reflectance (ATR)**

1. Many powder sample without press for direct measure
2. Irregular shape sample of non-destructive measure without press
3. Many polymer, fiber, thin film, and high polymer sample
4. Many O ring, rubber sample
5. Many others difficult to measure by transmission

- **Liquid Transmission**

1. Seal liquid cell qualitative analysis organic solution, VOCs
2. Disassemble liquid cell available in change optical length for quantitative analysis
3. Many lubricant oil quantitative analysis
4. IR window film forming liquid film for qualitative analysis

- **Gas Cell**

1. Glass or Stainless steel gas cell can inlet directly with select temperature control and optical length of 1.5cm, 3cm, 5cm, 7cm etc fit to high concentration gas
2. Mult-reflectance gas cell of stainless steel, temperature control and optical length of 50cm, 100cm, 5m fit to low concentration gas
3. Corrosion resistant gas cell can customize anti-corrosion materials gas cell eg HF gas measure