

## DW-FR10

# Portable Fourier Transform Infrared and Raman Spectrometer

As a lead manufacturer and supplier, Drawell Scientific has launched the DW-FR10 portable Fourier transform infrared and Raman spectrometer, combining the functionalities of both handheld Fourier transform infrared (FTIR) spectrometers and handheld Raman spectrometers, integrating FTIR technology with high-frequency Raman-based mapping spectroscopy. It not only achieves a wide range of chemical identification than standalone infrared or Raman spectrometers but also enables mutual validation of test results between the two technologies in specific applications, thereby enhancing credibility.

### Application Fields

Applicable to rapid screening in multiple deployment scenarios across industries such as customs, military, armed police, public security, border defense, firefighting, and food & drug administration. It enables on-site qualitative analysis of suspicious substances (e.g., drugs, chemical agents, explosives, flammable/explosive materials) with various physical states (solids, powders, liquids, pastes, etc.), quickly obtaining test results to improve users' disposal and decision-making processes.

### Advantages

- Professional: Developed for on-site rapid testing needs, it supports handheld/portable operation and requires no complex pretreatment.
- Precise: By leveraging the synergy of complementary physical mechanisms (dipole moment and polarizability), it enables expanded capabilities in chemical substance identification, and improves the accuracy and reliability of analysis.
- Characteristic: Compact and lightweight, it meets unique requirements such as on-site rapid testing and mobile law enforcement.
- Innovative: The handheld integrated infrared-Raman spectrometer that combines Fourier transform infrared (FTIR) spectroscopy and high-frequency Raman-based mapping spectroscopy.



## Specifications

Size	214 mm × 124 mm × 63 mm
Weight	1.95 kg
Spectral Range	Infrared: 4200–650 cm <sup>-1</sup> ; Raman: 175–2800 cm <sup>-1</sup>
Resolution	Infrared: Better than 4 cm <sup>-1</sup> ; Raman: Better than 10 cm <sup>-1</sup>
Testing Time	Infrared: ≤5 seconds; Raman: ≤3 seconds
Measurement Modes	Infrared: Single-reflection diamond ATR; Raman: Supports both single-point measurement and point-by-point mapping measurement
Operation Mode	Keypad operation
Battery	Built-in 18650 standard lithium battery (3.7V, 2 cells, usable for over 6 hours)
Database	14,500 spectra, supporting self-built libraries
Language	Chinese/English, with one-click switching

## Packing list

Item No.	Descriptions	Q'ty	Remarks
01	FR60 portable Fourier transform infrared and Raman spectrometer main unit (with battery)	1set	
02	Packing list	1pc	
03	Network communication cable	1pc	
04	Power adapter	1pc	
05	Calibration material for Raman spectroscopy	1pc	
06	Carrying case	1pc	
07	18650 spare battery	2pcs	
08	Solid sampling set (medicine spoon, cotton swab)	1set	
09	Liquid sampling kit (straws, glass bottles)	1set	
10	Screwdriver	1pc	For battery replacement
11	Quality certificate	1pc	