

Thermo Scientific iS50 Raman Module

A unique tool to enhance your material characterization capabilities

The Thermo Scientific™ iS™50 Raman module adds new dimensions to material characterization in forensics, polymer, pharmaceutical and analytical laboratories. Mounted in the sample compartment, the iS50 Raman module adds analytical power to the Thermo Scientific™ Nicolet™ iS50 FT-IR spectrometer, without increasing its footprint, while delivering the performance of a dedicated module at a fraction of its price.



Raman spectroscopy is a powerful tool for investigating the composition and structure of polymers, APIs and many other materials. FT-Raman utilizes a long wavelength laser which greatly reduces fluorescence and produces clean spectra of many materials which are difficult to analyze by dispersive Raman. It also enables sampling through glass vials, polymer blister packs, evidence bags and similar packaging materials. The excellent co-adding properties of the FT system allow even weak signals to be acquired.

Typical Applications

- **Pharmaceuticals:** Polymorphism and other crystallinity studies
- **Polymers:** Crystallinity and inorganic fillers
- **Forensics:** 2 Class-A SWGDRUG techniques (FT-IR and Raman) in one system
- **Material Characterization:** Identity and morphology

Types of Samples

- Single crystals or fibers on microscopy slides
- Tablets and other solids for mapping or discrete measurements
- Liquids in vials
- Batch sampling, using 48-well plate array automation

The iS50 Raman Module Advantage

- Performance of standard, larger modules
- Ready to work with one-touch operation
- Motorized sampling stage and video capture standard
- Compact size (sample compartment), affordable price

Standard Software Tools

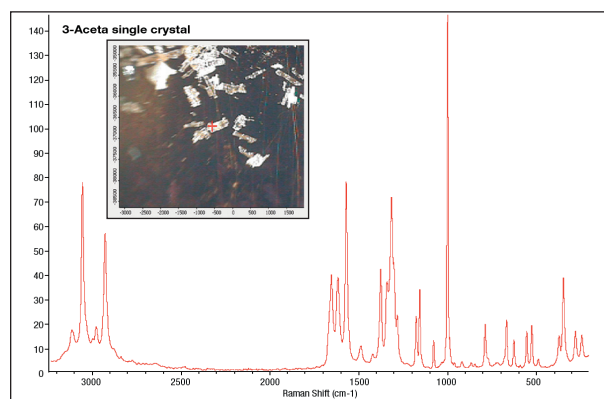
- Integration with Nicolet iS50 Touch Point operation
- User setup and control interface
- Thermo Scientific™ Microview™ and video for simple control
- Thermo Scientific™ OMNIC™ Atlys™ Mapping and Analysis software
- Thermo Scientific™ Array Automation™ data collect and analysis software for well plates
- Validation optional via Thermo Scientific™ ValPro™ validation software
- Direct links to Thermo Scientific™ OMNIC Spectra™ with multi-component search and Thermo Scientific™ TQ Analyst™ quantitative analysis package

Weighing only 8 kg, the iS50 Raman module is easy to install and simple to operate. The 1064 nm diode laser gives reliable operation and long lifetime, as well as 500 mW of laser power in a compact package. The InGaAs detector is mounted inside the Nicolet iS50 ensuring compactness of the system.

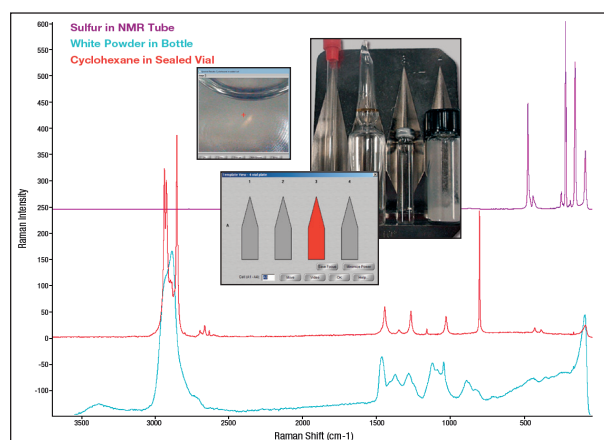


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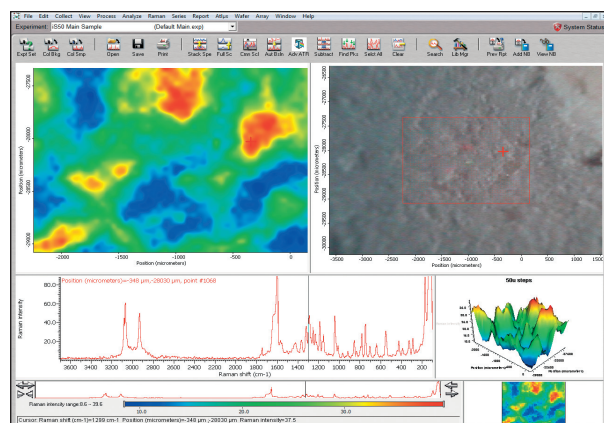
High-quality data can be obtained from the iS50 Raman module in seconds. Templates in the OMNIC software allow the user to drive quickly to a location near the sample, and then position the stage using simple X-Y-Z controls for a precise measurement. The Autofocus feature quickly adjusts the z-coordinate based on the Raman intensity, optimizing the signal for data collection.



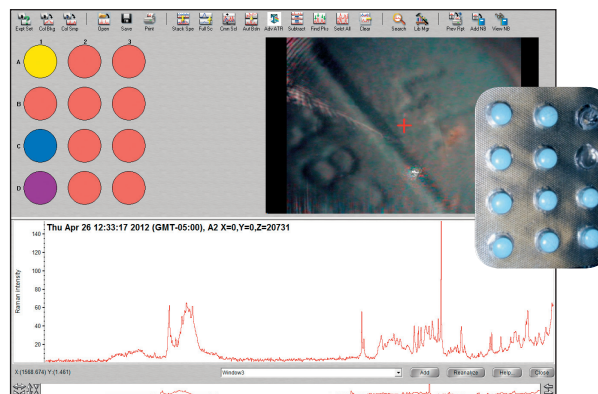
Single point collection in seconds with Autofocus to optimize intensity



Templates drive collection through single-click operations



Raman mapping driven by OMNIC Atlas Software: Collect and Analyze



Collect and analyze data in well plates or any regularly spaced array

iS50 Raman Module Specifications

Diode Laser

Wavelength	1064 nm
Power	0.05–0.50 mW, Software settable
Spot Size	Less than 60 microns
Compliance	Class 1 Laser Product
Safety	Automatic Shutter Interlocks, Laser Filters

X-Y-Z Stage

Range	100 mm front/back, 62.5 mm left right, 21.5 mm top/bottom
Step Resolution	5 micron steps
Sampling Plates	9-well, microscope slide, 3 and 4-vial, 48-well

Software

Basic Operation	Standard OMNIC tools, laser power, white light controls
Point and Shoot	XY movement, autofocus
Regular Arrays	Array Automation Software Includes data collection and full analysis suite Video capture and storage during data collection Quantitative and Qualitative Analysis Cluster Analysis, Multiple Curve Regression
Mapping	Atlas Mapping Software Includes data collection and full analysis suite Video mosaic capture and storage during data collection Point, Line or Area Mapping

Camera

USB

Dimensions

Weight	7.6 kilograms (16.8 lbs)
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