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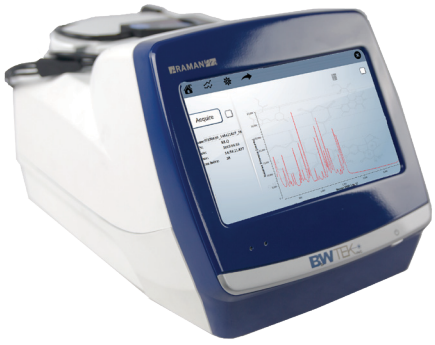
SPECTROMETERS | LASERS | TOTAL SOLUTIONS

Raman Solution

i-Raman® Pro

Deep Cooled, Highly Sensitive, High Resolution Portable Raman System



The i-Raman® Pro is part of our award winning line of i-Raman portable Raman spectrometers powered by our innovative smart spectrometer technology. The i-Raman Pro is a fully integrated system with a touchscreen tablet computer and a battery option for easy portability. Using a high quantum efficiency CCD array detector with deep cooling (-25°C) and high dynamic range, this portable Raman spectrometer delivers a further improved signal to noise ratio for applications requiring long integration times, making it possible to measure even the weakest Raman signals. The i-Raman Pro features the unique combination of wide spectral coverage and high resolution, measuring from 65 cm^{-1} to 3200cm^{-1}, enabling you to measure stretching bands around 3100cm^{-1}. The compact mobile design combined with an onboard touch screen tablet PC provides users with research grade Raman capabilities anywhere.

The i-Raman Pro is equipped with a fiber optic probe, and can be used with a cuvette holder, a video microscope, and an XYZ positioning stage probe holder. This unit can perform analysis using the onboard touch-friendly and easy to use BWSpec™ Mobile software or by connecting to an external PC for lab analysis. With the i-Raman Pro, a portable, high precision qualitative and quantitative Raman solution with great added mobility is at your fingertips.

Applications:

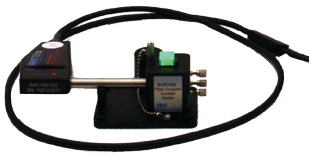
Art and Archaeology
Bioscience and Medical Diagnosis
Pharmaceutical Analysis
Raman Microscopy
Process Monitoring (PAT)
Environmental Science
Forensic Analysis
Gemology
Geology and Mineralogy
Food & Agriculture Industry
Semiconductor & Solar Industry
Narcotics detection
SERS

SENSITIVE:

High quantum efficiency CCD array detector with ultra deep cooling and high dynamic range

COMPREHENSIVE:

Our comprehensive package of sampling accessories for measuring solid and liquid samples provide you the utmost utility for diverse sample forms.



TOUCH SCREEN INTERFACE:

Our state-of-the-art BWSpec Mobile Raman data acquisition software provides an intuitive touch-friendly interface. Data are stored in a database, and can be exported in convenient field formats for further analysis in BWIQ and BWSpec software. Users can also remotely export data over a Wi-Fi network

Specifications:

Laser	
785nm Excitation	>320mw at Laser Port (420mW Max)
Laser Power Control	0 to 100%
Spectrometer	
Range	65cm^{-1} - 3200cm^{-1}
Resolution*	~ 4.5cm^{-1} @ 912nm
Detector	
Detector Type	High Quantum Efficiency CCD Array
Pixel Number	2048 Effective Detector Elements
Effective Pixel Size	14µm x ~ 0.9 mm
CCD Cooling**	ΔT= -55°C
Dynamic Range	50,000:1 (Typical)
Digitization Resolution	16-bit or 65,535:1
Integration Time	6.3ms - 30mins
Electronics	
Computer Interface	USB 2.0, Wi-Fi for Data Export
Trigger	Yes (Compatible with B&WTek Probes)
Power Options	
DC Power Adaptor	12V DC @ 6.6 Amps
Battery	Optional
Physical	
Dimensions	15.7in x 10.2in x 9.8in (40cm x 26cm x 25cm)
Weight	~19.5lbs (~8.8kg)
Operating Temperature	0°C - 35°C
Storage Temperature	-10°C - 60°C
Humidity	10% - 85%

**Typical resolution measured using Hg lamp*
***Default CCD temperature setting: -25°C*

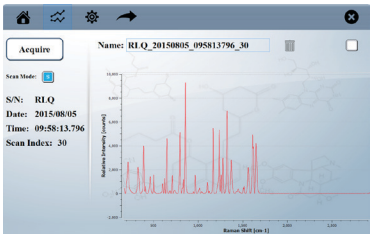
Software:

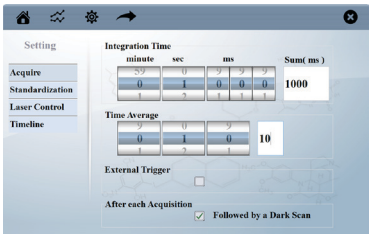
The i-Raman Pro is controlled using the touch-friendly onboard BWSpec™ Mobile software or by connecting to an external PC operating with BWSpec. BWSpec™ is the foundation for all B&W Tek software platforms and is provided with every Raman spectrometer.

B&W Tek offers comprehensive software packages that provide solutions for Raman application needs. Powerful calculations, easy data management, and user friendly, easy-to-follow work flow are all at the tips of your fingers. Data can be readily exported from BWSpec Mobile (or directly saved in different formats) for further analysis.

The BWID™ software (optional) is optimized for rapid identification and verification of materials with spectral libraries. For industrial Raman applications that require federal compliance: BWID™- Pharma supports all requirements for US FDA 21 CFR Part 11 compliance.

B&W Tek's software portfolio includes the BWIQ™ chemometrics software, a multivariate data analysis software package which can be used to develop qualitative and quantitative calibration models. BWIQ offers a full range of sample selection, preprocessing, and chemometric methods including airPLS baseline correction, PCA, PLS-DA, PLS, and SVM to discover internal relationships between spectra and response data or spectra and sample classes. BWIQ represents the next generation in speed, accuracy and performance for quantitative and qualitative analysis.





Additional Features:

- Easy touch-friendly screen operation with integrated tablet computer
- Patented CleanLaze® Technology for laser stabilization
- Collect Data to within 65cm^{-1} of the Rayleigh Line
- Fiber Optic Coupling for convenient sampling

Accessories (Included):

Fiber Optic Raman Probe with External Trigger
Laser Safety Goggles
BWSpec Mobile and BWSpec Software

Accessories (Optional):

Battery operation
Cuvette holder
Probe holder
Immersion Raman probe shaft
Performance testing kit, including liquid vial holder
Microscope adaptor
Video microscope
Raman flow cell
BWIQ multivariate data analysis software
BWID acquisition and identification software

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