

RAMAN SPECTROSCOPY / DATA SHEET

SR130X

Handheld Raman Detector

Portable 785 nm Raman identification platform for rapid on-site screening of unknown solid, liquid and powder samples.

Overview

- Raman spectroscopy rapidly identifies unknown substances in solid, liquid or powder form.
- Portable design supports field screening and on-site forensic evidence analysis.
- Reference-database matching supports rapid identification workflows.
- Compatible with Surface-Enhanced Raman Spectroscopy (SERS) technology.



785 nm
EXCITATION
WAVELENGTH

200-3200 cm⁻¹
SPECTRAL RANGE

6-8 cm⁻¹
RESOLUTION

>12 h
BATTERY LIFE

APPLICATIONS

Typical Applications

Field Screening

- On-site case handling at narcotics enforcement scenes.
- Patrol and routine public-security screening.
- Customs, border and transportation-hub inspection.

Security Deployment

- Border narcotics interdiction and rapid screening.
- Event security and safety assurance at large-scale events.
- Random checks on passing vehicles and suspicious individuals.

TECHNOLOGY

Raman Identification with SERS Compatibility

The SR130X uses Raman spectroscopy to compare a measured spectrum with a reference database. It is compatible with SERS workflows when enhanced Raman response and improved resistance to fluorescence interference are required for challenging samples.

Technology	Source-supported capability
Raman spectroscopy	Rapid identification of unknown solid, liquid and powder samples.
SERS compatibility	Supports enhanced Raman response and anti-fluorescence interference performance.
Reference database	Database capacity listed as >1k; software function: model matching.

Technology	Source-supported capability
Non-contact operation	Through-container measurement capability where suitable optical access is available.

PERFORMANCE

Technical Specifications

Specifications are compiled from the supplied SR130X source document.

Item	Specification
Dimensions	182 × 88 × 30 mm
Weight	≥500 g
Battery life	>12 h
Excitation wavelength	785 nm
Laser power	0-500 mW, adjustable
Spectral range	200-3200 cm ⁻¹
Resolution	6-8 cm ⁻¹
Laser lifetime	10,000 h
Operating temperature	-20 to 50 °C
Working distance	Continuously adjustable
Connectivity	Wi-Fi, 4G
Database	>1k
Software functions	Model matching
Camera	Supported, 12 MP

OPERATION

Field Identification Workflow

01 Aim / Sample Position the optical interface toward the target sample or container.	02 Acquire Spectrum Run one-touch acquisition; working distance is continuously adjustable.	03 Match / Report Compare the spectrum with the reference database using model matching.
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Operating Notes

- Use suitable sampling accessories for liquids, solids or powders.
- Non-contact measurement may be used where through-container optical access is suitable.
- Laser power is adjustable from 0 to 500 mW; the source lists Wi-Fi, 4G and a 12 MP camera.

APPLICATION

Application Cases

Rapid Identification of New Psychoactive Substances (NPS)

New psychoactive substances vary widely and may be concealed. The SR130X uses its reference database and Raman matching workflow to support rapid on-site identification.

Rapid Detection of Heroin Using SERS

Cutting agents can weaken or obscure characteristic Raman fingerprints. With a compatible SERS workflow, the SR130X can enhance Raman response and improve resistance to fluorescence interference for challenging samples.

MECHANICAL DATA

Mechanical Dimensions & Deployment

Overall dimensions and field-use parameters are from the supplied source; no separate mechanical drawing was provided.

Mechanical / field item	Specification
Overall dimensions	182 × 88 × 30 mm
Weight	≥500 g
Working distance	Continuously adjustable
Operating temperature	-20 to 50 °C
Battery	Replaceable battery; battery life >12 h

CONTACT / SUPPORT

SpeSense Technologies Inc.

Add: No. 9 Yuhe Road, Guitang Subdistrict, Yuhua District, Changsha City

Tel: +86-15386478166

Email: info@spesense.com

Web: www.spesense.com



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