

RAMAN SPECTROSCOPY / DATA SHEET

SR131X

1064 nm Handheld Raman Detector

Portable 1064 nm Raman identification platform engineered for rapid field screening of high-fluorescence samples, with non-contact operation and adjustable working distance.

Overview

- 1064 nm excitation provides strong intrinsic fluorescence suppression for challenging samples.
- One-touch operation supports rapid on-site identification and screening.
- Non-contact optical design supports safer measurement of suspicious samples and packages.
- Slide-out damped probe provides a continuously adjustable working distance without a focusing cap.
- Replaceable battery and flexible accessories support extended field operation for liquids, solids and powders.



1064 nm
EXCITATION
WAVELENGTH

$\leq 8 \text{ cm}^{-1}$
RESOLUTION

$\geq 8 \text{ h}$
OPERATING TIME

$\geq 6.7 \text{ in}$
DISPLAY

CAPABILITY

Key Advantages

Field Performance

- 1064 nm excitation for strong fluorescence suppression.
- Rapid field identification with one-touch operation.
- Non-contact optical design for safer sample screening.
- Slide-out damped probe with continuously adjustable working distance.
- Replaceable battery for extended field operation.

Detection & Connectivity

- Supports high-fluorescence and dark-colored samples.
- Mixture analysis for component and content identification.
- Automatic low-temperature calibration.
- GPS and BeiDou positioning with Wi-Fi / 4G connectivity.
- Flexible accessory interface for liquids, solids and powders.

DETECTION CAPABILITY

Optimized for High-Fluorescence Samples

According to the source material, the SR131X uses 1064 nm excitation to provide stronger intrinsic fluorescence suppression, helping avoid fluorescence interference during on-site screening. This improves identification capability for highly fluorescent and dark-colored materials and reduces the risk associated with concentrated laser interaction on sensitive samples.

Field Identification Workflow

01 Position Aim the slide-out damped probe toward the sample or package; adjust working distance continuously as needed.	02 Acquire Run the Raman measurement using the configured field method; non-contact acquisition is supported.	03 Identify Compare the acquired spectrum with the reference database and use mixture analysis where applicable.
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PERFORMANCE

Technical Specifications

Specifications are compiled from the supplied SR131X source document.

Item	Specification
Excitation Wavelength	1064 nm
Dimensions	≤240 × 340 × 90 mm
Weight	≤1500 g
Display	≥6.7 in
Operating Time	≥8 h
Working Distance	Slide-out damped probe; no focusing cap required; continuously adjustable
Data Transmission	Wi-Fi, 4G
Geolocation	GPS, BeiDou, and Wi-Fi / 4G support
Resolution	≤8 cm ⁻¹
Spectral Range	200-2600 nm (as stated in source document)

APPLICATIONS

Typical Applications

On-site Case Handling Rapid identification and screening during field narcotics-enforcement casework.	Border Narcotics Interdiction Rapid on-site screening of suspicious persons and materials in border areas.
Patrol & Screening Routine public-security patrol and screening operations.	Customs & Border Inspection Supervision and inspection at customs clearance points.
Event Security On-site safety assurance for large-scale public events.	Transportation Hubs Random checks on passing vehicles and suspicious persons at transport hubs.

TECHNOLOGY

Technological Advantages

Feature	Capability	Feature	Capability
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Feature	Capability	Feature	Capability
Lightweight & Portable	Designed for field carrying and rapid deployment.	Extensive Reference Data	Large reference library covering controlled narcotics categories described in the source material.
Mixture Analysis	Advanced mixture-analysis workflow for identifying multiple components and their content in mixed samples.	Non-Contact Operation	Optical design supports through-package measurement, delayed start and remote acquisition without direct contact.
Rapid Testing	User-friendly interface with one-touch operation and results available within seconds.	Low-Temperature Calibration	Integrated optical architecture supports automatic calibration in low-temperature environments.
Replaceable Battery	Battery can be replaced to extend field endurance.	Versatile Accessories	Quick-change sampling accessories support liquid, solid, powder and other sample forms.
Enhanced Fluorescence Rejection	1064 nm excitation improves resistance to fluorescence interference and supports dark-sample measurement.		

FIELD USE

Deployment Notes

- Use the adjustable slide-out probe to optimize working distance for the target sample or package.
- 1064 nm excitation is intended to improve fluorescence rejection for challenging samples.
- The system supports GPS and BeiDou positioning as well as Wi-Fi / 4G connectivity according to the source specification.
- Replaceable batteries can be used to extend field operating time beyond a single battery cycle.
- Use non-contact acquisition where direct sample handling is undesirable or unsafe.

Application Cases

Case 1: Rapid Identification of New Psychoactive Substances (NPS)

New psychoactive substances evolve rapidly and are often difficult to screen in the field because of their variety and concealment. The source material describes the handheld Raman platform as using a broad reference database to support rapid identification of multiple NPS categories during on-site enforcement and inspection.

Case 2: Rapid Analysis of Narcotics Mixtures

Field samples may contain adulterants or mixtures of multiple substances. The source material gives the example of methamphetamine mixed with starch and states that the mixture-analysis algorithm can rapidly identify multiple components and provide content information through a one-touch detection workflow.

MECHANICAL DATA

Mechanical Dimensions & Field Data

No separate mechanical drawing was supplied; the dimensional and field-use data below are taken from the source specifications.

Item	Source specification
Overall dimensions	$\leq 240 \times 340 \times 90$ mm
Weight	≤ 1500 g
Display	≥ 6.7 in
Operating time	≥ 8 h; replaceable battery
Probe / working distance	Slide-out damped probe; no focusing cap required; continuously adjustable
Sample interface	Flexible accessory interface for liquids, solids and powders

CONTACT / SUPPORT

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