RamRemote5

Remote Raman Technology

Standoff identification of drugs, precursors and hazardous goods — one robot platform, two Raman technologies



RAMREMOTE5-TG · TIME-GATED

RAMREMOTE5-UV · SOLAR-BLIND

01
STANDOFF SAFETY

Inspect suspicious items from 0.5 m up to 20 m away, keeping operators outside the danger zone during EOD and security operations.

02
DAYLIGHT & OUTDOOR

Solar-blind UV variant eliminates ambient light interference, enabling reliable screening in sunlight and complex lighting.

03
AI ON-BOARD ANALYSIS

Automatic baseline correction, fluorescence suppression, peak extraction and library matching deliver confidence scores and alarms in seconds.

04
FULLY OFFLINE OPERATION

Runs 100% locally with no cloud dependency; sensitive security data stays on-site, with traceable, storable results.

KEY ADVANTAGES

- Two selectable Raman cores on one robot platform: time-gated or solar-blind UV (200–280 nm)
- Fast non-contact screening of unknown solids and liquids through sealed packaging
- Anti-interference design for daylight, lamps and reflective scenes
- In-situ detection of hazardous residues on ground and soil
- Remote-controlled via wireless network with on-board camera aiming
- Customizable library for drugs, precursors and hazardous chemicals with expandable identification models
- No spectroscopy expertise required — interface designed for field operators
- Results graded by confidence score with alarm levels for rapid decision-making
- >2 hours continuous field operation on DC 24 V supply
- Choice of operating system: Windows or Kylin

RELIABLE INSTRUMENT MANUFACTURING & SERVICES

Call: +86 189-6516-4839 · e-mail: sales@nwspec.com · Website: www.nwspec.com

RamRemote5

Remote Raman Technology — System & Technology

SYSTEM OVERVIEW



PAN-TILT OPTICAL HEAD

Motorized aiming with video assist points the excitation and collection optics at the target from a safe distance.

TIME-GATED DETECTION

Gated acquisition rejects fluorescence background for clean Raman signatures of drugs, precursors and hazardous goods.

SOLAR-BLIND UV OPTION

200–280 nm excitation sits in the solar-blind band, giving the lowest interference under direct sunlight and complex lighting.

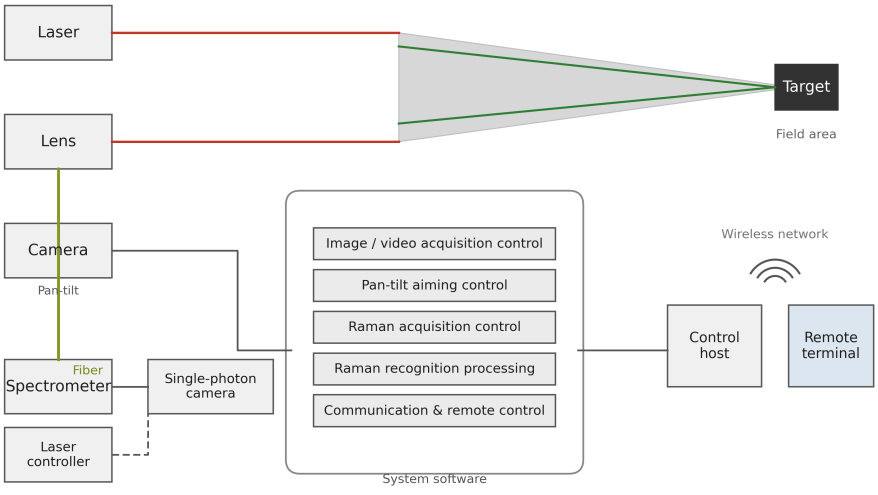
CONTROL HOST & REMOTE TERMINAL

Wireless link to a rugged control host; operators command the robot and review spectra from a remote laptop.

AI SPECTRAL ANALYSIS

Deep-learning library matching returns substance ID, confidence score and alarm level automatically — no spectroscopy expertise needed.

HOW IT WORKS



APPLICATION AREAS

EOD & BOMB SQUAD

Standoff checks of suspicious packages, unattended items and IEDs

SECURITY SCREENING

Customs, checkpoints and mass-event perimeter control

DRUG ENFORCEMENT

Field identification of narcotics and drug precursors

HAZMAT RESPONSE

Unknown chemical and hazardous-goods verification

CONTAMINATION SURVEY

Ground and soil residue assessment after incidents

PERIMETER PATROL

Long-range reconnaissance before personnel approach

NWSPEC Call us: +86 189-6516-4839 / Email: sales@nwspec.com / Address:Xiongan Pilot Free Trade Zone, Hebei, China

RamRemote5

NWSPEC

Remote Raman Technology — Specifications & Configuration

TECHNICAL SPECIFICATIONS

Model / Variant	RamRemote5-TG (time-gated) / RamRemote5-UV (solar-blind UV)
Spectral range	300–2400 cm^{-1} (customizable)
Spectral resolution	9–20 cm^{-1} (customizable)
Excitation source	UV / visible (per variant selection)
Solar-blind UV band	200–280 nm (RamRemote5-UV)
Working distance	0.5–5 m / 3–10 m / 5–20 m (optional)
Typical target categories	Drugs, drug precursors, hazardous goods (typical)
Operation modes	Remote wireless control; local offline operation

SOFTWARE & ANALYSIS

Spectral library	Drugs / precursors / hazardous goods; customizable and expandable
AI algorithms	Baseline correction, fluorescence suppression, peak extraction, matching
Result output	Substance ID, confidence score, alarm grading; results storable for traceability

PERFORMANCE HIGHLIGHTS

20 m
Maximum standoff detection distance

200–280 nm
Solar-blind UV band for daylight operation

> 2 h
Continuous field operation, typical conditions

0.5–20 m
Three selectable working-distance ranges

ELECTRICAL & ENVIRONMENT

Power supply	DC 24 V
Operating system	Kylin / Windows (optional)
Operating temperature	5–40 °C
Operating humidity	10–70 % RH (non-condensing)

HOW TO CONFIGURE YOUR RAMREMOTE5 — ONE PRODUCT, TWO VARIANTS

STEP 1 — RAMAN TECHNOLOGY

RamRemote5-TG (time-gated): general field screening with fluorescence suppression
RamRemote5-UV (solar-blind UV): bright daylight, outdoor and emergency scenes

STEP 2 — WORKING DISTANCE

0.5–5 m close inspection · 3–10 m standoff screening · 5–20 m long-range reconnaissance

STEP 3 — OPERATING SYSTEM

Windows for standard deployment · Kylin where domestic-OS procurement applies

Recommended package — checkpoints	RamRemote5-TG + 0.5–5 m + Windows
Recommended package — outdoor EOD	RamRemote5-UV + 3–10 m + Windows
Recommended package — long-range patrol	RamRemote5-UV + 5–20 m + Kylin

Both variants share the same robot platform, optics and software. Tell us your target list or field scenario — the spectral library and alarm thresholds are configured before delivery, and support later update and expansion. The system runs fully offline locally and keeps all data on-site.