DISTRIBUTOR TRAINING · PRODUCT FUNDAMENTALS

Halcyon RSM-500

Radiation survey meter: what it is, who buys it, and how to sell it right

RATE 0.12 µSv/h

September 2026

One meter, from background to 100 mSv/h

The RSM-500 is a handheld, energy-compensated Geiger-Müller survey meter that measures gamma and X-ray dose rate and accumulated dose. The ALP-10 probe adds alpha/beta contamination checks, and the HalcyonLink app turns every reading into a survey record.

0.05 µSv/h

Up to 100 mSv/h (5 µR/h to 10 R/h), starting near background

IP67

Sealed against dust and water; 1.5 m drop-tested; −20 °C to 50 °C

400 h

Typical runtime on two standard AA batteries, alkaline or NiMH

Six markets, one instrument

Nuclear medicine & hospitals

Hot labs, injection areas, patient rooms and waste release

Industrial radiography

Boundary checks and source-retraction surveys after every exposure

Scrap metal & recycling

Confirming portal alarms and locating orphan sources in a load

Emergency response & hazmat

Sizing up an unknown scene quickly, in full PPE

Nuclear power & health physics

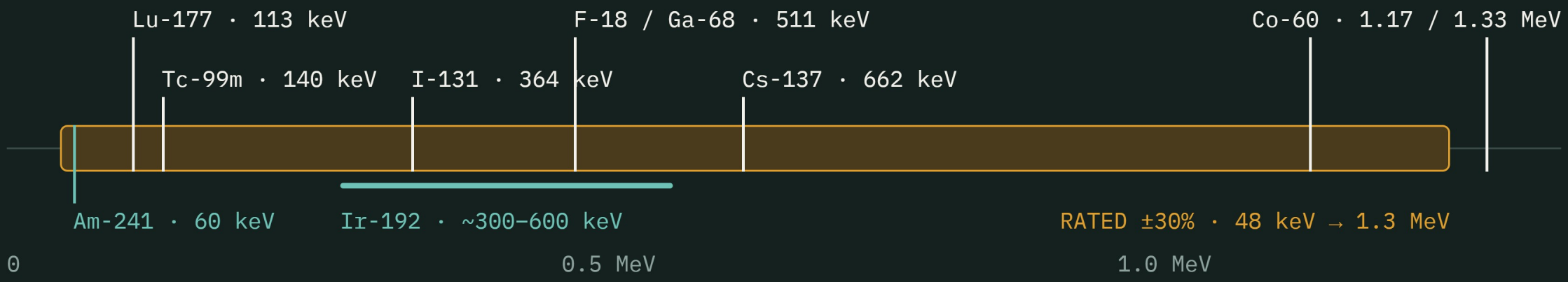
Routine surveys, job coverage and pre-job briefings

University & research labs

Lab surveys, contamination checks and simple export for the RSO

Energy compensation is the headline differentiator

A basic GM meter over-responds to low-energy photons, so one calibrated on Cs-137 can over-read significantly on Tc-99m. The RSM-500 stays within ±30% of its Cs-137 response from 48 keV to 1.3 MeV.



Six features, each with a reason to buy

01

Energy-compensated detector

Low-energy medical isotopes and high-energy industrial sources both read true, 48 keV to 1.3 MeV.

02

Smart probe port

Plug in the ALP-10: the meter recognizes it, loads its calibration and switches to count-rate units.

03

Readable anywhere

2.8-inch sunlight-readable color display and large, glove-friendly buttons for bright sun, dark basements and full PPE.

04

Alarms you can't miss

Rate and dose thresholds sound at 85 dB, flash and vibrate at once, so they register in a noisy plant.

05

Log, sync, report

50,000 time-stamped readings; HalcyonLink adds GPS locations and exports CSV or PDF survey reports.

06

Field-tough

IP67 sealed, 1.5 m drop-tested, rated −20 °C to 50 °C, up to 400 hours on two AA batteries.

A survey in four steps

1

Power on

Self-check in under 5 seconds. Tone, LED flash and vibration prove all three alarm channels work.

2

Survey

Live rate with a trend bar and audible clicks; about 2-second response above 10 µSv/h.

3

Alarm & log

Readings saved automatically; alarms fire at the customer's own set points.

4

Report

Sync to HalcyonLink over Bluetooth or USB-C and export a CSV or PDF survey record.

Why it sells: automatic logging removes transcription errors and makes inspection prep faster.

Specifications to know by heart

Measurement	
Detector	Energy-compensated GM tube
Detects	Gamma and X-ray; alpha/beta with ALP-10
Dose rate	0.05 µSv/h to 100 mSv/h
Accumulated	0.01 µSv to 10 Sv
Energy	48 keV to 1.3 MeV, ±30% vs Cs-137
Accuracy	±15% of reading (Cs-137)
Response	~2 s above 10 µSv/h; up to 20 s at background
Units	µSv/h, mSv/h, µR/h, mR/h, cpm, cps

Hardware & data	
Display	2.8 in color TFT, sunlight-readable
Alarms	Rate, dose, probe, over range; 85 dB, LED, vibration
Logging	50,000 records; GPS via app
Connectivity	Bluetooth LE 5.0, USB-C
Power	2 × AA alkaline or NiMH; up to 400 h
Environment	IP67; −20 °C to 50 °C; 1.5 m drop
Size	205 × 88 × 58 mm; 470 g with batteries
Calibration	NIST-traceable; 12-month interval

The lineup: one kit, three add-ons

RSM-500-K

Survey Meter Kit

Meter, belt holster, wrist lanyard, 2 AA batteries, USB-C cable, NIST-traceable calibration certificate and quick-start guide.

ALP-10

Alpha/Beta Pancake Probe

44 mm mica-window GM probe for surface contamination; 0 to 500,000 cpm; carries its own calibration.

TEL-4

Telescoping Extension Pole

Extends from 1.1 m to 4 m for high-rate or hard-to-reach spots; read live on the phone via HalcyonLink.

CAL-SVC

Calibration Service

NIST-traceable calibration with a 5-business-day turnaround; ALP-10 probes calibrated with the meter.

Every kit and accessory carries a **2-year warranty, parts and labor.**

APPLICATION PLAY 1 · AN-101

Nuclear medicine & hospitals

The pain: short-lived isotopes from 113 keV (Lu-177) to 511 keV (F-18, Ga-68) make readings from an uncompensated meter hard to compare room to room.

HOW THE RSM-500 ANSWERS IT

- Every common isotope is in the rated range, so hot-lab and PET-suite readings mean the same thing
- ALP-10 checks benches, sinks, floors, door handles and waste containers
- Named locations document decay-in-storage waste and therapy room release

RECOMMENDED KIT

RSM-500-K — one per department or per survey technician

ALP-10 — contamination and waste surveys

CAL-SVC — annually, or more often if the license requires

APPLICATION PLAY 2 · AN-102

Industrial radiography

The pain: every exposure depends on a boundary that keeps people out and a source that returns to its shielded position afterward.

HOW THE RSM-500 ANSWERS IT

- Set the rate alarm at the boundary level, e.g. 0.02 mSv/h (2 mR/h), to alarm on crossing
- 85 dB alarms and audible clicks carry over job-site noise
- TEL-4 checks the guide tube from a distance; GPS-stamped PDF goes in the job file

RECOMMENDED KIT

RSM-500-K — one per radiography crew

TEL-4 — guide tube and collimator surveys

CAL-SVC — twice a year where a six-month interval applies

APPLICATION PLAY 3 · AN-103

Scrap metal & recycling

The pain: a portal monitor says a load is radioactive, but not where the source is or how much it emits.

HOW THE RSM-500 ANSWERS IT

- Confirms the alarm, locates the source area and measures dose rate for the response decision
- 0.05 µSv/h to 100 mSv/h covers NORM through an unshielded source; IP67 suits outdoor yards
- TEL-4 reaches over trailer walls; the PDF report goes to the regulator

RECOMMENDED KIT

RSM-500-K — at each scale house or portal monitor

TEL-4 — surveying the tops of loads

CAL-SVC — annual calibration

Know the limits before the customer finds them

No neutrons; no alpha or most beta without the probe

No reading does not prove no hazard outside its detection range.

Not intrinsically safe

Keep it out of atmospheres with flammable gases, vapors or dust.

Pulsed fields

GM detectors can under-respond near some X-ray generators and linacs; verify first.

Not a personal dosimeter

Accumulated dose is what the instrument received, not a legal dose record.

Co-60 sits at the edge

Its 1.33 MeV line is just above the rated 1.3 MeV; check the calibration certificate.

Valid only in calibration

12 months recommended; some licenses require six.

Every meter sold starts a calibration relationship

12
months: recommended calibration interval

6
months where radiography rules apply: two services a year

5
business-day CAL-SVC turnaround

2
years warranty, parts and labor

Built-in reminder: the CAL icon appears 30 days before the due date and flashes when overdue, so customers come back on schedule.

Discovery questions that point to the right kit

Ask	Listen for	Lead with
Which isotopes or sources do you survey?	Low- and high-energy sources in one program	Energy compensation
Do you check surfaces or waste for contamination?	Benches, sinks, waste release	ALP-10 probe
Do you survey high-rate or hard-to-reach spots?	Guide tubes, tops of truckloads	TEL-4 pole
How do you record surveys today?	Paper logs, manual transcription	Logging + HalcyonLink
What calibration interval does your license set?	Six months	CAL-SVC twice a year
Any flammable atmospheres, pulsed X-ray or neutron fields?	Yes to any	Escalate to Halcyon

HALCYON INSTRUMENTS

Every reading, trusted.

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Sources: RSM-500 Brochure; Operator Manual OM-RSM500 Rev A; Application Notes AN-101, AN-102, AN-103. Halcyon Instruments and the RSM-500 are fictional, created for sales-training demonstrations; all specifications are illustrative.