

The RAM R-200 Meter

Ruggedized Multipurpose Survey Meter

Description

The **RAM-R-200** is a portable multifunctional, rugged survey meter designed for measuring wide range gamma radiation fields and contamination. The sturdy casing and internal electronics are designed to withstand shocks and vibrations and perform reliably in extreme environments.

An internal detector containing two energy compensated GM tubes together with optional external probes will detect, measure, and digitally display both dose and dose rate levels of gamma radiation from 0.1 μ Sv/h to 100 Sv/h (10 μ R/h – 10,000 R/h), and alpha/beta contamination from 0 to 1 Mcpm.

The **RAM R-200** can be used with a three-segment sturdy telescopic rod for the external gamma probe. The **RAM R-200** meter and its external detectors include embedded microprocessors, data memory, and communication functions. An audible indication is activated either by frequency fluctuations in accordance with the field strength or chirp for each measured pulse.

The **RAM R-200's** auto-ranging meter utilizes a combination display consisting of a smoothed digital display for minimum fluctuations, and a two-decade logarithmic analog bar graph for fast response.

Applications

- General-purpose rugged survey capabilities.
- Readings of hard-to-reach areas (i.e. vehicle surveys, elevated piping, etc.).
- α, β, γ Surface contamination detection and measurement.
- Portable or stand-alone radiation measurement station.

Features

- Wide range internal gamma detector.
- Ruggedized, portable, compact, lightweight instrument.
- Simple operation: only four push buttons.
- Built-in RS-232 communication - three channels.
- Special operating modes accessed via our configuration software.
- Large, easy to read, digital and analog customized LCD.
- Display backlight offers bright illumination for use in dark areas.
- Easy connection of optional external probes.
- Reliable telescopic rod containing a quick connection housing for meter and external gamma probes.
- Audible alarm.
- Automatic self-test of meter and external probes.
- Automatic detector identification with each change of detector.
- Automatic recording of dose accumulation by the internal detector also when the meter measurement is done by an external probe.
- Low current consumption, more than 100 hours of continuous operation with a single 9V battery.
- Passed sub-pressures, dust, shock, vibration, drop and immersion tests. Meets MIL-STD 810. Electromagnetic compatibility tests meet MIL-STD 461.
- CE marked.



RC TEM
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Technical Data

Internal detector

Counting tubes	GM tube *ZP-1202 (ZP-1201) GM tube *ZP-1314 (ZP-1313)
Measuring range	*0.1 $\mu\text{Sv/h}$ to 1 Sv/h (10 $\mu\text{R/h}$ to 100R/h)
Energy response	$\pm 35\%$ from 60 to 2000 keV
Sensitivity	17 cps/mR/h(ZP1201) 1.4 cps/mR/h(ZP1313)
Accuracy	$\pm 10\%$ of reading, within the measuring range
Data logging	1000 data records
Display	DigiLog (3 digits and 2 decades of analog bar graph) Four push-buttons: On/off, Light, Speaker, Mode
Measuring units	Radiation: Sv/h, Sv or R/h, R (e.g. $\mu\text{R/h}$, mR/h, R/h) Contamination: cpm or counts (e.g. cpm, Kcpm, Mcpm)
Power source	One 9-Volt alkaline battery 100 hours of continuous operation
Temperature range	Operation: -30°C to +60°C (-22°F to 140°F) Storage: -30°C to +70°C (-22°F to 158°F)
Humidity range	10% to 95% RH (non condensing)
Casing	Seawater resistant aluminum alloy, shock resistant
Meter dimensions:	Length 134 mm (5.3") Breadth 80 mm (3.15") Width 35 mm (1.4")
Weight	460 gr (1 lb) (incl. cell)

* Ambient Dose Equivalent

Meter part no: BAK-2070

Accessories:
Leather carrying bag: BAK-1590

Telescopic rod
- 50cm to 150cm (0.5 yard - 1.6 yards): BAK-2060
- 95cm to 330cm (1 yard - 3.6 yards): BAK-1790

Cables
Meter to Detector: BAK-0400
Meter to P.C. : BAK-2050
Detector to P.C. adapter: BAK-0010
TeleRod – PA100 detector: BAK-2370

<p>Detector RG-10 model 4-0037-03 α,β,γ contamination detector</p> 	<p>Range Window Effective area Sensitivity</p> <p>Geiger Accuracy Temperature Range Weight Dimensions</p>	<p>0 - 1.00 Mcpm 1.5 - 2.0 mg/cm² 15.5 cm² 3500 cpm/mR/h(¹³⁷Cs), 500 cpm/Bq/cm² (⁹⁰Sr ⁹⁰Y), 175 cpm/Bq/cm² (²³⁹Pu) NRC 2006 ± 10% of reading -30°C to +60°C (-22°F to 140°F) 310 gr (0.7lb) 181 mm (7.1") x 62 mm (2.4") Diam.</p>
<p>Detector RG-12 model 4-0037-02 α,β,γ contamination detector</p> 	<p>Range Window Effective area Sensitivity Geiger Accuracy Temperature Range Dimensions Weight Casing</p>	<p>0 - 1.00 Mcpm 1.5 - 2.0 mg/cm² 6.4 cm² 1500cpm/mR/h(⁶⁰CO), 120 cpm/Bq/cm² (⁹⁰Sr⁹⁰Y), LND 7231 ± 10% of reading -30°C to +60°C (-22°F to 140°F) 155 mm (6.1") x 40 mm (1.6")Diam. 280 gr (0.6 lb) Aluminum, splash proof, IP-64</p>
<p>Detector RG-40 model 4-0037-01 High range γ radiation detector</p> 	<p>Range Energy response Sensitivity Geiger Accuracy Temperature Range Dimensions Weight Casing</p>	<p>10 mSv/h - 100 Sv/h (1 R/h - 10,000 R/h) ± 35% from 60 KeV to 2.0 MeV 77 cps/R/h 4G60M ± 10% of reading -30°C to +60°C (-22°F to 140°F) 145 mm (5.7") x 30 mm (1.2")Diam. 130 gr (0.3 lb) Aluminum, splash proof, IP-67</p>
<p>Detector RG-42 model 4-0037-17 Low range γ radiation detector</p> 	<p>Range Energy response Sensitivity Geiger Accuracy Temperature Range Dimensions Weight Casing</p>	<p>0.5 μSv/h to 40 mSv/h (50 μR/h to 4 R/h) ± 35% from 50 KeV to 3.0 MeV 1.7 cps/μSv/h (17 cps/mR/h) (¹³⁷Cs) 1201 ± 10% of reading -30°C to +60°C (-22°F to 140°F) 175 mm (6.9") x 30 mm (1.2")Diam. 150g (0.4 lb) Aluminum, splash proof, IP-67</p>
<p>Detector PA-100/M model 4-0037-20 α contamination detector</p> 	<p>Range Type Window Thickness Effective area Probe Efficiency 2π Surface Sensitivity</p> <p>Accuracy Temperature Range Width Height Length Weight Casing</p>	<p>0 to 1.0 Mcpm Air proportional 0.85mg/cm² aluminized window 100 cm² (15.5 in²) *18% *530cpm/Bq/cm² compensated in the meter to 100% to be 3000 cpm/Bq/cm² *15% of reading -10°C to +50°C (14°F to 122°F) 75mm (3") 55mm (2.2") 240mm (9.5") 1Kg (2.2 lbs) Aluminum, splash proof, IP-64 (*related to ²⁴¹Am)</p>
<p>Detector RP-11 model 4-0037-50 High sensitive γ radiation detector</p> 	<p>Range Radiation Detected Scintillator Sensitivity Energy Calibration Temperature Range Humidity Range Dimensions Weight Casing</p>	<p>0 to 50,000cps Gamma above 50 keV NaI(Tl) 2" diameter, 2" thick. Window of 1 mm. (0.04") Al. 20,000 cps/mR/h (¹³⁷Cs) Software calibrated single channel analyzer (SCA). -30°C to +60°C (-22°F to +140°F) 10% to 95% RH (non condensing) 340mm (13.4") x 70mm (2.75") Diam. 1.75kg (3.9lbs) Aluminum, splash proof, IP-65</p>

Accessories

Emergency Response Kit #1



Includes:
Pelican case 1400
RAM R-200 Survey Meter
RG-12 detector (α, β, γ contamination detector)
Dimensions: 13" x 12" x 6"

Optional: RG-10 detector (α, β, γ contamination detector)

Emergency Response Kit #2



Includes:
Pelican case 1500
RAM R-200 Survey Meter
RG-12 detector (α, β, γ contamination detector)
PA-100 detector (α contamination detector)
Dimensions: 18" x 15" x 7"

Optional: RG-10 detector (α, β, γ contamination detector)

Emergency Response Kit #3



Includes:
Pelican case 1520
RAM R-200 Survey Meter
RG-12 detector (α, β, γ contamination detector)
RG-40 detector (γ high range radiation detector)
PA-100 detector (α contamination detector)
TeleRod 50 to 150 cm
Dimensions: 19" x 15" x 7"

Optional: RG-10 detector (α, β, γ contamination detector)

Emergency Response Kit #4



Includes:
Pelican case SKB 4009
RAM R-200 Survey Meter
RG-12 detector (α, β, γ contamination detector)
RG-40 detector (γ high range radiation detector)
TeleRod 95 to 330 cm
Dimensions: 44" x 14" x 8"

Optional: RG-10 detector (α, β, γ contamination detector)

ROTEM INDUSTRIES reserves the right to change specifications without advance notice

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