

Ram R-200

GM Tube Based Smart Survey Meter



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.
- 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 setup 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.



TECHNICAL SPECIFICATIONS:

Radiological Characteristics

- detector: energy compensated GM-tube (ZP-1201 and ZP-1313)
- accuracy: +/- 10% of reading, within measuring range
- energy range: 60 to 2000 keV
- sensitivity: 17cps/mR/h (ZP1201), 1.4 cps/mR/h (ZP1313)
- detector life time: 20R/h field for six months
- contamination: cpm or counts (e.g. cpm, Kcpm, Mcpm)

Electrical Characteristics

- power supply – 9 Volts (supplied by a 9 Volt battery located in the meter case)
- battery life: approximately 100 hours of continuous use

Mechanical Characteristics

- meter dimensions (w x h x l): 80 x 35 x 134 mm (3.2 x 1.4 x 5.3 in)
- weight (including cell): 460gr (1 lb)
- casing: seawater resistant aluminum alloy, shock resistant
- display:
 - DigiLog (3 digits and 2 decades of analog bar graph)
 - Four push-buttons: On/off, light, speaker, mode

Environmental Characteristics

- temperature
 - operation -30° to 60°C (-22 to 140° F)
 - storage -30° to 70°C (-22 to 158° F)
- relative humidity: 10 to 95% RH (non-condensing)



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Optional TeleRod Probe, RTM-1018



Available in Response Kits

PROBE SPECIFICATIONS:

<p>RG-10 Detector α,β,γ contamination detector</p> 	<p>Range: 0 - 1.00 Mcpm Window: 1.5 - 2.0 mg/cm² Effective area: 15.5 cm² Sensitivity: 3500 cpm/mR/h (¹³⁷Cs), 500 cpm/Bq/cm² (⁹⁰Sr⁹⁰Y) 175 cpm/Bq/cm² (²³⁹Pu) Geiger: NRC 2006 Accuracy: ± 10% of reading Temperature Range: -30°C to +60°C Weight: 310 gr (0.7lb) Diameter: 62 mm (2.4") Length: 181 mm (7.1")</p>
<p>RG-12 Detector α,β,γ contamination detector</p> 	<p>Range: 0 - 1.00 Mcpm Window: 1.5 - 2.0 mg/cm² Effective area: 6.4 cm² Sensitivity: 1500 cpm/mR/h (⁶⁰CO) Geiger: LND 7231 Accuracy: ± 10% of reading Temperature Range: -30°C to +60°C Weight: 280 gr. (0.6 lb) Diameter: 40 mm (1.6") Length: 155 mm (6.1")</p>
<p>RG-40 Detector High range γ radiation detector</p> 	<p>Range: 1 mSv/h - 100 Sv/h (0.1 R/h - 10,000 R/h) Energy response: ± 35% from 60 KeV to 2.0 MeV Sensitivity: 77 cps/R/h Geiger: 4G60M Accuracy: ± 10% of reading Temperature Range: -30°C to +60°C Weight: 130 gr (0.3 lb) Diameter: 30 mm (1.2") Length: 145 mm (5.7")</p>
<p>RG-42 Detector Low range γ radiation detector</p> 	<p>GM Tube ZP 1202 (ZP1201) Measuring Range 0.5 μSv/h to 40 mSv/h (50 μR/h to 4 R/h) Display Range 0.1 μSv/h to 40 mSv/h (10 μR/h to 4 R/h) Sensitivity (¹³⁷Cs) 1.7 cps/μSv/h (17 cps/mR/h) Accuracy (¹³⁷Cs) ±10% of reading within the measuring range Energy Range 50 keV to 3 MeV Angular Dependence Less than 20% for ±45° preferred direction Output Signals RS-232 or RS-485, TTL pulse Power Supply 6 to 11 V DC Temperature Range -30°C to +60°C (-22°F to 140°F) Humidity Range 10% to 95% RH (non condensing) Dimensions Length: 175 mm (6.9"), Diameter: 30 mm (1.18") Weight 150g (0.4 lb) Casing Aluminum, splash proof, IP-67 Max. Cable Length TTL pulse - 100 m, RS-232 - 12 m, RS-485 - 1.2 km</p>
<p>PA-100M Detector α contamination detector</p> 	<p>Type: Air proportional Window Thickness: 0.85mg/cm² aluminized window Effective area: 100 cm² (15.5 in²) Probe Efficiency (2π): *18% Surface Sensitivity: *530 cpm/Bq/cm² compensated in the meter to 100% to be 3000 cpm/Bq/cm² Range: 0 to 1.0 Mcpm Accuracy: * ±15% of reading Temperature Range: -10°C to +50°C Weight: 1Kg (2.2 lbs) Width: 75mm (3") Height: 55mm (2.2") Length: 240mm (9.5")</p>
<p>RP-11 Detector Highly Sensitive γ Radiation Meter</p> 	<p>Radiation Detected: Gamma above 50 keV Scintillator: NaI(Tl) 2" diameter, 2" thick. Window of 1 mm. (0.04") Al. Sensitivity: 137Cs: 20,000 cps/mR/h Energy Calibration: Software calibrated single channel analyzer (SCA). Count Rate Range: 0 to 50,000cps Output Signals: RS-232 or RS-485 and TTL pulses. Temperature Range: -30oC to +60oC (-22oF to +140oF) Humidity Range: 10% to 95% RH (non condensing) Dimensions: 340mm (13.4") length, 70mm (2.75") Diam. Weight: 1.75kg (3.9lbs) Casing: Aluminum, splash proof, IP-65 Max. Cable Length: TTL pulse - 100 m, RS-232 - 12 m, RS-485 - 1.2 km</p>

