

GammaRAE II R

Radiation Detector and Dosimeter in One




Wireless

Combined Detector and Dosimeter

Intrinsically Safe

Immersible

Loud Alarm

Dose Accumulation

The GammaRAE II R is a gamma radiation detector and full-range dosimeter in a single instrument. Designed specifically to meet the needs of first responders, it has the rapid response of a detector and the accurate dose measurement of a dosimeter.

Key Features

- Sensitive CsI scintillator for excellent search capability and fast response
- Energy-compensated PIN diode sensor for high dose rate range and accurate dosimeter capabilities
- Prominent visible, audible and vibration alarms
- Alerts first responders to radioactive threats
- Accurately measures accumulated dose to the wearer
- Immersible in water for easy decontamination
- Top-mounted, invertable display
- Continuous digital readout in Rem/hour ($\mu\text{R/h}$ & mR/h) or in Sievert/hour ($\mu\text{Sv/h}$ & mSv/h) and counts per second (cps)
- Two operation keys, simple intuitive programming
- Long calibration life
- Two AA alkaline batteries last up to 600 hours
- Large, 30,000-point datalog capacity, downloaded via cable-free Bluetooth® connection



Applications

- Customs and border patrols
- Law enforcement
- Security officers in nuclear power facilities, banks, government laboratories, medical facilities
- Military
- Government agencies
- HazMat teams
- Fire departments

NOTE: Combined Radiation Dosimeter and Rate Meter Technology is produced by RAE Systems and protected by U.S. Patent No. 7,592,603 B2

ATEX



GammaRAE II R

Specifications

Sensor	
Radiation Sensors	3cc CsI (TI) with Photodiode (Low channel) Energy-Compensated PIN Diode (High channel)
Energy Range	0.06 to 3.0 MeV
Dose Equivalent Rate (DER) Range for ¹³⁷Cs	1 µR/h to 600 R/h (0.01 µSv/h to 6 Sv/h)
Accuracy of DER	±20%
Dosage Range	1 µR to 999.9 R (0.01 µSv to 9.9 Sv)
Background Reference	Background level reference set automatically on start-up (Search Mode only), plus user-initiated as needed
Calibration	None required. Periodic functional test recommended using 1 µCi and 16 µCi ¹³⁷ Cs check sources. Factory calibration available if needed.
Alarms	
Time to Alarm	<2 seconds
Alarms	<ul style="list-style-type: none">• Loud audible buzzer (85+ dB @ 30 cm)• Built-in vibration alarm• Highly visible LED lights on both sides of LCD graphic display
Alarm Settings	<p>Dose Rate Search Mode: Alarm threshold based on variations in local background level Safety Mode: User-programmable low and high alarm thresholds based on dose rate</p> <p>Dose User-programmable low and high alarm thresholds based on dose Stay Time: Alarms vary by time (3 min to 2 hrs, once per minute; <3 min, once every 5 sec; 0 min and beyond, same as dose alarm)</p>
Datalogging And Communication	
Datalog Size	30,000 data points (20 days at 60-second intervals)
Datalog Modes	Continuous: Logs data at all times Event-Driven: Starts logging data on alarm
Datalog Interval	User programmable, 1 to 3,600 seconds
Communication	Built-in Bluetooth® radio interfaces with computer for datalog download and configuration changes
Power	
Battery	2 AA alkaline batteries
Operating Period	Up to 600 hours
Operating Environment	
Temperature	-20° C to 50° C (-4° F to 122° F)
Temperature Alarm	Temperatures above 50° C (122° F) will cause a high-temperature error message
Humidity	0% to 95% (non-condensing)
Shock Resistance	Passes drop test from 1.5 m (59")

IP Rating	IP-67 (immersible)
Intrinsic Safety	Certified to meet Class I, Div. I, Groups A, B, C, D, T4 ATEX II IG EEx ia IIC T4
Physical Characteristics	
Display	Graphic LCD with 1.2" x 0.75" (30.5 mm x 19 mm) viewable area can be flipped for view by user; Radiation intensity displayed in cps or dosage rate in divisions of R/h or Sv/h
Direct Readout	Dose rate, peak, min, total dose, battery status, time, temperature
Ergonomics	Nonslip rubber housing with grippable ridges securely fits hand or glove
Keypad	2 operation/program buttons
Size	4.92" x 2.68" x 1.38" (125 mm x 68 mm x 35 mm)
Weight	9.5 oz (270 g)
Attachments	Rugged metal belt clip and wrist strap

*Specifications are subject to change

GammaRAE II R Kit includes:

- GammaRAE II R personal radiation detector/dosimeter
- Belt clip
- 2 AA alkaline batteries
- Wrist strap
- User's guide
- Calibration certificate
- ProRAE Studio Radiation software

Ordering Information

Part Numbers

GammaRAE II R Standard Kit	047-0501-000
GammaRAE II R Rechargeable Kit	047-0601-000

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