



# GammaRAE II R

Radiation Detector and Dosimeter



The RAE Systems GammaRAE II R is a rapid gamma radiation detector and dosimeter in a single instrument. The GammaRAE II R is designed specifically to meet the needs of national security and emergency responders. Due to its high sensitivity at low radiation levels, GammaRAE II R can alert users of the presence of a radiation threat well before reaching health-threatening levels. Its high range and dosimeter functionality allow security and emergency responders to track their dose.

- Combined Detector and Dosimeter
- Intrinsically Safe
- Immersible
- Loud Alarm
- Dose Accumulation

## KEY FEATURES

- Sensitive CsI scintillator for fast search capability and response
- Energy-compensated PIN diode sensor for high dose rate range and accurate dosimeter capabilities
- Prominent visible, audible and vibration alarms
- Immersible in water for easy decontamination
- Top-mounted, invertible display
- Continuous digital readout in Rem/hour ( $\mu\text{R}/\text{h}$  &  $\text{mR}/\text{h}$ ) or in Sievert/hour ( $\mu\text{Sv}/\text{h}$  &  $\text{mSv}/\text{h}$ ) and counts per second (cps)
- 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



Emergency responders and police can protect themselves with immediate notification of dose rate and gamma radiation levels with the GammaRAE II R



ATEX



CE



# GammaRAE II R



Radiation Detector and Dosimeter in One

## 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 <sup>137</sup> Cs	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 automatic on start-up, plus user-initiated as needed (Search Mode only)
Calibration	None required. Periodic functional test recommended using 1 µCi and 16 µCi <sup>137</sup> Cs check sources. Factory calibration available if needed.

### Alarms

Time to Alarm	<2 seconds
Alarms	<ul style="list-style-type: none"><li>• Loud audible buzzer (85+ dB @ 30 cm)</li><li>• Built-in vibration alarm</li><li>• Highly visible LED lights on both sides of LCD graphic display</li></ul>
Alarm Settings	<b>DOSE RATE</b> <b>Search Mode:</b> Alarm threshold based on variations in local background level <b>Safety Mode:</b> User-programmable low and high alarm thresholds based on dose rate <b>DOSE</b> User-programmable low and high alarm thresholds based on dose <b>Stay Time:</b> 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)

### 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
Battery Runtime	Up to 600 hours

### Operating Environment

Temperature	-4° F to 122° F (-20° C to 50° C)
Temperature Alarm	Temperatures above 122° F (50° C) cause a high-temperature alert message
Humidity	0% to 95% (non-condensing)
Shock Resistance	Passes drop test from 59" (1.5 m)
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 (MODEL PRM-3021)

Product	Part Number
GammaRAE II R Standard Kit	047-0501-000
GammaRAE II R Rechargeable Kit	047-0601-000

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

### CORPORATE HEADQUARTERS

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