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, invertable display

- Continuous digital readout in Rem/hour (µR/h & mR/h) or in Sievert/hour (µSv/h & mSv/h) and counts per second (cps)

- Two AA alkaline batteries last up to 600 hours

- Large, 30,000-point datalog capacity, down loaded via cable-free Bluetooth® connection

GammaR AE 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

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

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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 ^{137}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 137Cs check sources. Factory calibration available if needed.

Alarms

Time to Alarm	<2 seconds
Alarms	Loud audible buzzer (85+ dB @ 30 cm), built-in vibration alarm, highly visible LED lights on both sides of LCD graphic display
Alarm Settings	**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 **Dose:** User-programable 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)

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

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Specifications subject to change without notice (Nov14)