



# GammaRAE II R

## Radiation Detector and Dosimeter in One

### Gamma radiation detector and full-range dosimeter in a single instrument

GammaRAE II R is two instruments in one: it has the rapid response of a detector and the accurate dose measurement of a dosimeter. It is designed specifically to meet the needs of first responders.

#### Detector Meets Dosimeter

The GammaRAE II R contains two separate sensors. The Cesium Iodide (CsI) scintillator provides a fast, two-second response to radiological threats, while the energy-compensated PIN diode provides high dose rate range coverage and accurate dose measurements.

#### Loud Alarm

GammaRAE II R alerts the wearer with a loud audible alarm, big, bright flashing LEDs, and a built-in vibration alarm. For stealth operations, users can disable each alarm individually.

#### Water Resistant

Immersible (IP67) design makes for reliable operation in wet environments and easy decontamination.

#### Dose Accumulation

The GammaRAE II R accumulates accurate total dose. Stored dose data can be cumulative or reset for each use period.

#### Intrinsic Safety (IS)

IS certification permits operation in potentially flammable/explosive environments.

#### 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
- Immersible in water for easy decontamination
- Top-mounted, invertable display
- Continuous digital readout in Rem/hour ( $\mu\text{R/h}$  &  $\text{mR/h}$ ) or in Sievert/hour ( $\mu\text{Sv/h}$  &  $\text{mSv/h}$ ) and counts-per-second (cps)
- Two operation keys, simple intuitive programming
- Long calibration life
- Two AA alkaline batteries last up to 900 hours
- Large, 30,000-point datalog capacity, downloaded via cable-free Bluetooth® connection

#### Applications

- Alerts first responders to radioactive threats
- Accurately measures accumulated dose to the wearer
- Customs & border patrols
- Law enforcement
- Security officers in nuclear power facilities, banks, government laboratories, medical facilities
- Military
- Government agencies
- HazMat teams
- Fire departments

Combined Detector and Dosimeter

Intrinsically Safe

Immersible



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ATEX



# GammaRAE II R

## Specifications\*

### Detector Specifications

SENSOR	
<b>Radiation Sensors</b>	3cc CsI (TI) with Photodiode (Low channel) Energy-Compensated PIN Diode (High channel)
<b>Energy Range</b>	0.06 to 3.0 MeV
<b>Dose Equivalent Rate (DER) Range for <sup>137</sup>Cs</b>	1 µR/h to 10 R/h (0.01 µSv/h to 0.1 Sv/h)
<b>Accuracy of DER</b>	±20%
<b>Dosage Range</b>	1 µR to 999.9 R (0.01 µSv to 9.9 Sv)
<b>Background Reference</b>	Background level reference automatic on start-up (Search Mode only), plus user-initiated as needed
<b>Calibration</b>	None required. Periodic functional test recommended using 1 µCi and 16 µCi <sup>137</sup> Cs check sources. Factory calibration available if needed.
ALARMS	
<b>Time to Alarm</b>	<2 seconds
<b>Alarms</b>	• Loud audible buzzer (85+ dB @ 30 cm) • Built-in vibration alarm • Highly visible LED lights on both sides of LCD graphic display
<b>Alarm Settings</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
DATALOGGING AND COMMUNICATION	
<b>Datalog Size</b>	30,000 data points (20 days at 60-second intervals)
<b>Datalog Modes</b>	<b>Continuous:</b> Logs data at all times <b>Event-Driven:</b> Starts logging data on alarm
<b>Datalog Interval</b>	User programmable, 1 to 3,600 seconds
<b>Communication</b>	Built-in Bluetooth® radio interfaces with computer for datalog download and configuration changes
POWER	
<b>Battery</b>	2 AA alkaline batteries
<b>Operating Period</b>	Up to 900 hours
OPERATING ENVIRONMENT	
<b>Temperature</b>	-20° C to 50° C (-4° F to 122° F)
<b>Temperature Alarm</b>	Temperatures above 50° C (122° F) will cause a high-temperature error message
<b>Humidity</b>	0% to 95% (non-condensing)
<b>Shock Resistance</b>	Passes drop test from 1.5 m (59")
<b>IP Rating</b>	IP67 (immersible)
<b>Intrinsic Safety</b>	Certified to meet Class I, Div. I, Groups A, B, C, D, T4 ATEX II IG EEx ia IIC T4
PHYSICAL CHARACTERISTICS	
<b>Display</b>	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
<b>Direct Readout</b>	Dose rate, peak, min, total dose, battery status, time, temperature
<b>Ergonomics</b>	Nonslip rubber housing with grippable ridges securely fits hand or glove
<b>Keypad</b>	2 operation/program buttons
<b>Size</b>	4.92" x 2.68" x 1.38" (125 mm x 68 mm x 35 mm)
<b>Weight</b>	9.5 oz (270 g)
<b>Attachments</b>	Rugged metal belt clip and wrist strap

\*Specifications are subject to change

### 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





Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



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Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.