



# GammaRAE II

## Personal Radiation Detector

### An intrinsically safe, rapid detector of $\gamma$ -ray (gamma) sources

**GammaRAE II** is the first personal radiation detector (PRD) to provide rapid detection of gamma ( $\gamma$ ) ray sources even in potentially flammable environments. Certified intrinsically safe and water-immersible for chemical decontamination purposes, the GammaRAE II can be safely used in more environments than any other PRD.

#### Fast Response

The sensitive Cesium Iodide (CsI) scintillator of the **GammaRAE II** provides a fast, two-second response to radiological threats.

#### Loud Alarm

**GammaRAE II** alerts the wearer with a loud 85 + dB audible alarm, big, bright flashing LEDs, and a vibration alarm. For stealth operations, law enforcement personnel can disable each alarm individually.

#### Water Resistant

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

#### Dosage Accumulation

The **GammaRAE II** accumulates approximate dosage. Dosage data stored can be cumulative or cleared and 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
- Prominent visible, audible and vibration alarms
- Immersible in water for easy decontamination
- Top-mounted, reversible display
- Continuous digital readout in  $\mu\text{R/h}$  ( $\mu\text{Rem/h}$ ) or in  $\mu\text{Sv/h}$  ( $\mu\text{Sieverts/h}$ ) and cps (counts per second).
- Two operation keys, simple intuitive programming
- Dust and shock resistant
- Long calibration life
- Two AA Alkaline batteries last up to 800 hours
- Automatic background level referencing on start-up and upon user demand
- Passes drop test from 59" (1.5m) to hard concrete
- Low EMI interference from cell phones and portable radios
- Programmable search and high/low safety alarms

#### Applications

- Alert first responders to radioactive threats
- Customs & border patrols
- Law enforcement
- Security officers in nuclear power facilities, banks, government laboratories, medical facilities
- Military
- Government agencies
- HazMat teams
- Fire departments



**Intrinsically Safe**

**Immersible**



# Specifications\*

## Detector Specifications

SENSOR	
Radiation Detector	3cc CsI(Tl)/Photodiode
Sensitivity	1 cps per $\mu\text{R/hr}$ ( $\geq 100$ cps per $\mu\text{Sv/hr}$ )
Energy Range	0.06-3.0 MeV
Dose Equivalent Rate (DER) Range for $^{137}\text{Cs}$	1-4000 $\mu\text{R/h}$ (0.01-40 $\mu\text{Sv/h}$ )
Accuracy of DER	within $\pm 30\%$
Dosage Range	1 $\mu\text{R}$ - 999 R
Daily Background Reference	Background level reference automatic on start-up, plus user-initiated as needed
User Calibration	None required. Periodic functional test $1\mu\text{Ci } ^{137}\text{Cs}$ . Factory calibration recommended every two years
ALARMS	
Time to Alarm	<2 seconds (typical)
Alarms	<ul style="list-style-type: none"> <li>Loud &gt;85 dB @ 30 cm for noisy environments</li> <li>Built-in vibration alarm</li> <li>Highly visible LED lights on both sides of LCD graphic display</li> </ul>
Alarm Modes	Audible, visible, and internal vibration alarms; separately enabled or disabled; automatic reset
Alarm Settings	Search mode: based on variations in local background level Safety mode: programmable high and low alarm levels based on dose rate
DATALOGGING AND COMMUNICATION *Free Upgrade Available in 2006*	
Datalog Size	60,000 data points (41 days at 60-second intervals)
Datalog Modes	Continuous: Logs data at all times Event-Driven: Starts logging data on alarm
Datalog Interval	User programmable, 1-3,600 seconds
Communication	Built-in Bluetooth <sup>®</sup> radio interfaces with computer for datalog download
POWER	
Battery	2 AA alkaline batteries easily accessible with a coin
Operating Period	Up to 800 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% - 100% (non-condensing)
Shock Resistance	Passes drop test from 1.5m (59")
IP Rating	IP67
Intrinsic Safety	Certified to meet Class I, Div. I, Groups A, B, C, D, T4
PHYSICAL CHARACTERISTICS	
Display	Graphic LCD display with 1.2" x 0.75" viewable area can be flipped for view by user; cps or dosage rate in $\mu\text{R/hr}$ or $\mu\text{Sv/hr}$
Direct Readout	Dosage rate, peak, min, dosage, battery status, time, temp
Ergonomics	Nonslip rubber housing with grippable ridges securely fits hand or glove
Key Pad	2 operation/program buttons
Size	4.92" x 2.68" x 1.38" (125 x 68 x 35 mm)
Weight	9 oz. (240g)
Attachments	Rugged metal belt clip and wrist strap

\* Ongoing projects to enhance our products mean that these specifications are subject to change.

## Detector includes:

- Belt clip
- 2 AA alkaline batteries
- Wrist strap



GammaRAE II

DISTRIBUTED BY: