

# Radalert™ 100 and Inspector Alert™ Handheld Nuclear Radiation Monitors

## Radalert™ 100 Nuclear Radiation Monitor

The Radalert 100 measures alpha, beta, gamma, and x-radiation. Its digital display shows readings in your choice of counts per minute (cpm) or mR/hr, up to 350,000 cpm or 110 mR/hr, or in accumulated counts.

A red LED blinks and a beeper chirps with each count (the chirp can be muted). An audible alert sounds when the radiation reaches a user-adjustable level.

Use the Radalert 100 to:

- Monitor personal radiation exposure
- Monitor an area or perimeter
- Detect radiation leaks and contamination
- Ensure regulatory compliance
- Monitor changes in background radiation
- Demonstrate principles of nuclear physics
- Check for radioactive minerals in the earth



## Inspector Alert™ Nuclear Radiation Monitor

The Inspector measures alpha, beta, gamma and x-radiation using a 2-inch "pancake" GM detector with high sensitivity to common beta and alpha sources. The easy-to-read digital display shows readings in your choice of mR/hr, CPM, CPS, or  $\mu$ Sv/hr. The Total/Timer feature allows timed readings from one minute to 24 hours for precise measurement of low-level contamination.

- Improves safety in laboratories and in the field
- Automatically compensates for GM tube dead time
- Anti-saturation circuitry prevents jamming in high radiation fields
- Meets CE certification requirements for Europe
- Safety-first calibration feature can eliminate personnel exposure during calibration
- Quickly alerts first responders to the presence of harmful levels of nuclear radiation



DW = drinking water



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## Specifications\*

### Radalert™ 100 Nuclear Radiation Monitor

#### Sensor

Halogen-quenched Geiger-Mueller detector with mica end window (LND712); detects Alpha, Beta, Gamma, and X-radiation. End window density is 1.5-2.0 mg/cm<sup>2</sup>. Side wall is .012" #446 stainless steel.

#### Display

4-digit liquid crystal display with mode indicators

#### Operating Range

mR/hr: .001-110.00  
CPM: 0-350,000  
µSv/hr: .01-1100  
CPS: 1-3,500  
Timer: up to 40 hours  
Total: 0-9,999,000 counts

#### Calibration

Cesium 137 (gamma)

#### Sensitivity

1000 cpm/mR/hr referenced to Cs-137

#### Accuracy

±10% typical; ±15% max.

#### Alert

User-adjustable alert level range is 50mR/hr and 160,000 CPM

#### Count Light

Red LED flashes with each count

#### Audio

Beeper chirps for each count (can be muted)

#### Outputs

Dual miniature jack sends counts to computers, data loggers, several educational data collection systems, and other CMOS-compatible devices.

Submini jack provides audio output to an external earpiece, amplifier, or tape recorder.

#### Power

One 9-volt alkaline battery

#### Size

150 x 80 x 30 mm  
(5.9" x 3.2" x 1.2")

#### Weight

225 grams (8 oz) including battery

### Inspector Alert™ Nuclear Radiation Monitor

#### Detector

Halogen-quenched Geiger-Mueller tube. Effective diameter 1.75" (45 mm). Mica window density 1.5-2.0 mg/cm<sup>2</sup>.

#### Display

4-digit liquid crystal display with mode indicators

#### Averaging Periods

Display updates every 3 seconds, showing the average for the past 30 second time period at normal levels. The averaging period decreases as the radiation level increases. User can select fast 3-second averaging period.

#### Operating Range

mR/hr: .001 to 100.0  
CPM: 0 to 350,000  
Total: 1 to 9,999,000 counts  
µSv/hr: .01 to 1,000  
CPS: 0 to 5,000

#### Efficiency

Sr-90 (546 KeV, 2.3 MeV βmax): approx. 38%  
C-14 (156 KeV βmax): approx. 5.3%  
Bi-210 (1.2 MeV βmax): approx. 32%  
Am-241 (5.5 MeV α): approx. 18%  
P-32 (1.7 MeV βmax): approx. 33%

#### Sensitivity

3500 CPM/mR/hr referenced to Cs-137  
Smallest detectable level for I-125 is .02 mCi at contact

#### Accuracy

±15% 0-50 mR/hr; ±20% 50-100 mR/hr

#### Timer

Can set 1-10 minute sampling periods in 1-minute increments, 10-50 minute sampling periods in 10-minute increments, and 1-24 hour sampling periods in 1-hour increments

#### Count Light

Red LED flashes with each radiation event

#### Audio

Beeper beeps with each radiation event; can be muted

#### I/O Ports

Dual miniature jack for CMOS or TTL devices, sending counts to computer or data logger. Submini jack allows for electronic calibration.

#### Anti-Saturation

Readout holds at full scale in fields up to 100 times the maximum reading

#### Temperature Range

-20 to 50°C (-4 to 122°F)

#### Power

One 9-volt alkaline battery; battery life is average 2,160 hours at normal background, average 625 hours at 1 mR/hr

#### Size

150 x 80 x 30 mm  
(5.9" x 3.2" x 1.2")

#### Weight

323 grams (11.4 oz) with battery

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## Ordering Information

**2884000** Radalert™ 100 Nuclear Radiation Monitor

**2884200** Inspector Alert™ Nuclear Radiation Monitor

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