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*

DW

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 µSv/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

HACH®

Homeland Security Technologies

Specifications*

Radalert™ 100 Nuclear Radiation Monitor

Sensor
Halogen-quenched Geiger-Meuller detector with mica end window (LND712); detects Alpha, Beta, Gamma, and X–radiation. End window density is 1.5-2.0 mg/cm^2. 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^2.

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 ßmax): approx. 38%
C-14 (156 KeV ßmax): approx. 5.3%
Bi-210 (1.2 MeV ßmax): approx. 32%
Am-241 (5.5 MeV a): approx. 18%
P-32 (1.7 MeV ßmax): 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

*Specifications subject to change without notice.

Ordering Information

2884000   Radalert™ 100 Nuclear Radiation Monitor

2884200   Inspector Alert™ Nuclear Radiation Monitor

At Hach, it's about learning from our customers and providing the right answers. It's more than ensuring the quality of water—it's about ensuring the quality of life. When it comes to the things that touch our lives...

Keep it pure.

Make it simple.

Be right.

For current price information, technical support, and ordering assistance, contact the Hach office or distributor serving your area.

Hach Homeland Security Technologies focuses on the development of innovative and breakthrough technologies that can be used to detect contamination events, terrorist activity, and improve general operational control in both water and air.

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