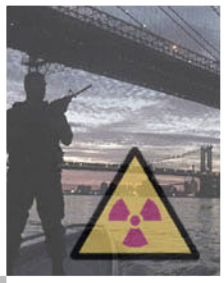
RadEye GN Series

High Sensitivity Gamma Neutron Pagers
RadEye GN and RadEye GN+



Features:

- Pocket –sized gamma neutron pager
- Very high neutron and gamma sensitivity
- Ideal for law enforcement officers and first responders
- Immediate classification of gamma source (NORM/non-NORM)
- Energy compensated gamma dose rate
- Dual gamma/neutron display
- No false neutron alarms for even intense gamma sources
- The RadEye GN+ has an uncompromised neutron sensitivity even when high energy gamma radiation is present.

The new RadEyeTM GN Series Gamma Neutron Pagers combine the superior performance of the Thermo Scientific RadEye PRD Gamma Pager with a very high neutron sensitivity that meets the time-to-alarm requirements of ANSI 42.32 and IEC 62401. The RadEye GN Series includes new significantly enhanced performance of the built-in NBR circuitry (NBR = Natural Background Rejection).

The RadEye GN / GN+ is engineered with distinguishable audible and visible alarms alerting the operator to a reading of gamma, neutron or both. The instrument is equipped with a multi-colored LED alarm, muli-tonal alarms and a flashing count-rate/dose-rate display with critical detection readings. The RadEye GN / GN+ offers different audible alarms, discriminating between elevated background/NORM and any artificial isotope alarm.

Both RadEye GN and RadEye GN+ incorporate a single highly sensitive scintillation detector which is equipped with a miniature photo-multiplier allowing the detection of very low radiation levels of both gamma and neutron radiation. The ability to measure both types of radiation from any source with a single detector provides superior detection capabilities in a very small and compact instrument design. The RadEye GN uses a conventional Li-6 doped scintillator material and the RadEye GN+ contains a Ce doped Cs2LiYCl6 (CLYC) crystal. CLYC provides superior gamma neutron separation enabling the use of the RadEye GN+ even in scenarios of combined gamma neutron fields containing high energy gamma radiation.

RadEye GN and RadEye GN+

In conjunction with the optional moderator (# 425067177), the RadEye GN / GN+ pagers can be transformed into a powerful handheld gamma/neutron search device at very little additional cost. An estimation of the neutron dose rate can thus be achieved for perimeter marking as well.

The display includes a quick-view bar graph of current count-rate / dose-rate and alarm set points, including the floating sigma alarm point, if utilized.

The display also shows alarm status:

- Artificial Low Energy alarm
- Artificial Mid Energy alarm
- Artificial High Energy alarm
- NORM Balanced alarm
- Gross Gamma Count or Dose Rate Alarms (2 alarm levels)
- Gross Neutron Count Rate Alarm
- Gamma Dose Alarm (2 alarm levels)
- Safety Alarm (gamma)

A bright orange LED for gamma alarms and a bright blue LED for neutron alarms is viewable from the front and above. When a dual gamma and neutron alarm is detected, both LEDs flash. Both readings on the display are flashed with a reversed background. The RadEye GN / GN+ can be fitted with the Bluetooth™ (#425067087) back that can be set to talk to a PC, or to other devices for networking.

Technical details of the Thermo Scientific RadEye GN / GN+ Gamma Neutron Pager

Size	96 mm x 61 mm x 31 mm	
Weight	160 g	
Battery life time	Approx. 400 h with 2 ea. AAA alkaline cells	
Detection capability	Gamma count-rate from 30 keV to 1.3 MeV Energy compensated gamma doserate from 45 keV to 1.3 Mev (H*(10)) from 1 µRem/h to 25 mRem/h (0,01 µSv/h to 250 µSv/h) Neutron count-rate from 0,1 to 2000 cps	
Gamma count rate efficiency	RadEye GN: 1000 cps / µSv/h (Am-241); 110 cps / µSv/h (Cs-137); 65 cps / µSv/h (Co-60) RadEye GN+: 2000 cps / µSv/h (Am-241); 110 cps / µSv/h (Cs-137); 55 cps / µSv/h (Co-60)	
Neutron detection capabilities	Meets ANSI 42.32 and IEC 62401 alarm requirements: Detection of 20,000 n/s Cf-252; shielded in 1 cm lead 25 cm in front of instrument with 30 cm x 30 cm x 15 cm PMMA phantom	
No false neutron alarms at 100 µSv/h Cs-137, Co-60 (ANSI 42.32, IEC 62401): Unaffected neutron alarm at 100 µSv/h Co-60 (IEC 62534):		Both RadEye GN and RadEye GN+ RadEye GN+ only
Order number	RadEye GN: RadEye GN+:	#4250630 #4250631

NBR = Natural Background Rejection
The NBR measurement method has been developed by Thermo Fisher Scientific, for extremely fast discrimination between natural and artifical gamma radiation. Many thousands of devices, based on this technology, are in use worldwide.

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