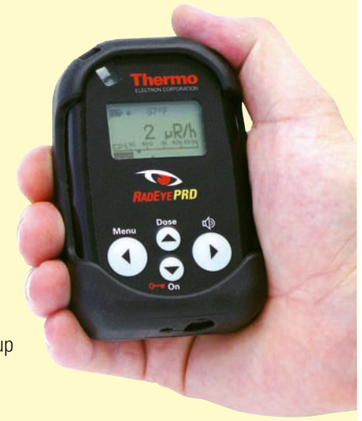
RadEye data communication fitting to FH 40 G system

Cost saving with rechargeable batteries

Features of RadEye PRD and RadEye G

- Rugged and reliable
- Removable rubber sleeve for extra protection
- Large display for clear information
- Weighs only 160 g (96 x 61 x 31 mm) - true “pocket meter”
- Top alarm indication - can be operated in holster
- One hot and four advanced buttons - easy to use, no PC required
- Low power technology - 600 h operation time on 2 AAA cells
- Rechargeable batteries can be used - low cost of ownership
- Overload indication up to 1000 R/h - personal safety
- 1600 data points (mean/max.) - allows retrospective analysis
- PC-software with real-time graph - perfect for tutorial and training
- Adaptable user interface - can be optimized to application / user group
- Earphone output for noisy environment
- Alarm relay output - for area monitor application



	RadEye G RadEye G-10	RadEye PRD
Main Application	Wide Range Gamma Dose Rate Measurement First Responders, Nuclear Industry, Medical Radiation Protection	High Sensitivity Gamma Radiation Detection and Dose Rate Measurement Security Forces, Steel and Recycling Industry, First Responders
Detector	Energy compensated GM-tubes: G version for exposure (R) G-10 for ambient equivalent dose H*(10) (Sv)	NaI(Tl)-detector with high quality µ-Photomultiplier; software switch for Roentgen or Sievert calculation
Measuring Range	5 µR/h - 5 R/h 0.05 µSv/h – 50 mSv/h	1 µR/h – 25 mR/h 0.01 µSv/h – 250 µSv/h
Overrange Indication	1000 R/h (10 Sv/h)	1000 R/h (10 Sv/h)
Energy Range (+/- 30 %)	45 keV - 1.3 MeV	60 keV – 1.3 MeV excellent detection from 30 keV
Count Rate for Cs-137 (662 keV)	0.017 cps per µR/h 1.7 cps per µSv/h	1.5 cps per µR/h 150 cps per µSv/h
Count Rate for Am-241 (60 keV)	0.020 cps per µR/h 2.0 cps per µSv/h	30 cps per µR/h 2000 cps per µSv/h
Enhanced alarming sensitivity by Natural Background Rejection	No	Yes, down to 1 µR/h at low gamma energies
Cosmic Radiation Background	No suppression	Suppression typically > 95 %

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Analyze · Detect · Measure · Control™

Thermo ELECTRON CORPORATION

RadEye PRD

High Sensitivity Personal Radiation Detector

RadEye G

Wide Range Gamma Survey Meter for Personal Radiation Protection

Next Generation Advanced Pocket-Size Radiation Meters

Radiation Detection, Gamma Dose Rate Measurements and Area Monitoring

- Large Graphic Display
- Simple and Intuitive User Interface
- Dose Rate / Count Rate / Level: Display and Alarm
- True Dose Calculation and Alarm
- Durable and Shock Resistant
- Accurate with Excellent EMI Immunity
- Low Power Technology
- Rechargeable Standard-Size AAA Batteries

NBR Natural Background Rejection Technology for Enhanced Sensitivity (RadEye PRD)

Analyze · Detect · Measure · Control™

Thermo ELECTRON CORPORATION

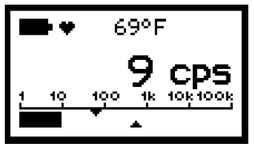
RadEye - The New Concept

RadEye - The Next Generation of Radiation Meters

Thermo Electron introduces the next generation of advanced pocket size radiation instruments for radiation detection, gamma dose rate measurements and area monitoring.
The characteristic features of this versatile new generation pocket meter are the use of sophisticated low power technology components and fully automatic self checks that result in minimum maintenance being required.
All essential functions can be easily accessed even while wearing protective gloves. The alarm-LED can be seen while the instrument is worn in a belt-holster. The instrument is also equipped with a built-in vibrator and an earphone-output for silent alarming or use in very noisy environment.

Large Clear Graphic Display

Three operation modes can be selected:



• Detection mode

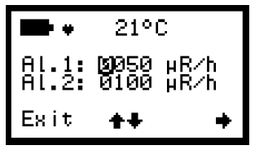
• Level indication mode

• Dose rate mode

Menu Operation

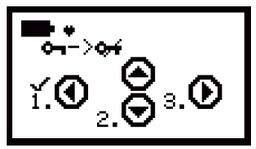
All factory-set parameters can be easily modified on the RadEye or using optional software. These menu operations can also be partially or fully blocked to simplify the instrument and to avoid any faulty operation. Navigation is made easy by a clear and intuitive user concept:

1: Opens the configuration menu. Once the menu is opened, features are selected by 1 2 3 4



2: Additional information about e.g. the accumulated dose, remaining time in a certain radiation field as well as mean and maximum measuring values can be displayed.

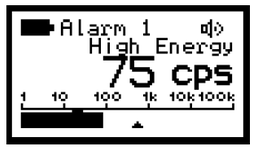
3: On - switch and key lock - just as used from your mobile phone.



4 5: Operation of the audible indicator and alarm acknowledgement.

RadEye PRD - High Sensitivity Personal Radiation Detector

The so-called "orphan" source phenomena is a serious global problem as sources showing up unexpectedly in scrap yards, border crossings, or numerous other public locations can be considered a significant potential threat. The RadEye PRD represents a high-performance measuring device for persons who are responsible for detecting and localizing radiation sources whether they be first preventers (border guards, customs agents, special forces and counter terrorisim teams) or first responders (emergency services and law enforcement).
The RadEye PRD is 5000 - 100000 times more sensitive than typical electronic dosimeter.
When looking for Nuclear Weapons, Improvised Nuclear Devices (IND's) or Radiological Dispersal Devices (RDD's or dirty bombs), it is of paramount importance that you have high sensitivity with high selectivity. The RadEye PRD achieves this through a special technique based on our patented Natural Background Rejection (NBR) technology. It is the only instrument of its type and size to achieve this.



The RadEye PRD incorporates a highly sensitivity NaI(Tl) scintillation detector with a miniature photo-multiplier allowing the detection of very low radiation levels with particular emphasis on gamma emissions below 400 KeV.

- High quality PMT for response from 30 keV: 30 cps at 1 µR/h (Am-241)
- EMI immunity much better than photodiode instruments
- NaI(Tl)-Detector for high response to SNM and RDD´s

- True dose and dose rate calculation avoids significant overestimation of low gamma energies
- Automatic background update, i. e. no user action necessary
- NBR allows very low alarm level for artificial radioactivity
- Designed to meet ANSI 42.33/1, 42.32 and IEC 62401
- Energy response behavior in Roentgen or Sievert can be selected via software.

NBR = Natural Background Rejection

The NBR measurement technology has been developed by Thermo Electron for the supression of alarms caused by variations of the natural background. Thus an enhanced alarming sensitivity for most artificial gamma sources of concern is achieved. Unlike conventional spectroscopic-based gamma identification systems, the instruments using NBR do not require the presence and resolution of gamma spectral lines.

RadEye G - Wide Range Gamma Survey Meter for Personal Radiation Protection

The RadEye G is a light-weight and very rugged instrument designed for the quick and reliable measurement of the gamma dose rate. Modern electronic circuitry guarantees excellent linearity over 6 decades of radiation intensity: from background level to 5 R/h - with overrange indication up to 1000 R/h.

The RadEye G incorporates a large energy com-pensated GM-tube for the precise dose rate measurement for gamma and x-ray.

RadEye G-10 version incorporates a different energy filter in order to achieve a Sievert response curve according to ambient equivalent dose rate H*(10).

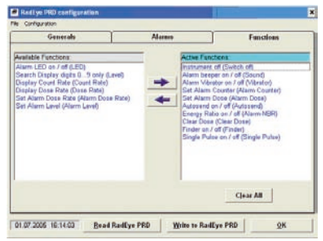
The intelligent ratemeter algorithm (ADF mode) guarantees that even the smallest changes of dose rate are immediately detected, while at the same time, the random fluctuations are effectively suppressed.

- Large and well proven energy compensated GM detector
- Very good low energy response (from 45 keV)
- Reasonable count rate at back ground level, 0.17 cps at 10 µR/h
- 6 decades of measuring range 5 µR/h to 5 R/h
- Overrange indication up to 1000 R/h

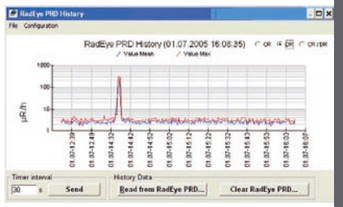
RadEye Software

All settings and the data analysis can be done by an optional Windows™ - based PC-software and an accompanying reader device. In order to allow retrospective analysis of any event, the latest 1600 dose rate values are stored in the internal data memory. For each time interval both the mean and the maximum measurement values are stored.

Changes in configuration, occurring alarms and errors are saved in the RadEye memory. These saved events can be read out via the option "logbook". It is shown as a table and can be saved to the PC hard disc or printed. The logbook has a maximum of 250 data sets. Several events at the same time are saved as one record. On the display every event is shown in one line for a clear view.



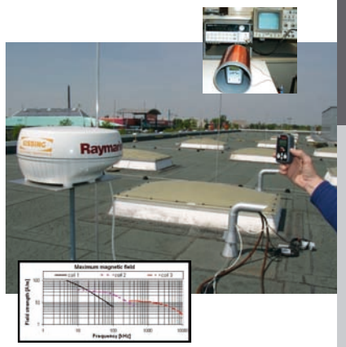
RadEye PRD configuration



RadEye PRD history

RadEye car adapter for mobile area survey applications

RadEye belt holster with openings for alarm-LED and earphone connector



Excellent EMI-shielding proven by rigorous testing procedures