

# RadEye PRD



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 are a significant potential threat. The RadEye PRD represents a high-performance measuring device for anyone responsible for finding radiation sources whether they be first preventers (border guards, customs agents, special forces or counter terrorism teams) or first responders (emergency services and law enforcement).

The RadEye PRD is 5000 - 100000 times more sensitive than a 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 high sensitivity NaI (TI) 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 excellent response from 30 keV
- 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 over-estimation of low gamma energies
- Automatic background update, i. e. no user action necessary
- NBR allows very low alarm levels 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

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|---------------------------------|-----|
| <i>Gamma Source Detection</i>   | ★★★ |
| <i>Wide Measuring Range</i>     | ★★  |
| <i>Gamma Dose Rate</i>          | ★★  |
| <i>X-Ray Detection</i>          | ★★  |
| <i>Neutron Source Detection</i> | (★) |

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| <b>Main Application</b>  | High Sensitivity Gamma Radiation Detection and Dose Rate Measurement<br>Security Forces, Steel and Recycling Industry, First Responders |
| <b>Detector</b>  | NaI(Tl)-detector with high quality $\mu$ -Photomultiplier;<br>software switch for R or Sv energy response and calibration               |
| <b>Measuring Range</b>   | 1 $\mu$ R/h – 25 mR/h [0.01 $\mu$ Sv/h – 250 $\mu$ Sv/h]  |
| <b>Overrange Indication</b>  | 1,000 R/h (10 Sv/h)   |
| <b>Energy Range (+/- 30 %)</b>                                       | 60 keV – 1.3 MeV, excellent detection from 30 keV   |
| <b>Response for Cs-137 (662 keV)</b>                                 | 1.5 cps per $\mu$ R/h [150 cps per $\mu$ Sv/h]  |
| <b>Response for Am-241 (60 keV)</b>                                  | 30 cps per $\mu$ R/h [2000 cps per $\mu$ Sv/h]  |
| <b>Linearity error (Cs-137)</b>                                      | max. $\pm$ 10 %   |
| <b>Enhanced alarming sensitivity by Natural Background Rejection</b> | Yes, down to 1 $\mu$ R/h [0.01 $\mu$ Sv/h] at low gamma energies  |
| <b>Cosmic Radiation Background</b>                                   | Suppression typically > 95 %  |