

# RadEye SPRD-ER

Spectroscopic Personal Radiation Detector



**detection  
monitoring  
identification**

**radiation**

## Whatever your mission, the SPRD-ER has you covered.

The Thermo Scientific™ RadEye™ SPRD-ER personal radiation detector simplifies your mission. By providing significant detector sensitivity for search and find, combined with accurate high radiation dose rate measurement, the SPRD-ER is suitable for all users and may be the only radiation device you need. Additionally, the SPRD-ER identifies the nature of the discovered material in a manner configurable for your operation or user skills – from simple artificial vs. natural distinction; to industrial, SNM, and medical classification; to full spectroscopic analysis.

### Ensure safety - extremely high dose rate measurement and accuracy

- Extremely high dose rate measurement capabilities of  $\leq 1000$  R/h ( $< 10$  Sv/h) supports users with one unit for search, find, identification and response missions.
- Unprecedented dose rate accuracy across the full spectrum of 58 keV - 6 MeV
- New highly sensitive alarm for artificial gamma (S-Alarm) extra sensitivity in the range of 90 - 450 keV for effective detection of SNM materials
- Sourceless detector gain stabilization improves identification selectivity and accuracy across the spectrum in varying environmental conditions.

### Stay on mission - detect radiation at greater distances

- Advanced NBR identifies artificial radiation while minimizing false alarms

### Respond swiftly - faster discrimination and adjudication of potential threats

- (SNM, Industrial) and non-threat sources (medical or natural)
- Neutron indication via proven prompt gamma analysis

### Effortless deployment

- Simplified ID capability for novice to advanced users
- Multiple modes of operation, easily configured to best align with radiation detection operating procedures

## Key Features and Benefits

- Large display with improved screen resolution and brightness
- No retraining or relearning for infrequent users
- Get results automatically, without the need to press buttons
- Quickly guides you through next steps after an alarm
- Simple 4 button design
- Comprehensive data neatly organized and presented on screen
- Bluetooth™ - integration with iOS™ and Android™ devices
- RadResponder iOS and Android phone apps compliant
- Easy-to-use configuration tool for small and large organizations
- No license required field test adapter for performance and measurement

## Rugged and practical

- Can be worn in a holster or on a standard service belt
- Small and lightweight for easy handling and increased mobility
- Long battery life
- Drop resistant to 1.5m
- IP65 Rating easily decontaminated
- Can be operated in extreme temperatures

# RadEye SPRD-ER

Configure the RadEye SPRD-ER as a simple 0 to 9 radiation level gauge. Or turn on dose rate readings, simplified gamma ID classification, or full spectroscopic capabilities.

Agencies have seen nuisance alarms reduced by 80% as a result of concentrated NORM materials such as granite, natural stone and subway tiles after deploying instruments that utilize our Natural Background Rejection (NBR) Technology.

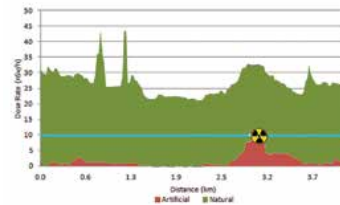
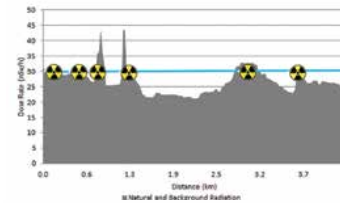
The patented Natural Background Rejection algorithm (NBR), allows the RadEye SPRD-ER to immediately separate man-made (non-NORM) gamma radiation from natural background fluctuations in real-time during operation. When enabled, the RadEye SPRD-ER automatically classifies and identifies gamma radiation as a result of an NBR alarm.

Without NBR

- Higher threshold for alarm
- Numerous alarms, most due to natural radiation
- Nuisance for operator, may ignore

With NBR

- Lower threshold for alarm
- No false alarms
- Only alerts to artificial sources
- Operator knows to act



## SPECIFICATIONS

Radiation detected and analyzed	Gamma and X-rays plus neutrons via prompt gamma
Number of detectors	2

### Low dose rate / Search / ID detector

Material	CsI(Tl)
Sensitivity (662 keV)	200 cps per $\mu$ Sv/h
Spectroscopic energy range	20 keV - 3 MeV
Typical ID-time at 1 $\mu$ Sv/h (100 $\mu$ R/h)	< 3 min
Energy range	58 keV to 6 MeV
Dose rate range	10 nSv/h - 250 $\mu$ Sv/h (1 $\mu$ R/h - 25 mR/h)
NBR (Natural Background Rejection)	Advanced algorithms
Neutron detection and verification	Prompt gamma analysis
Continuous Gain Stabilization	Sourceless spectral algorithm
Fast Gain Verification and Adjustment	Lutetium Test adapter (< 10 nCi Lu-176)

### High dose rate detector (patent pending)

Material	Scintillator
Sensitivity (662 keV)	25 cps per mSv/h (0.25 cps per mR/h)
Energy range	58 keV to 6 MeV
Dose rate range	250 $\mu$ Sv/h - 10 Sv/h (25 mR/h - 1000 R/h)

### General Specifications

Battery type	2 x AAA alkaline or NiMH	
Battery Life	> 170 h (alkaline)	
Weight including Batteries and Rubber Sleeve	195g	
Water/Dust Rating	IP 65	
Drop tested	1.5 m on concrete (with rubber sleeve)	
Operating Temperature	-4°F to 122°F (-20°C to 50°C)	
Dimensions	4.1 x 2.6 x 1.6 inches (with rubber protective sleeve)	
Wireless Communications	Bluetooth 4.2 (Option)	
Wired Communications	USB to IR	
Standards Compliance	Low dose rate range	ANSI N42.32 PRD standard fully compliant " ANSI N42.48 SPRD standard fully compliant
	High dose rate range	ANSI N42.33 for high range dose rate detector " IEC 60846-1 for high range dose rate detector

### Ordering information

4250825	RadEye SPRD-ER personal radiation detector
425082541	RadEye SPRD-ER-KIT, contains 1 ea. RadEye SPRD-ER, Lutetium Test Adapter, Desktop Holder + USB connection cable, Software package RadEye.exe + RadEyeSpectra, Holster and spare AAA batteries
425082542	RadEye SPRD-ER Vehicle Kit, contains 1 ea. RadEye SPRD-ER, Lutetium Test Adapter, Vehicle charging kit, Bluetooth adapter, Software package RadEye.exe + RadEyeSpectra, Holster and spare AAA rechargeable batteries

