



D3 Personal Radiation Detector

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D3 PRD is a high accuracy personal radiation detector able to detect sources twice as far and twice as fast with extremely low false alarm rate compared to current state-of-the-art devices. It stores spectral data internally, allowing post operation data analysis to be performed.

Sensitivity

The D3 PRD has a large CsI(Tl) crystal volume of 1 in³ (16 cm³) and superior sensitivity of 500 cps/(μ Sv/h) for Cs-137 with a maximum dose rate of 1 Sv/h @ 662keV. Compares to current state-of-the-art devices, the D3PRD is able to:

- Detect sources twice as far away as alternative devices
- Detect and localise radiation sources twice as fast
- Detect radiation source signatures that are two times lower

Functions

- Dose rate, accumulated dose, gamma alarm, high dose alarm, over range alert
- Vibration and audio alarms
- Configurable alarm thresholds via provided PC based Ciris configuration software
- Meets and exceeds ANSI N42.32

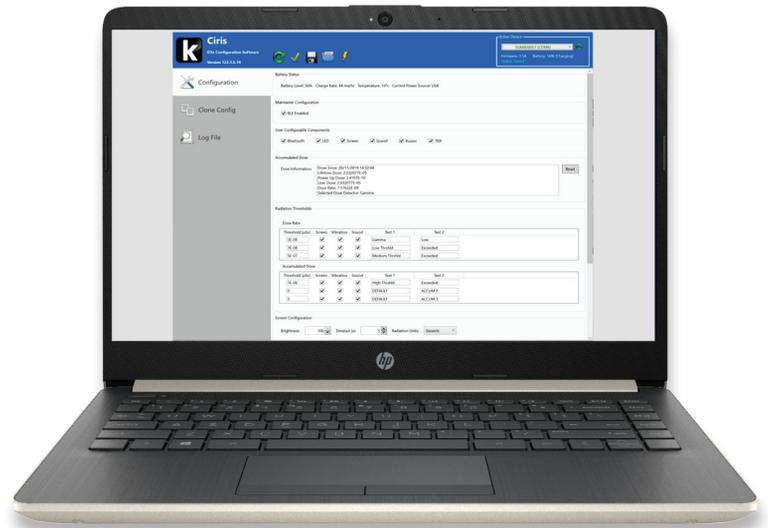
Spectral Data Storage

The D3 PRD can store over 100,000 spectral data and dose values within its internal memory. The data can be extracted via USB or Bluetooth using Kromek's Ciris software for post operational analysis.

Device power

Versatile battery management system enables >40h operating life:

- An internal rechargeable battery that can be used exclusively and charged via the USB port.
- Two standard AA batteries that can be accessed and replaced without using any tools. When present, the AA batteries will be used as the primary power source.



Ciris Configuration Tool

- Allows user to adjust the thresholds for gamma, dose rate and accumulated dose alarms
- Allows user to select and enable/disable audible, vibration and on-screen visual alarms
- Clone configuration capability to update firmware and/or set up a fleet of devices
- Allows user to access the detector data and store it in industry standard N42.42 format for further analysis

Sensor Integration

The D3 PRD can be easily integrated into a central sensor hub, or combined sensor platform via USB or Bluetooth. This enables a single control point for multiple integrated sensors, rather than using each one individually. The alarm and dose is given as an output by the detector.



The D3's versatile battery management system is optimized for both outdoor and indoor use



A protective sleeve provides enhanced grip and additional drop protection



User Benefits

- D3 PRD is designed to be body worn unobtrusively outside of PPE
- D3 PRD continuously monitors the environment
- D3 PRD gives a clear alarm annunciation and measurement of the dose rate
- The stored spectra can be downloaded and analyzed by a trained user
- This could eliminate the need of secondary RIID devices



Available Accessories

- Ruggedized Pelicase to provide storage and protection for the D3 PRD and ancillary equipment
- Protective sleeves that provide an enhanced grip and also additional drop protection
- Belt or MOLLE strap wearable carry pouch



E-Learning Platform

- Interactive user training and manual in the form of an Android app
- Allows users to access the training and manual on the go
- The app records and indicates if each section of the training has been completed by the user
- Provides a cost-effective option compared to classroom-based training

Detector specification

Gamma detector material	CsI(Tl)
Gamma detector volume	1 in3 (16 cm ³)
Gamma energy range	30 keV to 3 MeV
Gamma sensitivity for Cs-137	5 cps/μR/h (500 cps/μSv/h) Photo peak 1.2 cps/μR/h (120 cps/μSv/h)
Maximum throughput for gamma channel	10,000 cps
Maximum dose rate	100 R/h (1 Sv/h) at 662 keV
Dose accuracy	± 10% - far exceeds ANSI N42.32
False alarm rate	1 in 24h without compromising detection of weak sources
Communications	Micro USB, Bluetooth®
Operational battery life	>40 hours
Operational temperature range	-20°C to 50°C, meets ANSI N42.32 section 7.1, section 7.2, section 7.5
Device size	125 mm x 80 mm x 35 mm
Device volume	248 cm ³
Humidity	Up to 93% RH as per ANSI N42.32 section 7.3
Moisture/dust protection	IP65 exceeds ANSI N42.32 section 7.4
Device weight (excluding batteries)	312g
Battery	1450 mAh Li-Ion rechargeable battery 2 x AA replaceable batteries
Charging	Charging via USB
Device status indicator	External LED and on device display
Internal data storage	>100,000 spectra and dose values
Hardware Standard Compliance	
Vibration	ANSI N42.32 section 9.1
ESD immunity	ANSI N42.32 section 8.1
Radiated emissions	ANSI N42.32 section 8.4
Drop test	ANSI N42.32 section 9.2
Impact (microphonics)	ANSI N42.32 section 9.3

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