KROMEK

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Kromek

Kromek Group plc is a global leader in advanced radiation detection technologies, specializing in compact, high-resolution solutions for security, defense, nuclear, and research applications. Leveraging proprietary Cadmium Zinc Telluride (CZT) semiconductor technology, Kromek delivers a versatile portfolio that includes handheld monitors, portable isotope identifiers, CZT-based gamma cameras, and laboratory-grade spectrometers.

For sectors such as homeland security, defence, civil nuclear, research and others requiring compact and accurate detection tools, Kromek responds with cutting-edge innovations. Their handheld monitors and RIIDs offer rapid isotope identification with high-resolution output and low false alarm rates—ideal for mobile teams in the field. Portable CZT gamma cameras deliver scalable, high-resolution imaging for both operational and diagnostic use, while laboratory spectrometers support detailed gamma spectroscopy in compact, rugged formats.

Kromek's technology is trusted globally for its reliability and versatility, supporting professionals in detecting, identifying, and analysing radioactive materials under real-world conditions.

From frontline operations to scientific research—Kromek equips you with the tools to act with clarity, speed, and precision.

HANDHELD MONITORS

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D5 RIID

The D5 RIID provides a unique high performance and versatile radiation detection device in a wearable package for military, homeland security, and industrial personnel.

The D5 RIID is a small, light, 3.5% resolution, wearable Radioisotope Identification Device (RIID) with an expansive radioisotope library and an ultra low false alarm rate. It continuously scans and accurately identifies radiological threats in real time, even in mixed source environments.

The D5 RIID combines small form factor with powerful radiometric performance and enhanced sensitivity at a medium resolution of 3.5%. The D5 RIID has an area efficiency which is 62% higher when compared with conventional RIIDs.

D5 RIID Overview https://youtu.be/yi-uvoO5nFg

SCAN TO VIEW VIDEO

D5 RIID is the smallest, lightest with the ultimate detection performance. It has a 3.5% resolution, with an expansive radioisotope library and an ultra low false alarm rate. It continuously scans and accurately identifies radiological threats in real time, even in mixed source environments.

D3S ID

A wearable, concealable Gamma and Neutron detector which puts the power of a RIID into a package the size of a Personal Radiation Detector (PRD). D3S ID is the new standard in portable radiation detectors.

The D3S ID is a powerful, wearable, unobtrusive and hands-free device which is continuously scanning for Gamma and Neutron radiation threats.

Kromek's D3S meets the data security expectations of governments, intelligence services, and safety authorities. The D3S comes standard with a secure smartphone (Android control), which contains the exclusive and secured Kromek detector software. The D3S is already frequently used in the United States, for example on fire trucks and ambulances or as an area mapping system with 1,000 detectors during a 'scavenger hunt'. In Europe, the D3S has been deployed during state visits and NATO consultations in recent years, to detect early radioactive threats that may be present in cargo, vehicles, buildings, other objects, and in the environment.

Features:

- Identifies 37 isotopes (17 more than the current ANSI standard)
- Identifies faster than a RIID
- Budget-friendly compared to other products in the market
- Small size, wearable, fits on belt
- Networkable

RayMon

RayMon

A powerful and rugged handheld gamma detector for high-resolution radioactive isotope identification. The RayMon10 is one of the most powerful and rugged handheld radiation monitors in the world. It can be used to detect, measure, and accurately identify gamma-ray emitting radionuclides, providing high-resolution isotope identification using the latest CZT solid-state detector technology. It is an all in one solution to your gamma radionuclide identification needs

It can output a variety of reports including date/time, user handheld ID, photo and audio note, GPS positioning, radiation spectra, and isotope identification.

Variations in normal operating conditions can often affect the performance of radio-isotope identification, the RayMon10’s advanced one cubic centimeter CZT coplanar grid detector provides more stable performance than scintillation-type detectors

CZT & GAMMA CAMERAS

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GR Series Gamma Spectrometers

A family of small and light CZT-based Gamma detector spectrometers!

The Kromek GR family is a range of CZT-based high-performance Gamma spectrometers. They are completely self-contained, with built-in preamplifier, shaping amplifier, baseline restorer, pulse height digitizer and HV supply. The digitised pulse heights of detected Gamma signals are sent to a computer via the USB. The unit is powered entirely from the USB bus, so no external power supply is needed.

Can be used for all Gamma radiation detection needs either straight out of the box or built into your own devices. The GR Gamma detectors can be mounted side by side in an array to give you coverage of a large area.

GR1/GR1+ Gamma spectrometer

- Perfect for most uses
- Energy resolution: < 2.5% FWHM @ 662 KeV
- USB output only
- 1 cm cubed CZT detector
- The plus model is available for those that need higher resolution:
- Energy resolution: <2.0% FWHM @ 662 KeV

GR1-A/GR1-A+ Gamma spectrometer

- For those that need extra outputs channels
- Energy resolution: < 2.5% FWHM @ 662 keV
- USB output
- Three MCX connectors that provide energy and timing outputs and gate inputs
- MultiSpect Analysis spectroscopy software included in the price
- 1 cm cubed CZT detector
- The plus model is available for those that need higher resolution:
- Energy resolution: <2.0% FWHM @ 662 KeV

GR05 Gamma spectrometer

- For use in a high-flux environment
- Energy resolution: < 2.5% FWHM @ 662 keV
- Max dose rate approximately 10mSv/hr
- USB output
- Smaller 0.125 cm cubed CZT detector
- For use in high-count (high-flux) environments


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Quant GR1

The Quant GR1 is a complete mobile or benchtop solution for quantifying doses of Gamma radiation released by radionuclides. Its high resolution of <2% and count spectrum range of 4096 channels enables any isotope to be identified and its associated dose quantified, even from complex mixtures.

The ability to quantify radiation doses in real time eliminates the need for further analysis in the lab, as data can both be collected and processed on site, saving time and costs.

TN15

The Kromek TN15 is a robust, cost effective, self-contained, room temperature Neutron detector without Helium3. The detector surpasses the performance of a 100mm long 13mm3 He tube at 4 atmospheres and does not need cooling as it operates at room temperature.

This highly compact device is completely self-contained, with a built-in preamplifier, shaping amplifier, pulse discrimination, and HV supply.

The digitized neutron data is sent to a computer via the mini-USB which also powers the unit, so no external power supply is required; making the TN15 portable, creating a host of new ways to use and deploy neutron detectors.

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Sigma 25/50

Available in two variations, Kromek’s Sigma 25/50 Gamma ray detectors are highly sensitive, fast, and lightweight replacing conventional photomultiplier technology with state-of-the-art silicon photomultipliers (SiPMs).

The Sigma 25/50 Gamma detectors offer up to 32.8cm3 of detection volume, delivered in a package providing significant benefits in cost, size, weight, power consumption and temperature stability.

CsI(Tl) has a light output of 54 photons/keV and is one of the brightest scintillators known. As well as good Gamma photon stopping power this makes CsI(Tl) well suited for Gamma radiation detection.

Robust, Small & Lightweight

The Sigma 25/50 Caesium Iodide Scintillator Radiation detectors are perfect for radiation detection in the field and in the lab owing to their small size. If you need fast detection in an easy to use package this is what you need.

K-Spect & MultiSpect Analysis Integration

Kromek’s Sigma 25/50 are available with both K-Spect and MultiSpect Analysis software which provide the spectrum acquisition, display, analysis, and storage functions.

Integration

Due to the discreet nature of the Sigma 25/50, these can be integrated into other systems. We’ve had them flying on drones and built into larger detector arrays.

K102

The Kromek K102 accepts amplified shaped pulses from detectors, digitizes the pulse heights, and sends the data to PC via the USB bus.

The Analyser is available with either Kromek's Windows based (7/8/10) K-Spect or MultiSpect Analysis software, which provide the spectrum acquisition, display, analysis, and storage functions.

It is powered through the USB bus so no external power supply is required.

PORTABLE ISOTOPE IDENTIFIERS

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AARM

Real-time location, measurement, and mapping of radioactivity from the air with Kromek's drone-based payload!

When mounted to any multirotor drone model, Kromek's AARM payload system can be used to complete rapid, detailed radiological surveys over wide areas. Its advanced sensor system of integrated radiation and positional sensors allows isotopic fingerprinting, counts per second, and full spectral data to be collected and subsequently delivered to the user every second.

Data is also visualised in real-time in the form of a metre resolution radiation heat map on the AARM's iOS-based app. Hotspots and anomalies can be quickly identified from a safe distance, optimal for applications including, but not limited, to environmental surveys and monitoring, as well as enhancing situational awareness and rapid response in nuclear security applications.

Flexible detector and communications options are also available, adding to the versatility of the system. Cloud-based comms allow spectral data and counts per second to be viewed from anywhere in the world. Non-cloud-based options are also available, with onboard storage of data possible as well. The payload houses Kromek's proven radiation detection capabilities, with single or dual detector configurations of the GR1, SIGMA 50, TN15 or D3S. The system's large operating temperature range further expands the system's mission versatility, making missions possible anywhere in the world.

LABORATORY EQUIPMENT

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