RADIATION DETECTION

peo DETECTION

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AREA MONITORS

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Partner SE International

S.E. International, Inc. is a trusted U.S.-based manufacturer of radiation detection instruments under the Radiation Alert® brand. Their product range includes area monitors, handheld survey meters, and personal electronic dosimeters—each designed to deliver accurate, real-time radiation monitoring across a wide range of applications.

Product offering

AM-2×2 Radiation Area Monitor

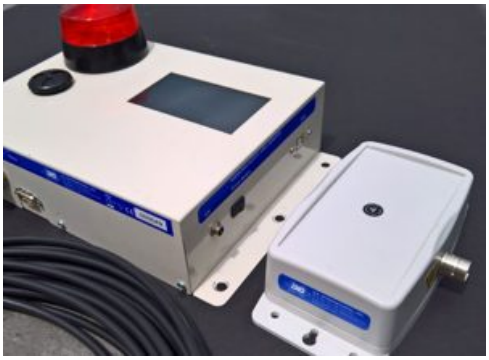
AM-71313 Radiation Area Monitor

AM-7128 Radiation Area Monitor

AM-1X1 Radiation Area Monitor

AM-2×2 Radiation Area Monitor

The Radiation Alert® AM-2X2 is a state-of-the-art area monitor designed for ease of use and dependable performance. Featuring a smart touch interface, LED display, and external scintillation detector, it’s ideal for room, portal, and source monitoring in medical, research, and industrial environments. With built-in alerts, remote monitoring software, and rugged housing options, the AM-2X2 is your all-in-one solution for radiation safety.



Overview:

The Radiation Alert® Area Monitor is one of the most user friendly, all inclusive, state of the art radiation area monitors available. The easy to use interface is an intelligent resistive touch screen display featuring a large five digit LED readout.

Features:

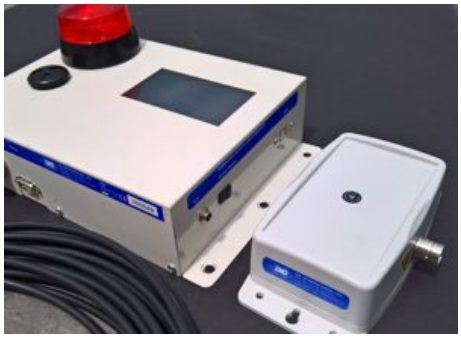
The AM-2X2 comes with an external Sodium Iodide Scintillation Detector. Cesium Iodide probes available. Rugged, wall mount enclosure options are available for high traffic area. Monitor every Radiation Alert® Area Monitor on your network with the free software. Includes user selectable warning indicators for low and high radiation alarm levels,and detector failure. Setup email and text alerts to receive alarms while on the go. All the settings are stored internally, even when power is disconnected. All units come with a Certificate of Conformance. NIST Source calibrations available upon request.

Applications & Uses:

Room monitoring for Hospitals, X-Ray machines, Accelerators, Laboratories, etc. Portal monitoring, such as doors and walkways, Source monitoring, Alarms in the presence of radiation or the absence of sources

AM-71313 Radiation Area Monitor

A cutting-edge, user-friendly radiation area monitor featuring a smart touch screen with large LED readout. Choose between internal or external detectors, and monitor your entire network with free included software. Set custom alarms, receive mobile alerts, and rely on secure internal settings storage. Ideal for hospitals, labs, accelerators, and controlled access points. Includes Certificate of Conformance; NIST calibration available on request.



Overview:

The Radiation Alert® Area Monitor is one of the most user friendly, all inclusive, state of the art radiation area monitors available. The easy to use interface is an intelligent resistive touch screen display featuring a large five digit LED readout.

Features:

It comes with either an internal or external detector and free software for monitoring every Radiation Alert® Area Monitor on your network. Includes user selectable warning indicators for low and high radiation alarm levels, and detector failure. Setup email and text alerts to receive alarms while on the go. All the settings are stored internally, even when power is disconnected. All units come with a Certificate of Conformance. NIST Source calibrations available upon request.

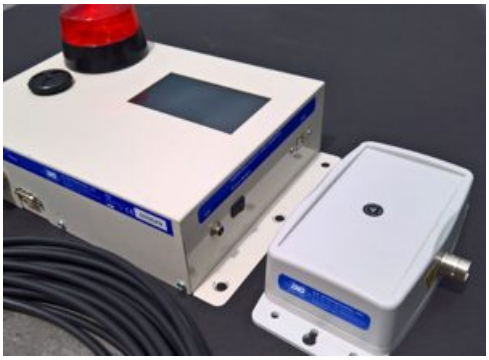
Internal or External Probe Options Available.

Applications & Uses:

Room monitoring for Hospitals, X-Ray machines, Accelerators, Laboratories, etc. Portal monitoring, such as doors and walkways

AM-7128 Radiation Area Monitor

The Radiation Alert® Area Monitor is one of the most user friendly, all inclusive, state of the art radiation area monitors available. The easy to use interface is an intelligent resistive touch screen display featuring a large five digit LED readout.



Features:

The product comes with either an internal or external detector and free software for monitoring every Radiation Alert® Area Monitor on your network. Includes user selectable warning indicators for low and high radiation alarm levels, and detector failure. Setup email and text alerts to receive alarms while on the go. All the settings are stored internally, even when power is disconnected. All units come with a Certificate of Conformance. NIST Source calibrations available upon request.

Internal or External Probe Options Available

Applications & Uses:

Room monitoring for Hospitals, X-Ray machines, Accelerators, Laboratories, etc. Portal monitoring, such as doors and walkways

AM-1X1 Radiation Area Monitor

The Radiation Alert® Area Monitor is one of the most user friendly, all inclusive, state of the art radiation area monitors available. The easy to use interface is an intelligent resistive touch screen display featuring a large five digit LED readout.

Features:

The AM1X1 comes with either an internal or external Sodium Iodide Scintillation Detector. Cesium Iodide probes available. Rugged, wall mount enclosure options are available for high traffic areas. Monitor every Radiation Alert® Area Monitor on your network with the free software. Includes user selectable warning indicators for low and high radiation alarm levels, and detector failure. Setup email and text alerts to receive alarms while on the go. All the settings are stored internally, even when power is disconnected. All units come with a Certificate of Conformance. NIST Source calibrations available upon request.

Internal or External Probe Options Available.

Applications & Uses:

Room monitoring for Hospitals, X-Ray machines, Accelerators, Laboratories, etc. Portal monitoring, such as doors and walkways, Source monitoring, Alarms in the presence of radiation or the absence of sources

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Partner Ludlum Measurements Inc.

Ludlum Measurements, Inc. is a trusted global provider of radiation detection and monitoring instruments, offering rugged, accurate solutions for personnel safety, environmental protection, and security screening. Since 1962, their equipment has been used worldwide in applications ranging from nuclear power and emergency response to border protection and critical infrastructure monitoring.

Product offering

Model 375 Area Monitor Controller

Model 375/1 Digital Area Monitor

Model 375/2 Digital Area Monitor – Ludlum

Model 375/4 Gamma Area Monitor – Ludlum

Model 375-10 Digital Area Monitor – Ludlum

Model 375-9 Digital Area Monitor – Ludlum

Model 375-Dual Digital Area Monitor – Ludlum

Model 375-20 Monitoring System

Model 375-30

Model 375/31H

Model 3276 – Area Monitor Controller

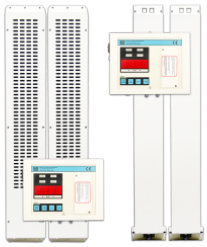
Model 3277/1 Alpha-Beta Frisker

Model 3277/1 with Desktop Mount (PN 4519-435) and Model 43-93 (PN 47-2556)

Model 375P-1000

Model 375P-2000

Model 375P-336 Series



Model 240 Series Alpha-Beta Floor and Wall Monitor

Model 3002/FM Series Alpha-Beta Floor Monitor

Model 239-1F Series Alpha-Beta Floor Contamination Monitor

Model 375P-336 Surface Contamination Monitor – Ludlum

Model 375 Area Monitor Controller

The Model 375 is a versatile, compact, and very affordable digital electronic controller designed for monitoring radiation in areas. Its simple design accommodates many different detectors suiting a wide variety of applications, and is equipped with a local readout and alarms. These versatile units may also be connected to an optional auxiliary indicator/annunciators for alerting personnel at remote locations.

Features:

- Affordable Digital Controller
- Adapts to a Wide Variety of Detectors
- Programmable Alarms and Units of Measure
- Networkable (Requires Ethernet or Webpage Interface Option)
- Battery Backup

Overview:

The Model 375 is a digital area monitor controller for radiation measurement or detection. Its simple design accommodates many different detectors, suiting a wide variety of applications, and is equipped with a large digital LED display and alarms. This versatile instrument may also be connected to optional auxiliary indicators/annunciators for alerting personnel at remote locations. The user-friendly, digital design enhances setup and operation. This unit may also be networked to a central PC-based station where data are logged and alarms posted.

Applications & Uses:

This affordable and flexible system can be used in many different applications, and over the years Ludlum Measurements has developed a wide array of detectors, accessories, and options that can be included in a Model 375 system configuration. These include remote indicator alarms, printers, relay outputs, weather-proof enclosures, Ethernet networking software, industrial cameras, and more. See the link in the “Options” tab for more information about the options that are available.

Model 375/1 Digital Area Monitor

The model 375/1 digital area monitor is designed for visibility and ease of use. The monitor has an internally housed 18 mm CsI scintillator with a sensitivity of approximately 120 cpm/R/hr.

The monitor has a wall-mount chassis and a four-digit LED display that you can read from 9 meters (20 feet) away.

The indicators warns with an alarm when it detects low radiation (with yellow), high radiation (with red), instrument failure (also red) or when it has a low battery (with yellow).

Features:

- Affordable Area Monitor
- Range: 0.1 to 9999 µR/hr
- Compact, Integrated Design
- Low Background Sensitivity
- Audio & Visual Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)

Overview:

The Model 375/1 Digital Wall-Mount Area Monitor is designed for visibility and ease of use. This monitor incorporates an internally housed 18 mm CsI scintillator with a sensitivity of approximately 120 cpm per µR/hr. It features a wall-mount chassis and a four-digit LED display that is readable from 9 meters (30 feet) away. Backlit indicators warn of low radiation (yellow), high radiation (red), instrument failure (red), and low battery (yellow), along with an alarm. A green status light indicates the instrument is functioning properly.

Parameters are protected under a calibration cover that provide access to adjusting the calibration constant, dead time correction, and alarm point parameters. Parameters are stored in non-volatile memory (retained even with power disconnected). A five-decade logarithmic analogue output is provided.

Model 375/2 Digital Area Monitor – Ludlum

The Model 375/2 Digital Wall-Mount Area Monitor is designed for visibility and ease of use. This monitor incorporates an internally-housed energy compensated GM detector with a range from 1 µSv/h to 10 mSv/h (0.1 mR/hr to 1 R/hr). It features a wall-mount chassis and a four-digit LED display that is readable from 9 meters (30 feet) away. Backlit indicators warn of low radiation (yellow), high radiation (red), instrument failure (red), and low battery (yellow), along with an alarm. A green status light indicates the instrument is functioning properly.

Features

- Affordable Area Monitor
- 1µSv/h to 10 mSv/h (0.1 mR/hr to 1 R/hr)
- Integrated Design
- Battery Backup
- Networkable (Requires Ethernet or Webpage Interface Option)
- Audio & Visual Alarms

Overview:

The Model 375/2 Digital Wall-Mount Area Monitor is designed for visibility and ease of use. This monitor incorporates an internally-housed energy compensated GM detector with a range from 1 µSv/h to 10 mSv/h (0.1 mR/hr to 1 R/hr). It features a wall-mount chassis and a four-digit LED display that is readable from 9 meters (30 feet) away. Backlit indicators warn of low radiation (yellow), high radiation (red), instrument failure (red), and low battery (yellow), along with an alarm. A green status light indicates the instrument is functioning properly.

Parameters are protected under a calibration cover. Calibration is easily accomplished by moving the cal dipswitch to the right, and using the pushbuttons to increment or decrement the calibration constant, dead time correction, and alarm point parameters. Parameters are stored in non-volatile memory (retained even with power disconnected). A five-decade logarithmic analog output is provided. A battery backup provides 48 hours of additional use after the primary power is removed.

Model 375/4 Gamma Area Monitor – Ludlum

The Model 375/4 Digital Wall-Mount Area Monitor is designed for visibility and ease of use. This monitor incorporates an internally housed energy compensated GM detector with a range from 0.01 mSv/h to 100 mSv/h (1.0 mR/hr to 10 R/hr). It features a wall-mount chassis and a four-digit LED display that is readable from 9 meters (30 feet) away. Backlit indicators warn of low radiation (yellow), high radiation (red), instrument failure (red), and low battery (yellow), along with an audible alarm. A green status light indicates the instrument is functioning properly.

Features:

- Affordable Area Monitor
- 0.01 mSv/h to 100 mSv/h (1.0 mR/hr to 10 R/hr)
- Integrated Design
- Battery Backup
- Networkable (Requires Ethernet or Webpage Interface Option)
- Audio & Visual Alarms

Overview:

The Model 375/4 Digital Wall-Mount Area Monitor is designed for visibility and ease of use. This monitor incorporates an internally housed energy compensated GM detector with a range from 0.01 mSv/h to 100 mSv/h (1.0 mR/hr to 10 R/hr). It features a wall-mount chassis and a four-digit LED display that is readable from 9 meters (30 feet) away. Backlit indicators warn of low radiation (yellow), high radiation (red), instrument failure (red), and low battery (yellow), along with an audible alarm. A green status light indicates the instrument is functioning properly.

Parameters are protected under a calibration cover. Calibration is easily accomplished by moving the “cal” dipswitch to the right, and using the pushbuttons to increment or decrement the calibration constant, dead time correction, and alarm point parameters. Parameters are stored in non-volatile memory (retained even with power disconnected). A five-decade logarithmic analog output is provided. A battery backup provides 48 hours of additional use after the primary power is removed.

Model 375-10 Digital Area Monitor – Ludlum

This wall-mounted area monitor with an internal NaI scintillation detector is simple to set up, use, and calibrate. The four-digit LED display is readable from 9 meters (30 feet) away. User-configurable alarm setpoints are easy to configure. Parameters are protected under a calibration cover, and further protected by an eight-hour battery backup. They are also stored in non-volatile memory that retains the information even if primary power is disconnected. The controller supplies local alarms but can be connected to external alarms, strobes, camera, or other recording and monitoring devices, or put onto an Ethernet network, if desired.

Features:

- Range: 0.1 to 20 µSv/hr (1 to 2000 µR/hr)
- Encased Shielded Sodium Iodide (NaI) Detector
- User-Programmable Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)
- 8-Hour Battery Backup

Overview:

This wall-mounted area monitor with an internal NaI scintillation detector is simple to set up, use, and calibrate. The four-digit LED display is readable from 9 meters (30 feet) away. User-configurable alarm setpoints are easy to configure. Parameters are protected under a calibration cover, and further protected by an eight-hour battery backup. They are also stored in non-volatile memory that retains the information even if primary power is disconnected. The controller supplies local alarms but can be connected to external alarms, strobes, camera, or other recording and monitoring devices, or put onto an Ethernet network, if desired. The Model 375-10 includes the Model 375 Ethernet hardware option. It is also preprogrammed to use the Model 375 Webpage & Service Software that is available separately (Part Number 1370-077).

An optional lead shield can be included with the detector for applications that need to prevent alarms from low-energy sources. (**Note:** The lead shield option should not be used in applications that need to monitor low-energy sources, such as medical isotopes.)

Model 375-9 Digital Area Monitor – Ludlum

The Model 375-9 Digital Wall-Mount Area Monitor is designed for visibility and ease of use. This monitor provides a fast response to pulsed fields by utilizing an external ion chamber covering any four consecutive decades between 1 µSv/h and 1000 mSv/h (0.1 mR/hr and 100 R/hr). It features a wall-mount chassis and a four-digit LED display that is readable from 9 meters (30 feet) away. Backlit indicators warn of low radiation (yellow), high radiation (red), instrument failure (red), and low battery (yellow), along with an audible alarm. A green status light indicates the instrument is functioning properly.

Features:

- Integrated Measurement System
- External Ion Chamber Detector
- User-Programmable Alarm Settings
- Audible & Visual Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)

Overview:

The Model 375-9 Digital Wall-Mount Area Monitor is designed for visibility and ease of use. This monitor provides a fast response to pulsed fields by utilizing an external ion chamber covering any four consecutive decades between 1 µSv/h and 1000 mSv/h (0.1 mR/hr and 100 R/hr). It features a wall-mount chassis and a four-digit LED display that is readable from 9 meters (30 feet) away. Backlit indicators warn of low radiation (yellow), high radiation (red), instrument failure (red), and low battery (yellow), along with an audible alarm. A green status light indicates the instrument is functioning properly.

Parameters are protected under a calibration cover. Calibration is easily accomplished by moving the cal dipswitch to the right, and using the pushbuttons to increment or decrement the calibration constant and alarm point parameters. Parameters are stored in non-volatile memory (retained even with power disconnected). A five-decade logarithmic analog output is provided. A battery backup provides 48 hours of additional use after the primary power is removed.

Model 375-Dual Digital Area Monitor – Ludlum

The Model 375-Dual is a dual-channel digital area monitor controller based on the legacy version of the Model 375. It consists of two Model 375 controllers in one wall-mount chassis, each with its own detector connection. A common application is gamma and neutron monitoring: one controller monitors gamma radiation and the other monitors neutron radiation. This instrument may also be used to monitor radiation in two separate locations when used in conjunction with appropriate external detectors.

Features:

- Dual LED Digital Display
- Low and High Alarm Indicators
- Programmable Alarm Indicators
- Optional Remote
- Detector Fail Indicators
- Battery Backup
- Data Output/RS-232

Overview:

The Model 375-Dual is a dual-channel digital area monitor controller based on the legacy version of the Model 375. It consists of two Model 375 controllers in one wall-mount chassis, each with its own detector connection. A common application is gamma and neutron monitoring: one controller monitors gamma radiation and the other monitors neutron radiation. This instrument may also be used to monitor radiation in two separate locations when used in conjunction with appropriate external detectors.

Each controller features a four-digit LED display that is readable from 9 meters (30 feet) away. Backlit indicators on each instrument warn of low radiation alarm (yellow), high radiation alarm (red), instrument failure (red), and low battery (yellow). A green status light indicates the instrument is functioning properly. Calibration parameters are stored in non-volatile memory and protected under calibration covers on each controller.

Model 375-20 Monitoring System

Features:

- Affordable Digital Controller
- Weatherproof Encased-Shielded NaI Detectors
- Programmable Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)
- Battery Backup

The Model 375-20 is a Digital Model 375 Controller coupled to two shielded 5.1 cm (2 in.) diameter by 5.1 cm (2 in.) thick NaI(Tl) scintillation detectors. The detectors are encased in weathertight enclosures suitable for the outdoor environment, but the Model 375 Controller is normally mounted to a wall indoors near an operator. This is a simple, cost-effective system, easy to operate and maintain. The controller supplies local alarms but can also be connected to external alarms or put onto an Ethernet network if desired. Additionally, it has a 48-hour battery backup to keep the system operational in the event power is lost.

Options:

This device can be complemented with a variety of optional features to suit different operational needs. Available options include enclosures for added protection, remote displays for convenient monitoring, and alarm annunciators to enhance safety and response time. Additionally, signal outputs can be integrated for connection with external systems, while software and networking options allow for advanced data management and remote access capabilities.

Model 375-30

The Model 375-30 pairs a digital controller with two rugged, weatherproof NaI(Tl) detectors for reliable outdoor gamma detection. Simple, cost-effective, and easy to maintain, it features local and remote alarm options, Ethernet connectivity, and 48-hour battery backup for continuous operation.

Features:

- Affordable Digital Controller
- Weatherproof Encased-Shielded NaI Detectors
- Programmable Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)
- Battery Backup

Overview:

The Model 375-30 is a digital Model 375 Controller coupled to two shielded 7.6 cm (3 in.) diameter by 2.5 cm (1 in.) thick NaI(Tl) scintillation detectors. The detectors are encased in NEMA 4X rated weathertight enclosures suitable for the outdoor environment, but the 375 Controller is normally mounted to a wall indoors near an operator. This cost-effective system is simple, making it easy to operate and maintain. The controller supplies local alarms but can also be connected to external alarms or put onto an Ethernet network if desired. It additionally has a 48-hour battery backup to keep the system operational in the event power is lost.

Model 375/31H

The Model 375 is a compact, digital controller designed for flexible radiation monitoring across diverse environments. Paired with a high-performance neutron detector, it offers accurate thermal and fast neutron detection with excellent gamma rejection. With local and remote alarms, Ethernet connectivity, and optional real-time data logging and imaging, the Model 375 is an ideal solution for centralized, networked radiation safety.

Features:

- Perfect for Temporary Jobsites
- Easy Setup and Use
- Versatile Controller with Highly Visible Display
- User-Programmable Alarms
- Network and Relay Options
- 48-Hour Battery Backup
- CE Certified

Overview:

The Model 375 is a versatile, compact, and easy-to-use digital electronic controller designed for monitoring radiation in areas. Its simple design accommodates many different detectors to suit a wide variety of applications, and it is equipped with a local readout and alarms. These versatile units may also be connected to an optional auxiliary indicator/annunciator to alert personnel at remote locations. The user-friendly, digital design enhances setup and operation. The Model 375 units may also be networked to a central PC-based station where data are logged and alarms posted.

Applications & Uses:

This affordable and very flexible system has found its way into many applications resulting in a full complement of detectors, accessories, and options that include remote indicator alarms, printers, relay outputs, weather-proof enclosures, Ethernet networking software, industrial cameras, and more.

Sites requiring centralization of their data can link multiple 375 systems together via Ethernet and view them using a common web browser with the purchase of Ludlum’s Webpage & Service Software. This program collects all data in real time, logs data, and annunciates any alarms. The system can also send intelligent email alerts to responsible personnel and capture a picture of whatever triggered an

alarm if optional Ethernet cameras are employed.

Model 3276 – Area Monitor Controller

The Model 3276 is a lightweight, versatile radiation detection unit designed for both area monitoring and frisking applications. Compatible with alpha, beta, and gamma detectors, it features a large backlit display, audible alarms, and intuitive controls. Ideal for indoor use, the Model 3276 supports multiple measurement modes and units, offering precision and flexibility in a compact, rugged design.

Features:

- Uses Either an Internal or External Detector to Measure Alpha, Beta, or Gamma Radiation
- Versatile – Can Operate as an Area Monitor or a Frisker
- Simple Setup and Use
- User-Adjustable Alarms
- User-Programmable Units of Measurement, Either U.S. or SI Units
- Power: Standard Alkaline (4) “AA” Batteries or 9 Vdc Wall Mount Transformer

Overview:

The Model 3276 is a versatile instrument that can be used for multiple radiation detection or measurement purposes. It is used with either an internal or an external radiation detector to detect alpha, beta, or gamma radiation in applications such as frisking or area monitoring.

It features a large, backlit, easy-to-read LCD screen and audible alarms and is controlled using a simple four-button interface. The unit body is made of lightweight, rugged aluminum. It is not intended for outdoor use and should be protected from splashing water. The attached metal handle facilitates transportation between sites. The instrument can be wall-mounted for area monitoring applications or mounted to a stand for desktop applications such as frisking.

Applications & Uses:

The Model 3276 can measure radiation in count rate, exposure rate, exposure rate/dose, activity rate, integrated exposure/dose, time-averaged rates, and scaler counts. When used as a frisker, three modes of operation are available – RATE, MAX, and COUNT – which can be selected by pressing the MODE button. When used as an area monitor, only RATE mode is available by default. Measurements can be collected in two sets of units (primary and secondary) for RATE and MAX modes in cps, cpm, Bq, dpm, R/hr, or Sv/h units. The user can

switch between the two sets of units by pressing the UNITS button. When used as a frisker with a scintillation detector, a sigma audio mode can be enabled that allows the user to find small increases above the background radiation level.

Instrument setup can be done either through the front-panel controls or via the Lumic Calibration Kit (PN: 4498-1018). Power is supplied by either four alkaline “AA” batteries or a 9 Vdc wall mount transformer. The Model 3276 is shipped ready to use with batteries, a wall transformer, and a calibration certificate.

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Model 3277/1 Alpha-Beta Frisker

Features:

- 7-inch Colour Touch-Screen Display Shows All Readings Simultaneously in a Large, Simple Layout
- Simple Setup and Use
- Can Be Used with Various Scintillation or Proportional Detectors
- Either Imperial or SI Units
- Rechargeable Backup Battery
- Automatic Background Subtraction During Measurements

Overview:

The Model 3277/1 is a wall-mount or desktop instrument that can be used for frisking personnel or objects for alpha and beta contamination. A large, colour touch-screen displays alpha and beta readings simultaneously, and dual tone click-audio enables the user to easily distinguish between alpha and beta contamination. Power is supplied by either an internal, rechargeable battery or a 100 – 240 Vdc wall transformer. Battery life is approximately 8 hours under normal usage.

Model 375P-1000

Features:

- Checks for Surface Contamination Entering/Exiting Facilities
- Affordable Digital Controller
- Weatherproof Encased-Shielded Plastic Scintillator Detectors
- Programmable Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)
- Battery Backup

Overview:

The Model 375P-1000 is a digital Model 375 Controller coupled to two shielded 7866 cm^3 (480 in^3) plastic scintillator detectors. The detectors are encased in weathertight enclosures suitable for the outdoor environment. The Model 375 Controller is not weatherproof and must be mounted either indoors or within an environmental enclosure (available separately, see Options). This cost-effective solution offers a simple system that is easy to operate and maintain.

The system continuously monitors background levels and will alert the user when the infrared sensors detect a contaminated object. Once the object is removed, the system will return to normal (background) monitoring.

The controller supplies local alarms, but can also be connected to external alarms or even put onto an Ethernet network if desired. In addition, a 24-hour battery backup keeps the system operational in the event power is lost.

Model 375P-2000

The Model 375P-2000 features a digital controller with four large, lead-shielded plastic scintillator detectors in rugged, weatherproof housings—ideal for monitoring objects entering or exiting facilities. With infrared-triggered detection, programmable alarms, network capability, and 24-hour battery backup, it delivers dependable, automated contamination control in a user-friendly, cost-effective system.

Features:

- Checks for Surface Contamination Entering/Exiting Facilities
- Affordable Digital Controller
- Weatherproof Encased-Shielded Plastic Scintillator Detectors
- Programmable Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)
- Battery Backup

Overview:

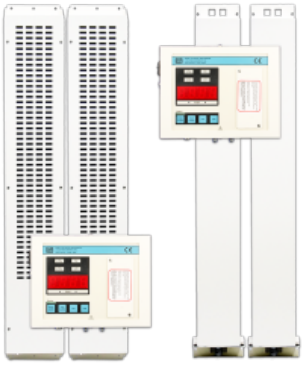
The Model 375P-2000 is a digital Model 375 Controller coupled to four lead-shielded 7866 cm3 (480 in3) plastic scintillator detectors. The detectors are encased in weather-tight enclosures suitable for the outdoor environment. The Model 375P Controller is not weatherproof and must be mounted either indoors or within an environmental enclosure. This cost-effective solution offers a simple system that is easy to operate and maintain.

The system continuously monitors background levels and will alert the user when the infrared sensors detect a contaminated object. Once the object is removed, the system will return to normal (background) monitoring.

The controller supplies local alarms, but can also be connected to external alarms or put onto an Ethernet network if desired. In addition, a 24-hour battery backup keeps the system operational in the event power is lost.

Model 375P-336 Series

The Model 375P-336 Series combines a digital controller with two lead-shielded plastic scintillation detectors for reliable surface contamination monitoring. Available in both indoor (375P-336) and outdoor (375P-336-1L) configurations, these user-friendly, cost-effective systems offer local and remote alarms, Ethernet connectivity, and 24-hour battery backup for uninterrupted operation.



Features:

- Excellent Surface Contamination Screening Tool for Small Articles, Baggage, Packages, and Medical Waste
- Affordable Digital Controller
- 2 Large Plastic Scintillator Detectors
- Programmable Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)
- Includes Check Source for Calibration
- 24-Hour Battery Backup

Overview:

The Model 375P-336 Series are monitoring systems that consist of a Model 375P digital controller coupled with two lead shielded 2753 cm^3 (168 in^3) plastic scintillation detectors. The Model 375P-336 is designed for indoor applications, while the Model 375P-336-1L has detectors housed in waterproof enclosures that can be mounted outdoors. The Model 375P controller is not weatherproof and must be mounted either indoors or within an environmental enclosure.

These simple and cost-effective solutions offer a system that is easy to operate and maintain. The controller supplies local alarms but can also be connected to external alarms or put onto an Ethernet network if desired. Each system has a 24-hour battery backup to keep it operational in the event power is lost.

Radiation Detection › Area Monitors

Model 240 Series Alpha-Beta Floor and Wall Monitor

The Model 240 is a portable, high-efficiency alpha-beta contamination monitor designed for fast, accurate scanning of floors and walls. Featuring an array of low-background detectors, real-time alarms, and USB connectivity for streamlined data logging and reporting, it delivers precise, user-friendly performance—ideal for labs, cleanrooms, and decontamination zones.

Features:

- Quickly Surveys and Datalogs Large Areas with 173 cm (68 in.) Wide Path
- Hinged Array Can Be Folded for Easy Transportation
- 12 Alpha-Beta Detector Capability
- Can Use Either Gas Proportional or Scintillation Detectors
- Measures and Warns Operator About Excessive Speed

Overview:

The Model 240 Alpha-Beta Floor and Wall Monitor allows a user to quickly survey large areas for alpha-beta contamination. Compatible with either gas-proportional or scintillation detectors, the Model 240 cart comes in a floor-style only version, or a version that supports both floor and wall monitoring. Detector-to-surface spacing is adjustable and detectors are positioned for no “dead” zones when scanning. Gas proportional models come with a gas regulator, flowmeters, and gas lines, but a P-10 gas bottle is not included. The cart also provides two holders for spare detectors, to provide for replacement if a detector becomes damaged.

Utilizing an array of detectors instead of a single detector provides several advantages: 1) smaller detectors have lower backgrounds and thus lower minimum detectable activity (MDA); 2) smaller detectors allow the user to pinpoint the contamination; and 3) smaller detectors make it easier to maintain and replace fragile metallized polyester windows necessary for alpha detection.

The array of detectors is connected to an electronics box, which has a USB connection to a laptop. The electronics has 12 separate detector boards, each with its own settable high voltage, lower and upper thresholds, and alpha-beta count channels. The laptop display makes it easy to view all 12 detectors simultaneously, and provides setup wizards to help with establishing operating points for the detectors.

The system initially measures radiation background from the detector array, allowing the operator to see net counts during scanning. While scanning, a rolling average is checked on all 24 channels (12 each, alpha and beta) every half-second, and a momentary audible and visual alarm activates if any alarm points are exceeded. Measurements are also automatically logged to a file for subsequent reports.

Radiation Detection › Area Monitors

Model 3002/FM Series Alpha-Beta Floor Monitor

The Model 3002/FM Series Alpha-Beta Floor Monitors allow a user to quickly survey large areas for alpha-beta contamination. They combine the dependable Model 3002 Alpha-Beta Survey Meter with two alpha-beta scintillation detectors in configurations ideal for floor monitoring. The use of scintillation detectors creates an instrument that requires much less maintenance than traditional gas flow proportional detectors.

Features:

- Large Backlit and Auto-Ranging LCD
- Simultaneous Alpha-Beta Counting
- Gasless – Uses Scintillators and PMTs
- Dual-Tone Audio: Low-Pitch Beta Clicks and High-Pitch Alpha Beeps
- 4-Button Interface for Easy Operation
- Height Above Floor Easily Adjusted
- Rate, Max, and Count Modes

Model 239-1F Series Alpha-Beta Floor Contamination Monitor

Features:

- 594 cm^2 or 821 cm^2 Active Area Gas Proportional Detector
- Adjustable Detector Height
- Compatible with Multiple Survey Meters

Overview:

The Model 239-1F Floor Monitor is a gas proportional floor monitor detector mounted on a roll-around cart. The instrument features a flow system, quick-connects, a gas bottle mount, and a means to adjust the height of the detector from the floor for optimum performance. A nuclear counting gas bottle, gas regulator, and a survey instrument are required for the operation of the floor monitor.

Model 375P-336 Surface Contamination Monitor – Ludlum

Features:

- Excellent Surface Contamination Screening Tool for Small Articles, Baggage, Packages, and Medical Waste
- Affordable Digital Controller
- 2 Large Plastic Scintillator Detectors
- Programmable Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)
- Includes Check Source for Calibration
- 24-Hour Battery Backup

Overview:

The Model 375P-336 Series are monitoring systems that consist of a Model 375P digital controller coupled with two lead shielded 2753 cm^3 (168 in^3) plastic scintillation detectors. The Model 375P-336 is designed for indoor applications, while the Model 375P-336-1L has detectors housed in waterproof enclosures that can be mounted outdoors. The Model 375P controller is not weatherproof and must be mounted either indoors or within an environmental enclosure (available separately).

These simple and cost-effective solutions offer a system that is easy to operate and maintain. The controller supplies local alarms but can also be connected to external alarms or put onto an Ethernet network if desired. Each system has a 24-hour battery backup to keep it operational in the event power is lost.

HANDHELD MONITORS

peo DETECTION

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Partner BSI

Baltic Scientific Instruments (BSI) is an OEM manufacturer based in Riga, Latvia, dedicated to the development and production of advanced spectrometric and detection equipment. With decades of experience and roots in the former Research Institute for Radioisotope Apparatus (RNIIRP), BSI provides cutting-edge technologies for nuclear power, environmental monitoring, security, medicine, and scientific research.
The company specializes in HPGe, Si, CdZnTe/CdTe, and scintillation detector systems, known for their accuracy, stability, and performance in demanding analytical environments.
Through continuous innovation, strict quality assurance (ISO 9001:2015), and strong international collaboration, BSI supports customers worldwide in achieving precise and reliable radiation measurement and analysis.

Product offering

Hand-held Integrated Gamma Spectrometer

← Back to partner

Radiation Detection › CZT & Gamma Cameras

Hand-held Integrated Gamma Spectrometer

Hand-held Integrated Gamma Spectrometer with an integrated HPGe detector, preamplifier, multichannel analyzer, batteries, and software offers relatively compact, portable solution for high-resolution gamma-ray analysis. Its all-in-one design enhances field usability, requiring no external components for setup.

Application

Hand-held Integrated Gamma Spectrometer is ideal for nuclear safety, environmental monitoring, radiological emergency response, CBRN and waste characterization, it ensures rapid deployment and reliable data acquisition. The integrated system minimizes cabling, reduces noise, and simplifies operation, making it highly efficient for both laboratory and on-site measurements.

Features

- Integrated HPGe Detector – High-purity germanium detector ensures excellent energy resolution for precise gamma spectroscopy
- Embedded Digital Multichannel Analyzer (MCA) – Enables real-time spectrum acquisition and processing without external electronics
- Internal Battery Operation – Offers several hours of autonomous use for field measurements
- Compact All-in-One Design – Reduces cabling and simplifies deployment in any environment
- On-board ruggedize display – large and bright to fit the whole spectrum or a part of it since software is adopted for “mobile view mode”
- Analytical Spectroscopy Software – Supports spectrum analysis, nuclide identification, and reporting
- Advanced Spectroscopy Software – allows applying Monte-Carle simulation results to the analytical software to make sure correct measurement result in case of complex geometry of the measured object

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Partner Ludlum Measurements Inc.

Ludlum Measurements, Inc. is a trusted global provider of radiation detection and monitoring instruments, offering rugged, accurate solutions for personnel safety, environmental protection, and security screening. Since 1962, their equipment has been used worldwide in applications ranging from nuclear power and emergency response to border protection and critical infrastructure monitoring.

Product offering

Model 26 – Frisker with Geiger Mueller Pancake

Model 26-1 Frisker with integrated GM Pancake – Ludlum

Model 26-3 – High Range Frisker

Model 26S – Integrated Scintillator Frisker

Model 3000 Digital Survey Meter – Ludlum

Model 3001 Multi-Detector Survey Meter – Ludlum

Model 3002 Alpha-Beta Digital Survey Meter

Model 3003 Series Multi-Detector Ratemeter / SCA

Model 3014 Dual-Detector Digital Survey Meter / SCA

Model 9DP Pressurized Ion Chamber

Model 9DP-1 Pressurized Ion Chamber

Model 9DP* Ambient Dose Ion Chamber

Model 9DP-1* Ambient Dose Ion Chamber

Model 3-IS-1 Intrinsically Safe Gamma Ratemeter

Model 3-IS Intrinsically Safe Survey Meter

Model 12-4 Neutron Dose Survey Meter

Model 30-4 Digital Neutron Survey Meter

Model 12-4-7 Neutron Dose Survey Meter

Model 3007 Series Neutron Dose Survey Meter With Optional Internal Gamma Detector

Model 30-7 Series Lightweight Digital Neutron Survey Meter

Model 12 General Purpose Survey Meter

Model 14C General Purpose Survey Meter

Model 16 General Purpose Survey Meter

Model 18 General Purpose Survey Meter

Model 3 General Purpose Survey Meter

Model 3A General Purpose Survey Meter with Alarm

Model 3-97 Gamma Survey Meter

Model 195 with Model 43-132 High Range Alpha Ion Chamber

Model 3-98 125I & Alpha-Beta-Gamma Survey Meter

Model 194 Dose Equivalent Rate Meter

Model 2403 Pocket-Size Survey Meter

Model 2402 Pocket-Size Survey Meter with Alarm

Model 35 Vehicle-Mounted Digital Survey Meter

Model 30 Digital Survey Meter – Ludlum

Model 44-9 Pancake GM Detector – Ludlum

Model 3001-MERK response kit

Model 3001-2RK Emergency Response & NORM Kit

Model 2241-3RK2 Emergency Response Kit

Model 26-2 – Integrated Frisker with Timed Frisk

Model 3019 Digital Background Survey Meter – Ludlum

Model 133-6 GM Detector – Ludlum

Model 133-4 GM Detector – Ludlum

Model 133-2 GM Detector – Ludlum

Model 44-3 NAL Low Energy Gamma Scintillator – Ludlum

Model 44-2 NAL Gamma Scintillator – Ludlum

Model 44-1 Beta Scintillator – Ludlum

Model 44-38 Energy Compensated GM Detector – Ludlum

Model 44-9 Ambient Dose Equivalent Filter – Ludlum

Model 44-9 Exposure Filter Kit – Ludlum

Model 44-7 Alpha Beta Gamma Detector – Ludlum

Model 43-92 Alpha Scintillator – Ludlum

Model 43-65 Alpha Scintillator – Ludlum

Model 43-5 Alpha Scintillator – Ludlum

Model 9DP Ambient Dose Ion Chamber Survey Meter – Ludlum

Model 9DP-1 Ion Chamber Survey Meter – Ludlum

Radiation Detection › Handheld Monitors

Model 26 – Frisker with Geiger Mueller Pancake

This Frisker with Geiger Mueller (GM) 26 is the simpler version of Ludlum's model 26-1.

Ludlum designed this device especially for frisking people and objects for alpha, beta and gamma contamination. This cable-less device consolidates the electronics and the detector into one ergonomic device. The frisker has a standard 15,51 cm^2 GM pancake detector and a large LCD display.

Features:

- Integrated, Lightweight Design Simplifies Frisking
- Protective Rubber Covering Enhances Ruggedness, Water Resistance, and Non-Slip Comfort
- Employs Standard 15.51 cm^2 GM Pancake Detector
- Ratemeter, MAX Hold, and Scaler Operating Modes
- Simple Two-Button Operation
- Count Rate and Scaler Alarms
- Automatic LCD Backlight Activation
- Wrist Cuff and Lanyard Included

Additional Services

To support optimal performance and compliance with regulatory standards, PEO offers the following services for this device:

✓ Service Periodic inspections carried out by qualified technicians to assess functionality, identify wear, and detect potential issues early.	✓ Maintenance Preventive measures, part replacements, and performance checks designed to extend the device's operational lifespan and maintain consistent reliability.	✓ Calibration Calibration services, performed by qualified technicians. Each unit receives a Calibration Certificate confirming accuracy and conformity.	✗ Leakage Tests Radiation leakage testing to confirm detector safety and compliance with applicable health and safety requirements.

These services are available through PEO.

For service appointments or contract options, please contact your PEO representative.

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Model 26-1 Frisker with integrated GM Pancake – Ludlum

Overview:

The **Model 26-1 Integrated Frisker** offers fast, one-handed contamination screening with the convenience of an all-in-one design. Equipped with a GM pancake detector, intuitive controls, and a backlit LCD, it delivers reliable radiation measurements in multiple units and modes. Rugged, lightweight, and water-resistant

Ideal for both indoor and outdoor use.

Features:

- Integrated, Lightweight Ergonomic Design
- High-Impact Plastic with Water-Resistant Rubber Seals
- Employs Standard 15.51 cm^2 GM Pancake Detector
- Displays in mR/hr, µSv/h, dpm, Bq, cpm, or cps
- Dead-Time Correction (DTC) Allows Gamma Measurements Up to 500 mR/hr or Up to 1999 µSv/h
- Simple Three-Button Operation
- Count Rate, Exposure, Dose, and Counting Alarms
- Automatic Display Backlight
- Bright Red, Flashing Alarm LED
- Includes Wrist Strap, Detector Cover & Lanyard

Additional Services

To support optimal performance and compliance with regulatory standards, PEO offers the following services for this device:

✓ Service Periodic inspections carried out by qualified technicians to assess functionality, identify wear, and detect potential issues early.	✓ Maintenance Preventive measures, part replacements, and performance checks designed to extend the device's operational lifespan and maintain consistent reliability.	✓ Calibration Calibration services, performed by qualified technicians. Each unit receives a Calibration Certificate confirming accuracy and conformity.	✗ Leakage Tests Radiation leakage testing to confirm detector safety and compliance with applicable health and safety requirements.

These services are available through PEO.

For service appointments or contract options, please contact your PEO representative.

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Model 26-3 – High Range Frisker

The Ludlum Model 26-3 is a rugged, cable-free radiation detector combining a high-sensitivity GM pancake with a large auto-ranging LCD and intuitive one-handed operation. Ideal for detecting alpha/beta contamination and measuring gamma fields, it offers flexible units, three operating modes, and long battery life in a compact, water-resistant design

Features

- Integrated, Lightweight Ergonomic Design
- High-Impact Plastic with Water-Resistant Rubber Seals
- Employs Standard 15.51 cm^2 GM Pancake Detector
- Displays in mR/hr, µSv/h, dpm, Bq, cpm, or cps
- Dead-Time Correction (DTC) Allows Gamma Measurements Up to 1999 µSv/h (1000 mR/hr)
- Simple Three-Button Operation
- Count Rate, Dose/Exposure Rate, and Counting Alarms
- Automatic Display Backlight
- Bright Red Flashing ALARM LED
- Includes Wrist Strap, Clear Pancake Cover & Lanyard

Compact, Powerful, and Cable-Free

The Ludlum Model 26-3 delivers fast, reliable radiation detection in a rugged, water-resistant, and cable-free design—ideal for frisking people and inspecting objects with ease.

High-Performance Detection, Clear Readout

Equipped with a 15.51 cm² GM pancake, loud audible clicks, and a large auto-ranging LCD with backlight, it provides instant feedback. Switch between mR/hr, µSv/h, dpm, and Bq at the touch of a button.

Simple, One-Handed Use

Three intuitive modes—RATE, MAX, and COUNT—offer precise control for real-time monitoring, peak value capture, and timed surveys. All in one durable, ergonomic tool.

Versatile Measurement Options

Display readings in counts, activity, averaged rates, or accumulated dose—tailored to your needs. Add the optional Ambient Dose Filter for improved energy response in dose measurements.

Long Battery Life, Smart Configuration

Powered by just two AA batteries, the Model 26-3 runs for hundreds of hours. Settings can be locked or adjusted based on user or calibrator preference.

User-Friendly Features

A responsive backlight activates in low light, and the audible click can be muted for discreet use—perfect for both routine and sensitive surveys.

Additional Services

To support optimal performance and compliance with regulatory standards, PEO offers the following services for this device:

✓ Service Periodic inspections carried out by qualified technicians to assess functionality, identify wear, and detect potential issues early.	✓ Maintenance Preventive measures, part replacements, and performance checks designed to extend the device's operational lifespan and maintain consistent reliability.	✓ Calibration Calibration services, performed by qualified technicians. Each unit receives a Calibration Certificate confirming accuracy and conformity.	✗ Leakage Tests Radiation leakage testing to confirm detector safety and compliance with applicable health and safety requirements.

These services are available through PEO.

For service appointments or contract options, please contact your PEO representative.

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Radiation Detection › **Handheld Monitors**

Model 26S – Integrated Scintillator Frisker

- Lightweight Design – Only 0.35 kg (0.75 lb)
- Employs 1 x 1 Equivalent Scintillator Detector
- Sigma Audio (or Click Audio Possible) & Alarm Beep
- Displays in mR/hr, µSv/h, dpm, Bq, cpm, or cps
- Simple Three-Button Operation
- Count Rate, Exposure, Dose, and Counting Alarms
- Automatic Display Backlight
- Bright Red Flashing ALARM LED

Model 3000 Digital Survey Meter – Ludlum

Overview:

The Ludlum Model 3000 is a lightweight, durable radiation survey meter designed for alpha, beta, and gamma detection using external probes. It features a large LCD, audible alarms, and three operating modes (RATE, MAX, COUNT), with dual-unit readout capability. Built for field use with a splash-resistant, high-impact plastic housing, it supports data logging (up to 1000 points) and calibration via front panel or optional Lumic kits. Supplied ready-to-use with batteries and calibration certificate.

Features:

- Large, Backlit, Easy-To-Read LCD Screen
- Auto-Ranging
- RATE, MAX, and COUNT Modes of Operation
- Splash-Resistant Construction for Outdoor Use
- All-Digital Calibration
- USB Port
- Lightweight Yet Ruggedly Built
- Simple 5-Button Interface

Options:

- **Calibration & Configuration Kits** – Software packages for setup, calibration, and detector optimization, each with required USB cables
- **Data Logging Solutions** – Includes data logger kit and retrofit handle for enabling or upgrading internal data logging
- **Wireless & Serial Connectivity** – Bluetooth® linker for mobile devices; RS-232 and TTL serial port options for external interfacing
- **Audio Kit** – Headphone jack with adjustable stereo/mono headset for audible alerts
- **Carrying Solutions** – Rugged transport case and adjustable shoulder strap (case modification required)



Additional Services

To support optimal performance and compliance with regulatory standards, PEO offers the following services for this device:

Service
Periodic inspections carried out by qualified technicians to assess functionality, identify wear, and detect potential issues early.

Maintenance
Preventive measures, part replacements, and performance checks designed to extend the device's operational lifespan and maintain consistent reliability.

Calibration
Calibration services, performed by qualified technicians. Each unit receives a Calibration Certificate confirming accuracy and conformity.

Leakage Tests
Radiation leakage testing to confirm detector safety and compliance with applicable health and safety requirements.

These services are available through PEO.

For service appointments or contract options, please contact your PEO representative.

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Radiation Detection › Handheld Monitors

Model 3001 Multi-Detector Survey Meter – Ludlum

The Model 3001 Multi-Detector Survey Meter (Ludlum) is an ergonomically-designed, versatile, lightweight instrument which can support up to 4 external detectors. Each detector with its own user parameters and set of calibration.

Choose from a wide range of probes for any application: Ludlum probes

Model 3001 Multi-Detector Survey Meter features:

- max, rate and count modes of operation
- datalogging and headphone options
- large backlit LCD for ease of reading
- USB port
- ruggedly built and lighter weight
- splash-resistant construction for outdoor use
- Geiger-Mueller (GM), scintillator or proportional detector

Read more about the Model 3001 Multi-Detector Survey Meter on the Ludlum website

Radiation Detection › Handheld Monitors

Model 3002 Alpha-Beta Digital Survey Meter

The Model 3002 is a durable, lightweight instrument designed for alpha and beta radiation survey with an external detector. It features a large, easy-to-read LCD screen and audible alarms and is controlled using a simple five-button interface. The unit body is made of high-impact plastic and splash resistant construction allows the instrument to be used outdoors.

Three modes of operation are available – RATE, MAX, and COUNT – which can be selected by pressing the MODE button. Measurements can be collected in cps, cpm, Bq, or dpm units. Pressing the α-β button switches between alpha, beta, or alpha+beta measurements. When enabled with the optional Lumic Data Logger Kit (see Options), data can be logged in any of the operational modes using the LOG button on the handle. Up to 1000 data points can be stored internally.

Instrument setup can be done either through the front-panel controls or via the Lumic Calibration Kit (see Options). The Model 3002 is shipped ready to use with batteries and calibration certificate.

Features

- Large Backlit LCD for Ease of Reading
- Auto Ranging, Dual Tone Audio Clicks
- All-Digital Calibration
- Alpha, Beta, or Alpha + Beta Measurements
- Rate, Max, and Count Modes of Operation
- 4-Button Intuitive Interface for Easy Operation
- Lighter Weight Yet Ruggedly Built
- Splash-Resistant Construction for Outdoor Use

Radiation Detection › Handheld Monitors

Model 3003 Series Multi-Detector Ratemeter / SCA

The Model 3003 is a durable, lightweight instrument designed for alpha, beta, gamma, or neutron radiation survey. It can support up to four external detectors, each with its own set of calibration and user parameters. The Model 3003i is a version that includes an internal GM or scintillation detector. The instrument features a large, easy-to-read LCD screen and audible alarms and is controlled using a simple seven-button interface. The unit body is made of high-impact plastic and splash resistant construction allows the instrument to be used outdoors.

Four modes of operation are available – RATE, MAX, INTG, and COUNT – which can be selected by pressing the MODE button. Measurements can be collected in two sets of units (primary and secondary) for RATE, MAX, and DOSE modes, unless alpha-beta detection is selected.The user can switch between the two sets of units by pressing the UNITS button. The DETECTOR button is used to switch between the active detector settings, indicated by the colored LEDs above the control buttons. When enabled with the Lumic Data Logger Kit (see Options), data can be logged in any of the operational modes using the LOG button on the handle. Up to 1000 data points can be stored internally. The SCA ability allows a scintillator or proportional detector to be set up with an upper window, giving it higher sensitivity to a specific isotope or region. This instrument can be used with external alpha-beta detectors to display alpha, beta, or alpha+beta counts.

Instrument setup can be done either through the front-panel controls or via the Lumic Calibration Kit (see Options). The Model 3003 is shipped ready to use with batteries and calibration certificate.

Features

- 4 Selectable & Configurable Detector Settings
- Single Channel Analyzer (SCA)
- Alpha, Beta, or Alpha+Beta Measurements
- 3003i: Internal Detector Option for Dose Measurements
- Rate, Max, Integrated Dose, and Count Modes
- 4-Button Intuitive Interface for Easy Operation
- 3-Button Handle Interface for One Handed Control
- Digital Calibration, Datalogging, Auto-Ranging, USB
- Bluetooth®, True RS-232, and Headphone Options

- Lightweight and Ruggedly Built
- Large Backlit LCD for Ease of Reading
- Alternative to Ludlum Models 18 and 2221

Model 3014 Dual-Detector Digital Survey Meter / SCA

The Ludlum Model 3014 is a durable, lightweight instrument with both an internal energy-compensated gamma detector and a connection for an external detector. It features a large, easy-to-read LCD screen and audible alarms and is controlled using a simple five-button interface. The unit body is made of high-impact plastic and splash-resistant construction allows the instrument to be used outdoors.

Four modes of operation are available – RATE, MAX, INTG, and COUNT – which can be selected by pressing the MODE button. Measurements can be collected in two sets of units (primary and secondary) for RATE and MAX modes. The user can switch between the two sets of units by pressing the UNITS button. Pressing the DETECTOR button toggles the display between the internal and external detector readings. When enabled with the Lumic Data Logger Kit (see Options), data can be logged in any of the operational modes using the LOG button on the handle. Up to 1000 data points can be stored internally. The SCA ability allows a scintillator or proportional detector to be set up with an upper window, giving it higher sensitivity to a specific isotope or region. This instrument can be used with external alpha-beta detectors to display alpha, beta, or alpha+beta counts.

Instrument setup can be done either through the front-panel controls or via the Lumic Calibration Kit (see Options). The Model 3014 is shipped ready to use with batteries and calibration certificate.

Features

- Internal Gamma Detector for Survey / Accumulated Dose
- Can Be Used with a Variety of External Detectors
- General Purpose Survey Meter
- Rate, Max, Integrated Dose, and Count Modes
- Alpha, Beta, or Alpha+Beta Capable
- Single Channel Analyzer (SCA) Capable
- Large Backlit LCD for Ease of Reading
- 4-Button Intuitive Interface for Easy Operation
- 1-Button Handle Interface for Data Logging
- Digital Calibration, Data Logging, Auto-Ranging, USB
- Bluetooth, True RS-232, and Headphone Options
- Alternative to Ludlum Models 14C and 2221

Model 9DP Pressurized Ion Chamber

Overview:

The Ludlum Model 9DP is a compact, hand-held instrument engineered for reliable radiation monitoring in field environments. Designed for professionals across medical, industrial, and emergency response sectors, it ensures accurate assessment of radiological conditions with minimal operational complexity.

Features:

- **Measurement Range:** Background to 50 mSv/h (5 R/hr)
- **Display Modes:** Real-time Exposure Rate & user-selectable Integrated or Peak Exposure Rate
- **Display:** Sunlight-readable color screen
- **Detection Performance:** Auto-zeroing and auto-ranging functionality
- **Power Supply:** Rechargeable battery pack for extended field operations
- **Alarms:** Integrated audio and visual alarms for threshold breaches
- **Quality-of-Life:** Data logging, USB connectivity, and free firmware updates via the manufacturer’s website

Optional additions:

- Software and USB cable for Dimension instrument setup.
- Log real-time data to Excel; available with or without USB cable.
- Adds headphone jack to the instrument.
- Adjustable stereo/mono headphones.
- Rechargeable AA battery pack (8x NiMH).
- Alkaline AA battery pack (8x standard).
- 10 µCi Cs-137 plastic check source.
- Rugged, waterproof medium transport case.
- 1.8 m nylon shoulder strap (case modification required).
- Mini USB keyboard for instrument setup.

Additional Services

To support optimal performance and compliance with regulatory standards, PEO offers the following services for this device:

- **Service**
  Periodic inspections carried out by qualified technicians to assess functionality, identify wear, and detect potential issues early.
- **Maintenance**
  Preventive measures, part replacements, and performance checks designed to extend the device's operational lifespan and maintain consistent reliability.
- **Calibration**
  Calibration services, performed by qualified technicians. Each unit receives a Calibration Certificate confirming accuracy and conformity.
- **Leakage Tests**
  Radiation leakage testing to confirm detector safety and compliance with applicable health and safety requirements.

These services are available through PEO.

For service appointments or contract options, please contact your PEO representative.

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Model 9DP-1 Pressurized Ion Chamber

The Model 9DP-1 is a digital, hand-held pressurized ion chamber that provides highly sensitive exposure measurements of gamma and x-ray radiation at energies above 25 keV and beta radiation at energies above 1 MeV. This meter is specially designed for radiography work where pulsed fields are being measured. It correctly integrates 50 ns pulses (and wider) that other systems typically miss or measure inaccurately. Another feature of this instrument is that the detector chamber is only pressurized to 2.5 atm (22 psig), thus avoiding all (USA) HAZMAT concerns for shipping and handling. However, this reduced pressure also reduces sensitivity, so the minimum “good” measurement point is 2 µSv/h (200 µR/hr).

Measurements and instrument status are displayed on a large 232K-color, backlit LCD screen. The screen displays the current exposure rate as well as simultaneously displaying either the integrated exposure rate or the peak exposure rate in Sv, R, Gy, or rem units. An additional mode, Pulsed Mode, locks the instrument in the highest measurement range in order to improve pulsed radiation response while sacrificing low radiation reading resolution.

The instrument is operated using the four push-buttons below the screen (ON/OFF, FUNCTION, AUDIO, ACK/RESET). In addition to the visual display, click audio proportional to the current exposure rate audibly indicates the exposure rate level. Two alarm levels can be set to alert the user whenever the pre-programmed level has been exceeded. Alarms are indicated on the display and by an audio tone. The instrument can also be configured for data logging. Logged data can either be stored in CSV format and written to a standard USB drive inserted in the instrument’s USB port, or written directly to a Microsoft Excel spreadsheet by connecting the instrument to a computer running Ludlum’s Model 9DP Logging Spreadsheet Software.

The Model 9DP parameter settings can be edited by connecting the instrument to a basic USB keyboard. Instrument setup and calibration can also be configured using the Ludlum Dimension Interface Kit, which includes the Dimension Configuration Manager Software and the required USB cable.

Features

- Range: 2 µSv/h to 500 mSv/h (200 µR/hr to 50 R/hr)
- Special Design for Measuring Pulsed Fields
- Low Pressure Chamber is Non-Hazmat
- Shows Exposure Rate & Either Integrated Exposure or Peak Exposure Rate
- Pulsed Mode for Measuring Pulsed Radiation
- Sunlight Readable Color Display
- Auto-Zeroing & -Ranging
- Rechargeable Batteries
- Audio & Visual Alarms
- Data Logging
- USB Connectivity
- Free Firmware Updates Through Website

Model 9DP* Ambient Dose Ion Chamber

Overview:

The Model 9DP* is a digital, hand-held ion chamber for measuring ambient dose equivalent from gamma, x-ray, and high-energy beta radiation. It features ICRU-compliant dose readings, a color LCD display, audio-visual alarms, and supports data logging via USB or Excel. Settings and calibration are configurable via USB keyboard or software.

Features:

- Provides ICRU-Based Ambient Dose Equivalent Measurements
- Range: Background to 50 mSv/h (5 rem/h)
- Shows Dose Rate & Either Integrated Dose or Peak Dose Rate
- Ambient Equivalent Dose or Dose Rate is Flat within 20% from 40 keV to 1.3 MeV
- Sunlight Readable Color Display
- Auto-Zeroing & -Ranging
- Rechargeable Batteries
- Audio & Visual Alarms
- Data Logging
- USB Connectivity
- Free Firmware Updates Through Website

Optional additions:

- Calibration and setup kit with software and USB cable
- Real-time data logging to Excel
- Headphone jack add-on
- Stereo/mono headphones
- Rechargeable battery pack (8x AA NiMH)
- Alkaline battery pack (8x AA)
- 10 µCi Cs-137 check source
- Rugged, waterproof transport case
- Adjustable shoulder strap (requires case modification)
- USB keyboard for configuration

Additional Services

To support optimal performance and compliance with regulatory standards, PEO offers the following services for this device:

Service
Periodic inspections carried out by qualified technicians to assess functionality, identify wear, and detect potential issues early.

Maintenance
Preventive measures, part replacements, and performance checks designed to extend the device's operational lifespan and maintain consistent reliability.

Calibration
Calibration services, performed by qualified technicians. Each unit receives a Calibration Certificate confirming accuracy and conformity.

Leakage Tests
Radiation leakage testing to confirm detector safety and compliance with applicable health and safety requirements.

These services are available through PEO.

For service appointments or contract options, please contact your PEO representative.

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Model 9DP-1* Ambient Dose Ion Chamber

The Model 9DP-1* is a digital, hand-held pressurized ion chamber that provides highly sensitive ambient dose equivalent measurements of gamma and x-ray radiation at energies above 25 keV and beta radiation at energies above 1 MeV. Ambient dose equivalent is defined as the dose equivalent readout that would be measured at a (human) tissue depth of 10 mm. The Model 9DP-1* measures and displays the ambient dose equivalent in accordance with the ICRU (International Commission on Radiation Units) 30 cm tissue equivalent sphere. This requires a special ion chamber that can provide a conversion of the (air kerma) exposure rate to provide the ambient dose and dose rate.

This meter is also specially designed to measure pulsed radiation fields, correctly integrating 50 ns pulses (and wider) that other systems typically miss or measure inaccurately. Another feature is a detector chamber that is only pressurized to 2.5 atm (22 psig), eliminating (USA) shipping and handling HAZMAT concerns. However, this reduced pressure also decreases sensitivity, reducing the minimum measurement point to 2 µSv/h (200 µR/hr).

Measurements and instrument status are displayed on a large 232K-color, backlit LCD screen. The screen displays the current dose rate as well as simultaneously displaying either the integrated dose rate or the peak dose rate in Sv, R, Gy, or rem units. An additional mode, Pulsed Mode, locks the instrument in the highest measurement range in order to improve pulsed radiation response while sacrificing low radiation reading resolution.

The instrument is operated using the four push-buttons below the screen (ON/OFF, FUNCTION, AUDIO, ACK/RESET). In addition to the visual display, click audio proportional to the current dose rate audibly indicates the dose rate level. Two alarm levels can be set to alert the user whenever the pre-programmed level has been exceeded. Alarms are indicated on the display and by an audio tone. The instrument can also be configured for data logging. Logged data can either be stored in CSV format and written to a standard USB drive inserted in the instrument’s USB port, or written directly to a Microsoft Excel spreadsheet by connecting the instrument to a computer running Ludlum’s Model 9DP Logging Spreadsheet Software.

The Model 9DP parameter settings can be edited by connecting the instrument to a basic USB keyboard. Instrument setup and calibration can also be configured using the Ludlum Dimension Interface Kit, which includes the Dimension Configuration Manager Software and the required USB cable.

Features

- Provides ICRU-Based Ambient Dose Measurements
- Range: 2 µSv/h to 500 mSv/h (200 µR/hr to 50 R/hr)
- Special Design for Measuring Pulsed Fields
- Low Pressure Chamber is Non-Hazmat
- Shows Dose Rate & Either Integrated Dose or Peak Dose Rate
- Ambient Equivalent Dose or Dose Rate Is Flat Within 30% from 60 keV to 1.3 MeV
- Sunlight Readable Color Display
- Auto-Zeroing & -Ranging
- Rechargeable Batteries
- Audio & Visual Alarms
- Data Logging
- USB Connectivity
- Free Firmware Updates Through Website

Radiation Detection › Handheld Monitors

Model 3-IS-1 Intrinsically Safe Gamma Ratemeter

This intrinsically safe general purpose ratemeter is patterned after Ludlum's best-selling Model 3. It was designed and tested to USA standards for intrinsic safety, permitting it to be used in potentially explosive atmospheres.

This instrument includes an internally housed, energy compensated GM detector with a gamma detection range of 0.1 mR/hr to 1.0 R/hr. The Model 3 type instruments are well known for their accuracy and long-lasting dependability. The cast aluminum instrument housing, with its separate battery compartment and accompanying metal handle, offer an industrial robustness and quality that promote long-lasting protection and instrument life. The front panel controls include a rotary switch for selecting the four-decade range, instrument shut-off, and battery test, an audio on/off switch, a fast/slow response switch, and a count reset button.

Features

- Intrinsically Safe Gamma Survey Meter
- Rugged
- 4-Range Analog Ratemeter
- Built-in Energy Compensated GM Detector
- 0.1 mR/hr to 1.0 R/hr Detector Range

Radiation Detection › Handheld Monitors

Model 3-IS Intrinsically Safe Survey Meter

This intrinsically safe general purpose ratemeter is patterned after Ludlum's best-selling Model 3. It was designed and tested to USA standards for intrinsic safety, permitting it to be used in potentially explosive atmospheres. The Model 3-IS can only be used with select detectors to sustain the intrinsic safety rating. Click the tab below to view compatible detectors.

Like the Model 3 before it, the 3-IS retains the well-deserved reputation for accuracy and long-lasting dependability. The cast aluminum instrument housing, with its separate battery compartment and accompanying metal handle, offer an industrial robustness and quality that promote long-lasting protection and instrument life. The front-panel controls include a rotary switch for selecting the four-decade range, instrument shut-off, and battery test, an audio on/off switch, a fast/slow response switch, and a count reset button. The analog meter comes in a variety of measurement ranges and units to support the external radiation detector selected.

A one meter (39 in.) straight type detector cable equipped with special connectors designed to prevent quick or accidental disconnection in the field is included in the price of the instrument.

Features

- Intrinsically Safe
- Rugged
- 4-Range Analog Ratemeter
- Supports GM & Scintillation Type Detectors

Radiation Detection › Handheld Monitors

Model 12-4 Neutron Dose Survey Meter

The Model 12-4 is an industry standard neutron dose rate instrument that conforms to the RPG curve with a measuring range of 0 to 100 mSv/h (0 to 10,000 mrem/hr) from thermal to 12 MeV.

The detector is a 22.9 cm (9 in.) moderated ^{3}He tube with a gamma background rejection up to 100 mSv/h (10 R/hr). The ratemeter is a four-decade analog meter, designed with a cast aluminum instrument housing incorporating a separate battery compartment, and accompanying metal handle. This design delivers industrial robustness and quality, promoting long-lasting protection and instrument life.

The front-panel controls include a rotary switch for selecting the four-decade range, instrument shut-off, and battery test; an audio on/off switch; a fast/slow response switch; a count reset; and high-voltage test push-button. The Model 12-4 is a complete turn-key system and includes two “D” cell batteries.

Features

- Moderated Neutron Detector
- Range: 0 to 100 mSv/h (0 to 10,000 mrem/hr)
- Gamma Rejection up to 0.1 Sv/h (10 R/hr)
- Rugged
- 4-Range Analog Meter

Model 30-4 Digital Neutron Survey Meter

The Ludlum Model 30-4 joins the Model 30 digital display unit with a 22.9 cm (9 in.) REM ball containing a ^{3}He detector, thereby providing a significant weight reduction and more compact, maneuverable instrument for determining neutron dose rates.Three modes of operation – RATE, MAX, and COUNT – are available for the user. Measurements can be collected in two sets of units (primary and secondary) for RATE and MAX modes in cps, cpm, rem/hr, or Sv/h units. An internal switch is used to enable or disable the front-panel setup feature to protect desired settings from inadvertent modification. Setup is also available via software from Ludlum Measurements.

This instrument features a large, easily-readable LCD (liquid crystal display) that may be rotated for maximum ease of use for the operator. The connecting cable is threaded through the rugged carrying handle to simplify use. In addition the display unit may be detached from REM ball permitting the operator to position the detector and the display unit to best advantage within the limits of the cable length. Other features are an audio warning tone and easy, intuitive, user-friendly design. Splash-resistant construction allows the Model 30 to be used in outdoor environments. The instrument body is constructed of lightweight, durable, high-impact plastic.

Features

- Multi-Function Digital Display Unit
- Low-Weight Device Substitutes for Ratemeter
- Simple Switching Between Two Sets of Measurement Units
- Moderated Neutron Detector
- Range: 0 to 99.9 mSv/h (0 to 9.99 rem/hr)
- Display Unit Detaches for Greater Versatility

Model 12-4-7 Neutron Dose Survey Meter

The Model 12-4-7 is a neutron dose rate instrument that conforms to the RPG curve with a measuring range of 0 to 100 mSv/h (0 to 10,000 mrem/hr) from thermal to 12 MeV neutrons.

The detector is a 19.5 cm (7.7 in.), moderated ^{3}He tube with a gamma background rejection up to 100 mSv/h (10 R/hr). The ratemeter is a four-decade analog meter, designed with a cast aluminum instrument housing incorporating a separate battery compartment, and accompanying metal handle. This design delivers industrial robustness and quality, promoting long-lasting protection and instrument life.

The front-panel controls include a rotary switch for selecting the four-decade range, instrument shut-off, and battery test; an audio on/off switch; a fast/slow response switch; a count reset; and high-voltage test push-button. The Model 12-4-7 is a complete turn-key system and includes two “D” cell batteries.

Features

- Smaller, Lighter 7-inch Polyethylene Ball
- Moderated Neutron Detector
- Range: 0 to 100 mSv/h (0 to 10,000 mrem/hr)
- Gamma Rejection up to 0.1 Sv/h (10 R/hr)
- Rugged
- 4-Range Analog Meter
- Complete Turn-Key System

Model 3007 Series Neutron Dose Survey Meter With Optional Internal Gamma Detector

The Model 3007 Series of neutron dose survey meters combines a handheld digital meter with a 19.5 cm (7.7 in.) diameter REM ball containing a ^{3}He detector to measure and monitor neutron radiation. Several versions of these instruments are available. The Model 3007 and Model 3007B use similar detectors that only differ by the boron concentration in the internal borated layer. The Model 3007 has a lower boron concentration and offers a typical sensitivity of 10 cpm per µSv/h (100 cpm per mrem/hr), but tends to overrespond in the 5 keV range. The Model 3007B has a higher boron concentration and a lower sensitivity, typically 4.5 cpm per µSv/h (45 cpm per mrem/hr), but does not have the same overresponse issue. The Model 3007-1 has a higher pressure detector that offers greater sensitivity, typically 17 cpm per µSv/h (170 cpm per mrem/hr), but falls under shipping regulations due to the pressure. “i” versions include an internal gamma detector in the meter for exposure or dose measurements.

Each instrument features a large, easy-to-read LCD screen and is controlled using a simple five-button interface. The meter body is made of high-impact plastic, and splash resistant construction allows the instruments to be used outdoors.

Four modes of operation are available – RATE, MAX, COUNT, and DOSE – which can be selected by pressing the MODE button. Measurements can be collected in two sets of units (primary and secondary) for RATE and MAX modes in cps, cpm, Bq, dpm, mR/hr, mrem/hr, or µSv/h units. The user can switch between two sets of units by pressing the UNITS button. Audible alarms can be set in all modes of operation. When enabled with the optional Lumic Data Logger Kit, data can be logged in any of the operational modes using the LOG button on the handle. Up to 1000 data points can be stored internally.

Instrument setup can be done either through the front-panel controls or via the Lumic Calibration Kit. The Model 3007 is shipped ready to use with batteries and a calibration certificate.

Features

- Small & Light 19.5 cm (7.7 in.) REM Ball
- Moderated Neutron Detector
- Range: 0 – 100 mSv/h (0 – 10,000 mrem/hr)
- Gamma Rejection up to 0.1 Sv/h (10 R/hr)
- “i” Versions: Internal Gamma Detector Option for Exposure/Dose Measurements
- Rate, Max, Integrated Dose & Count Modes
- Digital Calibration, Data Logging, Auto-Ranging, USB
- Large, Backlit, Easy-to-Read LCD Screen
- Simple 5-Button Interface

Model 30-7 Series Lightweight Digital Neutron Survey Meter

The Model 30-7 Series are handheld, lightweight neutron dose detectors that join the Model 30 digital meter with a 19.5 cm (7.7 in) diameter REM ball containing a ^{3}He detector. The instruments use similar detectors that only differ by the boron concentration in the internal borated layer. The Model 30-7 detector has a lower boron concentration and offers a greater sensitivity, typically 10 cpm per µSv/h (100 cpm per mrem/hr), but tends to overrespond in the 5 keV range. The Model 30-7B detector has a higher boron concentration and a lower sensitivity, typically 4.5 cpm per µSv/h (45 cpm per mrem/hr), but does not have the same overresponse issue as the Model 30-7.

Three modes of operation – RATE, MAX, and COUNT – are available for the user. Measurements can be collected in two sets of units (primary and secondary) for RATE and MAX modes in cps, cpm, rem/hr, or Sv/h units. An internal switch is used to enable or disable the front-panel setup feature to protect desired settings from inadvertent modification. Setup is also available via the Lumic calibration software (see Options tab).

Each instrument features a large, easily-readable LCD (liquid crystal display) that may be rotated for maximum ease of use by the operator. The connecting cable is threaded through the rugged carrying handle to simplify use. In addition, the display unit may be detached from REM ball, permitting the operator to position the detector and the display unit to best advantage within the limits of the cable length. Other features are an audio warning tone and easy, intuitive, user-friendly design. Splash-resistant construction allows the Model 30-7 Series to be used in outdoor environments. The display body is constructed of lightweight, durable, high-impact plastic.

Features

- Small & Light 19.5 cm (7.7 in.) REM Ball
- Moderated Neutron Detector
- Digital Display with Adjustable Viewing Angle
- Range: 0 to 99.9 mSv/h (0 to 9.99 rem/hr)
- Low-Weight Unit Provides Same Readings as Standard REM-ball from Bare AmBe and Lower Energies
- Includes Adjustable Shoulder Strap

Radiation Detection › Handheld Monitors

Model 12 General Purpose Survey Meter

This general purpose, handheld analog ratemeter supports GM, proportional, and scintillation type detectors. The analog meter face comes in a variety of options to support the measurement units and ranges for the optional external detector selected.

The cast aluminum instrument housing with its separate battery compartment and accompanying metal handle offer an industrial robustness and quality that promote long lasting protection and instrument life. The front panel controls include a rotary switch for selecting the four-decade range, instrument shut-off and battery test, an audio on/off switch, a fast/slow response switch, a high voltage display button, and a count reset button.

A one-meter (39 in.) straight type detector cable with “C” style connector and batteries are included in the price of the instrument.

Features

- Low Price
- Rugged
- 4-Range Analog Ratemeter
- Supports GM, Proportional, and Scintillation Type Detectors
- Greater Than 2000 Hour Battery Life

Radiation Detection › Handheld Monitors

Model 14C General Purpose Survey Meter

This general purpose, handheld analog ratemeter supports operating two separate radiation detectors. A switch allows the user to select between the internally mounted GM detector with an exposure range of 0 – 20 mSv/h (0 – 2000 mR/hr) or an external GM or scintillator detector of choice (see table below).

The cast aluminum instrument housing, with its separate battery compartment and accompanying metal handle, offer an industrial robustness and quality that promote long-lasting protection and instrument life. The front-panel controls include a rotary switch for selecting the five-decade range and instrument shut-off, an audio on/off switch, a fast/slow response switch, a high voltage display button, and a battery test button.

The analog meter face comes in a variety of options to support the measurement units and ranges for the additional external detector selected. A one meter (39 in.) straight type detector cable with “C” style connector is included in the price of the instrument.

Features

- Low Price
- Rugged
- 5-Range Analog Ratemeter
- Operates Two Detectors
  - Built-in Internal GM Detector (0 to 2000 mR/hr)
  - External GM or Scintillation Detector

Radiation Detection › Handheld Monitors

Model 16 General Purpose Survey Meter

This general purpose, handheld analog ratemeter supports GM, proportional, and scintillation type detectors. The cast aluminum instrument housing, with its separate battery compartment and accompanying metal handle, offers an industrial robustness and quality that promotes long-lasting protection and instrument life.

The front-panel controls include a rotary switch for selecting the four-decade range, instrument shut-off, and battery test, an audio on/off switch, a fast/slow response switch, a high-voltage display button, a count reset button, and a window in/out switch. The analog meter face comes in a variety of options to support the measurement units and ranges for the additional external detector selected.

A one-meter (39 in.) long straight type detector cable with “C” style connector is included in the price of the instrument.

Features

- Low Price
- Rugged
- 4-Range Analog Ratemeter
- Supports GM, Proportional, & Scintillation Type Detectors
- Adjustable Window

Radiation Detection › Handheld Monitors

Model 18 General Purpose Survey Meter

This general purpose, handheld analog ratemeter supports GM, proportional, and scintillation type detectors. The analog meter face comes in a variety of options to support the measurement units and ranges for the optional external detector(s) selected.

The unique capability this instrument offers is its ability to select between three different detector setups. This feature facilitates switching detectors in the field without requiring calibration adjustments. In addition to the three-position detector selector switch, the front panel also provides the user with the capability to switch the operating window between an open (gross) channel and a pre-selected narrower setting when targeting specific energies. Other front-panel controls include a rotary switch for selecting the four-decade range, instrument shut-off and battery test, an audio on/off switch, a fast/slow response switch, a high-voltage display button, and a count reset button.

The cast aluminum instrument housing with its separate battery compartment and accompanying metal handle offer an industrial robustness and quality that promote long-lasting protection and instrument life. A one meter (39 in.) straight type detector cable with “C” style connector is included in the price of the instrument.

Features

- Low Price
- Rugged
- 4-Range Analog Ratemeter
- Supports GM, Proportional & Scintillation Type Detectors
- Adjustable Window
- 3-Detector, High-Voltage Setups

Radiation Detection › Handheld Monitors

Model 3 General Purpose Survey Meter

The Model 3 is Ludlum's best selling, general purpose, handheld, analog ratemeter known for accuracy and long-lasting dependability. It comes in a variety of measurement ranges and units to support the external radiation detector selected.

The cast aluminum instrument housing with a separate battery compartment and metal handle offer an industrial robustness and quality that promote long-lasting protection and instrument life. The front-panel controls include a rotary switch for selecting the four-decade range, instrument shut-off, and battery test, an audio on/off switch, a fast/slow response switch, and a count reset button.

A one meter (39 in.) straight type detector cable with "C" style connector is included in the price of the instrument.

Features

- Low price
- Rugged
- 4-Range Analog Ratemeter
- Supports GM & Scintillation Type Detectors
- Greater than 2000 Hour Battery Life

Radiation Detection › Handheld Monitors

Model 3A General Purpose Survey Meter with Alarm

The Model 3A is identical to Ludlum’s best selling, general purpose, Model 3 handheld analog ratemeter with the addition of an audible alarm. It is likewise known for its accuracy and long-lasting dependability. The cast aluminum instrument housing with its separate battery compartment and accompanying metal handle offer an industrial robustness and quality that promote long-lasting protection and instrument life.

The front-panel controls include a rotary switch for selecting the four-decade range, instrument shut-off, and battery test, an audio on/off switch, a fast/slow response switch, and a count reset button. The analog meter comes in a variety of measurement ranges and units to support the external radiation detector selected.

A one meter (39 in.) long straight type detector cable with “C” style connector is included in the price of the instrument..

Features

- Low Price
- Rugged
- 4-Range Analog Ratemeter
- Alarms
- Supports GM & Scintillation Type Detectors

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Radiation Detection › Handheld Monitors

Model 3-97 Gamma Survey Meter

The Model 3-97 provides a great solution for locating potential contamination and then accurately measuring the exposure rate, or for simply measuring the ambient exposure levels over a wide range. The instrument is equipped with an internal 2.5 x 2.5 cm (1 x 1 in.) NaI detector that is highly sensitive to gamma, with readings in the µR range between 0 to 3000 µR/hr (0 to 3 mR/hr). The instrument is additionally equipped with an external Model 44-38 energy-compensated GM to extend the detection range up to 200 mR/hr. The ratemeter is Ludlum's venerable Model 3-series, which employs a robust cast aluminum instrument housing with a separate battery compartment for long-lasting protection and instrument life. The front-panel controls include a rotary switch for selecting the 4-decade range, instrument shut-off and battery test, audio on/off switch, fast/slow response switch, count reset button, and internal/external detector switch. The Model 3-97 is a complete turn-key system with the detector cable and two "D" cell batteries.

Features

- Wide Range from µR/hr to 200 mR/hr
- High-Sensitivity Gamma
- Rugged
- 4-Range Analog Ratemeter

Model 195 with Model 43-132 High Range Alpha Ion Chamber

The high-range alpha ion chamber system uses the Model 43-132 Ion Chamber and the Model 195 readout unit. The Model 43-132 is designed to enhance alpha detection, although it is also sensitive to beta-gamma radiation. The Model 195 has a rugged cast aluminum instrument housing with sealed battery compartment that offer an industrial robustness and quality that promote long-lasting protection and instrument life.

Radiation Detection › Handheld Monitors

Model 3-98 125I & Alpha-Beta-Gamma Survey Meter

Ludlum’s Model 3-98 is uniquely configured to optimize measurements for ^{125}I and any alpha, beta, or gamma contamination. The dual detector design allows the user to select the detector for the task at hand. The internally-housed GM pancake detector can be used to measure gamma. This detector’s face can be exposed via a slide located along the bottom of the instrument, thus making it sensitive to alpha and beta as well. The external NaI detector, Ludlum Model 44-3, is optimized for low-energy gamma from ^{125}I.

The ratemeter is Ludlum’s venerable Model 3-series, which employs a robust, cast aluminum instrument housing with a separate battery compartment for long-lasting protection and long instrument life. The front-panel controls include a rotary switch for selecting the 4-decade range, instrument shut-off and battery test, audio on/off switch, fast/slow response switch, count reset button, and internal/external detector switch. Also included are a standard 1-meter (39 inch) cable with series “C” connector (others available), detector clip, and two “D” cell batteries.

Features

- Dual Purpose Detection
- ^{125}I & Alpha-Beta-Gamma Contamination
- 4-Range Analog Ratemeter
- Rugged Construction
- 0 to 500 kcpm
- User-Selectable Internal and External Detectors

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Radiation Detection › Handheld Monitors

Model 194 Dose Equivalent Rate Meter

Features

- Accurate (Energy-Flat) Ambient Dose Equivalent Rate Measurements
- Eliminates High False Readings of Typical microR Meters
- Rugged Scintillator, Will Not Leak
- Low Range: Background to 19.99 µSv/h (1999 µrem/hr)
- High Range: 1 to 1999 µSv/h (0.1 to 199.9 mrem/hr)
- Improved Replacement for Bicron Microrem
- “/E” Extended Version Has Low-Energy, 3.2 mg/cm^2 Window for Operation Below 50 keV

Radiation Detection › Handheld Monitors

Model 2403 Pocket-Size Survey Meter

The Model 2403 is a pocket-size ratemeter with an analog display that may be connected to a number of detectors. This unit supports mR/hr exposure and cpm count-rate measurements. The metallic case and convenient size make this a nice tool to for a wide variety of applications.

Features

- Pocket-Size Ratemeter
- Accommodates a Variety of Detectors
- Metallic Case
- Easy to Use

Radiation Detection › Handheld Monitors

Model 2402 Pocket-Size Survey Meter with Alarm

The Model 2402 is a pocket-sized ratemeter with an analog display that may be connected to a number of available detectors. This unit supports mR/hr exposure and cpm count-rate measurements. It also has a built-in audio and visual alarm. The metallic case and convenient size make this a nice tool to for a wide variety of applications.

Features

- Pocket-Size Ratemeter
- Accommodates a Variety of Detectors
- Audio & Visual Alarm
- Metallic Case
- Easy to Use

Radiation Detection › Handheld Monitors

Model 35 Vehicle-Mounted Digital Survey Meter

The Ludlum Model 35 is a versatile, lightweight, vehicle mounted instrument with an external detector used for alpha, beta, or gamma radiation survey. It remains unobtrusive until an alarm is reached. At that point the monitor can be quickly removed from the mount for closer inspection. Three modes of operation – RATE, MAX, and COUNT – are available for the user. Measurements can be collected in two sets of units (primary and secondary) for RATE and MAX modes in cps, cpm, Bq, dpm, R/hr, rem, or Sv/h units. The user can switch between two sets of chosen units by simply pressing the Units button.

An internal switch is used to enable or disable the front-panel setup feature to protect desired settings from inadvertent modification. Setup is also available via software available from Ludlum Measurements.

This instrument features a large, easily-readable LCD (liquid crystal display), an audio warning tone, and easy, intuitive, user-friendly design. Splash-resistant construction allows the Model 35 to be used outdoors. The instrument body is made of lightweight, durable, high-impact plastic. The Model 35 is shipped ready to use with batteries and calibration certificate.

Features

- Includes Rotatable Ball-Mount Stand
- Optional Windshield and Under-Dash Mounts Available
- Powered by Connected Vehicle or Internal Batteries
- Large Backlit Auto Ranging LCD with Adjustable Viewing Angle
- Simple Green, Yellow, and Red Status Lights
- 3-Button Intuitive Interface for Easy Operation
- USB Port and All-Digital Calibration

Model 30 Digital Survey Meter – Ludlum

The Ludlum Model 30 is a versatile, lightweight, instrument used with an external detector for alpha, beta, or gamma radiation survey. Three modes of operation – RATE, MAX, and COUNT – are available for the user. Measurements can be collected in two sets of units (primary and secondary) for RATE and MAX modes in cps, cpm, Bq, dpm, R/hr, rem, or Sv/h units.

The user can switch between two sets of chosen units by simply pressing the Units button. An internal switch is used to enable or disable the front-panel setup feature to protect desired settings from inadvertent modification. Setup is also available via software available from Ludlum Measurements.

This instrument features a large, easily-readable LCD (liquid crystal display), a piercing audio warning tone, and easy, intuitive, user-friendly design. Splash-resistant construction allows the Model 30 to be used outdoors. The unit body is made of lightweight, durable, high-impact plastic.
The Model 30 is shipped ready to use with batteries and calibration certificate.

Model 30 Digital Survey Meter features

- attaches to detector allowing one-handed operation
- large backlit auto-ranging LCD with adjustable viewing angle
- simple green, yellow, and red status indicators
- 3-button intuitive interface for easy operation
- USB port and all-digital calibration
- available in stretch scope configuration

View compatible probes here

Download the datasheets below or contact our product specialist.

Radiation Detection › Handheld Monitors

Model 44-9 Pancake GM Detector – Ludlum

The Model 44-9 Pancake GM Detector (Ludlum) is proven to be the most popular radiation detector used throughout the world. This detector is sensitive to alpha, beta and gamma radiation. The Model 44-9 Pancake GM Detector is enclosed within a rough metal cage but sized and shaped very convenient. It is ideal for checking contamination on people and objects.

Model 44-9 Pancake GM Detector features:

- window area: 15.51 cm^2 (2.4 in^2) active, 12.26 cm^2 (1.9 in^2) open
- pancake-type, halogen-quenched GM detector
- efficiency (4π): 5% for 14C; 22% for 90Sr/90Y; 19% for 99Tc; 32% for 32P; 15% for 239Pu, ≤ 1% for 99mTc; 0.2% for 125I
- sensitivity (137Cs gamma): 3300 cpm/mR/hr
- weight: 0,5 kg

Read more about the Model 44-9 Pancake GM Detector on the Ludlum website

Model 3001-MERK response kit

Medical Environment Response Kit

This response kit is an ideal tool for any nuclear medicine department or emergency department. It offers a detector complement optimized for medical isotopes and includes personal radiation monitoring. The kit fits securely in a foam-padded, padlockable, rugged storage and transport case, and will easily meet the radiation requirements of the emergency response plan.

The Model 3001-MERK Medical Environment Response Kit includes:

- Model 3001 Multi-Detector Digital Survey Meter
- Model 44-9, Alpha-Beta-Gamma Detector
- Model 44-2, Gamma Scintillator Detector
- Model 44-142, Beta Scintillator Detector
- Model 25 or Model 25-1 Personal Radiation Monitor
- 1 µCi (^{137}Cs) check source
- 1 m (39 in.) long detector cable
- Carrying case for easy transportation of the kit to the affected site

Ludlum offers several versions of pre-packaged response kits suitable for a wide variety of applications. If you desire more or different detectors, or other changes to our standard kits, please contact us regarding a customized kit.

Model 3001-2RK Emergency Response & NORM Kit

The Model 3001-2RK is composed of two dependable, high-quality detectors matched with the versatile Model 3001 survey meter and packaged in a rugged transport and storage case.

The Model 3001 can be configured with up to four detector setups, enabling the user to quickly exchange detectors in the field. Once the detector system is configured, a user can select a detector's parameters with a press of a button and choose the desired measurement units and operation mode.

The kit includes the Model 44-9 alpha-beta-gamma detector for general survey measurements and the Model 44-2 high-sensitivity gamma detector for locating the source of high readings. The case is cushioned with dense foam padding, and has a large, comfortable grip, a manual pressure relief valve, and padlockable hasps. The kit also includes a 1 µCi (^{137}Cs) check source, check source holder, cable, and batteries, making this kit ready-to-go for emergency response or NORM applications.

Ludlum offers several versions of pre-packaged response kits suitable for a wide variety of applications. If you desire more or different detectors, or other changes to our standard kits, please contact us regarding a customized kit.

Features

- Ready-to-Go Kit in Rugged Case
- Ergonomic Survey Meter with 4 Selectable and Configurable Detector Settings
- Measures Alpha, Beta, and Gamma Contamination
- Convenient In-Field Detector Switching
- For Emergency Response or NORM Applications
- Includes:
  - Model 3001 Multi-Detector Survey Meter
  - Model 44-9 Alpha-Beta-Gamma Detector
  - Model 44-2 High Energy Gamma Detector
  - Check Source, Cable, Batteries
  - Transport & Storage Case with dense foam padding

Radiation Detection › Handheld Monitors

Model 2241-3RK2 Emergency Response Kit

All of the basic radiation measurement tools likely required to rapidly react to a radiological emergency are conveniently assembled in the Model 2241-3RK2 Response Kit. The digital, auto-ranging Model 2241-3 scaler-ratemeter stores 4 parameter setups to allow for quick detector changes in the field.

The Model 2241-3 has a backlit LCD and user-adjustable alert and alarm for both scaler and ratemeter modes. The rugged transport and storage case is foam-padded with custom cutouts for the instruments and gives air- and watertight, corrosion-proof, and padlockable protection. A check source with mountable holder is included to ensure instruments are functioning properly.

Ludlum offers several versions of pre-packaged response kits suitable for a wide variety of applications. If you desire more or different detectors, or other changes to our standard kits, please contact us regarding a customized kit.

Features

- Ready-to-Go Response Kit in Rugged Case
- Digital Scaler-Ratemeter with User-Adjustable Audible & Visual Alarms
- Includes Check Source and Cable
- Measures Alpha, Beta, and Gamma Contamination
- Convenient In-Field Detector Switching

Radiation Detection › **Handheld Monitors**

Model 26-2 – Integrated Frisker with Timed Frisk

- Integrated, Lightweight Design
- High-Impact Plastic with Water-Resistant Rubber Seals
- GM Pancake Detector
- Ratemeter, Peak, and Timed Frisk Operating Modes
- Simple Two-Button Operation
- Automatic LCD Backlight
- Comfortable Non-Slip Grip, Includes Lanyard & Adjustable Wrist Strap
- Daylight-Visible Green & Red Status LEDs

Radiation Detection › Handheld Monitors

Model 3019 Digital Background Survey Meter – Ludlum

The Model 3019 Digital Background Survey Meter (Ludlum) is a device with an internal scintillation detector used for gamma radiation survey for background to 500 µSv/hr.

Model 3019 Digital Background Survey Meter features:

- internal CsI, scintillator with 175 cpm/µR/hr sensitivity detector
- count, rate and max
- 4-button intuitive interface for easy operation
- ruggedly built and light weight
- splash-resistant construction
- bright LED and sigma audio simplifies searching
- large backlit LCD for ease of reading
- USB port
- autoranging

Read more about the Model 3019 Digital Background Survey Meter on the Ludlum website

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Radiation Detection › Handheld Monitors

Model 133-6 GM Detector – Ludlum

The Model 133-6 GM Detector (Ludlum) is a gamma survey detector (GM) that can be used with any scaler instrument, ratemeter or area monitor that delivers the appropriate amount of voltage (see datasheet below) with an input sensitivity of 30 ±10mV.

Model 133-6 GM Detector features:

- waterproof (optional)
- halogen quenched
- stainless steel tube
- range: 40 µSv/h to 10 Sv/h
- energy compensated GM

Read more about the Model 133-6 GM Detector on the Ludlum Website

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Model 133-4 GM Detector – Ludlum

The Model 133-4 GM Detector (Ludlum) is a gamma survey detector (GM) that can be used with any scaler instrument, portable ratemeter or area monitor that delivers the appropriate amount of voltage (see datasheet below) with an input sensitivity of 30 ±10mV.

Model 133-4 GM Detector features:

- waterproof (optional)
- halogen quenched
- stainless steel tube
- range: 0.01 mSv/h to 100 mSv/h
- energy compensated GM

Read more about the Model 133-4 GM Detector on the Ludlum Website

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Model 133-2 GM Detector – Ludlum

The Model 133-2 GM Detector (Ludlum) is a gamma survey detector (GM) that can be used with any scaler instrument, portable ratemeter or area monitor that delivers the appropriate amount of voltage (see datasheet below) with an input sensitivity of 30 ±10mV.

Model 133-2 GM Detector features:

- stainless steel tube
- energy compensated GM
- waterproof (optional)
- halogen quenched
- range: 1 µSv/h–10 mSv/h

Read more about the Model 133-2 GM Detector on the Ludlum Website

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Model 44-3 NAL Low Energy Gamma Scintillator – Ludlum

The Model 44-3 NAL Low Energy Gamma Scintillator (Ludlum) is a detector for 125I and low energy gamma radiation survey.

Model 44-3 NAL Low Energy Gamma Scintillator features:

- entry window: 18.4 mg/cm²
- weight: 0.5 kg
- sensitivity: 675 cpm/µR/hr (125I)
- window area: 5 cm² open and avtive
- efficiency (4π): 33.5%–125I (based on 129I efficiency of 18%)
- detector: scintillator, 2.5 cm diameter x 1 mm thick NaI(Tl) crystal
- photomultiplier tube: 3.8 cm diameter

Read more about the Model 44-3 NAL Low Energy Gamma Scintillator on the Ludlum website

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Model 44-2 NAL Gamma Scintillator – Ludlum

The Model 44-2 NAL Gamma Scintillator (Ludlum) is a detector for low-level, wide-energy gamma radiation survey.

Model 44-2 NAL Gamma Scintillator features:

- detector: scintillator, 2.5 x 2.5 cm (1 x 1 in.) (Dia x L) thick Nal
- efficiency: 125I for 7%; 57Co for 10%; 137Cs for 3%; 60Co for 3%
- sensitivity: 175 cpm/µR/hr (137Cs gamma)
- background: 1800 cpm
- photomultiplier tube: 2.86 cm (1.125 in.) diameter, magnetically shielded

Read more about the Model 44-2 NAL Gamma Scintillator on the Ludlum website

Model 44-1 Beta Scintillator – Ludlum

The Model 44-1 Beta Scintillator (Ludlum) is a detector for beta radiation survey.

Model 44-1 Beta Scintillator features:

- window area: 9.7 cm² active and open
- efficientcy (4π): 7% for 14C
- background (10 µR/hr): 100 cpm
- weight: 0.3 kg
- detector type: 4.3 x 0.03 cm (1.7 x 0.01 in.) (Dia x L) plastic scintillator

Read more about the Model 44-1 Beta Scintillator on the Ludlum website

Radiation Detection › Handheld Monitors

Model 44-38 Energy Compensated GM Detector – Ludlum

The Model 44-38 Energy Compensated GM Detector (Ludlum) is a device for beta and gamma radiation survey.

Model 44-38 Energy Compensated GM Detector features:

- weight: 0.5 kg
- detector: 30–45 mg/cm2 stainless steel wall halogen quenched GM
- sensitivity: 1200 cpm per mR/hr (137Cs gamma) with window closed
- range: ± 10% up to 50 mR/hr without DTC and up to 500 mR/hr with DTC
- background: 25 cpm open, 20 cpm closed
- gamma energy response (window closed): within 20% of 137Cs (662 keV) from 60 keV to 1.3 MeV

Read more about the Model 44-38 Energy Compensated GM Detector on the Ludlum website

Model 44-9 Ambient Dose Equivalent Filter – Ludlum

The Model 44-9 Ambient Dose Equivalent Filter (Ludlum) is an expansion on the Model 44-9 Pancake GM Detector. It is an energy compensation filter that flattens the energy response to facilitate measuring Ambient Equivalent Dose.

Model 44-9 Ambient Dose Equivalent Filter features:

- can be purchased separately or together with a Model 44-9 Pancake GM Detector
- flattens the response to within ± 20% referenced to 137Cs (662 keV) over an energy range of 20 keV to 1.2 MeV
- easy to mount and remove

Dose Equivalent Filter Response (green line):

Read more about the Model 44-9 Ambient Dose Equivalent Filter on the Ludlum website

Model 44-9 Exposure Filter Kit – Ludlum

The Model 44-9 Exposure Filter Kit (Ludlum) is an expansion on the Model 44-9 Pancake GM Detector. It is an energy compensation filter that flattens the energy response to facilitate measuring exposure.

Model 44-9 Exposure Filter Kit features:

- flattens the response to within ±20% referenced to ^{137}Cs (662 keV) over an energy range of 33 keV to 1.2 MeV
- easy to mount and remove
- filter can be purchased separately or together with a Model 44-9 Pancake GM Detector

Exposure Filter Response (blue line):

Read more about the Model 44-9 Exposure Filter Kit on the Ludlum website

Model 44-7 Alpha Beta Gamma Detector – Ludlum

The Model 44-7 Alpha Beta Gamma Detector (Ludlum) is a device for alpha, beta and gamma survey (sample counting).

Model 44-7 Alpha Beta Gamma Detector features:

- end window, halogen-quenched GM detector
- 6 cm² (0.93 in²) active; 5 cm² (0.78 in²) open window area
- 1.7 ± 0.3 mg/cm² mica window
- 2% for 14C; 10% for 90Sr/90Y; 7% for 99Tc; 7% for 239Pu; 0.1% for 125I efficiency (4π)
- 2100 cpm/mR/hr sensitivity (137Cs gamma)
- anodized aluminum housing
- 0.5 kg weight

Read more about the Model 44-7 Alpha Beta Gamma Detector on the Ludlum website

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Model 43-92 Alpha Scintillator – Ludlum

The Model 43-92 Alpha Scintillator (Ludlum) is a device for alpha contamination survey.

Model 43-92 Alpha Scintillator features:

- window area: active: 100 cm² (15.5 in²) open: 88 cm² (13.6 in²)
- weight: 0.5 kg
- window: 0.8 mg/cm² metalized polyester (1.2 mg/cm² recommended for outdoor use)
- scintillator: ZnS(Ag)
- efficiency (4π): typically 20% for ^{239}Pu
- removable protective screen
- background radiation: 3 cpm or less
- photomultiplier tube: 2.9 cm (1.13 in.) diameter

Read more about the Model 43-92 Alpha Scintillator on the Ludlum website

Model 43-65 Alpha Scintillator – Ludlum

The Model 43-65 Alpha Scintillator (Ludlum) is a detector designed for alpha radiation survey when used in combination with a general purpose survey meter, ratemeter or scaler instrument.

Model 43-65 Alpha Scintillator features:

- 63 cm^2 active; 50 cm^2 open (window area)
- ZnS(Ag) scintillator
- 0.8 mg/cm^2 metalized polyester window
- 3.8 cm (1.5 in.) diameter photomultiplier tube
- efficiency (4π): 17% for ^{239}Pu; 17% for ^{230}Th

Read more about the Model 43-65 Alpha Scintillator on the Ludlum website

Radiation Detection › Handheld Monitors

Model 43-5 Alpha Scintillator – Ludlum

The Model 43-5 Alpha Scintillator (Ludlum) is a detector developed for alpha radiation survey when used with a common purpose survey meter, ratemeter or scaler instrument. The detector housing is assembled of aluminum alloy with beige powder coat for easy maintenance and durability.

Model 43-5 Alpha Scintillator features:

- efficiency (4π): 13% for 239Pu
- scintillator: ZnS(Ag)
- 0.8 mg/cm² metalized polyester window
- background: 3 cpm or less
- weight: 0.9 kg
- window area: 76 cm² (11.9 in²) active, 50 cm² (7.8 in²) open

Read more about the Model 43-5 Alpha Scintillator on the Ludlum website

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Model 9DP Ambient Dose Ion Chamber Survey Meter – Ludlum

The Model 9DP Ion Chamber Survey Meter is a highly sensitive pressurised ion chamber meter. It doesn't only provide a measurement of exposure, but also of exposure rate. The meter measures and displays data conform the ICRU (International Commission on Radiation Units) tissue equivalent.

AMBIENT DOSE EQUIVALENT

Ambient dose equivalent, is the dose equivalent readout that would be measured at a tissue depth of 10 mm. To measure this, the device requires a special ion chamber to provide a conversion of the exposure rate.

This model can simultaneously display the rate, integrated value and highest rate seen by the instrument. If desired, the user can reset the integrated value.

FEATURES

This chamber survey meter has a nice 256K colour, bit-mapped display, which provides an optimised presentation of the data. The screen is also accompanied with icons that inform the user of the active functions and instrument status. The device can write all logged data in csv format.

When the device's alarms go off, the display will flash colours and, if the user wants, it can also make an acknowledgeable sound.

If you want more information about this Ion chamber survey meter, go to our partner's website!

BENEFITS

- Provides ICRU-Based ambient dose measures
- The colour display is also readable in sunlight
- Auto zeroing and ranging
- Rechargeable batteries
- Alarm function
- USB Connectivity
- Data logging
- Chamber volume of 230 cc volume pressurised to 8 atmospheres (117 psi)

- 4-button control

Model 9DP Overview https://youtu.be/UYPJQNVeC_I

Model 9DP* overview

SCAN TO VIEW VIDEO

9DP Control Panel Overview https://youtu.be/HusnR4e90yA

Model 9DP Control Panel Overview

SCAN TO VIEW VIDEO

If you want to know more about this model…

Read our article! **Or contact PEO!**

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Model 9DP-1 Ion Chamber Survey Meter – Ludlum

Ludlum designed the Model 9DP-1 Ion Chamber Survey Meter for radiography work where pulsed fields are being measured. This instrument correctly integrates 50 nanosecond pulses (and wider) that other systems typically miss or measure incorrectly.

The detector chamber is only pressurised to 1,36 atm (20 psi). The device has a nice 256-colour, bit mapped display, which provides an optimised presentation of the data. The instrument also has with icons that inform the user of the active functions and instrument status and which make it simple to use.

FEATURES

This chamber survey meter has an alarm that uses colour changes in the screen and an acknowledgeable audio output. It also has a rechargeable battery that delivers up to 30 hours of operation between charges.

The instrument writes the data in csv format for convenient retrieval.

The device measures both exposure and exposure rate, and can simultaneously display the exposure rate, integrated value and highest rate seen by the instrument.

BENEFITS

- Special design for measuring pulsed fields
- Low pressure chamber is non-hazmat
- Range from 0-500 mGy/h
- Sunlight readable colour display
- Auto zeroing & rangin
- Rechargeable batteries
- Alarming capability
- Data logging

If you want to know more, read our article, or take a look at our partner’s website!

Model 9DP Overview https://youtu.be/UYPJQNVeC_I

SCAN TO VIEW VIDEO

9DP instrument overview

9DP Control Panel Overview https://youtu.be/HusnR4e90yA

SCAN TO VIEW VIDEO

9DP control panel overview

How To Decompress the Model 9DP https://youtu.be/JzbUaH9kfjU

SCAN TO VIEW VIDEO

Decompressing the Ion Chamber

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Partner Tracerco

Tracerco is a global leader in radiation detection and measurement, offering a comprehensive range of handheld monitors and personal electronic dosimeters. Their instruments are designed to provide accurate, real-time monitoring of radiation levels, ensuring safety and compliance in various industries.

Product offering

Contamination Monitor T401 – Tracerco

Dose Rate Monitor T402 & T402HR – Tracerco

Contamination Monitor T403 – Tracerco

T406 X-ray Monitor

Intrinsically Safe Radiation Dose Rate Monitor (T202) Tracerco™

NORM Monitor-IS – Tracerco

Radiation Detection › Handheld Monitors

Contamination Monitor T401 – Tracerco

The Tracerco™ T401 contamination monitors are suitable for those working in oil and gas, medical and life sciences, nuclear, CBRNe and emergency services, NDT, manufacturing, and environmental and waste management industries.

These monitor benefit from high-level functionality with added environmental tolerance, and they are a highly cost-effective monitor where intrinsic safety is not a concern.

Tracerco™ T401 contamination monitor is particularly suited to the detection of radioactive contamination, and this typically arises where man-made or naturally occurring isotopes are processed. This includes nuclear power, land remediation, research and development and medicine applications.

They also offer a number of additional key features, such as operational reliability, a direct surface ability mode and peak reading to make life easier for the worker.

The Tracerco™ T401 provides excellent sensitivity for the detection of alpha and beta radiation.

Other benefits include:

- Dual bar graph meter display: 0-1000cps
- Digital numeric display provides automatic direct translation to Bq/cm2 for 14+ pre-programmed nuclides, natural and man-made
- Detachable radiation probe with up to 1.5 metres of extendable cable
- Optional extension arm for surveying contaminated pipework, drains, laboratory floors and so on
- Probe stepwise rotatable through 90° for internal surface measurements
- Backlight facility
- Audible response with adjustable alarm thresholds
- Ruggedised nylon 6/6 construction and modular integrated electronics provide an all-weather instrument

Radiation Detection › Handheld Monitors

Dose Rate Monitor T402 & T402HR – Tracerco

The non-intrinsically safe radiation (contamination) Dose Rate Monitors T402 & T402HR offers an alternative to the Tracerco™ T202 Dose Rate Monitor. The instrument is designed for use in a wide range of industrial applications are radioactive substances are present.

Specifications Dose Rate Monitor T402 & T402HR Tracerco

Contamination Dose Rate Monitor T402 & T402HR

Radiation Detection › Handheld Monitors

Contamination Monitor T403 – Tracerco

The Tracerco™ T403 Radiation Contamination Monitor is designed to meet the challenge of combining the operational reliability under adverse conditions with excellent sensitivity and robust construction.

Specifications Contamination Monitor T403 from Tracerco

Contamination Monitor T403 – Tracerco

Radiation Detection › Handheld Monitors

T406 X-ray Monitor

The Tracerco™ T406 X-ray radiation monitor is an advanced radiation monitoring device designed for professionals in oil and gas, medical and life sciences, nuclear, CBRNe and emergency services, NDT, manufacturing and industrial, and/collections/monitors/products/tracerco-t406-x-ray-monitor environmental and waste management industries.

Unlike other radiation survey meters on the market, the Tracerco™ T406 enables rapid radiation level detection, helping users identify peak radiation measurements and minimise exposure to potential radiation leaks during operations.

Benefits of the Tracerco™ T406 X-ray monitor:

- Hygienic design – smooth lines and an easy-to-clean finish make it ideal for environments with a risk of disease transmission through hand contact, such as food processing, airport security, and hospital settings.
- Easy and safe to use – designed to be lightweight and easy to carry, with the ability to be operated remotely in demanding environments.
- Audible response – with alarm set thresholds for enhanced radiation safety.

Intrinsically Safe Radiation Dose Rate Monitor (T202) Tracerco™

The Tracerco T202 dose rate monitor provides key operational features like peak dose rate memory and personal dose integration. Tracerco designed the monitor specifically to combine intrinsic safety with robust and reliable characteristics.

The monitor is suitable for all kinds of markets like:

- Oil and gas
- First responders
- Military
- Life sciences
- Mining
- Nuclear
- Medical
- Environmental agencies

TRACERCO DOSE RATE MONITOR BENEFITS

- Intrinsically safe, so no need for a hot work permit
- Reads and records peak measurements so you can measure radiation levels remotely
- It can be used in every weather
- Adjustable alarm thresholds
- Lightweight
- Digital bar graph display and dose rate integration
- Easy to decontamination

If you want to know more about Tracerco Dose rate monitors, take a look at our partner's site!

Need advice or do you have a question?

Contact PEO!

NORM Monitor-IS – Tracerco

Overview:

The Tracerco™ NORM Monitor-IS is a groundbreaking, ATEX-approved radiation monitoring device with dual probe capabilities. Using either a Geiger Muller (GM) detector or a scintillator probe, it enables users to monitor naturally occurring radioactive material (NORM) in all conditions for the first time.

It is lightweight and easy to use, yet also robust and reliable. It comes complete with a practical and secure carrying holster for ease of use.

The Tracerco™ NORM Monitor-IS is available with different combinations of handset and probes depending on your requirements.

Benefits of the Scintillation Probe:

- Robust and suitable for use in challenging conditions
- Enables radiation surveys of external walls for internal NORM deposits
- 360° detection capability for comprehensive radiation monitoring
- µR/h option available for USA

Benefits of the GM Probe:

- Detects alpha and beta radiation
- High sensitivity to lead-210 NORM
- Provides Bq/cm² output for typical NORM isotopes
- Measurement modes: CPS, µSv/h (Scintillator), CPS, Bq/cm² (GM)
- All modes have background subtraction option CPM

Additional Key Features:

- One-touch integrate function for detecting very low radiation levels with increased accuracy.
- Live background subtraction and multiple measurement modes, including counts per second (CPS), counts per minute (CPM), dose rate, and surface activity.
- Easy recalibration – recalibration can be performed without the handset (spare probes can be supplied to eliminate downtime).
- Adjustable alarm thresholds for enhanced radiation safety.
- Easy to clean and decontaminate – Scintillator: IP67, GM: IP34, Handset: IP65.
- Large, easy-to-read LCD screen with bar graph and backlight for improved usability in low-light environments.

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Partner Polimaster

Polimaster is a global leader in radiation detection and monitoring solutions, offering a comprehensive suite of instruments designed to detect, identify, and measure ionizing radiation across various environments. Their product range includes handheld monitors, personal electronic dosimeters, portable isotope identifiers, portal monitors, and mobile detection systems, all engineered to meet the rigorous demands of security, emergency response, and industrial applications.

Product offering

PM1401K-3M Multipurpose Hand-Held Radiation Monitor/Identifier

PM1401K-3P Multipurpose Hand-Held Radiation Monitor/Identifier

PoliPack® G-S Backpack Radiation Detector

PoliPack® GN Backpack Radiation Detector

PoliPack® G Backpack Radiation Detector

PoliPack® GN-S Backpack Radiation Detector

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PM1401K-3M Multipurpose Hand-Held Radiation Monitor/Identifier

PM1401K-3M model is a gamma-only radiation monitor without a neutron detector which is designed for quick and reliable measurement of gamma dose rate, detection of alpha, beta, and gamma sources, measurement of alpha and beta radiation flux density, acquisition of gamma spectra, identification of radioisotopes, and measurement of food/soil contamination with 137Cs

Features

- Storage of up to 10000 events and 1000 spectra
- Audible, visual and external vibration alarm
- Categorization of identified radionuclides
- Shock and water resistant IP65 case
- Adjustable radionuclide libraries
- USB communication with PC
- Built-in GPS module

Applications

- Customs and border control
- HAZMAT and CBRNe teams
- Emergency services
- Police and security
- Industrial facilities
- First responders

Radiation Detection › **Handheld Monitors**

PM1401K-3P Multipurpose Hand-Held Radiation Monitor/Identifier

Gamma-neutron model suitable for various radiation control tasks.

The **PM1401K-3 series** of radiation monitors compromises a wide range of all-in-one devices for radiation detection, dose rate, contamination measurements, spectrometry, and radionuclide identification.

The **PM1401K-3P model** is the **gamma-neutron model** suitable for various radiation control tasks, including measurement of ambient dose equivalent rate, detection of alpha, beta, gamma, and neutron sources, measurement of alpha and beta radiation flux density, acquisition of gamma spectra, identification of radioisotopes, and measurement of food/soil contamination with ^{137}Cs.

Features

- Storage of up to 10000 events and 1000 spectra
- Audible, visual, and external vibration alarm
- Categorization of identified radionuclides
- Shock and water-resistant IP65 case
- Adjustable radionuclide libraries
- USB communication with PC
- Built-in GPS module

Operation principle

The PM1401K-3P continuously measures ambient dose equivalent rate $\dot{H}^*(10)$ of photon radiation in the wide energy range, detects alpha, beta, gamma, and neutron radiation, measures alpha and beta radiation flux density, operates as a gamma radiation spectrometer and radioisotope identifier, and measures food/soil contamination with ^{137}Cs radionuclide.

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Radiation Detection › **Handheld Monitors**

PoliPack® G-S Backpack Radiation Detector

Spectroscopic Gamma-only Backpack Radiation Detector.

The **PoliPack® G-S** is a **gamma-only** Backpack-Based Radiation Detection System (BRD) equipped with spectroscopic gamma detectors for identifying radionuclides. It is carried in a compact backpack and controlled remotely via the wired control unit or a smartphone with the free Polismart® iOS and Android App.

The **PoliPack® BRDs** are rugged, lightweight, and fast-deploying devices that provide prompt and reliable detection, location, and identification of multiple and masked isotopes. The device is ideal for undercover radiation surveys in crowded areas, addressing the problems of orphaned and maliciously introduced sources and ensuring security before and during mass events. Radionuclides libraries are uploaded in the BRD and can be customized by users.

PoliPack® GN Backpack Radiation Detector

Gamma-Neutron Backpack Radiation Detector.

The **PoliPack® GN** is a **gamma-neutron** Backpack-Based Radiation Detection System (BRD) equipped with a highly sensitive portable radiation monitor carried in a compact backpack and controlled remotely via the wired control unit or a smartphone with the free Polismart® iOS and Android App.

The **PoliPack® BRDs** are rugged, lightweight, and fast deployable devices that provide prompt and reliable detection, location, and identification of multiple and masked isotopes. The device is ideal for undercover radiation surveys in crowded areas, addressing the problems of orphaned and maliciously introduced sources and ensuring security before and during mass events.

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PoliPack® G Backpack Radiation Detector

Gamma-only Backpack Radiation Detector.

The **PoliPack® G** is a **gamma-only** Backpack-Based Radiation Detection System (BRD) equipped with a highly sensitive portable radiation monitor carried in a compact backpack and controlled remotely via the wired control unit or a smartphone with the free Polismart® iOS and Android App.

The **PoliPack® BRDs** are rugged, lightweight, and fast-deploying devices that provide prompt and reliable detection, location, and identification of multiple and masked isotopes. The device is ideal for undercover radiation surveys in crowded areas, addressing the problems of orphaned and maliciously introduced sources and ensuring security before and during mass events.

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PoliPack® GN-S Backpack Radiation Detector

Spectroscopic Gamma-Neutron Backpack Radiation Detector.

The **PoliPack® GN-S** is a **gamma-neutron** Backpack-Based Radiation Detection System (BRD) equipped with **spectroscopic** gamma detectors for identifying radionuclides. It is carried in a compact backpack and controlled remotely via the wired control unit or a smartphone with the free Polismart® iOS and Android App.

The **PoliPack® BRDs** are rugged, lightweight, and fast deployable devices that provide prompt and reliable detection, location, and identification of multiple and masked isotopes. The device is ideal for undercover radiation surveys in crowded areas, addressing the problems of orphaned and maliciously introduced sources and ensuring security before and during mass events. Radionuclides libraries are uploaded in the BRD and can be customized by users.

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Partner Bertin Instruments

Bertin Instruments is a global provider of advanced radiation detection and environmental monitoring solutions, specializing in handheld monitors, personal electronic dosimeters, environmental monitoring systems, and waste & recycling management technologies. Their instruments are designed to meet the rigorous demands of nuclear facilities, emergency response teams, and environmental agencies.

Product offering

MINITRACE CSDF – Bertin Instruments

MiniTRACE S5 – Saphymo

MiniTRACE γ

SaphyRAD S

SaphyRAD C

SaphyRAD E Multiprobe – Bertin Instruments

AlphaE – Bertin Instruments

SaphyRAD MS Dom-420 – Bertin Instruments

MINITRACE CSDF – Bertin Instruments

MiniTRACE CSDF is a unique multipurpose meter for contamination control, survey, dose rate and XRays radiation measurement.

The MiniTRACE CSDF is a multipurpose instrument fulfilling the functions of a contamination, survey and dose rate meter. It is designed to improve the detection and the quantification of radiation contamination, making this a frontline tool in the protection against uncontrolled distribution of radioactive material. MiniTRACE CSDF provides several functions and measurement modes such as the dose rate, the activity or the count rate.

With the activity and surface contamination modes, different nuclides can be selected from the inbuilt library. The surface contamination mode is calibrated according to ISO 7503-1. Combined with the right accessories, wipe tests (surface contamination) and food tests (food contamination) can be performed. A mean value mode and a count up mode are provided to increase instrument accuracy.

Datasheet

Radiation type
• Alpha, beta and gamma

Detector type
• Geiger-Mueller pancake, active counter area 15.5 cm², active diameter 44.5 mm, window 2.0 mg/cm², energy compensated

Display unit
• µSv/h, cps, Bq, Bq/cm² and Bq/L

Measurement range
• Dose rate: up to 5,000 µSv/h (100 mR/h)
• Pulses: up to 10,000 cps (300,000 cpm)
• Activity (depends on the radionuclide): up to 100 000 Bq (999,000 dpm)
• Surface contamination (depends on the radionuclide): up to 5,000 Bq/cm2 (30,000 dm/cm2)
• Food: up to 100,000 Bq/l (1,000,000 pCi/l)

Gamma sensitivity
• 4.3 cps/µSv/h

Energy Range
• 26 keV to 1.25 MeV, lid has to be closed

Sensitivity
• Co60: 0.41 cps/Bq/cm²; C14: 1.65 cps/Bq/ cm²; Sr90+: 10.65 cps/Bq/ cm²; Am-14:4.19 cps/Bq/ cm²; Cl36: 9.57 cps/Bq/ cm²; Cs137: 11.15 cps/Bq/ cm² ; U238: 4.19 cps/Bq/ cm²; I131: 9.71 cps/Bq/ cm²

Display
• 6-digit LCD display, plus 5-digit alpha numeric display for alarm- and status messages

Grid
• 0.8 stainless steel, 80% transparency, easily removable

Integration time
• Automatic, with count up mode adjustable

Energy supply
• 2 Mignon batteries (type: LR6, AA, MN 1500) 1.5V

Battery autonomy
• Up to 2,000 h

Built-in sensors
• IR-interface for software communication

Benefits

Easy and fast monitoring
• MiniTRACE CSDF is easy to use (2 buttons interface) and provides a very fast response time (1sec.). It can also be set up with the optional DataVIEW software.

All-in-one survey meter
• MiniTRACE CSDF allows multipurpose measurements for dose rate H*(10) (µSv/h), count rate (cps), activity (Bq), surface contamination (Bq/cm²) and food contamination (Bq/L). Radionuclide can also be selected.

Designed for harsh environments

• MiniTRACE CSDF is compact and robust with its strong housing protected with a rubber boot. It is suitable for long time operations (battery lifetime: 2,000 h).

Technologies

MiniTRACE CSDF is a unique multipurpose meter for contamination, survey, dose rate, XRays, food and wipe test measurements. It is equipped with a 15.55 cm^2 Geiger-Mueller pancake detector and a 0.8 mm stainless steel grid. In addition to the verification of contamination, it is ideally suited to measuring the environmental dose rate equivalent (H*(10)).

MiniTRACE CSDF displays values in cps, µSv/h, Bq, Bq/cm^2 and Bq/L. For the Bq and Bq/cm^2 modes, the user can select different nuclides with built in nuclide specific calibration library (Cs137, Am241, I131, Sr90, U238, C14, Cl36, Co60).

The Bq/cm^2 mode (for surface contamination) is calibrated according to ISO 7503-1. MiniTRACE CSDF offers a special mode for food measurement: it measures the activity level found in the liquid or smashed food, with a state-of-the-art food measuring kit.

Accessories

• Protective rubber cover (included)
• Communication kit (incl. DataVIEW software and IR transceiver)
• Transparent plastic protection

• Belt pouch
• Suitcase (Pelicase)
• Wipe test kit

• Food measuring kit
• Emergency case
• Pressure-tight container for air transport

MiniTRACE S5 – Saphymo

The MiniTRACE S5 is a contamination meter designed to improve the safety of workers in all different kinds of fields. It's very sensitive and responds within a second.

Because the device is very user-friendly, it's very easy to detect possible spots of contamination in the controlling areas. The 6-digit display shows the activity value with a fixed decimal point.

The MiniTRACE has four pre-programmed alarm tresholds, but users can also adjust these to their personal needs.

This contamination meter is not only easy to use, but it's also very fast. If the device detects something, it will respond within a second. The device is applicable to many fields, like nuclear power plants, research centers, hospitals, police, fire brigades and the army.

BENEFITS OF THE MINITRACE S5

- High sensitivity
- Fast response time
- Compact and robust
- Ergonomic design
- Easy two-button operation
- 4 alarm tresholds
- Visual and audible alarm output
- Infrared interface
- X-ray sensitivity of >5 keV

If you want to read more about dose rate meters from Bertin, visit their website!

If you are in doubt about what MiniTRACE suits you best…

Read this!

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Radiation Detection › **Handheld Monitors**

MiniTRACE γ

Light & sturdy, the MiniTRACE γ survey meter measures personal exposure, along with X & Gamma radiations, to improve workers' safety in hazardous environments.
The MiniTRACE γ is available in 2 versions – S10S & S100S – each with its own energy & measurement range.

In accordance with the ALARA principle (As Low As Reasonably Achievable), the MiniTRACE γ allows for the assessment of personal exposure hazard faced by workers in controlled zones of nuclear power plants, reprocessing facilities, treatment centers & hospitals, etc. to help them better adapt their daily work according to the risk.

Ergonomic & easy to use, it also meets the operational needs of public service's units, such as firefighters, first responders, HAZardous MATerial teams, early warning & rapid response cells, radiation protection specialists (PCR), etc.
Fitted with fast response time (≈1 second), the MiniTRACE γ survey meter measures instantaneously the ambient dose equivalent rate H*(10) or the gamma radiation exposure levels, with a high level of autonomy (approximately 2,000 hours).
The MiniTRACE γ is also equipped with a built-in memory able to save up to 650 measured values of instant & accumulated radiation dose.
Both MiniTRACE γ S10S & S100S are available in radio version (S10R & S100R), allowing for survey meters to be integrated into a ShortLINK/SkyLINK communication network, with a maximum reach of 20 kilometers.

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Radiation Detection › Handheld Monitors

SaphyRAD S

The SaphyRAD S is a multiprobe survey meter developed to cover the needs of the nuclear and security market. This rugged, sensitive, and functional survey meter includes a wide and bright LCD display monitors and measures dose and Gamma dose rates in harsh environments even by non-specialists. Equipped with a full range of external probes, this versatile survey meter can discriminate Alpha/Beta radiation, monitor surface contamination, with reliability and accuracy, it can also measure dose rate in hard-to-reach areas and be used to research radioactive sources. In addition, the SaphyRAD S has an integrated simulator that is perfectly suited for training purposes. By utilizing a simulation probe, the user can recreate an Alpha/Beta contamination, enabling training in authentic conditions without the need for radioactive sources.

Benefits

- Robust: designed for use in harsh environments
- Large, high-resolution colour display
- Integrated simulation mode for training
- Designed for use with CBRN personal protective clothing
- Integrated GPS
- Specific algorithm for fast and reactive detection
- Large dose rate range: from 0.05 µSv/h to 10 Sv/h
- Complete range of external probes for source tracking and measuring multiple contamination, specially designed for use by non-radiation specialists.

SaphyRAD C

The SaphyRAD C is a versatile multiprobe contamination meter used for monitoring Alpha and Beta contamination in harsh environments. It has been developed to meet all needs of contamination control for multiple markets such as the nuclear and NORM industries, medical structures & first responders, thanks to its integrated nuclide library.

It is equipped with a powerful algorithm to allow very fast and reliable detection of ionising radiation in a variety of civil applications. The SaphyRAD C has been designed ergonomically to be held with gloves on. Its large colour display makes the results perfectly easy to read. The SaphyRAD C possesses a wide range of contamination probe and it is compatible with all analogue probes on the market.

Ruggedized for harsh environment

The SaphyRAD C has a robust housing with 6 large buttons designed for use with gloves. This device is adapted to meet the needs of the Nuclear industry, but also of the NORM industry, first responders & medical structures.

Versatility

SaphyRAD C is designed for the detection & measurement of Alpha and/or Beta radiation sources with the use of external connected measuring probes. It has a wide dose rate range from 0.05 µGy/h to 10Gy/h.
It is also compatible with external analog probes of other systems.

Ease of use

SaphyRAD C is an ergonomic handheld device with a high image quality color screen. Some probes also include an embedded alarm & a distance control indicator.

Efficiency

SaphyRAD C works with a specific algorithm which was developed for a very fast and reactive detection of radiation sources.

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Radiation Detection › Handheld Monitors

SaphyRAD E Multiprobe – Bertin Instruments

SaphyRAD multiprobe alpha & beta contamination meter has been developed to meet all needs of contamination control for multiple markets such as the nuclear and NORM industries, medical structures & first responders, thanks to its integrated nuclide library. Its ergonomic interface and design have been especially conceived for use even by non-specialists.

SaphyRAD's wide range of contamination probes combined with its specific algorithm allow for a very fast and reactive detection. Depending on the probe, the operator can either assess small or large areas to detect alpha, beta/gamma or alpha & beta/gamma radioactive contamination. All data can be stored on an SD card for measurement recordings.

SaphyRAD E advantages

- user friendly embedded alarm & distance control indicator
- wide range of compatible probes
- adaptative nuclide library
- versatile for contamination & measurement operations
- ruggedized for harsh environment

SaphyRAD E

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Radiation Detection › Environmental Monitoring

AlphaE – Bertin Instruments

AlphaE is an electronic handheld device for fast and time-resolved radon monitoring in buildings, outdoors and mines. Typically, 80 % of the final result is achieved after 2 hours (faster response for higher values). Due to its ultra-lightweight design and sophisticated features, AlphaE is highly suitable also for surveying the personal radon exposure and dose at workplaces.

The AlphaE’s favourable price-performance ratio makes it also interesting for service companies engaged in radon assessment and mitigation as well as for users in private homes.
Up to 6 months battery life allows long-term measurement without mains power. Permanent operations via mains supply are possible via USB port.

Advantages AlphaE

- ultra-lightweight design
- sophisticated features
- wide measuring range for professional use
- up to 6 months autonomy
- suitable software included

Download the datasheet or contact our product specialist.

Radiation Detection › Handheld Monitors

SaphyRAD MS Dom-420 – Bertin Instruments

SaphyRAD MS is the latest multiprobe survey meter designed for operation in harsh environments such as military fields and first responders.

Together with the probes, SaphyRAD MS allows to cover most of the needs of first responders. SaphyRAD MS associates a wide range dose rate meter and external smart probes for source and hot spot search and contamination measurement.
SaphyRAD MS includes a simulation mode which allows to train the users with high reality without the use of radioactive sources. Special care has been taken in the design of man machine interface for quick use by non radiation specialists.

SaphyRAD MS features

- designed for operation in harsh environments
- high resolution and large color LCD display
- built in simulation function for training
- designed for use with CBRN protective clothing
- built in GPS
- specific algorithm for very fast and reactive detection
- wide dose rate range 0.05 µGy/h to 10Gy/h
- comprehensive external smart probes for source search and multiple contamination measurement specially designed for use by non radiation specialists

SaphyRAD MS
SaphyRAD MS probes

Contact our PEO product specialist.

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Partner SE International

S.E. International, Inc. is a trusted U.S.-based manufacturer of radiation detection instruments under the Radiation Alert® brand. Their product range includes area monitors, handheld survey meters, and personal electronic dosimeters—each designed to deliver accurate, real-time radiation monitoring across a wide range of applications.

Product offering

Radiation Alert Monitor 200

Radiation Alert MC1K

Radiation Alert Frisker

Radiation Alert Ranger

Radiation Alert Monitor 4EC

Radiation Alert® Ranger EXP

Radiation Alert Monitor 1000EC

Radiation Alert® GammaView

Radiation Alert Monitor 4

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Radiation Detection › Handheld Monitors

Radiation Alert Monitor 200

The Monitor 200, your go-to solution for precise and versatile radiation detection. This state-of -the-art device measures alpha, beta, gamma, and x-rays providing accurate readings displayed in your preferred unit of measurement. Choose from CPM, CPS, µSv/hr, mR/hr, or in accumulated counts.

Featuring a digital backlit display, the Monitor 200 ensures easy readability in any environment. The addition of a red count light and an audible beeper accompanying each count detected enhances your awareness during radiation monitoring. With an adjustable timer and customizable loud alert, this radiation detector is tailored to meet you specific needs, offering both accuracy and user-friendly functionality.

The Monitor 200 doesn’t just stop at on-the-spot readings- it’s equipped with internal memory and Included with your purchase is the Free Observer USB Software(compatible with Windows only), enabling you to effortlessly download and manage your data while setting up computer alarms for added convenience.

For an enhanced experience, the optional Bluetooth module opens up a world of possibilities. The Radiation Alert® Monitor 200 seamlessly integrates with the free Radiation Alert® Observer BLE app available for download from the Google App Store. This app empowers you to display real-time readings with descriptions, conduct timed counts, append GPS data, and send your saved survey files. What’s more, any alarms set on the instrument will be mirrored on you android device, ensuring you stay informed and in control.

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Radiation Detection › Handheld Monitors

Radiation Alert MC1K

The MC1K is an ergonomic handheld survey meter using a built-in energy compensated GM detector. It detects gamma and x-rays up to 1000 mR/hr over 4 selectable ranges. The energy compensated Geiger counter affords the detector a more linear response to gammas and x-rays over the full range. A beep sounds and a count light flashes with each event detected.

Applications & Uses: Expanded Range up to 1000 mR/hr, Linear Response needs with Energy Compensation, Checking accelerator & x-ray shielding for leakage, Checking industrial gauges; such as moisture, density, or level gauges containing Cesium-137, Locating lost sources, Personal protection, General surveying

Radiation Detection › Handheld Monitors

Radiation Alert Frisker

Tired of dealing with cumbersome cables? Need a free hand? Frustrated with carrying around bulky meters? Introducing The Radiation Alert® Frisker. This compact device detects alpha, beta, gamma, and X-ray radiation. It features multiple units of measure, customizable alarm levels, and a backlit display for easy reading.

The Frisker is a lightweight, single-handed radiation contamination instrument designed to meet the needs of today’s radiation professionals. Perfect for leak testing, surface monitoring, sample screening, and personnel screening, it integrates the latest electronics with a reliable Geiger-Mueller detector. S.E. International has crafted a durable, ergonomic Geiger counter that excels in various radiological applications.

Applications & Uses: Screening personnel and objects, such as packages, surfaces, and clothing, Surveying for NORM (Naturally Occurring Radioactive Material) contamination, Gross wipe counting, Contamination surveys of packages, equipment, people, etc., Regulatory inspections, Low energy radionuclide detection.

Radiation Alert Ranger

Introducing the Radiation Alert Ranger®, the pinnacle of nuclear radiation detection technology that seamlessly combines performance with unparalleled portability. Whether you're surveying facility or venturing into the field, the Radiation Alert Ranger® stands as a reliable companion, designed with industrial environments in mind while retaining all the features cherished in laboratory settings.

Compact and lightweight, the Radiation Alert Ranger® is a handheld digital survey meter that sets the bar for sensitivity across alpha, beta, gamma, and x-rays ensuring comprehensive coverage for your radiation detection needs. Equipped with built-in efficiencies for common isotopes, this model goes the extra mile by calculating activity in Becquerels (Bq) and Disintegrations Per Minute (DPM).

The Radiation Alert Ranger® boasts a user-friendly interface featuring a backlit digital display, a red count light, and a distinctive beeper that signals each count detected, enhancing your ability to respond promptly to radiation levels. Selectable alert levels, an adjustable timer, and an optional wipe test plate for swipes provide further flexibility. allowing you to tailor the device to you specific requirements.

- Free Observer USB Software
- Free Observer BLE Software
- For Use With The Optional Bluetooth Module

But the Radiation Alert Ranger® doesn't stop there. Included with your purchase is the Free Observer USB Software(compatible with Windows only), enabling you to effortlessly download and manage your data while setting up computer alarms for added convenience.

For an enhanced experience, the optional Bluetooth module opens up a world of possibilities. The Radiation Alert Ranger® seamlessly integrates with the free Radiation Alert® Observer BLE app available for download from the Google App Store. This app empowers you to display real-time readings with descriptions, conduct timed counts, append GPS data, and send your saved survey files. What's more, any alarms set on the instrument will be mirrored on you android device, ensuring you stay informed and in control.

Elevate your radiation detection capabilities with the Radiation Alert Ranger®- where cutting-edge technology

meets user-friendly design, providing peace of mind whether in the lab, facility, or in the field.

Applications & Uses: Surveying for NORM (Naturally Occurring Radioactive Material) contamination, Gross wipe counting, Contamination surveys of packages, equipment, people, etc., Regulatory inspections, Scrap Metal Screening, Low energy radionuclide detection

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Radiation Detection › Handheld Monitors

Radiation Alert Monitor 4EC

The Monitor 4EC is an energy compensated, ergonomic radiation survey meter capable of detecting alpha, beta, gamma, and x-rays over 3 selectable ranges. A red count light flashes and a beep sounds with each event detected. The Monitor 4EC offers a linear response for gamma and x-rays (above 40 keV).

Applications & Uses: Checking accelerator & x-ray shielding for leakage, Checking industrial gauges, such as moisture, density, or level gauges containing Cesium-137, Locating sources, Personal protection, General surveying

Radiation Alert® Ranger EXP

The Radiation Alert Ranger® EXP, seamlessly combines performance with unparalleled portability. Whether you're surveying facility or venturing into the field, the Radiation Alert Ranger® EXP stands as a reliable companion, designed with industrial environments in mind while retaining all the features cherished in laboratory settings.

Compact and lightweight, the Radiation Alert Ranger® EXP is a handheld digital survey meter that sets the bar for sensitivity to NORM and low levels of alpha, beta, gamma, and x-rays ensuring comprehensive coverage for your radiation detection needs. Equipped with built-in efficiencies for common isotopes, this model goes the extra mile by calculating activity in Becquerels (Bq) and Disintegrations Per Minute (DPM).

The Radiation Alert Ranger® EXP has a user-friendly interface featuring a backlit digital display, a red count light, and a beeper that signals each count detected, enhancing your ability to respond promptly to radiation levels. Selectable alert levels, an adjustable timer further flexibility. allowing you to tailor the device to you specific requirements.

- Free Observer USB Software
- Free Observer BLE Software
- For Use With The Optional Bluetooth Module

But the Radiation Alert Ranger® EXP doesn't stop there. Included with your purchase is the Free Observer USB Software(compatible with Windows only), enabling you to effortlessly download and manage your data while setting up computer alarms for added convenience.

For an enhanced experience, the optional Bluetooth module opens up a world of possibilities. The Radiation Alert Ranger® EXP seamlessly integrates with the free Radiation Alert® Observer BLE app available for download from the Google App Store. This app empowers you to display real-time readings with descriptions, conduct timed counts, append GPS data, and send your saved survey files. What's more, any alarms set on the instrument will be mirrored on you android device, ensuring you stay informed and in control.

Applications & Uses: Surveying for NORM (Naturally Occurring Radioactive Material) contamination, Gross wipe counting, Contamination surveys of packages, equipment, people, etc.,

Regulatory inspections, Scrap Metal Screening, Low energy radionuclide detection

Radiation Alert Monitor 1000EC

The Monitor 1000EC is an energy compensated radiation detector that measures gamma, and x-rays. Perfect for most applications requiring an energy compensated detector. Users can choose from readings of CPM, CPS, µSv/hr, mR/hr, or in accumulated counts. It has a red count light, a beeper that sounds with each count detected, and includes an adjustable timer, and selectable alert.

- Free Observer USB Software
- Free Observer BLE Software For Use With The
- Optional Bluetooth Module

The Radiation Alert® Monitor 1000EC doesn't stop there. Included with your purchase is the Free Observer USB Software(compatible with Windows only), reads in Total Counts, CPM, µR/hr, mR/hr, CPS, µSv/hr, and has the ability to collect and log data, set alarms, set timed counts, set the calibration date and settings, and generate reports, enabling you to effortlessly download and manage your data while setting up computer alarms for added convenience.

For an enhanced experience, the optional Bluetooth module opens up a world of possibilities. The Radiation Alert® seamlessly integrates with the free Radiation Alert® Observer BLE app available for download from the Google App Store. This app empowers you to display real-time readings with descriptions, conduct timed counts, append GPS data, and send your saved survey files. What's more, any alarms set on the instrument will be mirrored on you android device, ensuring you stay informed and in control.

Free Radiation Alert® Observer BLE app from the Google App Store, where you can display the readings from your detector, label sample readings and descriptions, take timed counts, append GPS data and send your saved survey file. This radiation detector helps you to set alarms which will also activate if you sync it with your android device. .

This radiation detector device include Free Observer USB software (Windows® only) reads in Total Counts, CPM, µR/hr, mR/hr, CPS, µSv/hr, and has the ability to collect and log data, set alarms, set timed counts, set the calibration date and settings, and generate reports.

Applications & Uses: X-ray chamber inspection, Expanded Range up to 1000 mR/hr, Linear Response needs with Energy

Compensation, Checking accelerator & x-ray shielding for leakage, Checking industrial gauges, such as moisture, density, or level gauges containing Cesium-137, Locating lost sources, Personal protection, Linear response detection applications, General surveying

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Radiation Alert® GammaView

The compact GammaView is light, easy to carry and operate with a 1×1 Nal scintillation detector that accurately measures gamma contamination and exposure. Perfect for use in the lab, facility, and in the field.

The GammaView boasts a user-friendly interface featuring a backlit digital display, a red count light, and a distinctive beeper that signals each count detected, enhancing your ability to respond promptly to radiation levels. Selectable alert levels, an adjustable timer, allowing you to tailor the device to you specific requirements.

The GammaView can also be used as a single-channel analyzer (SCA). This function allows a “window” to be set to focus on a specific energy region of the gamma spectrum, effectively reducing the background count.

Specific Applications Include: Compliance monitoring, environmental monitoring, remote monitoring, health physics, homeland defense**.**

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Radiation Detection › Handheld Monitors

Radiation Alert Monitor 4

The Radiation Alert® Monitor 4 is a compact, analog radiation detector designed for versatility and reliability. This general-purpose survey meter can detect alpha, beta, gamma, and X-ray radiation across three selectable ranges. With decades of proven performance in the industry, the Monitor 4 has become one of the leading analog radiation detectors available today. Its simple, ergonomic design features a red count light that flashes and an audible beep for each detected count. A quick flick of your thumb allows for an easy battery check and silent operation.

Applications & Uses: Checking industrial gauges, such as moisture, density, or level gauges containing Cesium-137, Locating Sources, Personal protection, General surveying

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Partner GEORADIS s.r.o.

Georadis s.r.o. is a specialized manufacturer of advanced radiation detection and monitoring instruments, offering a comprehensive suite of solutions for field and laboratory applications. Their product portfolio includes handheld monitors, portable isotope identifiers, environmental monitoring devices, and laboratory equipment, all designed to meet the rigorous demands of professionals in sectors such as environmental monitoring, industrial safety, and public security.

Product offering

RT-20 Compact handheld Radiation Detector – Georadis

RT-21 Handheld Radiation Detector – Georadis

RT-22 Handheld Radiation Detector with GeoView Software – Georadis

RT-30 Mk II – Georadis

RT-20 Compact handheld Radiation Detector – Georadis

The RT-20 Compact handheld Radiation Detector is a robust and compact hand held radiation detector specifically designed to quickly scan for radioactive materials. The ruggedness, small size and light weight of the RT-20, combined with its sensitive Gamma Ray scintillation detector makes it a versatile instrument for quick measurements in a large variety of applications.

RT-20 Compact handheld Radiation Detector features:

- 1,3 kg; balanced and lightweight
- reads in counts per second, sampling rate 4 per second
- high sensitivity, NaI/Tl crysta
- adjustable audio threshold
- audio output and numeric LCD display maximum 19999 cps
- automated warning of high dose rate
- protection boot with carrying straps
- supplied in aluminium suitcase with moulded insert
- automatic charger integrated in unit
- dust and sprinkling water resistant (IP66)
- available with telescope (RS-111T)

Read more about the RT-20 Compact handheld Radiation Detector on the Georadis website

RT-21 Handheld Radiation Detector – Georadis

The RT-21 (Georadis) is the most sensitive of numerous manufactured handheld radiation detectors. Its robust design allows it to operate even in the most demanding climatic conditions. Our bestseller at the time of the uranium panic. Popular with scrap yard owners.

RT-21 Handheld Radiation Detector features:

- one button operation
- highest sensitivity
- weather protected
- lightweight, rugged and compact design
- graphical display
- with telescope available (RS-21T)
- sampling period: 20/sec
- detector: NaI(Tl) 2×2“ or BGO 2×2“, 103 ccm
- gamma ray energy range: 30 – 3000 keV

Read more about the RT-21 Handheld Radiation Detector on the Georadis website

Radiation Detection › Handheld Monitors

RT-22 Handheld Radiation Detector with GeoView Software – Georadis

The RT-22 model is based on the RT-21 series, the most sensitive from the range of manufactured hand-held radiation detectors. Compared to its predecessor, it comes with an internal memory for storing measurement data, and Bluetooth connectivity allowing the use of an external GPS module. Its robust design makes it suitable for hostile climatic conditions. Our bestseller at the time of the uranium panic. Popular with scrap yard owners.

GeoView provides specificated views on accumulated data such as survey in both doserate or cps. The RT-22 Handheld Radiation Detector can be connected with the software through USB or Bluetooth.

RT-22 Handheld Radiation Detector with GeoView Software features:

- graphical display
- with telescope available (RT-22T)
- sampling period: 20/sec
- detector: NaI(Tl) 2×2“ or BGO 2×2“, 103 ccm
- gamma ray energy range: 30 – 3000 keV
- highest sensitivity
- weather protected
- lightweight, rugged and compact design

Read more about the RT-22 Handheld Radiaotion Detector with GeoView Software on the Georadis website

RT-30 Mk II – Georadis

Handheld Isotope Identification Instrument RIID

The RT-30 Mk II is the second generation of popular handheld gamma ray spectrometer RT-30. Strengths of the first generation were copied in the new model. There has to be highlighted a strong alloy body sealed against dust and water, protective removable rubber boot, comfortable grip and low weight.

The Mk II learned of the limitations of the first generation and features a large colored transreflectible sun readable display, improved user's interface with five operation buttons, removable but well-sealed battery pack and clear and loud audio.

The instrument is built as an open platform with potential of fast and simple implementation of special features required by customers. Wide fleet of detectors is supported. The Mk II bridges traditional scintillation detection probes using common vacuum photomultiplier tube with up-to-date silicon photomultipliers technology. Saved significant volume of vacuum tubes is next occupied by larger size of detector.

A heart of gamma ray spectrometer is FPGA (programmable array) plus fast speed and low consumption ARM type processor. The combination of FPGA with ARM is taken of preceding larger instrument and has been tested for years. Beside gamma ray section the FPGA is capable to handle other sensors at the same time. A Geiger-Mueller counter and a Neutron detector make a standard offer.

Thanks to latest electronic the Mk II opens a platform for supporting most modern existing communication standards. Sharing new and traditional communication standards is guaranteed wide compatibility with older as well as new communication devices. The existing USB was upgraded to level C and beside communication it is used also for unit's battery charging. GPS system is built in the front part of the instrument and is used for localization of the unit and also for time synchronization.

Quickly determining the location of lost radioactive sources in the environment or scrap, monitoring of waste in hospitals or waste incinerators, scanning people or baggage to disclose illicit trafficking of nuclear materials; all are typical applications for the RT-30 Mk II series.

Features:

- Ergonomic, lightweight handheld well balanced, compact;
- Comfortable grip with five buttons operable in glows;
- Removable protective rubber boot;
- Detectors fully build in the housing, protected by rubber foam;
- Large, transreflectible colored display – sharp and high contrast in sunlight, backlighted in dark;
- Loudspeaker with plastic membrane watertight;
- Four status indication LEDs – indication of alarms and health status;
- USB standard C for data transfer and charging;

- Wide fleet of scintillation detectors NaI/Tl, CsI/Tl, CsI/Eu, LaHalide, BGO, GAGG, SrI, Plastic scintillation detectors PVT;
- Maximum detector size: Diameter 2” and height 2” with standard vacuum PMT or max 5” with Silicon PMT (SiPM or MPPC).

See the full details in the RT-30 Mk II datasheet.

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Partner 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.

Product offering

D5 RIID

D3S ID

RayMon

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Radiation Detection › Handheld Monitors

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.

Radiation Detection › Handheld Monitors

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

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Partner Radiation Solutions Inc.

Radiation Solutions Inc. (RSI) is a Canadian-based company specializing in advanced radiation detection and monitoring systems, with a focus on portal monitors for diverse applications. Their technologies are designed to ensure safety and compliance in industries such as steel, scrap, recycling, and border security.

Product offering

RS-230 BGO Handheld Spectrometer – Radiation Solutions

RS-125 Handheld Spectrometer – Radiation Solutions

RS-125 Handheld Spectrometer – Radiation Solutions

RS-230 BGO Handheld Spectrometer – Radiation Solutions

The RS-230 BGO Handheld Spectrometer (Radiations Solutions) is a portable handheld radiation survey search device for use in the geophysical industry. Using a BGO give very significant increase in performance over the normally used NaI detector (3x).

RS-230 BGO Handheld Spectrometer features:

- single button operation
- high countrate: 65, 535
- protection: IP67
- rugged design
- digital LCD display
- analyses single channel and multichannel
- PC connectivity: USB or Bluetooth
- detector: BGO 2×2“, 103 ccm

Read more about the RS-230 BGO Handheld Spectrometer on the Radiation Solutions website

RS-125 Handheld Spectrometer – Radiation Solutions

The RS-125 Handheld Spectrometer (Radiation Solutions) is an advanced mobile instrument for radiation survey. The device is mainly used for spectral analyses in the geophysical industry. The RS-125 has the highest sensitivity in the market of spectrometers and is simple in use. There are no test sources required, the spectrometer stabilizes automatically on the different forms of radioactivity (K, U and Th).

RS-125 Handheld Spectrometer features:

- single button operation
- digital LCD display
- detector: NaI(Tl) 2×2“
- analyses single channel and multichannel
- PC connectivity: USB or Bluetooth
- high countrate: 65, 535
- protection: IP67
- rugged design

Read more about the RS-125 Handheld Spectrometer on the Radiation Solutions website

RS-125 Handheld Spectrometer – Radiation Solutions

The RS-125 Handheld Spectrometer (Radiation Solutions) is an advanced mobile instrument for radiation survey. The device is mainly used for spectral analyses in the geophysical industry. The RS-125 has the highest sensitivity in the market of spectrometers and is simple in use. There are no test sources required, the spectrometer stabilizes automatically on the different forms of radioactivity (K, U and Th).

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- high countrate: 65, 535
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- rugged design

Read more about the RS-125 Handheld Spectrometer on the Radiation Solutions website

PERSONAL ELECTRONIC DOSIMETERS

peo DETECTION

Partner Tracerco

Tracerco is a global leader in radiation detection and measurement, offering a comprehensive range of handheld monitors and personal electronic dosimeters. Their instruments are designed to provide accurate, real-time monitoring of radiation levels, ensuring safety and compliance in various industries.

Product offering

PED2 (Personal Electronic Dosimeter) – Tracerco

PED2 – ER (Personal Electronic Dosimeter) – Tracerco

PED2-IS (Personal Electronic Dosimeter) – Tracerco

PED-Blue (Personal Electronic Dosimeter) – Tracerco

PED+ (Personal Electronic Dosimeter) – Tracerco

PED-ER (Personal Electronic Dosimeter) – Tracerco

PED-ER+ (Personal Electronic Dosimeter) – Tracerco

Dosimeter software DoseVision™ and DoseVision™ Tracerco

PED2 (Personal Electronic Dosimeter) – Tracerco

A flexible personal electronic dosimeter for general radiation protection applications.

Flexible radiation protection

Instantaneously measures, records and displays dose rate and accumulated dose in real time

Up to four configurable dose and dose rate alarm settings

Optional extended range calibration up to 1 Sv/h where potential exists for emergency situations

Features:

- Clear and readable
- Simple and intuitive
- Reliable and accurate
- Flexible radiation protection
- IS certification

Easy to use and understand

Large, easy-to-read color display ensures vital information is clear, simple to understand and visible in any lighting scenario

A single button is used to navigate an intuitive carousel menu

Alarm settings trigger audible, visual, textual and haptic alerts

IS certification

PED2-IS and PED2-IS+ are ATEX certified. This European certification is given to equipment that is tested and approved to be intrinsically safe.

Giving you the peace of mind that the IS certified PED2 range is able to safely measure radiation exposure in potentially explosive environments.

Additional Services

To support optimal performance and compliance with regulatory standards, PEO offers the following services for this device:

Service
Periodic inspections carried out by qualified technicians to assess functionality, identify wear, and detect potential issues early.

Maintenance
Preventive measures, part replacements, and performance checks designed to extend the device's operational lifespan and maintain consistent reliability.

Calibration
Calibration services, performed by qualified technicians. Each unit receives a Calibration Certificate confirming accuracy and conformity.

Leakage Tests
Radiation leakage testing to confirm detector safety and compliance with applicable health and safety requirements.

These services are available through PEO.

For service appointments or contract options, please contact your PEO representative.

Purchase Product **Request Service** **Ask a question** **Find more products**

PED2 – ER (Personal Electronic Dosimeter) – Tracerco

An intrinsically safe certified personal electronic dosimeter, with handheld survey mode and enhanced features such as Bluetooth, GPS and pop-up message alarms

Features:

- Clear and readable
- Simple and intuitive
- Reliable and accurate
- Flexible radiation protection
- IS certification

Easy to use and understand

Large, easy-to-read colour display ensures vital information is clear, simple to understand and visible in any lighting scenario

A single button is used to navigate an intuitive carousel menu

Alarm settings trigger audible, visual, textual and haptic alerts

Flexible radiation protection

Instantaneously measures, records and displays dose rate and accumulated dose in real time

Up to four configurable dose and dose rate alarm settings

Optional extended range calibration up to 1 Sv/h where potential exists for emergency situations

IS certification

PED2-IS and PED2-IS+ are ATEX certified. This European certification is given to equipment that is tested and approved to be intrinsically safe. Giving you the peace of mind that the IS certified PED2 range is able to safely measure radiation exposure in potentially explosive environments.

PED2-IS (Personal Electronic Dosimeter) – Tracerco

Flexible radiation protection

Instantaneously measures, records and displays dose rate and accumulated dose in real time

Up to four configurable dose and dose rate alarm settings

Optional extended range calibration up to 1 Sv/h where potential exists for emergency situations

Features:

- Clear and readable transflective display enables use in dimly lit or sun-glare scenarios
- Responds promptly to small changes in radiation whilst also being capable of making accurate and reliable readings
- Intuitive single button operation
- Intrinsically safe for use in hazardous areas
- DoseVision™ companion software with optional cloud ecosystem

Easy to use and understand

Large, easy-to-read colour display ensures vital information is clear, simple to understand and visible in any lighting scenario

A single button is used to navigate an intuitive carousel menu

Alarm settings trigger audible, visual, textual and haptic alerts

IS certification

PED2-IS and PED2-IS+ are ATEX certified. This European certification is given to equipment that is tested and approved to be intrinsically safe. Giving you the peace of mind that the IS certified PED2 range is able to safely measure radiation exposure in potentially explosive environments.

PED-Blue (Personal Electronic Dosimeter) – Tracerco

PED-BLUE FROM TRACERCO

Personal Electronic Dosimeter

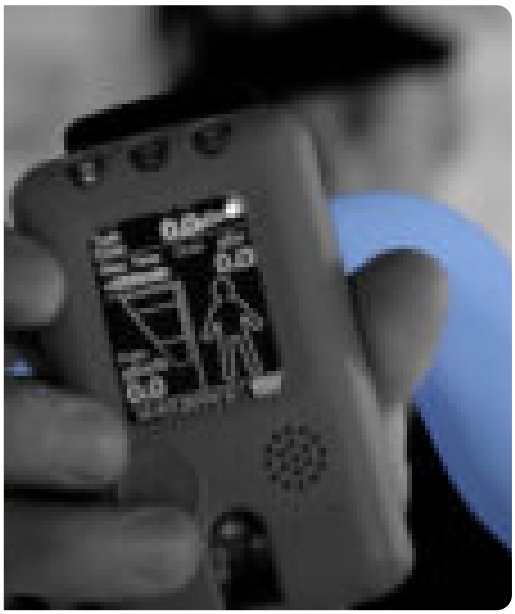
The PED-Blue is a lightweight, non-IS PED. The device can be charged with a direct micro USB connection, so it's more flexible. This dosimeter can also be configured to use either two or four dose alarm levels and is customisable through DoseVision™ software.

The PED Blue also has a task function where you can start and finish a task. After a task is finished you can look back by using DoseVision. This dosimeter is also perfect for clinical environments for example, because of its discreet alarm function.

The dosimeter gives the user immediate feedback so you'll know when the ambient dose is heightened.

BENEFITS OF THE PED BLUE:

- Robust and easy to use
- Direct micro USB connection for greater flexibility
- Large, clear, easy-to-read AMOLED display
- Light weight
- Used with DoseVision™ software ensures ease of use
- IP67 rated
- Simple one-button operation
- Four adjustable alarms
- Immediate detection



Tracerco Radiation Monitors https://youtu.be/Rm9O7FOKeX0

SCAN TO VIEW VIDEO

For more info from Tracerco, take a look at this page.

Would you like more information on PED’s?

Contact PEO!

PED+ (Personal Electronic Dosimeter) – Tracerco

Radiation safety – simplified

Tracerco's range of personal electronic dosimeters (PEDs) are suitable for oil and gas, medical and life sciences, nuclear, CBRNe and emergency services, NDT, manufacturing and industrial, and environmental and waste management industries. We offer both intrinsically safe and non-intrinsically safe options for all needs.

PED+ (Personal Electronic Dosimeter) from Tracerco

The PED+ can be used as both a personal dosimeter and a handheld dose rate survey meter. It has a number of additional features, such as Bluetooth, GPS and pop-up message alarms.

Benefits of the PED+ include:

- Handheld mode allows the device to be used as a handheld survey meter
- Shows readings in dose rate (Sv or rem) and displays a live trend graph to show activity in real time
- Measurement is corrected for use off-body, so personal accumulated dose is not recorded
- Dose rate data is logged in off-body mode, allowing data review with DoseVision™
- Pop-up alert messages display clear instructions at alarm threshold
- Allows location data to be logged to the device alongside dose and dose rate data, that can be viewed using DoseVision™

Would you like to receive more information?

Contact PEO!

PED-ER (Personal Electronic Dosimeter) – Tracerco

PED-ER FROM TRACERCO

Personal Electronic Dosimeter with extended range

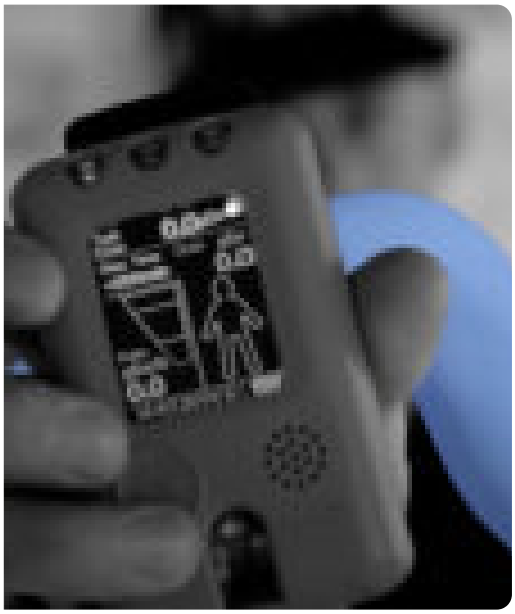
The PED-ER is a robust, light and user-friendly personal electronic dosimeter. You can use it to effectively monitor, measure and manage radiation exposure. This PED is the same as the PED-Blue from Tracerco, only the ER stands for Extended Range, so the range is bigger.

This personal electronic dosimeter has both audio and visual alarms with vibration. The dosimeter will alarm you when you reach your personally set radiation dose. Because of the extended dose range from the PED-ER, it can detect radiation up to 1 Sv/h.

This dosimeter is not only designed to be robust and lightweight, it's also designed to keep it simple. The device has a large and clear AMOLED display which is very user-friendly. When you use this dosimeter in combination with the accompanying software DoseVison, you can easily manage radiation doses.

BENEFITS OF THIS DOSIMETER:

- The dosimeter has an extended dose range of up to 1 Sv/h
- Large easily readable display and intuitive graphical user interface
- A reliable dosimeter, even for the most challenging radiation monitoring situations
- User-friendly design because of one-button operation
- The user can easily operate it without any training
- You can choose between audio and/or visual alarms, with optional vibration



Tracerco Radiation Monitors https://youtu.be/Rm9O7FOKeX0

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Would you like more information on PED’s?

Contact PEO!

PED-ER+ (Personal Electronic Dosimeter) – Tracerco

Radiation safety – simplified

Tracerco's range of personal electronic dosimeters (PEDs) are suitable for oil and gas, medical and life sciences, nuclear, CBRNe and emergency services, NDT, manufacturing and industrial, and environmental and waste management industries. We offer both intrinsically safe and non-intrinsically safe options for all needs.

PED-ER+ (Personal Electronic Dosimeter) from Tracerco

The PED-ER+ provides the ultimate in radiation monitoring, measurement and management for those working in challenging environments. Ideal for use by industrial NDT workers, emergency services and first response teams (CBRNe).

Benefits of the PED-ER+ include:

- An extended dose rate range of up to 1Sv/h
- Weather, shock and drop-proof housing – ideal for rugged environments
- Large clear display
- Portable – can be used as both a personal dosimeter, and a handheld dose rate survey meter
- Pop-up message alarms when dose limits are reached

Would you like to receive more information?

Contact PEO!

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Dosimeter software DoseVision™ and DoseVision™ Tracerco

The dosimeter PC software interface for the PED-IS PED Blue and PED+ is specifically designed for simplicity and interactivity. DoseVision™ allows users to set alarms and reports. This is to assign users to the PED, and download and analyze data.

advantages of DoseVision:

- cumulative dose rate data analysis
- peak dose rates
- data export and easily generate reports
- password protection
- software and firmware updates available for free
- easy management of PED users
- GPS data logging using the PED+

advantages of DoseVison Live™:

- Bluetooth connectivity
- live dose rate data
- management control for up to 7 devices
- live status updates

DoseVision Live dosimeter software Tracerco

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Partner Polimaster

Polimaster is a global leader in radiation detection and monitoring solutions, offering a comprehensive suite of instruments designed to detect, identify, and measure ionizing radiation across various environments. Their product range includes handheld monitors, personal electronic dosimeters, portable isotope identifiers, portal monitors, and mobile detection systems, all engineered to meet the rigorous demands of security, emergency response, and industrial applications.

Product offering

PM1703GNA-II MBT Personal Radiation Detector/Dosimeter

PM1703GNA-II/BT Personal Radiation Detector

PM1703MO-II BT Personal Radiation Detector/Dosimeter

PM1703MA-II/BT Personal Radiation Detector

PM1610B X-Ray and Gamma Radiation Personal Dosimeter

PM1610 X-Ray and Gamma Radiation Personal Dosimeter

PM1605BT Personal Radiation Monitor/Dosimeter

PoliSimeter™ ERB Electronic Personal Dosimeter

PoliSimeter™ ER Electronic Personal Dosimeter

PoliSimeter™ Electronic Personal Dosimeter

RadFlash® Electronic Personal Dosimeter

PM1703GNA-II MBT Personal Radiation Detector/Dosimeter

Gamma-neutron Personal Radiation Detector/Dosimeter.

The **PM1703GNA-II MBT** is a **gamma-neutron** modification equipped with a **Bluetooth** module and a **Geiger-Mueller counter** for extended measurement of the **personal dose rate up to 200 mSv/h** and **personal dose up to 10 Sv**.

The **PM1703®-II series** of personal radiation detectors are extremely sensitive and robust devices that detect and locate even trace amounts of radioactive materials.

Equipped with a clip for multiple wearing options and easy to operate even for non-specialists, the PRDs became the perfect fit as Radiation Pagers for public security agencies, including border control, rescue teams, police, and anti-terrorist units, and first responders that need to quickly search for radioactive materials before and during public mass events.

Features

- ANSI N42.32-2016 and IEC 62401:2017 compliance
- NORM-suppression algorithm for differentiating color-coded alarms triggered by natural or man-made radiation materials
- Dedicated 0-9 scale mode with unitless dose rate indication allowing for ease of use and minimal training
- Personal dose accumulation up to 10 Sv
- Extended dose rate measurement ranges up to 200 mSv/h
- Operation in extreme temperatures from –40 °C to 50 °C
- Long-life alkaline or rechargeable battery for 800 hours
- Shockproof hermetic case IP65
- Audible, visual, and vibration alarms
- Free Polismart® iOS and Android app for advanced operation
- USB and Bluetooth communication

PM1703GNA-II/BT Personal Radiation Detector

Gamma-neutron Personal Radiation Detector.

The **PM1703GNA-II** is a **gamma-neutron** modification equipped with a high-sensitive scintillator for measurement of the **personal dose rate up to 300 µSv/h**.

The **PM1703®-II series** of personal radiation detectors are extremely sensitive and robust devices that detect and locate even trace amounts of radioactive materials.

Equipped with a clip for multiple wearing options and easy to operate even for non-specialists, the PRDs became the perfect fit as Radiation Pagers for public security agencies, including border control, rescue teams, police, and anti-terrorist units, and first responders that need to quickly search for radioactive materials before and during public mass events.

Features

- ANSI N42.32-2016 and IEC 62401:2017 compliance
- NORM-suppression algorithm for differentiating color-coded alarms triggered by natural or man-made radiation materials
- Dedicated 0-9 scale mode with unitless dose rate indication allowing for ease of use and minimal training
- Operation in extreme temperatures from –40 °C to 50 °C
- Long-life alkaline or rechargeable battery for 800 hours
- Shockproof hermetic case IP65
- Audible, visual, and vibration alarms
- Free Polismart® iOS and Android app for advanced operation
- USB and Bluetooth (PM1703GNA-II BT) communication

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PM1703MO-II BT Personal Radiation Detector/Dosimeter

Gamma-only Personal Radiation Detector/Dosimeter.

The **PM1703MO-II BT** is a **gamma-only** modification equipped with a **Bluetooth** module and a **Geiger-Mueller counter** for extended measurement of the **personal dose rate up to 200 mSv/h** and **personal dose up to 10 Sv**.

The **PM1703®-II series** of personal radiation detectors (PRD) are extremely sensitive and robust devices that detect and locate even trace amounts of radioactive materials.

Equipped with a clip for multiple wearing options and easy to operate even for non-specialists, the PRDs became the perfect fit as Radiation Pagers for public security agencies, including border control, rescue teams, police, and anti-terrorist units, and first responders that need to quickly search for radioactive materials before and during public mass events.

Features

- ANSI N42.32-2016 and IEC 62401:2017 compliance
- NORM-suppression algorithm for differentiating color-coded alarms triggered by natural or man-made radiation materials
- Dedicated 0-9 scale mode with unitless dose rate indication allowing for ease of use and minimal training
- Personal dose accumulation up to 10 Sv
- Extended dose rate measurement ranges up to 200 mSv/h
- Operation in extreme temperatures from –40 °C to 50 °C
- Long-life alkaline or rechargeable battery for 1000 hours
- Shockproof hermetic case IP65
- Audible, visual, and vibration alarms
- Free Polismart® iOS and Android app for advanced operation
- USB and Bluetooth communication

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PM1703MA-II/BT Personal Radiation Detector

Gamma-only Personal Radiation Detector.

The **PM1703MA-II** is a **gamma-only** Personal Radiation Detector (PRD) equipped with a high-sensitive scintillator for measurement of the **personal dose rate up to 300 µSv/h**.

The **PM1703®-II series** of PRDs are extremely sensitive and robust devices that detect and locate even trace amounts of radioactive materials.

Equipped with a clip for multiple wearing options and easy to operate even for non-specialists, the PRDs became the perfect fit as Radiation Pagers for public security agencies, including border control, rescue teams, police, and anti-terrorist units, and first responders that need to quickly search for radioactive materials before and during public mass events.

Features

- ANSI N42.32-2016 and IEC 62401:2017 compliance
- NORM-suppression algorithm for differentiating color-coded alarms triggered by natural or man-made radiation materials
- Dedicated 0-9 scale mode with unitless dose rate indication allowing for ease of use and minimal training
- Operation in extreme temperatures from –40 °C to 50 °C
- Long-life alkaline or rechargeable battery for 1000 hours
- Shockproof hermetic case IP65
- Audible, visual, and vibration alarms
- Free Polismart® iOS and Android app for advanced operation
- USB and Bluetooth (PM1703MA-II BT) communication

PM1610B X-Ray and Gamma Radiation Personal Dosimeter

Extended range X-ray (continuous/pulsed) and gamma radiation personal dosimeter with replaceable battery.

The **PM1610B** model has an extended dose measurement range of up to 20 Sv and improved accuracy of the dose rate measurement. Instead of a rechargeable battery, this model is **powered by an AAA (LR03) battery** which is easy to replace, affordable, and safe to handle.

The **PM1610 series** of electronic personal dosimeters (**EPDs**) are intended for measurement of the personal dose equivalent *Hp(10)* and personal dose equivalent rate $\dot{H}p(10)$. The dosimeters are suitable for multiple applications providing the measurement of X-ray (continuous and pulsed) and gamma radiation in the wide energy range.

The **PM1610** dosimeters have unique features for operation in workplaces requiring the use of personal protective equipment or in a harsh environment, including a shockproof rubberized case, a high contrast display with a fluorescent backlight, and two big buttons for easy use even while wearing protective gloves.

- Easily replaceable long-life AAA battery: at least 480 hours
- Extended energy range: from 20 keV to 10 MeV
- Wide dose and dose rate measurement ranges
- Measurement of pulsed photon radiation
- Simple navigation with two large buttons
- Audible, visual, and vibration alarms
- USB communication with PC
- Shockproof hermetic case
- Small and lightweight

PM1610 X-Ray and Gamma Radiation Personal Dosimeter

X-ray (continuous/pulsed) and gamma radiation personal dosimeter.

The **PM1610 series** of electronic personal dosimeters (**EPDs**) are intended for measurement of the personal dose equivalent *Hp(10)* and personal dose equivalent rate $\dot{H}p(10)$. The dosimeters are suitable for multiple applications providing the measurement of X-ray (continuous and pulsed) and gamma radiation in the wide energy range.

The **PM1610** dosimeters have unique features for operation in workplaces requiring the use of personal protective equipment or in a harsh environment, including a shockproof rubberized case, a high contrast display with a fluorescent backlight, and two big buttons for easy use even while wearing protective gloves.

Features

- Long-life rechargeable battery: at least 650 hours
- Extended energy range: from 20 keV to 10 MeV
- Wide dose and dose rate measurement ranges
- Measurement of pulsed photon radiation
- Simple navigation with two large buttons
- Audible, visual, and vibration alarms
- USB communication with PC
- Shockproof hermetic case
- Small and lightweight

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PM1605BT Personal Radiation Monitor/Dosimeter

Ambient dosimeter for use in extreme environments.

The **PM1605BT** electronic dosimeter is equipped with a Geiger-Mueller counter for extended measurement of the **ambient dose equivalent** and **ambient dose equivalent rate**. Instruments can search, detect, and locate radioactive sources, alert the user with audible, visual, and vibration alarms, and transmit stored data to a PC or smartphone.

The dosimeter is designed to withstand **extreme environmental conditions** such as limited visibility, raised noise, high temperatures, exposure to seawater, shock, and falls. Its control panel with two big buttons allows using protective gloves while operating the instrument.

The instruments are recommended for personal radiation protection of first responders, HAZMAT teams, civil defense, firefighters, and the other divisions that deal with radiological emergencies.

Features

- IP68 case for operation in extreme environmental conditions
- Highly visible LEDs on the front and top panels for alarm indication
- Removable clip for secure fastening to a belt or a pocket
- Large buttons suitable for use with protective gloves
- Operating temperature from –30 °C to 65 °C
- Ambient dose equivalent rate up to 10 Sv/h
- Ambient dose equivalent up to 100 Sv
- Bluetooth and USB communication
- Battery lifetime of at least 9 months
- Large and easy-to-read LCD

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PoliSimeter™ ERB Electronic Personal Dosimeter

X-ray (continuous/pulsed) and gamma radiation personal dosimeter with an **extended range** of dose measurement and a replaceable **battery**.

PoliSimeter™ series of electronic personal dosimeters (EPDs) is the **next generation** of the well-known **PM1610 series** by Polimaster, which was a trusted solution on the market for nearly 15 years, with over 20,000 dosimeters sold. Building on the legacy of the PM1610, the PoliSimeter offers enhanced capabilities for the extended measurement of **personal dose Hp(10)** and **dose rate Ḣp(10)** of both continuous and pulsed X-ray and gamma radiation. The PoliSimeter is designed to meet the latest industry requirements and features a USB-C port for convenient connectivity and data transfer.

PoliSimeter ERB model has an **extended range** of dose measurement of **up to 20 Sv** for use in high-radiation environments, providing critical safety and monitoring functionality. Instead of a rechargeable battery, this model is powered by an **AAA battery,** which is easy to replace, affordable and safe to handle.

Features

- Wide dose and dose rate measurement ranges
- Easily replaceable long-life AAA battery: 500 hours
- Measurement of pulsed photon radiation
- Simple navigation with two large buttons
- Audible, visual, and vibration alarms
- USB-C communication with PC
- Shockproof hermetic case
- Small and lightweight

Radiation Detection › **Personal Electronic Dosimeters**

PoliSimeter™ ER Electronic Personal Dosimeter

X-ray (continuous/pulsed) and gamma radiation personal dosimeter with an **extended range** of dose measurement.

PoliSimeter™ series of electronic personal dosimeters (EPDs) is the **next generation** of the well-known **PM1610 series** by Polimaster, which was a trusted solution on the market for nearly 15 years, with over 20,000 dosimeters sold. Building on the legacy of the PM1610, the PoliSimeter offers enhanced capabilities for the extended measurement of **personal dose Hp(10)** and **dose rate Ḣp(10)** of both continuous and pulsed X-ray and gamma radiation. The PoliSimeter is designed to meet the latest industry requirements and features a USB-C port for convenient connectivity and data transfer.

PoliSimeter ER model has an **extended range** of dose measurement of **up to 20 Sv** for use in high-radiation environments, providing critical safety and monitoring functionality.

Features

- Wide dose and dose rate measurement ranges
- Long-life rechargeable battery: 500 hours
- Measurement of pulsed photon radiation
- Simple navigation with two large buttons
- Audible, visual, and vibration alarms
- USB-C communication with PC
- Shockproof hermetic case
- Small and lightweight

PoliSimeter™ Electronic Personal Dosimeter

X-ray (continuous/pulsed) and gamma radiation personal dosimeter.

PoliSimeter™ series of electronic personal dosimeters (EPDs) is the **next generation** of the well-known **PM1610 series** by Polimaster, which was a trusted solution on the market for nearly 15 years, with over 20,000 dosimeters sold. Building on the legacy of the PM1610, the PoliSimeter offers enhanced capabilities for the extended measurement of **personal dose Hp(10)** and **dose rate Ḣp(10)** of both continuous and pulsed X-ray and gamma radiation. The PoliSimeter is designed to meet the latest industry requirements and features a USB-C port for convenient connectivity and data transfer.

Features

- Wide dose and dose rate measurement ranges
- Long-life rechargeable battery: 500 hours
- Measurement of pulsed photon radiation
- Simple navigation with two large buttons
- Audible, visual, and vibration alarms
- USB-C communication with PC
- Shockproof hermetic case
- Small and lightweight

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RadFlash® Electronic Personal Dosimeter

With RadFlash, the instant your radiation exposure increases, you know it. Continuous monitoring and custom alerts provide immediate, precise feedback, empowering you to react in-the-moment to changes in your exposure environment.

The dosimeter is capable of solving a wide range of personal dose monitoring tasks, including measurement of personal dose equivalent *Hp(10)* and personal dose equivalent rate $\dot{H}p(10)$ of X-ray (continuous and pulsed) and gamma radiation.

Only the best instant monitoring and alerts provide the safety professionals deserve. The RadFlash electronic personal dosimeter gives you immediate feedback, high precision, and unmatched flexibility. It’s the perfect tool for minimizing risk and maximizing confidence.

Features

- Independent alarm thresholds for both dose and dose rate
- Automatic calculation of the safe stay time in the Polismart® app
- Compatible with real-time dosimetry systems
- Miniature, lightweight design
- Intuitive single-control button
- Bluetooth integration
- Wireless charging

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Partner Bertin Instruments

Bertin Instruments is a global provider of advanced radiation detection and environmental monitoring solutions, specializing in handheld monitors, personal electronic dosimeters, environmental monitoring systems, and waste & recycling management technologies. Their instruments are designed to meet the rigorous demands of nuclear facilities, emergency response teams, and environmental agencies.

Product offering

Saphydose gamma i

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Saphydose gamma i

Saphydose Gamma i is an operational dosimeter measuring radiation in real time (Hp (10) X and γ dose).

This dosimeter is designed for people working in a controlled area (nuclear power plant, fuel reprocessing plant, research center, hospital, non-destructive testing service, etc.) or likely to be exposed (army, police, fire brigade, etc.).

It is compliant with the IEC 61526 standard for measurement of personal dose equivalents. Reliable and ergonomic, the Saphydose Gamma i is appreciated for its sturdy aluminum housing, its high resistance to electromagnetic fields and its long time battery life. It can be used individually or as part of our dosimetry management system.

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Partner SE International

S.E. International, Inc. is a trusted U.S.-based manufacturer of radiation detection instruments under the Radiation Alert® brand. Their product range includes area monitors, handheld survey meters, and personal electronic dosimeters—each designed to deliver accurate, real-time radiation monitoring across a wide range of applications.

Product offering

Radiation Alert® Sentry EC

Rad-60 Alarming Dosimeter

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Radiation Detection › Personal Electronic Dosimeters

Radiation Alert® Sentry EC

The Radiation Alert® Sentry EC is a personal alarming radiation dosimeter and rate meter, designed to safeguard personnel working in environments with potential X-ray or gamma exposure.

This pocket-sized unit features an energy-compensated tube for a linear gamma response and built-in memory for tracking accumulated exposure data. With the free SentryCom Software, you can easily generate incident reconstructions for analysis and set custom vibrating and audio alerts for dose (>1.0 mR/10 µSv) and dose rate (>1.0 mR/hr/10 µSv/hr).

An audio switch allows you to choose between audible clicks with each detected count or a discreet silent mode.

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Rad-60 Alarming Dosimeter

The RAD-60 is a Personal Alarming Radiation Dosimeter. It’s a precise and reliable instrument for ensuring the safety of personnel. Ideally, the RAD-60 is used in stand-alone conditions for everyday radiation monitoring . The RAD-60 can also be switched into System Mode, for the purpose of tracking Personnel Dose records and generating compliance reports.

The design includes state-of-the-art technology with built in memory for retrieving dose, even during power-down. It eliminates outside interference from shock and RF. The RAD-60 is easily programmed by the user, has a digital display, and operates with a single AAA alkaline battery.

With the push of a button, you can turn the unit on/off, change the digital display to read dose or dose rate, select from several dose and dose rate alarm levels, turn the chirp function on/off, reset the integrated dose, and perform battery tests. The large digital display gives instant dose or dose rate readings with a loud audible alarm.

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Partner Ludlum Measurements Inc.

Ludlum Measurements, Inc. is a trusted global provider of radiation detection and monitoring instruments, offering rugged, accurate solutions for personnel safety, environmental protection, and security screening. Since 1962, their equipment has been used worldwide in applications ranging from nuclear power and emergency response to border protection and critical infrastructure monitoring.

Product offering

Model 23-1 Electronic Personal Dosimeter – Ludlum

Model 23-1 Electronic Personal Dosimeter – Ludlum

The Model 23-1 Electronic Personal Dosimeter (Ludlum) is a solid and lightweight (55.9 g/2 oz) pen-type personal dosimeter. It can be used for measuring gamma or X-ray radiation in medical and laboratory environments or other areas where personal radiation monitoring is desired or required.

Model 23-1 Electronic Personal Dosimeter features:

- 600 record data logging option available
- low weight and slim design
- audio alarm
- silicon semiconductor detector
- gamma and X-ray (35 keV to 3 MeV)

Read more about the Model 23-1 Electronic Personal Dosimeter on the Ludlum website

CZT & GAMMA CAMERAS

peo DETECTION

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Partner BSI

Baltic Scientific Instruments (BSI) is an OEM manufacturer based in Riga, Latvia, dedicated to the development and production of advanced spectrometric and detection equipment. With decades of experience and roots in the former Research Institute for Radioisotope Apparatus (RNIIRP), BSI provides cutting-edge technologies for nuclear power, environmental monitoring, security, medicine, and scientific research.
The company specializes in HPGe, Si, CdZnTe/CdTe, and scintillation detector systems, known for their accuracy, stability, and performance in demanding analytical environments.
Through continuous innovation, strict quality assurance (ISO 9001:2015), and strong international collaboration, BSI supports customers worldwide in achieving precise and reliable radiation measurement and analysis.

Product offering

Hand-held Integrated Gamma Spectrometer

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Radiation Detection › CZT & Gamma Cameras

Hand-held Integrated Gamma Spectrometer

Hand-held Integrated Gamma Spectrometer with an integrated HPGe detector, preamplifier, multichannel analyzer, batteries, and software offers relatively compact, portable solution for high-resolution gamma-ray analysis. Its all-in-one design enhances field usability, requiring no external components for setup.

Application

Hand-held Integrated Gamma Spectrometer is ideal for nuclear safety, environmental monitoring, radiological emergency response, CBRN and waste characterization, it ensures rapid deployment and reliable data acquisition. The integrated system minimizes cabling, reduces noise, and simplifies operation, making it highly efficient for both laboratory and on-site measurements.

Features

- Integrated HPGe Detector – High-purity germanium detector ensures excellent energy resolution for precise gamma spectroscopy
- Embedded Digital Multichannel Analyzer (MCA) – Enables real-time spectrum acquisition and processing without external electronics
- Internal Battery Operation – Offers several hours of autonomous use for field measurements
- Compact All-in-One Design – Reduces cabling and simplifies deployment in any environment
- On-board ruggedize display – large and bright to fit the whole spectrum or a part of it since software is adopted for “mobile view mode”
- Analytical Spectroscopy Software – Supports spectrum analysis, nuclide identification, and reporting
- Advanced Spectroscopy Software – allows applying Monte-Carle simulation results to the analytical software to make sure correct measurement result in case of complex geometry of the measured object

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Partner 3D Plus

3D PLUS is a leading provider of compact, high-performance imaging systems based on advanced CZT (Cadmium Zinc Telluride) technology. Designed for demanding applications across space, defence, and nuclear sectors, their gamma cameras offer precise, real-time radiation imaging in compact, rugged formats.

Product offering

Spid-X

← Back to partner

Radiation Detection › **CZT & Gamma Cameras**

Spid-X

In collaboration with the French Atomic Energy Commission (CEA), the Spectro Imager Spid-X has been designed for nuclear safety applications such as radioactive waste monitoring, decommissioning, decontamination or emergency situations.

The device offers fine spectroscopic capabilities embedding ultra-low noise ASICs and CdTe crystal thanks to 3D PLUS electronic components miniaturization technology.

The Spid-X gamma camera allows locating, identifying and measuring the dose intensity of the various radioactive sources that can be found in a nuclear environment. Combined with the small size and lightweight of the device, it brings a fast and efficient diagnostic on site, and can help the decontamination process.

Features

- Identifies and locates the radioactive sources
- Measures the dose of the sources
- Small dimensions : 323 x 110 x 180 mm3
- Light Weight : < 3,5 kg
- Covers large range of energy
- Fine spectroscopic capabilities

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Partner 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.

Product offering

GR Series Gamma Spectrometers

Quant GR1

TN15

RayMon

Sigma 25/50

K102

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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Radiation Detection › CZT & Gamma Cameras

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.

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Radiation Detection › CZT & Gamma Cameras

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.

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

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

peo DETECTION

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Partner BSI

Baltic Scientific Instruments (BSI) is an OEM manufacturer based in Riga, Latvia, dedicated to the development and production of advanced spectrometric and detection equipment. With decades of experience and roots in the former Research Institute for Radioisotope Apparatus (RNIIRP), BSI provides cutting-edge technologies for nuclear power, environmental monitoring, security, medicine, and scientific research.
The company specializes in HPGe, Si, CdZnTe/CdTe, and scintillation detector systems, known for their accuracy, stability, and performance in demanding analytical environments.
Through continuous innovation, strict quality assurance (ISO 9001:2015), and strong international collaboration, BSI supports customers worldwide in achieving precise and reliable radiation measurement and analysis.

Product offering

Hand-held Integrated Gamma Spectrometer

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Radiation Detection › CZT & Gamma Cameras

Hand-held Integrated Gamma Spectrometer

Hand-held Integrated Gamma Spectrometer with an integrated HPGe detector, preamplifier, multichannel analyzer, batteries, and software offers relatively compact, portable solution for high-resolution gamma-ray analysis. Its all-in-one design enhances field usability, requiring no external components for setup.

Application

Hand-held Integrated Gamma Spectrometer is ideal for nuclear safety, environmental monitoring, radiological emergency response, CBRN and waste characterization, it ensures rapid deployment and reliable data acquisition. The integrated system minimizes cabling, reduces noise, and simplifies operation, making it highly efficient for both laboratory and on-site measurements.

Features

- Integrated HPGe Detector – High-purity germanium detector ensures excellent energy resolution for precise gamma spectroscopy
- Embedded Digital Multichannel Analyzer (MCA) – Enables real-time spectrum acquisition and processing without external electronics
- Internal Battery Operation – Offers several hours of autonomous use for field measurements
- Compact All-in-One Design – Reduces cabling and simplifies deployment in any environment
- On-board ruggedize display – large and bright to fit the whole spectrum or a part of it since software is adopted for “mobile view mode”
- Analytical Spectroscopy Software – Supports spectrum analysis, nuclide identification, and reporting
- Advanced Spectroscopy Software – allows applying Monte-Carle simulation results to the analytical software to make sure correct measurement result in case of complex geometry of the measured object

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Partner Else Nuclear

ELSE NUCLEAR S.r.l. is an Italian OEM company specializing in advanced radiation-detection and environmental-monitoring systems for nuclear safety, industry and research.

Product offering

B-RAD

FOOMON

THYMON

HERMES GSU

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Radiation Detection › Portable Isotope Identifiers

B-RAD

B-RAD is a hand-held radio-isotope identifier (RIID) for gamma dose rate survey and spectrometry measurements, specifically designed to work in magnetic fields up to 3 T. For comparison, conventional devices fail to operate at intensities as low as 0.1 T.

Light and compact, B-RAD is ideal for radiation surveys and for local measurements of contamination or residual radioactivity in hot spots. The built-in software and algorithm allow performing accurate gamma spectrometry and dose rate measurement with a single instrument.

B-RAD employs a high sensitivity $LaBr_3(Ce^{3+})$ crystal directly coupled to a SiPM matrix. Its excellent scintillation properties, high energy resolution (3.3% FWHM at 662 keV) and fast response, together with the built-in pile-up and dead-time correction algorithms, allow the device to cover an extremely wide dose rate range (100 nSv/h to > 20 mSv/h).

This technology has been originally developed at CERN (*) and has become the standard for radiation surveys in the Large Hadron Collider (LHC) experiments. It is commercialized under an official license granted by CERN, with the “CERN Technology” label.

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Radiation Detection › Environmental Monitoring

FOOMON

FOOMON is a portable fully-integrated instrument specifically conceived for screening of I-131, Cs-134 and Cs-137 accumulated in food samples. Its “on-the-field” design allows deploying the device in any kind of situation, such as routine campaigns or emergency procedures.

The whole device is self-contained in a portable high-IP-grade technical case, for an overall weight < 25 kg. The food samples are to be placed in 500 ml Marinelli beakers, which then are lodged inside a 1 cm thick lead shielding well upon the detector’s end cap. The complete setup and deployment of the system requires less than 5 minutes.

The User can manage FOOMON through the user-friendly control and analysis software installed on the embedded panel PC, automatically calculating the specific activity and the Minimum Detectable Concentration (MDC) of the sample (in Bq/kg). Data are stored locally and can be analysed and downloaded with dedicated software routines.

The measured activity concentration is compared with isotope-specific and food-group-specific alarms. In the case of an alarm, the measurement output is clearly labelled and the alarm status is clearly displayed on the software, which also activates the acoustic alarm.

The counts-to-activity-concentration conversion coefficients are calculated by means of dedicated Monte Carlo calculations.

The MDC achievable in 1 minute, with an average indoor background (150 nSv/h), is as low as about 150 Bq/kg for Cs-137 and Cs-134, and about 90 Bq/kg for I-131. Under the same conditions, MDC as low as about 30 Bq/kg for I-131, and about 40 Bq/kg for Cs-134 and Cs-137, can be achieved in about 10 minutes.

If enabled, the automatic background subtraction subroutine allows further lowering MDC and measurement uncertainty without increasing the counting time.

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Radiation Detection › Environmental Monitoring

THYMON

THYMON is a compact NaI(Tl)-based detector specifically conceived to fast, yet reliably, measure I-131 contamination in thyroid. Its compactness, ruggedness, light-weight, together with its simple and intuitive built-in software interface, make the device perfectly suited for emergency screening applications. The instrument can be used either hand-held or hands-free. The instrument is composed by three main subparts:

- Detector probe: a 1.5” x 1.5” collimated NaI(Tl) crystal coupled to a SiPM matrix and extremely compact readout electronics and MCA
- Extendable support: designed as both table-top and standalone, providing the possibility of hands-free operation
- Control tablet: IP65 water- and dust-proof 8” capacitive screen, wired-connected to the probe

The mechanics of the probe is specifically conceived to ensure the best alignment between the probe and the thyroid, guaranteeing excellent crystal-to-thyroid alignment, and reducing positioning uncertainties.

The control and analysis software installed on the control tablet is designed to be simple and intuitive, yet advanced and comprehensive. This is accomplished by combining a simple and intuitive interface with advanced calculation routines, which run automatically as the measurement start, without the need of operator intervention.

Data are stored locally on the tablet internal memory, and can be analysed and downloaded with dedicated software routines.

The automatic I-131 activity calculation is given for pre-defined age groups: 1 yo, 5 yo, 10 yo, 15 yo (Adult Female), Adult Male. Counts-to-activity conversion coefficients are calculated by dedicated Monte Carlo simulations based on detailed detector and thyroid numerical models. The simulations are always validated for the specific system through experimental tests performed with reference radioactive sources.

The activity is compared to 2 User-defined threshold levels, each defined per each age group, following the two Action Levels logic.

MDA as low as about 100 Bq can be achieved in 2 min screenings. The MDA can be further lowered by enabling the background subtraction option.

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Radiation Detection › Environmental Monitoring

HERMES GSU

HERMES GSU is a portable gamma spectrometry system designed for rapid and precise in-field analysis of environmental samples. As part of the HERMES product line, it features a rugged, modular, and self-contained design housed in a high IP-rated technical case, ensuring durability and reliability in demanding conditions.

HERMES GSU quantifies isotope activity concentrations based on a rich built-in, yet fully-editable, isotope library. Its portability and autonomous operation make it ideal for both routine monitoring and emergency response scenarios.

Samples can be directly collected from the field, placed in 500 ml Marinelli beakers, and inserted into the built-in 1 cm lead-shielded well, minimizing background radiation for immediate, on-the-spot, low MDC analysis, and enhancing measurement accuracy and sensitivity. The system automatically calculates activity concentrations, making it a powerful tool for in-situ, laboratory-grade measurements.

HERMES GSU features advanced routines for gain stabilization, dead time correction, and automatic energy calibration (relying on natural background only, thus not requiring any radioactive reference source).

Efficiency calibration curves are generated using validated Monte Carlo simulations. Predefined efficiency curves are available for different sample matrices, including soil, water, and foodstuffs, across various densities. Custom calibration curves can be provided upon request.

Partner 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.

Product offering

GR Series Gamma Spectrometers

D5 RIID

D3S ID

RayMon

AARM

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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Radiation Detection › Handheld Monitors

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.

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Radiation Detection › Handheld Monitors

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

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.

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Partner Polimaster

Polimaster is a global leader in radiation detection and monitoring solutions, offering a comprehensive suite of instruments designed to detect, identify, and measure ionizing radiation across various environments. Their product range includes handheld monitors, personal electronic dosimeters, portable isotope identifiers, portal monitors, and mobile detection systems, all engineered to meet the rigorous demands of security, emergency response, and industrial applications.

Product offering

PM1401K-3M Multipurpose Hand-Held Radiation Monitor/Identifier

PM1401K-3P Multipurpose Hand-Held Radiation Monitor/Identifier

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PM1401K-3M Multipurpose Hand-Held Radiation Monitor/Identifier

PM1401K-3M model is a gamma-only radiation monitor without a neutron detector which is designed for quick and reliable measurement of gamma dose rate, detection of alpha, beta, and gamma sources, measurement of alpha and beta radiation flux density, acquisition of gamma spectra, identification of radioisotopes, and measurement of food/soil contamination with 137Cs

Features

- Storage of up to 10000 events and 1000 spectra
- Audible, visual and external vibration alarm
- Categorization of identified radionuclides
- Shock and water resistant IP65 case
- Adjustable radionuclide libraries
- USB communication with PC
- Built-in GPS module

Applications

- Customs and border control
- HAZMAT and CBRNe teams
- Emergency services
- Police and security
- Industrial facilities
- First responders

Radiation Detection › **Handheld Monitors**

PM1401K-3P Multipurpose Hand-Held Radiation Monitor/Identifier

Gamma-neutron model suitable for various radiation control tasks.

The **PM1401K-3 series** of radiation monitors compromises a wide range of all-in-one devices for radiation detection, dose rate, contamination measurements, spectrometry, and radionuclide identification.

The **PM1401K-3P model** is the **gamma-neutron model** suitable for various radiation control tasks, including measurement of ambient dose equivalent rate, detection of alpha, beta, gamma, and neutron sources, measurement of alpha and beta radiation flux density, acquisition of gamma spectra, identification of radioisotopes, and measurement of food/soil contamination with ^{137}Cs.

Features

- Storage of up to 10000 events and 1000 spectra
- Audible, visual, and external vibration alarm
- Categorization of identified radionuclides
- Shock and water-resistant IP65 case
- Adjustable radionuclide libraries
- USB communication with PC
- Built-in GPS module

Operation principle

The PM1401K-3P continuously measures ambient dose equivalent rate $\dot{H}^*(10)$ of photon radiation in the wide energy range, detects alpha, beta, gamma, and neutron radiation, measures alpha and beta radiation flux density, operates as a gamma radiation spectrometer and radioisotope identifier, and measures food/soil contamination with ^{137}Cs radionuclide.

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Partner GEORADIS s.r.o.

Georadis s.r.o. is a specialized manufacturer of advanced radiation detection and monitoring instruments, offering a comprehensive suite of solutions for field and laboratory applications. Their product portfolio includes handheld monitors, portable isotope identifiers, environmental monitoring devices, and laboratory equipment, all designed to meet the rigorous demands of professionals in sectors such as environmental monitoring, industrial safety, and public security.

Product offering

RT-30 Gamma-Ray Spectrometer with Nuclide ID Capability – Georadis

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RT-30 Gamma-Ray Spectrometer with Nuclide ID Capability – Georadis

The RT-30 Gamma-Ray Spectrometer with Nuclide ID Capability (Georadis) integrates a radiation survey meter, dose meter and radionuclide identification device in a weather protected, lightweight and easy to use instrument.

RT-30 Gamma-Ray Spectrometer with Nuclide ID Capability features:

- multiple functions; nuclide ID (isotope name), scan and search
- auto-stabilization
- protection: IP66
- single button operation
- sensitivity: Co-60: 270 cps/MBq, Cs-137: 160 cps/MBq, Am-241: 75 cps/MBq
- data interchange; Bluetooth or USB
- readout search mode; 0 – 65535 cps
- energy response: 20 keV to 3000 keV
- energy compensated doserate: 0 – 10 mSv/h (with G/M detector)
- graphic LCD display; 128 x 64 pixels
- 2GB memory

Read more about the RT-30 Gamma-Ray Spectrometer with Nuclide ID Capability on the Georadis website

ENVIRONMENTAL MONITORING

peo DETECTION

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Partner Else Nuclear

ELSE NUCLEAR S.r.l. is an Italian OEM company specializing in advanced radiation-detection and environmental-monitoring systems for nuclear safety, industry and research.

Product offering

GSU – GAMMA SPECTROMETRY UNIT WITH NaI(Tl)

SP2 – SINGLE-SPHERE NEUTRON SPECTROMETER

LUPIN BF3

SATURN I, SATURN II

SATURN 5702

NAUSICAA IC-T, ICP-T

GM-1, MERCURY

NAUSICAA 2IC

MISTRAL XM

HERMES

FOOMON

THYMON

HERMES GSU

Radiation Detection › Environmental Monitoring

GSU – GAMMA SPECTROMETRY UNIT WITH NaI(Tl)

The GSU gamma spectrometry units employ a 3″x3″ NaI(Tl) crystal coupled to a photosensitive detector (either PMT or SiPM) and an MCA. The detector is installed in a 5 cm thick lead shielding well, with additional inner layers of tin and copper for enhanced background reduction.

GSU is designed to perform gamma spectrometry analyses of small samples, such as foundry casting samples, air particulate filters, environmental samples (rocks, soil, biological samples), positioned in sample holders which can be tailored to meet specific measurement requirements, or Marinelli beakers.

The User can manage the system through the proprietary ELSE NUCLEAR GSU system software, calculating the specific activity and the Minimum Detectable Concentration (MDC) of the sample expressed in Bq/kg, Bq/l, Bq/m^3, etc. The built-in background subtraction subroutine improves the MDC without increasing the measurement time. The software includes fully-customisable isotope libraries as well as User-settable isotope-specific activity alarm thresholds, available through password-protected functions.

The GSU-NORM is a special version of system specifically conceived to perform Naturally Occurring Radioactive Material (NORM) analysis of environmental samples, such as rocks, sediments or soils. Through its MCA and its dedicated software, the GSU-NORM system allows determining the specific activity of NORM isotopes, i.e. K-40, Th-232 and U-238, expressed in Bq/g, %K, ppm eU and ppm eTh.

The sample holders are custom-made supports that fit directly on the detector’s head, used to hold casting samples, test sources or other similar objects.

The Marinelli beakers are used to contain geological samples or other similar materials. Several volumes are available, from 250 ml up to 1 l, with different geometrical features.

Each GSU system includes efficiency curves and coefficients implemented in the analysis software, calculated through Monte Carlo simulations for each specific configuration, acquisition chain and measurement geometry. The simulations are always validated through experimental tests performed with reference radioactive sources.

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SP2 – SINGLE-SPHERE NEUTRON SPECTROMETER

The single-sphere neutron spectrometer SP2 is a unique device that allows performing active neutron spectrometry measurements by employing a single instrument instead of the usual multi-sphere BSS.

SP2 is characterized by the same high sensitivity and precision as BSS in determining the neutron flux over the entire energy range, while removing any reproducibility uncertainty. When employed with the on-line unfolding tool, SP2 can also perform real time measurements.

SP2 is equipped with 32 active ^{6}LiF-covered Silicon neutron detectors installed over six concentric layers inside the moderating assembly, so that they reproduce the spectrometric performance of a six-sphere BSS. The signals are acquired by the built-in electronics and can be either analysed on-line by the built-in unfolding algorithm, or saved as raw data for off-line analysis.

SP2 can be used in a great number of activities in scientific research: homeland security, cargo inspections, calibration laboratories, characterization of stray radiation fields for radiation protection purposes, periodical quality check of the neutron stray radiation field, all applications involving the need of a fast and precise measurement of the neutron spectrum.

A SP2 LITE version is also available, featuring a lighter build and a narrower energy range, suitable for all the applications that do not require to detect neutrons with energy above 20 MeV.

The response function of the device, calculated via Monte Carlo simulations, is available for either on-line and off-line analysis. The response function and unfolding algorithm have been validated after thoroughly testing with reference radioactive sources.

SP2 is the ideal device for performing active neutron spectrum measurements in every radiation environment, including mixed stray radiation fields, workplaces characterized by high gamma background and reference calibration laboratories.

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Radiation Detection › **Environmental Monitoring**

LUPIN BF3

LUPIN BF3 is an environmental monitoring unit for neutron H*(10) measurements, with unique excellent performance for neutron detection in pulsed fields.

The rem counter is composed of:

- BF_3 proportional counter
- Cylindrical moderating assembly
- Built-in power supply, signal management and control electronics

The electronics processes the signal coming from the detector and elaborates the instantaneous H*(10) rate value every second.

If required, the radiation sensitive electronics can be housed in a separate rack. An accessory IP54 version is also available

Data are sent to the connected SATURN ratemeter acquisition and control unit, which locally displays the instantaneous H*(10) rate and the integrated values and compares them to the pre-set alarm thresholds.

A LUPIN BF3 LITE version is also available, featuring a lighter build and a narrower energy range, suitable for all the applications that do not require to detect neutrons with energy above 20 MeV.

Papers published in international scientific journals:

- M. Caresana, M. Ferrarini, G.P. Manessi, M. Silari and V. Varoli, LUPIN, a new instrument for pulsed neutron fields, Nuclear Instruments and Methods in Physics Research Section A 712 (2013) 15-26.
- M. Caresana, C. Cassell, M. Ferrarini, E. Hohmann, G.P. Manessi, S. Mayer, M. Silari and V. Varoli, A new version of the LUPIN detector: improvements and latest experimental verification, Review of Scientific Instruments 85 (2014) 065102.

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Radiation Detection › Environmental Monitoring

SATURN I, SATURN II

The SATURN ratemeter is a compact acquisition and control unit, designed for managing and processing signals from any ELSE NUCLEAR connected detector.

- SATURN I: standard wall-mounted version
- SATURN II: wall-mounting version compliant with “Good Manufacturing Practice” requirements (no external cable or connectors)

All the ratemeter versions feature local function buttons with status LEDs, internal acoustic buzzer and a relay connector, used to manage external alarm columns or interlocks.

The SATURN ratemeter continuously acquires and processes the data coming from the connected detector, and compares results with user-defined alarm thresholds.

Two user-selected measurements can be displayed at the same time on the display, such as instantaneous or average count rate, dose rate, activity concentration, counts, dose or activity integrated values.

The user interface is accessible through an external keyboard, which allows local interaction with the full range of parameters (advanced setting is password protected). Measurements, thresholds and operating parameters are stored into an internal, non-volatile memory.

The ratemeter can communicate to and be remotely managed by a host PC through an Ethernet or RS485 network.

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Radiation Detection › **Environmental Monitoring**

SATURN 5702

SATURN 5702 is a mobile station equipped with two detectors for gamma and neutron dose rate monitoring. The station includes:

- Ion-chamber-based gamma radiation monitoring unit: ICP-T or ICP-T-PF
- Neutron rem counter for pulsed fields: LUPIN BF3

The detectors and the electronics are housed in a trolley-mounted mechanical structure. The height of the trolley can be customized according to the customer needs, for example to centre the detectors with the beam line height.

Each detector can be removed from the trolley to be employed remotely, up to 20 m. An ALU alarm column is mounted on the top, providing luminous and acoustic warning signals related to the status of the mobile station (good functioning, pre-alarm and alarm). SATURN 5702 stations can also manage external devices through 4 sets of relay contacts.

The detectors are connected via external cables to a standard 19” electronics rack equipped with two dedicated SATURN ratemeter units (rack version). Each ratemeter features a display, 3 function keys with status LEDs, and a connector for TOUCHKEY2 external keyboard.

SATURN 5702 can be connected to a remote host PC running a data management software (5700 sMON) through ETH or RS485/422 connection.

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Radiation Detection › **Environmental Monitoring**

NAUSICAA IC-T, ICP-T

NAUSICAA is an ion-chamber-based gamma radiation monitoring unit, available in two versions:

- IC-T for environmental measurements (9 decades electrometer)
- IC-T-PF for pulsed field measurements (7 decades electrometer)

Both versions include an ion chamber detector, an electrometer and a CPU-based acquisition and control unit.

The display visualises the dose rate value and status messages, while a built-in buzzer and coloured LEDs provide additional status indications.

The alarm thresholds, the operational parameters and the measurement data are saved in the internal memory. The user can set the parameters through the external keyboard or 5700 sMON software (if provided).

The standard NAUSICAA configuration, suitable for indoor use, is composed by a 3U 63HP table box housing the electronics modules, and the ion chamber directly installed on top of it. Wall mounting accessory and trolley kit are also available, as well as an IP54 enclosure.

It is possible to connect one or more units to a host PC (running 5700 sMON software) through Ethernet or serial communication.

The ICP-T detector is identical to NAUSICAA, but it does not include the CPU, being connected to and managed by a SATURN ratemeter.

The DISCOVERY IC-T unit is a special version of NAUSICAA, assembled in a IP65 housing, designed to operate outdoor; data can be transmitted through a wireless connection or downloaded through a dedicated utility.

Radiation Detection › **Environmental Monitoring**

GM-1, MERCURY

According to the measurement requirements, different versions of Geiger-Müller detectors are available:

- GM-1: single-Geiger detector (up to 1 mSv/h)
- MERCURY: double-Geiger detector (up to 1 Sv/h)

All models employ energy-compensated tubes, lodged in high-protection aluminium cylinders, together with a built-in HV board.

MERCURY detectors are equipped with 2 Geiger-Müller tubes to reach a wider measurement range. An internal electronics automatically switches to the suitable GM tube according to the count rate level.

Both the GM-1 and the MERCURY detectors are connected to and managed by a SATURN ratemeter, which provides power supply, signal processing and data visualization. Each detector-ratemeter couple forms a monitoring unit, which can be connected in a network to a central host PC running 5700 sMON management software.

Among the special versions and accessories available, we mention in particular:

- Stand-alone version of GM detectors for direct connection to PC
- IP65 housing for MERCURY for outdoor installations
- PS-ZB accessory for MERCURY, providing battery-operated power supply and ZigBee Wireless communication, and ZB-TC receiver connected to the ratemeter to acquire the data
- GPS locator for PS-ZB

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Radiation Detection › Environmental Monitoring

NAUSICAA 2IC

The NAUSICAA 2IC system is designed to quantify the beta activity in air or gas streams, due to the presence of tritium or other noble gases, while compensating for the environmental gamma background.

NAUSICAA 2IC can be used in activities involving air sampling from rooms, stacks, hoods, or other effluent passages, process piping, glove boxes, and similar.

NAUSICAA 2IC is composed of:

- two identical, cylindrical, 10 litres, stainless-steel ion chambers
- a pneumatic sampling system
- an electrometer to amplify and manage the (typically very weak) ionisation current
- a local control unit with display and software

Ambient air is sampled in the upper chamber, while the lower one is sealed and filled with clean reference air. Ionizations occurring in the upper chamber are due to both environmental gamma background and beta contamination, whereas inside the lower chambers only gamma background interactions occur. The two chambers are provided with an opposite-polarity HV: the resulting output current is thus the difference of the two single outputs, i.e. the net beta contamination of the sampled air, expressed in activity concentration. An accessory equipment for filtering and drying the sampled air helps limiting as much as possible any spurious signals.

The NAUSICAA 2IC control unit manages data acquisition, processing and visualization. A touch-screen display allows parameters' setting and data visualization. A built-in acoustic and luminous alarm column provides proper warnings in case of alarm or malfunctioning.

NAUSICAA 2IC can be connected to a host PC through RS485 or ETH connection for remote data visualization.

With a 600 V value each camera can generate currents up to 10^{-8} A, with a saturation error < 20%.

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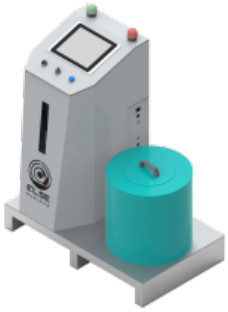
Radiation Detection › Environmental Monitoring

MISTRAL XM



MISTRAL XM is a system designed to sample and monitor the gamma activity concentration resulting from air activation, in Marinelli geometry.

In particular, MISTRAL XM Rooms is designed for free air monitoring, whereas MISTRAL XM Stack is used to monitor the air expelled from a chimney or a stack. In both cases, “X” indicates the number of sampling points: up to 5 (Rooms) or 1 (Stack).

The system is composed of:

- acquisition and processing unit: APU
- sampling and detection unit: SDU-XM

The APU is the main user interface with the system, and it consists in a command and control console including: a panel PC, the system electronics, a control flow meter for the pump, and an array of electrovalves (if needed). The SDU-XM includes the NaI(Tl) detector with MCA, a lead shielding well, and a pump for air sampling. The system also manages the expulsion of the monitored air.

The Stack version includes a flow rate meter (STACK-DFM), to calculate the specific activity of the expelled air volume.

The software installed on the PC displays in real time the measurement, controls the system status, and allows to set the operative parameters, such as the alarm thresholds. The user can define specific regions of interest (ROIs) and thus determine the specific activity (Bq/g) of the sampled air.

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Radiation Detection › Environmental Monitoring

HERMES

HERMES systems are rugged, portable units for radiation detection, designed and tailored for a wide range of operational scenarios such as gamma and neutron detection, dose rate measurement, gamma spectroscopy and more. HERMES systems are suited for emergency response activities, as they are mounted inside robust and high-IP technical cases, which can be handheld or vehicle-mounted.

The HERMES product line includes customisable configurations, such as:

- HERMES NAI or CSI, with NaI(Tl) or CsI(Tl) detector and MCA to perform gamma spectrometry
- HERMES GMT or PLA, with Geiger-Muller or plastic detector for high-sensitivity gamma monitoring
- HERMES NEU, with ^{10}BZnS neutron detector and plastic moderator for artificial neutron source detection
- HERMES SENTINEL, combining NaI(Tl), GM tubes and neutron detector for comprehensive radiation surveillance

HERMES units support remote operation via LAN or Wi-Fi through a smartphone or a tablet. According to the configuration, the proprietary software provides real-time dose rate data, nuclide identification, alarms, and interactive heat mapping. Scan results, GPS coordinates and events are automatically logged into the local memory for off-line processing.

HERMES units incorporate advanced gain stabilization, dead time correction, and automatic energy calibration based exclusively on natural background radiation (no source needed to calibrate).

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Radiation Detection › Environmental Monitoring

FOOMON

FOOMON is a portable fully-integrated instrument specifically conceived for screening of I-131, Cs-134 and Cs-137 accumulated in food samples. Its “on-the-field” design allows deploying the device in any kind of situation, such as routine campaigns or emergency procedures.

The whole device is self-contained in a portable high-IP-grade technical case, for an overall weight < 25 kg. The food samples are to be placed in 500 ml Marinelli beakers, which then are lodged inside a 1 cm thick lead shielding well upon the detector’s end cap. The complete setup and deployment of the system requires less than 5 minutes.

The User can manage FOOMON through the user-friendly control and analysis software installed on the embedded panel PC, automatically calculating the specific activity and the Minimum Detectable Concentration (MDC) of the sample (in Bq/kg). Data are stored locally and can be analysed and downloaded with dedicated software routines.

The measured activity concentration is compared with isotope-specific and food-group-specific alarms. In the case of an alarm, the measurement output is clearly labelled and the alarm status is clearly displayed on the software, which also activates the acoustic alarm.

The counts-to-activity-concentration conversion coefficients are calculated by means of dedicated Monte Carlo calculations.

The MDC achievable in 1 minute, with an average indoor background (150 nSv/h), is as low as about 150 Bq/kg for Cs-137 and Cs-134, and about 90 Bq/kg for I-131. Under the same conditions, MDC as low as about 30 Bq/kg for I-131, and about 40 Bq/kg for Cs-134 and Cs-137, can be achieved in about 10 minutes.

If enabled, the automatic background subtraction subroutine allows further lowering MDC and measurement uncertainty without increasing the counting time.

Radiation Detection › **Environmental Monitoring**

THYMON

THYMON is a compact NaI(Tl)-based detector specifically conceived to fast, yet reliably, measure I-131 contamination in thyroid. Its compactness, ruggedness, light-weight, together with its simple and intuitive built-in software interface, make the device perfectly suited for emergency screening applications. The instrument can be used either hand-held or hands-free. The instrument is composed by three main subparts:

- Detector probe: a 1.5” x 1.5” collimated NaI(Tl) crystal coupled to a SiPM matrix and extremely compact readout electronics and MCA
- Extendable support: designed as both table-top and standalone, providing the possibility of hands-free operation
- Control tablet: IP65 water- and dust-proof 8” capacitive screen, wired-connected to the probe

The mechanics of the probe is specifically conceived to ensure the best alignment between the probe and the thyroid, guaranteeing excellent crystal-to-thyroid alignment, and reducing positioning uncertainties.

The control and analysis software installed on the control tablet is designed to be simple and intuitive, yet advanced and comprehensive. This is accomplished by combining a simple and intuitive interface with advanced calculation routines, which run automatically as the measurement start, without the need of operator intervention.

Data are stored locally on the tablet internal memory, and can be analysed and downloaded with dedicated software routines.

The automatic I-131 activity calculation is given for pre-defined age groups: 1 yo, 5 yo, 10 yo, 15 yo (Adult Female), Adult Male. Counts-to-activity conversion coefficients are calculated by dedicated Monte Carlo simulations based on detailed detector and thyroid numerical models. The simulations are always validated for the specific system through experimental tests performed with reference radioactive sources.

The activity is compared to 2 User-defined threshold levels, each defined per each age group, following the two Action Levels logic.

MDA as low as about 100 Bq can be achieved in 2 min screenings. The MDA can be further lowered by enabling the background subtraction option.

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Radiation Detection › Environmental Monitoring

HERMES GSU

HERMES GSU is a portable gamma spectrometry system designed for rapid and precise in-field analysis of environmental samples. As part of the HERMES product line, it features a rugged, modular, and self-contained design housed in a high IP-rated technical case, ensuring durability and reliability in demanding conditions.

HERMES GSU quantifies isotope activity concentrations based on a rich built-in, yet fully-editable, isotope library. Its portability and autonomous operation make it ideal for both routine monitoring and emergency response scenarios.

Samples can be directly collected from the field, placed in 500 ml Marinelli beakers, and inserted into the built-in 1 cm lead-shielded well, minimizing background radiation for immediate, on-the-spot, low MDC analysis, and enhancing measurement accuracy and sensitivity. The system automatically calculates activity concentrations, making it a powerful tool for in-situ, laboratory-grade measurements.

HERMES GSU features advanced routines for gain stabilization, dead time correction, and automatic energy calibration (relying on natural background only, thus not requiring any radioactive reference source).

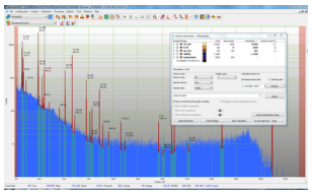
Efficiency calibration curves are generated using validated Monte Carlo simulations. Predefined efficiency curves are available for different sample matrices, including soil, water, and foodstuffs, across various densities. Custom calibration curves can be provided upon request.

Partner **BSI**

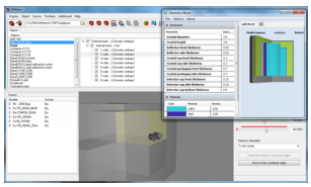
Baltic Scientific Instruments (BSI) is an OEM manufacturer based in Riga, Latvia, dedicated to the development and production of advanced spectrometric and detection equipment. With decades of experience and roots in the former Research Institute for Radioisotope Apparatus (RNIIRP), BSI provides cutting-edge technologies for nuclear power, environmental monitoring, security, medicine, and scientific research.
The company specializes in HPGe, Si, CdZnTe/CdTe, and scintillation detector systems, known for their accuracy, stability, and performance in demanding analytical environments.
Through continuous innovation, strict quality assurance (ISO 9001:2015), and strong international collaboration, BSI supports customers worldwide in achieving precise and reliable radiation measurement and analysis.

Product offering

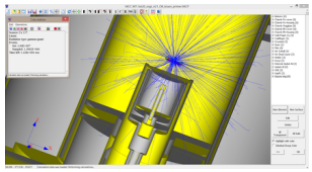
Gamma analysis software SpectraLineGP



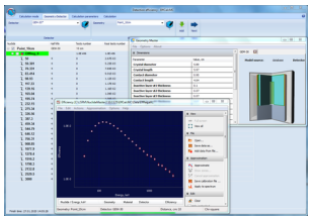
Calibration software EffMaker



Calibration software MCC-MT

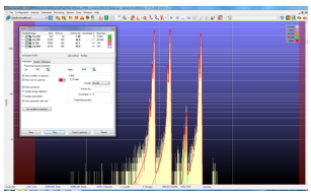


Nuclide Master Plus



Quality Assurance package

Alpha analysis software SpectraLineADA



AirTrack Aerosol Monitoring Station

AirTrack-i Iodine Monitoring Station

WaterTrack Online Water Monitoring Station

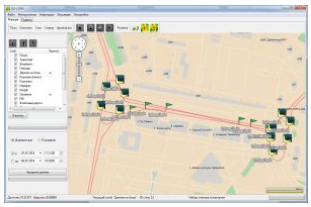
Spectrometer WaterSPEC

Spectrometer AirSPEC

Mobile Radiation Monitor GammaCART

Alpha analysis software AlphaPRO

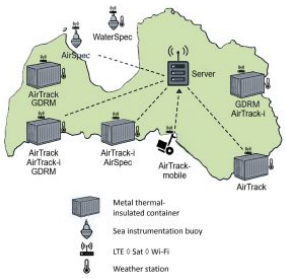
SpectraLineGIS software package



Gamma analysis software GammaPRO

Hybrid cooling for the HPGe detector Nicole

Radiation Analysis and Visualization Environment Network RAVEN software



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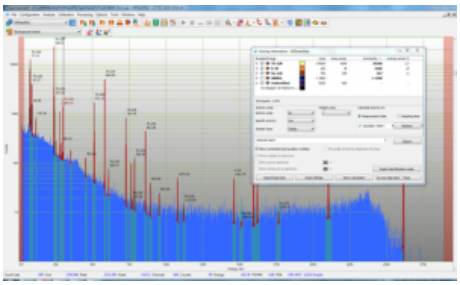
Gamma analysis software SpectraLineGP



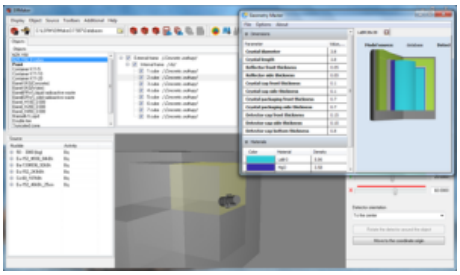
SpectraLineGP has been developed for spectrometry measurements and precision processing of gamma spectra. Spectra processing includes calibration, peaks parameters determination, nuclides identification, activities calculation and using the true-coincident factors for the gamma emission intensity correction. External programs can be used in SpectraLineGP as an additional instrument for user methods realization for solving of the specific spectrometric tasks.

Features

- algorithms of peaks search and multiplets separation;
- calibrations by energy, FWHM, peak pattern, detection efficiency, secondary peaks with quantitative and visual control;
- calculation of the peak parameters (position, half-width, area), with storing the results in a text file;
- different methods of activity calculation;
- storing the measured spectra and results of processing in the database in order to repeated analyze for convergence in accordance with the given criteria (the quality estimation);
- connection of an arbitrary number of measuring channels;
- independent control, start, stop, spectra storage and visualization in all measuring channels;
- additional stop conditions: on activity uncertainty values, peak area, peak area uncertainty, peak MDA, ROI integral count;
- account for cascade summation effect, correction to high count rates and accidental summation.

Radiation Detection › Environmental Monitoring

Calibration software EffMaker



EffMaker software package has been developed for calculation of detection efficiency and modeling of gamma-spectra in different measuring geometries using Monte-Carlo method. EffMaker can be used for measurements of objects activity by gamma-spectrometric methods when the spectrometer calibration can be hardly done by reference standards, e.g. for measurements of transport containers, packages with radioactive wastes, others wastes. Objects with arbitrary distribution of activity, which includes nonuniform distribution, can be modeled using this software package. So it can be used for analysis of how radionuclides distribution in the sample affects the activity measurements results. This function presents the promising way of EffMaker using for development and testing of software and methodological support.

Features

The response function is modeled for the detector to the increase of the calculations speed. This function is a set of spectra for monochromatic radiation in the prescribed range. The response function is transformed to the response matrix which takes into account number of channels of the spectrometer and its resolution. The gamma spectrum of the object (the physical spectrum of the source) in the point of the detector's location is modeled independently. The detector spectrum of the source is obtained as a convolution of the physical spectrum with the detector's response matrix.

A modeled object is a dissymmetric structure consisting of embedded cylinders, parallelepipeds, spheres. So objects with sophisticated parameters and arbitrary distribution of activity can be modeled: with surface (internal and external), volume distribution etc.

The built-in set of patterns in EffMaker simplifies the creation of complex geometrical objects with nonuniform activity distribution. The following patterns are included:

- a truncated cone, with one-layer or two-layer walls;
- an empty or filled tube, open sidelong test tube with internal or external surface contamination;
- cylinder, profile, top or bottom view, with one layer of the source;
- a box for the air tubes modeling with external contamination, activity can be distributed in internal or external layers;
- spherical objects with internal contamination like pipe closers
- angle bar and double tee with random orientation, with the contaminated surface;
- circular and rectangular plates.

The main functions:

- fine adjustment of relative position of the detector and the object, including the option of the detector placing inside the object;

- calculation of spectrum and detection efficiency for the selected geometry;
- batch calculation of detection efficiency for different detectors and objects;
- energy spectrum calculation using energy grid or by setting of activities of radionuclides taking into account the decay chain;
- radionuclides database on the basis of ENSDF compatible with Nuclide Master;
- the database of cross-sections of interaction of gamma rays with matter for setting of arbitrary material of the object;
- the database with models and calculation results;
- integration of calculation results with SpectraLine software package.

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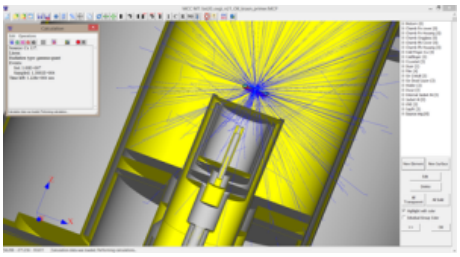
Radiation Detection › Environmental Monitoring

Calibration software MCC-MT



Application

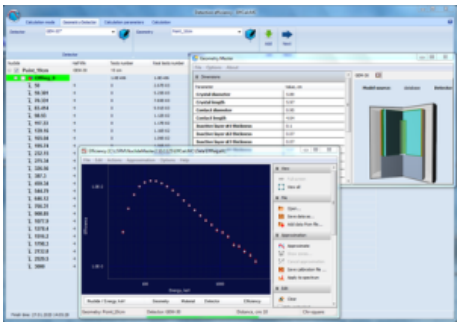
- Monte Carlo simulation spectra of gamma, beta and radiation;
- Characterization detectors and detection systems;
- Calibration of instruments used for ionizing radiation detection and measurements without using the hazardous ionizing radiation for human health;
- Obtaining clear picture of the internal processes of radiation transfer in order to optimize the design of the measuring devices and their protection;
- Acceleration, simplification and reduction in the cost of design and optimization of ionizing radiation detection systems;

Features

- High accuracy of calculations
- Detailed 3D-scene based on Open GL graphics technology providing maximum representation and visibility of modeling
- Availability of replenished database of sources and materials
- Possibility of creating the maximally complex measuring systems
- Forming multidetector systems and schemes of coincidence
- Display of the results in the form of an ideal and real spectrum
- Tracing and drawing trajectories of particles during calculation process
- Availability of the ready and test projects in the distributive package (HPGe, scintillation detectors, protective lead shielding, volumetric sources and samples, etc.)
- Accounting cascade summation (‘Full cascade’ source type)

Radiation Detection › Environmental Monitoring

Nuclide Master Plus



Application

Nuclide Master Plus is an extended version of Nuclide Master software. It is intended for calculation of detection efficiency, spectra and true coincidence factors.

Features

The calculation is based on Monte-Carlo method using parameters of the required nuclides from the library of evaluated nuclear structure data ENSDF (Evaluated Nuclear Structure Data File).

The calculations can be performed in point, cylindrical geometries and in Marinelly for different detectors types (semiconductor and scintillation) which are saved in database compatible with EffMaker software.

Functions:

- detectors and measurement geometries parameters setting and saving in database;
- lines and radionuclides lists creation;
- calculation of detection efficiency and correction factors for true coincidence using Monte-Carlo method;
- data filtering;
- creation and addition of correction factors for true coincidence library;
- data viewing and saving in detection efficiency library;
- batch processing possibility for several geometries and energy ranges.

If a file with correction factors is included into processing software SpectraLine, the true coincidence effect is corrected at the activity calculation.

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Radiation Detection › Environmental Monitoring

Quality Assurance package

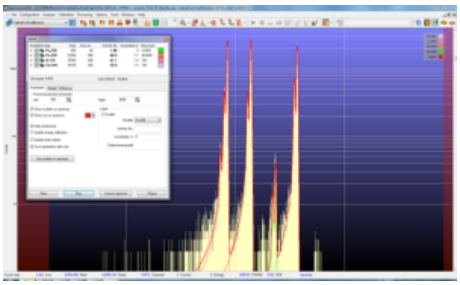
Gamma or Alpha analysis software SpectraLine can be extended with Quality Assurance package in order to provide monitoring of the spectrometer channel for the parameters of the full energy peak (position, FWHM and detection efficiency) for the specified energy and the background count rate.

The reference sample and the background are measured in semi-automatic mode for quality control. As the scenarios are used the measurement parameters can be flexibly adjusted and the monitoring results can be displayed depending on the date and time of the measurement start.

The control limits determined by the alarm and warning levels are displayed on the graph, so the parameters deviation from the specified intervals can be easily found.

Radiation Detection › Environmental Monitoring

Alpha analysis software SpectraLineADA



The SpectraLineADA (Alpha Decay Analysis) software package has been developed for alpha-spectrometric analysis with spectrometers based on either semiconductor detectors or ionization chambers.

- processing of alpha-spectra of both «thin» and «thick» sources
- consideration of thin structure of alpha-spectra, parametrical description of the line shape
- consideration of the contribution of conversion electrons, which is required if the ratio of detectors parameters to the distance between source and detector is small
- registration efficiency calculation
- activity calculation by the inserted label. It allows to take into account the a priori information for results specification
- calculation of the radiochemical yield (radiochemical yield is calculated as the ratio between the amount of the nuclide material in the measured sample and the amount of this nuclide material, added to the probe)

The demonstration configuration and calibration scenario are included in SpectraLineADA installation package.

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Radiation Detection › Environmental Monitoring

AirTrack Aerosol Monitoring Station

The Aerosol Monitoring Station is a breakthrough in autonomous radiation surveillance, utilizing silicone, high purity germanium or scintillation detectors for alpha, beta, and gamma monitoring in the air. With unparalleled precision, this cutting-edge system ensures swift and accurate detection of radioactive aerosols. Operating autonomously, it offers real-time data, making it ideal for industrial, research, or emergency scenarios. The advantages of high purity germanium and scintillation detectors make this station a reliable guardian, providing continuous and precise radiation monitoring to safeguard diverse environments.

MAIN OPERATING FUNCTIONS

- acquiring alpha-beta and gamma spectra in real-time;
- calculating activity of radionuclides on the filter [Bq] and concentration of radionuclides in the air [Bq/m3];
- indication of the concentration of Radon in the ambient air and automatic compensation its progenies;
- two programmable thresholds (notification and alarm) for radiological events in each measurement chain (alpha, beta and gamma emitters);
- automatic filter replacement depending on its contamination degree, integrity damage, or after measurement time;
- automatic control of filter condition, including measurement of differences in the air pressure Δp at the inlet and outlet of the filter;
- measurement of the flow rate of the incoming air;
- data transfer via LAN, USB and 4G interfaces in the ANSI 42.42/EURDEP format to the end-user;
- control of all AirTrack operations from a remote computer.

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Radiation Detection › Environmental Monitoring

AirTrack-i Iodine Monitoring Station

The Aerosol Monitoring Station, tailored for gamma radiation monitoring in the air, is a specialized tool designed for in-depth analysis of airborne iodine. Utilizing the advantages of a scintillation detector, specifically SrI, and employing unique filters crafted for iodine analysis, this autonomous system ensures unparalleled accuracy. Ideal for situations requiring precise detection, such as nuclear incidents, the station stands as a reliable guardian, providing real-time data for swift response and safeguarding against potential threats associated with airborne iodine.

Features

MAIN OPERATING FUNCTIONS

- acquiring gamma spectra in real-time;
- measuring the activity of I-131 on the filter [Bq] and calculating the concentration of I-131 in the air [Bq/m3];
- automatic filter replacement depending on its contamination degree, integrity damage, or after the expiration of the specified measurement time;
- automatic control of filter condition, including measurement of differences in the air pressure Δp at the inlet and outlet of the filter;
- measurement of the flow rate of the incoming air;
- ambient air temperature measurement;
- two programmable thresholds (notification and alarm) for radiological events;
- audio and color alarm signals about operation modes and exceeding threshold values;
- data transfer via LAN, USB and 4G interfaces in the ANSI 42.42/EURDEP format to the end-user;
- control of all AirTrack operations from a remote computer.

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Radiation Detection › Environmental Monitoring

WaterTrack Online Water Monitoring Station

WaterTrack Online Water Monitoring Station is designed for continuous monitoring of the specific activity content of Cs-137 and/or other radioactive elements in Bq/l in running water. Utilizing a high-sensitivity scintillator, it enables real-time detection and quantification of radioactive elements in liquids. The system is ideal for environmental surveillance, industrial discharge monitoring, and water treatment facilities, offering low detection limits and precise measurements. Its robust design ensures consistent performance in diverse conditions, while user-friendly interfaces simplify operation and data analysis.

Features

- Sealed metal cabinet with pipes for connecting to the water supply system, including a stainless steel tank with a capacity >15 liters;
- 5 cm lead shield installed around the tank;
- Ø2×2” scintillation detector SrI2(Eu) with <3.5% energy resolution installed inside the tank with (NaI(Tl), CeBr3 – optionally);
- 4096 channels MCA for gamma spectrometry;
- Evaluation of measurement results according to ISO 11929;
- Automatic stabilization of gamma spectrometric channel by K-40 peak;
- Continuous self-testing procedures with an alarm signal and messages.

Radiation Detection › Environmental Monitoring

Spectrometer WaterSPEC

Application

WaterSPEC is designed for indoor or outdoor use in aquatic environments. The waterproof housing has IP68 degree of protection: dust-tight (full protection against dust and other particulates) and protected against extended immersion in water to a maximum depth of 2 meters.

Features

- online gamma spectrum acquisition and readout;
- ambient equivalent dose rate H*(10) calculation [mkSv/h];
- automatic radionuclide identification;
- radionuclide concentration indication [Bq/m3];
- operation and settings control via GammaSPEC software;
- data transfer via RS-485 interface;

WaterSpec is a monoblock unit, comprising scintillation crystal, photoelectronic multiplier, HV converter, amplifier, multichannel pulses analyzer and processor unit.

WaterSpec measurement system is autonomous, automated and provides calculation of the ambient equivalent dose rate H*(10) in real time, as well as identification of the most common natural and artificial gamma radionuclides. The results of the identification and dose rate are then transmitted to the upper-level computer via exchange protocol.

WaterSpec has automatic stabilization of the spectrometry channels by means of tracking the position of the K-40 1460.8 keV full energy peak provided by the potassium salt located in the cartridge near scintillation crystal.

WaterSpec is designed for indoor or outdoor use in aquatic environments. The waterproof housing has IP68 degree of protection: dust-tight (full protection against dust and other particulates) and protected against extended immersion in water to a maximum depth of 2 meters.

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Radiation Detection › Environmental Monitoring

Spectrometer AirSPEC

Application

Scintillation gamma-ray spectrometer AirSPEC is intended for measuring scintillation spectra and also for determination of activities and specific activities of radionuclides in prepared and natural samples in 2π and 4π geometries. Spectrometer can be used for radiation monitoring and various tasks like definition of specific effective activity of naturally occurring radionuclides (NORM) in building materials (granite, crushed stone, gravel, etc.), raw materials, products, waste industrial production and rocks without sampling. In addition, AirSPEC is applicable for measurement of surface activity of the radionuclide 137Cs (and other), mass fraction of NORM in rocks and resins the conditions of their natural occurrence on a surface, in boreholes and in warehouses and transport containers. Moreover, AirSPEC can analyze surface contamination of soil, as well as prospecting and exploration of mineral deposits. The spectrometer can be used for operating in laboratory and in the field conditions.

Features

- online gamma spectrum acquisition and readout;
- ambient equivalent dose rate H*(10) calculation [mkSv/h];
- automatic radionuclide identification;
- radionuclide concentration indication [Bq/m3];
- operation and settings control via GammaSPEC software;
- data transfer via RS-485 interface.

AirSPEC is a monoblock unit, comprising scintillation crystal, photoelectronic multiplier, HV converter, amplifier, multichannel pulses analyzer and processor unit.

AirSPEC measurement system is autonomous, automated and provides calculation of the ambient equivalent dose rate H*(10) in real time, as well as identification of the most common natural and artificial gamma radionuclides. The results of the identification and dose rate are then transmitted to the upper-level computer via exchange protocol.

AirSPEC has automatic stabilization of the spectrometry channels by means of tracking the position of the K-40 1460.8 keV full energy peak provided by the potassium salt located in the cartridge near scintillation crystal.

AirSPEC provides an additional feature of thermostabilizing housing to provide a wider range of operating temperatures. The housing provides both high degree of thermal insulation and automatic control and active adjustment of the temperature inside the device. The IP67 degree of protection allows to use AirSpec in severe weather conditions.

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Radiation Detection › Environmental Monitoring

Mobile Radiation Monitor GammaCART

Application

Mobile spectrometric system Mobile Radiation Monitor is designed to measure gamma radiation energy distribution, identify gamma emitting radionuclides, as well as calculate specific and surface activity of gamma emitting radionuclides under conditions of their natural occurrence and at nuclear industry premises. In addition, the system can be used for radiation monitoring, e.g., for examination of large areas, searching lost or stolen gamma radiation sources, study of radionuclide precipitation near radiation hazardous sites without preliminary sampling.

COMPLETE SET

- Electric vehicle as a mobile platform
- Gamma radiation spectrometer containing:
  - Gamma radiation detector(s);
  - Multichannel channel analyzer Polynom;
- Thermostabilization system (for NaI(Tl) or LaBr3(Ce) detectors) containing:
  - Thermostabilizing housing with a built-in heat exchanger
  - Cooling and heating system box;
  - Hoses for circulation of the cooling liquid;
- Navigation system including a external antenna;
- Shockproof toughbook operable in harsh conditions;
- Router with antenna which provides connection between the analyzer, navigation system and toughbook;
- Fixation and positioning system for the detection units;
- Charger for the electric vehicle.

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Radiation Detection › Environmental Monitoring

Alpha analysis software AlphaPRO

The program AlphaPRO is the continuation of the program GammaPRO with some limitations, but focuses on the tasks of alpha spectrometry. AlphaPRO employs different algorithms for determining activity in samples (ROI-method with overdetermined matrix, individual peaks analysis method, superposition method). For the analysis of high resolution spectra (spectra received on semiconductor spectrometers) there separate tools (search peaks, Gaussian approximation, identification, plotting efficiency curves, etc.).

Application

The software is intended to control the alpha spectrometer Amber and analyze the alpha spectra acquired using SIID alpha detectors.

Features

- supported Amber models: Amber-2, 4, 8, 12.
- visualization of spectra and spectrum acquisition progress;
- peak search and fit by Gaussian;
- identification of radionuclides;
- Energy, FWHM and peak shape calibration;
- calculation of efficiency curves and sensitivities;
- calculation of activity by peak method;
- calculation of activity by matrix (ROI) method;
- calculation of MDA according ISO 11929;
- simple and easy to use report editor;
- library of radionuclides and library editor;
- mathematical operations (sum, subtraction, normalization etc);
- batch spectra processing;
- simple and easy to use report editor;
- library of radionuclides and library editor;
- quality assurance control;
- database MS Access which provides transfer and storage of measurement results in a database;
- log which provides automatic registration and storage of measurement and quality assurance results;
- support for the main spectrum formats: SPE, N42, CNF, CHN, SPC, ASW, TXT etc.

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Radiation Detection › Environmental Monitoring

SpectraLineGIS software package

Application

SpectraLineGIS software package is intended for radiation monitoring of territories with gamma-spectrometers and dosimetry sensors, for determination of the radionuclides present, and for mapping results to contamination maps of the territories. The contamination maps can be created using the software: the functions of collecting, analyzing and storing of the gridded pollution information are supported. The user can emulate the pollution from certain activities using the spectra database and identify the source location on the basis of the spectrum supported by SpectraLine.

Features

The Integrated Geographic Information System (GIS) is developed on the basis of DataGIS components and provides the following functionality:

- Creation of maps by importing from MIF and MP formats using a specific application
- Displaying and visualization of the selected thematic map layers
- Varying the map scaling
- Searching for objects on the map
- Display of contamination data according to the color settings and thresholds

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Radiation Detection › Environmental Monitoring

Gamma analysis software GammaPRO

The software is intended to

- Control the spectrometric multichannel analyzer;
- Analyze the spectra acquired using scintillation and semiconductor gamma and beta detectors;
- Work with spectra modeled by the Monte Carlo simulation.

The matrix method enables automatic calculation of activity of a sample provided its radionuclide composition is known. The method is used for routine measurements of food, building materials, water and other substances subject for permanent radiological control.
The superposition method is mainly used for control of correctness of activity calculations in case of hard-to-analyse (multiple peak) low-resolution spectra (acquired by scintillation detectors). Such a tool enables visual estimate of the degree of similarity between an acquired and calculated spectrum. Additionally, calculation data can be adjusted until the spectra completely coincide.
The Software features an integrated system for report generation which provides automatic creation of measurement results. The settings for report generation can be adjusted by user.

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Radiation Detection › Environmental Monitoring

Hybrid cooling for the HPGe detector Nicole

The NICOLE hybrid cooling system combines liquid nitrogen and electro-mechanical cooling. The merge of this two cooling systems provide detection unit non-stop operation for months without having liquid nitrogen to refill.

The NICOLE hybrid cooling system comprises Stirling-cycle cryocooler, cryocooler controller, Dewar vessel, pressure sensor and indicator, liquid nitrogen sensor and level monitor.

Application

Nicole hybrid cooling system for the HPGe detector allows you to keep your detector cold without filling with Liquid Nitrogen for months and years.

Features

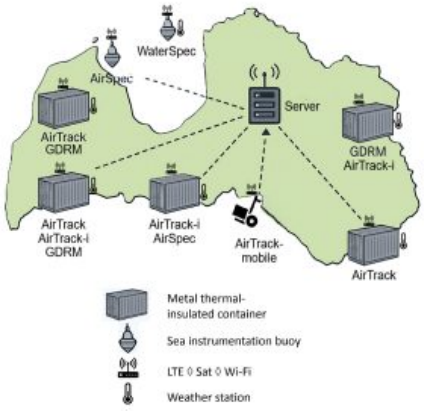
One of the biggest advantages of Nicole hybrid cooling system is that it is extremely easy to perform maintenance and service. The user is given USB interface to get access to all parameters of the system. Majority of main parameters are displayed of the LCD display. And I case of maintenance, repair or replacement of the cooler is needed, it takes only 15 minutes to dismantle the cooling unit. It means the user can continue measurements by only using liquid nitrogen. It can be extremely important when routine measurements can’t be terminated.

Radiation Analysis and Visualization Environment Network RAVEN software

Application

The Radiation Analysis and Visualization Environment Network RAVEN software package was developed for the following purposes:

- Comprehensive environmental radiation surveillance at multiple monitoring points
- Visual tools for data analysis and rapid operator response
- Centralized storage of measurements and technical data for quality assurance



Features

- Multi-layered network: stationary, mobile, and laboratory stations;
- Real-time monitoring with intervals based on air and water radiation levels;
- Using a map of any area: site, city, region, country;

The software package is built on several blocks, like:

- Main dashboard with general information,
- A map with location of all Stations and key current values,
- Measurement results is a block with displays detailed flow of data from each Station,
- Summary report.

The current status of each monitor at every measurement station can be tracked in the Dashboard. The Dashboard does not display measurement results; only technical data related to each Monitor. This allows the operator to maintain a comprehensive overview and respond promptly if any monitor requires attention (filters are running low or a measurement has stopped due to a malfunction).

Measurement results for each monitor are available in a dedicated window, presented in tabular format in compliance with ISO 11929. The measurement result window also provides access to monitor technical parameters and the alpha/beta or gamma radiation spectra. The radiation spectrum registered by each monitor can be accessed at any time. This option helps assess detector’s performance and, together with valid technical parameters, supports quality assurance of the measurement results.

The software generates a summary report for a chosen alpha/beta/gamma radionuclide concentration in one table, presenting all monitors measuring this radionuclide. Ambient dose equivalent rate values are also shown in a table format: both from GDRM and (if presented) AirSpec/WaterSpec/WaterTrack multifunctional spectrometers.

All measurement results are stored in a database and can be displayed for any selected time period Data can be averaged over 1, 3, 6, 12, or 24 hours, or by month. The operator can add multiple blocks for display as time series charts or tables. The resulting report can be downloaded as a DOC or PDF files.

The Software has two access levels: operator and administrator. The administrator mode provides full access to all functions, while the operator mode is limited to monitoring only.
The Software provides a station maintenance history, automatically logs all changes made by the administrator to the station configuration, and records all messages from the monitors.

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Partner Bertin Instruments

Bertin Instruments is a global provider of advanced radiation detection and environmental monitoring solutions, specializing in handheld monitors, personal electronic dosimeters, environmental monitoring systems, and waste & recycling management technologies. Their instruments are designed to meet the rigorous demands of nuclear facilities, emergency response teams, and environmental agencies.

Product offering

GammaTRACER Spider Autonomous Gamma Monitor for Emergencies – Saphymo

AlphaGUARD-Radon Monitor – Bertin Instruments

ShortLINK Short-Range Environmental Radiation Monitoring Network – Bertin/ Saphymo

GammaTRACER Autonomous Radiation Monitoring Probe – Saphymo

BAB E Air Monitoring Beacon

SkyLINK Wide-Range Environmental Radiation Monitoring Network – Bertin/ Saphymo

AlphaE – Bertin Instruments

SpectroTRACER Environmental Radiation Monitor – Saphymo

Skydose Dosimetry System – Bertin Instruments

Coriolis RECON – Bertin Instruments

Coriolis Micro – Bertin Instruments

Radiation Detection › Environmental Monitoring

GammaTRACER Spider Autonomous Gamma Monitor for Emergencies – Saphymo

The GammaTRACER Spider Autonomous Gamma Monitor (Saphymo) has been designed to cover the needs of first responders in an emergency scenario. Based on the proven GammaTRACER design, the probe provides reliably the measurement of the gamma dose rate and wireless data transmission to the crisis center by means of SkyLINK radio or Iridium satellite modem.

GammaTRACER Spider Autonomous Gamma Monitor for Emergencies features:

- built-in battery for up to 5 years operation
- innovative self-erecting design, very fast deployment
- ultra compact design
- emergency proof communication options
- SkyLINK radio modem (up to 100 km/60 mi)
- satellite modem (Iridium)
- hermetically sealed weatherproof housing
- wide measurement range: 20 nSv/h up to 10 Sv/h
- can be used to quickly enhance density of existing monitoring networks

GammaTRACER Spider demo

AlphaGUARD-Radon Monitor – Bertin Instruments

Overview:

The complete product line provides all accessories for radon in air, water, soil, building materials, progeny, thoron and calibration equipment to perform air, water, soil, exhalation measurements. The collected data can be linked to the DataVIEW software, allowing data download and storage as well as professional data analysis and reporting. With AlphaGUARD, bring your Radon Lab everywhere.

AlphaGUARD incorporates a pulse-counting ionization chamber (alpha spectroscopy).

Based on optimal chamber geometry and intelligent signal evaluation, this radon monitor is suitable for continuous monitoring of radon concentrations between 2 – 2 000 000 Bq/m³.

The DSP (Digital Signal Processing) technology provides highly effective differentiation ability between “real” radon data and all kinds of artefacts.

Features:

- 0.62 L pulsed ionization chamber
- Measuring range of 2 to 2,000,000 Bq/m³,
- Instrument calibrator error of 3%
- Storage capacity of up to 60,000 measurement points
- Storage of:
  - 400 days at 10 min measuring cycle
  - 2,500 days at 60 min measuring cycle
- Battery life of 10 days (40 days with external battery)
- 329 mm x 355 mm x 123 mm and weighs 6,2 kg (13,7 lbs)

Your Radon Lab – Everywhere:

- AquaKIT
- Soil gas Probe
- AlphaPM
- AlphaPUMP / LabPUMP
- Emanation / Calibration Container
- Exhalation Box
- On line Radon in water monitoring
- Valve Selector

Benefits:

- Quality at the highest level
- Long-term stable calibration factor (guaranteed 5 years)
- Calibration traceable to different national standards (PTB, NIST, NPL)
- Inbuilt quality assurance system for permanent validation of system operation and data
- Fast transient response

- DataVIEW PRO software
- Automatic background correction
- No sensitivity to high air humidity

Reasons to choose ALPHAGUARD – RADON MONITOR:

- Reference instrument with high sensitivity
- Calibration stability guaranteed for 5 years
- High performance for versatile applications
- Maintenance-free operation

Gallery:






AlphaGUARD - Your Radon lab everywhere
https://youtu.be/oJaaYf9-Pbl

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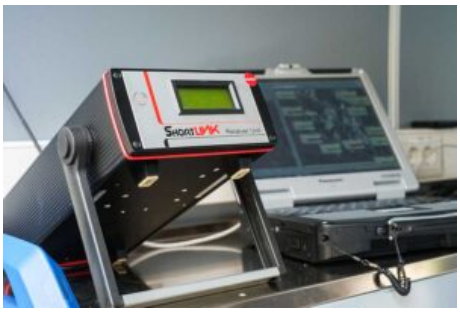
ShortLINK Short-Range Environmental Radiation Monitoring Network – Bertin/ Saphymo



The ShortLINK Wireless Communication System is a short-range, fully autonomous and private wireless network. You can use this system to transmit online data from connected low-power sensors or instruments to a central station. Unlike public cellular communication system standards (like GSM), this system is not dependant on the existence of an area covering cellular infrastructure. ShortLINK is generally installed in combination with a radiological network, like GammaTRACER and DataExpert supervision software.

If you want to know more about Bertin data transmission systems, take a look at our partner's website!

SHORTLINK WIRELESS COMMUNICATION SYSTEM FEATURES AND BENEFITS

- Very low power consumption
- Operating distance up to 5 km (3 mi)
- Turnkey installation
- Long-term maintenance-free operation
- Can withstand temperatures from -40°C to 60°C (-40°F to 140°F)

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GammaTRACER Autonomous Radiation Monitoring Probe – Saphymo

The GammaTracer Autonomous Radiation Monitoring Probe from Bertin is designed to continuously measure, record, and transmit the environmental gamma dose rate. The probes continuously measure the gamma radiation dose.

Worldwide, there are more than 4.000 GammaTRACERs in operation.

The probes also offer a new dimension in wireless data collection. This is possible because the probes are equipped with a radio module, so you can use them with SkyLINK and ShortLINK for wireless data collection. GammaTRACER can store up to 12.800 data sets, depending on the probe type and measurement cycle.

The probe is available in four types: Basic, Wide, High and XL2.

UNLIMITED AUTONOMY

The GammaTRACER is an autonomous radiation monitoring probe. The monitor's batteries allow maintenance-free, non-stop operation for up to five years, and with an extended battery pack, it will even last up to ten years! This is possible because of the energy-saving chip technology.

But, if you choose the internal solar panel, the autonomy can be unlimited!

They can also resist extreme climatic and environmental conditions because the probes are independent of any physical connections.

GAMMATRACER TYPES

GammaTRACER covers a broad range of radiation monitoring applications because there are multiple types available. The probes are deployable for multiple applications, for example nationwide monitoring, perimeter monitoring, and monitoring for nuclear facilities. The probes are not only suitable for routine, but also for emergency applications.

BASIC

The GammaTRACER Basic has a dose rate measurement range of 20 nSv/h to 10 mSv/h and an energy range of 45keV to 3MeV.

WIDE

The GammaTRACER Wide has a dose rate measurement range of 20 nSv/h to 10 Sv/h and just like the BASIC, also an energy range of 45 keV to 3 MeV.

HIGH

The GammaTRACER High has a dose rate measurement range of 1 mSv/h to 10 Sv/h and an energy range of 80 keV to 4,4 MeV.

XL2

The GammaTRACER XL2 has a dose rate measurement range of 10 nSv/h to 10 Sv/h and an energy range of 45 keV to 2 MeV. The XL2 type also has fast a response mode of 1 second.

ADDITIONAL OPTIONS

Even though the four GammaTRACE options already have a lot of features, there are also options you can choose from. All types can operate in temperatures ranging from -20°C (-4°F) to 50°C (122°F), but you can also choose for the option of -40°C (-40°F) to 60°C (140°F). Furthermore, you can choose additional sensors (rain, wind and weather), power supply by solar panels or a seismic qualified version.

BENEFITS & FEATURES

- Measures x-radiation and gamma radiation
- Measurement cycle, adjustable from 1 second to 120 minutes
- Battery lifetime up to ten years or even unlimited with solar panels
- Can store up to 12.800 data sets
- Type apporval in several countries
- Maintanance-free
- Non-stop operation
- Easy to install

If you want to read more about GammaTRACER, take a look at our partner’s website!

https://youtu.be/59D0HZs64zw

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If you have any questions…

Contact PEO!

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Radiation Detection › Environmental Monitoring

BAB E Air Monitoring Beacon

The BAB-E fixed beacon is used for continuous monitoring of artificial Alpha and Beta aerosols, in Gamma environments as well as in the presence of natural Radon descendants. It has a double cover that allows it to withstand the most extreme climatic conditions for uninterrupted use outdoors (territorial surveillance, nuclear infrastructures, etc.). The data collected by the BAB-E can be accessed remotely and in real time on the DataEXPERT supervision software.

Features

- Can be used in controlled areas with high gamma background
- Compensation of radon progenies
- Use of standard sources for efficiency controls
- Ruggedized, can be used on dismantling and purification sites
- Available as stationary or mobile version
- Can be connected to a central monitoring network and trigger a general alarm

Technology

- The radioactive dust is deposited by air suction on a filter paper placed in the BAB beacons.
- The suction flow rate is about 5 m3/h (it depends on dustiness and type of filter paper).
- The flow rate is calculated from the depression measured between the filter and the pump. This allows to detect any tear or dust clogging.
- Placed one centimeter above the sample, the detection system is based on two 300 µm thick silicon diodes with a surface of 360 mm2.
- The analog signal from the two diodes is amplified by a preamplifier with an output range of about 30mV/MeV.
- An amplifier increases the signal amplitude to 0.7V/MeV, and the signal is then used to produce the energy spectrum via an amplitude analyzer that encodes information to 512 channels.

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Radiation Detection › Environmental Monitoring

SkyLINK Wide-Range Environmental Radiation Monitoring Network – Bertin/ Saphymo

The SkyLINK Wireless Communication System is a wide-range, fully autonomous and private wireless network. You can use this system to transmit online data from connected low-power sensors or instruments to a central station. Unlike public cellular communication system standards (like GSM), this system is not dependant on the existence of an area covering cellular infrastructure. The system generally includes a radiological network like GammaTRACER probes and the DataExpert supervision software.

For more information about Bertin Data Transmission systems, take a look at our partner's website!

The system structure allows its use in every situations, even in the most accidental ones (private wireless communication network and easy-to-install autonomous probes).

SKYLINK WIRELESS COMMUNICATION SYSTEM FEATURES

- Very low power consumption
- Operating distance up to 100 km (60 mi)
- Private network, so no regular transmission fees
- Easy interface to external instruments or host processors
- Turnkey system installation
- Long-term maintenance-free operation

https://youtu.be/59D0HZs64zw

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Radiation Detection › Environmental Monitoring

AlphaE – Bertin Instruments

AlphaE is an electronic handheld device for fast and time-resolved radon monitoring in buildings, outdoors and mines. Typically, 80 % of the final result is achieved after 2 hours (faster response for higher values). Due to its ultra-lightweight design and sophisticated features, AlphaE is highly suitable also for surveying the personal radon exposure and dose at workplaces.

The AlphaE’s favourable price-performance ratio makes it also interesting for service companies engaged in radon assessment and mitigation as well as for users in private homes.
Up to 6 months battery life allows long-term measurement without mains power. Permanent operations via mains supply are possible via USB port.

Advantages AlphaE

- ultra-lightweight design
- sophisticated features
- wide measuring range for professional use
- up to 6 months autonomy
- suitable software included

Download the datasheet or contact our product specialist.

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SpectroTRACER Environmental Radiation Monitor – Saphymo

SpectroTRACER is a continuous environmental radiation monitor for spectroscopy to measure very low gamma contamination (water: SpectroTRACER AQUA).

The SpectroTRACER produces a spectroscopic analysis of the detected nuclides identification. The SpectroTRACER is used for the measurement of radioactivity when a standard gamma dose rate monitor is not efficient enough and when it is necessary to discover the nature of the gamma radiation.

SpectroTRACER Environmental Monitor features:

- working temperature: -20 ° C to + 50 ° C. / option: -30 ° C to + 60 ° C
- max. 100 meters under water (SpectroTRACER -AQUA)
- IP68 certified
- relative humidity: 100%
- integrated sensors for temperature and humidity

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Radiation Detection › **Environmental Monitoring**

Skydose Dosimetry System – Bertin Instruments

Skydose is an operational dosimetry system, designed to measure & monitor, in real time, the ambient dose level received by response teams in high exposure areas.

The operational dosimetry system Skydose consists in eight Saphydose γi RT teledosimeters, one Personal Digital Assistant (PDA), one Easydose configuration software, one Saphyr portable reader, as well as one to three RT-ZB05 routers.

The Skydose system is part of an ongoing approach based on the reduction of both collective and individual doses, in compliance with the ALARA principle (As Low As Reasonably Achievable). By optimizing the exposition to ionizing radiation, it aims at improving the operators' conditions of intervention, who will thus be able to focus safely on the objectives of their mission.The Skydose system only takes a **few minutes to install**. Thanks to the PDA, it ensures the in-field monitoring of an eight-person team equipped with Saphydose γi RT teledosimeters using mesh networking.
Flexible & robust, the Skydose system can reliably cover an entire infrastructure (a nuclear power plant, for example), thanks to one or more RT-ZB05 dedicated routers.
Fast & easy to deploy, the Skydose system can be used by operators, first-responders & non-specialists, inside & outside the risk areas.

Features

- easy and quick setting even by non-specialized staff
- automatic network synchronization
- suitable for indoor and outdoor use including reactor buildings
- suitable for emergency situations (sturdy – high dose and dose rate range)
- real-time hotspots detection to reduce the mission dose received by workers
- compliant with use in nuclear facilities (CEI 61526)
- low maintenance costs
- real-time, remote & simultaneous monitoring of the Saphydose γi RT dosimeters, for the team to react immediately in case of emergency
- the Skydose system can be installed and configured in a few minutes, and be safely stored in a ruggedized pelicase – several systems can operate simultaneously, without interference

Specifications

- detector: 2 energy-compensated silicon diodes
- energy range: **from 50 keV. to 7 MeV!**
- dose rate measurement range: 0.5 µSv. to 9,999.99 mSv
- dose measurement range: 1 µSv. to 9,999.99 mSv
- alarms: sound & visual
- battery lifetime in operation: 4,000 hours
- radio range: 300 m

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Coriolis RECON – Bertin Instruments

The Coriolis RECON is a portable, light and ruggedized bio-air sampler for biological warfare agents detection, dedicated to CBRN teams or first responders, with quick deployment in case of an event with biological attack suspicion. The Coriolis RECON have been designed to collect large concentrations of aerosols in the breathable range of 0.5 to 10 µm with an air flow rate at 600L/min, thus being more representative of the environment than traditional bio-aerosol samplers.
Thanks to its ability to collect bio-aerosol particles into liquid format, this system can be used with rapid identification techniques for biological agents (immunoassay, PCR, etc.) to provide an early warning of aerosolized biological warfare agents.

Introduction video

Advantages Coriolis RECON

- the most efficient concentration of biological warfare agent
- high air flow rate
- compatible with any downstream experiments for rapid identification
- bio surveillance with long time monitoring – up to 6 hours
- quick deployment in a military / first responder context

Download the datasheet or contact our product specialist.

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Radiation Detection › Environmental Monitoring

Coriolis Micro – Bertin Instruments

Coriolis µ is an innovative biological air sampler for bio-contamination assessment, mainly dedicated to air quality control and air quality monitoring in environmental and pollution research, pharmaceutical, food and veterinary industries, biomedical and health environment...
Based on a cyclonic technology, combined to a high air flow rate, Coriolis µ offers the most efficient particles collection in 10 minutes. The biological particles such as toxins, virus, bacteria, molds, pollens, spores are collected and concentrated in a liquid ready to be analyzed with microbiological and cellular and molecular biology methods.

Introduction video

Advantages Coriolis Micro

- the most efficient concentration of biological particles
- high air flow rate & long time monitoring option – up to 6 hours
- compatible with any downstream experiments – divisible samples for several analysis in parallel
- flexible liquid sample output
- no saturation of the collection media for charged environment

Download the datasheet or contact our product specialist.

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Partner Ludlum Measurements Inc.

Ludlum Measurements, Inc. is a trusted global provider of radiation detection and monitoring instruments, offering rugged, accurate solutions for personnel safety, environmental protection, and security screening. Since 1962, their equipment has been used worldwide in applications ranging from nuclear power and emergency response to border protection and critical infrastructure monitoring.

Product offering

Model 3101 Portable Tritium in Air Monitor

Model 334AB-G Alpha-Beta Particulate Monitor

Model 334A Alpha Air Monitor

Model 3100 Portable Tritium in Air Monitor

Radiation Detection › Environmental Monitoring

Model 3101 Portable Tritium in Air Monitor

The Model 3101 Tritium in Air Monitor features ruggedized and flexible operation. It is powered by rechargeable internal NiMH batteries and/or an external +12 Vdc power supply. It features a maintenance-free diaphragm air pump to pull air through the 250 cc tritium chamber, and the air flow is measured internally with a mass-air flow sensor. A second 250 cc chamber is used to provide gamma compensation, allowing operation in higher gamma fields. Other internal sensors measure temperature and ambient pressure and provide compensation for these effects.

The heart of the tritium detection is the sealed electrometer chamber, using the latest low-noise electrometer chip. This electrometer can reliably measure the femtoamperes of current resulting from tritium within the chamber and does not require the user to adjust an offset or zero knob. The pixelated digital display provides feedback on the tritium concentration, as well as showing status on several important conditions: temperature, pressure, power, airflow, chamber bias, and alarm or failure status.

The Model 3101 is easy to use, having only a few simple controls, and can be used while wearing gloves. It has a large easy-to-read display with a backlight control for increasing contrast in low-light conditions. In addition to the tritium level, the display simultaneously shows the user the battery/power condition, the temperature, the pressure, the status condition, and the airflow through the chamber.

The Model 3101 is built for ruggedness and reliability. Two airflow pumps were tested and shown to last over 10,000 hours of continuous use. The Model 3101 shares many of the characteristics and design of the Model 3100, which was built and tested for the U.S. military. Testing was done in accordance with ANSI N42.30, MIL-STD-810G, MIL-STD-461G, MIL-STD-901D, and MIL-STD-1399-300B standards which test instrument operation under various conditions including temperature, blowing rain, salt fog, vibration, mechanical shock, RF susceptibility, and RF emissions. The commercial user of the Model 3101 benefits from this design and testing history.

Features

- No Zero Adjust Control Needed
- Easily Calibrated with ^{137}Cs Gamma Range

- Temperature and Altitude Compensation
- “Check Mode” Self-Test Feature Determines Instrument State of Health
- Digital Backlit Display with Status, Airflow Readout, and Diagnostic Information
- Internal Heater Element Purge Mode to Dry Ion Chamber
- Readout in $\mu Ci/m^3$ or MBq/m^3

Model 334AB-G Alpha-Beta Particulate Monitor

The Model 334AB-G (a replacement for the Model 334AB) is a lightweight, battery-powered, alpha-beta air monitor that can be used as a portable workplace monitor or a portable CAM (continuous air monitor) for emergency-response assessments. Its design provides workers with an early warning of an airborne release of alpha- or beta-emitting particulates. The instrument can monitor up to two alpha isotopes of interest simultaneously with beta monitoring.

The Model 334AB-G has an internal 7-LPM pump. (An external pump with a higher flow rate is available as an option.) The integrated LCD and touchscreen displays information on instrument status and readings during operation. The estimated dose of the isotope(s) of interest and the instrument status are displayed at all times. A visual/audio alarm stack also indicates instrument status. An ion-implanted silicon detector and 1024-channel multi-channel analyzer feed data to the embedded processor board to perform beta detection and alpha spectral analysis for radon background compensation.

Background Subtraction Using Peak Shape Fitting

State-of-the-art alpha peak fitting quantifies the alpha and beta counts from radon and thoron progeny. This technique uses the profiles of multiple alpha isotope peaks to create a composite curve which best fits the actual alpha spectrum. Because the individual radon peaks are independently determined, the beta background compensation is impervious to radon equilibrium changes and contributes to low probability of false alarms.

Guard Detector

An internal guard detector provides real-time beta compensation for changing gamma background levels. An adjustable gamma subtraction factor allows for correction of slight differences in beta and guard count rate in a fixed gamma field to produce proper energy response.

Sensitivity and Response Time

The Model 334AB-G's sensitivity varies primarily as a function of the window time. The longer Chronic Window has improved sensitivities over the shorter Acute Window time. Sensitivity is reported in Minimum Detectable Concentration (MDC) in Bq/m^3 (DAC) and Minimum Detectable Dose (MDD) in Bq-

h/m^3 (DAC-h).

Features

- Integrated LCD and Touch Screen Display
- Acute and Chronic Dose, Concentration, and Flow Logging Measurements
- Radon Compensation
- Built-In Gamma Guard Detector
- American or SI Units of Measurement
- 8-Hour Battery Life

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Radiation Detection › Environmental Monitoring

Model 334A Alpha Air Monitor

The Model 334A is a compact, lightweight, and portable alpha air monitor designed to function both as a workplace monitor and a Continuous Air Monitor (CAM) for measurements in emergency response situations. Its functionality is enhanced by its splash- and dust-proof enclosure with splash-proof electronics.

Spectral analysis is conducted via a 1024-channel analyzer that feeds data to the embedded processor. Factory configuration provides either special nuclear materials (SNM) or radon progeny measurements of potential alpha energy concentration (PAEC).

Measurements may be taken in both fast-responding (Acute) or high-sensitivity (Chronic) assessments, and report in English or SI units. The Model 334A stores acquired data in comma-separated-variable (.csv) format that is recognized by most spreadsheet and database software. Data may be saved in the instrument's internal memory, or alternately may be written to an SD card for later retrieval and review.

Independent determination of nuclide peaks means they are impervious to radon equilibrium changes, thereby contributing to low probabilities of error and false alarms. Precise fitting of the ^{218}Po tail results in excellent sensitivity.

This Model 334A features an integrated LCD and touch screen that displays information on instrument status and readings during operation. The estimated dose of the isotope(s) of interest and instrument status is displayed at all times. A window below may be switched from showing historical readings and battery status, or displaying the current spectrum.

Factory-configurable Radon Mode allows the instrument to monitor potential-alpha-energy-concentration (PAEC) of radon progeny.

Features

- Easy Setup and Use
- Integrated LCD and Touch Screen Display
- English or SI Units of Measurement
- Acute and Chronic Dose Modes
- Significantly Reduced False Alarms Using Peak Shape Fitting Capability
- 8-Hour Battery Life

- Radon Mode Option

Radiation Detection › Environmental Monitoring

Model 3100 Portable Tritium in Air Monitor

The Model 3100 Tritium in Air Monitor features ruggedized and flexible operation. It may be powered by either 115 Vac, 50/60 Hz or by rechargeable internal NiMH batteries. It features a maintenance-free diaphragm air pump to pull air through the 250 cc tritium chamber, and the air flow is measured internally with a mass-air flow sensor. A second 250 cc chamber is used to provide gamma compensation, allowing operation in higher gamma fields. Other internal sensors measure temperature and ambient pressure and provide compensation for these effects.

Features

- No Zero Adjust Control Needed
- Easily Calibrated with ^{137}Cs Gamma Range
- Temperature and Altitude Compensation
- “Check Mode” Self-Test Feature Determines Instrument State of Health
- Digital Backlit Display with Status, Airflow Readout, and Diagnostic Information
- Purge Mode to Dry Ion Chamber
- Internal Chamber with Replaceable Desiccant
- Passed USA Military Tests Including: MIL-STD-810G, MIL-STD-461G, MIL-STD-901D, MIL-STD-1399-300B
- Readout in µCi/m^3 or MBq/m^3

The heart of the tritium detection is the sealed electrometer chamber, using the latest low-noise electrometer chip. This electrometer can reliably measure the femtoamperes of current resulting from tritium within the chamber and does not require the user to adjust an offset or zero knob. The pixelated digital display provides feedback on the tritium concentration, as well as showing status on several important conditions: temperature, pressure, power, airflow, chamber bias, and alarm or failure status.

The Model 3100 is easy to use, having only a few simple controls, and can be used while wearing gloves. A clear window allows the user to see the condition of the desiccant in the integrated desiccant chamber. A toggle switch allows the user to put the desiccant chamber in-line to the incoming air. The instrument comes in a rugged hard-shell commercial case with wall-mounting brackets. The Model 3100 has passed USA military testing for RF susceptibility and emission, shock and vibration, temperature and blowing rain, as well as other tests.

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Partner SDEC France

SDEC France is a specialized manufacturer of environmental monitoring and laboratory equipment, offering comprehensive solutions for waste and recycling management, environmental monitoring, and laboratory applications. With over 30 years of experience, the company designs and produces high-quality instruments to support professionals in environmental science, agronomy, and radiological safety.

Product offering

AM 3000 N – Air Sampler for Asbestos Diagnosis in Nuclear Environments – NF43-050 version 2021 , NF X43-269, NF EN ISO 13137

AM 3000 – Air Sampler for Asbestos Diagnosis – NF43-050 version 2021, NF X43-269, NF EN ISO 13137

Battery Operated Field Electric Vacuum Pump PAV 2000 : For soil sampling

AS 5000 Aerosol & Iodine Sampler – SDEC

AS 3000 AEROSOL & IODINE SAMPLER – SDEC

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AM 3000 N – Air Sampler for Asbestos Diagnosis in Nuclear Environments – NF43-050 version 2021 , NF X43-269, NF EN ISO 13137

- **AUTONOMOUS SAMPLING**: The AM 3000N ensures consistent and reliable air sampling without manual intervention.
- **HIGH PRECISION**: Equipped with a pump automatically regulated by a microcontroller and a mass flow meter for increased accuracy.
- **REMOTE CONTROL**: Controllable remotely via an infrared remote control for user convenience.
- **ROBUST & WATERPROOF**: Stackable device with an IP65 protection rating, resistant to harsh environments.
- **PROTECTION AGAINST NUCLEAR CONTAMINATION**: H13 white glass fiber THE filters at intake and exhaust to prevent contamination.
- **CERTIFIED COMPLIANCE**: Complies with NF43-050 version 2021, NF X43-269, NF EN ISO 13137 standards, ensuring reliability and adherence to standards.

Radiation Detection › **Environmental Monitoring**

AM 3000 – Air Sampler for Asbestos Diagnosis – NF43-050 version 2021, NF X43-269, NF EN ISO 13137

- **AUTONOMOUS SAMPLING**: The AM 3000 is an autonomous air sampler, ensuring consistent and reliable sampling without manual intervention.
- **HIGH PRECISION**: Equipped with a pump whose flow rate is automatically regulated by a microcontroller and a mass flow meter.
- **REMOTE CONTROL**: Can be remotely operated using an infrared remote control, enhancing user convenience.
- **ROBUST & WATERPROOF**: The device is robust, stackable, and has an IP65 protection rating, ensuring its durability and resistance to environmental factors.
- **CERTIFIED COMPLIANCE**: Meets the strict requirements of NF43-050, NF X43-269, and NF EN ISO 13137 standards, ensuring its reliability and adherence to industrial norms.

Radiation Detection › **Environmental Monitoring**

Battery Operated Field Electric Vacuum Pump PAV 2000 : For soil sampling

- **RAPID VACUUM CREATION:** Achieves a vacuum of -750 mbar in less than 15 seconds, significantly speeding up soil sampling.
- **HIGH AUTONOMY & PORTABILITY:** Offers 5 hours of continuous operation with a lightweight and durable aluminum design for convenience in the field.
- **INTEGRATED SMART CHARGING SYSTEM:** Includes a maintenance-free 12V, 5A/hour battery with a smart charger for easy recharging.
- **PRECISION & PROTECTION:** Equipped with an accurate Bourdon-type manometer and a Gore-Tex filter to guard against water ingress.
- **COMPACT & EASY TO USE:** Compact dimensions (200mm x 130mm x 240mm) with a simple three-position operational switch.

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Radiation Detection › Environmental Monitoring

AS 5000 Aerosol & Iodine Sampler – SDEC

The AS 5000 Aerosol & Iodine Sampler (SDEC) is a stationary equipment made for the sampling of aerosols and airborne iodine at high flow on paper filters and cartridges. It is particularly adapted for continuous sampling in stacks according to ISO 2889 standard.

AS 5000 Aerosol & Iodine Sampler features:

- automatic air flow regulation up to 100 liters per minute (6 Nm3/h)
- mass flow-meter with pressure and temperature compensation : display of the air flow in Nm3
- sampling compartment and electrical separated
- detection of filter clogging or accidental leakages
- safety : sampling head access door with key lock, differential circuit breaker
- alarm report via relay output, (optional Ethernet output)
- sampling parameters settings and clogging level threshold protected by access code
- stationary installation (wall mount) or mobile installation on trolley

Read more about the AS 5000 Aerosol & Iodine Sampler on the SDEC website

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Radiation Detection › Environmental Monitoring

AS 3000 AEROSOL & IODINE SAMPLER – SDEC

The AS 3000 Aerosol & Iodine Sampler (SDEC) has been designed to make sampling of aerosols and iodine on filter papers and/or carbon cartridges. It has many technological innovations like the automatic regulation of air flow and the data report on USB key.

AS 3000 Aerosol & Iodine Sampler features:

- automatic regulation of air flow from 10 to 50 LPM
- diaphragm pump (no maintenance)
- compatible with all paper filters and cartridges
- automatic recognition of filter paper or cartridge per drive scanner option
- independent pump (easy dismantling in case of contamination)
- installation of the filter holder by quick system on horizontal or vertical axis
- operating on power supply or battery
- waterproof keyboard

Read more about the AS 3000 Aerosol & Iodine Sampler on the SDEC website

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Partner GEORADIS s.r.o.

Georadis s.r.o. is a specialized manufacturer of advanced radiation detection and monitoring instruments, offering a comprehensive suite of solutions for field and laboratory applications. Their product portfolio includes handheld monitors, portable isotope identifiers, environmental monitoring devices, and laboratory equipment, all designed to meet the rigorous demands of professionals in sectors such as environmental monitoring, industrial safety, and public security.

Product offering

GT-40 Gamma Ray Spectrometer

Radiation Detection › Environmental Monitoring

GT-40 Gamma Ray Spectrometer

A multifunctional gamma ray spectrometer for rapid determination of activities of gamma emitters in field surveys or samplings. A wide range of applications in the field of monitoring heterogeneous substances, contamination of sites, buildings, objects, water and food. Application in geology in field surveys for raw material sources. Proven performance in harsh environment applications. Survey data is stored in the memory, including the GPS coordinates. Up to 6 different calibrations.

Properties

Portable digital gamma ray spectrometer with a built-in computer for complex analysis of the measured data. Bluetooth, Wi-Fi and GPS are an added advantage. Transreflective colour display.

Use

Applicable wherever it is necessary to quickly and accurately determine the activities/content of gamma emitters. Suitable for field survey measurements, but also to be incorporated into shielding.

Modification

The GT-40 series is provided with a NaI/Tl scintillator with a 3″ base diameter and 3″ height. A GT-40S model is also manufactured, which is fitted with either a NaI/Tl or BGO detector with a 2″ base diameter and 2″ height at the customer’s request. The GT-40S model has a built-in 1 cm thick Pb collimator. The collimator is easily removable.

Specification

Two basic working modes: Survey, for terrain scanning, and Assay, for determining concentrations of precalibrated radionuclides, i.e. components. Energy calibration of the analyzer is carried out continuously throughout the operating time, and only natural background sources are used for the set-up. Monitoring and analysis results are displayed on a color graphic display in a well-arranged manner. All acquired data is stored in the unit’s memory and can be exported to other devices via USB, Wi-Fi or Bluetooth. Field observations can be recorded and stored along with each measurement using a built-in voice recorder.

Alternatives – Options – Special applications

Alternative models for special applications have been designed. GT-40-B profits of BGO detector 3″ base diameter and 3″ height. GT-40 – L is a model with extended length of body for scanning of small spots on earth surface. Support for high precision external GPS, build in calibration and protocol for fast core logging.

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Partner Centronic Nuclear

Centronic is a UK-based leader in radiation detection technologies, offering a range of detectors tailored for environmental monitoring in nuclear and industrial settings. Their expertise spans over 70 years, providing reliable solutions for monitoring radiation levels in various environments.

Product offering

Alpha, Beta & Gamma Detectors – Centronic

Beta & Gamma Detectors – Centronic

Radiation Detection › Environmental Monitoring

Alpha, Beta & Gamma Detectors – Centronic

The Alpha, Beta & Gamma Detectors (Centronic) are used for the detection of radiation at low dose rates. This range of mica-window tubes is used for monitoring all types of radiation in a wide variety of environments.

Alpha, Beta & Gamma Detectors features:

- circuitry simple
- robust build
- available with compensating filter

Contact our product specialist or download the datasheet below.

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Radiation Detection › Environmental Monitoring

Beta & Gamma Detectors – Centronic

The Beta & Gamma Detectors (Centronic) are used for the detection of radiation at low, intermediate and high dose rates. These types have a wide range of applications e.g. personal dosimetry, military and defence equipments.

Beta & Gamma Detectors features:

- robust construction
- simple circuitry

Contact our product specialist or download the datasheet below.

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Partner Ultra Electronics

Ultra Electronics acquired Lab Impex Systems on July 17th, 2014. This is a known specialized manufacturer in radiation detection solutions and services for use in the global nuclear industry. Founded in 1976, Laboratory Impex Systems Ltd (LIS) is a leader in designing, developing and manufacturing health physics and radiation protection measurement instrumentation focusing on stack monitoring.

Product offering

CMS Gamma – Lab Impex

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Radiation Detection › **Environmental Monitoring**

CMS Gamma – Lab Impex

The CMS Gamma (Lab Impex) is an advanced continuous monitoring station for the measurement of gamma radiation (dose-rate of activity) in the environment or workplace. The system provides essential, reliable information to personnel when radiation levels are above normal. The versatile unit can provide interlock control in hot areas such as fuel stores, caves, glove boxes and hot cells as required.

CMS Gamma features:

- installed, transportable or trolley mounted
- internal back up battery which enables full operation for up to 1 hour in the event of mains failure
- the detector arrangement can be installed at distances of up to 1000m (3,280ft) from the CMS station
- wide range of detectors available

Read more about the CMS Gamma on the Lab Impex website

HIGH PURE GERMANIUM DETECTORS

peo DETECTION

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Partner BSI

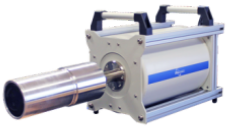
Baltic Scientific Instruments (BSI) is an OEM manufacturer based in Riga, Latvia, dedicated to the development and production of advanced spectrometric and detection equipment. With decades of experience and roots in the former Research Institute for Radioisotope Apparatus (RNIIRP), BSI provides cutting-edge technologies for nuclear power, environmental monitoring, security, medicine, and scientific research.
The company specializes in HPGe, Si, CdZnTe/CdTe, and scintillation detector systems, known for their accuracy, stability, and performance in demanding analytical environments.
Through continuous innovation, strict quality assurance (ISO 9001:2015), and strong international collaboration, BSI supports customers worldwide in achieving precise and reliable radiation measurement and analysis.

Product offering

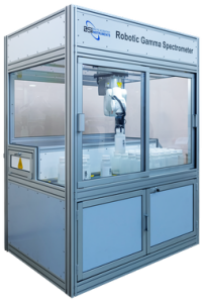
MONOLITH Gamma & X-ray HPGe Spectrometer

HPGe Spectrometer with Lead Shield

Portable HPGe Gamma- & X-ray Spectrometer



Robotic Gamma Spectrometer



HPGe Mobile Spectrometer WAM Mobile

Waste Assay Monitor HERCULES

Ultra Low-background HPGe Detectors

Radiation Detection › High Pure Germanium Detectors

MONOLITH Gamma & X-ray HPGe Spectrometer

Detection unit Monolith consist from the following integrated components:

- HPGe detector
- Preamplifier
- Autonomous cooling system for the detector based on electrical machinery cooler EMC
- Controller for controlling the operation of EMC
- Fans (2-4) for EMC cooling

Features

- 10% – 160% efficiency HPGe p-type coaxial detectors are available;
- Energy range from 40 keV to 10 MeV for GCD model;
- Energy range from 3 keV to 10 MeV for GCDX/GCDX-OS models;
- High efficiency of radiation detection;
- High energy rate up to 200000 MeV/sec;
- Excellent peak symmetry;
- Detection of radiation in any spatial orientation depending on cryostat modification;
- Manufacture in a portable cryostat is possible;
- Low background and Ultra – low background materials are available;
- Doesn’t require a full thermal cycle after an unexpected shutdown.

HPGe Spectrometer with Lead Shield

Application

Coaxial HPGe Detector with Lead Shield is used to measure the specific gamma radiation of radionuclides from various types of environmental objects such as rocks, minerals, sludge, slag, soil, plant, sediment and particulate matter in air and water.

Features

- Adopting precision gamma-spectrometry methods
- Radionuclide identification and determination of their specific activity
- Low level of instrumental background
- Low threshold for radionuclide detection
- Separate and simultaneous measurement of activity of 100 radionuclides

DESCRIPTION

Coaxial HPGe Detector with Lead Shield is used to measure the specific gamma radiation of radionuclides from various types of environmental objects such as rocks, minerals, sludge, slag, soil, plant, sediment and particulate matter in air and water.

Ordering information

For LN2 cooled dipstick HPGe detection units:

- N100 – 100mm thick lead.
- N150 – 150mm thick lead.

For electrically cooled HPGe detection units (Monolith):

- M100 – 100mm thick lead.
- M150 – 150mm thick lead.

Foe hybrid cooled dipstick HPGe detection units (Nicole):

- H100 – 100mm thick lead.
- H150 – 150mm thick lead.

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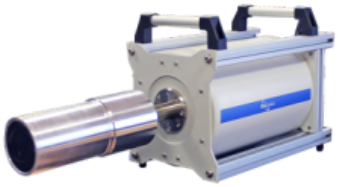
Portable HPGe Gamma- & X-ray Spectrometer

Application

Detection, accumulation, processing and analysis of gamma spectra in field and industry conditions were small dimension and weight of spectrometer are important.



Features

- Ultra-light cryostat fabrication for minimum gamma absorption;
- Light weight aluminum construction;
- Detection of radiation in any spatial orientation;
- Compact low consuming electronics;
- Available with HPGe coaxial or planar detector;
- Transportation and storage without cooling.

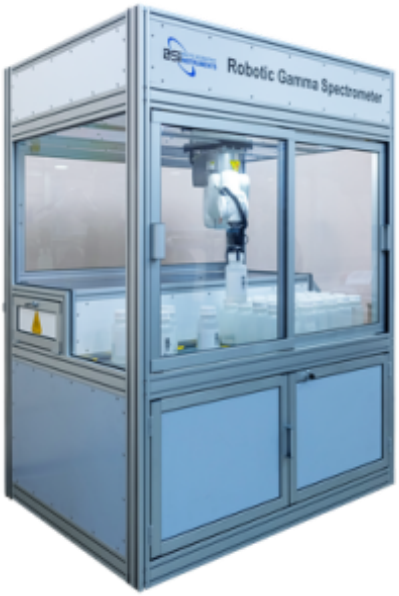
Detection, accumulation, processing and analysis of gamma spectra in field and industry conditions were small dimension and weight of spectrometer are important.

Radiation Detection › High Pure Germanium Detectors

Robotic Gamma Spectrometer

Application

The Automated Spectrometer is intended for the detection and analysis of radio nuclides from various types of environmental objects such as rocks, minerals, sludge, slag, soil, plant, sediment and particulate matter in air and water. The spectrometric system is able to determine the composition of a sample based on the photon energy and the activity based on the photon flux. The low-background lead shielding together with the highly pure germanium (HPGe) p-type detector gives precise results even for low activity materials. The fully automated sample changer enables the user to measure more than 40 samples, without having to interact with the Robotic Gamma Spectrometer. This reliable robotic sample changer increases the productivity and reduces the possibility of health risks for the operator.



The Automated Spectrometer is intended for the detection and analysis of radio nuclides from various types of environmental objects such as rocks, minerals, sludge, slag, soil, plant, sediment and particulate matter in air and water. The spectrometric system is able to determine the composition of a sample based on the photon energy and the activity based on the photon flux. The low-background lead shielding together with the highly pure germanium (HPGe) p-type detector gives precise results even for low activity materials.

The fully automated sample changer enables the user to measure more than 40 samples, without having to interact with the Robotic Gamma Spectrometer. This reliable robotic sample changer increases the productivity and reduces the possibility of health risks for the operato

Automatic Sample Changer

The seven-axis robot handles a payload of up to 3kg and with, practically, unlimited reach, the robot is able to carry out a series of operations using flexible rather than hard automated solutions. In addition to a horizontal reach, the robot has the ability to reach below its base. Furthermore, the robot has a very compact turning radius, which is enabled by the robots symmetric architecture, without offset on axis 2. This ensures the robot can be mounted close to other equipment.

Basic characteristics of Robot arm:

- Seven-axis manipulator
- Machine vision
- Payload: 3 kg
- Reach: per request
- Fastest 7-axis robot
- Accuracy: +-0.01 mm
- Weight: 25 kg
- IP30 protected

- All motors and cablings enclosed
- Compact controller
- Sample holder tool for vessels with diameter in range 40 – 110 mm.
- Barcode Reader and Writer

To assure the correct processing of all data during the measurement and analysis process, the samples are marked by using a barcode printer that is connected to the workstation. Here all necessary information about the sample is stored in a database. Using the bar code reader, the information stored in the database is retrieved for each sample before the measurement process is started. This fully automated process delivers all necessary information for the measurement and analysis process.

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HPGe Mobile Spectrometer WAM Mobile

Application

Registration of gamma and X-Ray spectra for applications including: radiological monitoring of the environment; industrial and agricultural products; nuclear power facilities and equipment; and with the storage and processing of radioactive waste.

Features

- Optimal sizes and weight for mobile application
- Detection unit is placed on a manually or electrically driven trolley
- Trolley is equipped with a lead shield and collimator set
- Lead shield thickness can be 25mm or 50mm depending on the application
- Detection unit can be LN2 or electrically cooled
- Possible to equip with large capacity batteries for autonomous operation in the field even with electrically cooled detection unit
- Equipped with laser distance meter for more accurate measurement
- Complete spectrometer can be characterized at factory
- Simplicity of operation and servicing

Registration of Gamma and X-Ray spectra for the radiological control of environmental objects, industrial and agricultural products, objects and plants of nuclear energetics and enterprises dealing with the storage and processing of radioactive wastes.

Advanced software package allows to calibrate the system for complex geometry samples like different size drums, boxes, metal or concrete containers, etc. User has a choice of more than 20 ready geometries or it is possible to create your own. While performing characterization, different collimators can be considered, shielding and orientation of all objects involved. Monte-Carlo calculations are used.

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Waste Assay Monitor HERCULES

Application

The WAM measuring system is intended for the measurement and the determination of nuclear waste activities, activity concentrations, total activities and total activity concentrations of the selected radionuclides which emit gamma radiation in a range from 100 to 1500 keV. Total activities are the sum of activities of individual radionuclides; and total activity concentrations are the sum of all activity concentrations of individual radionuclides. Solids and materials with an average density up to 2500 kg/m3 located in the standard drums with a volume of about 0.2 m3 are measured.

Features

The WAM (Waste Assay Monitor) is a complex measuring system which is intended for the monitoring of radioactive waste in standard 200-litre drums. WAM involves the following systems:

- Monitor – a fixed segmented gamma-spectrometric monitor for the determination of activities of selected radionuclides in the individual drum segments with vertical motion and collimator
- Transfer system is used for moving the measuring part from/to the drum measured
- Dose rate monitor, direction-dependent, measures the dose rate of the segment in the defined distance from the drum
- Dose rate monitor measures the background dose rate
- Rotary table, control and power supply switchboards

The WAM measuring system is intended for the measurement and the determination of activities, activity concentrations, total activities and total activity concentrations of the selected radionuclides which emit gamma radiation in a range from 100 to 1500 keV. Total activities are the sum of activities of individual radionuclides; and total activity concentrations are the sum of all activity concentrations of individual radionuclides. Solids and the subjects with an average density up to 2500 kg/m3 located in the standard drums with a volume of about 0.2 m3 are measured.

Ultra Low-background HPGe Detectors

Application

Ultra low-background HPGe detectors are widely used in underground laboratories for determination of radionuclides activities in environmental or industrial samples at μBq/kg levels and in scientific experiements such as investigation of magnetic moment of neutrino, dark matter search, etc.

Design

- Task related design (U-type, vertical, down-looking or portable cryostat)
- Remote not cooled part of preamplifier
- Zeolite is placed near not cooled part of preamplifier in order to be outside measuring chamber

Cryostat materials

- Certified materials with low radiation impurities
- Ultrapure aluminium–silicon alloy with U + Th content < 1, 0.5 or 0.2 ppb for detector holder and endcap
- Freshly produced electrolytic copper for coldfinger an pedestal
- Tested on radiopurity selected stainless steel screws and sapphire insulators

Technology

- Transportation of HPGe crystal and cryostat materials by surface freight
- Minimization of fabrication time (location of materials above ground)
- Assembly in a cleanroom
- Cleaning and passivation of copper surfaces
- Storage of crystal and cryostat materials in a container made from materials effectively slowing down and absorbing neutrons (water and Cd)

Design features

- Fabrication of large volume HPGe detectors without bulletization
- Front end electronics made on low-background Teflon substrate
- Passive screen between front end electronics and HPGe crystal made from Pb with Bi-210 radioactivity < 0.1 Bq/kg
- Double-crystal HPGe detector design
- Multi-crystal HPGe detector design

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Partner PHDS

PHDS Co. specializes in the development of portable High-Purity Germanium (HPGe) gamma-ray detectors, providing high-resolution spectroscopy and imaging capabilities for applications in nuclear security, emergency response, and scientific research. Their instruments are designed to offer precise isotope identification and quantification in field-deployable formats.

Product offering

GeGI: Imaging HPGe Detector

NP Radiochemistry Imager

Fulcrum: HPGe Detector

Fulcrum-40h: 40% HPGe Detector

LoPro HPGe Detector

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Radiation Detection › High Pure Germanium Detectors

GeGI: Imaging HPGe Detector

– HPGe gamma-ray spectroscopy and isotope identification
– Real-time exposure rate calculation
– Fully capable of imaging Special Nuclear Materials (^{235}U and ^{239}Pu)
– Fast cool-down to operating temperature
– Long-life mechanical cooler
– Compact and hand-portable
– Hot-swappable batteries for continuous field operation
– User-friendly tablet operation
– Reachback File: ANSI N42.42 format

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NP Radiochemistry Imager

The NP Imager is specifically designed to measure the dynamics of radiochemical separation processes in real time. Developed under a Small Business Innovation Research (SBIR) grant from the Department of Energy Office of Nuclear Physics (NP), the NP Imager focuses on the unique needs of radiochemists and technicians separating radioisotopes for radio-pharmaceuticals and other applications.

The NP Imager monitors the locations and distributions of multiple isotopes over time, allowing the radiochemist and technician to monitor separation processes in real time. In the process shown here, NP Imager measured Lu-177 and Yb-175 separation on a column over the course of 3 ½ hours using 10-minute exposures. Note that it's clear when the Yb-175 has been removed from the column, allowing the radiochemist to know when to collect the desired Lu-177.

Applications

- Radiopharmaceutical Process Monitoring
- Radiochemical Separation Research and Development
- Nuclear Physics Isotope Production
- Nuclear Materials Management
- Waste Management
- Decontamination and Decommissioning

Fulcrum: HPGe Detector

Overview:

The Fulcrum is a next-generation HPGe gamma ray detector engineered for rapid, accurate isotope identification in a compact, field-ready design. Weighing just 8 lbs, it is the lightest and most portable detector of its kind, making it ideal for mobile and emergency response scenarios. Equipped with the user-friendly PHDS OMNI software, the Fulcrum offers real-time exposure rate calculation and intuitive, color-coded isotope identification—all accessible through a simple touchscreen interface. With fast cool-down, wireless capability, and extended field operation features, the Fulcrum sets a new standard for high-performance gamma spectroscopy in any environment.

Features:

- HPGe gamma-ray spectroscopy and isotope identification
- Ultra-fast cool-down to operating temperature (2 hours)
- Most compact and lightweight HPGe detector (8 lbs)
- Relative efficiency: 12% at 1333 keV
- Real-time exposure rate calculation
- Compact, hand-portable design
- User-friendly Android app interface
- Wireless capability for remote operation
- Long-life mechanical cooler
- Bridge battery option for uninterrupted field use
- User-defined timed data acquisition with auto file save
- Reachback file output in ANSI N42.42 format

← Back to partner

Fulcrum-40h: 40% HPGe Detector

– HPGe gamma-ray spectroscopy and isotope identification
– Relative efficiency of 40% (at 1332 keV)
– Fast cool-down to operating temperature (5 hours)
– Long-life mechanical cooler
– ISOTAC activity calculator
– Configurable with 1 or 2 onboard batteries and optional neutron detector
– Real-time exposure rate calculation
– User-specified timed data acquisition and auto file save
– Reachback File: ANSI N42.42 format

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Radiation Detection › High Pure Germanium Detectors

LoPro HPGe Detector

The LoPro is a lightweight, low-profile HPGe gamma ray detector used by U.S. military operators around the world. The LoPro provides unmatched field reliability and gamma-ray spectroscopy for mission-critical applications. The unique form factor allows inconspicuous measurements for missions in which discretion is a must, while not sacrificing the spectroscopic performance expected from an HPGe detector.

Features

HPGe gamma-ray spectroscopy and isotope identification	Fast cool-down to operating temperature (3 hours)	Compact and hand-portable (8 lbs)
Integrated GADRAS isotope identification	Relative efficiency: 12% (at 1333 keV)	Real-time exposure rate calculation
User-friendly Android app, including TAK compatibility	Reachback File: ANSI N42.42 format	Long-life mechanical cooler
Long battery life (up to 15 hours per battery)	Wireless capable for remote operation	User-specified timed data acquisition and auto file save

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Partner Other

Product offering

Prompt Gamma Neutron Activation Analysis (PGNAA) Spectrometer

Prompt Gamma Neutron Activation Analysis (PGNAA) Spectrometer

Unlock the future of material analysis with our state-of-the-art Prompt Gamma Neutron Activation Analysis (PGNAA) Spectrometer. Designed for precision and efficiency, our PGNAA spectrometer is the ultimate solution for industries requiring rapid and accurate elemental analysis of bulk materials. Ideal for mining, cement production, environmental monitoring, and recycling, it provides unparalleled analytical capabilities.

Our PGNAA spectrometer delivers real-time, non-destructive analysis of elements within a sample, allowing immediate feedback and decision-making. It detects a wide range of elements, including trace elements, with exceptional accuracy, ensuring compliance with industry standards.

What sets our PGNAA spectrometer apart is its robust design and user-friendly interface, integrating seamlessly into your workflow for maximum efficiency. The advanced software provides intuitive data interpretation, enabling even non-expert users to operate it easily.

Application

PGNAA Spectrometer is intended for:

- Analysis of the radionuclide composition of samples containing trace amounts of radionuclides;
- Search for decay products of radionuclides of anthropogenic or natural origin;
- High registration efficiencies and low detection limits are achieved with;
- Reduction of natural background levels through the use of materials purified from radionuclides;
- Increase in peak contrast due to active suppression of Compton scattering quanta.

PGNAA Spectrometer is applicable in:

- Mining and Mineral Exploration: For accurate and rapid elemental analysis of ores and minerals.
- Environmental Monitoring: Detecting and quantifying pollutants in soil and water.
- Agriculture: Analyzing soil composition to optimize fertilizer use and crop yields.
- Petrochemical Industry: Monitoring elemental composition in crude oil and its derivatives.
- Geological Research: Studying rock and sediment samples for scientific research.
- Pharmaceutical Industry: Ensuring the purity and composition of raw materials and finished products.
- Academic and Research Institutions: Conducting advanced research in various scientific fields.

LABORATORY EQUIPMENT

peo DETECTION

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Partner **BSI**

Baltic Scientific Instruments (BSI) is an OEM manufacturer based in Riga, Latvia, dedicated to the development and production of advanced spectrometric and detection equipment. With decades of experience and roots in the former Research Institute for Radioisotope Apparatus (RNIIRP), BSI provides cutting-edge technologies for nuclear power, environmental monitoring, security, medicine, and scientific research.
The company specializes in HPGe, Si, CdZnTe/CdTe, and scintillation detector systems, known for their accuracy, stability, and performance in demanding analytical environments.
Through continuous innovation, strict quality assurance (ISO 9001:2015), and strong international collaboration, BSI supports customers worldwide in achieving precise and reliable radiation measurement and analysis.

Product offering

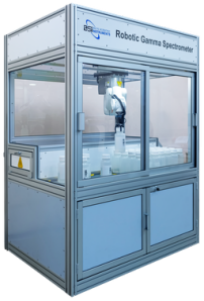
Digital Miniature Multi Channel Analyzer MCA 527

Hybrid cooling for the HPGe detector Nicole

MONOLITH Gamma & X-ray HPGe Spectrometer

HPGe Spectrometer with Lead Shield

Robotic Gamma Spectrometer



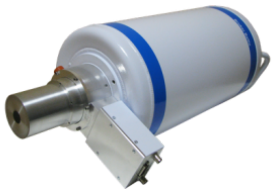
Waste Assay Monitor HERCULES

HPGe Spectrometer with Shield

Deep-water Gamma-ray HPGe Spectrometer

Flowing HPGe Spectrometer

HPGe Infrared Detectors



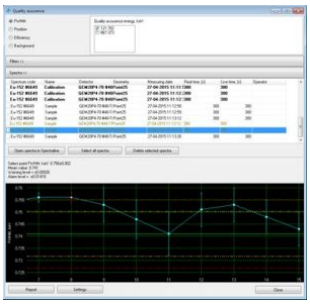
Ultra Low-background HPGe Detectors

LN2 storage and transfer system

Multi Channel Analyzer BOSON

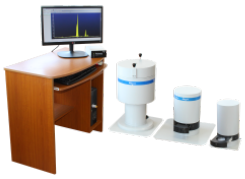
Gamma analysis software GammaPRO

Quality Assurance package



Free Release Monitor HERCULES-FRM

Gamma-, beta- and alpha-spectrometer-radiometer TRIO



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Radiation Detection › Laboratory Equipment

Digital Miniature Multi Channel Analyzer MCA 527

The MCA527 is a battery powered high performance 16K Multi-Channel Analyzer/Multi-Channel Scaler module with the performance of a laboratory grade MCA. High voltage supply for detector and preamplifier power supply are integrated as well as an internal coarse amplifier and digital filtering and analysis. Together with a detector it forms a small-size gamma spectroscopy system, which is well suited to the demands of field measurements for international safeguards, environmental monitoring, nuclear waste treatment facilities, radioactive transport control and similar applications.

- Automated base line restorer and threshold adjustment
- Automated or manual pole zero adjustment without oscilloscope
- System dead time and count rate indication
- Dead time correction
- Automated spectrum recording
- Peak stabilization
- Basic analysis functions (energy calibration, FWHM, peak area and integral calculations, spectrum stripping and smoothing)
- File menu: write/read functions with drive/path – and file pick list functions
- Setup menu: ADC, Amplifier, Presets, Memory splitting, MCA mode, MCS mode, Multi spectral recording mode, automated instrument configuration using setup file
- Analysis menu: Energy calibration und further analysis functions defined according the purpose. Energy calibration with linear calibration curve using 2 peaks or energy channel pairs
- Acquire control: Start, Stop, Erase, Presets Incorporated Help texts Print screen for print via system printer (Windows) quick documentation
- Display functions: Automated vertical full scale (VFS), manual and logarithmic VFS, cursor functions, expand and unexpand, ROI setting
- Detection limit formalism: more than 17

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Hybrid cooling for the HPGe detector Nicole

The NICOLE hybrid cooling system combines liquid nitrogen and electro-mechanical cooling. The merge of this two cooling systems provide detection unit non-stop operation for months without having liquid nitrogen to refill.

The NICOLE hybrid cooling system comprises Stirling-cycle cryocooler, cryocooler controller, Dewar vessel, pressure sensor and indicator, liquid nitrogen sensor and level monitor.

Application

Nicole hybrid cooling system for the HPGe detector allows you to keep your detector cold without filling with Liquid Nitrogen for months and years.

Features

One of the biggest advantages of Nicole hybrid cooling system is that it is extremely easy to perform maintenance and service. The user is given USB interface to get access to all parameters of the system. Majority of main parameters are displayed of the LCD display. And I case of maintenance, repair or replacement of the cooler is needed, it takes only 15 minutes to dismantle the cooling unit. It means the user can continue measurements by only using liquid nitrogen. It can be extremely important when routine measurements can’t be terminated.

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MONOLITH Gamma & X-ray HPGe Spectrometer

Detection unit Monolith consist from the following integrated components:

- HPGe detector
- Preamplifier
- Autonomous cooling system for the detector based on electrical machinery cooler EMC
- Controller for controlling the operation of EMC
- Fans (2-4) for EMC cooling

Features

- 10% – 160% efficiency HPGe p-type coaxial detectors are available;
- Energy range from 40 keV to 10 MeV for GCD model;
- Energy range from 3 keV to 10 MeV for GCDX/GCDX-OS models;
- High efficiency of radiation detection;
- High energy rate up to 200000 MeV/sec;
- Excellent peak symmetry;
- Detection of radiation in any spatial orientation depending on cryostat modification;
- Manufacture in a portable cryostat is possible;
- Low background and Ultra – low background materials are available;
- Doesn’t require a full thermal cycle after an unexpected shutdown.

HPGe Spectrometer with Lead Shield

Application

Coaxial HPGe Detector with Lead Shield is used to measure the specific gamma radiation of radionuclides from various types of environmental objects such as rocks, minerals, sludge, slag, soil, plant, sediment and particulate matter in air and water.

Features

- Adopting precision gamma-spectrometry methods
- Radionuclide identification and determination of their specific activity
- Low level of instrumental background
- Low threshold for radionuclide detection
- Separate and simultaneous measurement of activity of 100 radionuclides

DESCRIPTION

Coaxial HPGe Detector with Lead Shield is used to measure the specific gamma radiation of radionuclides from various types of environmental objects such as rocks, minerals, sludge, slag, soil, plant, sediment and particulate matter in air and water.

Ordering information

For LN2 cooled dipstick HPGe detection units:

- N100 – 100mm thick lead.
- N150 – 150mm thick lead.

For electrically cooled HPGe detection units (Monolith):

- M100 – 100mm thick lead.
- M150 – 150mm thick lead.

Foe hybrid cooled dipstick HPGe detection units (Nicole):

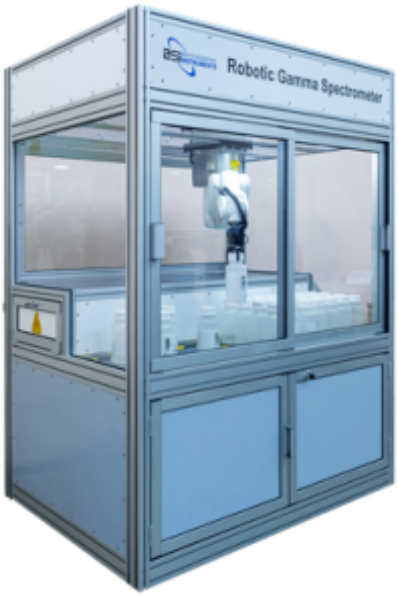
- H100 – 100mm thick lead.
- H150 – 150mm thick lead.

Radiation Detection › High Pure Germanium Detectors

Robotic Gamma Spectrometer

Application

The Automated Spectrometer is intended for the detection and analysis of radio nuclides from various types of environmental objects such as rocks, minerals, sludge, slag, soil, plant, sediment and particulate matter in air and water. The spectrometric system is able to determine the composition of a sample based on the photon energy and the activity based on the photon flux. The low-background lead shielding together with the highly pure germanium (HPGe) p-type detector gives precise results even for low activity materials. The fully automated sample changer enables the user to measure more than 40 samples, without having to interact with the Robotic Gamma Spectrometer. This reliable robotic sample changer increases the productivity and reduces the possibility of health risks for the operator.



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Automatic Sample Changer

The seven-axis robot handles a payload of up to 3kg and with, practically, unlimited reach, the robot is able to carry out a series of operations using flexible rather than hard automated solutions. In addition to a horizontal reach, the robot has the ability to reach below its base. Furthermore, the robot has a very compact turning radius, which is enabled by the robots symmetric architecture, without offset on axis 2. This ensures the robot can be mounted close to other equipment.

Basic characteristics of Robot arm:

- Seven-axis manipulator
- Machine vision
- Payload: 3 kg
- Reach: per request
- Fastest 7-axis robot
- Accuracy: +-0.01 mm
- Weight: 25 kg
- IP30 protected

- All motors and cablings enclosed
- Compact controller
- Sample holder tool for vessels with diameter in range 40 – 110 mm.
- Barcode Reader and Writer

To assure the correct processing of all data during the measurement and analysis process, the samples are marked by using a barcode printer that is connected to the workstation. Here all necessary information about the sample is stored in a database. Using the bar code reader, the information stored in the database is retrieved for each sample before the measurement process is started. This fully automated process delivers all necessary information for the measurement and analysis process.

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Waste Assay Monitor HERCULES

Application

The WAM measuring system is intended for the measurement and the determination of nuclear waste activities, activity concentrations, total activities and total activity concentrations of the selected radionuclides which emit gamma radiation in a range from 100 to 1500 keV. Total activities are the sum of activities of individual radionuclides; and total activity concentrations are the sum of all activity concentrations of individual radionuclides. Solids and materials with an average density up to 2500 kg/m3 located in the standard drums with a volume of about 0.2 m3 are measured.

Features

The WAM (Waste Assay Monitor) is a complex measuring system which is intended for the monitoring of radioactive waste in standard 200-litre drums. WAM involves the following systems:

- Monitor – a fixed segmented gamma-spectrometric monitor for the determination of activities of selected radionuclides in the individual drum segments with vertical motion and collimator
- Transfer system is used for moving the measuring part from/to the drum measured
- Dose rate monitor, direction-dependent, measures the dose rate of the segment in the defined distance from the drum
- Dose rate monitor measures the background dose rate
- Rotary table, control and power supply switchboards

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Radiation Detection › Laboratory Equipment

HPGe Spectrometer with Shield

Application

The spectrometer with shield is designed for defining the composition and activity of radionuclides in the flow of liquids and gases in automated technological processes in the nuclear power industry, environmental monitoring and in industrial applications involving radionuclides. The Spectrometer can be used for radiation monitoring and various tasks like definition of activity of naturally occurring radionuclides (NORM) in building materials, raw materials, foodstuff, industrial waste monitoring and technological radionuclide production and processing without sampling. The Spectrometer allows pre-setting algorithm of continuous and autonomous measurement in advanced to avoid interaction of employees with the Spectrometer and samples in case of remote installation or installation in restricted area. Complete control, monitoring, calibration and preventive maintenance of the Spectrometer is performed remotely by means of Ethernet interface or other available interfaces..

Features

- Definition of composition and activity levels of radionuclides in real time mode
- Display of current values for specific activity of controlled radionuclides
- High registration efficiency
- Wide range of measured activities
- Operation rates in fully-automatic mode: measurement, washing, purging, pre – starting

The spectrometer with shield is designed for defining the composition and activity of radionuclides in the flow of liquids and gases in automated technological processes in the nuclear power industry, environmental monitoring and in industrial applications involving radionuclides. The Spectrometer can be used for radiation monitoring and various tasks like definition of activity of naturally occurring radionuclides (NORM) in building materials, raw materials, foodstuff, industrial waste monitoring and technological radionuclide production and processing without sampling. The Spectrometer allows pre-setting algorithm of continuous and autonomous measurement in advanced to avoid interaction of employees with the Spectrometer and samples in case of remote installation or installation in restricted area. Complete control, monitoring, calibration and preventive maintenance of the Spectrometer is performed remotely by means of Ethernet interface or other available interfaces.

- Low activity samples

To get more statistics, the system is equipped with large diameter tube and might have several loops around the detector in order bigger amount of the sample was located around the detector for measurement.

The system is also capable to perform not only continuous measurement of sample flow but also to perform

sampling by stopping the flow for certain amount of time to get more time for acquisition.

- Low and middle activity samples

One loop tube can be used of sampling. Material of the tube can be acryl or glass.

- High activity samples

High activity samples can be brought the detector by using metal tube of relatively small diameter. Such kind of tubes can be used for measurement of hot liquid samples and high pressurized gas samples within reasonable limits.

Diameter and material of the tube is carefully determined during technical discussion with the user in order to consider of parameters of technological line and environmental conditions.

Depending on the application, other sample vessels are available to be used instead of sample tube. Acryl or metal Marinelli-type vessels. Example is below:

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Radiation Detection › Laboratory Equipment

Deep-water Gamma-ray HPGe Spectrometer

Features

- Long-duration autonomous functioning at great depths
- Programmable control with built-in microprocessor device
- Independent detection and accumulation of gamma - spectra for a predetermined time
- Recording and storage of gamma-spectra for an unlimited time period
- Computer readable data store enables processing of accumulated data after retrieving the spectrometer

Deep-Water gamma-spectrometer is applicable to the registration of gamma-radiation from radionuclides in monitoring of the sea bed for objects from marine accidents, submarine storage of radioactive wastes, search of lost nuclear charges, inspection of radionuclide migration, etc.

Radiation Detection › Laboratory Equipment

Flowing HPGe Spectrometer

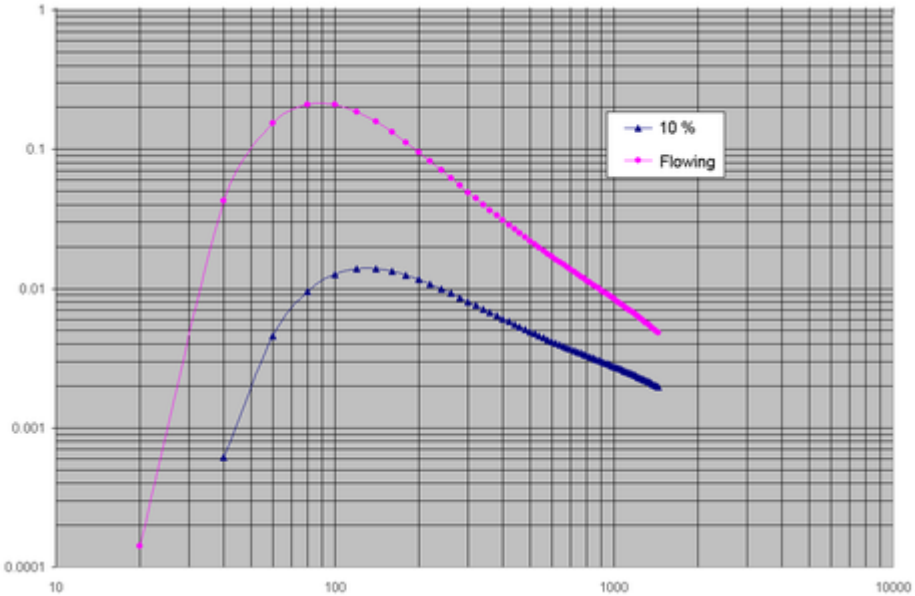
Application

Highly efficient control of radionuclide materials with low activity.

Features

Detection unit performs 4π geometry measurements as measuring product is moving inside germanium detector. Radionuclide efficiency registration is more than an order of magnitude higher than efficiency registration of standard coaxial detection unit of the same dimensions.

HPGe detector flowing geometry can be developed based on the crystal with equivalent efficiency from 10 to 100%.



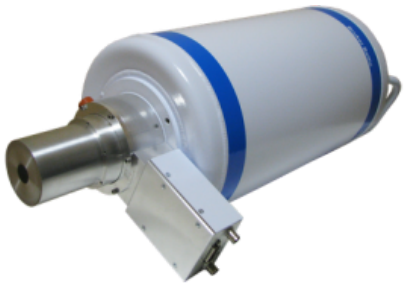
Absolute efficiency registration comparison curves during gamma-ray emission with sample positioning inside and outside detector.

Radiation Detection › Laboratory Equipment

HPGe Infrared Detectors

Application

High sensitive HPGe infrared detectors are intended for NIR Fluorescence or Raman spectroscopy and similar applications in spectral region from 850 nm to 1.7 µm.



Features

- Highest sensitivity
- Low noise level
- Frequency range up to 300 Hz
- LN2 cooled electronic input stage (FET and feedback resistor)
- RG 850 window with antireflective coating
- Preamplifier with temperature monitor
- Various types of Dewar vessel are available

HPGe infrared detectors are intended for NIR Fluorescence or Raman spectroscopy and similar applications in spectral region from 850 nm to 1.7 µm.

Ultra Low-background HPGe Detectors

Application

Ultra low-background HPGe detectors are widely used in underground laboratories for determination of radionuclides activities in environmental or industrial samples at μBq/kg levels and in scientific experiements such as investigation of magnetic moment of neutrino, dark matter search, etc.

Design

- Task related design (U-type, vertical, down-looking or portable cryostat)
- Remote not cooled part of preamplifier
- Zeolite is placed near not cooled part of preamplifier in order to be outside measuring chamber

Cryostat materials

- Certified materials with low radiation impurities
- Ultrapure aluminium–silicon alloy with U + Th content < 1, 0.5 or 0.2 ppb for detector holder and endcap
- Freshly produced electrolytic copper for coldfinger an pedestal
- Tested on radiopurity selected stainless steel screws and sapphire insulators

Technology

- Transportation of HPGe crystal and cryostat materials by surface freight
- Minimization of fabrication time (location of materials above ground)
- Assembly in a cleanroom
- Cleaning and passivation of copper surfaces
- Storage of crystal and cryostat materials in a container made from materials effectively slowing down and absorbing neutrons (water and Cd)

Design features

- Fabrication of large volume HPGe detectors without bulletization
- Front end electronics made on low-background Teflon substrate
- Passive screen between front end electronics and HPGe crystal made from Pb with Bi-210 radioactivity < 0.1 Bq/kg
- Double-crystal HPGe detector design
- Multi-crystal HPGe detector design

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Radiation Detection › Laboratory Equipment

LN2 storage and transfer system

Application

The system for storage and transportation of liquid nitrogen in the following areas of application: Industrial, laboratories, life sciences, medical, etc.

Features

- Direct liquid nitrogen supply with the decanting valve
- The LN2 System can fit easily under a laboratory bench or workstation
- A hand rail can be easily attached to protect the operating head and make it easier to move the vessel
- Easy to dispense liquid nitrogen
- Double valve option for liquid use
- Capacity of 35 to 100 litres
- Self-pressurized vessel
- Delivered with or without the operating head
- Static holding time up to 75 days
- 6 year guarantee on the vacuum

Radiation Detection › Laboratory Equipment

Multi Channel Analyzer BOSON

Features

- Boson MCA acquires and displays spectra with overlapping by energy range up to 1000 times
- No resolution deterioration at operation in the beginning of spectrum energy range
- Stable operation with preamplifiers of TPR type with output voltage swing up to +/- 10 V and reset duration up to 250 us
- Automated P/Z adjustment
- Improved dead time correction
- Spectrum stabilization
- Setting and control of all parameters using colour LCD display with touch screen
- Complete remote control of Boson MCA via software from PC
- Dead time correction
- Base Line Restorer (BLR)
- Operation with preamplifier TPR

All settings are saved in spectrometer memory in case of power supply disconnection.

Basic settings:

- HV ON and OFF
- HV polarity switching
- HV value setting
- Input signal polarity switching
- Amplification coefficient setting coarse (in analogue section)
- Amplification coefficient setting smooth (in analogue section)
- P/Z compensation adjustment with optimal adjustment indication
- ADC capacity switching 1024 / 2048 / 4096 / 8192 / 16384
- Discrimination threshold value setting of “fast” channel (CRM) in conventional unit, in the range of 0 – 30% of dynamic range (by amplitude of output signal on “LIN OUT”)
- Discrimination threshold value setting of low signal level (LLD) in the channels, in the range of 0 – 50% of dynamic range (by amplitude of output signal on “LIN OUT”)
- Discrimination threshold level setting of high signal level (HLD) in the channels, in the range of 50 – 100% of dynamic range (by amplitude of output signal on “LIN OUT”)
- Shaping time constant switching
- Basic line restoration time switching (8 values)
- Dead time correction
- Spectrum acquisition time setting
- Spectrum acquisition ON and OFF
- Switching of communication port with the outer computer: USB,LAN, RS-232

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Radiation Detection › Environmental Monitoring

Gamma analysis software GammaPRO

The software is intended to

- Control the spectrometric multichannel analyzer;
- Analyze the spectra acquired using scintillation and semiconductor gamma and beta detectors;
- Work with spectra modeled by the Monte Carlo simulation.

The matrix method enables automatic calculation of activity of a sample provided its radionuclide composition is known. The method is used for routine measurements of food, building materials, water and other substances subject for permanent radiological control.
The superposition method is mainly used for control of correctness of activity calculations in case of hard-to-analyse (multiple peak) low-resolution spectra (acquired by scintillation detectors). Such a tool enables visual estimate of the degree of similarity between an acquired and calculated spectrum. Additionally, calculation data can be adjusted until the spectra completely coincide.
The Software features an integrated system for report generation which provides automatic creation of measurement results. The settings for report generation can be adjusted by user.

Quality Assurance package

Gamma or Alpha analysis software SpectraLine can be extended with Quality Assurance package in order to provide monitoring of the spectrometer channel for the parameters of the full energy peak (position, FWHM and detection efficiency) for the specified energy and the background count rate.

The reference sample and the background are measured in semi-automatic mode for quality control. As the scenarios are used the measurement parameters can be flexibly adjusted and the monitoring results can be displayed depending on the date and time of the measurement start.

The control limits determined by the alarm and warning levels are displayed on the graph, so the parameters deviation from the specified intervals can be easily found.

Radiation Detection › Laboratory Equipment

Free Release Monitor HERCULES-FRM

Application

Free Release Monitor HERCULES-FRM main working principle can be described the following way. Any loading mechanism like forklift or a crane gently puts measuring object to the movable platform on the front roller-based conveyor. Scales which are inbuilt in the front conveyor are determining weight of the measuring object and automatically transfers information for the analytical software. Further actions are performed totally automatically or in manual mode. Measuring chamber opens front doors and movable platform slides inside of measuring chamber. Doors are closed and measurement starts. The FRM is equipped with 16 plastic scintillators surrounding the measuring object from all sides. Plastic scintillators are connected to digital multichannel analysers located in the control box. Analytical and control software packages guarantee total remote control and data acquisition from all plastic scintillators simultaneously. All analytical performance of the FRM is set up previously by inputting all information concerning measuring object, geometry, sizes, weights, filling of containers, etc. in the software package. After measurement is finished, operator is alarmed, record is stored in the database and report can be printed any time. In order to change the measuring object, the FRM opens the front doors and slides the platform out for further unload by the forklift or a crane. In case the operator needs to measure specific object, it is possible to open back doors to load the measuring object from the back. The whole measuring chamber is securely covered with stainless-steel for easy decontamination.

Features

General

- Overall dimensions of the FRM: 5000x2300x2100mm (LxWxH)
- Overall weight of the FRM: 10000kg
- Operation temperature: +10…+35°C
- Ready to accommodate object with size 1.2m x 0.8m x 1.0m (L x W x H)
- Lead walls not less than 50mm thick
- Stain-less steel protection
- External and internal automatic conveyor
- Inbuilt scales

Plastic scintillators (HPGe detectors optional)

- 16 or 24 or more plastic scintillators equipped with PMTs
- Energy range from 100 to 3000 keV
- Detection limit for Co-60 is less than 300 Bq

Software

- Total activity calculation
- Visualization of measurement and diagnostic information
- Storage of measurement data, controlled parameters and fixed constants in internal memory
- Control of all mechanically movable mechanisms
- Control and reset of the FRM in case of failure of automation
- Self-diagnostics control
- Visual and audible alarm in case of failure or exceed of previously set levels
- Alarm in case of fixed level activity exceed for separately chosen radionuclide
- 3D visualization interface for measurement object monitoring and setting geometrical parameters in order to decrease measurement uncertainties
- Visualization of inhomogeneities in activity distribution
- Automatic change of measurement parameters depending on measurement geometry (Geometry must be set up preliminary)
- All software packages run under Windows operation system

Control box Control box of the FRM includes the following components:

- Set of MCAs for reading and transforming signals from PMTs of plastic scintillators
- Set of power supplies for different modules of the FRM
- Set of controllers to manage all components of automation process
- Indicators for operator
- Control panel with colour LCD display and touchscreen
- An emergency stop button is provided on the control box and the measuring chamber

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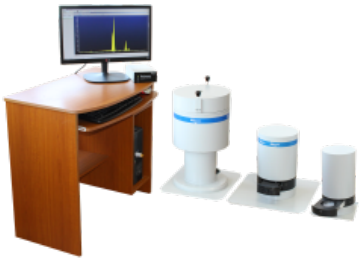
Radiation Detection › Laboratory Equipment

Gamma–, beta- and alpha-spectrometer–radiometer TRIO

Application



Spectrometer TRIO is designed for registration of gamma-, beta- and alpha radiation and for measuring activity (specific and volumetric activity) of natural radionuclides (for example Ra-226, Th-232, K-40, Rn-222), technogenic radionuclides (for example Cs-137, Cs-134, Co-60, mTc-99, Sr-90 and etc.) in water, food, vegetation, building materials, soil samples, radiopharmaceuticals, rocks, chemical industry materials, alloys, scrap metal and other technological products. Also, it is used for measuring gross specific activity of beta- and alpha-emitting radionuclides in water.

Features

- Ability to manage several channels simultaneously
- Intuitive and user-friendly software
- Low Power Consumption
- Compact size of each chamber
- Free to choose channels of your interest depending on application
- Easy extension of channel quantity
- 100% remote control of the spectrometer TRIO via software package

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Partner Else Nuclear

ELSE NUCLEAR S.r.l. is an Italian OEM company specializing in advanced radiation-detection and environmental-monitoring systems for nuclear safety, industry and research.

Product offering

BSS – BONNER SPHERE SPECTROMETER

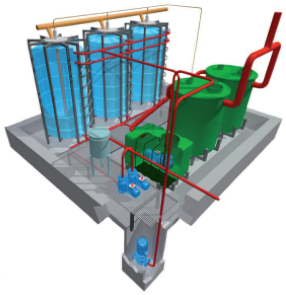
SP2 – SINGLE-SPHERE NEUTRON SPECTROMETER

W-PIE – WIDE ENERGY ACTIVE NEUTRON SPECTROMETER

GSU – GAMMA SPECTROMETRY UNIT WITH NaI(Tl)

SATURN I, SATURN II

WDMS NT-VK



LEM – LIQUID EFFLUENT MONITORING SYSTEM

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Radiation Detection › Laboratory Equipment

BSS – BONNER SPHERE SPECTROMETER

The Bonner Sphere Spectrometer consists of an array of He-3 proportional counter thermal neutron detectors, each housed in a spherical HDPE moderator of different diameters.

BSS is proposed in two main configurations, adjustable according to the requirements, for single or multiple detectors.

An unfolding software (RUFUS), used to calculate the neutron spectrum, is also available for both configurations.

Each proportional counter is connected to a compact electronic module (2.5 cm diam. x 7.6 cm), providing:

- Precision wide-band charge-sensitive pre-amplifier and amplifier
- Discriminator circuit
- High voltage adjustment 0-2200 V
- Amplifier gain and discriminator threshold adjustment
- Analogue test points for shaped signals and HV

A user-friendly dedicated acquisition software can be installed on the PC managing the BSS, allowing the user to start and stop the measurements, to modify the parameters and to visualize the saved data.

The BSS standard set, designed to cover the neutron energy range from 1 meV to < 100 MeV, includes the following HDPE moderators: Ø 3”, Ø 3.5”, Ø 4”, Ø 4.5”, Ø 5”, Ø 6”, Ø 7”, Ø 8”, Ø 10”, Ø 12”, Ø 15”, Ø 18”.

The available configurations of BSS are:

- Single detector: includes only one He-3 proportional counter, to be inserted in one moderator sphere at a time. The detector is managed by a Counter Module and the user interface is the “Single counter” software.
- Multiple detectors: includes up to 16 He-3 proportional counters, and up to 16 moderator spheres (12 standard + 4 accessory), to be employed at the same time. The detectors are managed by a Datalogger and the user interface is the “DLOG” software.

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Radiation Detection › Environmental Monitoring

SP2 – SINGLE-SPHERE NEUTRON SPECTROMETER

The single-sphere neutron spectrometer SP2 is a unique device that allows performing active neutron spectrometry measurements by employing a single instrument instead of the usual multi-sphere BSS.

SP2 is characterized by the same high sensitivity and precision as BSS in determining the neutron flux over the entire energy range, while removing any reproducibility uncertainty. When employed with the on-line unfolding tool, SP2 can also perform real time measurements.

SP2 is equipped with 32 active ^{6}LiF-covered Silicon neutron detectors installed over six concentric layers inside the moderating assembly, so that they reproduce the spectrometric performance of a six-sphere BSS. The signals are acquired by the built-in electronics and can be either analysed on-line by the built-in unfolding algorithm, or saved as raw data for off-line analysis.

SP2 can be used in a great number of activities in scientific research: homeland security, cargo inspections, calibration laboratories, characterization of stray radiation fields for radiation protection purposes, periodical quality check of the neutron stray radiation field, all applications involving the need of a fast and precise measurement of the neutron spectrum.

A SP2 LITE version is also available, featuring a lighter build and a narrower energy range, suitable for all the applications that do not require to detect neutrons with energy above 20 MeV.

The response function of the device, calculated via Monte Carlo simulations, is available for either on-line and off-line analysis. The response function and unfolding algorithm have been validated after thoroughly testing with reference radioactive sources.

SP2 is the ideal device for performing active neutron spectrum measurements in every radiation environment, including mixed stray radiation fields, workplaces characterized by high gamma background and reference calibration laboratories.

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Radiation Detection › Laboratory Equipment

W-PIE – WIDE ENERGY ACTIVE NEUTRON SPECTROMETER

The W-PIE neutron spectrometer is a unique device designed for on-line neutron spectrometry measurements. The system features an extremely high counting efficiency, making it suitable to perform neutron spectrometry and absolute flux measurement for applications such as:

- homeland security
- cargo inspections
- calibration laboratories
- background suppression in high-energy physics experiments
- cosmic ray neutron sensing (CRNS) in agriculture
- snow water equivalent (SWE) measurements in hydrology

W-PIE employs ^{6}Li as neutron converter, ^{4}He as scintillating medium, and 24 independent low-voltage SiPMs as photosensitive components. The detector is surrounded by increasingly thick moderating assemblies, defining 4 detection sub-volumes each optimised for a specific spectral region. Signals are acquired and analysed by the built-in electronics and unfolding algorithm, or they can be saved as raw data for off-line analysis.

The response function of W-PIE, calculated via Monte Carlo simulations, is available for either on-line and off-line analysis. The response function and unfolding algorithm have been validated after thoroughly testing with reference radioactive sources, with quasi-monoenergetic neutron fields, and in the high-energy reference neutron field facility CERF at CERN.

The device is available in two configurations:

- W-PIE – standard, high-energy version, with Cd and Pb inserts, designed to be sensitive to neutrons up to 10 GeV
- HERMES W-PIE – lightweight and standalone low energy version, without high-Z inserts, designed to be sensitive to neutrons up to about 100 MeV

The W-PIE version is powered over Ethernet and communicates with a PC through Ethernet connection.

The HERMES W-PIE version is a standalone unit featuring a single board computer, a 4G router, a GPS and a dual-SIM system allowing remote control.

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GSU – GAMMA SPECTROMETRY UNIT WITH NaI(Tl)

The GSU gamma spectrometry units employ a 3″x3″ NaI(Tl) crystal coupled to a photosensitive detector (either PMT or SiPM) and an MCA. The detector is installed in a 5 cm thick lead shielding well, with additional inner layers of tin and copper for enhanced background reduction.

GSU is designed to perform gamma spectrometry analyses of small samples, such as foundry casting samples, air particulate filters, environmental samples (rocks, soil, biological samples), positioned in sample holders which can be tailored to meet specific measurement requirements, or Marinelli beakers.

The User can manage the system through the proprietary ELSE NUCLEAR GSU system software, calculating the specific activity and the Minimum Detectable Concentration (MDC) of the sample expressed in Bq/kg, Bq/l, Bq/m^3, etc. The built-in background subtraction subroutine improves the MDC without increasing the measurement time. The software includes fully-customisable isotope libraries as well as User-settable isotope-specific activity alarm thresholds, available through password-protected functions.

The GSU-NORM is a special version of system specifically conceived to perform Naturally Occurring Radioactive Material (NORM) analysis of environmental samples, such as rocks, sediments or soils. Through its MCA and its dedicated software, the GSU-NORM system allows determining the specific activity of NORM isotopes, i.e. K-40, Th-232 and U-238, expressed in Bq/g, %K, ppm eU and ppm eTh.

The sample holders are custom-made supports that fit directly on the detector’s head, used to hold casting samples, test sources or other similar objects.

The Marinelli beakers are used to contain geological samples or other similar materials. Several volumes are available, from 250 ml up to 1 l, with different geometrical features.

Each GSU system includes efficiency curves and coefficients implemented in the analysis software, calculated through Monte Carlo simulations for each specific configuration, acquisition chain and measurement geometry. The simulations are always validated through experimental tests performed with reference radioactive sources.

Radiation Detection › Environmental Monitoring

SATURN I, SATURN II

The SATURN ratemeter is a compact acquisition and control unit, designed for managing and processing signals from any ELSE NUCLEAR connected detector.

- SATURN I: standard wall-mounted version
- SATURN II: wall-mounting version compliant with “Good Manufacturing Practice” requirements (no external cable or connectors)

All the ratemeter versions feature local function buttons with status LEDs, internal acoustic buzzer and a relay connector, used to manage external alarm columns or interlocks.

The SATURN ratemeter continuously acquires and processes the data coming from the connected detector, and compares results with user-defined alarm thresholds.

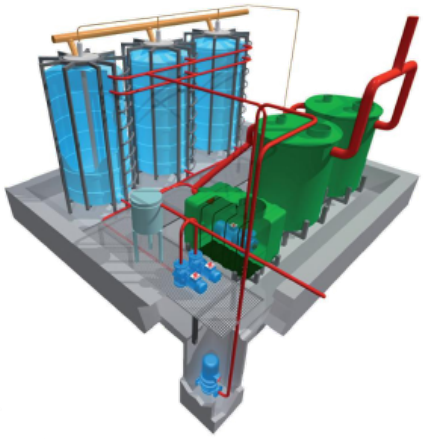
Two user-selected measurements can be displayed at the same time on the display, such as instantaneous or average count rate, dose rate, activity concentration, counts, dose or activity integrated values.

The user interface is accessible through an external keyboard, which allows local interaction with the full range of parameters (advanced setting is password protected). Measurements, thresholds and operating parameters are stored into an internal, non-volatile memory.

The ratemeter can communicate to and be remotely managed by a host PC through an Ethernet or RS485 network.

WDMS NT-VK

The WDMS NT-VK system is designed to collect and monitor radioactive wastewaters, which can be released only after their radioactivity drops below a defined value. The main application of such a system is related to diagnostic and therapeutic procedures involving radioactive substances, and their partial elimination through the patient’s metabolism.



The WDMS NT-VK system is designed to collect and monitor radioactive wastewaters, which can be released only after their radioactivity drops below a defined value. The main application of such a system is related to diagnostic and therapeutic procedures involving radioactive substances, and their partial elimination through the patient’s metabolism.

The WDMS NT-VK main components are:

- Purification group: Imhoff tanks designed to collect the wastewaters and to separate liquid from solid waste
- Sorting group: pumps and conduits pouring the wastewaters in the decay tanks
- Decay group: tanks array where the wastewaters are poured and stocked until their radioactive level drops below a defined value
- Sampling system: valves and pumps used by the system to wash the sampling circuit and to sample the stocked wastewaters, allowing the measurement in Marinelli geometry
- Release group: pumps and conduits releasing the wastewaters in the sewers, if allowed by the monitoring results
- Safety groups and devices: level and pump sensors installed in all the system critical stages, stopping the wastewaters flow in case of detected anomaly, and safety flooding well which can collect and stock wastewaters potentially overflowing from any system group

The entire system is locally managed by a PLC, which is commanded by a remote management software installed on a PC.

Through the interactive synoptic interface of the software the operator can activate the system automatic cycles, set the measurement parameters, visualize the alarms and release archives, and monitor the system’s status (filling levels, pump stages, measurements, alarms). Depending on the measurement results, and as defined by the procedures in force, the operator can also activate the monitored wastewaters release in the sewers.

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Radiation Detection › Laboratory Equipment

LEM – LIQUID EFFLUENT MONITORING SYSTEM

The LEM system is designed to sample the liquid effluents and to perform a spectroscopic analysis in Marinelli geometry.

LEM system is composed of the following main parts:

- Stainless steel frame
- Electrical and command board with touch-screen panel PC
- NaI(Tl) detector, 1 l Marinelli, 5 cm thick lead shielding well
- Self-priming pump (*)
- Software for system management, data acquisition and processing

The measurements are visualised in real time by the software, expressed in terms of specific/total activity through spectroscopic analysis.

LEM status and parameters are managed by the ELSE NUCLEAR software. The system provides also I/O contacts through dedicated connectors:

- Good functioning status output
- Alarm status output
- Pump activation input from customer PLC (*)
- Spare available I/O contacts (to be defined when necessary)

The software provides a calibration routine, to be used with a Marinelli calibration source (available as accessory).

A test program is also available, separate from the main application, to be used for maintenance or periodical quality controls.

(*) If not available in the sampling/hydraulic equipment which LEM shall be connected to

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Partner Ludlum Measurements Inc.

Ludlum Measurements, Inc. is a trusted global provider of radiation detection and monitoring instruments, offering rugged, accurate solutions for personnel safety, environmental protection, and security screening. Since 1962, their equipment has been used worldwide in applications ranging from nuclear power and emergency response to border protection and critical infrastructure monitoring.

Product offering

Model 3030E Alpha-Beta Scaler

Model 2000 General Purpose Scaler

Model 2200 Scaler-Ratemeter

Model 2100-1 Sample Counter

Model 2100 Conveyorized Sample Counter

Model 3030E with 43-10-1 Alpha-Beta Sample Counter

Model 3030-2 Simultaneous Alpha-Beta Sample Counter

Model 3030 Alpha-Beta Sample Counter

Model 3030P Alpha-Beta Sample Counter

Probes (Ludlum)

Radiation Detection › Laboratory Equipment

Model 3030E Alpha-Beta Scaler

- Dual Channel Scaler with Independent Readouts
- Connects to External Sample Head/Detector
- CPM & DPM Modes
- Background Subtraction
- Alpha/Beta Alarms
- QC Check
- 8 Hour Battery Operation
- Real Time Clock
- RS-232 Interface
- Includes PC Software

The Model 3030E is a dual channel, scaler-type, sample counter electronics package that will accommodate many detector inputs from external sample head/detectors. This design represents a significant improvement over older analog type scalers by providing greater utility and functionality.

The system incorporates independent backlit LCD readouts to support discriminated alpha and beta sample counting. The system features background subtraction, crosstalk correction, separate alpha/beta alarms, cpm/dpm operating modes, and a pre-scripted QC function with an automatic reminder timer.

The instrument supports both 110 and 220 Vac operation and includes a trickle-charged gel-cell battery for portable offsite use up to eight hours. A wide-range, high-voltage power supply supports virtually any detector.

Status indicators located along the front panel inform the operator when another QC check is required, if the detector is nonfunctional, if it is operating in DPM or CPM mode, and if either an alpha or beta alarm setpoint has been exceeded. The count time is selected via a front panel rotary switch that enables count times ranging from 0.1 to 60 minutes or some other prescribed value as set up via a link to a PC. Other controls include a start count button, audio volume rotary adjustment, and instrument on/off switch.

An RS-232 output from the rear panel supports connection to either a printer or PC. Included in the price is PC control software, which is a Windows application that supports setup of the system, as well as collecting and logging all count results from the 3030E.

Radiation Detection › Laboratory Equipment

Model 2000 General Purpose Scaler

- General Purpose Scaler
- Supports Wide Range of External Detectors
- 95 to 250 Vac Power Input
- Portable Battery Operation
- RS-232 Interface to Printer or PC

The Model 2000 is a general purpose scaler typically used for counting samples. Rugged design and construction accommodates both benchtop and portable applications. The wide-ranging AC power supply and internal batteries are capable of powering the instrument upwards of 120 hours. The Model 2000 supports GM, proportional, and scintillator type detectors, and provides fine adjustment controls for setting the high-voltage and threshold settings.

The scaler reading is presented on a digital, six-digit readout LED that can be set to count from 0.1 to 999 minutes via a front-panel dip switch. An internal switch facilitates counting in seconds rather than minutes, if desired. Other front-panel controls include a start-count button, an HV/Bat switch for displaying the current value on the accompanying analog meter, and a three-way switch for selecting Power Off, Battery, or Line Power.

An RS-232 port on the rear panel allows connection to a PC or printer as set by a rear mounted switch (a RS-232 to USB adapter cable is included). When connected to a PC, the counting may be controlled and results recorded via application software.

Radiation Detection › Laboratory Equipment

Model 2200 Scaler-Ratemeter

- General Purpose Scaler/Ratemeter
- Single Channel Analyzer
- Supports Wide Range of External Detectors
- 95 to 250 Vac Power Input
- Portable Battery Operation
- RS-232 Interface to Printer or PC

The Model 2200 is a general purpose scaler with an accompanying ratemeter, and is typically used for counting samples. Its rugged design and construction allow both benchtop and portable applications. The wide-ranging AC power supply and internal batteries are capable of powering the instrument upwards of 120 hours. The Model 2200 supports GM, proportional, and scintillator-type detectors, and provides fine adjustment controls for setting the high-voltage and threshold settings.

An adjustable discriminator and an adjustable window allow the user to count pulses within a user specified energy range. This portable unit can be powered by wall current or by four “D” cell batteries. The latter allows for continued operations during power interruptions. An optional printer (Model 4167-386) is available for hard copy archival of wipe test results.

The Ludlum Model 2200 Scaler/Ratemeter is the ideal economic solution for routine sample counting, single channel analyzing and routine radiopharmaceutical related procedures, when used with the Model 243 well scintillator (Nal) detector. The well counter’s 4π geometry and 1.3 cm (0.5 in.) shielding provides excellent sensitivity to higher energy isotopes like ^{131}I.

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Radiation Detection › Laboratory Equipment

Model 2100-1 Sample Counter

The Model 2100-1 manually operated sample counting system processes sample steel slugs to determine whether any radioactive impurities exist. The gamma radiation counting system is a table-mounted, fully integrated design that includes a gamma detector, sample tray, and controller.

The counting electronics incorporates two channels to distinguish between low and high energy gamma isotopes. All parameters, such as alarm point and count time are user-adjustable from the front panel LCD touch screen via a simple menu selection.

Measurement results for each sample are displayed on the backlit LCD. An Ethernet port reports all results and system status in real time for remote data logging and alarm annunciation. Visual and audible alarms are annunciated via the system’s LCD and rear panel mounted buzzer respectively. A built-in relay provides a method for driving an external horn/strobe (available as an option).

One rear panel mounted USB port enables connection to either a keyboard or barcode reader device for the purpose of entering sample IDs.

Features

- High Sensitivity Gamma Detector
- Separate High & Low Gamma Energy Sampling
- User-Adjustable Parameters
- Color LCD Touch Screen
- Ethernet Connectivity
- Remote Alarm Output
- USB Ports for ID Input Devices

Radiation Detection › Laboratory Equipment

Model 2100 Conveyorized Sample Counter

The Model 2100 automated sample counting system processes sample steel slugs to determine whether any radioactive impurities exist. The gamma radiation counting system is a table-mounted, fully integrated design that includes a gamma detector, sample conveyor, and controller to facilitate automated processing.

Once the sample has been positioned on the conveyor, an infrared sensor automatically initiates conveyance of the sample into the lead shielded detector where it is counted for a predetermined time. Once the count is completed, the conveyor again advances until the sample drops into a discard container.

The counting electronics incorporates two channels to distinguish between low and high energy gamma isotopes. All parameters, such as alarm point and count time are user-adjustable from the front panel LCD touch screen via a simple menu selection.

Measurement results for each sample are displayed on the backlit LCD. An Ethernet port reports all results and system status in real time for remote data logging and alarm annunciation. Visual and audible alarms are annunciated via the system’s LCD and rear panel mounted buzzer respectively. A built-in relay provides a method for driving an external horn/strobe (available as an option).

One rear panel mounted USB port enables connection to either a keyboard or barcode reader device for the purpose of entering sample IDs.

Radiation Detection › Laboratory Equipment

Model 3030E with 43-10-1 Alpha-Beta Sample Counter

- Alpha-Beta Dual Channel Sample Counter
- Simultaneous Alpha & Beta Counting
- 5.1 cm (2 in.) Diameter Sample Tray
- Independent Readouts
- CPM & DPM Modes
- Background Subtraction
- Alpha/Beta Alarms
- QC Check
- 8-Hour Battery Operation
- Real Time Clock
- RS-232 Interface
- Includes PC Software

This system joins Ludlum's Model 3030E dual channel scaler and the Model 43-10-1 dual phosphor detector with a 5.1 cm (2 in.) diameter sample tray to produce a complete alpha beta sample counting system. The 3030E electronics incorporates independent backlit LCD readouts to support discriminated alpha and beta sample counting. The system features background subtraction, crosstalk correction, separate alpha/beta alarms, CPM/DPM operating modes, and a pre-scripted QC function with automatic reminder timer.

The instrument supports both 110 and 220 Vac operation and includes a trickle-charged gel-cell battery for portable offsite use for up to eight hours. A wide-range high-voltage power supply supports virtually any detector. Status indicators located along the front panel inform the operator when another QC check is required, if the detector is nonfunctional, if it is operating in DPM or CPM mode, and if either an alpha or beta alarm setpoint has been exceeded.

Radiation Detection › Laboratory Equipment

Model 3030-2 Simultaneous Alpha-Beta Sample Counter

- Fully Integrated Alpha-Beta Sample Counter
- Simultaneous Alpha and Beta Counting
- Shielded 5.1 cm (2 in.) Diameter Sample Tray
- Independent Readouts
- CPM, Bq, & CPS Modes
- Background Subtraction
- Alpha/Beta Alarms
- QC Check
- 8 Hour Battery Operation
- Real Time Clock
- RS-232 Interface

The Model 3030-2 Simultaneous Alpha-Beta Sample Counter is a dual-channel counter designed for simultaneous alpha and beta sample measurement.

The counts per minute (CPM), Becquerel (Bq), or counts per second (CPS) modes may be enabled to allow the count to be automatically, and in real time, in CPM, Bq, or CPS. While in Bq and CPS display modes the display will show the count with two decimal places.

The counter incorporates an internally housed ZnS(Ag) plastic scintillator detector with shielded 5.1 cm (2 in.) diameter stainless steel sample tray. This system supplies independent backlit LCD readouts to support alpha and beta sample counting.

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Radiation Detection › Laboratory Equipment

Model 3030 Alpha-Beta Sample Counter

- Fully Integrated Alpha-Beta Sample Counter
- Simultaneous Alpha and Beta Counting
- Shielded 5.1 cm (2 in.) Diameter Sample Tray
- Independent Readouts
- CPM & DPM Modes
- Background Subtraction
- Alpha/Beta Alarms
- QC Check
- 8 Hour Battery Operation
- Real Time Clock
- RS-232 Interface
- Includes PC Software

The Model 3030 Alpha-Beta Sample Counter incorporates an internally housed ZnS(Ag) plastic scintillator detector with shielded 5.1 cm (2 in.) diameter stainless steel sample tray into the Ludlum Model 3030 Scaler. This combined system supplies independent backlit LCD readouts to support discriminated alpha and beta sample counting. Key features include background subtraction, crosstalk correction, separate alpha/beta alarms, cpm/dpm operating modes, and a pre-scripted QC function with automatic reminder timer.

The instrument supports both 110 and 220 Vac operation, and includes a trickle charged gel-cell battery for portable offsite use for up to eight hours. A wide-range high voltage power supply supports virtually any detector. Status indicators located along the front panel inform the operator when a QC check is required, if the detector is non-functional, if it is operating in dpm or cpm mode, and if either an alpha or beta alarm setpoint has been exceeded.

The count time is selected via a front-panel rotary switch that enables count times ranging from 0.1 to 60 minutes, or some other prescribed value as set up via a link to a PC. Other controls include a start count button, audio volume rotary adjustment, and instrument on/off switch. An RS-232 output from the rear panel supports connection to either a printer or PC. Included in the price is PC-control software, which is a Windows application that supports setup of the system, as well as collecting and logging all count results from the 3030.

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Radiation Detection › Laboratory Equipment

Model 3030P Alpha-Beta Sample Counter

- Fully Integrated Alpha-Beta Sample Counter
- Simultaneous Alpha and Beta Counting
- Employs PIPS™ Detector
- Ultra Low A/B Crossover & Backgrounds
- Adjustable Alpha Window for Radon Rejection
- Data Logging with USB Connectivity
- 48-Hour Battery Operation
- Includes PC Software

The 3030P with a solid state PIPS™ detector facilitates efficient and cost-effective, simultaneous alpha and beta sample counting for air filters, smears, and swipes. This instrument meets the newer Electric Power Research Institute (EPRI) guideline for detecting a few disintegrations per minute of alpha amidst several hundred-thousand disintegrations per minute beta background. All data are automatically logged and easily retrievable via a USB connection. The light weight and battery operability afford convenient use in the field. With the optional detector shield, the Model 3030P can be used virtually anywhere.

The instrument comes with PC control software that allows the user to set all parameters, view QC check settings, change alpha and beta window and threshold values, perform MDA (Minimum Detectable Activity), and retrieve the sample data saved to the logging memory.

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Radiation Detection › Laboratory Equipment

Probes (Ludlum)

For any application Ludlum offers a wide range of probes. The probes can be used with all Ludlum models which require an external detector.

Ludlum models with external detector a.o.:

- Model 3000 Digital Survey Meter
- Model 3001 Multi-Detector Survey Meter
- Model 375 Area Monitor Controller
- Model 375/9 Digital Area Monitor
- Model 30 Digital Survey Meter

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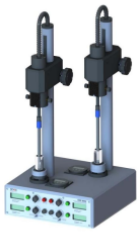
Partner SDEC France

SDEC France is a specialized manufacturer of environmental monitoring and laboratory equipment, offering comprehensive solutions for waste and recycling management, environmental monitoring, and laboratory applications. With over 30 years of experience, the company designs and produces high-quality instruments to support professionals in environmental science, agronomy, and radiological safety.

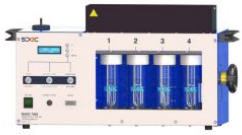
Product offering

EDP 9002 – Double Mast Electrodeposition Equipment



PRC 14: Maintenance Pump – For Cleaning Pipes for HAGUE 7000 CARBON 14 Bubbler

MARC 7000 – Tritium Bubbler: Atmospheric Monitoring System with 4 Pots (With Oven)

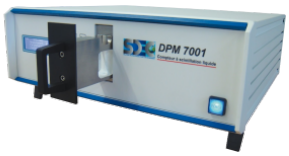


Aerosol and Iodine Sampling Heads

AS 5000 Portable Aerosol & Iodine Sampler DPRC Type for Air Flow Regulation – Maintenance-Free Design

EDP 7000 – Electrodeposition Equipment – Monostation

DPM 7001 Liquid Scintillation Counter – SDEC



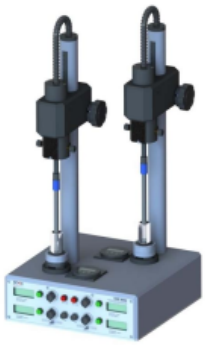
H3R 7000 Airborne Tritium Condenser – SDEC

Single Mast Electrodeposition Equipment – EDP 7000 – SDEC

Tritium sampler 4 vials MARC 7000 – SDEC

Radiation Detection › **Laboratory Equipment**

EDP 9002 – Double Mast Electrodeposition Equipment



- **SPACE-SAVING & ECONOMICAL DESIGN:** Two measurement stations on a single base, ideal for laboratories with limited workspace. The EDP 9002 is more affordable than purchasing two EDP 7000 devices.
- **TIME EFFICIENCY:** Significant time savings when conducting multiple analyses.
- **SYNTHETIC MATERIALS:** The EDP is made solely from synthetic materials that perfectly resist the sometimes highly corrosive environments of research laboratories, thus ensuring a very long lifespan for the device.
- **HIGH PRECISION:** Ensures optimal trapping efficiency with regulated and constant direct current. The EDP is equipped with a polarity reverser for electrochemical stripping of the stainless steel pellet intended to receive the deposit, thereby ensuring perfect purity of the support.
- **COOLING SYSTEM:** Features high-flow air convection, preventing solution evaporation thanks to a solution cooling system with high-flow air convection.
- **VERSATILE SETTINGS:** Adjust the current intensity up to 5 Amperes and the electrode rotation speed with precision potentiometers and three sizes for solution containers.
- **DIGITAL TIMER:** Set the exact duration of electrodeposition with a digital display timer and an audible alarm.
- **EASY TO USE:** Quick assembly/disassembly of bottles and an internal container for accidental spills. Easy user maintenance of the device. Almost instantaneous assembly/disassembly of bottles.
- **COLLABORATION WITH COGEMA:** Designed in association with the leading French nuclear institute.

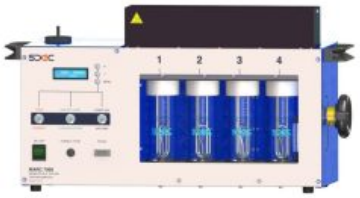
Radiation Detection › Laboratory Equipment

PRC 14: Maintenance Pump – For Cleaning Pipes for HAGUE 7000 CARBON 14 Bubbler

- **RELIABILITY:** PRC 14 self-priming centrifugal pump with a 150-hour motor life, operates continuously without cooling.
- **VERSATILITY:** Specifically designed for HAGUE 7000 bubblers using a diluted acid solution. This operation dissolves and evacuates the solid deposits that have accumulated inside the Ø 3 mm stainless steel pipes and in the drilled block, mainly between pots 1 and 2. It is ideal for various applications, ensuring efficient capture of atmospheric 14C.
- **DURABLE CONSTRUCTION:** Equipped with an ABS impeller, stainless steel motor shaft, and nitrile seal, ensuring longevity and resilience with a constant flow rate of 10l/h.
- **ENERGY EFFICIENCY:** Maximum consumption of 60 Watts, operates ideally at 12-15 volts DC, compatible with 12V battery.
- **ECONOMICAL SOLUTION:** Offers reliability and performance at an attractive price.

Radiation Detection › **Laboratory Equipment**

MARC 7000 – Tritium Bubbler: Atmospheric Monitoring System with 4 Pots (With Oven)



- **EFFICIENCY:** The MARC 7000 monitors atmospheric tritium, capturing vapor and gas, with oxidation in an oven.
- **PERFORMANCE:** 99% HTO trapping efficiency and 98% oven conversion efficiency for precise tritium monitoring.
- **INTEGRATED ADVANCED FUNCTIONS:** Offers adjustable airflow, real-time display of various parameters, automatic regulation, and default data storage. Designed for user-friendly operation and accurate readings.
- **PERFORMANCE:** Automatic air flow regulation, durable diaphragm pump, and 316L stainless steel circuit.
- **INTEGRATED ADVANCED FUNCTIONS:** Adjustable air flow, automatic regulation, real-time display, and anomaly storage.
- **OPTIONS FOR ENHANCED FUNCTIONALITY:** Cooling circuit, Ethernet connectivity, and alarms.
- **VERSATILE APPLICATIONS:** Suitable for the nuclear industry, research centers, waste storage, and laboratories.
- **SUPPLIER CONFIDENCE:** Officially supplied to major organizations such as IRSN, the French Navy, EDF, ANDRA, CEA, and internationally to IAEA and various nuclear power plants.
- **CERTIFICATION:** NF ISO 20045 & NF ISO 20041-1

Radiation Detection › Laboratory Equipment

Aerosol and Iodine Sampling Heads

These holders are used for sampling aerosols and volatile compounds on filter paper and cartridge(s). They can be used for ambient sampling or connected to a line (e.g., type DPRC). They are made of anodised aluminium or stainless steel (on request) for various diameters of filter paper and cartridge(s):

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Radiation Detection › **Laboratory Equipment**

AS 5000 Portable Aerosol & Iodine Sampler DPRC Type for Air Flow Regulation – Maintenance-Free Design

- **HIGH-QUALITY SAMPLING:** The AS 5000 excels in aerosol and iodine sampling, fully compliant with NF ISO 2889 standards.
- **ADJUSTABLE AIR FLOW:** Microprocessor for airflow setting from 30 to 100 liters/minute, customizable options.
- **EASY FILTER HANDLING:** TPHP head for easy installation and retrieval of filters, without interrupting the air circuit.
- **EASY DATA TRANSFER:** Transmits data via Ethernet, an available option.
- **PRECISE MONITORING:** Tracks sampled air volume and alerts for clogging and leaks, with audible and written reports.
- **CERTIFICATION:** NF ISO 2889

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Radiation Detection › **Laboratory Equipment**

EDP 7000 – Electrodeposition Equipment – Monostation

- **SYNTHETIC MATERIALS:** Made from synthetic materials resistant to the corrosive environments of laboratories, ensuring longevity of the EDP.
- **HIGH PRECISION:** Ensures optimal trapping efficiency with a regulated and constant direct current. The EDP is equipped with a polarity reverser for electrochemical stripping of the stainless steel pellet intended to receive the deposit, thereby ensuring perfect purity of the support.
- **COOLING SYSTEM:** High-flow air convection to prevent solution evaporation, thanks to a cooling ventilation system.
- **VERSATILE SETTINGS:** Precise settings for current intensity up to 5 Amperes and electrode rotation speed.
- **DIGITAL TIMER:** Timer with digital display and audible alarm for exact duration of electrodeposition.
- **INTUITIVE USE:** Quick installation of bottles, internal container for spills, easy maintenance.
- **COLLABORATION WITH COGEMA:** Designed in partnership with COGEMA, a leading French nuclear institute.

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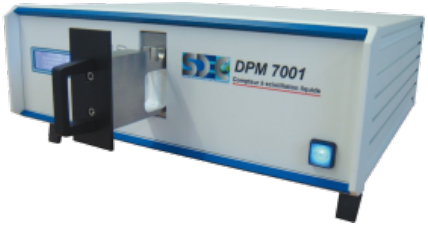
Radiation Detection › Laboratory Equipment

DPM 7001 Liquid Scintillation Counter – SDEC



The DPM 7001 Liquid Scintillation Counter (SDEC) is a mobile liquid scintillation counter equipped with two photomultipliers, giving it a high counting efficiency and low background noise. It is specially designed for the counting of tritium and carbone-14. Due to its small size and its light weight (16kg), it can be transported easily on monitoring sites for quick measurements.

DPM 7001 Liquid Scintillation Counter features:

- high counting efficiency (H3 > 37%, C14 > 94%)
- low background noise (< 40 CPM)
- light weight : 16 kg
- control and reading on LCD display or on PC (optional software)
- data export in excel format
- two counting channels for two simultaneous countings

Read more about the DPM 7001 Liquid Scintillation Counter on the SDEC website

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Radiation Detection › Laboratory Equipment

H3R 7000 Airborne Tritium Condenser – SDEC

The H3R 7000 Airborne Tritium Condenser (SDEC) is an innovative instrument in the field of Tritium in air sampling. It collects samples of Tritium in its vapor form and produces results in less than 40 minutes. The sample obtained can be measured down to a detection limit of 0.01 Bq/m3 by deferred measurement using liquid scintillation.

H3R 7000 Airborne Tritium Condenser features:

- quick start mode
- measurement and calculation in real time of the absolute humidity in ambient air in g/m3
- automatic calculation of trapping time depending on the required water quantitya
- automatic drying under high temperature of the trapping circuit to avoid a crossed contamination
- selection of the drying time
- USB output : data recuperation on USB key
- thermic printer integrated : printing of data on sticker to place on to sample vial

Read more about the H3R 7000 Airborne Tritium Condenser on the SDEC website

Single Mast Electrodeposition Equipment – EDP 7000 – SDEC

The measure of radio-isotopes is used in nuclear medicine to control and follow the contamination level of a patient who has manipuled radio-isotopes. Usally when measuring a radio-isotope, the first thing to do is to trap it and make it deposit on a support.

The Single Mast Electrodeposition Equipment – EDP 7000 system is the most efficient principle for trapping a radio-element in liquid solution.This principle allow to deposit the radio-isotopes contained in a solution onto a metallic plate. To measure the quantity of radio-element trapped, the metallic plate is afterwards placed into a suitable machine (spectrometer or other one).

single mast electrodeposition equipment – EDP 7000 features:

- synthetic materials.
- temperature control of the solution.
- three sizes of solution containers.
- quick screw/unscrew.
- easy maintenance by operator.
- reverse polarity switch.
- independent timer.

Read more about the Single Mast Electrodeposition Equipment on the SDEC website

Radiation Detection › Laboratory Equipment

Tritium sampler 4 vials MARC 7000 – SDEC

The Tritium sampler 4 vials (MARC 7000) equipment is designed to sample the tritium which is contained in a volume of air (gas H3, tritiated water HTO or organically combined). Tritiated water vapor is trapped in the first two feeding bottles by means of the bubbling principle. To trap the tritium which is combined to organic materials, an oxidation reaction is created in the oven. A catalyser is used to lower the combustion level. This causes tritium to react chemically to form tritiated water vapor which is trapped in feeding bottles n°3 & 4. After a certain time, the tritiated water contained in the bottles is measured in a laboratory. The quantity of tritium measured is related to the volume of air which has passed through the equipment.

Tritium sampler 4 vials features:

- excellent trapping efficiency (close to 99%)
- cooling system to increase sampling length (option)
- good price
- constant evolution of the product
- easy to use
- connectable to all sampling lines

Read more about the Tritium sampler 4 vials (MARC 7000) on the SDEC website

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Partner Spectrum Techniques

Spectrum Techniques is a leading provider of radiation detection and measurement solutions, specializing in laboratory equipment and radioactive sources. Their offerings include a range of instruments and detectors designed to support educational, research, and industrial applications.

Product offering

Advanced Spectroscopy System

SCINTILLATION WELL COUNTING SYSTEM

Intermediate Nuclear Labororatory System

Radiation Detection › Laboratory Equipment

Advanced Spectroscopy System

The Advanced Spectroscopy System, your comprehensive solution for advanced nuclear experimentation and analysis.

Sophisticated Capabilities: Our cutting-edge systems are engineered to meet the demands of diverse applications, from academic research and industrial quality control to environmental monitoring and nuclear medicine. They empower users with the tools needed to delve deep into the intricacies of radiation spectroscopy.

Tailored Solutions: Offering a range of models and configurations, these systems are highly customizable to align perfectly with your specific requirements. Whether you need energy resolution, peak analysis, or nuclide identification, our systems are designed to adapt.

Superior Detector Technology: At the heart of our spectroscopy systems lies advanced detector technology, delivering unparalleled sensitivity and accuracy. From scintillation detectors to high-purity germanium detectors, our instruments are optimized for peak performance.

User-Friendly Interface: Navigating the complexities of radiation analysis has never been easier. Our intuitive software interfaces simplify data acquisition and analysis, allowing users of all skill levels to achieve precise results.

Reliability and Support: Backed by Spectrum Techniques' decades of expertise, these systems are built for longevity and backed by top-notch technical support. We're committed to ensuring your success in radiation spectroscopy.

Elevate your research, enhance your quality control, and make breakthroughs in nuclear science with Spectrum Techniques' Advanced Spectroscopy Systems. Explore the limitless possibilities today.

The System is built around the UCS-30 and a 1.5″ x 1.5″ NaI(Tl) detector; it is designed for conducting a wide selection of spectroscopy experiments.

Radiation Detection › Laboratory Equipment

SCINTILLATION WELL COUNTING SYSTEM

The Wipe System – a state-of-the-art solution for the precise and efficient collection of radioactive contamination.

Effortless Contamination Detection: Our Wipe System is designed to simplify and enhance the process of identifying and quantifying radioactive contamination. With meticulous attention to detail, it enables you to maintain the highest standards of safety and environmental protection.

Comprehensive Solution: This system comprises user-friendly software and specialized wiping materials, ensuring a comprehensive approach to contamination monitoring. It empowers users across various industries, including nuclear facilities, healthcare, and environmental laboratories.

Accurate and Reliable: Spectrum Techniques' Wipe System is built on cutting-edge technology, offering unparalleled accuracy and reliability. It allows you to confidently detect and measure radioactive contaminants, safeguarding your personnel and the environment.

Customizable for Your Needs: We understand that different applications have unique requirements. Our Wipe System is customizable to meet your specific needs, offering flexibility in terms of sample size, detection thresholds, and reporting options.

Exceptional Support: As with all Spectrum Techniques products, our Wipe System is backed by a team of experts dedicated to ensuring your success. Our technical support and training resources are available to assist you every step of the way.

Upgrade your contamination monitoring process with Spectrum Techniques' Wipe System. Stay compliant, protect your environment, and mitigate risks with precision and confidence.

Radiation Detection › Laboratory Equipment

Intermediate Nuclear Labororatory System

The Intermediate Plus Nuclear Laboratory System, your comprehensive solution for advanced nuclear experimentation and analysis.

Unparalleled Versatility: This cutting-edge system is meticulously crafted to cater to the evolving needs of educational institutions, research facilities, and nuclear science enthusiasts. With its versatile design, it's perfectly suited for a wide range of applications, including teaching, advanced research, and radiation safety studies.

Precise Data Acquisition: Equipped with state-of-the-art technology, the Intermediate Plus Nuclear Laboratory System ensures precise data acquisition. It empowers users to conduct experiments with confidence, facilitating a deeper understanding of nuclear phenomena.

Seamless Integration: Our system seamlessly integrates with an array of detectors, amplifiers, and software, providing a comprehensive toolkit to explore and analyze radiation sources effectively. It's engineered for ease of use, making it accessible to both novice and experienced users.

Enhanced Features: The Intermediate Plus Nuclear Laboratory System boasts an array of enhanced features, including user-friendly software for data analysis, adaptable detector options, and flexible connectivity options, allowing you to tailor your experiments to your specific requirements.

Reliability and Support: Backed by Spectrum Techniques' commitment to quality and customer satisfaction, this system is built to last and comes with exceptional technical support to ensure your research and educational objectives are met with ease.

Unlock the potential of nuclear science with confidence, precision, and versatility using the Spectrum Techniques Intermediate Plus Nuclear Laboratory System. Elevate your experiments and research to new heights with this comprehensive solution.

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Partner GEORADIS s.r.o.

Georadis s.r.o. is a specialized manufacturer of advanced radiation detection and monitoring instruments, offering a comprehensive suite of solutions for field and laboratory applications. Their product portfolio includes handheld monitors, portable isotope identifiers, environmental monitoring devices, and laboratory equipment, all designed to meet the rigorous demands of professionals in sectors such as environmental monitoring, industrial safety, and public security.

Product offering

RT-50 Laboratory Gamma-Ray Spectrometer – Georadis

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Radiation Detection › **Laboratory Equipment**

RT-50 Laboratory Gamma-Ray Spectrometer – Georadis

The RT-50 (Georadis) is a state of the art gamma spectrum analyzer to monitor and detect the presence of radiation in metals, metals by-products, geological samples, construction materials, environmental commodities, food and many other materials. Floor standing and easy to operate, the RT-50 spectrum analyzer is an indispensable part of any analytical laboratory, it rapidly detects and accurately measures extremely low levels of radioactive contamination.

RT-50 Laboratory Gamma-Ray Spectrometer features:

- full sample analysis in less than 5 min
- sensitivity; 0.02 Bq/g
- energy range: 20 keV – 3,0 MeV
- 1024 channel pulse amplitude analyzer
- short calibration times
- NaI(Tl) volume 0.35 l, 76 x 76 mm (3”x3”) detector

Read more about the RT-50 Laboratory Gamma-Ray Spectrometer on the Georadis website

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Partner 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.

Product offering

Quant GR1

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Radiation Detection › CZT & Gamma Cameras

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.

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Partner Ultra Electronics

Ultra Electronics acquired Lab Impex Systems on July 17th, 2014. This is a known specialized manufacturer in radiation detection solutions and services for use in the global nuclear industry. Founded in 1976, Laboratory Impex Systems Ltd (LIS) is a leader in designing, developing and manufacturing health physics and radiation protection measurement instrumentation focusing on stack monitoring.

Product offering

CMS Iodine Monitor – Lab Impex Systems

Radiation Detection › Laboratory Equipment

CMS Iodine Monitor – Lab Impex Systems

The CMS Iodine Monitor (Lab Impex Systems) is an advanced system for monitoring airborne concentration of radioiodine in the workplace and other areas of interest (stacks, cells and glove boxes).

The monitor is available in isotopic specific configurations including I-124, I-125, I-129 and I-131, and offers real time measurement of both molecular and organic forms of iodine.

In addition, the system is available in a skid, enclosure or cart mounted configuration.

The sensor element of the Iodine Monitor is a patented detector called the CGADC (Continuous Gas Analysis and Detection Chamber). The CGADC combines a sensitive scintillation detector with a stainless steel measurement chamber housing a radioiodine filtration cartridge. The CGADC is packaged as an integrated device, with shielding, pump, flow sensor and CMS processor, and is available in either a fixed or transportable configuration.

CMS Iodine Monitor features:

- filtration mechanism captures all forms of radioiodine
- achieves low MDL’s through unique detector design with Brehmstrahllung shield
- automatic background compensation
- temperature spectrum stabilization reduces inaccurate measurement due to spectrum drift
- CMS analysis algorithm provides a low stable measurement at background, but ensures a fast response to rising concentration levels

Read more about the CMS Iodine Monitor on the Lab Impex Systems website.

TRAINING SIMULATORS

peo DETECTION

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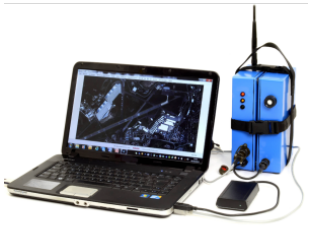
Partner Argon Electronics

Argon Electronics delivers high-fidelity simulator-based training solutions for chemical, biological, radiological, nuclear, and explosive (CBRNe) and hazardous material (HazMat) response. Their technology enables realistic, hands-on training in both field and classroom settings—without the risks of live agents.

Product offering

RADSIM 44-9-SIM Radiation Safety Training Probe Simulator

PlumeSIM®



PlumeSIM-SMART

RS340 Back Pack

UDR-13 & UDR-14 SIM

Radsim DS3 Mini 900

Nuvia CoMo 170 Contamination Training Simulator

AN/PDR 77 APLHA & BETA SIM PROBES

GMP-11 Radiation Safety Training Simulator Probe

M4A1 JCAD Chemical Hazard Detection Simulator

6150AD-K Contamination Simulator

RADSIM GS4

MultiGAS SIM

RDS Beta Photon Probe Simulator

Ludlum 133-6 and 44-2 Radiation Simulation Probes

RDS-100 / PDR-77 / CDV 718 SIM Probes

AN/VDR 2 DT616-SIM Radiation Safety Training Simulator

ADM300A-SIM Radiation Training Simulator

GID-3 Chemical Warfare Detection Simulator

MCAD-SIM Chemical Warfare Detection Simulator

CAMSIM Chemical Hazard Detection Simulator

AccuRad PRD Simulator

Nuvia DolMo Radiation Hazard Detection Simulator

HRM Radiation Hazard Simulator

SP4E Chemical Hazard Detection Simulator

AP4C-SIM Chemical Detector Simulator

D-tect SYSTEMS RDS Radiation Training Simulator

SVG-2 Radiation Hazard Detection Simulator

RadEye GF-10 SIM

RADSIM-SS3

LCD3.3-SIM Chemical Hazard Detection Simulator

FH 40 GSIM Survey Meter Simulator

Raid-100M Training Simulator

Dräger X-am Series Simulator

Tracerco PED+ Simulator

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RADSIM 44-9-SIM Radiation Safety Training Probe Simulator

The RADSIM 44-9-SIM is a cutting-edge simulation probe designed for use with Ludlum's 44-9 GM pancake-type detector.

This versatile training system offers a realistic alternative to traditional methods, eliminating the need for ionising radiation sources while delivering high-fidelity functionality for instructors and students alike.

Key Features

- Accurate Simulation: Replicates the functionality of Ludlum's 44-9 GM pancake-type detector, responding to safe magnetic sources simulating short-range Alpha and Beta radiation.
- Adaptable Training Design: Compatible with an extensive range of Ludlum survey meters, rate meters, and scalers. Includes an Instructor Remote Controller (IRC) for managing partial or full decontamination and probe functionality scenarios.
- Integrated Training Capabilities: Offers virtual Alpha, Beta, and Gamma simulation when used with Argon's Plume SIM system. Enables simultaneous, multi-detector, and multi-isotope training scenarios.

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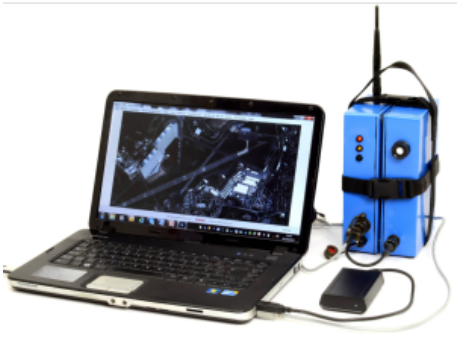
Radiation Detection › Training Simulators

PlumeSIM®



Plume SIM is the ultimate tool for preparing teams to respond to complex chemical, biological, radiological, and nuclear (CBRNe) threats. This innovative wide area training system creates realistic hazard plumes and hotspots, allowing instructors to manage a variety of threat scenarios in real time.

Ideal for counterterrorism and nuclear emergency exercises, Plume SIM adapts seamlessly from classroom tabletop mode to full scale field operations, enhancing team preparedness through powerful, scenario-based training.

Key Features

- Versatile Training Modes: Use Plume SIM in tabletop mode for classroom exercises or field mode for outdoor training with GPS enabled units.
- Customizable Scenarios: Create user defined scenarios with single or multiple threat sources, environmental factors, and release characteristics like duration, direction, and persistence.
- RealTime Monitoring & Mapping: Supports GIS mapping and real time adjustments to simulate wind changes and other environmental variables, making every session unique.
- Multiplatform Compatibility: Integrates with a range of Argon simulators, including the M4 JCADSIM, CAMSIM, AP2CSIM, and others, allowing simultaneous, multi threat exercises.

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PlumeSIM-SMART

Our App-based training system provides you with the capability to deliver practical, highly engaging Command Officer and survey operative tabletop and live field CBRNe / HazMat and offsite release exercises incorporating gaseous, radioactive, Hazardous Material (HazMat) and Chemical Warfare Agent (CWA) threats and releases.

PlumeSIM-SMART Simulates:

- Single or multiple threats / releases including Radioactivity, Radioactive compounds, TICs / TIMs and CWA
- Real-time chemical or radiation plume variation to changes in wind direction and velocity and evaporation, deposition, persistency, radioactive fallout and decay
- Hot spots, static emissions, hidden / activated radiological dispersion devices, puffs and plumes and placement of water barriers to restrict plume from sensitive areas
- Sources comprising Individual or multiple radionuclides and foot, fixed or vehicle based survey / monitoring / reconnaissance

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Radiation Detection › Training Simulators

RS340 Back Pack

Based upon the Lawrence Livermore National Laboratory RaFTS Gamma Spectrometry simulation technology and developed in collaboration with Radiation Solutions Inc., the RaFTS-RS340 Gamma simulation module enables you to temporarily convert your operational RSI RS340 back pack into a powerful training system.

Substituting the RS340 detector, the RaFTS module responds to our GS Series simulation Gamma Sources which can be programmed to represent a variety of Industrial, Nuclear, Medical and even Specialist Nuclear Material (SNM) radionuclides and can be discretely hidden within buildings, open field, vehicles and even body worn rucksacks for specialist search and threat identification exercises.

For larger area exercises multiple GS series sources can be deployed or PlumeSIM provides the perfect solution.

Multi-Device Compatibility

The RS340 back pack responds in exactly the same way as it would for real radionuclides with count rate a spectra faithfully reproduced in real time with all standard user alarms and visual alerts including spectra displays presented on you Bluetooth linked RS340 mobile App.

Compatibility with all Argon Electronics survey, Personal Radiation Detector (PRD) and personal dosimeter simulators provides you with a powerful multi detector search team exercise capability so that you can ensure your teams maintain optimal operational readiness.

UDR-13 & UDR-14 SIM

Thanks to a combination of Argon’s wealth of simulation experience and our relationship with Mirion, the look, feel and response of the UDR-13 and UDR-14 radiation training simulators is extremely close to that of actual detectors.

The simulators respond to RADSIM electromagnetic sources that safely simulate ionizing radiation eliminating regulatory, environmental, and health and safety concerns for you and your students.

Key Features

- Simulated Science: Inverse square law (1/r2) response within real detector tolerance and accurate representation of different shielding effects.
- Unmatched Realism: Has the same human interface and dose rate alarm settings as the real detector.
- Comprehensive Training: Optional units of measurement available include Gy/hr, Sv/hr, Rem, and CPM.
- Cost Effective: Uses the same commercial batteries as real detector and doesn’t require regular calibration or maintenance.

Radsim DS3 Mini 900

The Radsim DS3 Mini 900 Simulator revolutionizes radiation safety training by replicating the detection capabilities of the Thermo Mini Monitor 900 EP15. Designed with photon based fluorescent simulation technology, this powerful training tool allows users to detect Alpha and Beta particles without any environmental or safety risks.

From educational institutions and hospitals to nuclear facilities and emergency response units, the Radsim DS3 provides a safe, hands on learning experience, equipping trainees to respond effectively in contamination scenarios.

Key Features

- Realistic Simulation Technology: Detects safe, coloured powder, liquid, and cream simulants on various surfaces—including protective gloves, food, and even simulated contaminated water.
- Customizable Detection Modes: Easily configure the Radsim DS3 for Alpha, Beta, or combined Alpha Beta detection, simulating varied particle detection for an authentic hands on experience.
- Scenario Adaptability: Adjustable settings for background noise, mute, and alarm thresholds allow instructors to align the simulation environment with specific training objectives, enhancing immersion.
- Environmentally Safe Simulants: Made from common dyes, food additives, and cosmetic grade bases, all simulants are nontoxic, with full ingredient transparency for uncompromised safety.

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Nuvia CoMo 170 Contamination Training Simulator

The Nuvia CoMo 170 simulator replicates the operational features of the operational CoMo 170 contamination detector, enabling safe and effective radiation training. By eliminating the need for ionising radiation sources, this system ensures regulatory, environmental, and health safety compliance while offering unparalleled realism.

Key Features

- Advanced Simulation Technology: Accurate replication of the CoMo 170 detector with fully functional alarm, language, and configuration options.
- Dynamic Training Scenarios: Supports training for survey, location, and decontamination tasks.
- Integrated Training Solutions: Compatible with Argon's Plume SIM system for wide-area emergency response exercises. Allows simultaneous multi-detector and multi-hazard training with Argon simulators.

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Radiation Detection › Training Simulators

AN/PDR 77 APLHA & BETA SIM PROBES

The RADSIM A-SIM-P and B-SIM-P radiation training simulator probes are for use with the Mirion / Canberra AN/PDR-77 and RDS100 survey meters. These probes provide you with a training system that enables your students to experience the operational features of the real detector without the need for real radiation sources or radioactive materials.

Key Features

- Operational Realism: Compatible with Mirion/Canberra meters including AN/VDR-2, PDR-77, and RDS100 with identical functionality and readings as the real probes.
- Dynamic Training Scenarios: Supports training for search, reconnaissance, survey, location, and decontamination procedures.
- Instructional Ease: Instructor remote control for simulating partial/full decontamination and probe failure at the push of a button.
- Advanced Simulation Capabilities: Simulates radiation hazards with realistic response and shielding effects.

Radiation Detection › Training Simulators

GMP-11 Radiation Safety Training Simulator Probe

The GMP-11-SIM is an advanced Beta radiation contamination training simulator designed for the Mirion GMP-11 probe. This simulator seamlessly connects to your Mirion RDS-200 or Argon RDS-200-SIM, providing an authentic training experience without the need for ionising radiation sources or radioactive materials.

Key Features

- Accurate Simulation: Responds to safe, inexpensive fluorescent powder and liquid materials that simulate beta radiation. Automatically detected by the RDS-200-SIM for seamless operation.
- Training Versatility: Compatible with both real RDS-200 and RDS-200-SIM survey meters.
- User-Friendly Design: Logarithmic analogue bar graph and numeric dose rate display.

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M4A1 JCAD Chemical Hazard Detection Simulator

The M4A1 JCAD-SIM is a high-fidelity simulator for the Smiths Detection M4A1 JCAD, enabling safe, effective, and environmentally friendly training for chemical warfare and hazardous material scenarios.

Designed to preserve operational readiness and reduce costs, this simulator ensures your team is prepared for real-world challenges while extending the lifespan of your actual detection equipment.

Key Features

- True-to-Life Interface: Perfectly mimics the actual detector, supporting a seamless transition from training to real-world response.
- Comprehensive Threat Simulation: Detects and simulates a wide array of agents, including nerve, blister, and blood agents, toxic industrial chemicals (TICs) and false positives.
- Environmental Adaptability: Simulate varied conditions like wind direction, temperature shifts, and night vision
- Enhanced Control for Instructors: With a dedicated remote, instructors can set decontamination effectiveness, persistency, and contamination levels

6150AD-K Contamination Simulator

Radiation Hazard Detection Simulator

- Large area contamination simulation 6150AD-K probe for Automess 6150AD
- Responds to safe simulation radiation sources
- Simulation of partial and full decontamination
- Simulation of detector cover plate
- Simulation of contamination of sensor face
- Perfect for radiation, HazMat and CBRN training, exercises and scenarios.

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Radiation Detection › Training Simulators

RADSIM GS4

The RADSIM series of highly realistic simulation gamma radiological sources overcome the regulatory, financial and administrative burden of live radiological source based training scenarios in an entirely safe, environmentally friendly and cost effective manner.

What truly sets the RADSIM series apart is the realism of the simulation – hide the simulation detector training label and the “Pucker Factor” is as real as it gets!

Key Features

- Dose rate and Dose readings and alarms indicating potentially hazardous radiation levels.
- Inverse square law (1/r2) response and shielding effects of different materials.
- Consistent readings across instruments each time the student revisits the same location within the exercise.

MultiGAS SIM

MultiGAS-SIM supports from one to a total of six different simulation sensor types, including O2, CL2, SO2 and LEL. Instructors can configure the MultiGAS-SIM to incorporate specific simulation sensors as required to represent fielded single or multiple sensor MultiGAS detectors. You can even configure the visual layout of the sensors on the display screen to accurately replicate the sensor layout configuration of your operational detectors.

The **MultiGAS-SIM** system delivers a highly realistic and versatile training solution through our **Long Range Vapour Source (LRVS)** technology. Designed for both open environments and confined spaces, the system can be programmed to replicate a wide range of hazardous gases and oxygen-depleted scenarios with unmatched precision.

Key Features

- Realistic Training: Mimics the operation of real gas detectors, providing trainees with practical, hands-on experience.
- Customizable Scenarios: Enables tailored training for a wide range of hazardous environments and operational conditions.
- Enhanced Learning: Real-time feedback through instructor monitoring ensures trainees learn from their mistakes in a controlled, safe environment.
- Advanced Simulation Features: Features realistic O2 readings and LRVS simulation gas emitters detected up to 25 meters (80 feet).

RDS Beta Photon Probe Simulator

The D-tect SYSTEMS Beta Photon radiation simulator probe has been designed to work with Argon's simulation RDS base unit.

The simulation Beta Photon Probe can be connected directly to the Simulation RDS base unit by flexible cable, or can be mounted on the Telepole enabling you to practice remotely monitoring high level radiation sources from a safe distance.

You can "hot connect" and disconnect the simulation Beta Photon Probe just like the real instrument – no need to turn the simulation RDS base unit of and most impressively the base unit display screen splits just like real providing real time simulated reading from both base unit and remote Beta Photon Probe enabling your trainees to experience the higher reading obtained due to the Beta Photon Probe while monitoring the base unit reading which represent the hazard at their personal location.

Inverse square law response is extremely realistic; even the effect of shielding between the probe and base unit to determine source position is realistically simulated enabling you to ensure survey teams understand what to do when that emergency comes.

Key features:

- Inverse square law (1/r2) response within real detector tolerance.
- Simulation of user body shielding for source location.
- Realistic representation of different shielding effects.
- Responds to Simulation check source.
- No regular calibration.
- No preventative maintenance.
- PlumeSIM compatible.
- Compatible with other Argon radiological simulators.

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Ludlum 133-6 and 44-2 Radiation Simulation Probes

The Ludlum 133-6-SIM and 44-2-SIM are advanced radiation simulator probes designed to replicate the operational features of the Ludlum 133-6 Gamma detector and the 44-2 scintillation detector.

These simulators provide unmatched realism and usability, enabling trainees to master radiation search, survey, and localisation skills without the need for real radioactive sources. Compatible with Ludlum meters, these probes offer a versatile and cost-effective solution for comprehensive radiation safety training.

Key Features

- Expertly Designed: Identical user interface and operational characteristics to the real 133-6 and 44-2 detectors.
- Incredible Realism: Response speeds closely mimic real detectors, supporting realistic source search and localisation exercises.
- Effortless Integration and Versatility: Compatible with any Ludlum meter supporting 133-6 or 44-2 probes. o Fully compatible with PlumeSIM and other Argon simulation systems.
- Simulated Science: Inverse square law (1/r2) response within real detector tolerance.

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Radiation Detection › Training Simulators

RDS-100 / PDR-77 / CDV 718 SIM Probes

The RDS-100-SIM 3-Probe simulator set offers a cutting-edge training system that replicates the operational features of an operational Canberra RDS-100, AN/PDR-77, and CDV 718 probes.

Designed to simulate Alpha, Beta, and Gamma radiation without the need for real radioactive sources, this system provides a safe, practical, and environmentally friendly solution for mastering radiation safety skills.

Key Features

- BG-SIM-P: Simulates the Beta/Gamma probe, compatible with the RDS-100, AN/PDR-77, and M-243/VDR-2 meters.
- A-SIM-P: Simulates the Alpha probe for contamination and decontamination training.
- B-SIM-P: Simulates the Beta probe for Pancake detector functions

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AN/VDR 2 DT616-SIM Radiation Safety Training Simulator

The DT616-SIM is a high-fidelity Beta/Gamma radiation training simulator designed for use with Mirion/Canberra AN/VDR-2, PDR-77, RDS100, and CDV 718 survey meters.

This innovative simulator allows trainees to experience the full operational functionality of the DT616 probe without the need for live radiation sources, ensuring safe, compliant, and practical training for critical radiological scenarios.

Key Features

- Advanced Simulation Capabilities: Simulates both Beta and Gamma radiation hazards with realistic inverse square law ($1/r^2$) response and shielding effects.
- Operational Realism: Compatible with Mirion/Canberra meters including AN/VDR-2, PDR-77, and RDS100 with identical functionality and readings as the real DT616 probe.
- Dynamic Training Scenarios: Supports training for search, reconnaissance, survey, location, and decontamination procedures with encoded signals simulate specific Gamma emitting radionuclides.
- Instructional Ease: Instructor remote control for simulating partial/full decontamination and probe failure at the push of a button.

ADM300A-SIM Radiation Training Simulator

The ADM300ASIM is a cutting-edge radiation training simulator, designed in collaboration with Mirion to replicate the functionality of the ADM300A radiation survey meter.

Providing seamless compatibility with your operational equipment, this simulator ensures safe, realistic, and comprehensive training without the need for ionising radiation sources.

Key Features

- Unparalleled Realism: Accurately simulates dose, dose rate, accumulated dose, and alarm thresholds using safe Beta and Gamma simulation sources.
- Simulated Science: Excellent simulation of inverse square law and body shielding effects.
- User-Friendly Design: Identical menu structure, software processing, and interface to the real ADM300A V1b meter, with visual and audible alarms fully configurable to match your operational equipment.
- Advanced Compatibility: Fully integrated with Argon’s PlumeSIM and supports multi-detector and multi-threat scenarios with other Argon simulators.

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GID-3 Chemical Warfare Detection Simulator

Overview:

The GID-3-SIM is a cutting-edge simulation system designed to replicate the features and functionality of the Smiths Detection GID-3 and ACADA systems. Built for military and civil CBRNe responders, this advanced tool provides a safe, comprehensive, and realistic training experience.

By eliminating the need for harmful simulants and consumables, the GID-3-SIM ensures that students gain critical hands-on experience in chemical hazard detection and response.

Features

- Realistic Hazard Simulation: Accurately simulates CW alarms and detector faults.
- Comprehensive Training: Simulates the complete setup process, including alarm testing and rain cap positioning. Offers simulated confidence tester training to replicate real-world procedures.
- Advanced Remote Control: Instructor remote control supports up to 8 simulators from over 750 meters away.
- Complete Kit: System supplied with simulation confidence tester, inlet and outlet cap, simulation rain caps, training battery pack with commercial “D” cells and carry case.

MCAD-SIM Chemical Warfare Detection Simulator

Overview:

The MCAD-SIM is a cutting-edge simulation system designed to emulate the functionality of Smiths Detection's Man Portable Chemical Agent Detector (MCAD). This advanced tool delivers an unparalleled training experience, enabling users to master the use of MCAD systems in a safe, environmentally friendly, and cost-effective way.

With realistic simulations and powerful remote-control capabilities, the MCAD-SIM prepares responders for the demands of real-world chemical detection.

Features

- Realistic Hazard Simulation: Simulates all detected CWAs, including miosis mode.
- Comprehensive Control: Instructor remote control supports up to 8 simulators from over 750 meters away.
- Advanced Training: Simulates the complete setup process, including alarm testing and rain cap positioning. Offers simulated confidence tester training to replicate real-world procedures.
- Efficient and Practical Design: Powered by standard commercial batteries, including rechargeable options and comes complete with simulation confidence tester, caps, and training packs

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CAMSIM Chemical Hazard Detection Simulator

Overview:

The CAMSIM CAM simulator offers a groundbreaking solution for chemical hazard detection training. Designed for the Smiths Detection Chemical Agent Monitor (CAM), CAMSIM uses electronic sources to simulate chemical vapours, toxic industrial substances, and false positives—providing a safe, realistic training environment without harmful simulants.

This portable, adaptable system can be used indoors, including in public buildings, and is set up in minutes, making it a versatile asset for training on contamination, decontamination, and persistence in real world scenarios.

Features

- Diverse Threat Simulation: emulate nerve, blister, blood, and choking agents, as well as false positives, contamination effects, and wind and temperature impacts.
- Instructor Control and Instant Scenario Reset: Trainers can adjust environmental factors, contamination levels, and exercise persistency, enabling rapid scenario resets for continuous training.
- MultiDevice Compatibility: Integrates with Argon’s Plume SIM system and compatible with other Argon simulators, supporting multidetector and multi-threat exercises in a single scenario.
- Built in Error Reporting: Tracks and records user errors, allowing instructors to display detailed error reports postexercise.

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Radiation Detection › Training Simulators

AccuRad PRD Simulator

Overview:

The AccuRad™ PRD Radiation Training Simulator is a cutting-edge training solution designed to deliver the most realistic radiation detection training possible. Developed in collaboration with Mirion Technologies, the AccuRad™ PRD Simulator replicates the look, feel, and response of the actual Mirion AccuRad™ PRD.

This advanced simulator offers safe, practical training in radiation detection without the risks of real radioactive sources. Whether training indoors or outdoors, the AccuRad™ PRD Simulator ensures your students gain the practical experience they need in high-impact radiation detection scenarios.

Features

- Authentic User Interface: The simulator’s human interface, including the front and top displays, sounder, vibrator, and switch panel, reproduce the Mirion AccuRad PRD for seamless training.
- Realistic Sensitivity: The AccuRad™ PRD Simulator can detect Radsim GS4 simulation Gamma sources from up to 200 feet (60 meters), providing accurate directionality and source search capabilities.
- Simulated Body Shielding: The simulator precisely replicates the effects of body shielding, allowing users to practice interpreting readings and alarms in real-world scenarios.
- Selectable Units of Measurement: Users can choose between units such as Sv/hr, Rem, and CPS, just like they can on the Mirion AccuRad™ PRD.

Nuvia DolMo Radiation Hazard Detection Simulator

Overview:

The Nuvia DolMo-SIM is a cutting-edge simulator designed to emulate the Nuvia DolMo Gamma survey meter with remarkable accuracy. Offering a safe and environmentally friendly training solution, this simulator eliminates the need for ionising radiation sources, making it ideal for real-world radiation detection exercises in any environment.

Features

- Unrivalled Simulation Accuracy: Linear and logarithmic analogue bar graph display, numerical dose rate readings with realistic response speeds and simulated shielding effects.
- Authentic User Interface: Fully replicates all operational features of the real detector with identical display, switch panel, sounder, and vibrator.
- Dynamic Training Capabilities: Responds to encoded Radsim GS4 Gamma sources up to 60 metres (200 feet) line of sight and enables demonstration of inverse square law, isodose rate mapping, and safe demarcation.
- PlumeSIM Compatible: Use with PlumeSIM for wide-area tactical field and emergency response exercises.

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HRM Radiation Hazard Simulator

Overview:

The HRM-SIM is an advanced radiation detection simulator designed to replicate the Sensor Technology Engineering HRM detector.

Developed for interdiction and localisation of nuclear materials, this simulator provides unmatched realism, ensuring your survey teams are prepared to respond effectively in critical scenarios. Powered by standard commercial batteries, the HRM-SIM delivers up to 160 hours of uninterrupted training capability.

Features

- Exceptional Simulation Accuracy: Detects Gamma, Neutron, and Gamma + Neutron sources with precise sensitivity. Realistic inverse square law ($1/r^2$) response within detector tolerances.
- Accurate Shielding: Simulation of user body shielding for source location and realistic representation of different shielding effects.
- Realistic User Interface: With identical components to the real HRM detector, it seamlessly replicates operational behaviour of the real detector.
- Dynamic Training Capabilities: Fully compatible with PlumeSIM for live-field and tabletop CBRN exercises.

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SP4E Chemical Hazard Detection Simulator

Overview:

The S4PE Chemical Hazard Detection Simulator is a state-of-the-art training tool that replicates the real-world functionality of the Proengin S4PE surface sampler and confidence tester.

Designed to seamlessly integrate with Argon's AP4C-SIM, this simulator offers an unparalleled training experience by emulating chemical vapours, toxic industrial substances, and false positives. Whether you're training in controlled environments or public buildings, the S4PE-SIM ensures safe, practical, and efficient preparation for chemical hazard scenarios.

Features

- Realistic Sampling Features: Confidence testing and surface sampling. Collection of surface samples with warm-up cycles. Simulates contamination, decontamination, and persistence scenarios.
- Compatibility: Operates with AP4C-SIM simulation sample pipe and compatible with PlumeSIM for wide-area tactical training.

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AP4C-SIM Chemical Detector Simulator

The AP4C-SIM is a state-of-the-art simulation training system designed collaboratively between Argon and Proengin to replicate the operational capabilities of Proengin's AP4C chemical hazard detector. Provide your security force, first responder, and industrial safety teams with a realistic and comprehensive training experience—without the risks associated with live chemical agents.

The AP4C-SIM allows your team to practice detecting chemical vapours, toxic industrial substances (TICs), and even false positives in various environments, all while using safe, electronic simulation sources.

Key Features

- Realistic Simulation: Responds to electronic sources simulating CWAs, TICs, and explosive atmospheres
- Safe and Environmentally Friendly: Eliminates the need for harmful simulants, allowing realistic training without environmental impact or safety compromise..
- Instructor Control: A remote control provides instructors with full control over scenario management in real-time, allowing trainers to adjust contamination levels, wind direction, and temperature effects.
- Simulation Tools: The system includes simulation sources, hydrogen cells, error reporting cards, survey nozzles, and a carry case for easy transport. The simulator is ready to go from the box with minimum set up required.

D-tect SYSTEMS RDS Radiation Training Simulator

Overview:

In a world where radiation threats are an invisible but serious danger, training first responders to handle incidents safely and effectively is essential. The RDS-SIM Radiation Training Simulator brings the highest fidelity training experience available.

It accurately replicates the US DoD-approved RDS AN/PDR-83, allowing teams to practice without using harmful ionizing sources. Trainees experience the full spectrum of the RDS functionality, preparing them to face real radiological threats with skill and confidence.

Features

- True-to-Device Functionality: Exact replication of the real RDS interface, including visual and audio alarms, measurement units (Rem, Sv/hr), and menu navigation.
- Gamma and Beta Simulation: Responds to safe Gamma and Beta sources, enabling authentic radiological hazard training without environmental risks.
- Environmental Adaptability: Demonstrates shielding effects using materials like wood, glass, or concrete, giving teams practical knowledge of radiation protection principles.
- Instructor Control: Simple, flexible control over contamination and decontamination levels, with partial or full decontamination settings at the press of a button

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SVG-2 Radiation Hazard Detection Simulator

The SVG-2 SIM is an advanced simulator designed to replicate the Thermo Fischer Scientific SVG-2 Radiac Meter with exceptional accuracy.

Offering a safe, practical, and cost-effective training solution, this simulator eliminates the need for ionising radiation sources, ensuring students can safely learn essential survey and reconnaissance skills in any environment.

No preventative maintenance, calibration or consumables (except batteries) are required ensuring whole life cost of ownership is minimal, expensive damage to real detectors is avoided and operational readiness is maintained.

Additionally, the SVG-2 SIM eliminates the regulatory, health, and environmental concerns of real radiation sources.

Key Features

- Advanced Simulation Capabilities: Simulated external Alpha, Beta, Gamma probe for contamination monitoring and decontamination exercises. Dose and dose rate indications with analogue and digital backlit displays.
- Operational Realism: Identical interface as the real SVG-2 detector, inverse square law (1/r2) response, and realistic shielding effects.
- Flexible Training Applications: Compatible with PlumeSIM for wide-area tactical field and emergency response exercises. Multi-detector, multi-isotope capability for comprehensive scenario development.

RadEye GF-10 SIM

Overview:

The RadEye™ GF-10 Simulator is an ultra-realistic training solution designed to replicate the functionality and response of the Thermo Fisher RadEye™ GF-10.

Built for high-fidelity radiation detection exercises, this simulator eliminates the risks associated with ionizing radiation, ensuring a safe, effective, and environmentally friendly training environment. Equip your team with the tools to master radiation detection and response under real-world conditions.

Features

- Unmatched Simulation Accuracy: Realistic inverse square law response within actual detector tolerances. Simulates user body shielding and shielding material effects for precise source location training.
- User Interface Fidelity: Identical display, switch panel, sounder, and vibrator as the operational RadEye™ GF-10. Configurable menu options, including measurement units (Sv/hr, Rem, CPS), language selection and dose and dose rate alarms with customisable settings.
- Seamless Integration: Fully compatible with Argon’s Plume SIM for wide-area, multi-device CBRN and HazMat exercises.

Overview:

The RadEye™ GF-10 Simulator offers realistic, risk-free training for radiation detection, mirroring the functionality of the Thermo Fisher RadEye™ GF-10. It’s a safe, effective solution for hands-on exercises—without exposure to ionizing radiation.

Features:

- Unmatched Simulation Accuracy: Realistic inverse square law

response within actual detector tolerances. Simulates user body shielding and shielding material effects for precise source location training.

- User Interface Fidelity: Identical display, switch panel, sounder, and vibrator as the operational RadEye™ GF-10. Configurable menu options, including measurement units (Sv/hr, Rem, CPS), language selection and dose and dose rate alarms with customisable settings.
- Seamless Integration: Fully compatible with Argon's Plume SIM for wide-area, multi-device CBRN and HazMat exercises.

High impact radiation training

The RadEye™ GF-10 Simulator delivers a true-to-life training experience by replicating the real detector's interface, audio/visual signals, and response speed. It supports realistic source search exercises with detection of the Radsim GS4 simulation source at distances up to 60 meters.

With accurate simulation of sensitivity and inverse square law behavior, it allows trainers to demonstrate and teach critical radiation protection principles such as time, distance, and shielding without the safety, regulatory, or environmental concerns of using live sources.

Consistent, Repeatable Performance

Powerful proprietary signal processing ensures consistent, repeatable readings every time a scenario is revisited. Simulated responses across multiple units remain within the tolerances of real detectors, delivering high-quality, realistic training that meets professional standards.

Train Smarter, Train Safer

RadEye™ simulators are fully compatible with Argon's PlumeSIM system—used by leading training facilities worldwide for live field and tabletop CBRN exercises. PlumeSIM enables real-time, wide-area emergency response training with multiple simulated devices reacting to virtual hazards.

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RADSIM-SS3

Overview:

The RADSIM-SS3 is a high-fidelity Gamma survey meter simulator, designed to emulate the functionality of real radiation survey meters without the need for ionising radiation sources.

Delivering precise and realistic training experiences, the RADSIM-SS3 is ideal for developing critical radiation safety skills in a safe, cost-effective, and environmentally friendly way.

Features

- Safe & Environmentally Friendly: Responds to safe electronic Gamma simulation sources and can demonstrate shielding effects of materials such as brick, wood, and glass.
- Scientifically Accurate: Simulates inverse square law ($1/r^2$) response for accurate source detection.
- Advanced Simulation Technology: Displays dose and dose rate in Sv/h or Rem/h via combined digital and bar LCD displays.
- Integrated Training Solutions: Fully compatible with Argon's Plume SIM and supports simultaneous multi-detector and multi-isotope scenarios alongside other Argon simulators.

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LCD3.3-SIM Chemical Hazard Detection Simulator

Overview:

Step into a new era of CBRNe training with the LCD3.3-SIM, the ultimate simulator for chemical hazard detection, designed to make every exercise feel like the real thing. With a realistic build mirroring the Smiths Detection LCD3.3, this simulator introduces responders to authentic scenarios without exposure to hazardous materials. Whether navigating nerve agents, industrial toxins, or chemical warfare simulations, this device is built to sharpen your team's readiness for any threat.

Features

- True-to-Life Interface: Perfectly mimics the actual detector, supporting a seamless transition from training to real-world response.
- Comprehensive Threat Simulation: Detects and simulates a wide array of agents, including nerve, blister, and blood agents, toxic industrial chemicals (TICs) and false positives.
- Environmental Adaptability: Simulate varied conditions like wind direction, temperature shifts, and night vision
- Enhanced Control for Instructors: With a dedicated remote, instructors can set decontamination effectiveness, persistency, and contamination levels

FH 40 GSIM Survey Meter Simulator

Overview:

The FH 40 G SIM survey meter simulator offers realistic, high impact radiation hazard training without the risks of ionizing sources. This advanced simulator mirrors the operational features of the Thermo FH 40 G, empowering trainees to gain hands on experience in radiation detection, reconnaissance, and safe demarcation.

Responding to safe, electronic sources, the FH 40 G SIM provides a complete understanding of radiation behaviour, shielding, and dose management in a controlled, environmentally friendly manner.

Features

- Authentic Detection Simulation: Replicates the analogue bar graph and numeric dose rate displays, dose and doserate alarms, and selectable audio sounder.
- Realistic Shielding Effects: Responds to simulation sources over distances up to 60 meters, modelling the effects of shielding through walls, floors, and ceilings.
- Multi Device Support: Works alongside Argon’s dosimeter, radiac meter, and spectrometer simulators, as well as optional HazMat detectors, allowing for multi-isotope and multidetector scenarios.
- Enhanced Training Options: Compatible with the Thermofisher FH 40 TG Teleprobe, Argon’s FTZ612-SIM extension radiation probe and PlumeSIM system.

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Raid-100M Training Simulator

The RAID-M100 Chemical Hazard Detection Simulator is an advanced training tool designed for military and civil CBRNe responders. Specifically engineered to emulate the Bruker Daltonics RAID-M100, this simulator replicates its features, responses, and operations to deliver unmatched realism in training.

Whether preparing for chemical warfare agents (CWAs) or toxic industrial chemicals (TICs), the RAID-M100-SIM provides a safe, practical, and cost-effective solution for mastering critical detection skills.

Key Features

- Versatile Hazard Simulation: Identifies CWAs, TICs, and false positives and simulates persistent and non-persistent substances.Replicates contamination and decontamination scenarios, including probe contamination.
- Realistic Instrument Interaction: Functional sieve pack and filter replacement and monitoring of user errors such as missed confidence tests or procedural oversights.
- Rapid Deployment: Set up scenarios in under 10 minutes for maximum training flexibility.
- Sustainability & Cost Efficiency: Requires no ionizing radiation, calibration, or preventative maintenance. Operates with electronic simulation sources that are safe and environmentally friendly.

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Dräger X-am Series Simulator

Developed in cooperation with Dräger, the Argon Electronics X-am 2×00/5×00 SIM replicates the full functionality of the Dräger X-am 2×00 and 5×00 series gas detectors, offering a powerful, engaging, risk-free training experience. Responding to Argon's safe, environmentally friendly simulation long range vapour sources (LRVS), instructors can quickly implement a wide variety of confined space and open area training scenarios.

Perfect for confined space, open area and gas leak detection and management training, the Dräger X-am series simulator helps ensure responders have the confidence to conduct gas monitoring, interpret readings, and respond to alarms without exposure to real gas hazards, depleted oxygen or explosive atmosphere.

Key Features

- Realistic Gas Detection Training: accurate replicates detection and alarm responses
- Seamless Compatibility: Works with Dräger's standard configuration software
- Data-Driven Training: Compatible with Dräger Gas Detection Connect for live data transmission.
- Multi Detector Exercises: Compatibility with Argon's CWA / TIC detector simulators for specialist team multi detector response exercises.
- Flexible Multi-Scenario Training: Integrates with Argon's simulation vapour sources and PlumeSIM for dynamic scenarios.

Tracerco PED+ Simulator

Thanks to a combination of Argon’s wealth of simulation experience and our relationship with Tracerco, the look, feel and response of the Personal Electronic Dosimeter (PED+) Simulator is extremely close to that of actual detector.

PED+SIM responds to Radsim electromagnetic sources that safely simulate ionizing radiation eliminating regulatory, environmental, and health and safety concerns for you and your students. You can use the simulation sources in the open or within buildings.

High impact radiation training

To ensure the ultimate training experience, all user interface components (display, indicators, switch panel, sounder and vibrator) are exactly the same as the real detector.

Response speed and characteristics when approaching and withdrawing from the simulation source are just like the real detector enabling you to deliver highly realistic source search / find training.

Simulated sensitivity enables the Tracerco PED+SIM to detect the Radsim GS4 simulation Gamma source at a free space distance of typically 200 feet (60 metres) distance line of sight.

Consistent, repeatable performance

Powerful proprietary signal processing ensures simulated readings are repeatable each time students revisit the same scenario location while also ensuring the readings observed on different simulators are within the accepted tolerances of actual detectors; all contributing to the provision of high quality, realistic training.

Even the effect of user body shielding to determine source position is realistically simulated so you can be certain your survey teams understand how to use and interpret their detector readings and alarms effectively.

Key features:

- Inverse square law (1/r2) response within real detector tolerance.
- Simulation of user body shielding for source location.
- Realistic representation of different shielding effects.
- Selectable units of measurement (Sv/hr, Rem, CPS).
- Same human interface as real Tracerco PED+.
- Configurable menu settings.
- Dose and dose rate alarm settings.
- Language selection.
- Same battery as real detector (approximately 36 hours standard operation, 150 hours operation in screen saver mode).
- No regular calibration.
- No preventative maintenance.

Time distance shielding

The PED+ training simulator enables the importance of time/distance shielding to be taught and demonstrated with ease; the activity of the simulated source realistically reduced depending upon the material between the simulation source and the simulated detector.

Extremely realistic inverse square law response allows the powerful protective combination of distance and shielding to be demonstrated enabling students to practice communication of recommendations and safety procedures without the regulatory, safety, environmental and cost restrictions associated with real sources.

Cost effective realistic training

No preventative maintenance, calibration or consumables (except batteries) are required ensuring whole life cost of ownership is minimal, expensive damage to real detectors is avoided and operational readiness is maintained.

PlumeSIM compatible

PED+SIM is compatible with PlumeSIM, Argon's proven Live Field and Tabletop CBRN exercise system. In use by many of the world's leading training facilities, PlumeSIM enables real time instrumented wide area tactical field and nuclear / HazMat / Chemical Warfare emergency response exercises to be conducted using single or multiple simulation device types that respond in the real time to simulated hazards.

BODY MONITORS

peo DETECTION

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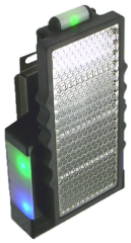
Partner Ludlum Measurements Inc.

Ludlum Measurements, Inc. is a trusted global provider of radiation detection and monitoring instruments, offering rugged, accurate solutions for personnel safety, environmental protection, and security screening. Since 1962, their equipment has been used worldwide in applications ranging from nuclear power and emergency response to border protection and critical infrastructure monitoring.

Product offering

Model 215 Alpha Frisker Station



Model 177HFM Low Cost Hand & Foot Monitor

Model HFC-8 Hand, Foot, and Clothing Monitor

Model 4906P Alpha-Beta-Gamma Hand & Foot Monitor

Model 4906AB Alpha-Beta Hand & Foot Monitor

Model 4906A Alpha Hand & Foot Monitor

Model 4901P Beta-Gamma Hand & Foot Monitor

Model 3276HFM Low Cost Hand & Foot Monitor

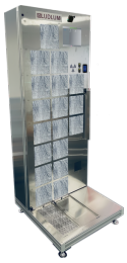
Model 3277HFM Compact Alpha-Beta Hand & Foot Monitor

Model 53 Gamma Portal Monitor

Model 52-1, 52-5 & 52-6 Series Portable Portal Monitors

Model 52 Portable Portal Monitor

Model HBP-22 Body Contamination Monitor



Model HBP-29 Body Contamination Monitor

Model 375P-1000 Outdoor Radiation Contamination Monitor – Ludlum

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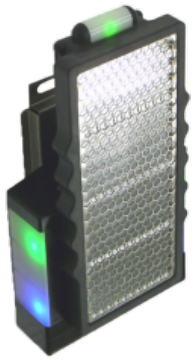
Radiation Detection › Body Monitors

Model 215 Alpha Frisker Station



Ludlum Model 215 is a unique dual-purpose alpha contamination detection system that can be used as both a stationary detector and a mobile frisker. When alongside a glovebox, the operator can use this innovative device as a stationary hand frisker, then simply remove it from the charging stand for use as any other mobile alpha frisker.

This convenient, integrated detector design requires no batteries, P-10 counting gas, or cables, giving the user complete freedom in performing frisking duties. The large area, air proportional detector has built-in electronics, display, and capacitors that allow it to be operated for at least 10 minutes, typically 15 minutes, before needing to be recharged. Fully discharged, the detector is ready for stationary operation within five minutes of being placed into the charger stand, and ready for mobile frisking within 30 minutes. The charging stand interfaces to a PC to facilitate setting parameters and running high voltage plateaus via an optional application program.

Features

- Dual Purpose Alpha Frisker & Hand Monitor Station
- Detector Operates Independent of Its Stand
- Simple to Use
- No Batteries, Cables, or Gas Required

Model 177HFM Low Cost Hand & Foot Monitor

This setup offers a low-cost alpha/beta/gamma contamination monitoring system for checking hands and feet.

To build this system, order the following items:

- **Model 177** Benchtop Meter (PN: 48-1632)
- **Model 44-25** Hand Detector (PN: 47-1508)
- **Model 44-26** Foot Detector (PN: 47-1509)
- Connection Tee (PN: 13-7788)
- 1.5 m (5 ft.) Cable (PN: 40-1004-5)

Features

- Detects alpha, beta, and gamma
- Low cost
- Easy to set up

Radiation Detection › Body Monitors

Model HFC-8 Hand, Foot, and Clothing Monitor

Robust and Portable Hand-Foot-Clothing Monitor with Touch-Screen Display

The HFC-8 is a compact hand, foot, and clothing monitor to measure personnel leaving controlled areas. With a removable probe and spring-loaded hand detectors, the HFC-8 has been developed for portability between different areas. Featuring a detector arrangement to measure the hands and feet in one measurement step, the HFC-8 integrates the latest technology and design, while meeting official standards.

Various detector options are available, including:

- Beta detectors (plastic scintillator)
- Beta-Gamma detectors (plastic scintillator)
- Alpha/Beta detectors (plastic scintillator or gas-flow proportional)

The standard unit consists of:

- 8 detectors with semiconductor readout, one of them as removable hand probe
- Robust stainless-steel housing
- Ergonomic detector positioning
- Integrated 12 in. touch-screen display
- Fully automated measurement process with audiovisual operator guidance
- Latest industry controller technology
- Power provided by UPS for several measurements during mains power outage

Features

- Intuitive User-Friendly Software
- Spring-Loaded Hand Detectors for Reliable Contact with the Hand Surfaces
- Compact Footprint with Easy Access to the Service Cabinet
- Modern Touch-Screen Display
- Stainless Steel Housing for Easy Cleaning and Durability
- Access to Historical Measurement Data via Integrated Database
- Export of Measurement/Parameter Data in XML Format via USB

Radiation Detection › Body Monitors

Model 4906P Alpha-Beta-Gamma Hand & Foot Monitor

The Model 4906P is a low cost, industrial duty, alpha-beta-gamma contamination monitoring system that uses six pancake cluster detectors for checking personnel. A large color LCD presents users with the system status and points out any potential contamination in an easy-to-use manner. Alarms are annunciated locally and can be augmented with optional relays for signaling remote devices or a light stack mounted on top.

All maintenance can be performed from the front of the instrument. Detector access for quick replacement or repair is facilitated by hinged top covers. The unit is equipped with rear-mounted wheels to facilitate transporting the instrument from one location to the next.

Features

- GM Pancake Detectors
- Large LCD User Interface
- Automatic Routines for Detector Setup & Alarm Calculations
- Customizable Voice Prompts
- Single-Hand Operational Mode
- Front Access to All Components for Repair/Calibration

Model 4906AB Alpha-Beta Hand & Foot Monitor

The Model 4906AB is a low cost, industrial duty, alpha and beta contamination monitoring system for checking personnel hands and feet. A large color LCD presents users with the system status and points out any potential contamination in an easy-to-use manner.

The system employs six gas flow proportional type detectors with counting activated by optical switches. Alarms are annunciated locally and can be augmented with optional relays for signaling remote devices or a light stack mounted on top. The built-in Ethernet interface supports connection to a network for gathering all count cycles and remote monitoring of the status.

All maintenance can be performed from the front of the instrument. Detector access for quick replacement or repair is facilitated by hinged top covers. The unit is equipped with rear-mounted wheels to facilitate transporting the instrument from one location to another.

Features

- Alpha-Beta Gas Flow Proportional Probes
- Large LCD User Interface
- Automatic Routines for Detector Setup and Alarm Calculations
- Voice Prompts
- Built-in Ethernet Interface
- Single-Hand Operational Mode
- Front Access to All Components for Repair/Calibration

Radiation Detection › Body Monitors

Model 4906A Alpha Hand & Foot Monitor

The Model 4906A is an industrial-duty, low-cost, alpha-only contamination monitoring system for the hands and shoes of personnel. System status and areas of possible contamination are presented in a large color LCD making the process simple and user-friendly.

Counting is initiated by optical switches that activate six air-proportional-type detectors. Alarms annunciate locally and can be augmented with optional relays that will signal remote devices or a high-visibility alert light mounted on top of the unit. The built-in Ethernet interface supports connection to a network for gathering all count cycles along with permitting remote monitoring of the status of the instrument.

All maintenance can be performed from the front of the instrument. Hinged top covers make accessing detectors for repair or replacement convenient. Rear-mounted wheels allow the instrument to be transported from one location to another with relative ease.

Features

- Alpha Air Proportional Probes
- Large LCD User Interface
- Automatic Routines for Detector Setup and Alarm Calculations
- Voice Prompts
- Built-in Ethernet Interface
- Single-Hand Operational Mode
- Front Access to All Components for Repair/Calibration

Radiation Detection › Body Monitors

Model 4901P Beta-Gamma Hand & Foot Monitor

The Model 4901P Beta-Gamma Hand & Foot Monitor is intended for use as a medium-level beta and gamma contamination monitor. Four count channels are in the standard configuration for monitoring the palm of each hand and the sole of each foot. The Model 4901P employs a total of twenty-two pancake Geiger-Mueller (GM) type detectors, five in each hand detector (palm side only) and six in each foot detector. LED indicators show status and alarm location. The Model 4901P allows parameter updating by viewing the built-in, 16-character LCD display. Detector counts, background, alarm set points, and all parameters may be viewed on the LCD display. Switches at each hand detector initiate an interrogation (both switches must activate). Audible alarm and status change indications are standard.

Features

- Affordable
- Simple to Use
- Automatic Background Subtract
- Password-Protected Parameters
- Alarm Audio Volume Adjustment
- Non-Volatile Memory Requires No Battery Backup

Model 3276HFM Low Cost Hand & Foot Monitor

The Model 3276 is a versatile instrument that can be used for multiple radiation detection or measurement purposes. In this configuration, the Model 3276 is connected to both a Model 44-25 hand monitor detector and Model 44-26 foot monitor detector to monitor personnel for alpha, beta, and gamma contamination. An optional Model 44-9 detector can also be included for frisking.

The Model 3276 features a large, backlit, easy-to-read LCD screen and audible alarms and is controlled using a simple four-button interface. The unit body is made of lightweight, rugged aluminum. It is not intended for outdoor use and should be protected from splashing water.

The Model 3276 can measure radiation in count rate, exposure rate, exposure rate/dose, activity rate, integrated exposure/dose, time-averaged rates, and scaler counts. In this configuration, three modes of operation are available – RATE, MAX, and COUNT – which can be selected by pressing the MODE button. Measurements can be collected in two sets of units (primary and secondary) for RATE and MAX modes in cps, cpm, Bq, dpm, R/hr, or Sv/h units. The user can switch between the two sets of units by pressing the UNITS button.

Instrument setup can be done either through the front-panel controls or via the Lumic Calibration Kit (PN: 4498-1018). Power is supplied by either four alkaline “AA” batteries or a 9 Vdc wall mount transformer. The Model 3276HFM is shipped ready to use with batteries, a wall transformer, and a calibration certificate.

Model 3277HFM Compact Alpha-Beta Hand & Foot Monitor

The Model 3277HFM Hand & Foot Monitor is intended for checking low-level alpha and beta contamination on personnel. The gasless system incorporates two scintillation detectors, one for the hand and one for the foot. An optional frisker scintillation detector can be included as well.

Measurement is a two-step process, measuring the hand and foot on one side at a time. To begin an automatic count, both the hand and foot must be placed on the respective detectors, activating the infrared (IR) sensor on each detector. User-friendly instructions and the status of each detector is clearly displayed on the large, color touch-screen. The instrument uses a minimum count time mode to automatically determine the count time based on background, alarm setpoints, and other factors. When the count is completed, either a “Clean” or “Alarm” message will be displayed, depending on the configured alarm set-points.

In “Idle” mode, the screen will display the current detector count rates (default) or the accumulated background rate.

If the system includes a frisker, the status of all three detectors are displayed in “Idle” mode, but only the active detector(s) (either both the hand and foot, or the frisker) are displayed when a count is performed. The frisk state is activated when the frisker is removed from the cradle, and the automatic hand and foot count is activated as described above. A lockout prevents the instrument from toggling the display between the frisker and the hand and foot detectors, so that whichever detector is activated first remains active until the sensor is no longer triggered.

The system can communicate through a standard Ethernet connection for remote monitoring. It is powered by a 100 – 240 Vac wall transformer. An optional battery backup is available to ensure constant power. Instrument setup can be done through the touch-screen display or via Ludlum’s Lumic Calibration Software.

Features

- 7-inch Color LCD Display Shows All Readings Simultaneously in a Large, Simple Layout
- Audible & Visual Alert Signals
- Easy to Operate Two-Step System

- Gasless – Uses Dual-Phosphor Scintillation Detectors
- Optional Rechargeable Battery Backup
- Automatic Start of Count
- Minimum Count Time
- Automatic Background Subtraction During Measurements

Model 53 Gamma Portal Monitor

The Model 53 Gamma Personnel Portal detects gamma radiation in or on personnel passing through the portal from either direction. This highly sensitive portal uses eight large plastic scintillation detectors. Shielding is accomplished with either the standard 2.5 cm (1 in.) or optional 5.1 cm (2 in.) thickness of lead. A user-friendly interface guides personnel through the portal monitor via automated voice prompts, and is accompanied with 25.7 cm (10.1 in.) color LCD articulating screens presenting the instrument readiness and status at the ingress and egress. Alarms are manifested both audibly and visually, and can be silenced and acknowledged via control buttons located on either side of the instrument.

Three statistical counting modes are available to maximize throughput, maximize sensitivity, or fix the count time. Several modifiable parameters adjust the alarm set point, including the false alarm probability, detection probability, background sigma coefficient (K_B), and the composite sigma coefficient (K_{S+B}). Fast alarm and clean options provide the ability to quickly determine if personnel are contaminated or clean before the entire count cycle has ended.

There are also four user modes to choose from that include a walk-through mode, a pause mode, a pause-and-turn mode, and a front-and-back mode. Voice prompts may be customized in any language for each of these modes. These prompts can, for example, dictate in-house procedures to follow. Instrument technicians have password-protected access to set up the instrument, and to the advanced automated routines for calibrating and verifying operation.

Easily accessible USB ports facilitate connecting a keyboard to implement changes, input user ID, or upload revised software. The system also includes an Ethernet link. Ludlum’s optional Universal Network Software can be used to log instrument status, user activity, and other information from one or more instruments connected to the network. This software broadcasts emails whenever radiological alarms or instrument failures occur, and has the ability to capture images from network cameras that can be stored along with the user ID (if implemented). See the “Options” tab for more information and other available options.

Model 52-1, 52-5 & 52-6 Series Portable Portal Monitors

The Model 52-1, 52-5, and 52-6 Series Portable Portal Monitors are used for beta-gamma contamination monitoring on personnel and meet the FEMA standard for Emergency Response Portal Monitoring (FEMA-REP-21). They are designed to be disassembled for ease of transportation and storage, and can be set up in five minutes or less without any tools.

Each instrument's non-volatile parameters are preset at the factory to detect a 1.0 µCi ^{137}Cs source in a 10 µR/hr background field. Microprocessor-based electronics provide ease of setup and reliability. Status LEDs indicate count-cycle status and audible signals accompany the LEDs for additional indication. Detector counts, background, and all parameters may be viewed on the instrument display. All setup is accomplished by way of pushbuttons located below the display.

These portal monitors can be operated in a walk-through mode with a quick scan occurring while a person is positioned within the portal. In this mode, checking is performed every 200 milliseconds while the portal is occupied, and 600 milliseconds before and 600 milliseconds after the portal is occupied. The portal monitor can also monitor in a stop-and-count mode, allowing for a more sensitive scan. In stop-and-count mode, the fixed count time may be set from 1 to 20 seconds.

These instruments have automatic background update and dynamic alarm setting capabilities. On startup, the instrument will take a background count and calculate alarm levels for each detector. Self-diagnostic routines check the background count and warn if the background becomes either too high or too low.

Alarms are calculated with a user-adjustable sigma parameter and the current background count. During setup, the user can also specify individual alarms only, sum alarm only, or both individual and sum alarm. The sum alarm groups upper detectors and lower detectors.

Included with each instrument are a wheeled transport case and a clear polypropylene sleeve to protect against wet weather conditions.

These instruments are able to operate from 85 to 250 Vac, 50/60 Hz without a voltage selector switch. They may also be powered from the supplied vehicle cigarette lighter adapter, or three or six “D” cell batteries.

Water-Resistant Versions

Ludlum also offers some water-resistant versions: Models 52-1W (PN 48-4300), 52-1-1W (PN 48-3516) and 52-6-1W (PN 48-4312). Note that these water-resistant versions can only be used for gamma contamination monitoring.

Vehicle Monitoring

The Model 52-1, 52-5, and 52-6 Series can also be used as vehicle monitors using the optional vehicle conversion kit (PN 4215-374 for standard models, PN 4215-1099 for water-resistant models). The kit includes two stands to support the side detectors and a 6.1 m (20 ft.) cable. See Options tab for more information.

Radiation Detection › Body Monitors

Model 52 Portable Portal Monitor

The Model 52 Portal Monitor is used for Beta-Gamma personnel contamination monitoring and meets the FEMA standard for Emergency Response Portal Monitoring (FEMA-REP-21). It is designed to be assembled in five minutes or less without tools, and can be quickly disassembled for ease of transportation and storage. All parameters are stored in non-volatile memory, which requires no battery backup. These parameters allow easy operation with minimal setup by minimally trained personnel. The parameters are preset at the factory to detect a 1 µCi ^{137}Cs beta window source in a 10 µR/hr background field, in accordance with the FEMA standard. The Model 52 can be powered by 120 Vac, six “D” cell batteries, or 220 Vac-powered units, which are available as a special order.

The instrument has a “person-counter” integrated into the electronics that increments by one every time a count is completed. It is a four-digit number normally displayed on the LCD display, next to the “READY” message. It also has an RS-232 port that can be used to print out parameter setpoints, background counts, and counts above background.

The portal frame incorporates an array of 18 Geiger-Mueller (GM) detectors positioned around the frame and base. Fourteen GM pancake detectors are located in the frame for monitoring the head and body. Four cylindrical GM detectors are utilized in the base for monitoring the feet.The electronics are microprocessor-based for ease of setup and reliability. Individual LEDs (Light Emitting Diodes) mounted in the frame and also on the electronics front panel indicate the specific alarm location. LEDs in the front panel indicate count cycle status. Audible signals accompany the LEDs for additional indication. Detector counts, background, and all parameters may be viewed on the LCD display. All setup is accomplished via pushbuttons on the electronics assembly.

The Model 52 incorporates a summing alarm in addition to the individual channel alarms. This increases the system sensitivity to widespread contamination. If two or more channels have a noticeable increase in counts but do not exceed their alarm threshold, the sum of their counts could exceed the summing alarm.

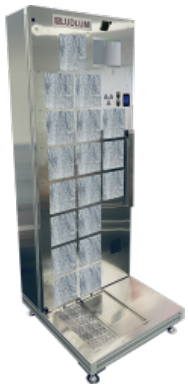
The Model 52 also has background update and subtract capabilities. The instrument will take a background count and

subtract it from the current count. This function helps compensate for fluctuations in background. Background subtract can be turned on or off, the background count time is adjustable, and the background interval time is adjustable. The operator can force the instrument to stop and take a background count at a different interval if desired.

The Model 52 is supplied with a polypropylene weather sleeve to protect against wet weather conditions. Units are also supplied with a rugged, wheeled, and padded transport/storage case for rapid deployment.

Radiation Detection › Body Monitors

Model HBP-22 Body Contamination Monitor



Robust, Ergonomically Designed Body Contamination Pre-Monitor

The Model HBP-22 is a body contamination monitor that utilizes beta plastic detectors to measure personnel as a pre-monitor. Robust, with a modern design that integrates the latest available industrial technology, the system is optimized for users of all sizes.

The key features include:

- 22 beta plastic detectors with semiconductor readout
- Whole body measurement in 2 easy steps
- Automated measurement process with audio-visual user guidance
- Integrated 12 in. touch-screen display
- Intuitive user-friendly software
- Hand-detector on the side
- Latest industry-controller technology
- Energy filter settings to optimize discrimination of background radiation
- Power provided by internal UPS for several measurements during power loss
- Intuitive User-Friendly Software
- Large Service Space in a Footprint of 900 x 840 mm (35.4 x 33.1 in.) (W x D) with Easy Access to the Service Cabinet
- Modern 12 in. Touch-Screen Display
- Stainless Steel Housing for Easy Cleaning and Durability
- Access to Ludlum’s Test Tool Software for Detector Analysis
- Export of Measurement/Parameter Data in XML Format via USB
- Access to Historical Measurement Data via Integrated Database
- Network Capability for Remote Monitoring

Radiation Detection › Body Monitors

Model HBP-29 Body Contamination Monitor

The Model HBP-29 is a whole-body contamination monitor designed to measure personnel leaving controlled areas.

Features:

- Intuitive User-Friendly Software
- Large Service Space in a Footprint of 900 x 840 mm (35.4 x 33.1 in.) (W x D) with Easy Access to the Service Cabinet
- Modern Touch-Screen Display
- Access to Ludlum’s Test Tool Software for Detector Analysis
- Export of Measurement/Parameter Data in XML Format via USB
- Access to Historical Measurement Data via Integrated Database
- Remote Access via Web Browser Interface

Standard features include:

- 29 beta plastic detectors with semiconductor readout
- Stainless steel housing for easy cleaning and durability
- Ergonomic detector positioning
- Hand-detector on the side
- Integrated 17 in. touch-screen display
- Automated measurement process with audio-visual guidance
- Latest industry-controller technology
- Energy filter settings to optimize discrimination of background radiation
- Power provided by UPS for several measurements during power loss
- Designed to meet industry and regulatory standards

Radiation Detection › Body Monitors

Model 375P-1000 Outdoor Radiation Contamination Monitor – Ludlum

The Model 375P-1000 Outdoor Radiation Contamination Monitor (Ludlum) is a Digital Model 375 controller coupled to 2 shielded 7866 cm² plastic scintillator detectors. The detectors are covered in weathertight enclosures applicable for the outside environment. The Model 375P-1000 Outdoor Radiation Contamination Monitor is perfect for examine outgoing trash and/or medical waste for possible low-level radioisotope contamination.

Model 375P-1000 Outdoor Radiation Contamination Monitor features:

- indicates status, sum alarm, sigma alarm, low battery, det fail and overrange
- 4-digit LED display with 2 cm (0.8 in.) digits
- range: 0.0 to 9999 kcps
- battery backup
- programmable alarms
- network cable
- data output: 9-pin connector providing RS-232 output, signal ground connection, FAIL and ALARM signals and direct connection to battery and ground
- relay output: mains (120 or 240 Vac) output on alarm

Read more about the Model 375P-1000 Outdoor Radiation Contamination Monitor on the Ludlum website

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Partner Helgeson Scientific Services (HSS)

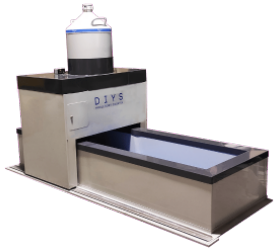
Helgeson Scientific Services (HSS) designs and manufactures advanced radiation monitoring systems focused on personnel safety, facility protection, and waste control. Their portfolio includes whole-body monitors, portal detection systems, and waste management solutions—each developed to support the safe handling of radiological materials in critical environments.

Product offering

HS-BEXA – Alpha Beta hand feet monitor

HS-BEX – Beta gamma hand feet monitor

DIYS – Bed type whole body counter for internal dosimetry



HS-ABOMO – Alpha beta gamma portal for personnel monitoring

HS-BOMO – Beta gamma portal for personnel monitoring

HS-RAM – Gamma portal for personnel monitoring

QUICKY – Whole body counter for internal dosimetry

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Radiation Detection › Body Monitors

HS-BEXA – Alpha Beta hand feet monitor

The HS-BEX monitors are multitasking equipment designed for the detection and measurement of radiation ALPHA and BETA on the hands and feet of potentially exposed personnel through a fully automatic operation.

The system can be configured to have 3, 4, 6 or 7 detectors depending on the application and budget. An equipment that complies with the highest quality standards, designed and assembled in Spain.

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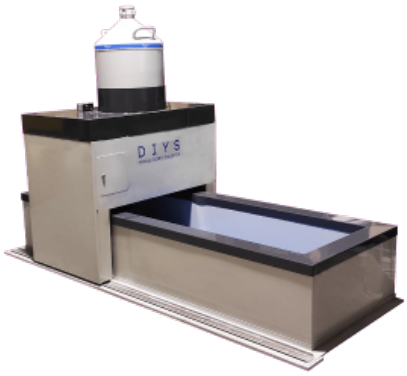
Radiation Detection › **Body Monitors**

HS-BEX – Beta gamma hand feet monitor

The HS-BEX monitors are multitasking equipment designed for the detection and measurement of radiation BETA and GAMMA on the hands and feet of potentially exposed personnel through a fully automatic operation.

The system can be configured to have 3, 4, 6 or 7 detectors depending on the application and budget. An equipment that complies with the highest quality standards, designed and assembled in Spain.

DIYS – Bed type whole body counter for internal dosimetry



Overview:

Compact and easy to operate, the Helgeson “Do-it- Yourself Whole Body Counter” offers a low cost means of ensuring safety for personnel at nuclear facilities, laboratories, or hospitals. The “Do-It-Yourself Whole Body Counter” measures the total body burden of gamma emitters and also approximates where the emitters are deposited within the body. The Helgeson “Do-It-Yourself Whole Body Counter” employs a scanning geometry, long recognized as the geometry which produces the lowest errors due to non-uniform source distribution. Its positional response is far superior to any chair or organ counter. Helgeson supplies analytical software, proven superior over many years, which provides qualitative and quantitative analysis of radioactive depositions. Our graphical representation of the data allows a technician to determine the quality of the evaluation.

Features:

- **High-Accuracy Scanning Geometry** – Utilizes a proven scanning design that minimizes errors caused by non-uniform source distribution, ensuring highly accurate measurement of gamma emitters throughout the body.
- **Comprehensive Analysis Software** – Comes with advanced analytical software that provides both qualitative and quantitative evaluation of radioactive depositions, supported by clear graphical data representation for precise interpretation.
- **Compact and User-Friendly Design** – Designed for easy operation and installation, offering a cost-effective solution for monitoring personnel safety in nuclear facilities, laboratories, and hospitals.

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HS-ABOMO – Alpha beta gamma portal for personnel monitoring

Multitasking two-step device

The HS-ABOMO unit is a multitasking two-step device designed for the detection and measurement of radioactive contamination, ALPHA, BETA and GAMMA, on potentially exposed personnel.

It has been specifically designed for controlled areas. It includes up to 31 detectors, which work autonomously and independently, allowing to perform simultaneous measurements with different alarm levels.

The user can identify exactly in a different channel the beta cps and gamma cps since the detectors are different for each type of radiation. Its operation is fully automated. The equipment has sensors that detect when a person enters the portal, interrupting the background acquisition and initiating automatically a thorough examination of the subject.

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HS-BOMO – Beta gamma portal for personnel monitoring

Multitasking two-step device

The HS-BOMO unit is a multitasking two-step device designed for the detection and measurement of radioactive contamination, BETA and GAMMA, on potentially exposed personnel.

It has been specifically designed for controlled areas. It includes up to 31 detectors, which work autonomously and independently, allowing to perform simultaneous measurements with different alarm levels.

The user can identify exactly in a different channel the beta cps and gamma cps since the detectors are different for each type of radiation. Its operation is fully automated. The equipment has sensors that detect when a person enters the portal, interrupting the background acquisition and initiating automatically a thorough examination of the subject.

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HS-RAM – Gamma portal for personnel monitoring

Completely autonomous equipment

The HS-RAM monitors are completely autonomous equipment designed for the detection and measurement of gamma radiation on exposed workers.

They are designed to perform high speed measurements, allowing fast counting of a high volume of nuclear power plant workers. With different versions that customize the number of detectors, size, barriers, etc. the HS-RAM is without doubts the most flexible gamma portal for fast screening of personnel.

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QUICKY – Whole body counter for internal dosimetry

Helgeson “Quicky” In-Vivo Counter is designed to complement any health physics program which includes routine whole body counting.

The “Quicky” is used to rapidly screen personnel or it can be used with a fixed counting time to obtain more precise results. The printed results provide the documentation for subject identification, counting time and date. Results are reported in Becquerel or Nano curies. The “Quicky” can reduce your regular counting requirements and costs significantly.

User-friendly software

Software for the “Quicky” is “user-friendly” with a menu format which provides a variety of standard and optional operating programs. System performance software includes a Quality Assurance program which checks the electronics of system, reporting any errors to the operator. An Energy Calibration program allows the gains of the individual detector-amplifier systems to be adjusted to uniformity and conformity to the design parameters.

- Data Acquisition, continuous spectral display.
- Data Analysis with graphs of original data and residuals.
- Calibrations: Energy vs. Channel and Efficiency, FWHM vs Channel.
- Parameter Modification for complete control: acquisition, analysis & miscellaneous parameters.
- File Maintenance.
- Dose calculating software based on ICRP recommendations and approved by the Spanish Nuclear Council.

PORTAL MONITORS

peo DETECTION

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Partner Polimaster

Polimaster is a global leader in radiation detection and monitoring solutions, offering a comprehensive suite of instruments designed to detect, identify, and measure ionizing radiation across various environments. Their product range includes handheld monitors, personal electronic dosimeters, portable isotope identifiers, portal monitors, and mobile detection systems, all engineered to meet the rigorous demands of security, emergency response, and industrial applications.

Product offering

Poligate Light G1 RPM

PoliGate™ Vehicle G4 RPM

PoliGate™ Pedestrian G1 RPM

PoliGate™ Pedestrian GN2 RPM

Poligate Light G2 RPM

Poligate Light G4 RPM

Poligate Pedestrian GN1 RPM

Poligate Deployable RPM

Poligate Pedestrian G2 RPM

Poligate Vehicle G4N4 RPM

Poligate Vehicle G2 RPM

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Radiation Detection › **Portal Monitors**

Poligate Light G1 RPM

Lightweight one-sided model equipped with one gamma detector.

The **PoliGate™ Light G1** is a one-sided **gamma-only** Radiation Portal Monitor (RPM) equipped with one detector and is a **high-sensitive fixed system** designed for permanent installation and providing continuous radiation detection and monitoring of vehicles, people, or packages.

The **PoliGate™ Light series** is a simplified series of Polimaster RPMs that is available in a **more compact and lightweight design** and its detection blocks can be mounted on a frame or wall.

Features

- Lightweight design
- Control zone up to 1.5 m x 2 m (W x H)
- Wide gamma energy range from 20 keV to 3 MeV
- No stop of an object is required for the inspection
- Lead shielding for natural background rejection
- Ingress protection IP55
- Local and remote light and audible alarm annunciators
- Back-up battery providing at least 8 hours of operation
- Presence detection system (occupancy sensors)
- Adjustable sensitivity parameters for specific applications
- Optional video surveillance system

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Radiation Detection › **Portal Monitors**

PoliGate™ Vehicle G4 RPM

Double-sided gamma model equipped with four gamma detectors.

The **PoliGate™ Vehicle G4** is a double-sided **gamma-only** Radiation Portal Monitor (RPM) equipped with four 11L-gamma detectors and is a **high-sensitive fixed system** designed for permanent installation and providing continuous radiation detection and monitoring of moving objects.

The **PoliGate™ Vehicle series** is an essential tool for safeguarding against the potential threat of nuclear materials entering secure areas and can be used for screening **trains, trucks, vehicles, cargo containers, luggage, and people**.

Features

- IEC 62244:2019 compliance
- Control zone up to 6 x 4.5 (W x H)
- Wide gamma energy range from 20 keV to 3 MeV
- No stop of an object is required for the inspection
- Lead shielding for natural background rejection
- Ingress protection IP65
- Local and remote light and audible alarm annunciators
- Back-up battery providing at least 8 hours of operation
- Presence detection system (occupancy sensors)
- Adjustable sensitivity parameters for specific applications
- Optional video surveillance system

Radiation Detection › **Portal Monitors**

PoliGate™ Pedestrian G1 RPM

One-sided gamma model equipped with one (11L) gamma detector.

The **PoliGate™ Pedestrian G1** is a one-sided **gamma-only** Radiation Portal Monitor (RPM) equipped with one 11L-gamma detector and one neutron detector and is a **high-sensitive fixed system** designed for permanent installation and monitoring of people or packages for the presence of radioactive materials.

The **PoliGate™ Pedestrian series** is an essential component of any facility that requires strict security measures, including government buildings, research facilities, and nuclear power plants. The compact and ergonomic design of the RPM makes it a convenient solution for use in various applications for screening **people, luggage, and cargo**.

Features

- IEC 62244:2019 compliance
- Control zone up to 1.5 x 2 (W x H)
- Wide gamma energy range from 20 keV to 3 MeV
- No stop of an object is required for the inspection
- Lead shielding for natural background rejection
- Ingress protection IP65
- Local and remote light and audible alarm annunciators
- Back-up battery providing at least 8 hours of operation
- Presence detection system (occupancy sensors)
- Adjustable sensitivity parameters for specific applications
- Optional video surveillance system

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Radiation Detection › **Portal Monitors**

PoliGate™ Pedestrian GN2 RPM

Double-sided gamma-neutron model equipped with two gamma (6.6L each) and two neutron detectors.

The **PoliGate™ Pedestrian GN2** is a double-sided **gamma-neutron** Radiation Portal Monitor (RPM) equipped with two 6.6L-gamma and one neutron detector and is a **high-sensitive fixed system** designed for permanent installation and monitoring of people or packages for the presence of radioactive materials.

The **PoliGate™ Pedestrian series** is an essential component of any facility that requires strict security measures, including government buildings, research facilities, and nuclear power plants. The compact and ergonomic design of the RPM makes it a convenient solution for use in various applications for screening **people, luggage, and cargo**.

Features

- IEC 62244:2019 compliance
- Control zone up to 1.5 x 2 (W x H)
- Wide gamma energy range from 20 keV to 3 MeV
- No stop of an object is required for the inspection
- Lead shielding for natural background rejection
- Ingress protection IP65
- Local and remote light and audible alarm annunciators
- Back-up battery providing at least 8 hours of operation
- Presence detection system (occupancy sensors)
- Adjustable sensitivity parameters for specific applications
- Optional video surveillance system

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Poligate Light G2 RPM

Lightweight double-sided model equipped with two gamma detectors.

The **PoliGate™ Light G2** is a double-sided **gamma-only** Radiation Portal Monitor (RPM) equipped with two detectors and is a high-sensitive fixed system designed for permanent installation and providing continuous radiation detection and monitoring of vehicles, cargo containers, people, or packages.

The **PoliGate™ Light series** is a simplified series of Polimaster RPMs that is available in a **more compact and lightweight design** and its detection blocks can be mounted on a frame or wall.

Features

- Lightweight design
- Control zone up to 6 m x 2 m (W x H)
- Wide gamma energy range from 20 keV to 3 MeV
- No stop of an object is required for the inspection
- Lead shielding for natural background rejection
- Ingress protection IP55
- Local and remote light and audible alarm annunciators
- Back-up battery providing at least 8 hours of operation
- Presence detection system (occupancy sensors)
- Adjustable sensitivity parameters for specific applications
- Optional video surveillance system

Poligate Light G4 RPM

Lightweight double-sided model equipped with four gamma detectors.

The **PoliGate™ Light G4** is a double-sided **gamma-only** Radiation Portal Monitor (RPM) equipped with four detectors and is a high-sensitive fixed system designed for permanent installation and providing continuous radiation detection and monitoring of vehicles, cargo containers, people, or packages.

The **PoliGate™ Light series** is a simplified series of Polimaster RPMs that is available in a **more compact and lightweight design** and its detection blocks can be mounted on a frame or wall.

Features

- Lightweight design
- Control zone up to 6 m x 4.5 m (W x H)
- Wide gamma energy range from 20 keV to 3 MeV
- No stop of an object is required for the inspection
- Lead shielding for natural background rejection
- Ingress protection IP55
- Local and remote light and audible alarm annunciators
- Back-up battery providing at least 8 hours of operation
- Presence detection system (occupancy sensors)
- Adjustable sensitivity parameters for specific applications
- Optional video surveillance system

Radiation Detection › **Portal Monitors**

Poligate Pedestrian GN1 RPM

One-sided gamma-neutron model equipped with one gamma (6.6L) and one neutron detector.

The **PoliGate™ Pedestrian GN1** is a one-sided **gamma-neutron** Radiation Portal Monitor (RPM) equipped with one 6.6L-gamma and one neutron detector and is a **high-sensitive fixed system** designed for permanent installation and monitoring of people or packages for the presence of radioactive materials.

The **PoliGate™ Pedestrian series** is an essential component of any facility that requires strict security measures, including government buildings, research facilities, and nuclear power plants. The compact and ergonomic design of the RPM makes it a convenient solution for use in various applications for screening **people, luggage, and cargo**.

Features

- IEC 62244:2019 compliance
- Control zone up to 1.5 x 2 (W x H)
- Wide gamma energy range from 20 keV to 3 MeV
- No stop of an object is required for the inspection
- Lead shielding for natural background rejection
- Ingress protection IP65
- Local and remote light and audible alarm annunciators
- Back-up battery providing at least 8 hours of operation
- Presence detection system (occupancy sensors)
- Adjustable sensitivity parameters for specific applications
- Optional video surveillance system

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Poligate Deployable RPM

Gamma-only model transported in plastic protective cases and designed for fast deployment.

The **PoliGate™ Deployable** is a **gamma-only** Radiation Portal Monitor (RPM) highly sensitive **deployable radiation monitor** designed to detect radioactive and nuclear materials transported through a controlled area.

This fast deployable RPM is designed to provide high mobility and flexibility, allowing it to be used in various settings to **screen individuals, vehicles, or cargo at the scene of an incident or in temporary screening situations** such as at major public mass events.

Features

- No stop of an object is required for the inspection
- Lead shielding for natural background rejection
- Wide gamma energy range from 30 keV to 3 MeV
- Local and remote light and audible alarm annunciators
- Back-up battery providing at least 8 hours of operation
- Presence detection system (occupancy sensors)
- Adjustable sensitivity parameters for specific applications
- Optional video surveillance system
- Optional Ethernet / Wi-Fi connection

← Back to partner

Poligate Pedestrian G2 RPM

Double-sided gamma model equipped with two (11L each) gamma detectors.

The **PoliGate™ Pedestrian G2** is a double-sided **gamma-only** Radiation Portal Monitor (RPM) equipped with two 11L-gamma detectors and is a **high-sensitive fixed system** designed for permanent installation and monitoring of people or packages for the presence of radioactive materials.

The **PoliGate™ Pedestrian series** is an essential component of any facility that requires strict security measures, including government buildings, research facilities, and nuclear power plants. The compact and ergonomic design of the RPM makes it a convenient solution for use in various applications for screening **people, luggage, and cargo**.

Features

- IEC 62244:2019 compliance
- Control zone up to 1.5 x 2 (W x H)
- Wide gamma energy range from 20 keV to 3 MeV
- No stop of an object is required for the inspection
- Lead shielding for natural background rejection
- Ingress protection IP65
- Local and remote light and audible alarm annunciators
- Back-up battery providing at least 8 hours of operation
- Presence detection system (occupancy sensors)
- Adjustable sensitivity parameters for specific applications
- Optional video surveillance system

Radiation Detection › **Portal Monitors**

Poligate Vehicle G4N4 RPM

Double-sided gamma-neutron model equipped with four gamma and four neutron detectors.

The **PoliGate™ Vehicle G4N4** is a double-sided **gamma-neutron** Radiation Portal Monitor (RPM) equipped with four 11L-gamma and four neutron detectors and is a **high-sensitive fixed system** designed for permanent installation and providing continuous radiation detection and monitoring of moving objects.

The **PoliGate™ Vehicle series** is an essential tool for safeguarding against the potential threat of nuclear materials entering secure areas and can be used for screening **trains, trucks, vehicles, cargo containers, luggage, and people**.

Features

- IEC 62244:2019 compliance
- Control zone up to 6 x 4.5 (W x H)
- Wide gamma energy range from 20 keV to 3 MeV
- No stop of an object is required for the inspection
- Lead shielding for natural background rejection
- Ingress protection IP65
- Local and remote light and audible alarm annunciators
- Back-up battery providing at least 8 hours of operation
- Presence detection system (occupancy sensors)
- Adjustable sensitivity parameters for specific applications
- Optional video surveillance system

← Back to partner

Poligate Vehicle G2 RPM

Double-sided gamma model equipped with two gamma detectors.

The **PoliGate™ Vehicle G2** is a double-sided **gamma-only** Radiation Portal Monitor (RPM) equipped with two 11L-gamma detectors and is a **high-sensitive fixed system** designed for permanent installation and providing continuous radiation detection and monitoring of moving objects.

The **PoliGate™ Vehicle series** is an essential tool for safeguarding against the potential threat of nuclear materials entering secure areas and can be used for screening**trucks, vehicles, cargo containers, luggage, and people**.

Features

- IEC 62244:2019 compliance
- Control zone up to 6 x 2 (W x H)
- Wide gamma energy range from 20 keV to 3 MeV
- No stop of an object is required for the inspection
- Lead shielding for natural background rejection
- Ingress protection IP65
- Local and remote light and audible alarm annunciators
- Back-up battery providing at least 8 hours of operation
- Presence detection system (occupancy sensors)
- Adjustable sensitivity parameters for specific applications
- Optional video surveillance system

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Partner Radiation Solutions Inc.

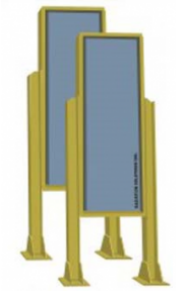
Radiation Solutions Inc. (RSI) is a Canadian-based company specializing in advanced radiation detection and monitoring systems, with a focus on portal monitors for diverse applications. Their technologies are designed to ensure safety and compliance in industries such as steel, scrap, recycling, and border security.

Product offering

RS-200 / 3000 Radiation Portal Monitoring Systems (Radiation Solutions)

RS-200 / 6000 Radiation Portal Monitoring Systems (Radiation Solutions)

RS-200 / 10000 Radiation Portal Monitoring Systems (Radiation Solutions)



RS-300 Radiation Portal Monitoring Systems (Radiation Solutions)

RS-400 Radiation Portal Monitoring Systems (Radiation Solutions)

← Back to partner

RS-200 / 3000 Radiation Portal Monitoring Systems (Radiation Solutions)

The RS-200 systems (Radiation Solutions) are 2 PMT based fully digital systems specially designed for the difficult operating conditions of scrap and aluminum processing plants. These systems combine exceptional performance with minimum false and nuisance alarms through advanced digital design and spectral analysis.

The system is fully modular which makes it easily configurable to suit local logistics and permits fast, easy maintenance. The system operates independently and has direct Ethernet connectivity to plant networks. This connectivity allows for a fully integrated plant design with the ability for RSO overview on all installed systems.

RS-200 / 3000 Radiation Portal Monitoring Systems features:

- detector volume: 1512 in3 (23.5L) – maximum 16 detectors
- fully digital system design – no user adjustments
- 2 PMT technology for high sensitivity + high noise rejection 10/sec data sampling rate for optimum data analysis
- advanced 4096/128 channel spectrometer system for improved analysis
- spectral analysis permits rejection of the majority of false, rain and void alarms prevalent in most systems without reducing system sensitivity
- alarm classification to sort alarms into scrap and non-scrap categories for better control
- minimum nuisance alarms due to advanced signal screening and pattern recognition
- system sensitivity analysis and auto correction to minimize signal loss with NO radioactive sources required to test system performance
- 15″ color touch screen display for easy user interfacing
- local printer for alarm printout
- GPS connection for accurate location and timing
- direct connection to the plant network enabling RSO overview of all alarms on all systems
- real-time (1/sec) error reporting to RSI service via the Internet for fast support and system overview
- 48V operation to minimize voltage drops on long cables
- modular system design for easy on site service by local staff for “instant” service support
- 24/7 tech support for fast responsive support from technical people if required

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RS-200 / 6000 Radiation Portal Monitoring Systems (Radiation Solutions)

The RS-200 systems are 2 PMT based fully digital systems specially designed for the difficult operating conditions of scrap and aluminum processing plants. These systems combine exceptional performance with minimum false and nuisance alarms through advanced digital design and spectral analysis.

The system is fully modular which makes it easily configurable to suit local logistics and permits fast, easy maintenance. The system operates independently and has direct Ethernet connectivity to plant networks. This connectivity allows for a fully integrated plant design with the ability for RSO overview on all installed systems.

RS-200 / 6000 Radiation Portal Monitoring Systems features:

- detector volume: 3000 in3 (24L) – maximum 16 detectors
- fully digital system design – no user adjustments
- 2 PMT technology for high sensitivity + high noise rejection 10/sec data sampling rate for optimum data analysis
- advanced 4096/128 channel spectrometer system for improved analysis
- spectral analysis permits rejection of the majority of false, rain and void alarms prevalent in most systems without reducing system sensitivity
- alarm classification to sort alarms into scrap and non-scrap categories for better control
- minimum nuisance alarms due to advanced signal screening and pattern recognition
- system sensitivity analysis and auto correction to minimize signal loss with NO radioactive sources required to test system performance
- 15″ color touch screen display for easy user interfacing
- local printer for alarm printout
- GPS connection for accurate location and timing
- direct connection to the plant network enabling RSO overview of all alarms on all systems
- real-time (1/sec) error reporting to RSI service via the Internet for fast support and system overview
- 48V operation to minimize voltage drops on long cables
- modular system design for easy on site service by local staff for “instant” service support
- 24/7 tech support for fast responsive support from technical people if required

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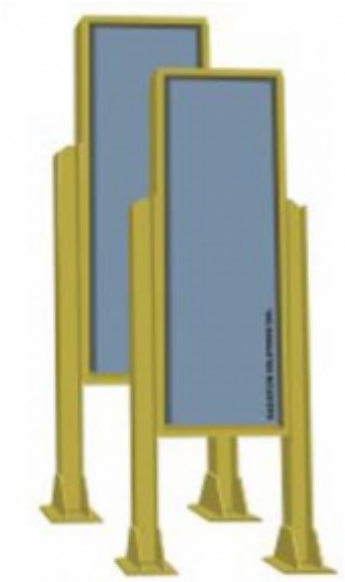
RS-200 / 10000 Radiation Portal Monitoring Systems (Radiation Solutions)

The RS-200 systems are 2 PMT based fully digital systems specially designed for the difficult operating conditions of scrap and aluminum processing plants. These systems combine exceptional performance with minimum false and nuisance alarms through advanced digital design and spectral analysis.



The system is fully modular which makes it easily configurable to suit local logistics and permits fast, easy maintenance. The system operates independently and has direct Ethernet connectivity to plant networks. This connectivity allows for a fully integrated plant design with the ability for RSO overview on all installed systems.

RS-200 / 10000 Radiation Portal Monitoring Systems features:

- detector volume: 5000 in3 (73L) – maximum 16 detectors
- fully digital system design – no user adjustments
- 2 PMT technology for high sensitivity + high noise rejection 10/sec data sampling rate for optimum data analysis
- advanced 4096/128 channel spectrometer system for improved analysis
- spectral analysis permits rejection of the majority of false, rain and void alarms prevalent in most systems without reducing system sensitivity
- alarm classification to sort alarms into scrap and non-scrap categories for better control
- minimum nuisance alarms due to advanced signal screening and pattern recognition
- system sensitivity analysis and auto correction to minimize signal loss with NO radioactive sources required to test system performance
- 15″ color touch screen display for easy user interfacing
- local printer for alarm printout
- GPS connection for accurate location and timing
- direct connection to the plant network enabling RSO overview of all alarms on all systems
- real-time (1/sec) error reporting to RSI service via the Internet for fast support and system overview
- 48V operation to minimize voltage drops on long cables
- modular system design for easy on site service by local staff for “instant” service support
- 24/7 tech support for fast responsive support from technical people if required

RS-300 Radiation Portal Monitoring Systems (Radiation Solutions)

The RS-300 system is a 3PMT based super-Coincidence fully digital system specially designed for the difficult operating conditions of many Steel and Scrap processing plants. This system uses medium volume detectors for good vehicle coverage. Also, in order to permit easy replacement and upgrades, the detectors are identical is size to most commonly used detectors in the field today.

The system is fully MODULAR to make it easily configurable to suit local logistics. The system operates independently but has direct Ethernet connectivity to Plant networks that permit a fully integrated Plant design with RSO overview on all installed systems. USB/Serial connectivity also enables system configuration to suit user needs for local displays, local or Network printers, scale computer integration etc.

RS-300 Radiation Portal Monitoring Systems features:

- 3000 cu ins (3024 cu ins actual) detector assemblies – max 16 detectors
- fully digital system design – no complicated user adjustments
- 3 PMT technology for high sensitivity + high noise rejection
- 10/sec data sampling rate for optimum data analysis
- advanced 128 channel spectrometer system
- full spectral NASVD analysis for high sensitivity with essentially zero false alarms
- essentially zero void and rain alarms due to advanced spectral analysis
- fully integrated networking for integration into the plant network
- quad optical sensors with 500Hz data sampling for accurate vehicle sensing
- 12″ or 15″ color touch screen display for easy user interfacing
- alarm classification if required to sort alarms into scrap and non-scrap
- 48V operation to minimize voltage drops on long cables
- auto connection to RSI service centre via the Internet for fast service support
- RSO software supplied for alarm analysis direct from RSO office
- real-time (1/sec) error reporting to RSI service via the Internet for fast support
- automatic system sensitivity monitoring with auto gain correction
- modular system design for easy servicing

Models available:

- RS-300/6000 = 2 detector system
- RS-300/9000 = 3 detector system
- RS-300/12000 = 4 detector system
- RS-300/15000 = 5 detector system
- RS-300/18000 = 6 detector system
- RS-300/21000 = 7 detector system

- RS-300/24000 = 8 detector system

RS-400 Radiation Portal Monitoring Systems (Radiation Solutions)

The RS-400 system is a 4PMT based super-Coincidence fully digital system specially designed for the difficult operating conditions of many Steel and Scrap processing plants. This system uses large volume detectors for optimum vehicle coverage. These long detectors suffer substantially from signal loss using conventional technology so RSI has developed a 4PMT technology utilizing PMTs at BOTH ends of the detector for greatly improved signal collection and spectral shape.

The system is fully MODULAR to make it easily configurable to suit local logistics. The system operates independently but has direct Ethernet connectivity to Plant networks that permit a fully integrated Plant design with RSO overview on all installed systems. USB/Serial connectivity also enables system configuration to suit user needs for local displays, local or Network printers, scale computer integration etc.

RS-400 Radiation Portal Monitoring Systems features:

- 5000 cu ins (4698 cu ins actual) detector assemblies – max 16 detectors
- fully digital system design – no complicated user adjustments
- 4 PMT technology for high sensitivity + high noise rejection on long detectors
- 10/sec data sampling rate for optimum data analysis
- advanced 128 channel spectrometer system
- full spectral NASVD analysis for high sensitivity with essentially zero false alarms
- essentially zero void and rain alarms due to advanced spectral analysis
- fully integrated networking for integration into the plant network
- quad optical sensors with 500Hz data sampling for accurate vehicle sensing
- 12″ or 15″ color touch screen display for easy user interfacing
- alarm classification if required to sort alarms into scrap and non-scrap
- 48V operation to minimize voltage drops on long cables
- auto connection to RSI service centre via the Internet for fast service support
- RSO software supplied for alarm analysis direct from RSO office
- real-time (1/sec) error reporting to RSI service via the Internet for fast support
- automatic system sensitivity monitoring with auto gain correction
- modular system design for easy servicing

Models available:

- RS-400/10000 = 2 detector system
- RS-400/15000 = 3 detector system
- RS-400/20000 = 4 detector system
- RS-400/25000 = 5 detector system

- RS-400/30000 = 6 detector system
- RS-400/35000 = 7 detector system
- RS-400/40000 = 8 detector system

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Partner Ludlum Measurements Inc.

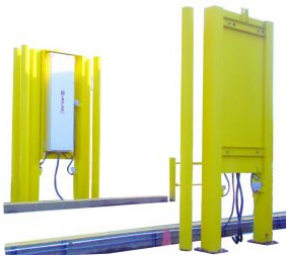
Ludlum Measurements, Inc. is a trusted global provider of radiation detection and monitoring instruments, offering rugged, accurate solutions for personnel safety, environmental protection, and security screening. Since 1962, their equipment has been used worldwide in applications ranging from nuclear power and emergency response to border protection and critical infrastructure monitoring.

Product offering

Model 4525 Series Radiation Portal Monitor

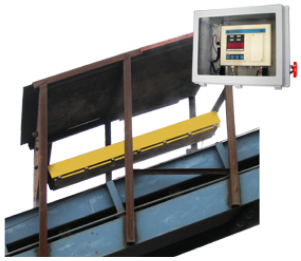
Model 4525-5000 Radiation Portal Monitor – Ludlum

Model 4525-7000 Radiation Portal Monitor – Ludlum

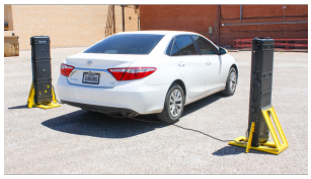


Model 4530 Series Radiation Portal Monitor

Model 375P-3500 Conveyor Monitor – Ludlum



Model 52-8 Series Outdoor Portal Monitor



Model 4525 Series Radiation Portal Monitor

All Model 4525 systems with 57 L (3500 in^3) detectors now come with new 5th generation NEMA 4 enclosures.

The new enclosures are manufactured with a 14-gauge carbon steel body and a 2 mm (0.080 in.) aluminum door for increased sensitivity. Using stainless steel concealed hinges and quarter turn latches for easy accessibility, they are 70 mm (2.75 in.) slimmer than the previous generation, reducing waste and cost.

Ask about our NEMA 4X stainless steel upgrade option for increased corrosion protection!

The Model 4525 Series of Radiation Portal Monitors (RPMs) represents state-of-the-art technology for detecting low levels of radiation, such as orphan radiation sources and NORM (naturally occurring radioactive materials), at facilities including scrap yards, recycling companies, landfills, and foundries. These systems are composed of ruggedized, large plastic scintillation detectors optimally arranged to monitor items passing through. Each system can be configured with two to six large detectors, with individual detector volumes of 9.8 L (600 in^3), 41 L (2500 in^3), or 57 L (3500 in^3).

Real-time data acquisition and analysis is performed directly at each detector system and then reported to a central PC for logging, reporting, and alarm notification. Up to four detector systems (lanes) can be networked together via Ethernet or wirelessly to a central PC so that vehicles entering from either direction can be monitored in real time. An optional remote control/annunciator panel is available to support operator awareness, alarm acknowledgement, and if necessary, backup operation in the event the central PC is unavailable.

Data from all the system sensors are acquired and checked by powerful, field-tested, and time-proven algorithms designed to check each load vigorously in a multi-dimensional and multi-layered manner before declaring any load as clean. Any abnormality is immediately indicated via both local and remote alarms. An optional camera system can capture an image of the offending vehicle and store the image with the logged data for permanent record keeping. Alarms can also be configured to automatically notify shift supervisors directly by e-mail if desired.

The system is designed for ease of use and can be customized to accommodate a wide variety of site and application specific criteria. Intuitive menus and controls combined with pre-defined automatic event handlers ensure each situation is handled properly and consistently.

Features

- Use to Monitor Trucks, Rail Cars, Personal Vehicles, etc.
- Large, Highly Sensitive, Industrial Duty Plastic Scintillation Detectors
- Reliable Operation with Very Low False Positives
- Flexible Configurations Accommodate Up to Four Lanes, Each with Two to Six Detectors
- Real-time Central Data Logging, Reporting, and Alarm Notification
- Bi-Directional Entry
- User-Friendly Operation
- Excellent Service and 24-Hour Tech Support
- 8-hour Battery Backup in Event of Power Loss
- Modular and Upgradeable
- Variety of Options to Customize the System to Meet Your Needs
- Made in USA

← Back to partner

Model 4525-5000 Radiation Portal Monitor – Ludlum

The newly reconfigured Ludlum 4525-Generation IV Series of Radiation Portal Monitors (RPMs) represents state-of-the-art technology for detecting orphan radiation sources and NORM. The revised systems are upgradable, with a lower cost of ownership, and represent a lower initial purchase price.

The Gen IV series of RPM systems are ruggedized, large plastic scintillation systems that can be optimally arranged to monitor moving vehicles entering into the system. Each detector system can be configured with two to six large detectors.

Model 4525-5000 Radiation Portal Monitor features:

- real-time central data logging, alarm notification and reporting
- user-friendly operation
- large size, high sensitivity Industrial Duty Detectors
- upgradable and modular system
- 2 detector systems
- bi-directional entry
- logs vehicle images and camera captures (optional)
- EJ-200 plastic scintillator

Read more about the Model 4525-5000 Radiation Portal Monitor on the Ludlum website

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Model 4525-7000 Radiation Portal Monitor – Ludlum

The Ludlum 4525-7000 Radiation Portal Monitor (RPM) represents state-of-the-art technology at detecting orphan radiation sources. Ludlum has sold over 800 of these types of systems throughout the world to scrap yards, recycling companies, landfills, and foundries. The Model 4525 series detectors are ruggedized large plastic scintillation systems that can be optimally arranged to monitor moving vehicles entering into the system.

Model 4525-7000 Radiation Portal Monitor features:

- real-time central data logging and reporting
- 76.2 m (250 ft) CAT 5e cable
- dual presence/speed sensors
- remote annunciator panel
- bi-directional entry
- camera image capturing and dB storage (optional)
- rail car mode
- two weather protected plastic scintillator detectors

Read more about the Model 4525-7000 Radiation Portal Monitor on the Ludlum website

Model 4530 Series Radiation Portal Monitor

The Model 4530 Series of Radiation Portal Monitors (RPMs) represents state-of-the-art technology for detecting low levels of radiation, such as orphan radiation sources and NORM (naturally occurring radioactive materials), at facilities including scrap yards, recycling companies, landfills, and foundries. These systems are composed of ruggedized, large plastic scintillation detectors optimally arranged to monitor items passing through. Each system can be configured with one to six large detectors, with individual detector volumes of 39.7 L (2117 in^3) or 57 L (3500 in^3).

Real-time data acquisition and analysis is performed directly at each detector system and then reported to the internal PC for logging, reporting, and alarm notification. Up to four detector systems (lanes) can be networked together via Ethernet or wirelessly to a central PC so that vehicles entering from either direction can be monitored in real time. An optional remote control/annunciator panel is available to support operator awareness, alarm acknowledgement, and if necessary, backup operation in the event the internal PC is unavailable.

Data from all the system sensors are acquired and checked by powerful, field-tested, and time-proven algorithms designed to check each load vigorously in a multi-dimensional and multi-layered manner before declaring any load as clean. Any abnormality is immediately indicated via both local and remote alarms. An optional camera system can capture an image of the offending vehicle and store the image with the logged data for permanent record keeping. Alarms can also be configured to automatically notify shift supervisors directly by e-mail if desired.

The system is designed for ease of use and can be customized to accommodate a wide variety of site and application specific criteria. Intuitive menus and controls combined with pre-defined automatic event handlers ensure each situation is handled properly and consistently.

All of the main components of these systems are manufactured in-house in the USA.

Features

- Made in USA
- Monitor Trucks, Rail Cars, Personal Vehicles, etc.

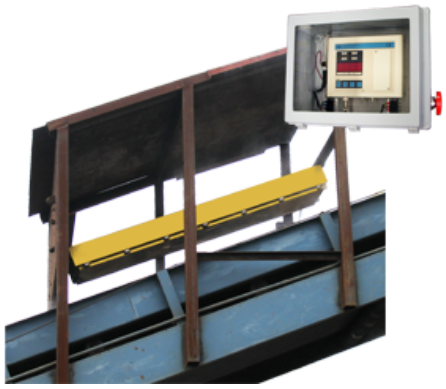
- Large, Highly Sensitive, Industrial Duty Plastic Scintillation Detectors
- Reliable Operation with Very Low False Positives
- Flexible Configurations Accommodate Up to Four Lanes, Each with One to Six Detectors
- Real-time Central Data Logging, Reporting, and Alarm Notification
- Bi-Directional Entry
- User-Friendly Operation
- Excellent Factory Service and 24-Hour Tech Support
- Modular and Upgradeable
- Variety of Options to Customize the System to Meet Your Needs

Retrofit Option

Ludlum Measurements offers the option to retrofit existing portal monitor systems with the electronics and software used in our Model 4530 Series Radiation Portal Monitors, including systems manufactured by our competitors. Retrofitting allows you to upgrade an aging system without having to purchase new detector housings and stands. Besides our own systems, Ludlum has experience retrofitting systems manufactured by Exploranium, RadComm, SAIC, Mirion/Canberra, and Thermo. Retrofits are customized to your needs, and can also include replacing the plastic scintillator detectors if necessary.

Model 375P-3500 Conveyor Monitor – Ludlum

The Model 375P-3500 Conveyor Monitor (Ludlum) is a radiation detector system to inspect materials at contamination on a conveyor.



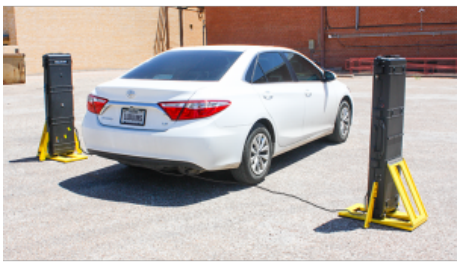
Model 375P-3500 Conveyor Monitor features:

- detector delivers superior sensitivity
- controller can operate totally independently or connected to an ethernet network or wired for remote annunciation
- 57.4 L (3500 in²) plastic detector with 15.2 m cable
- 24-Hour battery backup
- check source (10 µCi)
- electronics housed in a NEMA 4X enclosure with external reset button
- see-through viewing window
- weathertight, lead-shielded enclosure

Read more about the Model 375P-3500 Conveyor Monitor on the Ludlum website

Radiation Detection › Portal Monitors

Model 52-8 Series Outdoor Portal Monitor



The Model 52-8 is a weather-resistant portable scintillation portal monitor used for beta-gamma radiation monitoring of vehicles, as well as monitoring of personnel. Two plastic scintillation detectors, one per side, are housed in weatherproof, dust-tight, impact-resistant cases with wheels and tow handles. Microprocessor-based electronics are housed in a third case with matching characteristics, plus a mounted On/Off toggle switch and an optional red/green strobe light. The system provides high sensitivity for detecting very low levels of radiation coming from personnel or vehicles that move through the portal.

Ease of setup, adjustable audio signals, and user-friendly LCD display that provides detector counts, background levels, and system parameters, and the ability to operate via vehicle cigarette lighter plug or batteries, keep the Model 52-8 applicable to a variety of different situations. This instrument meets the Federal Emergency Management Agency (FEMA) standard for Emergency Management Response Portal Monitoring (FEMA-REP-21).

Features

- Portable Weatherproof Monitor
- Deploys in 5 Minutes
- Vehicle or Personnel Screen Compatibility
- Audible & Visual Alert Signals
- Two Sizes: 15.7 L (960 in^3) or 32.7 L (2000 in^3)

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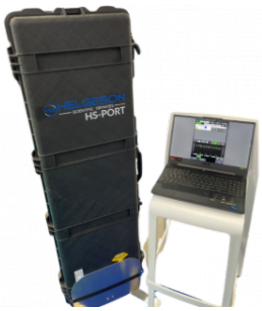
Partner Helgeson Scientific Services (HSS)

Helgeson Scientific Services (HSS) designs and manufactures advanced radiation monitoring systems focused on personnel safety, facility protection, and waste control. Their portfolio includes whole-body monitors, portal detection systems, and waste management solutions—each developed to support the safe handling of radiological materials in critical environments.

Product offering

HS-VGAM – Portal vehicle for scrap yards

HS-PORT – Portable Gamma Portal monitor for personnel and vehicles



HS-PoNal

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HS-VGAM – Portal vehicle for scrap yards

The HS-VGAM unit is an automated multitasking device, designed for the detection and measurement of gamma radiation on potentially exposed material, transported in vehicles.

It is particularly suitable fort he detection of radioactive sources in loads of raw materials, scrap and waste materials.

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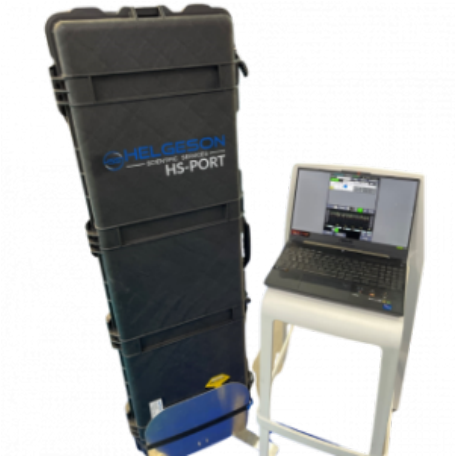
Radiation Detection › Portal Monitors

HS-PORT – Portable Gamma Portal monitor for personnel and vehicles



The HS-PORT has been designed for the detection and measurement of gamma radiation on potentially contaminated personnel, vehicles, etc.

It has a very fast deployment (one person in 2 minutes) and can be used in several applications like emergency response, monitoring of critical facilities, monitoring of events like concerts, sport events, etc. The system is operated remotely with a mobile phone or laptop without any additional cable connection.

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HS-PoNal

- Detectors:
  - NaI scintillation detector (can be customized: CsI, LaBr, CeBr, etc.)
  - Number of detectors: 1 detector (can be upgraded to 2 detectors)
  - Detector size: 4x4x16 inches (3x5x16” also available)
  - Energy range: 40 keV – 3 MeV
- Electronics:
  - Plug-in MCA with 2048 channels
  - Automatic gain stabilization
- Other features:
  - PC with Windows 11
  - Software for isotope identification and quantification
  - Spectrums displayed in real time, can be saved to be analyzed later
  - GPS
  - Hard disk memory up to 125 Gb
  - Remote connection with tablets, PCs, etc.
  - Dimensions: 730 x 160 x 170 mm approx.
  - Weight: 25 kg
  - Power: 220 – 115 V , 10 – 36 VDC
  - Battery bank to work autonomously
  - IP67

HS-PoNal is a fantastic solution for a quick and efficient **in-situ isotope identification** in different applications. It is a strong and customizable equipment with a very simple and intuitive operation thanks to its automatic isotope identification and quantification software. It is equipped with a 4 liters NaI detector (4x4x16”), and all electronics are installed inside a PeliCase providing IP67 protection. Communication can be done remotely via tablet or another device.

RADIATION MOBILE DETECTION SYSTEMS

peo DETECTION

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Partner Else Nuclear

ELSE NUCLEAR S.r.l. is an Italian OEM company specializing in advanced radiation-detection and environmental-monitoring systems for nuclear safety, industry and research.

Product offering

SATURN 5702

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Radiation Detection › Environmental Monitoring

SATURN 5702

SATURN 5702 is a mobile station equipped with two detectors for gamma and neutron dose rate monitoring. The station includes:

- Ion-chamber-based gamma radiation monitoring unit: ICP-T or ICP-T-PF
- Neutron rem counter for pulsed fields: LUPIN BF3

The detectors and the electronics are housed in a trolley-mounted mechanical structure. The height of the trolley can be customized according to the customer needs, for example to centre the detectors with the beam line height.

Each detector can be removed from the trolley to be employed remotely, up to 20 m. An ALU alarm column is mounted on the top, providing luminous and acoustic warning signals related to the status of the mobile station (good functioning, pre-alarm and alarm). SATURN 5702 stations can also manage external devices through 4 sets of relay contacts.

The detectors are connected via external cables to a standard 19” electronics rack equipped with two dedicated SATURN ratemeter units (rack version). Each ratemeter features a display, 3 function keys with status LEDs, and a connector for TOUCHKEY2 external keyboard.

SATURN 5702 can be connected to a remote host PC running a data management software (5700 sMON) through ETH or RS485/422 connection.

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Partner Polimaster

Polimaster is a global leader in radiation detection and monitoring solutions, offering a comprehensive suite of instruments designed to detect, identify, and measure ionizing radiation across various environments. Their product range includes handheld monitors, personal electronic dosimeters, portable isotope identifiers, portal monitors, and mobile detection systems, all engineered to meet the rigorous demands of security, emergency response, and industrial applications.

Product offering

PoliGate™ Mobile MDS

PoliPack® G-S Backpack Radiation Detector

PoliPack® GN Backpack Radiation Detector

PoliPack® G Backpack Radiation Detector

PoliPack® GN-S Backpack Radiation Detector

← Back to partner

PoliGate™ Mobile MDS

Vehicle-based radiation portal monitors for detection on the go.

The **PoliGate™ Mobile MDS** is a complex solution designed for the **automatic scanning of fixed or mobile objects** to detect illicit trafficking of radioactive substances and materials. The vehicle-integrated system is highly customizable and available in numerous modifications to cater to the specific requirements of the customers. The vehicle model used for the MDS can differ depending on the needs of the user.

When it comes to securing borders, emergency response, and any situation where rapid response is vital, the PoliGate™ Mobile is a game-changer. Its mobile design allows for **quick deployment at strategic locations**, enabling an efficient inspection (detection, localization, measurement, and identification) of vehicles, cargo, and pedestrians for potential radioactive threats in any place.

PoliPack® G-S Backpack Radiation Detector

Spectroscopic Gamma-only Backpack Radiation Detector.

The **PoliPack® G-S** is a **gamma-only** Backpack-Based Radiation Detection System (BRD) equipped with spectroscopic gamma detectors for identifying radionuclides. It is carried in a compact backpack and controlled remotely via the wired control unit or a smartphone with the free Polismart® iOS and Android App.

The **PoliPack® BRDs** are rugged, lightweight, and fast-deploying devices that provide prompt and reliable detection, location, and identification of multiple and masked isotopes. The device is ideal for undercover radiation surveys in crowded areas, addressing the problems of orphaned and maliciously introduced sources and ensuring security before and during mass events. Radionuclides libraries are uploaded in the BRD and can be customized by users.

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Radiation Detection › **Handheld Monitors**

PoliPack® GN Backpack Radiation Detector

Gamma-Neutron Backpack Radiation Detector.

The **PoliPack® GN** is a **gamma-neutron** Backpack-Based Radiation Detection System (BRD) equipped with a highly sensitive portable radiation monitor carried in a compact backpack and controlled remotely via the wired control unit or a smartphone with the free Polismart® iOS and Android App.

The **PoliPack® BRDs** are rugged, lightweight, and fast deployable devices that provide prompt and reliable detection, location, and identification of multiple and masked isotopes. The device is ideal for undercover radiation surveys in crowded areas, addressing the problems of orphaned and maliciously introduced sources and ensuring security before and during mass events.

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Radiation Detection › **Handheld Monitors**

PoliPack® G Backpack Radiation Detector

Gamma-only Backpack Radiation Detector.

The **PoliPack® G** is a **gamma-only** Backpack-Based Radiation Detection System (BRD) equipped with a highly sensitive portable radiation monitor carried in a compact backpack and controlled remotely via the wired control unit or a smartphone with the free Polismart® iOS and Android App.

The **PoliPack® BRDs** are rugged, lightweight, and fast-deploying devices that provide prompt and reliable detection, location, and identification of multiple and masked isotopes. The device is ideal for undercover radiation surveys in crowded areas, addressing the problems of orphaned and maliciously introduced sources and ensuring security before and during mass events.

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PoliPack® GN-S Backpack Radiation Detector

Spectroscopic Gamma-Neutron Backpack Radiation Detector.

The **PoliPack® GN-S** is a **gamma-neutron** Backpack-Based Radiation Detection System (BRD) equipped with **spectroscopic** gamma detectors for identifying radionuclides. It is carried in a compact backpack and controlled remotely via the wired control unit or a smartphone with the free Polismart® iOS and Android App.

The **PoliPack® BRDs** are rugged, lightweight, and fast deployable devices that provide prompt and reliable detection, location, and identification of multiple and masked isotopes. The device is ideal for undercover radiation surveys in crowded areas, addressing the problems of orphaned and maliciously introduced sources and ensuring security before and during mass events. Radionuclides libraries are uploaded in the BRD and can be customized by users.

RADIATION PROTECTION GEAR

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Partner RADsafe

RADsafe personal radiation protective apparel is setting new standards in innovative and reliable protection for healthcare professionals around the world. Manufactured to exceptionally high standards, RADsafe aprons are available in a number of ergonomic and gender-specific designs to maximise flexibility and comfort. This means that, if required, RADsafe aprons may be safely and comfortably worn more frequently, or for longer periods.

Product offering

Comfortwear Aprons

Urology Aprons

Surgical Drop-Away Aprons

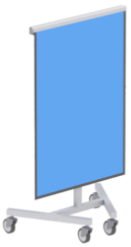
Maternity Aprons

RadShield – Apex Series

RadShield – Zenith Series

RadShield – Zenith – X Base

RadShield – Zenith – H Base



Comfortwear Aprons

The Comfortwear Apron is a flexible fit. Please refer to our apron size measurements to choose your size preference for the required use.

At RadSafe we strive to make our protective aprons simple to apply and remove. Fitting and storage time are critical in the medical industry. The Comfortwear Apron’s application time from removing the apron off the storage rack to placing it on the wearer for use is approximately 25 seconds. Additionally, the time from removing the apron off the wearer after use to storing the garment on the storage rack is approximately 20 seconds.

The Comfortwear Apron is ideal for use during short periods of time, particularly for radiology and minor surgeries in addition to nurses and vets.

Urology Aprons

The apron’s two vital protective contact points are the shoulders and waist. The Urology Apron is a flexible fit. Please refer to our apron size measurements to choose your size preference for the required use.

At RadSafe we strive to make our protective aprons simple to apply and remove. Fitting and storage time are critical in the medical industry. The application time from removing the apron off the storage rack to placing it on the wearer for use is approximately 25 seconds. Additionally, the time from removing the apron off the wearer after use to storing the garment on the storage rack is approximately 20 seconds.

The Urology Apron is typically worn for urological surgeries or procedures.

Surgical Drop-Away Aprons

The apron’s two vital protective contact points are the shoulders and waist. The Surgical Drop-Away Apron is a flexible fit. Please refer to our apron size measurements to choose your size preference for the required use.

At RadSafe we strive to make our protective aprons simple to apply and remove. Fitting and storage time are critical in the medical industry. The application time from removing the apron off the storage rack to placing it on the wearer for use is approximately 25 seconds. Additionally, the time from removing the apron off the wearer after use to storing the garment on the storage rack is approximately 20 seconds.

The Surgical Drop-Away Apron is typically worn for short periods of time. Most suitably worn for radiology and minor surgeries in addition to vets and more.

Maternity Aprons

The apron’s three vital protective contact points are the shoulders, underarm and waist. The Maternity Apron is a flexible fit. Please refer to our apron size measurements to choose your size preference for the required use.

At RadSafe we strive to make our protective aprons simple to apply and remove. Fitting and storage time are critical in the medical industry. The application time from removing the apron off the storage rack to placing it on the wearer for use is approximately 50 seconds. Additionally, the time from removing the apron off the wearer after use to storing the garment on the storage rack is approximately 35 seconds.

The Maternity Apron is used during long or short periods of time for procedures in operating theatres, catheter laboratories and more.

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Radiation Detection › Radiation Protection Gear

RadShield – Apex Series

Mobile radiation protective screens with lead glass viewing panel. Suitable for any environment. Lead equivalence is 2.1 Pb. Height 1990 mm, Depth 650mm.

Screen Types:

- **Type 1**: Width 600mm (310×1000 window) (Narrows to 450mm at top)
- **Type 2**: Width 600mm (460×1000 window)
- **Type 3**: Width 1200mm (1000×500 window)
- **Type 4**: Width 1200mm (1000×1000 window)
- **Type 5**: Width 600mm (no window)
- **Type 6**: Width 1200mm (no window)

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Radiation Detection › Radiation Protection Gear

RadShield – Zenith Series

Powder coated steel frames, precision TIG welded for years of trouble-free service completely enclosing the leaded glass panel for increased durability and safety. Includes extra support around base unlike competing models.

Screen Types:

- **Type 1**: 1100mm x 1975mm leadlined Radiation Screen Viewing panel 1000mm x 1800mm.
- **Type 2**: 1100mm x 1975mm leadlined Radiation Screen Viewing panel 1000 x 1330mm.
- **Type 3**: 1100mm x 1975mm leadlined Radiation Screen Viewing panel 1000 x 1000mm.
- **Type 4**: 1300mm x 1975mm leadlined Radiation Screen Viewing panel 1200 x 1000mm.
- **Type 5**: 760mm x 1775mm leadlined Radiation Screen Viewing panel 660 x 1000mm.

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Radiation Detection › Radiation Protection Gear

RadShield – Zenith – X Base

Height adjustable mobile personal shield, featuring a RadSafe protective panel supported by a powder coated steel frame with precision TIG welds and medical grade wheels for years of trouble-free service.

Unique shield design for todays users, featuring:

- Stable X Base giving increased usability and handling
- Centralised height adjustment allowing no obstructions above the shield
- Middle mount support allowing ease of left hand, right hand or both
- Medical grade castors (wheels) as standard
- RadSafe lead protective panel as standard

Specifications:

- Shield Size: 1200x500mm
- Shield Protection: 0.5mmPb RadSafe Non-Lead Core
- Frame Width: 840mm at user side, 240mm at patient side
- Frame Depth: 520mm
- Frame Height: 1350mm at lowest, 2000mm at highest
- Height Adjust: Manual pull pin, release, lift and lock

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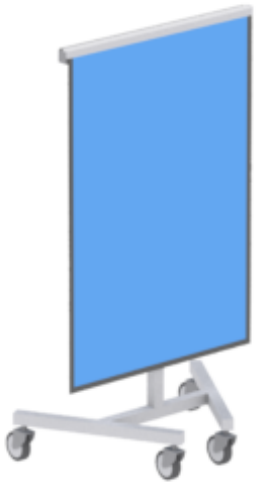
Radiation Detection › Radiation Protection Gear

RadShield – Zenith – H Base



Height adjustable mobile personal shield, featuring a RadSafe protective panel supported by a powder coated steel frame with precision TIG welds and medical grade wheels for years of trouble-free service.

Unique shield design for todays users, featuring:

- Angled H Base improving usability and handling
- Centralised height adjustment allowing no obstructions above the shield
- Middle mount support allowing ease of left hand, right hand or both
- Medical grade castors (wheels) as standard
- RadSafe lead protective panel as standard

Specifications:

- Shield Size: 1200x500mm
- Shield Protection: 0.5mmPb RadSafe Non-Lead Core
- Frame Width: 840mm at user side, 240mm at patient side
- Frame Depth: 520mm
- Frame Height: 1350mm at lowest, 2000mm at highest
- Height Adjust: Manual pull pin, release, lift and lock

SOURCES

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Partner Spectrum Techniques

Spectrum Techniques is a leading provider of radiation detection and measurement solutions, specializing in laboratory equipment and radioactive sources. Their offerings include a range of instruments and detectors designed to support educational, research, and industrial applications.

Product offering

RSS3 Source Set – Spectrum Techniques

RSS-5 Source Set – Spectrum Techniques

RSS-8 Source Set – Spectrum Techniques

Laminated Sources – Spectrum Techniques

Disc Sources – Spectrum Techniques

Isotope Generator – Spectrum Techniques

Tube Sources – Spectrum Techniques

Needle Sources – Spectrum Techniques

Radiation Detection › **Sources**

RSS3 Source Set – Spectrum Techniques

The RSS-3 contains 1 each Po-210, Sr-90 and Co-60 emitting a range of alpha, beta and gamma radiation’s. This set is ideal for demonstration and introductory nuclear labs covering basic characteristics of radiation. The Co-60 is 1.0 uCi and the Po-210 and Sr-90 are 0.1 uCi activity.

Contact one of our product specialists.

RSS-5 Source Set – Spectrum Techniques

Containing 1 each Cs-137, Co-60, Sr-90, Tl-204 and Po-210, the RSS-5 provides a wide of alpha, beta and gamma emissions making it a popular choice for nuclear science instruction. The set contains two beta emitters, two beta/gamma emitters and one alpha source for in-depth studies of radiation. The Cs-137 is 5 uCi, the Po-210 and Sr-90 are 0.1 uCi activity and the Co-60 and Tl-204 are both 1 uCi.

Contact one of our product specialists.

Radiation Detection › **Sources**

RSS-8 Source Set – Spectrum Techniques

Designed for gamma spectroscopy, the RSS-8 contains eight different gamma emitting isotopes covering the entire energy range from 32 to 1333 keV. Also included in the set is a mixed source of Cs-137 and Zn-65 which students may use to identify an “unknown” isotope. The set consists of Ba-133, Cd-109, Co-57, Co-60, Cs-137, Mn-54. Na-22 and Cs/Zn. Source activities are all 1 uCi, except the Cs/Zn source, which is 0.5 uCi Cs and 1 uCi Zn.

Contact one of our product specialists.

Laminated Sources – Spectrum Techniques

Laminate credit card sources are designed to offer a convenient alternative packaging – easy to handle and store – in various industries including, but not limited to:

- **Laboratories:** They are ideal for performing functional checks on gamma counters or spectrometers.
- **Radiation Protection:** Laminate credit card sources can be used for functional checks and periodic verifications of radiation protection probes and systems.
- **Training and Education:** Laminate credit card sources can be used to illustrate fundamental concepts in nuclear physics and radiation science. Students can observe and study radioactive decay, half-life, energy spectra, and interactions of radiation with matter.
- **Security:** Laminate credit card sources are also useful for functional checks and periodic verifications of portable devices used to identify radiological threats and for conducting emergency exercises.

AVAILABLE SIZES

Each credit card source is constructed using 7.5 mil, heavy-weight card stock and is available in one standard size:

- 3.75 x 2.25 inches (95.3 mm x 57.2 mm)

The source material deposit will be 2-3 mm in diameter located at the center of the radiation trefoil.

CALIBRATION OPTIONS

Credit card sources are not available for calibration. The maximum deviation of the delivered activity from the nominal values listed is ±20%.

REGULATORY COMPLIANCE

Activities provided will not exceed the U.S. NRC Exempt Quantity limit.

Plastic laminates provide a convenient alternative packaging being easy to handle and store. The standard laminates have a transmission window of 0.005″ and produce minimum attenuation for photons and higher energy beta particles.

Two sizes are available, 3.75″x2.25″, and a 1″ diameter circular disc. Other sizes are available; just let us know and we will send you a quote. Low energy x-ray, beta and alpha sources can be produced with a 80

µgm/cm2 aluminized Mylar window offering excellent transmission for Fe-55, C-14 and Po-210.

Contact one of our product specialists.

Radiation Detection › **Sources**

Disc Sources – Spectrum Techniques

Disc sources are available in 1″ and 2″ diameter plastic disc with the 1″ being standard and other sizes on special order.

The Po-210 alpha source is of open window construction with the source material bonded to the surface of a silver foil mounted in the recess of the plastic disc. This design yields excellent emission of alpha particles without window losses.

Contact one of our product specialists.

Radiation Detection › **Sources**

Isotope Generator – Spectrum Techniques

This Cs-137/Ba-137m Isotope Generator is used to conduct experiment in schools and universities to demonstrate the properties of radioactive decay. Based on the original Union Carbide patented design, it offers exceptional performance combined with ease of use and safe operation.

Contact one of our product specialists.

If you prefer to continue your search for additional information, try this link.

Tube Sources – Spectrum Techniques

We now offer a selection of exempt quantity gamma sources encapsulated in standard size test tubes or rods for use with well type radiation detectors.These sources are exempt sources and of nominal activity. The isotope is deposited as a point source in the bottom of the tube and is then sealed with epoxy.

Contact one of our product specialists.

Needle Sources – Spectrum Techniques

Needle sources are used to generate a point source of radiation inside cloud chambers for demonstrating alpha and beta radiation tracks. Three different types of isotopes are offered, a pure alpha emitter, a pure beta emitter and a combined alpha /beta emitter.

The sources are constructed by depositing a small, license exempt quantity of radioactive isotope onto the eye of a standard sewing needle which is mounted on a test tube stopper for insertion into the cloud chamber. The needle and stopper are placed into a test tube for protection during shipping and storage.

Contact one of our product specialists.

WASTE & RECYCLING MANAGEMENT

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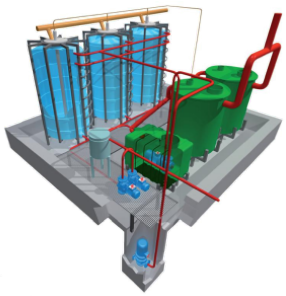
Partner Else Nuclear

ELSE NUCLEAR S.r.l. is an Italian OEM company specializing in advanced radiation-detection and environmental-monitoring systems for nuclear safety, industry and research.

Product offering

LEM – LIQUID EFFLUENT MONITORING SYSTEM

WDMS NT-VK



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Radiation Detection › Laboratory Equipment

LEM – LIQUID EFFLUENT MONITORING SYSTEM

The LEM system is designed to sample the liquid effluents and to perform a spectroscopic analysis in Marinelli geometry.

LEM system is composed of the following main parts:

- Stainless steel frame
- Electrical and command board with touch-screen panel PC
- NaI(Tl) detector, 1 l Marinelli, 5 cm thick lead shielding well
- Self-priming pump (*)
- Software for system management, data acquisition and processing

The measurements are visualised in real time by the software, expressed in terms of specific/total activity through spectroscopic analysis.

LEM status and parameters are managed by the ELSE NUCLEAR software. The system provides also I/O contacts through dedicated connectors:

- Good functioning status output
- Alarm status output
- Pump activation input from customer PLC (*)
- Spare available I/O contacts (to be defined when necessary)

The software provides a calibration routine, to be used with a Marinelli calibration source (available as accessory).

A test program is also available, separate from the main application, to be used for maintenance or periodical quality controls.

(*) If not available in the sampling/hydraulic equipment which LEM shall be connected to

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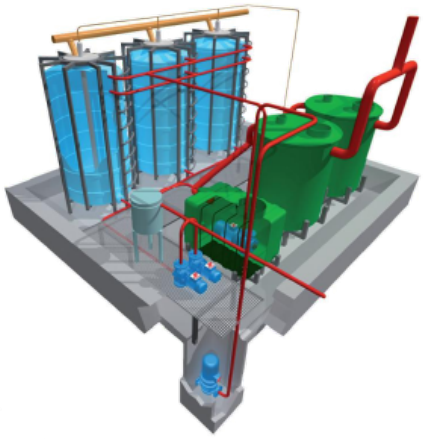
Radiation Detection › Laboratory Equipment

WDMS NT-VK

The WDMS NT-VK system is designed to collect and monitor radioactive wastewaters, which can be released only after their radioactivity drops below a defined value. The main application of such a system is related to diagnostic and therapeutic procedures involving radioactive substances, and their partial elimination through the patient’s metabolism.



The WDMS NT-VK system is designed to collect and monitor radioactive wastewaters, which can be released only after their radioactivity drops below a defined value. The main application of such a system is related to diagnostic and therapeutic procedures involving radioactive substances, and their partial elimination through the patient’s metabolism.

The WDMS NT-VK main components are:

- Purification group: Imhoff tanks designed to collect the wastewaters and to separate liquid from solid waste
- Sorting group: pumps and conduits pouring the wastewaters in the decay tanks
- Decay group: tanks array where the wastewaters are poured and stocked until their radioactive level drops below a defined value
- Sampling system: valves and pumps used by the system to wash the sampling circuit and to sample the stocked wastewaters, allowing the measurement in Marinelli geometry
- Release group: pumps and conduits releasing the wastewaters in the sewers, if allowed by the monitoring results
- Safety groups and devices: level and pump sensors installed in all the system critical stages, stopping the wastewaters flow in case of detected anomaly, and safety flooding well which can collect and stock wastewaters potentially overflowing from any system group

The entire system is locally managed by a PLC, which is commanded by a remote management software installed on a PC.

Through the interactive synoptic interface of the software the operator can activate the system automatic cycles, set the measurement parameters, visualize the alarms and release archives, and monitor the system’s status (filling levels, pump stages, measurements, alarms). Depending on the measurement results, and as defined by the procedures in force, the operator can also activate the monitored wastewaters release in the sewers.

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Partner **BSI**

Baltic Scientific Instruments (BSI) is an OEM manufacturer based in Riga, Latvia, dedicated to the development and production of advanced spectrometric and detection equipment. With decades of experience and roots in the former Research Institute for Radioisotope Apparatus (RNIIRP), BSI provides cutting-edge technologies for nuclear power, environmental monitoring, security, medicine, and scientific research.
The company specializes in HPGe, Si, CdZnTe/CdTe, and scintillation detector systems, known for their accuracy, stability, and performance in demanding analytical environments.
Through continuous innovation, strict quality assurance (ISO 9001:2015), and strong international collaboration, BSI supports customers worldwide in achieving precise and reliable radiation measurement and analysis.

Product offering

Free Release Monitor HERCULES-FRM

Waste Assay Monitor HERCULES

Hybrid cooling for the HPGe detector Nicole

Radiation Detection › Laboratory Equipment

Free Release Monitor HERCULES-FRM

Application

Free Release Monitor HERCULES-FRM main working principle can be described the following way. Any loading mechanism like forklift or a crane gently puts measuring object to the movable platform on the front roller-based conveyor. Scales which are inbuilt in the front conveyor are determining weight of the measuring object and automatically transfers information for the analytical software. Further actions are performed totally automatically or in manual mode. Measuring chamber opens front doors and movable platform slides inside of measuring chamber. Doors are closed and measurement starts. The FRM is equipped with 16 plastic scintillators surrounding the measuring object from all sides. Plastic scintillators are connected to digital multichannel analysers located in the control box. Analytical and control software packages guarantee total remote control and data acquisition from all plastic scintillators simultaneously. All analytical performance of the FRM is set up previously by inputting all information concerning measuring object, geometry, sizes, weights, filling of containers, etc. in the software package. After measurement is finished, operator is alarmed, record is stored in the database and report can be printed any time. In order to change the measuring object, the FRM opens the front doors and slides the platform out for further unload by the forklift or a crane. In case the operator needs to measure specific object, it is possible to open back doors to load the measuring object from the back. The whole measuring chamber is securely covered with stainless-steel for easy decontamination.

Features

General

- Overall dimensions of the FRM: 5000x2300x2100mm (LxWxH)
- Overall weight of the FRM: 10000kg
- Operation temperature: +10…+35°C
- Ready to accommodate object with size 1.2m x 0.8m x 1.0m (L x W x H)
- Lead walls not less than 50mm thick
- Stain-less steel protection
- External and internal automatic conveyor
- Inbuilt scales

Plastic scintillators (HPGe detectors optional)

- 16 or 24 or more plastic scintillators equipped with PMTs
- Energy range from 100 to 3000 keV
- Detection limit for Co-60 is less than 300 Bq

Software

- Total activity calculation
- Visualization of measurement and diagnostic information
- Storage of measurement data, controlled parameters and fixed constants in internal memory
- Control of all mechanically movable mechanisms
- Control and reset of the FRM in case of failure of automation
- Self-diagnostics control
- Visual and audible alarm in case of failure or exceed of previously set levels
- Alarm in case of fixed level activity exceed for separately chosen radionuclide
- 3D visualization interface for measurement object monitoring and setting geometrical parameters in order to decrease measurement uncertainties
- Visualization of inhomogeneities in activity distribution
- Automatic change of measurement parameters depending on measurement geometry (Geometry must be set up preliminary)
- All software packages run under Windows operation system

Control box Control box of the FRM includes the following components:

- Set of MCAs for reading and transforming signals from PMTs of plastic scintillators
- Set of power supplies for different modules of the FRM
- Set of controllers to manage all components of automation process
- Indicators for operator
- Control panel with colour LCD display and touchscreen
- An emergency stop button is provided on the control box and the measuring chamber

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Waste Assay Monitor HERCULES

Application

The WAM measuring system is intended for the measurement and the determination of nuclear waste activities, activity concentrations, total activities and total activity concentrations of the selected radionuclides which emit gamma radiation in a range from 100 to 1500 keV. Total activities are the sum of activities of individual radionuclides; and total activity concentrations are the sum of all activity concentrations of individual radionuclides. Solids and materials with an average density up to 2500 kg/m3 located in the standard drums with a volume of about 0.2 m3 are measured.

Features

The WAM (Waste Assay Monitor) is a complex measuring system which is intended for the monitoring of radioactive waste in standard 200-litre drums. WAM involves the following systems:

- Monitor – a fixed segmented gamma-spectrometric monitor for the determination of activities of selected radionuclides in the individual drum segments with vertical motion and collimator
- Transfer system is used for moving the measuring part from/to the drum measured
- Dose rate monitor, direction-dependent, measures the dose rate of the segment in the defined distance from the drum
- Dose rate monitor measures the background dose rate
- Rotary table, control and power supply switchboards

The WAM measuring system is intended for the measurement and the determination of activities, activity concentrations, total activities and total activity concentrations of the selected radionuclides which emit gamma radiation in a range from 100 to 1500 keV. Total activities are the sum of activities of individual radionuclides; and total activity concentrations are the sum of all activity concentrations of individual radionuclides. Solids and the subjects with an average density up to 2500 kg/m3 located in the standard drums with a volume of about 0.2 m3 are measured.

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Hybrid cooling for the HPGe detector Nicole

The NICOLE hybrid cooling system combines liquid nitrogen and electro-mechanical cooling. The merge of this two cooling systems provide detection unit non-stop operation for months without having liquid nitrogen to refill.

The NICOLE hybrid cooling system comprises Stirling-cycle cryocooler, cryocooler controller, Dewar vessel, pressure sensor and indicator, liquid nitrogen sensor and level monitor.

Application

Nicole hybrid cooling system for the HPGe detector allows you to keep your detector cold without filling with Liquid Nitrogen for months and years.

Features

One of the biggest advantages of Nicole hybrid cooling system is that it is extremely easy to perform maintenance and service. The user is given USB interface to get access to all parameters of the system. Majority of main parameters are displayed of the LCD display. And I case of maintenance, repair or replacement of the cooler is needed, it takes only 15 minutes to dismantle the cooling unit. It means the user can continue measurements by only using liquid nitrogen. It can be extremely important when routine measurements can’t be terminated.

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Partner Ludlum Measurements Inc.

Ludlum Measurements, Inc. is a trusted global provider of radiation detection and monitoring instruments, offering rugged, accurate solutions for personnel safety, environmental protection, and security screening. Since 1962, their equipment has been used worldwide in applications ranging from nuclear power and emergency response to border protection and critical infrastructure monitoring.

Product offering

HLM-6GP Laundry Monitor

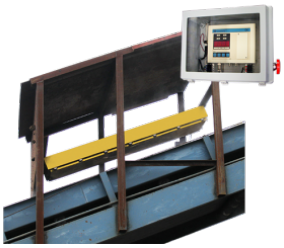
Model 375-600 Digital Area Monitor for Small Areas

Model 2100-1 Sample Counter

Model 329-32 Laundry Contamination Monitor

Model 2100 Conveyorized Sample Counter

Model 375P-3500 Conveyor Monitor



Model 375P-1000 Outdoor Monitoring System

Model 375P-2000 Outdoor Monitoring System

HLM-22, HLM-3G Laundry Monitor

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Radiation Detection › Waste & Recycling Management

HLM-6GP Laundry Monitor

Overview:

The HLM-6GP Laundry Monitor is designed for the measurement and release of clothing items such as overalls, towels, and overshoes from controlled areas. Featuring automatic measurements and a stainless-steel grid conveyor, the HLM-6GP provides precise and reliable detection of contamination.

Detectors, positioned to reduce dead zones, measure materials on the moving conveyor through the tunnel, above and below. A touch-screen display positioned next to the user on a moving arm allows for convenient and easy operation during measurements and service mode.

Features:

- 2 m x 1 m (6.6 ft x 3.3 ft) Measurement Belt
- Automated Adjustable Distance Between Detector and Material
- Variable Conveyor Speed
- Equipped with Heavy-Duty Lockable Wheels
- Automatic Start/Stop Measurement
- Power Provided By UPS for Measurement PC During Mains Power Outage
- Integrated Mini-UPS for Data Retention of the Measuring Computer in Case of Short-Term Power Failure
- Stainless Steel Lining for Easy Decontamination
- Export of Measurement Data and Parameters in XML Format via USB
- Access to Historical Measurement Data via Integrated Database
- Network Capability for Remote Monitoring and Supervision
- Access to Ludlum Detector Analysis Tool
- Loading Tray
- GP with Gas Proportional Detectors

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Radiation Detection › Waste & Recycling Management

Model 375-600 Digital Area Monitor for Small Areas

Overview:

The Model 375-600 is a highly integrated, high-sensitivity gamma measurement system that combines all components into one convenient package, thus making installation simpler and less costly. The internal detector is a 10.3 L (630 in^3) plastic scintillator shielded on five sides with 0.32 cm (0.125 in.) lead. The controller is Ludlum's popular Model 375 digital controller, which is located at one end of the cabinet. A red strobe is mounted on the top along with a large, industrial strength alarm acknowledgement pushbutton. The detector is accessible from a removable panel, and the entire system sits on a plate, which can be bolted to the floor.

Features:

- Integrated Measurement System
- Internal Scintillator Detector
- User-Programmable Alarm Settings
- Highly Visible Red Strobe Alert
- Audio and Visual Alarms
- Networkable, Requires Ethernet or Webpage Interface Option
- 8-Hour Battery Backup

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Radiation Detection › Laboratory Equipment

Model 2100-1 Sample Counter

The Model 2100-1 manually operated sample counting system processes sample steel slugs to determine whether any radioactive impurities exist. The gamma radiation counting system is a table-mounted, fully integrated design that includes a gamma detector, sample tray, and controller.

The counting electronics incorporates two channels to distinguish between low and high energy gamma isotopes. All parameters, such as alarm point and count time are user-adjustable from the front panel LCD touch screen via a simple menu selection.

Measurement results for each sample are displayed on the backlit LCD. An Ethernet port reports all results and system status in real time for remote data logging and alarm annunciation. Visual and audible alarms are annunciated via the system’s LCD and rear panel mounted buzzer respectively. A built-in relay provides a method for driving an external horn/strobe (available as an option).

One rear panel mounted USB port enables connection to either a keyboard or barcode reader device for the purpose of entering sample IDs.

Features

- High Sensitivity Gamma Detector
- Separate High & Low Gamma Energy Sampling
- User-Adjustable Parameters
- Color LCD Touch Screen
- Ethernet Connectivity
- Remote Alarm Output
- USB Ports for ID Input Devices

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Radiation Detection › Waste & Recycling Management

Model 329-32 Laundry Contamination Monitor

Overview:

The Ludlum Model 329-32 Laundry Contamination Monitor is intended for automatic monitoring of both alpha and beta-gamma contamination on clothing or other light articles presumed to be free of radioactivity, or within release or reuse limits. A motor-driven steel-mesh conveyor belt carries articles between two gas proportional detector arrays. An audible alarm will sound when contamination exceeds the given alarm setpoint. A LED array spanning the belt shows the approximate position of the alarm on the conveyor, and provides the operator with the status of the machine. A dual LCD shows the counts and the current operating conditions, such as conveyor speed and gas flow. A security-code protected 20-key keypad also allows the changing of alarm set points, operating parameters, and other system information. The entire system is mobile, with lockable casters to prevent unwanted movement of the monitor.

Features:

- Highly Automated System
- Simultaneous Monitoring of Upper and Lower Surfaces
- Lockable Caster Wheels
- 32 Alpha and 32 Beta-Gamma Channels
- Audible Alarm is Accompanied by Visual Indicator LEDs for Indicating Approximate Location of Contamination
- Real-Time Performance Status LEDs
- Pass-Through Tunnel Adjusts Up to 17.8 cm (7 in.) Height

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Radiation Detection › Laboratory Equipment

Model 2100 Conveyorized Sample Counter

The Model 2100 automated sample counting system processes sample steel slugs to determine whether any radioactive impurities exist. The gamma radiation counting system is a table-mounted, fully integrated design that includes a gamma detector, sample conveyor, and controller to facilitate automated processing.

Once the sample has been positioned on the conveyor, an infrared sensor automatically initiates conveyance of the sample into the lead shielded detector where it is counted for a predetermined time. Once the count is completed, the conveyor again advances until the sample drops into a discard container.

The counting electronics incorporates two channels to distinguish between low and high energy gamma isotopes. All parameters, such as alarm point and count time are user-adjustable from the front panel LCD touch screen via a simple menu selection.

Measurement results for each sample are displayed on the backlit LCD. An Ethernet port reports all results and system status in real time for remote data logging and alarm annunciation. Visual and audible alarms are annunciated via the system’s LCD and rear panel mounted buzzer respectively. A built-in relay provides a method for driving an external horn/strobe (available as an option).

One rear panel mounted USB port enables connection to either a keyboard or barcode reader device for the purpose of entering sample IDs.

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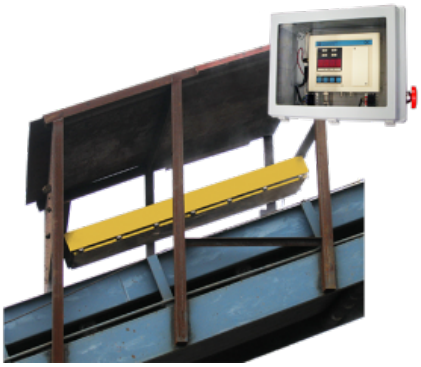
Radiation Detection › Waste & Recycling Management

Model 375P-3500 Conveyor Monitor



Overview:

The Model 375P-3500 Conveyor Monitor is a heavy-duty radiation detection system designed for conveyor-belt applications in industrial settings (such as scrap-metal recycling, waste processing, or material flow facilities). It combines a large plastic scintillation detector with a rugged controller system to monitor for radioactive contamination of materials moving on a conveyor.

Features:

- Large-volume plastic scintillator detector (57.4 L / 3,500 in³) for high sensitivity in conveyor monitoring.
- Rugged controller housed in NEMA 4X enclosure with see-through viewing window, designed for industrial duty environments.
- Integrated mains relay to stop the conveyor on alarm, user-adjustable alarm settings and network/remote capability.
- 24-hour battery backup (in non-alarm condition) to ensure continued monitoring during power fluctuations.
- Weather-tight, lead-shielded detector enclosure suitable for harsh industrial environments such as scrap yards or recycling plants.

Model 375P-1000 Outdoor Monitoring System

Overview:

The Model 375P-1000 is a digital Model 375 Controller coupled to two shielded 7866 cm^3 (480 in^3) plastic scintillator detectors. The detectors are encased in weathertight enclosures suitable for the outdoor environment. The Model 375 Controller is not weatherproof and must be mounted either indoors or within an environmental enclosure (available separately, see Options). This cost-effective solution offers a simple system that is easy to operate and maintain.

Features:

- Checks for Surface Contamination Entering/Exiting Facilities
- Affordable Digital Controller
- Weatherproof Encased-Shielded Plastic Scintillator Detectors
- Programmable Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)
- Battery Backup

Radiation Detection › Waste & Recycling Management

Model 375P-2000 Outdoor Monitoring System

Overview:

The Model 375P-2000 is a digital Model 375 Controller coupled to four lead-shielded 7866 cm^3 (480 in^3) plastic scintillator detectors. The detectors are encased in weather-tight enclosures suitable for the outdoor environment. The Model 375P Controller is not weatherproof and must be mounted either indoors or within an environmental enclosure (available separately, see Options). This cost-effective solution offers a simple system that is easy to operate and maintain.

Features:

- Checks for Surface Contamination Entering/Exiting Facilities
- Affordable Digital Controller
- Weatherproof Encased-Shielded Plastic Scintillator Detectors
- Programmable Alarms
- Networkable (Requires Ethernet or Webpage Interface Option)
- Battery Backup

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Radiation Detection › Waste & Recycling Management

HLM-22, HLM-3G Laundry Monitor

Overview:

The HLM-22/HLM-3G Laundry Monitor is designed for the measurement and release of clothing items such as overalls, towels, and overshoes from controlled areas. Featuring automatic measurements and a stainless-steel grid conveyor, the HLM-22/HLM-3G provides precise and reliable detection of contamination.

Detectors, positioned to reduce dead zones, measure materials on the moving conveyor through the tunnel, above and below. A touch-screen display positioned next to the user on a moving arm allows for convenient and easy operation during measurements and service mode.

Features:

- Different Versions Possible Depending on Requirements
- Automated Adjustable Distance Between Detector and Material
- Variable Conveyor Speed
- Equipped with Heavy-duty Lockable Wheels
- Automatic Start/Stop Measurement
- Power Provided By UPS for Measurement During Power Outages
- Stainless Steel Lining for Easy Decontamination
- Export of Measurement/Parameter Data in XML Format via USB
- Access to Historical Measurement Data via Integrated Database
- Network Capability for Remote Monitoring and Supervision
- Access to Detector Analysis Tool
- Loading Tray

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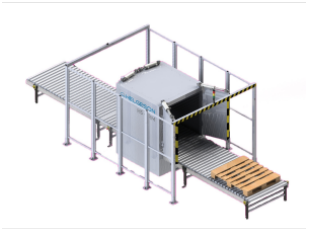
Partner Helgeson Scientific Services (HSS)

Helgeson Scientific Services (HSS) designs and manufactures advanced radiation monitoring systems focused on personnel safety, facility protection, and waste control. Their portfolio includes whole-body monitors, portal detection systems, and waste management solutions—each developed to support the safe handling of radiological materials in critical environments.

Product offering

HS-DRUM – Waste characterization system for drums

HS-FRM – Free release monitor for drums, containers and big bags



HS-OTM – Object and tool monitors for objects monitoring

Complete storage and treatment plant for NORM wastes

Descaling system for NORM waste

Soil segregation unit

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HS-DRUM – Waste characterization system for drums

Overview:

The HS-DRUM is a specialized scanning and measurement system designed to perform waste characterization of drums, particularly in the context of radioactive or nuclear waste management. It's engineered to evaluate the activity distribution inside waste drums, enabling operators to ascertain how radioactivity is spatially distributed within the waste matrix.

Features:

- **Multi-Detector Configuration** – Equipped with HPGe and NaI detectors for precise gamma spectroscopy and a dose rate meter for comprehensive radiation assessment.
- **Rotating Drum Scanning System** – Uses a motorized rotating table and roller conveyor for accurate, uniform scanning of 180 L to 400 L drums.
- **Lead Collimation & Calibration Dummies** – Incorporates lead collimators for improved spatial resolution and standardized calibration drums for system accuracy verification.
- **Advanced Analytical Software** – Includes modules for spectrum analysis, calibration, quality assurance, and report generation, with optional Monte Carlo-based theoretical calibration.

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Radiation Detection › Waste & Recycling Management

HS-FRM – Free release monitor for drums, containers and big bags

Overview:

The HS-FRM is a free release monitor to be used with different types of waste like drums, containers and big bags.

It is a chamber shielded from the influence of external natural radiation and consisting of detectors in each of the 4 side panels, ceiling and floor.

This allows to perform a fast and efficient detection and quantification of radiation from the waste present inside the chamber.

Features:

- **Comprehensive Detector Coverage** – Equipped with detectors on all sides, including top and bottom, ensuring full 3D monitoring of radioactive materials within drums or containers.
- **Heavy Lead Shielding** – Features thick lead shielding on all walls, floor, and ceiling to minimize background interference and enhance measurement accuracy.
- **Fast and Sensitive Detection** – Provides rapid scanning with very low minimum detectable activity (MDA), allowing accurate results in just a few minutes.
- **Advanced Analytical Software** – Includes intelligent software for isotope identification, background correction, calibration management, and detailed reporting.

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Radiation Detection › Waste & Recycling Management

HS-OTM – Object and tool monitors for objects monitoring

Overview:

The HS-OTM is a monitoring system designed to detect and measure gamma (and optionally beta/gamma) radiation in objects and tools that may have been exposed. It is suited for screening anything from small items up to larger objects (like drums or big bags). The system is configurable in terms of detector number, shielding, and chamber size, so it can be tailored to different workflows. It comes with built-in software for control, alarm, calibration, and data handling.

Features:

- **Multi-Detector Configuration** – Equipped with up to 10 gamma or beta/gamma detectors for high detection efficiency and comprehensive object monitoring.
- **Customizable Chamber and Shielding** – Adjustable chamber size and lead shielding thickness to suit various object types and ensure accurate measurements.
- **Smart Control and Safety System** – Features a touchscreen interface, automatic measurement timing, presence detection sensors, and visual/audio alarms.
- **Advanced Data Management Software** – Includes modules for calibration, verification, data logging, remote operation, and report generation with ISO-compliant detection limits.

Radiation Detection › Waste & Recycling Management

Complete storage and treatment plant for NORM wastes

Overview:

The Complete Storage and Treatment Plant for NORM Wastes is a fully integrated facility designed for the safe handling, treatment, and storage of Naturally Occurring Radioactive Material (NORM). Developed by Helgeson Scientific Services, the plant provides a complete solution for industries such as oil and gas, mining, and manufacturing, where NORM waste is commonly generated.

Features:

- **Comprehensive Treatment Options** — Includes multiple treatment units such as descaling, centrifugation of sludges, incineration, and solidification to address various forms of NORM-waste.
- **Integrated Storage and Disposal** — Besides treating the waste, the plant is engineered for safe storage and final disposal of NORM materials.
- **Custom Plant Design by Helgeson** — The facility is designed and built by Helgeson Scientific Services to meet regulatory, safety, and handling requirements for naturally occurring radioactive materials.
- **End-to-End Waste Handling** — From generation (industrial, mining, oil & gas, etc.) through treatment and storage, the plant supports the full process chain for NORM waste management.

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Descaling system for NORM waste

Overview:

The Descaling System for NORM Waste is designed to remove radioactive scale deposits from pipes and metal equipment typically used in oil & gas operations. It uses high-pressure water to clean both the interior and exterior surfaces of tubulars and other metallic parts. The system is partially automated (for pipe decontamination) and also includes a manual cleaning booth for larger or complex metal equipment. The unit is transportable for on-site campaigns, minimizing the need to move large contaminated items to centralized cleaning facilities.

Features:

- **High-Pressure Water Cleaning** – Utilizes water jets up to 1400 bar to efficiently remove radioactive scale from both internal and external pipe surfaces.
- **Automated and Manual Operation** – Features a fully automated cleaning cabinet for tubulars and a manual booth with a high-pressure gun for large or irregular equipment.
- **Closed-Loop Water Treatment System** – Recycles and treats used water without chemical additives, converting waste into a solid matrix for safe disposal.
- **Portable and Customizable Design** – Built for on-site operation with adjustable capacity to handle different pipe diameters and lengths as needed.

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Radiation Detection › Waste & Recycling Management

Soil segregation unit

Overview:

The Soil Segregation Unit by Helgeson is a compact, transportable system designed to analyze, classify, and segregate contaminated soil based on its radioactive content. Housed within a 20-foot container, the unit is ideal for on-site decontamination and remediation projects in industries such as nuclear, mining, and environmental management.

It automatically measures radiation levels in soil samples and separates them into appropriate waste categories (clean, low-level, or contaminated), optimizing waste treatment and minimizing disposal costs. The system supports multiple detector types and includes safety monitoring features for reliable and efficient operation in the field.

Features:

1. **Flexible Detector Options** — Supports multiple detector types (plastic scintillators, inorganic scintillators, and HPGe) depending on whether you are monitoring alpha, beta, or gamma radiation.
2. **Modular Analysis Cabinet** — Built in a 20 ft container for easy transportation; can be configured with up to two “analysis trains” to double throughput.
3. **Automated Soil Screening and Segregation** — The system automatically segregates soil/material into big bags based on contamination, helping speed up decontamination or waste management workflows.
4. **Operational Safety & Monitoring** — Equipped with aerosol monitoring (for airborne alpha & beta emitters), CCTV to observe internal processes, and designed for easy installation and operation.

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Partner SDEC France

SDEC France is a specialized manufacturer of environmental monitoring and laboratory equipment, offering comprehensive solutions for waste and recycling management, environmental monitoring, and laboratory applications. With over 30 years of experience, the company designs and produces high-quality instruments to support professionals in environmental science, agronomy, and radiological safety.

Product offering

Isokinetic Sampling Probes – SDEC

Carbon 14 Sampler with 2 Vials – SDEC

Carbon 14 Sampler with 4 Vials – SDEC

Tritium Sampler with 2 Vials – SDEC

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Radiation Detection › Waste & Recycling Management

Isokinetic Sampling Probes – SDEC

The Isokinetic Sampling Probes (SDEC) are recognized in the nuclear industry and adapted for all type of sampling in single-point or in multi-points.

Isokinetic Sampling Probes features:

- quality and durability
- high level of finish
- customized manufacture
- the best price

Read more about the Isokinetic Sampling Probes on the SDEC website

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Radiation Detection › Waste & Recycling Management

Carbon 14 Sampler with 2 Vials – SDEC

The Carbon 14 Sampler with 2 Vials (SDEC) has been designed to capture CARBON gas (CO_2 or CO). It can be equipped with a cooling system that will prevent all sample loss due to evaporation in the feeding bottles.

Carbon 14 Sampler with 2 Vials features:

- in compliance with the nf m60-812-1 norm
- excellent trapping efficiency (close to 99%)
- cooling system to increase sampling length (option)
- good price
- constant evolution of the product
- easy to use
- connectable to all sampling lines

Read more about the Carbon 14 Sampler with 2 Vials on the SDEC website

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Radiation Detection › Waste & Recycling Management

Carbon 14 Sampler with 4 Vials – SDEC

The Carbon 14 Sampler with 4 Vials (SDEC) brings original solutions in the exploitation of sampling systems for carbon gas and carbon water. This sampler is mainly used for the detection of chimney rejects and carbon wastes degassing.

Carbon 14 Sampler with 4 Vials features:

- excellent trapping efficiency (close to 99%)
- cooling system to increase sampling length (option)
- good price
- constant evolution of the product
- easy to use
- connectable to all sampling lines
- in compliance with the NF M60-812-1 norm

Read more about the Carbon 14 Sampler with 4 Vials on the SDEC website

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Radiation Detection › Waste & Recycling Management

Tritium Sampler with 2 Vials – SDEC

The Tritium Sampler with 2 Vials (SDEC) offers original solutions for the operation of collection systems for tritium gas and tritiated water. This collection system is mainly used for the detection of stack waste and the degassing of tritium waste.

Tritium sampler with 2 bottles features:

- good pedaling efficiency
- cooling system to increase sampling length (option)
- good price
- constant evolution of the product
- very robust
- easy to use
- can be connected to all sampling lines

Read more about the Tritium Sampler with 2 Vials on the SDEC website

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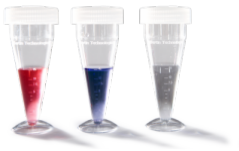
Partner Bertin Instruments

Bertin Instruments is a global provider of advanced radiation detection and environmental monitoring solutions, specializing in handheld monitors, personal electronic dosimeters, environmental monitoring systems, and waste & recycling management technologies. Their instruments are designed to meet the rigorous demands of nuclear facilities, emergency response teams, and environmental agencies.

Product offering

Coriolis Consumables – Bertin Instruments



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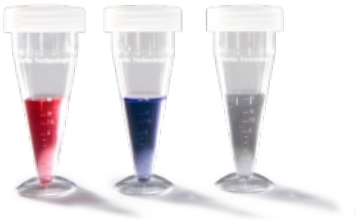
Radiation Detection › Waste & Recycling Management

Coriolis Consumables – Bertin Instruments

Coriolis consumables are part of the cyclonic technology: the separation of the airborne particles from the air flow is due to the air flow rate, the air intake geometry, the design of the cones and the collection liquid (surfactant in low concentration).



Introduction video

Consumables

- cones & caps : The cones and caps are designed specifically for the use with the Coriolis µ
- collection liquid doses
- LTM consumables : collection liquid in bottle and tubing kit
- air intake : depending of your research you can adapt the air intake
- standard air intake : air take compatible with all Coriolis for classical samplin
- LTM air intake : dedicated to long time monitoring collection (only compatible with the LTM platform)
- 25 mm connection LTM : designed to propose a hose attachment (testing chamber, confined space …)

Advantages Coriolis consumables

- dedicated cones to perform high efficiency collection
- adaptor to connect to any 25 mm diameter connector
- easy set up with calibrated 15 ml collection liquid dose
- liquid collection compatible with any downstream experiment
- cones available sterile and non-sterile

Please contact our product specialist.