LUDLUM MEASUREMENTS INC.

peo DETECTION

Table of contents

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.

As threats involving radiological materials grow more complex, reliable detection is essential. Ludlum's broad product portfolio—featuring portable survey meters, area monitors, contamination detectors, and radiation portal monitors—delivers dependable performance in high-stakes environments. Designed for ease of use and built to withstand the toughest field conditions, these instruments help professionals detect, measure, and respond to radiation hazards with confidence.

Whether supporting homeland security, decontamination operations, or facility monitoring, Ludlum's solutions are field-proven and trusted by agencies and organizations around the world.

Protect people, property, and national interests with industry-leading radiation detection technology from Ludlum Measurements!

AREA MONITORS

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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.

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:

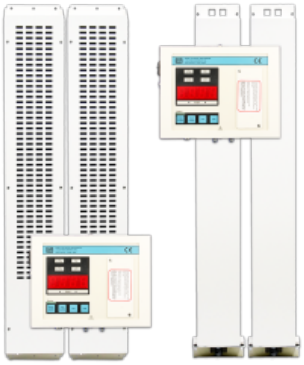
The Model 375P-2000 is a digital Model 375 Controller coupled to four lead-shielded 7866 cm3 (480 in3) plastic scintillator detectors. The detectors are encased in weather-tight enclosures suitable for the outdoor environment. The Model 375P Controller is not weatherproof and must be mounted either indoors 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.

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.

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

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.

Purchase Product

Request Service

Request Service

Request Service

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.

Purchase Product

Request Service

Request Service

Request Service

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 cm^2 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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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

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

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

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

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

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

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

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

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

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

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

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

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.

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

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

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

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

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.

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

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

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

Model 70 Series – Ludlum

Spectroscopic Personal Radiation Detector

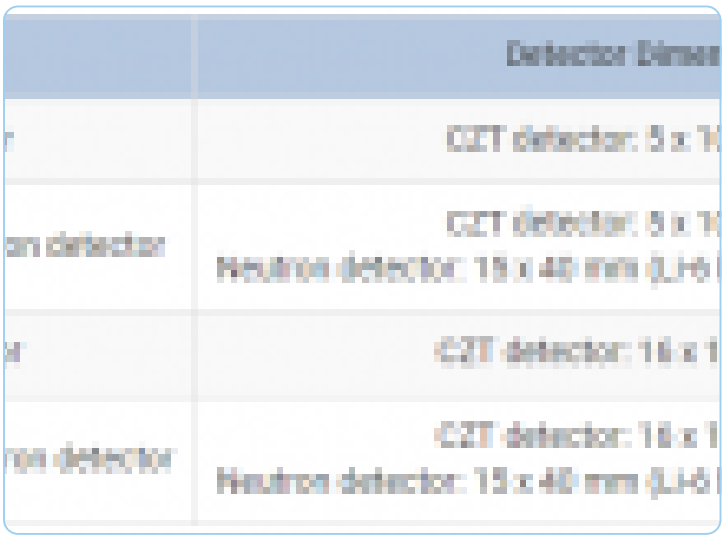
The Ludlum Model 70 Series are high resolution CZT-type detectors that deliver unparalleled performance in express radionuclide identification and radiation dose assessment from low to moderate-high levels.

Each instrument is accompanied by GalaxRayWiz software, a powerful tool which communicates with the device, analyzes gamma-spectra and dose-rate time profiles accumulation of 14 hours. Collected data can be easily transferred via USB or Wi-Fi.

Continuous dose rate monitoring and recording enables the user to be instantly informed about radiation exposure and to carefully analyze radiation dose risks by exploring the dose rate recorded charts.

Features

- Handheld Gamma Spectrometer
- Mobile Phone Sized
- Three Button Operation
- Radiation Dose Assessment
- Dose Rate Time Profile Recording
- Express Nuclide Identification
- One Thousand Gamma-Spectra Storage
- Temperature Stabilized
- Complies with ANSI 42.48-2018



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Energy Range: 0.03 to 3.0 MeV, 1024 Ch

Energy Resolution: 1.8 to 2.5% at 662 keV

Gamma Dose Rate: within 30% accuracy per ANSI N42-48 from 0.5 µSv/h to 3 mSv/h (5 µR/hr to 300 mR/hr)

Gamma Efficiency: 70/1, 70/2: 0.06 cps per µR/hr 70/3, 70/4: 0.18 cps per µR/hr

Neutron Sensitivity: ≈ 2.4 cps/nv

Nuclide ID Over-Range Dose Rate: 0.5 mSv/hr

Preset Time: 86,400 s

Display: LCD 7.1 cm (2.8 in.), 240 x 320 pixels, backlight

Alarms: Audio (~85 dB), audio jack, vibrator, LED operations, 3-button keyboard

Data Storage: Up to 1000 spectra and up to 24 hours of dose rate time records

Data Transfer: via USB and Wi-Fi

Data Throughput: ≈ 70,000 cps

Power: Lithium-ion rechargeable battery, 3.7 V 5200 mAh

Battery Life: With Wi-Fi on and back-light on: Up to 14 hours with Wi-Fi off and back-light on: Up to 26 hours

Charge Time: 4 – 5 hours, with battery indicator on display

Temperature Range: -10 to 50 °C (-4 to 122 °F). Relative humidity ≤ 95%.

Environmental Rating: IP63 with rubber sleeve

Dimensions: (L x W x H) 100 x 75 x 48 mm (4 x 3 x 1.9 in.)

Weight: 220 g (0.5 lb) with battery

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

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

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

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

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

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

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 cm^2 (0.93 in^2) active; 5 cm^2 (0.78 in^2) open window area
- 1.7 ± 0.3 mg/cm^2 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

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

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

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

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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!**

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

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9DP instrument overview

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

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9DP control panel overview

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

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Decompressing the Ion Chamber

PERSONAL ELECTRONIC DOSIMETERS

peo DETECTION

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

ENVIRONMENTAL MONITORING

peo DETECTION

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

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

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.

LABORATORY EQUIPMENT

peo DETECTION

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.

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.

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

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 (NaI) 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.

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.

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.

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.

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.

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.

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.

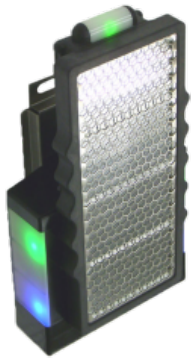
Ludlum models with external detector a.o.:

- 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

BODY MONITORS

peo DETECTION

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

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

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.

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.

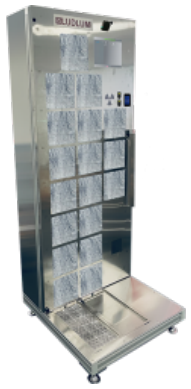
The Model 52 incorporates a summing alarm in addition to the individual channel alarms. This increases the system sensitivity to widespread contamination. If two or more channels have a noticeable increase in counts but do not exceed their alarm threshold, the sum of their counts could exceed the summing 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.

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

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 cm^2 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

PORTAL MONITORS

peo DETECTION

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

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

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.

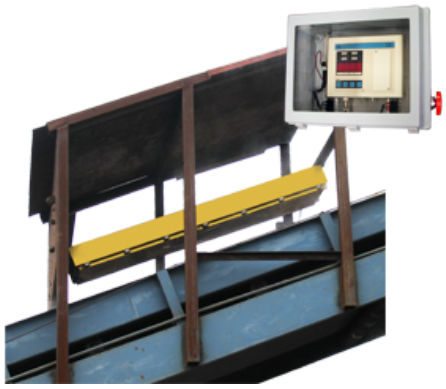
- Large, Highly Sensitive, Industrial Duty Plastic Scintillation Detectors
- Reliable Operation with Very Low False Positives
- Flexible Configurations Accommodate Up to Four Lanes, Each with One to Six Detectors
- Real-time Central Data Logging, Reporting, and Alarm Notification
- Bi-Directional Entry
- 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.

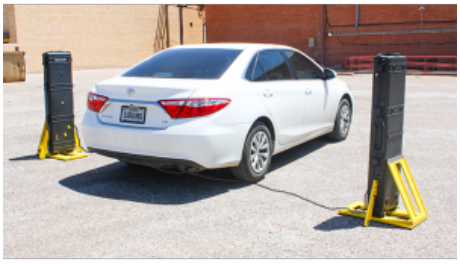


Model 375P-3500 Conveyor Monitor features:

- 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

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)

WASTE & RECYCLING MANAGEMENT

peo DETECTION

Radiation Detection › Waste & Recycling Management

HLM-6GP Laundry Monitor

Radiation Detection › Waste & Recycling Management

Model 375-600 Digital Area Monitor for Small Areas

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 › Waste & Recycling Management

Model 329-32 Laundry Contamination Monitor

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 › Waste & Recycling Management

Model 375P-3500 Conveyor Monitor

Radiation Detection › Waste & Recycling Management

Model 375P-1000 Outdoor Monitoring System

Radiation Detection › Waste & Recycling Management

Model 375P-2000 Outdoor Monitoring System

Radiation Detection › Waste & Recycling Management

HLM-22, HLM-3G Laundry Monitor