FLUX ET CONTRÔLE ENVIRONNEMENTAL

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Partner **Bertin Technologies**

Bertin Technologies est un fournisseur mondial de solutions avancées de détection des rayonnements et de surveillance de l'environnement, spécialisé dans les moniteurs portatifs, les dosimètres électroniques personnels, les systèmes de surveillance de l'environnement et les technologies de gestion des déchets et du recyclage. Ses instruments sont conçus pour répondre aux exigences rigoureuses des installations nucléaires, des équipes d'intervention d'urgence et des agences environnementales.

Product offering

SpectroTRACER Environmental Radiation Monitor – Saphymo

AlphaGUARD-Radon Monitor – Bertin Instruments

AlphaE – Bertin Instruments

SkyLINK Wide-Range Environmental Radiation Monitoring Network – Bertin/Saphymo

ShortLINK Short-Range Environmental Radiation Monitoring Network – Bertin/Saphymo

GammaTRACER Spider Autonomous Gamma Monitor for Emergencies – Saphymo

GammaTRACER Autonomous Radiation Monitoring Probe – Saphymo

Radiation Safety › Flux et contrôle environnemental

SpectroTRACER Environmental Radiation Monitor – Saphymo

SpectroTRACER is a continuous environmental radiation monitor for spectroscopy to measure very low gamma contamination (water: SpectroTRACER AQUA).

The SpectroTRACER produces a spectroscopic analysis of the detected nuclides identification. The SpectroTRACER is used for the measurement of radioactivity when a standard gamma dose rate monitor is not efficient enough and when it is necessary to discover the nature of the gamma radiation.

SpectroTRACER Environmental Monitor features:

- working temperature: -20 ° C to + 50 ° C. / option: -30 ° C to + 60 ° C
- max. 100 meters under water (SpectroTRACER -AQUA)
- IP68 certified
- relative humidity: 100%
- integrated sensors for temperature and humidity

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AlphaGUARD-Radon Monitor – Bertin Instruments

AlphaGUARD is a portable, battery or net-operated radon monitor with high storage capacity. In addition to the radon concentration in air, AlphaGUARD measures and records also simultaneously ambient temperature, relative humidity and atmospheric pressure with integrated sensors.

Thanks to its high sensitivity and long time stable calibration, it is the reference instrument for professional radon monitoring and accurate measurement on site.

The complete product line provides all accessories for radon in air, water, soil, building materials, progeny, thoron and calibration equipment to perform air, water, soil, exhalation measurements. The collected data can be linked to the DataVIEW software, allowing data download and storage as well as professional data analysis and reporting. With AlphaGUARD, bring your Radon Lab everywhere.

AlphaGUARD - Your Radon lab everywhere

https://youtu.be/oJaaYf9-PbI

SCAN TO VIEW VIDEO

FEATURES

- 0.62 L pulsed ionization chamber
- Measuring range of 2 to 2,000,000 Bq/m³,
- Instrument calibrator error of 3%
- Storage capacity of up to 60,000 measurement points
- Storage of:
  - 400 days at 10 min measuring cycle
  - 2,500 days at 60 min measuring cycle
- Battery life of 10 days (40 days with external battery)
- 329 mm x 355 mm x 123 mm and weighs 6,2 kg (13,7 lbs)

BENEFITS

AlphaGUARD is suitable as a reference device and offers the following features:

- Quality at the highest level

- Long-term stable calibration factor (guaranteed 5 years)
- Calibration traceable to different national standards (PTB, NIST, NPL)
- Inbuilt quality assurance system for permanent validation of system operation and data
- Fast transient response
- Automatic background correction
- No sensitivity to high air humidity

Technology

AlphaGUARD incorporates a pulse-counting ionization chamber (alpha spectroscopy).

Based on optimal chamber geometry and intelligent signal evaluation, this radon monitor is suitable for continuous monitoring of radon concentrations between 2 – 2 000 000 Bq/m³.

The DSP (Digital Signal Processing) technology provides highly effective differentiation ability between "real" radon data and all kinds of artefacts.

Your Radon Lab everywhere
- AquaKIT
- Soil gas Probe
- AlphaPM
- AlphaPUMP / LabPUMP
- Emanation / Calibration Container

- Exhalation Box
- On line Radon in water monitoring
- Valve Selector
- DataVIEW PRO software

REASONS TO CHOOSE ALPHAGUARD – RADON MONITOR

- Reference instrument with high sensitivity
- Calibration stability guaranteed for 5 years
- High performance for versatile applications
- Maintenance-free operation

For more information about the Alphaguard, take a look at our partner's website, or read this PEO article!
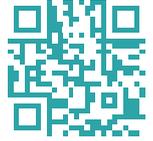
Radiation Safety › Flux et contrôle environnemental
AlphaE – Bertin Instruments

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

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

Advantages AlphaE

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

Download the datasheet or contact our product specialist.

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SkyLINK Wide-Range Environmental Radiation Monitoring Network – Bertin/ Saphymo

The SkyLINK Wireless Communication System is a wide-range, fully autonomous and private wireless network. You can use this system to transmit online data from connected low-power sensors or instruments to a central station. Unlike public cellular communication system standards (like GSM), this system is not dependant on the existence of an area covering cellular infrastructure. The system generally includes a radiological network like GammaTRACER probes and the DataExpert supervision software.

For more information about Bertin Data Transmission systems, take a look at our partner's website!

The system structure allows its use in every situations, even in the most accidental ones (private wireless communication network and easy-to-install autonomous probes).

SKYLINK WIRELESS COMMUNICATION SYSTEM FEATURES
- Very low power consumption
- Operating distance up to 100 km (60 mi)
- Private network, so no regular transmission fees
- Easy interface to external instruments or host processors
- Turnkey system installation
- Long-term maintenance-free operation

https://youtu.be/59D0HZs64zw

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ShortLINK Short-Range Environmental Radiation Monitoring Network – Bertin/ Saphymo

The ShortLINK Wireless Communication System is a short-range, fully autonomous and private wireless network. You can use this system to transmit online data from connected low-power sensors or instruments to a central station. Unlike public cellular communication system standards (like GSM), this system is not dependant on the existence of an area covering cellular infrastructure. ShortLINK is generally installed in combination with a radiological network, like GammaTRACER and DataExpert supervision software.

If you want to know more about Bertin data transmission systems, take a look at our partner's website!

SHORTLINK WIRELESS COMMUNICATION SYSTEM FEATURES AND BENEFITS
- Very low power consumption
- Operating distance up to 5 km (3 mi)
- Turnkey installation
- Long-term maintenance-free operation
- Can withstand temperatures from -40°C to 60°C (-40°F to 140°F)

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GammaTRACER Spider Autonomous Gamma Monitor for Emergencies – Saphymo

The GammaTRACER Spider Autonomous Gamma Monitor (Saphymo) has been designed to cover the needs of first responders in an emergency scenario. Based on the proven GammaTRACER design, the probe provides reliably the measurement of the gamma dose rate and wireless data transmission to the crisis center by means of <u>SkyLINK</u> radio or Iridium satellite modem.

GammaTRACER Spider Autonomous Gamma Monitor for Emergencies features:

- built-in battery for up to 5 years operation
- innovative self-erecting design, very fast deployment
- ultra compact design
- emergency proof communication options
- SkyLINK radio modem (up to 100 km/60 mi)
- satellite modem (Iridium)
- hermetically sealed weatherproof housing
- wide measurement range: 20 nSv/h up to 10 Sv/h
- can be used to quickly enhance density of existing monitoring networks

GammaTRACER Spider demo

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GammaTRACER Autonomous Radiation Monitoring Probe – Saphymo

The GammaTracer Autonomous Radiation Monitoring Probe from Bertin is designed to continuously measure, record, and transmit the environmental gamma dose rate. The probes continuously measure the gamma radiation dose.

Worldwide, there are more than 4.000 GammaTRACERs in operation.

The probes also offer a new dimension in wireless data collection. This is possible because the probes are equipped with a radio module, so you can use them with SkyLINK and ShortLINK for wireless data collection. GammaTRACER can store up to 12.800 data sets, depending on the probe type and measurement cycle.

The probe is available in four types: Basic, Wide, High and XL2.

UNLIMITED AUTONOMY

The GammaTRACER is an autonomous radiation monitoring probe. The monitor's batteries allow maintenance-free, non-stop operation for up to five years, and with an extended battery pack, it will even last up to ten years! This is possible because of the energy-saving chip technology.

But, if you choose the internal solar panel, the autonomy can be unlimited!

They can also resist extreme climatic and environmental conditions because the probes are independent of any physical connections.
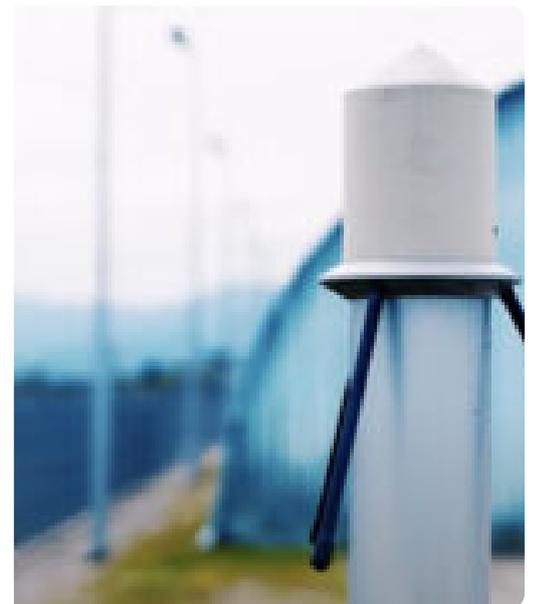
GAMMATRACER TYPES

GammaTRACER covers a broad range of radiation monitoring applications because there are multiple types available. The probes are deployable for multiple applications, for example nationwide monitoring, perimeter monitoring, and monitoring for nuclear facilities. The probes are not only suitable for routine, but also for emergency applications.

BASIC

The GammaTRACER Basic has a dose rate measurement range of 20 nSv/h to 10 mSv/h and an energy range of 45keV to 3MeV.

WIDE

The GammaTRACER Wide has a dose rate measurement range of 20 nSv/h to 10 Sv/h and just like the BASIC, also an energy range of 45 keV to 3 MeV.

HIGH

The GammaTRACER High has a dose rate measurement range of 1 mSv/h to 10 Sv/h and an energy range of 80 keV to 4,4 MeV.

XL2

The GammaTRACER XL2 has a dose rate measurement range of 10 nSv/h to 10 Sv/h and an energy range of 45 keV to 2 MeV. The XL2 type also has fast a response mode of 1 second.

ADDITIONAL OPTIONS

Even though the four GammaTRACE options already have a lot of features, there are also options you can choose from. All types can operate in temperatures ranging from -20°C (-4°F) to 50°C (122°F), but you can also choose for the option of -40°C (-40°F) to 60°C (140°F). Furthermore, you can choose additional sensors (rain, wind and weather), power supply by solar panels or a seismic qualified version.

BENEFITS & FEATURES
- Measures x-radiation and gamma radiation
- Measurement cycle, adjustable from 1 second to 120 minutes
- Battery lifetime up to ten years or even unlimited with solar panels
- Can store up to 12.800 data sets
- Type apporval in several countries
- Maintanance-free
- Non-stop operation
- Easy to install

If you want to read more about GammaTRACER, take a look at our partner's website!

https://youtu.be/59D0HZs64zw

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If you have any questions...

Partner **Ludlum Medical Physics (LMP)**

Ludlum Medical Physics (LMP), une division de Ludlum Measurements, Inc. est spécialisée dans les solutions d'assurance qualité (AQ) en radioprotection et en imagerie médicale. Sa gamme complète de produits aide les professionnels de la santé à maintenir des normes élevées en matière de sécurité des patients et de précision des diagnostics dans diverses disciplines médicales.

Product offering

Model 375P-3500 Conveyor Monitor – Ludlum

Model 375P-1000 Outdoor Radiation Contamination Monitor – Ludlum

Model 375P-336 Surface Contamination Monitor – Ludlum

Model 375-Dual Digital Area Monitor – Ludlum

Model 375/4 Gamma Area Monitor – Ludlum

Model 375/2 Digital Area Monitor – Ludlum

Model 375/1 Digital Area Monitor – Ludlum

Model 375 Area Monitor Controller – Ludlum

Radiation Safety › Flux et contrôle environnemental
Model 375P-3500 Conveyor Monitor – Ludlum

The Model 375P-3500 Conveyor Monitor (Ludlum) is a radiation detector system to inspect materials at contamination on a conveyor.

Model 375P-3500 Conveyor Monitor features:

- detector delivers superior sensitivity
- controller can operate totally independently or connected to an ethernet network or wired for remote annunciation
- 57.4 L (3500 in²) plastic detector with 15.2 m cable
- 24-Hour battery backup
- check source (10 µCi)
- electronics housed in a NEMA 4X enclosure with external reset button
- see-through viewing window
- weathertight, lead-shielded enclosure

Read more about the Model 375P-3500 Conveyor Monitor on the Ludlum website

Radiation Safety › Flux et contrôle environnemental

Model 375P-1000 Outdoor Radiation Contamination Monitor – Ludlum

The Model 375P-1000 Outdoor Radiation Contamination Monitor (Ludlum) is a Digital Model 375 controller coupled to 2 shielded 7866 cm² plastic scintillator detectors. The detectors are covered in weathertight enclosures applicable for the outside environment. The Model 375P-1000 Outdoor Radiation Contamination Monitor is perfect for examine outgoing trash and/or medical waste for possible low-level radioisotope contamination.

Model 375P-1000 Outdoor Radiation Contamination Monitor features:

- indicates status, sum alarm, sigma alarm, low battery, det fail and overrange
- 4-digit LED display with 2 cm (0.8 in.) digits
- range: 0.0 to 9999 kcps
- battery backup
- programmable alarms
- network cable
- data output: 9-pin connector providing RS-232 output, signal ground connection, FAIL and ALARM signals and direct connection to battery and ground
- relay output: mains (120 or 240 Vac) output on alarm

Read more about the Model 375P-1000 Outdoor Radiation Contamination Monitor on the Ludlum website

Radiation Safety › Flux et contrôle environnemental

Model 375P-336 Surface Contamination Monitor – Ludlum

The Model 375P-336 is a Digital Model 375 Controller coupled to two 2753 cm plastic scintillation detectors. These components are indoor units that are typically wall-mounted. This simple and cost-effective solution offers a simple system that is easy to operate and maintain.

Model 375P-336 Surface Contamination Monitor features:

- displays µR/hr, mR/hr, R/hr, µSv/h, mSv/h, Sv/h, cpm, cps, and others
- programmable alarms
- battery backup
- network cable
- range: 0.0 to 9999 kcps
- indicates status, sigma alarm, det fail, sum alarm, low battery and overrange

Read more about the Model 375P-336 Surface Contamination Monitor on the Ludlum website

Radiation Safety › Flux et contrôle environnemental

Model 375-Dual Digital Area Monitor – Ludlum

The Model 375-Dual Digital Area Monitor (Ludlum) is a dual-channel digital device to monitor radiation in the surrounding area. The monitor is based on the legacy of the Model 375.

Model 375-Dual Digital Area Monitor features:

- battery backup
- data output/RS-232
- dual LED digital display
- programmable alarm indicators
- low and high alarm
- optional remote

Read more about the Model 375-Dual Digital Area Monitor on the Ludlum website

Radiation Safety › *Flux et contrôle environnemental*
Model 375/4 Gamma Area Monitor – Ludlum

The Model 375/4 Gamma Area Monitor (Ludlum) is a radiation monitor with an energy compensated GM detector (internally housed) with a range from 0.01 mSv/h to 100 mSv/h.

Model 375/4 Gamma Area Monitor features:
- wall-mount chassis and a four-digit LED display
- networkable
- audio and visual alarms
- budgetfriendly
- weight: 2.1 kg

Read more about the Model 375/4 Gamma Area Monitor on the Ludlum website

Radiation Safety › Flux et contrôle environnemental
Model 375/2 Digital Area Monitor – Ludlum

The Model 375/2 Digital Area Monitor (Ludlum) is a radiation monitor with an internally-housed energy compensated GM detector with a range from 1 µSv/h to 10 mS/h. It has a wall-mount chassis and a 4-digit display (LED) that is readable from a distance of nine meters.

Model 375/2 Digital Area Monitor features:

- visual and audio alarms
- budget friendly
- integrated design
- battery backup
- displays µrem/hr, mrem/hr, µR/hr, mR/hr, R/hr, µSv/h, mSv/h, Sv/h, rem/hr, cpm, cps and others
- readings within 10% of true value with detector connected
- indicates overrange, overload, low-battery, high alarm, low alarm, detector fail and status

Read more about the Model 375/2 Digital Area Monitor on the Ludlum website

Radiation Safety › Flux et contrôle environnemental
Model 375/1 Digital Area Monitor – Ludlum

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
- Low background sensitivity
- 4-digit LED display, readable from 9 meters away
- Audio and light alarm
- Can withstand temperatures rangin from -20°C to 50°C (-4°F to 122°F)
- Alarm of 68 dB to 100 dB (audio)

If you want to know more about this monitor, read our article!

Radiation Safety › *Flux et contrôle environnemental*
Model 375 Area Monitor Controller – Ludlum

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.

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

Model 375 Area Monitor Controller features:
- programmable units of measure and alarms
- budget friendly product of good quality
- battery backup
- four-digit LED display with two cm digits
- suggested detectors: neutron, proportional, GM, scintillation
- displays µR/hr, mR/hr, R/hr, µSv/h, mSv/h, Sv/h, µrem/hr, mrem/hr, rem/hr, cpm, cps, and others
- threshold: 2 to 100 mV (adjustable)

Read more about Model 375 Area Monitor Controller on the Ludlum website

Partner **Ultra Electronics**

Ultra Electronics acquired Lab Impex Systems on July 17th, 2014. This is a known specialized manufacturer in radiation detection solutions and services for use in the global nuclear industry. Founded in 1976, Laboratory Impex Systems Ltd (LIS) is a leader in designing, developing and manufacturing health physics and radiation protection measurement instrumentation focusing on stack monitoring.

Product offering

Gaseous Monitoring – PG10 Gas Activity Monitor – Lab Impex Systems

CMS Noble Gas Monitor – Ultra Electronics

Nuclear Medicine › Contrôle de l'évacuation de l'air et de la ventilation

Gaseous Monitoring – PG10 Gas Activity Monitor – Lab Impex Systems

The PG-10 Gas Activity Detector (Lab Impex Systems) measures beta or positron emitting radioactive gases in the environment (or in a closed loop system). The detector is suitable for PET Radiation monitoring, Noble Gas monitoring and monitoring of Nuclear Medicine Radio-nuclides.

Primarily used for the measurement of emissions from stack and ducts, the PG-10 detector may also be configured to sample the air in the working environment.

Detectors are normally built for the specific application and supplied with NPL traceable calibration.

The CMS (Continuous Monitoring Station) can simultaneously measure the PG-10 output and the flow rate through the stack/duct and report the discharge rate in days/weeks/months/years etc.

PG10 Gas Activity Monitor features:

- accurate measurement of beta gamma gaseous discharge
- reports discharge emissions inline with regulator requirements
- customized systems to suit all applications

Read more about the PG10 Gas Activity Monitor on the Lab Impex Systems website.

Nuclear Medicine › Contrôle de l'évacuation de l'air et de la ventilation

CMS Noble Gas Monitor – Ultra Electronics

The LIS Noble Gas Monitor (Lab Impex Systems) is an integrated solution for the measurement of the airborne concentration of radioactive (beta emitting) noble gases. The monitor is suitable for process, stack and health physics applications, and comprises detector, shielding, pump, flow sensor and CMS processor.

The heart of the system is the BG-10 scintillation detector. Offering unparalleled sensitivity to noble gases, the BG-10 uses a specially designed plastic scintillation sensor mounted in a flow through measurement chamber.

Noble Gas Monitor features:

- excellent MDL resulting from minimal detector response to external sources of gamma.- Low response to NORM such as radon and thoron
- available in a fixed or transportable configuration
- CMS analysis algorithm provides a low stable measurement at background, but ensures a fast response to rising concentration levels
- optional gamma dose-rate detector for dynamic gamma background compensation or dose rate measurement

Read more about the Noble Gas Monitor on the Lab Impex Systems website.

Partner Autre

Product offering

Model 375-9 Digital Area Monitor – Ludlum

Model 375-10 Digital Area Monitor – Ludlum

Model 375-9 Digital Area Monitor – Ludlum

The Model 375-9 Digital Area Monitor (Ludlum) has been 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.

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

Model 375-9 Digital Area Monitor features:

- user-programmable alarm settings
- affordable area monitor
- battery backup
- fast response to pulsed fields
- 4-digit LED with 2 cm (0.8 in.) character height

Read more about the Model 375-9 Digital Area Monitor on the Ludlum website

Model 375-10 Digital Area Monitor – Ludlum

This wall-mounted area monitor is simple to set up, use, and calibrate. It is both an effective and cost-effective controller, and is paired with an internal scintillation detector normally calibrated to be non-sensitive to low-energy medical isotopes. The detector's removable lead shield provides greater resistance to low-energy sources in order to prevent nuisance alarms.

Model 375-10 Digital Area Monitor features:

- range: 0.1 to 20 µSv/hr
- user-programmable alarms
- networkable
- internal 5.1 x 5.1 cm (2 x 2 in.) (Dia x L) sodium iodide Nal(TI) scintillator
- indicates: status, high alarm, low alarm, low battery, overrange and overload

Read more about the Model 375-10 Digital Area Monitor on the Ludlum website