

ScintiTRACER XL2

Autonomous environmental Gamma dose rate probe

Key features

- Autonomous waterproof gamma dose rate probe for stationary & mobile use
- Flexible & easy to use, even under harsh environmental conditions
- Certified for use in potential seismic areas
- NaI(Tl) detector provides very high sensitivity (GM tube for high dose rate)
- Wide measurement range: 5 nSv/h to 1 Sv/h (optional 10 Sv/h)
- Gamma spectrum can be transmitted to data center for further analysis
- High sensitivity and accuracy, built-in quality assurance system (QA)
- Low power consumption 0.2 W, > 10 days operation with built-in battery, small 10 Wp solar panel sufficient for continuous operation
- Service communication via Infrared, Bluetooth or cable
- Secured & encrypted wireless data transmission
- DataEXPERT central data management software for data analysis, reporting, alarming & visualization, web-based user interface



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The **GammaTRACER**, which performs the basis, is designed for continuous measuring, recording, and transmitting the environmental gamma dose rate with more than 5,000 probes in worldwide use.

Offering easy installation, fast relocation, and long autonomy, the **ScintiTRACER XL2** enhances new environmental monitoring approaches for routine and emergency management. Time-differentiated measurement values are stored together with the auxiliary and QA parameters. All components, including battery, antennas, etc., are integrated inside the hermetically sealed enclosure.

Data download and parameter configuration can be performed via local service ports (Infrared, Bluetooth, or RS232/RS485). The transmission of data to the central system can be performed by LTE/4G and/or Iridium satellite communication.

The NaI(Tl) scintillator, which replaces the low-dose GM tube used in the standard GammaTRACER XL2, provides excellent sensitivity, especially useful for the detection of small dose rate increases in low radiation background. Moreover, it can transmit a gamma spectrum to the data center, allowing further analysis and nuclide identification.

Due to the very low power consumption, the **ScintiTRACER XL2** can work fully autonomously with a small 10 Wp solar panel. Even without a solar panel or the absence of solar irradiation, the internal battery can power the probe for at least 10 days.

Additional sensors, like a maintenance-free rain sensor providing not only yes/no but also rain quantity, or a Vaisala meteorological station, can be connected to the **ScintiTRACER XL2**.

DataEXPERT 10, a professional user-friendly database, communication, and data analysis software, guarantees both simple and safe access to the stored data as well as its powerful visualization, and fast and precise analysis. Instrument data can be accessed and visualized via any standard browser.

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PHYSICAL CHARACTERISTICS

- **Detector:** NaI(Tl) scintillator for low dose rate range, GM tube for high dose rate range
- **Sensitivity low dose channel (Cs-137):**
18,000 cpm/uSv/h
- **Measurement range H*(10) :** 5 nSv/h to 1 Sv/h
Optional: 5 nSv/h to 10 Sv/h
- **Energy response (IEC 60846-1:2009, up to 100 µSv/h) :**
45 to 3,000 keV
- **Calibration accuracy (Cs-137):**
 - 0 to 0.1 mSv/h : < 10%
 - > 0.1 mSv/h < 15%
- **Built-in sensors:** Temperature, Humidity and Movement sensors
- **Internal Quality Management System:** Check of the detectors, tightness of enclosure, battery status)

ENVIRONMENTAL CHARACTERISTICS

- **Environmental conditions :**
 - -20°C to +50°C (-4°F to +122°F), optional -40°C to +60°C (-104°F to +158°F)
 - 0% ... 100% rH
- **Protection class:** Hermetically sealed housing (IP68), incl. built-in batteries, for best protection of all components

MECHANICAL CHARACTERISTICS

- **Weight incl. battery, GSM, antennas etc:** 3.5 kg
- **Dimensions (diameter/length):** Ø 90 mm
(Ø flange 130 mm) x 680 mm
- **Housing material:** Aluminum, anodized, wall thickness: 2 mm, Nano painted to avoid adhesion of radioactive particles. Use of drying agent in the housing (no Nitrogen) for easy and safe exchange of built-in batteries and e.g. SIM-cards

ELECTRICAL CHARACTERISTICS

- **Power supply:**
 - Internal rechargeable battery: 7.5 Ah , autonomy > 10 days
 - External solar panel 10 Wp
 - 12 V external power supply
- **Galvanic isolation 3000 V to grant a very high safety against EMI influence:**
IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-6, IEC 61000-4-8

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COMMUNICATION OPTIONS

- **Local Communication for maintenance/service:**
 - Infrared and cable interface (RS232/RS485)
 - Bluetooth (low energy, secured encrypted transmission): always active, distance up to 50 m, no need to enter the probe
- **Wireless data transmission:**
 - GSM/GPRS/3G/4G/LTE/Iridium Satellite
 - Redundant data transmission possible
 - Remote parametrization possible
- **Status LED:** Direct optical visualization of probe battery status and wireless data transmission status
- **FTP/S addresses:** Up to three FTP targets for simultaneous transmission to more than one central server

INSTALLATION OPTIONS



V4A support

- **V4A support:**
 - **Material:** Stainless steel (V4A, AISI 316 Ti)
 - Suitable for humid regions
 - **Dimension base plate:** 13 x 13 cm
 - **Height:** 90 cm

- **Wind Safe Tripod in combination with Mast/Wall Support:**
 - **Material:** Hot-dip galvanized with stainless steel elements
 - Suitable for mobile and stationary use
 - **Pole height:** 115 cm
 - **Length of one leg:** 100 cm
 - **Outer dimension of the triangle:** 210 cm
 - **Diameter of the pole:** 6 cm



Wind Safe Tripod

- **Other options:**
 - Supports (wall support, tripod, uneven terrain, etc.)
 - External solar power options
 - Alarm unit, Alarm display unit, Display unit
 - Meteorological sensors