

RAMSAT

PORTABLE DOSE RATE
MONITORING STATION WITH
SATELLITE TRANSMISSION



The RAMSAT radiation monitoring station is designed for rapid operational deployment in the field to provide assessment of radioactive and nuclear pollution in the environment or work place monitoring for radiation safety. The system is primarily designed for measuring ambient dose equivalent and ambient dose equivalent rate. Monitoring stations can create a powerful easily deployable network with satellite data transmission.

Benefits

- Quickly and easily deployable
- Battery-powered
- Automatic operation and connection to network
- Rugged construction and airtight housing
- High measurement accuracy and sensitivity detection system
- Tailor made modifications, possibility of expanding number of stations in the network
- Automatic alarm when threshold exceeded

Key Figures

IP65

↳ *Ingress Protection*

From -25°C to $+55^{\circ}\text{C}$

↳ *Temperature range*

30 Days ↳ *Battery runtime*

Product Description

The RAMSAT portable radiometric system is primarily designed for temporary radiation monitoring of ambient air in the event of accident. It can be strategically placed in the vicinity of nuclear facilities and power plants, or around areas with high population concentration like sport stadiums, concert halls, large gatherings, etc. The critical system components are: the detector, control unit, high capacity battery (LiFePO₄) and satellite communication module including GPS receiver. The detection unit includes one or two energy compensated GM tubes securing the range of measurement from 50 nSv/h to 2 Sv/h. The high-volume battery is able to power the device for up to 30 days measuring at a 10-minute interval. All measured data is stored in the internal memory or can be sent at defined intervals to the control unit or control center via a communication satellite (for further processing and presentation using our advanced NuSOFT RADIS software).

NuSOFT RADIS Control Software

Data from all monitoring stations can be collected in a control central using NuSOFT RADIS. The server-based Information system RADIS enables collection, analysis, storage and visualization of the data. The software can also be used to remotely set and check the correct operation of the monitoring stations. The monitoring network can be made of a number of NUVIATech stationary and mobile monitoring devices depending on the client's requirements. Data transfer can be done through a network connection or via a data file, and it is possible to use multiple communication protocols. The system is designed as a three layer web application and can run on a server based on Windows*, Unix* or Linux* platforms. The data is stored on an ORACLE*, Firebird* or Microsoft SQL* database.

Product Applications

RAMSAT is a versatile system. It can be customized to monitor small strategic locations (nuclear installation, border crossing, nuclear waste storage) as well as large national territories.

Product Specifications

Type of measurement	Ambient dose equivalent rate
System housing	Ruggedized case, IP65 in accordance with EN 60529/DIN 4005
Data transmission technology	Satellite module SkyWave IDP680/IDP280* using the two way Inmarsat IsatData Pro* satellite service
On site data interface	Bluetooth (operation distance 10 m) for system setting and data review via control unit (Android*/MS Windows* based device)
Software	NuSOFT RAMSAT installed in Android* or Windows* based control unit, optionally advanced RADIS application for managing data from monitoring station network on central server.
Self diagnostics	The system automatically sends SMS, email or SW RADIS alert message when the monitoring station or network fail working.
Dimensions	258 × 243 × 168 mm (without tripod)
Humidity range	Up to 100 % of RH (non condensing)
Weight	5 kg (without tripod)
Temperature range	From -25 °C to +55 °C
Power supply	Internal rechargeable LiFePO ₄ battery pack (or equivalent)
Battery runtime	30 days (data transmitted every 10 minutes), 3 days (data transmitted every minute)
Internal memory	Minimum of 1 200 data records
Measuring time interval	Adjustable (min. by 1 minute)
Automatic data transmission	Performed in adjustable time interval, default of 10 minutes (automatic change for defined interval when a threshold exceeds a preset limit)
Status indicators	3 LED indicators for low battery, status, high dose rate, system overload
Deployment and start to full operation	< 5 minutes including configuration and status check



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