NUVIATECH INSTRUMENTS

FIXIS

FIXED VEHICLE RADIATION MONITORING SYSTEM

FIXIS is a turn-key mobile gamma radiation and gamma spectroscopy monitoring system fixed within a vehicle. Basic configuration consists of two high sensitive plastic detectors, a NaI(Tl) gamma spectroscopy detector, a high dose rate GM module and optionally a neutron detector and weather sensor. The system provides continuous radiation measurement synchronised with GPS timing and position. Plastic detectors are located on each side of the car to provide directional measurement for effective localisation of contamination, illicit or lost radioactive sources. The acquired data is processed in real time and transferred via Bluetooth or LAN/WLAN Ethernet connection to the control laptop unit.

BENEFITS

- Direct measurement of radionuclide concentration and real-time radionuclide identification
- Possibility to integrate other radiation detection modules and auxiliary devices
- Directional detection sensitivity
- Wide range of gamma radiation intensity measurements
- Advanced software for data visualisation, system settings and sophisticated mapping capabilities

KEY FIGURES

1000 cps

Approx. sensitivity of the 5 litre plastic detector on a natural background of 100 nSv/h

10 nSv/h – 10 Sv/h

Maximum measurement range of the GM module

30 keV – 3 MeV

Gamma spectroscopy energy range

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FIXIS

FIXED VEHICLE RADIATION
MONITORING SYSTEM

PRODUCT DESCRIPTION

Mobile radiometric and spectroscopic systems mounted in commercially available vehicles are of crucial importance, especially in the field of radiation and nuclear protection of the population and environment. The FIXIS basic configuration is designed to measure a wide range of radiation intensities. It consists of two highly sensitive 5 litre plastic EPL scintillation detectors located on each side of the vehicle to provide directional measurement, a 1 or 2 litre NaI(Tl) scintillation detector with a multichannel analyser and an EGM GM module for higher radiation dose rates. A neutron detector or additional plastic or NaI(Tl) detectors can be integrated optionally. The system is equipped with a GPS unit for precise navigation as well as time and position data synchronisation, and with a Bluetooth communication unit for wireless communication with the control laptop unit. Detectors are stored in ruggedised cases to be protected from mechanical damage.

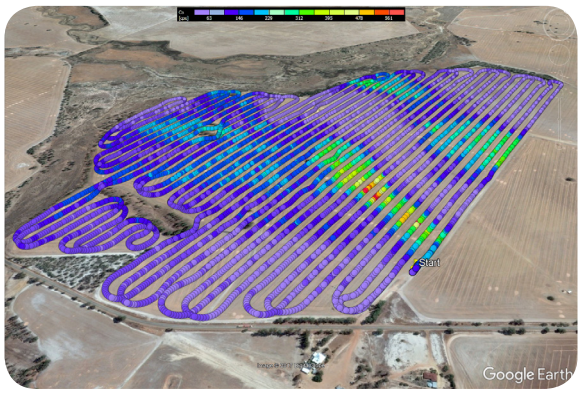
PRODUCT SPECIFICATIONS

The NaI(Tl) spectrometer module provides a real time measurement, 1 second spectra, dose rate equivalent calculation from spectra, concentration and activity measurement of significant radionuclides, automated high accuracy calibration and a real-time stabilisation on natural isotope peaks.

EPL five litre plastic detectors are coupled with a 4 channel SCA analyser, which enables 4 different ROI settings, in order to distinguish between artificial and natural radiation. Standard resolution is 256 channels for energy range from 30 keV to 3 MeV. The five litre detectors provide approx. 1000 cps on a natural background of 100 nSv/h.

EGM is a GM module used for measurement of high concentrations of radioactivity. Several kinds of EGMs are available. The widest measurement range varies from 10 nSV/h to 10 Sv/h.

All detectors have their own evaluation units, high voltage sources and a communication interface with a digital data transmission.



Software

A powerful SW package for real time data acquisition and presentation, quality control, export to various formats (GIS*, Excel*, etc.), project navigation preparation, system calibration and verification is included. Illustrative graphic output includes gamma spectra, waterfall spectra, charts of all data channels, map-based visualisation, system information and other data. Easy data export to the KMZ* format provides expressive visualisation of survey results in Google Earth* map application.

PRODUCT APPLICATIONS

- Homeland security, radiation and nuclear protection
- Environmental monitoring
- Detection of lost or uncontrolled radioactive sources
- Detection of illicit transportation of nuclear materials
- Radiation reconnaissance of urban and industrial zones
- Monitoring vicinity of nuclear facilities
- Other mobile radiation screening applications