

PGIS-2

PORTABLE GAMMA-RAY SPECTROMETER



The instrument is designed for portable or backpack application of radiation detection and monitoring in a variety of environments. The system is auto calibrated by natural photo peaks, consisting of a detector unit, integrated with GPS, and a data logger unit based on Android portable devices, such as a smart-phone, a tablet or a notebook. The detector is equipped with a NaI(Tl) crystal with a volume of 0.347 liters.

Benefits

- Recording of full spectra
- Real dose calculation from spectra
- RIID (Radiolotope Identification Device)
- Automated synchronisation of data with GPS
- Real-time display of measures data
- Identification of man-made radionuclides
- Light-weight, portable and user-friendly device
- Built in Navigation function

Key figures

50 keV - 3 MeV

Gamma energy range

60 kBq

MDA for Cs-137

0,3 l

Detector volume

Technical Specification

MCA Resolution	8196 channels (DSP/FPGA Technology)
Channels in use	256/512/1024
Energy detection range	50 keV to 3 MeV
Data handling	Individual detector processing and calibration
Differential nonlinearity	<0.1%
Integral nonlinearity	<0.01%
Gain stabilization	Automatic - Real time stabilization (1sec)
Dynamic throughput	Up to 250,000 cps per detector
Dead time	Virtually zero, achieved with digital pulse processing
Baseline restoration	Digital (IPBR) Individual Pulse Baseline Restoration. The baseline is established for each individual pulse for maximum pulse height accuracy
Pulse shaping	Digital Pulse Shaping
Pile up Rejection	Digital (<40nS)
Data processing	Data complies with NASVD processing requirements. Fully linearized output, the Poisson Distribution is unaffected.
Sampling rate	Dynamic mode: 1 sec; or Accumulation mode: selectable time
Power	Internal LI-Ion battery - 24 hours run time typical
Callibration	Automatic using natural background radiation, multi-peaks algorithm by statistic presence. No radioactive sources required
Dimensiond and weight	depends on a configuration
System stabilization	Cold startup - less than 1 min
Data output	USB; Bluetooth
Radio Nuclide Identifi cation (RIID)	Norm · Industrial · Threat · Medical · Customizable
Control	High level of self-diagnostics
Software	Real time data acquisition, supporting software for data QC, visualization, export to ASCII (CSV), GIS, XML, or N 42.42 formats
Energy Resolution	7.5% (at 662 keV)

Specification Highlights

- Detector Volume 0.347 l
- NaI(Tl) (or BGO optional)
- Integrated GPS (external GPS receiver connection possible)
- Wireless Data Logger – Android based smart phone
- Removable handle
- Weight 5kg (11lb)



Applications

The PGIS-2 is a high-efficiency Radioisotope Identification Device (RIID) designed for rapid and accurate detection of radioactive materials in CBRN scenarios. It enables efficient identification and localization of contamination across large areas, which is essential during emergencies, environmental monitoring, or radiological incidents. With its high sensitivity and fast measurement capabilities, the PGIS-2 is ideal for land contamination mapping, source identification, and supporting decision-making processes for first responders and emergency teams.

