



PORTABLE RADIATION MONITOR GRANAT

INTENDED USE

Detection and identification of radioactive and nuclear materials during covert inspection of various sites and territories.

APPLICATION

- Inspection of sites
- Monitoring of nuclear and radioactive materials trafficking
- Covert radiation monitoring

DETECTORS

- Spectrometric gamma-detector: NaI(Tl) Ø76×76 mm
- Wide-range gamma detector: Geiger-Mueller counter
- Neutron detector: $^6\text{LiF/ZnS(Ag)}$



FEATURES

- Real-time search, localization and identification
- Easy one-hand two-button operation in the online mode
- Automated service and test procedures
- High external impact resistance (IP67)
- Embedded self-test system that does not require involvement of the operator
- Automatic adjustment of energy calibration during battery charging
- Storage of spectra, measurement results and GPS-data
- Wireless data exchange with a PC





GRANAT

SPECIFICATIONS

| | |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range of registered gamma energies | 0.05 to 3 MeV |
| Maximum relative energy resolution (661.7 keV line) | 9 % |
| Maximum input statistical load of the spectrometric path | $5 \times 10^4 \text{ s}^{-1}$ |
| Monitor sensitivity in the search mode | <p>gamma radiation detection of nuclear and radioactive materials causing ADER of 0.05 $\mu\text{Sv/h}$ (above background) on the monitor surface, for the measurement time of 1 second with probability of 0.8 (P = 95 %)</p> <p>neutron radiation detection of ^{252}Cf source with neutron flux of $1.2 \times 10^4 \text{ s}^{-1}$ at the distance of 1 m and speed of 0.5 m/s with probability of 0.5 (P = 95 %)</p> |
| Number of gamma spectra stored in the device memory | 100 |
| Run time on the built-in batteries | 16 hours |
| Environmental | -20 to +50 °C |
| Dimensions and weight | (418×330×173) mm; 10 kg |

ONLINE MODE

- Continuous search for sources
- Identification of radionuclides at the operator's command
- Classification of radionuclides into types
- Record of spectra
- Background reference feature

EXPERT MODE

- Access to all functions of the monitor using the user's interface
- Viewing of the search and dose rate measurement results in graphic and digital format
- Display of the identification results as a list of detected radionuclides
- Processing of spectra, and management of radionuclide library
- Setting of the measurement parameters
- Data exchange with a PC, file management

