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Radiation measurements for your safety

MULTIPURPOSE RADIATION MONITOR PM1403

ALL-IN-ONE INSTRUMENT FOR ANY RADIATION CONTROL TASK

Purpose

Hand-held radiation monitor PM1403 is a multifunctional, networked instrument designed for measuring all types of ionizing radiation, accumulation of gamma sources spectrum and radioisotope identification.

PM1403 provides search, detection, localization of alpha, beta, gamma and neutron radiation sources, as well as allows to measure the radiation intensity and identify the detected radioactive materials.

PM1403 as a kit may include the BOI-PM1403 display unit, the BDOI-PM1403 detection and control unit and a set of external detection units: gamma (BDG2 and BDG3), alpha and beta (BDAB) and neutron radiation (BDN).

Functions

- Measurement of ambient dose equivalent rate and ambient dose equivalent of photon and neutron radiation
- Identification of the radionuclide composition of radioactive sources even if they are shielded (for BDOI, BDOI + BDG3, BOI + BDG3)
- Measurement of flux density of α-, β-radiation
- Accumulation, processing, storage and display of gamma spectra
- Search for sources of α-, β-, γ- and neutron radiation

Features

- External interchangeable detection blocks for alpha, beta, gamma and neutron radiation
- Fast and reliable identification of radioisotopes
- Impact-resistant IP65 sealed housing
- Audible and visual alarm
- Built-in GPS/GLONASS module
- USB and Rs485 interfaces

Application

- Radiation control services for nuclear accidents management and decontamination
- Radioecological monitoring and epidemiological services
- Nuclear industry radiation control services
- Emergency teams and first-responders
- Customs and border control

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BDOI-PM1403 Detection and Control Unit

Detector:
built-in scintillation spectrometric CsI(Tl) and an external detection block (DB) to choose from
Operating modes:
- search for gamma radiation sources
- localization and dose rate measurement of gamma radiation sources
- accumulation, processing, storage and display of gamma spectra
- identification of detected radionuclides

- Dose rate range: 0.1 – 100 μSv/h
- Energy range: 0.05 – 3 МэВ
- Gamma sensitivity (^{137}Cs): 100 s^{-1}/(μSv/h)
- Count rate range: 1.0 – 8000 s^{-1}
- Saved spectra: up to 1000
- Wi-Fi, Bluetooth, USB, GSM/GPRS, RS-485
- Power: 2 Li-pol batteries
- Battery life: no less than 8 h
- Mass: 750 g

BOI-PM1403 Display and Control Unit

Detector: an external detection block (DB) to choose from
Operating modes:
- display of information from the connected detection block
- programming operating modes of external detection blocks
- identification of the radionuclides (with BDG3)
- other modes corresponding to the connected detection block

- USB, RS-485
- Power: 2 Li-pol batteries
- Battery life: no less than 12 h
- Mass: 450 g

BDG2-PM1403 Gamma Detection Block

Detector: GM tube
Operating modes:
- photon radiation dose rate measurement
- photon radiation dose measurement

- Dose rate range: 0.1 μSv/h – 10 Sv/h
- Dose range: 0.01 – 9999 mSv
- Energy range: 0.03 – 3 MeV

BDG3-PM1403 Gamma Detection Block

Detector: CsI(Tl)
Operating modes:
- photon radiation dose rate measurement
- search for photon radiation sources
- accumulation of gamma scintillation spectra

- Dose rate range (^{137}Cs): 0.1 – 40 μSv/h
- Energy range: 0.05 – 3 MeV
- Gamma sensitivity (^{137}Cs): 200 s^{-1}/(μSv/h)
- Count rate range: 1 – 9999 s^{-1}
- Relative energy resolution (^{137}Cs): no more than 8.5

BDN-PM1403 Neutron Detection Block

Detector: He-3
Operating modes:
- neutron radiation dose rate measurement (in collimated radiation Pu-α-Be)
- search for and registration of neutron radiation

- Dose rate range: 1 μSv/h – 5 mSv/h
- Energy range: from thermal neutrons to 14 MeV
- Count rate range: 1 – 4000 s^{-1}
- Neutron radiation sensitivity, not less than:
  - 0.65 pulses·cm^2 – for Pu-α-Be
  - 4.5 pulses·cm^2 – for thermal neutrons

BDAB-PM1403 α- and β-radiation Detection Block

Detector: proportional counter
Operating modes:
- search for α and β radiation
- measurement of α-radiation flux density
- measurement of β-radiation flux density

- α-radiation sensitivity: not less than 3 impulses·cm^2
- β-radiation sensitivity: not less than 2 impulses·cm^2
- Energy range: 0.15 – 3.5 MeV
- α-radiation flux density measurement range: from 1 to 5 × 10^5 min^{-1}·cm^{-2}
- β -radiation flux density measurement range: from 10 to 10^6 min^{-1}·cm^{-2}

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Quality management system ISO 9001
- Customer focus
- Customer satisfaction
- Continuous improvement
- System/process effectiveness

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