



DKG-21M

Personal Gamma Radiation Dosimeter

- NATO Stock Number (NSN) 6665 61 007 8811
- Complies with CE standards
- Meets the requirements of IEC 61526 standard

Description

Direct reading personal dosimeter in a damp and dustproof body with a high ingress protection rating IP54, designed for use by the Army, Ministry of Emergencies and Civil Defense, and in industry in conditions of significant temperature oscillations and high dustiness of atmosphere. It can be used either independently or within the automated system of personal dosimetry control.

Purpose of use

- Measurement of individual dose equivalent (DE) of gamma and X-ray radiation
- Measurement of individual dose equivalent rate (DER) of gamma and X-ray radiation

Branches of Use



Emergency Services and Civil Defense



Mining industry



Law enforcement agencies

Features

- Storage of dose accumulation history in the non-volatile memory with real time reference
- Transfer of dose accumulation history through the infrared port to the computer
- Blocking the mode of power supply switch off until the data reading procedure finished
- Gamma and X-ray radiation DER and DE threshold levels programming with the help of the computer or manually with control keys
- Blocking certain indication modes in response to the computer command
- Light and audio alarms when programmed threshold levels exceeded on DER and DE of gamma and X-ray radiation
- Display automatic switch off if current gamma background is lower than the preset threshold level with instant switching on at:
 - pressing any control key
 - gamma background increase above the preset threshold level
 - alarm clock ringing
- Periodic self-testing of batteries and detector
- Energy-compensated Geiger-Muller counter
- Ingress protection rating IP54
- Clock, alarm clock
- Software allows to:
 - program parameters and operating modes
 - read dosimetric measurement results
 - review and print dosimetric information as reports
 - save and export read information as a report or text file for further processing by other text editors
 - import previously stored dosimetric information for processing and analysis

Specifications

Measurement range of gamma radiation individual dose equivalent rate (DER)	$1 \cdot 10^{-7} \dots 1 \text{ Sv/h}$
<ul style="list-style-type: none"> • Main relative permissible error limit when measuring gamma radiation DER at ^{137}Cs calibration with a confidence probability of 0.95 • – in the range from $1 \cdot 10^{-6} \text{ Sv/h}$ to $1 \cdot 10^{-5} \text{ Sv/h}$ (inclusive) • – in the range from $1 \cdot 10^{-5} \text{ Sv/h}$ to 1 Sv/h 	<ul style="list-style-type: none"> • 20 % • 15 %
Measurement range of gamma radiation individual dose equivalent (DE)	$1 \cdot 10^{-6} \dots 9.999 \text{ Sv}$
Main relative permissible error limit of gamma radiation DE measurement with confidence probability of 0.95	15 %
Energy range of detected gamma radiation	0.05 ... 6 MeV
Energy dependence when measuring gamma radiation DER and DE relative to 0.662 MeV energy (^{137}Cs) in the energy range from 0.05 to 1.25 MeV, not more	$\pm 25 \%$
Complementary relative permissible error limit of photon-ionizing radiation DER and DE measurement result caused by ambient temperature deviation from 20 °C, in the temperature range from minus 20 to + 50 °C	5 % per each 10 °C of deviation from 20 °C
Battery life (under gamma background not more than 0.5 $\mu\text{Sv/h}$, switched off alarm system and display)	4 000 hours
Operating supply voltage of the dosimeter from lithium battery (CR2450)	3 V
Operating temperature range	$-20 \dots +50 \text{ }^\circ\text{C}$
Dimensions	$98 \times 58 \times 18 \text{ mm}$
Weight	0.14 kg