



Complies with the ANSI 42.32 standard  
Complies with the ANSI 42.33 standard

TY Y 33.2-22362867-023:2011

### Branches of Use

- Customs and Border Services
- Law enforcement agencies (Ministry of Internal Affairs, State Security Services, guard services)
- Vehicles monitoring, seaports and airports
- Radioactive waste storage sites
- Metallurgy and scrap metal storage

### Purpose of Use

- Search (detect and localize) for radioactive and nuclear materials by their external gamma and neutron radiation.
- Measurement of ambient dose equivalent rate (DER) of gamma, X-ray and neutron radiation.
- Measurement of ambient dose equivalent (DE) of gamma and X-ray radiation.
- Determination of gamma, X-ray and neutron radiation intensity.

### Specifications

Gamma sensitivity for $^{137}\text{Cs}$ , not less than	$\frac{\text{pulse/s}}{\mu\text{Sv/h}}$	200
Neutron sensitivity for:	$\frac{\text{pulse} \times \text{cm}^2}{\text{neutron}}$	
- thermal neutrons, not less than		$1.2 \pm 0.12$
- fast neutrons, not less than		$0.12 \pm 0,012$

### Specifications (continued)

Indication range of photon-ionizing radiation DER	0.01 μSv/h ... 1Sv/h	
Indication range of neutron radiation DER	0.01 μSv/h ... 10Sv/h	
Indication range of photon-ionizing radiation count rate	cps	1 ... 25 000
Indication range of neutron radiation count rate	cps	0.01 ... 25 000
Main relative permissible error limit of photon-ionizing radiation DER measurement in the range from 0.1 to 100 μSv/h with confidence probability of 0.95 ( <sup>137</sup> Cs)	±(15+2/Ĥ*(10))%, where Ĥ*(10) is a numeric value of measured DER equivalent to μSv/h	
Energy range of detected photon-ionizing radiation	MeV	0.02 ... 3.00
Energy dependence of the dosimeter readings during photon-ionizing radiation DER measurement in the energy range of 0.05 - 3.00 MeV in relation to 0.662 MeV energy ( <sup>137</sup> Cs)	%	±25
Energy range of detected neutron radiation	from thermal neutrons to 14 MeV	
Setup time of operating mode of the dosimeter, not more than	min	1
Calibration time relative to gamma background	s	2 ... 60
Response time for photon-ionizing radiation DER variation greater than 10 times	s	0.25
Operating supply voltage of the dosimeter from Li-Ion storage battery	V	3.7
Time of continuous operation of the dosimeter with fully charged storage battery under conditions of normal background radiation with switched off display backlight	h	45
Operating temperature range	°C	-20...+50
Dimensions of the dosimeter, not more than	mm	67 x 127 x 30
Weight of the dosimeter, not more than	kg	0.28

## Features

- New generation high sensitivity CsI scintillation detectors of gamma and LiI of neutron radiation with solid state (silicon) photomultiplier.
- Color display with high resolution.
- Integrated GPS/GLONASS-receiver.
- No “microphone effect”.
- High thermal stability.
- Audio and vibration alarm of threshold levels exceeding.
- Light color alarm (indication) of threshold levels exceeding (gamma radiation – red color, neutron – blue) and visual alarm on the side of the device.
- The dosimeter communicates with a PC via USB-port.
- Powered by built-in lithium polymer storage battery that can be charged via USB-cable.
- Ingress protection rating IP67.

## Delivery Kit

- Search Alarm Dosimeter DKS-02PN “Cadmium”;
- charger;
- operating manual;
- software;
- packing case.

## “Events Reader” Software

### *Is used for:*

- reading measurement results and critical events from the dosimeter memory into the PC
- report preparation and printout
- display of the obtained dosimetric information with the GPS-coordinates on the area map.

