RADIATION DETECTORS BDBG-310 and BDKS-310

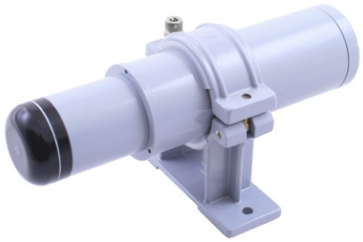
Purpose

The radiation detectors are aimed to measure of ambient dose equivalent rate of gamma-radiation. It is used as a part of dosimeter-radiometer MKS-2020 or in an automated radiation monitoring system for operative and periodical control of radiation situation at nuclear stations, plants of nuclear industry, nuclear fuel cycle enterprises, and also at the companies which use the sources of ionization radiation.

Features:

- single-block, functional and constructive complete device;
- operative mode – continuous or turning the power on and off without limits;
- efficiency control of all main parts in real time and data exchange about the measured values, cases of exceeding of setting threshold levels, condition and settings at the request of external workstations via line RS-485 using communication protocols Modbus RTU or DiBUS;
- there is a possibility to set a sensitivity coefficients, dead time and thresholds (preliminary and alarm) in radiation detector by user;
- to provide a light-sound alarm at the installation place by means of a warning device BUS-04 (if there is in the order);
- the average service life of radiation detector no less 10 years in case of the parts that have developed their resource are replaced.

BDBG-310



BDKS-310

SPECIFICATIONS

Measurement range of ambient dose equivalent rate of gamma-radiation	
BDBG-310	0,04 μSv•h^{-1} – 30,0 Sv•h^{-1}
BDKS-310	0,01 μSv•h^{-1} – 30,0 Sv•h^{-1}
Energy range	
BDBG-310	from 50 keV to 3 MeV
BDKS-310	from 15 keV to 10 MeV
Sensitivity, not less	
BDBG-310	4,0 c^{-1}·μSv^{-1}·h (both subranges: sensitive and rough)
BDKS-310	8,0 c^{-1}·μSv^{-1}·h (sensitive subrange) 4,0 c^{-1}·μSv^{-1}·h (rough subrange)
Limits of tolerable intrinsic relative error, %	
BDBG-310 BDKS-310	± (15 + 5/Ax) %
Energy dependence, %	
BDBG-310 BDKS-310	± 25 % (calibration by ^{137}Cs)
Anisotropy of radiation detector, no more	
BDBG-310 BDKS-310	± 20 %
Type of detector	
BDBG-310	a Geiger–Muller counter
BDKS-310	tissue equivalent scintillation detector (Ø 30 × 15 mm)
Time of setting the operating mode	
	no more 10 minutes
Time of continuous work	
	24 h
Uncertainty of measurements during continuous operation of radiation detectors, no more	
	no more 5 %
Communication interface	
	RS-485
Ambient temperature range	
BDBG-310	from minus 40 to 60 °C
BDKS-310	from minus 20 to 60 °C
Relative humidity (at 30°C)	
	up to 98 %
Atmospheric pressure	
	from 86 to 108 kPa
Protection class, not worse	
	IP67
Power supply of radiation detectors is carried out from a direct current power supply	

	from 8 to 42 V
Dimensions and weight of radiation detectors, no more	
BDBG-310	Ø 51x280 mm, 0,35 kg
BDKS-310	Ø 51x260 mm, 0,85 kg

Delivery set: a radiation detector BDBG-310/BDKS-310, a warning device BUS-04*, a junction box KK-2*, an operation manual.
** - if there is in the order.*

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