

# DRG-T – Radiation Survey Device



## Description

The board radiation survey device that generates signals and commands for crew life support systems.

The device is designed for installation in special-purpose vehicles, in particular in radiochemical reconnaissance units of civil defense, and armed forces. It is used for continuous monitoring of gamma radiation exposure dose rate. DRG-T provides audio and visual alarms of dangerous levels of gamma radiation and generates commands to start the actuators of protection equipment. The device is endowed with high shock and vibration resistance.



## Purpose of Use

The DRG-T radiation survey device is designed for use in special-purpose vehicles to control continuously and measure exposure dose rate (EDR) of gamma and X-ray radiation, as well as to provide audio and light alarms of dangerous levels of radiation, and to issue commands to start the actuators of protection equipment

## Features

- Highly resistant to shock and vibration.
- Considers different attenuation degrees of gamma radiation.
- Produces signals to display information on data panels of the vehicle.
- Issues commands to start the actuators of crew protection equipment.
- Ensures self-testing function of the device performance with and without commands issuing to the actuators.
- Transfers data to the onboard computer.

## Specifications

- Measurement range of gamma radiation EDR from  $1 \times 10^{-5}$  to 1000 R/h.
- Energy range of detected gamma radiation from 0.66 to 1.25 MeV.
- Main relative permissible error limit during measurement of gamma radiation EDR (relative to 137Cs) with confidence probability of 0.95:  $\delta\dot{X} = \left(15 + \frac{0.2}{\dot{X}}\right)\%$  where  $\dot{X}$  a numeric value of measured EDR in miliroentgens per hour.
- Energy dependence of the device readings during measurement of gamma radiation is  $\pm 25\%$  within the range of 0.66 – 1.25 MeV.
- The device generates commands and signals in the presence of gamma radiation (during not less than 3 s) in the place of the device location with gamma quanta energy of 0.66 MeV, EDR of which exceeds the threshold level “R” (EDR more than 50 mR/h).
- The device generates commands and signals in the presence of gamma radiation (during not less than 0.1 s) in the place of the device location with gamma quanta energy of 1.25 MeV, EDR of which exceeds the threshold level “A” (EDR more than 14400 R/h).
- The device is powered from the DC onboard mains of 9.0 – 28.5 V voltage.
- Current consumption at rated voltage of 24 V is not more than 1.0 A.
- Time of continuous operation is not less than 48 hours, with subsequent switching off for not less than 2 hours.
- Operating temperature range from -40 to +60 °C.
- Dimension parameters of the device – 160x160x110 mm.
- Weight of the device is not more than 4 kg.
- IP56 ingress protection rating.
- Mean time between failures is not less than 4000 hours.
- Mean service life is not less than 20 years including scheduled maintenance in 10 years.
- Mean shelf life is not less than 15 years. Download operating manual

## Delivery Kit

- DRG-T radiation survey device;
- operating manual;
- logbook;
- mounting parts kit;
- packing box.

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