

# **Kvarts DRSB-01 (Кварц ДРСБ-01) Radioactivity Indicator**

## ***Purpose***

The DRSB-01 radiation detector gives audible and visible indications of elevated levels of radioactivity (ionizing gamma rays and hard beta-rays). You can use it to check the background radiation in a house or workplace and check for contaminated products or food. The device itself does not emit radiation and does not have any harmful effect on the user or environment.

## ***General instructions***

The indicator is intended for use at temperatures from 263 to 313 °K (-10 to 40 °C, 14 to 104 °F), relative humidity up to 80%, normal atmospheric pressure (650-800 mm Hg). Dampness will interfere with its high voltage generating circuit. Keep the radiation detector clean and protect it from impact, dampness, and harsh environments.

After storing or transporting the radiation detector in cold conditions, give it 2 to 3 hours to reach working temperature. Remove the batteries if it is not going to be used for a month or more. Check that the battery contacts are clean before installing batteries.

## ***Basic specifications***

Stabilization after power is turned on takes no more than 5 seconds.

One set of batteries will operate the radiation detector continuously for at least 100 hours under natural background radiation conditions.

The radiation detector weighs less than 0.25 kg (7 ounces avoirdupois).

## ***Description***

The radiation detector is used as a portable handheld device. The case is made of shock-resistant polystyrene. Its indicators are red and green LEDs and an audible clicker.

There should be an audible click about one to four times per second in a normal environment in Europe (somewhat less in the Americas), and the green LED should flash occasionally. This indicates that the radiation detector is working normally.

The green LED signals the presence of radiation levels comparable to the natural background.

The sound clicks become more frequent as the radiation level rises. The red LED (labeled ВНИМАНИЕ “attention”) lights when the radiation level is abnormally high.

The power supply consists of two AA batteries.

### ***How to use the radiation detector***

- (1) Set the power switch OFF (to the left, away from ВКЛ “on”).
- (2) Slide off the battery compartment cover and insert two AA cells with the indicated polarity. Put the battery compartment cover back in place.
- (3) Turn the power switch on (ВКЛ). Characteristic sound clicks and green LED flashes should appear within 5 seconds.
- (4) Switch off the radiation detector when you are finished using it. Because of residual high voltage, some audible clicks may continue for a few seconds.

#### **CAUTION!**

**There is high voltage (440 V) inside the case.**

**Do not disassemble the radiation detector!**

**Do not use it with the cover removed!**

**Follow instructions carefully.**

### ***Operating procedure***

Install batteries in the radiation detector and switch it on (ВКЛ). It should issue 1 to 4 sound clicks per second at natural background radiation rates in Europe (somewhat lower in the Americas).

For testing, it may be necessary to bring a radioactive source close to the detector window, which is a mesh surface on the back panel of the device. In this way you can get the source to within 10 to 20 mm (less than 1 inch) of the Geiger-Müller tube.

When searching for source of radioactivity or comparing different parts of a large object or area, it is recommended that you leave the radiation detector switched on and move it around without switching it off between readings. Test each position for at least 5 seconds.