Geiger counter

GC-1703

User's manual

Thank you for purchasing the GC- 1703 radiometer . This device is based on the most common sensor SBM-20. The case of the device is made of a durable aluminum alloy. A choice of microcontroller and LCD display made it possible to include several modes of operation in the instrument and reduce the number of controls. The device is powered from just one AA-size element ("NiMH or NiCd battery") - the most popular battery for today

We hope that you will like the device, and you can send all remarks and wishes to the email: *tothema@mail.ru*

Important information

To operate the SBM-20 tube, high voltage is used!

To avoid electric shock and device failure,

DO NOT touch the SBM-20 tube with your hands or other objects!

DO NOT immerse the device in water or other liquids and take the product with

wet hands!

DO NOT allow children to play with the appliance!

The device should be protected from direct sunlight!

Terms of Use

5 °C – 40 °C, 20% – 80% relative humidity (without condensation)

ATTENTION!

In the off mode, the device consumes very little current (about 30 μ A), but if the device is not to be used for a long time, it is necessary to remove the battery to avoid its full discharge!

The Geiger counter GC-1703 is designed to measure the radioactivity of various materials, monitor the natural radiation background and search for radioactive sources.



Beginning of work

Before you start, you must install the battery.



- 1.1 Unscrew the screws (4 pcs.) On the bottom cover and remove it
- 1.2 Rotate battery contact
- 1.3 Install the AA size battery (observe polarity!!!)
- 1.4 Turn the contact to the battery and install the bottom cover
- 1.5 Tighten the screws

After installing the battery, the device immediately turns on and start working.

To turn the device off and on again, press the K2 button and hold it for more than two seconds!

Short press K2 - turns on the backlight for a few seconds.

The backlight turns off automatically!

If it is necessary to turn on the backlight for a long time - press the K2 button while the backlight is on. In this case, to turn off the backlight, press the button K2 again. The Geiger counter GC -1703 has three modes of operation:

- Search (normal mode)
- Alarm
- Measurement

To change the operating mode, press and hold button K1 for more than two seconds.

Mode "SEARCH"

The mode is designed to search for sources of radioactivity and to analyze the indications of the radioactive environment in real time.



Screen GC-1703 in the "SEARCH " mode

- 1. Indicator of the discharge of the battery.
- 2. Sound on / off.
- 3. Number of pulses per second (CPS)
- 4. The current value of the dose (the amount of radiation)
- 5. Units of measure (Roentgen / Sievert)
- 6. Amount of accumulated radiation dose
- 7. Graph of activity

A short press of the K1 button in the "Search" mode - turns on or off the sound of detecting a radioactive particle.

The device can display values in micro (miles) Roentgen or micro (miles) Sievert.

To change the units of measurement, it is necessary to: press the K1 button and hold it, immediately press the K2 button.

The selected units will be displayed in all modes, however you can change the units only in the "Search" mode !!!

The value of the radiation dose is stored when the instrument is turned off, and remains in memory even when the power is turned off.

If you want to reset the dose values, you need to do the following:

- 1. Switch off the device
- 2. Remove the battery
- 3. Press and hold button K1
- 4. Insert the battery (observing the polarity !!!)
- 5. After the sound signal, release the button K1

To switch to the next operating mode, press and hold the button K1 for more than two seconds.

Mode "<u>ALERT</u>"

In this mode, you can set one of the threshold limits. If the current measured value exceeds the threshold value, an alarm is activated.



- 1. Threshold value
- 2. «ALERT» mode is on

To change the threshold value, it is necessary: press the button K1 and hold it, and immediately press the button K2.

Short press K2 - turn on / off the backlight.

Pressing the K2 button for more than 2 seconds switches the device on / off..

In this mode, the audio signal is turned on only when the threshold level is exceeded. At the time of particle registration, the sound does not turn on!

To switch to the next operating mode, you must press and hold the K2 button for more than two seconds.

Mode "<u>MEASUREMENT</u>"

This mode is more accurate than the "SEARCH" and "ALERT" modes, however it takes more time.



- 1. Time, before the end of the measurement
- 2. «MEASUREMENT» mode, on / pause / off
- 3. Measurement time scale

Before taking measurements, you must select the measurement time. (greater value of time - greater accuracy)

To change the measurement time, it is necessary: press the K1 button and hold it, immediately press the K2 button.

Place the device near the sample to be measured and briefly press the K1 button.

At the end of the measurement, the device beeps. The progress of the measurement process can be observed on the time scale.

If the K1 key is briefly pressed during measurement, the measurement will stop. If the button K1 is pressed again for a short time, the instrument will return to its original state for a new measurement.

To switch to the next operating mode, press and hold the button K1 for more than two seconds.