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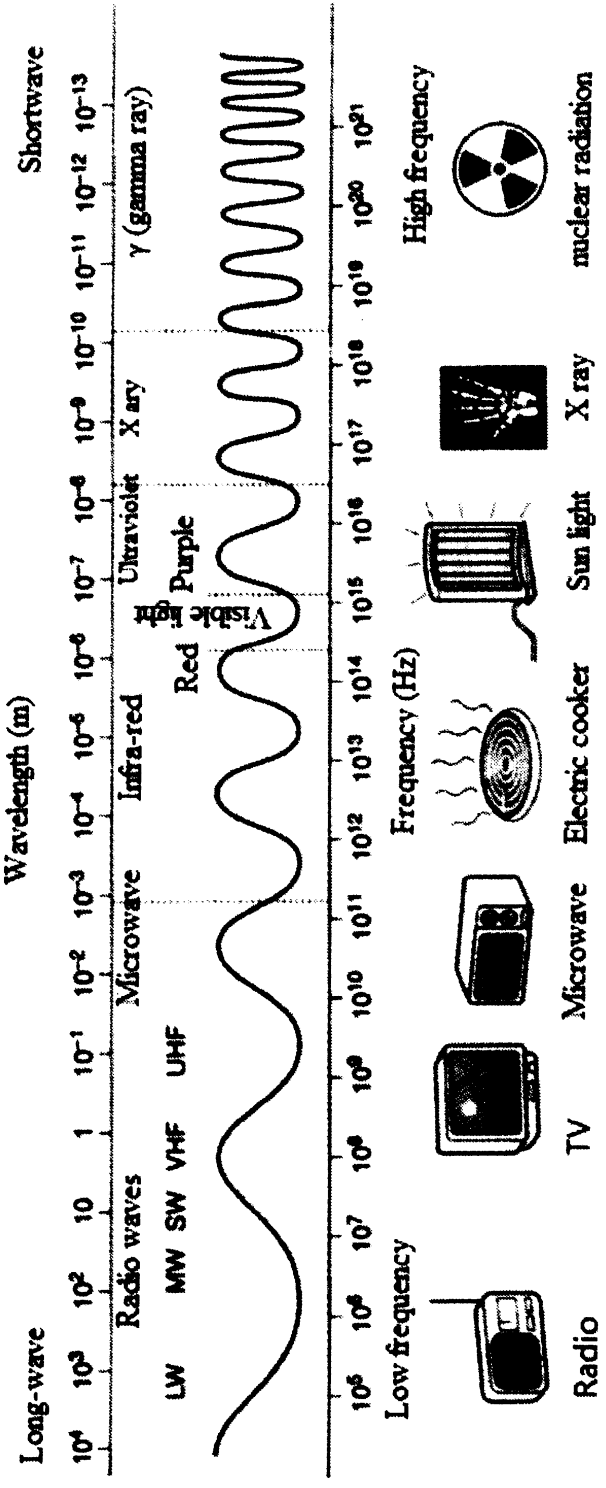
http://ali.pub/3wkv3a

http://ali.pub/3wkv9b

INSTRUCTIONS

Brand: Sanhe Ding Yi Technology Co., Ltd.
Manufacturer: Kailishen (Shenzhen) Electronic Manufacturing Factory
Address: No. 9, Jingnan Road, Buji Sub-District, Longgang District, Shenzhen

BR-9 Series Radiation Detector



Welcome to use BR-9 series radiation detector. BR-9A is an electromagnetic radiation detector. Please read Part I. BR-9B is a nuclear radiation detector. Please read Part II. BR-9C is a full function detector. Please read all the contents.

I. BR-9A instructions

1) Basic knowledge

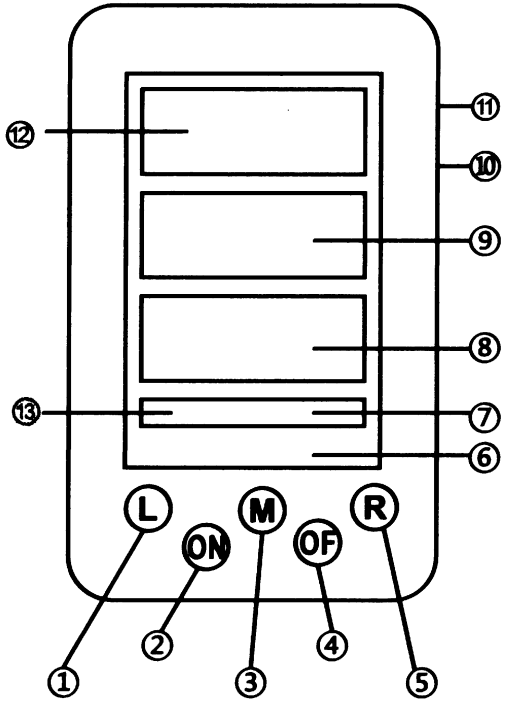
★ Electromagnetic radiation: The interaction of electric and magnetic fields produces electromagnetic waves, which emit or leak into the air. Electromagnetic radiation is an oscillation of an electric field and a magnetic field component, which transmits energy in two perpendicular directions. Electromagnetic radiation can be divided into different types according to frequency or wavelength, including: power wave, high, middle and low frequency radio wave, microwave, visible light, infrared, ultraviolet and xγ-ray. The electromagnetic radiation referred to in this manual and in daily life includes only electric wave, high, middle and low frequency radio wave and microwave.

★ Electric field: The electric field is a field existing in the space around the charge and the changing magnetic field. The electric field excited by changing magnetic field is called induction electric field or eddy electric field, that is, the electric field detected by this detector is not static electric field. Unit: v/m.

★ Magnetic field: The magnetic field is a vector field continuously distributed in a certain space area. Alternating magnetic fields can be generated around current, moving charge, magnet or changing electric field. Unit: μT.

★ Power density: That is, the power received in the unit area. Unit: μw/cm^2.

2): Basic operation



①Mute/ alarm select key

②Boot key

③Test /pause select key

④Shutdown key

⑤Backlight switch key

⑥Icon status area

⑦Electric quantity display

⑧(I) Magnetic field, numerical display and trend map display area

⑨Electric field, numerical display and trend map display area

⑩USB charging port

⑪Charging indicator

⑫Power density, numerical display and trend map display area

⑬Message window and operation prompt area

3) Technical indicators

Test range	Power density 0-99.999μw/cm²
	Electric field intensity 0-999.99 v/m
	Magnetic field intensity 0-99.999μT
Test accuracy	Power density 0.001μw/cm²
	Electric field intensity 0.01 v/m
	Magnetic field intensity 0.001μT
Frequency range	Power density 50MHZ-5GHZ
	Electric field intensity 20HZ-100MHZ
	Magnetic field intensity 20HZ-1MHZ
Power supply	Three 1.5V dry batteries or 1.2V rechargeable batteries
Charge	USB 5v 2A input
Charge time	≥4 hours
Whole machine size	105*70*30 mm
Weight	100g

4) Please refer to GB 8702-2014 for relevant National Standard.

5) Questions and answers:

★ Which electrical equipment radiation are parameters used to test?

Answer: Magnetic field is often used to test socket, charger, energy-saving lamp, electric blanket, hair dryer and other middle and low-frequency equipment.

Electric field is used to test TV, induction cooker and other middle-frequency equipment. Power density is used to test mobile phones, routers, microwave ovens and other high-frequency equipment.

★ Why cannot value return to zero without electric equipment around? How to completely return to zero?

Answer: Our environment is full of electromagnetic radiation all the time, with a variety of television, broadcasting and mobile phone signals everywhere, power density display will not return to zero, because the environment is not zero. The surrounding environment can return to zero by shielding detector. For example, if you buckle two metal basins together to form a shielding cover, and place the detector in the middle, leaving a small gap for observation, you can obtain zero.

★ Can you charge the dry battery?

Answer: No, the dry battery cannot be charged by USB, and there is the risk of leakage if you charge it. It can be charged with 1.2V batteries rather than 3.7V lithium batteries, and dry battery and rechargeable battery cannot be used together. Depending on the battery capacity you use, you can usually charge it full within 4-10 hours. It is normal to feel the battery a little hot after it is fully charged

II. BR-9B instructions:

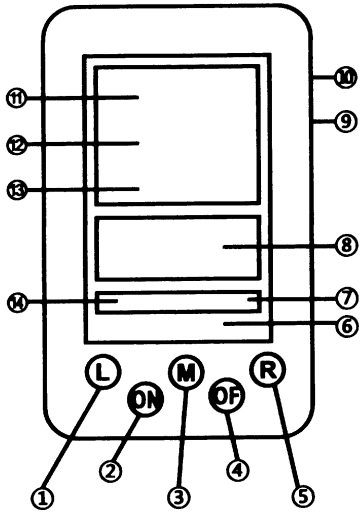
1) Basic knowledge

★ Nuclear radiation: Also known as ionizing radiation, radioactive radiation, it is the flow of microscopic particles released during the transition of nucleus from one structure or energy state to another. Nuclear radiation can cause ionization or excitation of substances to destroy the DNA chain of biological cells.

★ Detection principle: In 1908, German physicist Hans Geiger and British Rutherford jointly designed the world's first Geiger counter. Twenty years later, Geiger and his student Miller further refined the counter so that it could detect all the ionizing radiation. This is the famous Geiger-Miller counter tube (GM tube for short). Because of its high sensitivity and wide detection range, it has been widely used in nuclear physics, medical research, environmental monitoring and industrial fields. The basic structure is a sealed tubular cavity with high voltage of about 400 V applied at both ends. When a particle is injected into the cavity, it produces a single ionization and a pulse signal can be obtained.

★ Background radiation: Also known as natural background, it mainly contains cosmic rays and natural radio-nuclides in nature. Living on the earth's surface, it is inevitable for us to passively accept background radiation all the time. Background radiation varies in different areas and at different altitudes.

2): Basic operation



①Mute/alarm/ particle sound (Ring once for receiving one particle to ring) select key.

②Boot key

③Test/ mean value reset retest selection key

④Shutdown key

⑤Backlight switch key

⑥Icon status area

⑦Power supply

⑧Trend map display area

⑨USB charging port

⑩Charging indicator

⑪Real -time dose display

⑫Mean dose display

⑬Cumulative dose display

⑭Message window and operation prompt area

★ Real-time dose: Update once every second to quickly display the true value of each moment, characterized by large fluctuation and high consistence with sensor detection results. The real-time value is automatically tested and displayed without operation after boot. Unit: μsv/h

★ Mean dose: Record the total dose received over a period of time and convert it into the mean display, characterized by small fluctuation and convenience to check the background value of the environment and weak radiation environment. Press the M key to recalculate the mean value. Unit: μsv/h

★ Cumulative dose: That is, add all the detected doses, and the data will not be lost after shutting down, and historical data will continue to be accumulated after booting up again, and there will be a long-term cumulative sum value. You can press L key and R key simultaneously to clear cumulative value. Unit: msv/h

3) Technical indicators

Sensor types	Energy compensation type GM tube
Detectable types	β, γ AND X rays.
Energy range	20kev~3.0mev≤±30%(137Cs-)
Sensitivity	80cpm/μsv/(Co-60)
Test accuracy	0.01μsv/h
Real- time range	0-99.99μsv/h
Cumulative range	0-99.999msv
Real- time error	≤10%
Mean error	≤3%
Power supply	Three1.5V dry batteries or 1.2V rechargeable batteries
Charge	USB 5V 2A input
Charge time	≥4 hours
Whole machine size	105*70*30 mm

4) Refer to GB 18871-2002 for National Standard.

5) Questions and answers:

★ Which scenarios are parameters used for?
Answer: When we need to take emergency shelter, such as visiting nuclear contaminated sites such as Чорнобиль, Fukushima, Japan, or conducting radioactivity experiments in the laboratory, we need to know the basic radiation intensity quickly

and we just need to check the real-time value. When it is necessary to test the decoration environment with suspicious radioactive materials, such as marble, artificial stone, there is no time urgency, but we need to pay attention to accuracy, we should check the average. When people are exposed to radioactive materials or the environment for a long term, such as radiologists, radiopharmaceuticals management personnel, it is necessary to check the umulative dose, and they can check cumulative value for months or years.

★ Why cannot the value return to zero without strong radioactive material around? How to completely return to zero?Answer: because of the background radiation, it is impossible for the instrument to return to zero. When it is placed in a sealed lead barrel, it will tend to zero (relating to the thickness of the lead barrel).

★ Is the instrument itself radioactive?

Answer: The instrument can detect radioactivity, but it does not have radioactivity itself, it is used to detect based on the physical principle of Geiger tube, and there is no difference from ordinary electronic products.

★ What are the points we need to pay attention to?

Answer: In order to obtain high sensitivity, the glass wall thickness of the Geiger tube of the instrument is only 0.2 mm. It should be handled lightly to avoid falling and bumping, so as to avoid sensor failure.

★ How much is the excess?

Answer: as GB 18871-2002 stipulates, the upper limit of effective dose for the public is 1msv per year, and 20msv for nuclear workers. Please note that the effective dose does not contain background radiation. And the national standard only specifies the annual upper limit. Do we need to continue

testing for one year? For nuclear workers, annual monitoring is indeed necessary. For the public, it is enough to measure the average value by means of reckoning because work and living environment are relatively fixed.

★ Is it right to say that it is harmful if it exceeds the standard and it is harmless if it does not exceed the standard?

Answer: The national standard only stipulates the upper limit of the effective dose absorbed annually. It does not mean that as long as it exceeds the national standard, it will do great harm, and it will be completely harmless if it does not exceed the national standard. Radioactive destruction of biological cells is highly random. There is no equivalent relationship. The general principle is that the less the better, the smaller the better.

★ Why does the detector show a large dose of radiation when we take a plane?

Answer: When the plane flies at the height of 10,000 meters, the air is thin and the radiation intensity of cosmic rays is much higher than that of the earth's surface. It is normal.

III. BR-9C instructions

BR-9C contains all the functions of BR-9A and BR-9B. When you convert the mode, you need to turn off the machine and re-enter the selection page. Please read all of the above.

IV. Warranty regulations

The product is subject to the national Three Guarantees policy. However, it should be made clear that type B and type C contain glass, which is fragile, and precision sensors, so need to be handled lightly. Any breakage caused by external force is not within the scope of free warranty, but they are still subject to paid maintenance.The whole machine is subject to warranty for 1 year from the date of purchase. A small amount of cost is charged for over 1 year or human failure.