

Notice to user

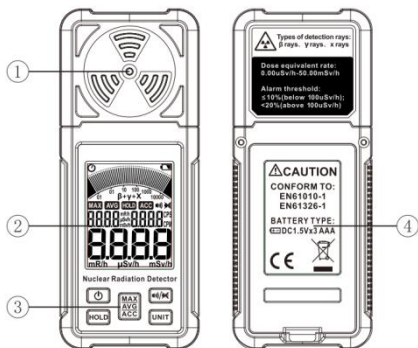
- Please read the manual carefully, especially the warning and caution instructions
- Strictly follow this manual to use the instrument, otherwise the protective function provided by the instrument may be damaged or weakened.
- Before using the instrument, please check if there are cracks or damaged plastic parts on the instrument casing. If there are any, please do not use it again
- When the low battery indicator on the instrument appears, please replace the battery in a timely manner to prevent measurement errors.
- Do not use instruments in areas

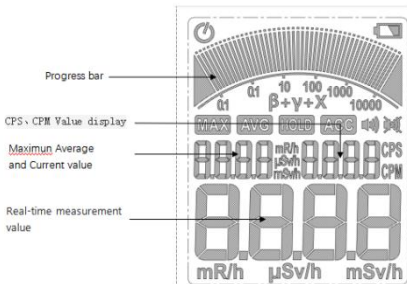
with explosive gases or vapors or in damp environments.

Product Description






This product uses a Geiger-Miller counter. Counter for detecting the intensity of ionizing radiation (beta particles, gamma rays and x-rays). Made based on the ability of radiation to ionize gases. Use a gas tube or a small chamber as a probe, When the voltage applied to the probe reaches a certain range. Each time the ray is ionized in the tube to produce a pair of ions, it can be amplified to produce an electric pulse of the same size. And recorded by the connected electronic device. The number of rays per unit time thus measured.

- ① Status indicator lamp
- ② Display screen
- ③ Keys
- ④ Cell cover





How to operate

1. Short press  button turn on, Long press  button shutdown
2. Short press  button Select μ Sv/h、mR/h、mSv/h unit
3. Long press  button Select CPS、CPM unit
- 4 press  button Open/close buzzer.

5. press **AVG**
ACC button Select display MAX、
AVG、 ACC

6. press **HOLD** button, Hold data display

7. Long press **HOLD** button, Open/close
Auto shutdown function

Product parameters

Product name	Nuclear radiation detector
Types of detection rays	Y rays, x rays, B rays
Detector	Energy Compensation GM Tube (Geiger Counter Meter)
dose equivalent rate	0.00-50000 μ Sv/h (50mSv/h)
Cumulative	0.00 μ Sv-5000mSv

dose equivalent	
Energy range	48keV–1.5MeV $\leq\pm$ 30%(for ^{137}Cs –)
Language	80CPM/ μSv (For Co –60)
Dosage unit	$\mu\text{Sv/h}$ 、 mR/h 、 cps 、 cpm Switch
Accuracy	$\leq\pm 15\%$ (100 $\mu\text{Sv/h}$ below); $\leq\pm$ 20%(100 $\mu\text{Sv/h}$ above and 1000 $\mu\text{Sv/h}$ below); $\leq\pm$ 25%(1000 $\mu\text{Sv/h}$ above)

Conversion of radioactive units

(1). International Standards (1990)

1. Radioactive staff:

20mSv/year(10 μ Sv/hour)

2. General public:

1mSv/year(0.50 μ Sv/hour)

(2). Unit conversion

1 μ Sv/h=100 μ R/h 1nc/kg.h=4 μ R/h

1 μ R=1 γ (The unit used for prospecting in the pronuclear industry)

Radioactivity:

1Ci=1000mCi

mCi=1000 μ ci

1Ci=3.7x10¹⁰Bq=37GBq

1mCi=3.7x10⁷Bq=37MBq

1 μ Ci=3.7x10⁴Bq=37KBq

1Bg=2.703x10⁻¹¹Ci=27.03pci

Exposure:

1R=10³mR=10⁶ μ R

$$1R=2.58 \times 10^{-4} \text{C/kg}$$

Absorption metering:

$$1\text{Gy}=10^3\text{mGy}=10^6\mu\text{Gy}$$

$$1\text{Gy}=100\text{rad}=100\mu\text{rad}=1\mu\text{Gy}$$

Metering equivalent:

$$1\text{Sv}=10^3\text{mSv}=10^6\mu\text{Sv}$$

$$1\text{Sv}=100\text{rem} \quad 100\mu\text{rem}=1\mu\text{Sv}$$

Radon unit:

$$1\text{Bg/L}=0.27\text{em}=0.27 \times 10^{-10}\text{Ci/L}$$

Other:

1Sv is equivalent to 1Gy 1g

radium=0.97Ci \approx 1Ci

(3) Calculation of radioisotope decay values

$$A=A_0 e^{-\lambda t} \quad t=T_{1/2};$$

A_0 The known source strength A is how much time has elapsed, According to the radioactive decay calculation table

look-up table calculation.

(4) The relationship between radioactive source and distance:

The intensity of the radioactive source is inversely proportional to the square of the distance.

$X=A.r/R^2$: The activity of the point source; R: Distance from source;

Note: Ra-226(t 1608yr) $r=0.825$ ren.m²/hour. Curie

Cs-137(t 29.9years) $r= 0.33$ ren.m²/hour. Curie

Co-60(t 5.23 years) $r=1.32$ ren.m²/hour. Curie

According to the radioactive decay calculation table, lookup the table to calculate the radioactive shielding:

Halved and reduced to 1/10 value (cm) for different substances

Radioactive source	Pencil	Iron	Concrete
	Halving	1/10	Halving 1 / 10
	Halving	1/10	

Cesium-137	0.65	2.2	1.6	5.4	4.9	16.3
Iridium-192	0.55	1.9	1.3	4.3	4.3	14.0
Cobalt-60	1.10	4.0	2.0	6.7	6.3	20.3

General maintenance

- The maintenance and service of this instrument must be carried out by professional and qualified maintenance personnel or maintenance departments.
- Please keep it dry and clean the surface of the instrument with a soft cloth before use. Do not use cleaning agents or solvents.
- Please recycle and utilize damaged instrument accessories and packaging materials in a way that

meets environmental requirements

- Please shut down the device promptly when not in use for a long time.
- Do not disassemble or replace components without permission to avoid malfunctions
- Please store in a dry place when not in use


Battery installation or replacement

The instrument uses 3 AAA (No. 7) 1.5V batteries. Please follow the steps below to install or replace the batteries

- 1) Turn off the power supply of the instrument
- 2) Use a screwdriver to unscrew the screws that secure the battery cover and remove the battery cover

- 3) Remove the old battery and install a new one according to the polarity marked in the battery box
- 4) After installing the new battery, cover the battery cover tightly and tighten the screws

warning

- To avoid potential electric shock or personal injury caused by incorrect readings, Replace the battery immediately when  symbol is displayed on the display screen.
- Please use batteries of the same model and do not use substandard batteries.
- To ensure safe operation and maintenance of the instrument, please remove the battery when not in use for a long time to prevent

battery leakage and damage to the product.