# User Manual
# Radiation Meter PCE-RAM 6

## 1. Functional overview

Radiation individual alarm device is collocated with highly flexible Geiger counting pipe as detector;it is mainly responsible for monitoring the radiation of X, y and hard β ray in various radioactive work areas; it is featured as swift response and broad measurement scope; It is able to display the dosage equivalent rate it is widely applied in the individual safety protection monitor and radioactive indication for work personnel in the following fields:nuclear power plant, accelerator, iron & steel industry, chemical industry, isotope application, industrial X and y non-destructive flaw detection, radioactive medical treatment, Cobalt soure treatment, y radiation, radioactive laboratory and surrounding environment monitor of nuclear facilities.

## 2.Features

1. Monitor X, gamma and hard beta rays.
2. With high sensitivity, the instrument can also measure the environment background.
3.Interface using all of Chinese,Traditional Chinese and English.
4.Graphic LCD with adequately big screen.
5.Optional alarm modes including sound/vibration.

## 3.Technological Parameters

1.Radiation Detection: X, gamma and hard betarays
2.Detector: energy compensation GM tube(Geiger counter tube)
3.Normal content standard within 0.5μs V/h
4.Measurement range
Dose equivalent rate: 0.00-1000uSV/h(maximum 10mSv/h)
5. Energy range: 48 ke V-1.5 MeV ≤±30% (for137Cs-)
6.Sensitivity: 80 CPM /μSw/h(for Co-60)
7. Measurement display: the dose rate display will update every second and the protect alarm display is shorter than 5 seconds.
8.Operating environment: temperature -10℃ ~+45℃. Relative humility:≤95%(+45℃)
9.Dimensions:143×77×28mm

## 4. General Operation Method

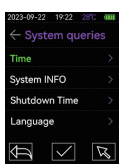
1.Startup

Press and hold 【O】button for 3seconds and the instrument will start up. TheLCD display is as the following figure:

1)Shutdown
Press and hold 【O】 button for 3 seconds, and the instrument will shut down.
2)Measurement
The instrument will be in measurement mode since startup. There are two measurement values: one is dose rate in the unit μSv/h； the other one is accumulated dose,which is the accumulative value of dose rate for some time, with units of μSv or mSv. The instrument will ring an alarm as the preset alarm mode when a type of value exceeds the set alarm threshold.
3)Refresh: Press the 【O】 key to restart the device for testing.
4)Alarm settings: audible alarm, vibration alarm

## 5. System settings

In the system settings (“System queries”), you can view the history of your measurements, including start time as well as the duration of the measurement and the accumulated value in this time period. You can also set language, shut down time and the alarm limit for the measurement. System information can be seen as well.




**Menu** **Move Options**
**Refresh** **Select**
**Alarm Settings** **Back**

## Relevant Knowledge for Radioactive Unit

## 6、 Conversions

I. International standard(our country implement this standard) 1990
1.Radioactive staff: 20mSv/a
2.General Public: 1mSy/a
Note: the standard above is according to ICRP suggestions and GB-492-84 regulations.

II.Relationship between Radioactive Resource and Distance
The strength of the radioactive source is ininverse proportion of the square of the distance.
X= A.r/R2
A:the activity of point radioactive source;
R: the distance to the source;
r: the constant of exposure rate

## 7.Accessories List

| Item | Quantity |
|---|---|
| Radiation Meter | 1 |
| User Manual | 1 |
| USB-C Cable | 1 |
| Instrument box | 1 |

## 8, Notice

The PCE-RAM 6 is a precise nistrument.
Please protect it carefully. The following suggestions are for the maintenance and life extending of the instrument.
a、Keep it dry as much as possible in the process of storage and use, too much moisture will cause instrument damage.
b、Do not drop. knock or severely shake the detector, or it will cause damage of this detector.
The company reserves the right to theimprovement of product performance ormodification of the manual without priornotice to users.

## 9、 Safe Operation Norms

Please read the manual carefully. It may cause the improper working of the instrument if the user doesn't operate following the manual.
Any unauthorised rebuild or maintenance may cause damage of this instrument.
When at work, if you suspect that the instrument may malfunction, please turn off the instrument and quickly withdraw from hazardous location. Contact the manufacturer as soon as possible.
Notice:
The company has the final right to interpret this manual. The company reserves the right to improve product performance and modify this manual without prior notice to users.