

USER MANUAL

RADIATION DETECTOR

PCE-RAM 9



ENGLISH



User manuals in various languages (français, italiano, español, português, nederlands, türk, polski) can be found via our product search on:
www.pce-instruments.com

OVERVIEW

- » This dosimeter uses a Geiger-Muller counter tube to measure radiation. When each ray passes go through the GM tube and causes ionization, the GM tube generates a detection current pulse, and each pulse is detected by the electronic tube circuit and recorded as a count, the displayed value of this dosimeter is the count value in the mode you selected.
- » Due to the random nature of radioactivity, the count value detected by the dosimeter varies from minute to minute. It is more accurate to take the readings within an average period of time, and the longer the interval is, it is more accurate the average counts.
- » The detector is used to measure β , γ and X-ray radiation, it is optimal for measuring small changes in radiation levels, and has high sensitivity for most commonly used nuclides.

APPLICATIONS

- » Safety organizations, such as police and fire brigade, emergency response organizations environmental protection organizations, hazardous materials disposal, metal recycling companies, mines, etc, have a higher chance of being exposed to various radioactive substances.
- » Ports, wharves, airports, etc, because of the large flow of people and various import and export goods, especially involving entry and exit personnel, the probability of radiation pollution is high.
- » Hardware factories, ceramic factories, hospitals, research institutions, laboratories, drug administrations, universities, etc., they have a higher chance of being exposed to various low-intensity or leaking radiation.
- » Private individuals who are concerned about the quality of the living environment and personal safety, such as someone who wants to find the surrounding environmental pollution at home, food, water, etc. (various accidents or terrorist attacks, etc.).

BUTTON FUNCTION



Switch button:

- » Short press to turn on or off



Enter button:

- » Exit to the main interface
- » The parameter setting interface can be pressed to exit
- » Press to exit the historical trend interface
- » The historical data interface can be pressed to exit

**Mode button:**

- » The parameter setting mode is adjustable
- » Pages can be shifted in the historical trend interface
- » Pages that can be shifted in the history interface

**Settings button:**

- » Short press enter function parameters
- » The parameter setting mode is adjustable
- » Pages that can be shifted in the history interface
- » Pages that can be shifted in the history interface

**Alarm value setting button:**

- » Short press to enter the alarm value setting, press this button again to increase the alarm value
- » Pages that can be turned up in the historical trend interface
- » Pages that can be turned up in the history interface
- » Select the parameter item up on the function parameter interface

**Temp. unit conversion button:**

- » Short press to switch °C or °F units
- » Pages that can be turned down in the historical trend interface
- » Select the parameter item down on the function parameter interface

**Historical trend button:**

- » Short press to enter the historical trend interface

**Audible alarm button:**

- » Short press to turn on or off the alarm sound

OPERATION DESCRIPTION

Power on or off:

Short press the POWER button to switch on/off

Temp. unit conversion:

Short press the TEMP button to switch °C/°F

REC data interval time setting:

During automatic measurement press the SET button once can enter the function parameter interface, press the TEMP button to select the time interval modification item, at this time, you can press MODE / SET button to select the desired [recording interval], when finished, press the ENTER button to return to the main interface.

History record query:

Press SET once and press ENTER <History record>, press MODE/SET to shift pages, press UP/DOWN to check the record pages.

Function parameter setting entry steps:

Press SET once, enter <function parameter>, press UP/DOWN to move and select the corresponding parameter item, press MODE/SET to select the modified parameter press ENTER to save and exit to the main interface.

Record interval:

Press UP/DOWN to select the recording interval setting press MODE/SET to select 10 s/30 s/60 s/3 min/10 min/30 min/1 h recording interval, after selection, press ENTER to save and exit to the main interface.

Alarm volume:

Press UP/DOWN to select the alarm volume setting.

Press MODE/SET to select 1/2/3/4/5 volume.

Change time:

Press UP/DOWN to select change time setting

Press MODE/SET to select the date and time digits, press UP/DOWN to increase or decrease the value.

After completion, press ENTER to save and exit to the main interface.

Language switch:

Press UP/DOWN to select language switch settings, press MODE/SET to switch between Chinese/English.

After completion, press ENTER to save and exit to the main interface.

Delete data:

Press UP/DOWN to select the delete data setting, press MODE/SET to select yes or no. After completion, press ENTER to save and exit to the main interface.

Auto shutdown time:

Press UP/DOWN to select the shutdown time setting, press MODE/SET to select 10 min/30 min/1 h/2h. After completion, press ENTER to save and exit to the main interface.

TECHNICAL SPECIFICATIONS

Detector:	Energy compensated GM tube
Detection ray:	β -rays , γ -rays , X-rays
Energy Range:	20kev ... 3.0mev $\leq \pm 30\%$ (137Cs-)
Flexibility:	80cpm/ μ SV/ (Co-60)
Testing accuracy:	0.01 μ SV/h
RT measurement range:	0.00 ... 10mSv/h
Cum measurement range:	0.00usV/h ... 999.9Sv
RT accuracy:	$\leq 10\%$
Avg accuracy:	$\leq 3\%$
Record groups:	1000 groups
Supply battery:	5V/USB 3.7V lithium battery/2200mAh
Battery service life:	2 ... 3 hours
Temp.measurement range:	20 ... 60°C
Temp.measurement resolution:	0.1%
Temp.accuracy:	$\pm 2^\circ\text{C}$
Humidity measurement range:	0 ... 100%
Humidity accuracy:	$\pm 3\%$
Humidity resolution:	0.1%
Screen:	3.2 inch full-color screen (320*240)
Net Weight:	750g
Size:	222x80x46mm
Probe wire:	Around 1.5m (waterproof, the probe can be placed in water for water detection)

COMMON PROBLEM ANALYSIS

Inaccurate data

- » The battery power is too low to start the core components to work here is a problem with the core components

Doesn't boot

- » The battery is dead or damaged, use the USB port to supply power. If the machine can be turned on and the battery level in the upper right corner changes, then the battery is dead if there is no change, only the OK icon will be displayed, it means the battery is damaged.
- » The +/- polarity of the battery is reversed. It should be noted that the one end of the battery without the protruding contact point is the „-“ pole, and the end with the protruding contact point is the „+“ pole.

DISPOSAL

For the disposal of batteries in the EU, the (EU) 2023/1542 directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose. In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law. For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations. If you have any questions, please contact PCE Instruments.

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