



Model: AR999

Radiation Detector Instruction manual



Foreword:

- Thank you for purchasing our company's radiation detector.
- This manual provides relative information on how to use the unit and warnings in operation. To make the best use of this product's functions, read this manual thoroughly before use. Please keep this manual for quick reference.



Specific Declarations

- a. We reserve the rights of the update and amendment of the product design and the manual which are subject to change without further notification.
- b. Dispose of battery should in accordance with local laws and regulations.



Maintenance

- ◆ In order to maintain its performance ,you must always follow these simple directions
- ◆ Handle the tool with care , Treat it as an optical device , such as a camera or binoculars
- ◆ Avoid exposing the tool to shock ,continuous vibration or extreme hot or cold temperature
- ◆ Store the tool indoors when not in use , always store the tool in its protective case
- ◆ Keep the tool free of dust and liquids , use only a clean , soft cloth for cleaning it necessary ,slightly moisten the cloths with pure alcohol or a little water for the optical device hand the tool with care treat as a camera and binoculars
- ◆ Check the batteries regularly to avoid deterioration , remove the batteries from the tool it is not going to be sed for an extended period of time
- ◆ Replace the batteries when the battery icon is continuously empty displayed on the LCD
- ◆ Do not disassembled the instrument ,this will be expose the user to hazarous radiation exposure
- ◆ No not attempt to change any part of the unit.

Contents

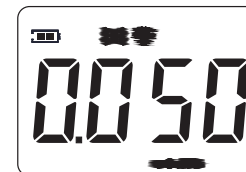
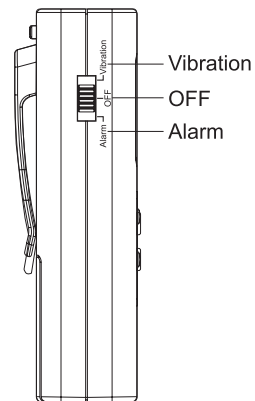
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1. Preparation for operation

Inspect

Unpack your kit and ensure that you have the following items. In case that any item is missing or if you find any mismatch or damage, promptly contact your dealer.

- | | |
|-------------------------|------|
| ➤ Unit | 1pc |
| ➤ Black nylon cloth bag | 1pc |
| ➤ 1.5V AAA battery | 3pcs |
| ➤ English Manual | 1pc |
| ➤ Gift box | 1pc |



When slide to Vibration position displayed



When slide to Alarm position displayed



When slide to OFF position displayed

(Fig.16)

The value of the preset threshold level is fixed after all digits are programmed by short pressing of the THRESHOLD button. To fix a new value of the threshold level, set all digits on the LCD by pressing THRESHOLD button. The alarm signal indicates the the programmed threshold level during measurement has been exceeded.

Note: If the preset alarm value is 0.000, indicating that the alarm function will switch off automatically.

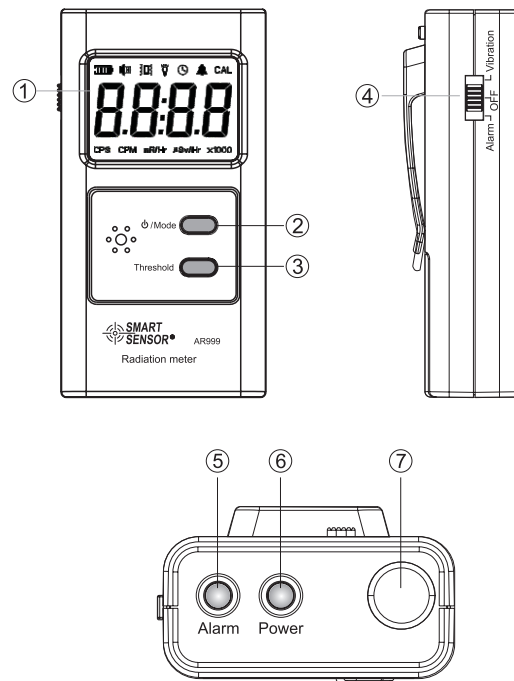
6. Press shortly the MODE button to switch the mode of accumulation time on, the time will be cleared by press THRESHOLD button and reclock once again.
The digits from the right to left will indicate the following:
the first digits indicates minutes; the second one-tens of minutes; the third one-hours; the fourth one-tens of hours.
(see fig.15)



(Fig.15)

7. Slide the switch to select vibration alarm or audio alarm, and the LED light keep blinking. (see fig.16)
8. Low voltage alarm
9. Working current $\leq 120\text{mA}$
10. Power: 3*AAA battery
11. Product size 110*58*34 mm

2. Parts / accessory introduction



(fig1)

- 1.LCD
- 2.ON/OFF button
- 3.Threshold button
- 4.Switch
- 5.LED light Indicator for alarm
- 6.LED light indicator for power
- 7.Sensor cover

3. LCD Display



(Fig2)

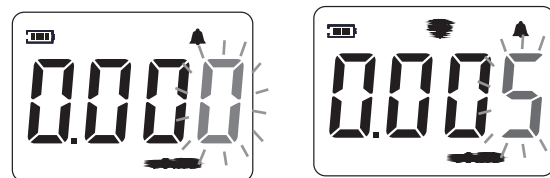
- A. **8888**: The numeric display shows the current radiation level in the unit specified by the mode switch setting.
- B. : Battery icon



(Fig 12)

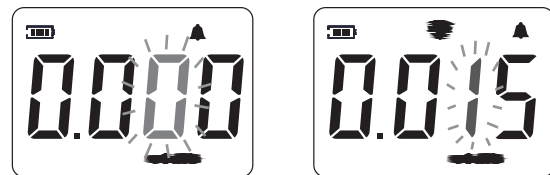
Total mode, calculate the equivalent dose of cumulative particles.

5. Press shortly the MODE button to switch the mode of alarm on, programming of alarm threshold level by press THRESHOLD button. To start programming, press the THRESHOLD button until the low-order digit start blinking on the LCD. Set the appropriate value of the low-order digit by successive pressing and releasing the MODE button.(see fig.13)



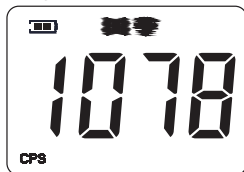
(Fig 13)

Press shortly the THRESHOLD button to program the next digit, which will start blinking at that. Programming of other digits is performed likewise (see fig.14)



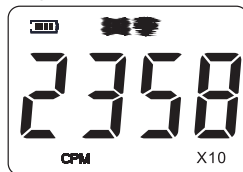
(Fig 14)

(fig 6)



CPS(counts per second):
calculate the equivalent dose
(particles) in last one second.

(fig 7)



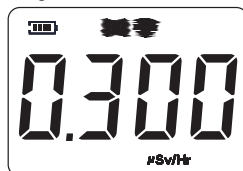
CPM(counts per minute):
calculate the equivalent dose
(particles) in last one minute, the
actual value is 23580(2358x10)
as above fig.6 shown.

(fig 8)



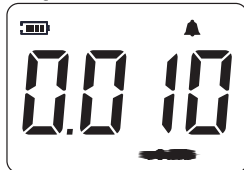
MR/hr(milliroentgen per hour):
equivalent dose rate of radiation
measured.

(fig 9)



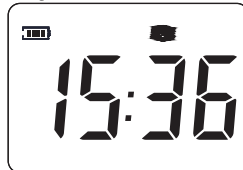
uSv/hr(microsieverts per hour):
equivalent dose rate of radiation
measured. (the natural background
radiation is about 0.22uSv/hr)

(fig 10)



On the alarm setting mode, it will
alarm if the measurement exceeded
the programmed threshold level.

(fig 11)



Timer mode,calculate the cumulation
time and will reclock every 24 hours,
the minimal unit is minute,

- C. : Audio alarm indicator when the alarm feature is on.
- D. : Vibration alarm indicator when the alarm feature is on.
- E. : Alarm light indicator, backlight off
- F. : Timer
- G. : Upper limit of alarm value setting
- H. **CPS** : the particles measured in last second
- I. **CPM** : the particles measured in last minute
- J. **mR/hr** : unit of measurement(alpha,beta,gamma & X-ray).
- K. **uSv/hr** : unit of measurement(gamma & X-ray).
- L. **x1000** : appears when the radiation level is displayed in CPM
mode or total mode.The actual value is the reading
X1000.

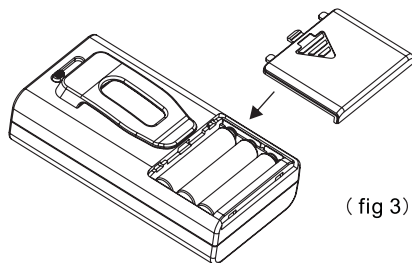
4. Description and operation of radiation detector

Purpose of use

The radiation meter is designed to measure equivalent dose and equivalent dose rate of alpha ,beta and gamma particles flux density.It is used for dosimetry and radiometry control in industrial enterprises ecology research , apartment, building, and construction control;ground-surface continuous territories and vehicles control; personal radiation safety;visual aids for educational institutions.

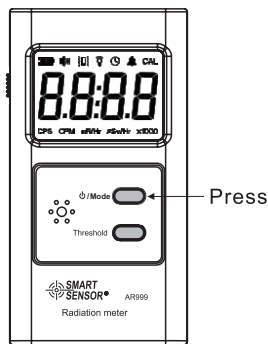
5. Quick start operation

1. Insert 3*AAA 1.5V batteries into battery compartment, and then cover the compartment.(see fig.)



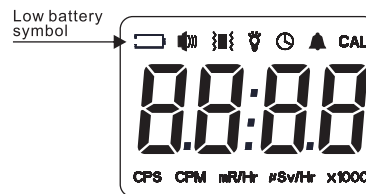
(fig 3)

2. Press shortly the MODE button to switch the unit on,the information displayed on the LCD as the following fig.4 Press the MODE button once again and hold it pressed for three seconds to switch the unit off.



(fig 4)

3. After full screen displayed , if low battery icon displayed on LCD, please replace battery quickly.(see fig.5)



(Fig5)

4. After the unit is switched on, select CPS mode, CPM mode, MR/hr mode, uSv/hr mode, alarm setting mode, timer mode, total mode by press MODE button. CPM CPS. The display shows the current radiation level in counts per minute from 0 to 300,000. When X1000 is shown, multiply the numeric reading by 1000 to get the complete reading. When CPS unit is used, the display shows the current radiation level in counts per second from 0 to 5000. MR/hr μ Sv/hr. The numeric display shows the current radiation level in milliroentgens per hour from .001 to 100. When SI units are used, it shows the current radiation level in microsieverts per hour, from .01 to 1000.