

# YAOREA YRG01 Geiger Counter - User Manual (English Translation)

## Manufacturer

Jinan YAOREA Electronic Technology Co., Ltd.

## Panel Overview

Buttons and Indicators:

1. Display area
2. Power/Menu
3. Confirm/Time
4. Up/Unit
5. Down/Stats
6. Bluetooth Indicator Light
7. Reset Button

## Features

- Radiation Detection: Measures alpha, beta, gamma, and X-rays to assess environmental radiation levels.
- Unit Conversion: Automatically switches units; displays cumulative dose, average dose, and real-time dose.
- Data Logging: Saves a value every minute for up to 170 days. Logged data shows trends over time.
- Alert Function: Audible and visual alerts when thresholds are exceeded.
- LED Indicator: Shows device status and alarm condition via color and brightness.

## Display Units

- CPM/CPS: Counts per minute / per second.
- $\mu\text{Sv/h}$ : Microsieverts per hour.
- $\mu\text{R/h}$ : Microroentgens per hour.
- $\mu\text{Gy/h}$ : Micrograys per hour.

## Unit Conversion Reference

1. Sievert conversion:  $1 \text{ Sv} = 1000 \text{ mSv} = 1,000,000 \text{ }\mu\text{Sv}$
2. Roentgen conversion:  $1 \text{ R} = 1000 \text{ mR} = 1,000,000 \text{ }\mu\text{R}$
3.  $1 \text{ }\mu\text{Sv/h} = 100 \text{ }\mu\text{R/h}$

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## Button Functions - Main Screen

- Power/Menu: Short press opens menu. Long press turns off device.
- Confirm/Time: Toggles between date, day, hour.
- Up/Unit: Toggles between unit types:  $\mu\text{Sv/h}$ , CPM,  $\mu\text{R/h}$ ,  $\mu\text{Gy/h}$ .
- Down/Stats: Switches between dose rate, average dose, cumulative dose, and dose limit. Use to clear limits when exceeded.

## Using the Device

1. Power Off Mode: Press power/menu to start.
2. Low Power Mode: Press any button to wake up.
3. Main Screen Shows:
  - Current dose rate
  - Accumulated dose
  - Average dose
  - Max dose
  - Date/time
  - Battery level

## Menu Navigation

- Power/Menu: Enter menu
- Confirm/Time: Exit menu
- Up/Unit: Scroll up
- Down/Stats: Scroll down

## Log Data Viewing

- Shows trend graphs of historical values.
- First row: values and timestamps
- Second row: hour-by-hour dose graph
- Navigate to earlier dates with arrow keys.

## Settings

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## 1. Alarm Levels:

- Low: 0.1s beep, stops after 1s
- Medium: 0.1s beep, stops after 5s
- High: 0.1s beep, stops after 0.2s

Alarm sounds only when measured value exceeds threshold.

## 2. Time Settings: Set current date/time.

## 3. Backlight Settings: Adjust screen brightness and off delay.

## 4. Sound Settings: Toggle beeps for button presses, alarms, and startup/shutdown.

## 5. Bluetooth: Toggle Bluetooth and set address.

## 6. Auto Power On/Off Settings

## 7. Reset Function: Resets settings (but NOT logged data).

## 8. Lighting (RGB LED) Settings:

- a. Touch-Off: Always off
- b. Touch-Normal: Low-power shuts it off, wakes on resume
- c. Touch-Always On: Always on
- Adjust color balance using RGB sliders

## 9. Language: English or Chinese

## Measurement Range

### - Dose Rate:

- 0.000  $\mu\text{Sv/h}$  to 999.999  $\mu\text{Sv/h}$
- 0.000  $\mu\text{R/h}$  to 999.999  $\mu\text{R/h}$
- 0.000  $\mu\text{Gy/h}$  to 999.999  $\mu\text{Gy/h}$

### - Counts:

- 0-999999 CPS (Counts per Second)

## Warnings

1. Battery Polarity: Dont insert the battery backwards.

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2. Disassembly Warning: High voltage inside - do not disassemble.

## Specifications

- Battery: 18650 lithium-ion, 3.6V
- Power Consumption:
  - Normal (30% brightness, standby mode): >70mA
  - Low-power mode (display and RGB off): >11mA