

Instruction Manual



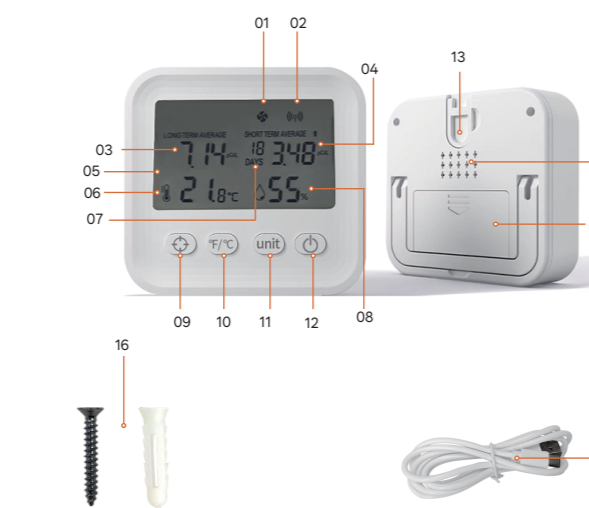
Product Introduction

It is a mini radon gas detector. It displays the long-term average and short-term average of radon concentration, temperature and humidity, allowing you to clearly understand the overall level and recent changes of radon concentration in your environment. It is easy to operate and has a calibration button, making it convenient for you to calibrate the instrument regularly to ensure the accuracy of measurement data. There are two unit switching buttons, one for switching radon concentration units, to meet your different reading habits and professional needs; the other is used to switch temperature units, whether it is Celsius or Fahrenheit, it can be switched with just one click. The power supply method is simple and convenient, using AAA batteries. Simply insert 2 batteries and turn on the device, the instrument will start running. Whether in daily home testing, small office spaces, laboratories, or other scenarios, we can easily provide you with reliable radon concentration and environmental temperature and humidity monitoring services.

Description of accessories

| Item | Quantity |
|----------------|----------|
| Main Device | 1 |
| English Manual | 1 |
| Screws | 2 |
| Type-C Cable | 1 |

Noted : 2* AAA Battery are not included.



| | |
|--|---------------------------------|
| 01 Normal Communication Status Indicator | 02 Calibration Signal Indicator |
| 03 Long Term Average Reading | 04 Short Term Average Reading |
| 05 LCD Display | 06 Temperature |
| 07 Working Days | 08 Humidity |
| 09 Calibration Button | 10 Temperature Switching Button |
| 11 Radon Unit Switching Button | 12 Power Button |
| 13 Wall Mounted | 14 Radon Sensor |
| 15 Battery Compartment | 16 Screws |
| 17 Type-C Cable | |

How To Use

Step 1: Install the battery

1.1 Prepare 2 AAA batteries

1.2 Open the battery compartment

1.3 Installing the battery

Insert 2 new AAA batteries, ensuring that the positive and negative directions are consistent with the markings inside the compartment (+/- symbol). Gently push the battery until it is fully inserted into the slot.

1.4 Closed battery compartment


Step 2: Power on

2.1 Starting the device

Short press the power button until the screen lights up.


2.2 Waiting for initialization

The screen will display the startup screen and then enter self-test Mode (approximately 10 seconds).

After the self-test is completed, the  indicator on the screen will light up every 1 second, indicating that the device is communicating normally.

The device will enter to low-power working mode when there is no operation within 10 seconds.

Manual calibration

Short press the Calibration button, the  indicator lights up, the device automatically start the calibration program, the original monitoring values and working days are immediately reset to zero.

Note 1 : Keep the device stationary in a stable environment (it is recommended to stay away from interference sources)

After calibration is completed, the display screen will restore the monitoring value display, but the working days will not restore, it is irreversible.

Note 2 : The complete calibration process takes about 1-2 minutes. Do not move devices or obstruct sensors during calibration.

Temperature Unit Switching

Short press the Temperature switching button, Celsius and Fahrenheit can be switched.

Radon Concentration Units Switching

Short press the Radon unit switching button, pCi/L and Bq/m³ can be switched.

Power Options

1. Battery Operation

Insert 2 standard AAA batteries (not included) for portable cordless use.

2. Wired DC Power

Connect via USB Type-C cable to any compatible AC adapter (adapter not included) for continuous operation.
Note: This device operates without internal lithium batteries. Power is supplied exclusively through either replaceable AAA batteries or external DC power sources.

FAQ:

Q1: What is radon gas?

Answer: Radon gas is a radioactive noble gas primarily originating from the decay of uranium in soil and rock formations. It typically infiltrates buildings through ground penetration. With a higher density than air, radon tends to accumulate in lower areas, particularly near floor surfaces.

Q2: Does the radon concentration measured at floor level by the detector equal airborne radon concentration?

Answer: No. Radon concentrations near floor surfaces may exceed those at elevated positions due to radon's higher density, which causes gravitational settling. Measurements taken directly on the floor reflect source-proximal concentrations, whereas central or elevated areas of the room may exhibit lower values.

Q3: How long does the device require to display accurate readings?

Answer: Measurement duration varies by operational mode:
Rapid Mode: Delivers stabilized readings within 48 hours of initial activation.
Long-Term Mode: Requires continuous monitoring for at least 7 days to establish spatial average concentrations.

Q4: Can this device test radon in water?

Answer: This instrument is exclusively designed for air medium analysis. For aqueous radon testing, use dedicated hydro-radon testing equipment to prevent sensor damage.

Q5: At what concentration threshold should corrective action be taken?

Answer: Per WHO safety guidelines:
2.70 pCi/L (100 Bq/m³): Implement mitigation measures (e.g., enhanced ventilation, crack sealing).
8.10 pCi/L (300 Bq/m³): Engage certified professionals for structural remediation.

Q6: Why do radon readings exhibit sudden fluctuations?

Answer: As a gaseous radioactive element, radon concentrations are dynamically influenced by:

Atmospheric pressure changes
Temperature/humidity variations
Ventilation rate shifts (e.g., door/window operation) intermittent soil gas infiltration

Resolution:

Maintain continuous monitoring for > 48 hours
Conduct critical measurements only after maintaining closed conditions for 12 hours

Q7: When should manual calibration be performed?

Answer: Initiate calibration under these conditions:
Following significant environmental condition changes
Upon detection of abnormal measurement deviations

Precautions

To ensure accurate data reliability and prolong device service life, strictly adhere to the following operational protocols:

I. Pre-Detection Preparation

1. Environmental Sealing

Close all windows, doors, ventilation systems, and air conditioning for at least 12 hours prior to detection to stabilize indoor air conditions.

Seal potential radon entry points (e.g., floor drains, sewer openings).

2. Device Placement

Location: Prioritize placement in frequently occupied areas (e.g., bedrooms, living rooms). Avoid high-humidity or airflow-disturbed zones (e.g., kitchens, bathrooms).

Stability: Place the detector on a flat, stable surface to avoid vibrations or tilting.

II. Operational Protocols During Detection

1. Environmental Control

Prohibit opening windows, doors, fans, or air purifiers during detection.

Avoid smoking, combustion activities, or aerosol sprays in the detection area.

2. Device Management

Long-term detection (> 3 months): Ensure uninterrupted power supply. Relocating or interrupting the device during operation is strictly prohibited.

Short-term detection: Strictly adhere to the preset duration (e.g., 48 hours). Early termination is not permitted.

III. Device Maintenance and Interference Mitigation

1. Protective Measures

Avoid contact with water, oil, dust, or direct sunlight. Clean only with a dry cloth.

Keep the device away from strong electromagnetic fields (e.g., microwaves, transformers) and extreme environments (>40°C or <10°C).

2. Calibration Requirements

Manual calibration: When the environment changes greatly or the reading is abnormal, please calibrate manually.

Post-impact recalibration: Immediate recalibration is mandatory after severe shocks or drops.

Storage: Remove batteries and store in a dry, cool environment if unused for extended periods.

IV. Data Interpretation and Response

1. Data Validity

Short-term results are for reference only; long-term data (> 3 months) more accurately reflect.

Product Specifications

| Item | Parameters |
|------------------------------|--|
| Product Size | 90*85*28mm(3.54 x 3.35 x 1.02 Inches) |
| Product Weight | 100.4g (3.54 oz) |
| Display Method | LCD display |
| Material | ABS |
| Color | White |
| Test elements | Radon long term average Radon short term average Temperature Humidity |
| Accuracy | 7 days<20%, long-term<10%, after 1 month (5%+0.14 pCi/L) |
| Measurement range | 0-270pCi/L (0-9999 Bq/m ³) |
| Power supply | 2* AAA Battery (Not Included) |
| Technology | Ionic Technology |
| Concentration Unit for radon | pCi/L, Bq/m ³ |
| Atmospheric Pressure | 12.5 PSI- 15.4 PSI |
| Standard accessory | Main Device, English Manual, Screws, Type-C Cable (not including AAA battery) |

| Table of Reference Values for Radon Levels | |
|---|--|
| Detecting horizontal lines | Recommended measures |
| Less than 2.7 pCi/L or 99.9 Bq/m ³ | Good: No need for any movement, easy breathing |
| Equal to or greater than 2.7 pCi/L but less than 4 pCi/L or 148 Bq/m ³ | Bad: Continue to measure and contact a professional radon removal organization if the level remains for more than 3 months |
| Equal to or greater than 4 pCi/L or 148 Bq/m ³ | Serious: Continue to measure. If levels remain for more than 1 month, contact a professional radon removal organization for treatment |
| 8.1 pCi/L (300 Bq/m ³) < Radon threshold | Critical: Serious harm to health requiring immediate evacuation, engage certified professionals for structural remediation. |