Instruction Manual



25-04-DM120A

Product Introduction

It is a portable Radon detector with simple operation and powerful functions, designed specifically for monitoring radon concentration in the environment.
Whether it's at home, in the office, or in other indoor spaces, it can provide you with accurate radon concentration data, helping you understand air quality in a timely manner and ensuring health and safety.

Description of accessories

Item	Quantity
Main Device	1
English Manual	1
Suitcase	1
Screws	2
Small Screwdriver	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	LED Display	06	Working Days
07	Right Button	08	Left Button
09	Power Button	10	Wall Mounted
11	Battery Compartment	12	Radon Sensor
13	Sensor Protective Cover	14	Battery Slot
15	Screws	16	Small Screwdriver

How To Use

Step 1: Install the battery

1.1 Prepare tools
Prepare 2 AAA batteries
Prepare the included Phillips screwdriver

1.2 Open the battery compartment
Turn the back of the detector upwards and locate the battery compartment cover.
Loosen the fixing screws of the battery compartment cover counterclockwise with a screwdriver and remove the compartment cover.

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
Re tighten the battery compartment cover and tighten the screws clockwise to ensure stability (do not apply excessive force).

Step 2: Power on

2.1 Starting the device
Before turning on the device, please open the sensor protective cover on the back of the detector to allow air to flow naturally.
Short press the power button on the front of the device 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 Left button,the indicator lights up, the device automatically start the calibration program,the original monitoring values are immediately reset to zero.

Note: 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.

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

Date zeroing operation :

Short press the Right button,the screen date value will immediately reset to zero and display as 00

Attention: This operation is irreversible.

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：**Where should the detector be positioned?**

Answer:
Floor-level measurement: Place the device horizontally on the floor.
Wall-proximate measurement: Mount the device vertically on the wall.
Breathing-zone measurement: Position the device approximately 1 meter above floor level.
Note: Avoid areas with airflow disturbances such as air conditioner vents or radiators.

Q5：**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.

Q6：**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.

Q7：**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

Q8：**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

Product Size	154*80*34mm(6.06 x3.15 x1.34 Inches)
Product Weight	132.2g
Display Method	LCD Screen
Measuring Item	Radon long term average Radon short term average
Detection method for radon	Ionic Technology
Concentration Unit for radon	pCi/L
Accuracy	7 days<20%,long-term<10% , after 1 month (5%+0.14 pCi/L)
Measurement range	0-270pCi/L
Atmospheric Pressure	12.5 PSI- 15.4 PS
Sampling Time	1.5 Seconds
Power Source	AAA battery*2(not included)
Standard accessory	Main Unit * 1, mini screwdriver * 1, screw * 2 English manual * 1, suitcase box * 1

Table of Reference Values for Radon Levels

Detecting horizontal lines	Recommended measures
Radon threshold < 2.7 pCi/L （ 100 Bq /m³）	Good: No need for any movement, easy breathing
2.7 pCi/L （ 100 Bq /m³）≤Radon threshold Radon threshold< 4 pCi/L （ 148 Bq /m³）	Bad: Continue to measure and contact a professional radon removal organization if the level remains for more than 3 months
4 pCi/L （ 148 Bq /m³）≤ Radon threshold	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 /m³）≤ Radon threshold	Critical：Serious harm to health requiring immediate evacuation, engage certified professionals for structural remediation.

1 pCi/L=37 Bq/m³, Pico Curie Per Liter (pCi/L), Becquerel Per Cubic Meter (Bq/m³)