

USER MANUAL

RADON DETECTOR

PCE-RD 100

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

SAFETY INSTRUCTIONS

We will not take responsibility for any loss or damage resulting from not following the instructions of this operating guide.

- » The device must not be disassembled or remodeled, and never be subjected to shocks or impacts.
- » Do not leave the device outdoor where the temperature is below/above operating range.
- » Do not place the device close to objects with flames, heat source (aven or sunlight), cold source, liquid and extreme temperature changes.
- » Do not touch any part of the product with wet hands.
- » Do not allow the metal objects (like pins, keys) to contact terminals or plugs.
- » Do not cut, damage, or modify the power cord.
- » The device is not intended to be used as a reference sensor, and we will not bear responsibility for any damage which may result from inaccurate readings.
- » Never use detergents or solvents to clean the device.
- » Avoid spraying air freshener, hair spray, or other aerosols near the sensor.

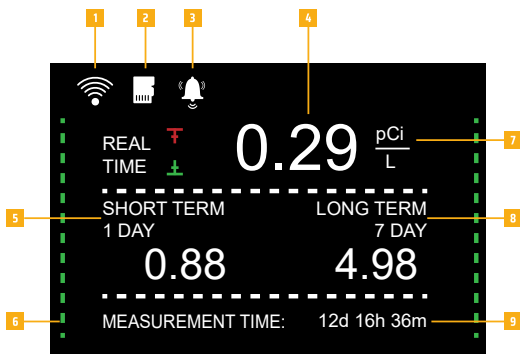
DECLARATION OF CONFORMITY

PCE-RD 100 is in conformity with the essential requirements and other relavent provisions of the CE, FCC, and RoHS.



SYSTEM DESCRIPTION

1. Wi-Fi icon
2. Memory card icon
3. Alarm icon
4. Real-time reading
5. 1 day average value
6. Radon level light strip indicator
7. Radon Volume
8. 7 days average value
9. Continuous monitoring time
10. Power Port
11. Memory Card Port
12. Control Panel



PRODUCT OVERVIEW

This smart radon gas detector is the new innovative fastest radon sensor, which has the highest sensitivity, 30 cph/pCi/l on the market today. This detector uses a pulsed ionization chamber and a special high impedance differential amplifier circuit to offer the highest signal to noise ratio. It effectively detects the secondary charges which were generated from collisions with air and a-particle caused by Radon or Radon's progeny. The accuracy and precision are $\pm 10\%$ at 10 pCi/l. Each sensor has been individually calibrated by equipments which are already calibrated to traceable international standards.

TECHNICAL SPECIFICATIONS

- » Sensor Type: Pulsed ion chamber
- » First Sampling Data: 10 min
- » First Accurate Result: 1 hr
- » Data Update Interval: 10 min
- » Sensitivity: 30 cph/pCi/L, 0.5 cpm/pCi/L
- » Range: 0.10 ... 99.9 pCi/L
- » Accuracy: $< \pm 10\%$ at 10 pCi/L
- » Connectivity: 2.4 GHz Wi-Fi
- » Alarm: Audible alert & Visual indicator
- » Radon Level Indicator: Green, Orange, Red LEDs
- » Power: DC 12V/2A (12V DC Adapter)
- » Operating Range: 1 ... 50°C, RH 80%

RADON LEVEL CHART

Level Detected	Recommended
Less than 2.7 pCi/L ³ or 99.9 Bq/m ³	Good: No action needed, breathe easy
Equal to or greater than 2.7pCi/L ³ but less than 4pCi/L ³ or 148Bq/m	Bad: Keep measuring, if levels are maintained for more than 3 months, contact a professional radon mitigator
Equal to or great than 4 pCi/L ³ or 148 Bq/m ³	Severe: Keep measuring. If levels are maintained for more than 1 month, contact a professional radon mitigator

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

RADON AND HEALTH

Radon is a naturally occurring radioactive gas released in rock, soil and water that can build up to dangerous levels inside any home; this means new and old homes, as well sealed and drafty homes, and homes with or without a basement. Radon gas is odorless and invisible and the only way to know if your home has a radon problem is to detect it.

Breathing radon can increase your risk of lung cancer. Radon is the main cause of lung cancer among people who do not smoke. It is the second leading cause of lung cancer for people who do.

DEVICE OPERATION GUIDE

The device draws power from an external power source of DC 12V/2A. To connect to an outside power source use the DC 12V adaptor comes with of the device.

Turn ON/OFF: Press and hold the POWER button to activate/ deactivate the device.

Measuring Mode: The measurements starts autonomously after connecting the power supply. The first measurement result will be available as soon as the first sampling interval is accomplished within 10 minutes. First accurate result is available after 1 hour of continuous monitoring.

If the measured value is equal or greater than 99.99pCi/L (3700Bq/m³), The reading will display OVER.

Backlit Display:

- » Quick press DOWN button 2 times to turn off the backlight, and press UP button to turn on the backlight.
- » OR control the backlight by Smart Life App

Alarm Threshold Reset:

- » Press and hold both UP and DOWN buttons to enter resetting mode, see the below

Bad level  2.7pCi/L << >> 4.0pCi/L 

Severe level > 4.0pCi/L 

- » Reset the alarm threshold value by upper alarm threshold indicator.
- » Reset the alarm shutdown threshold value by lower alarm shutdown threshold indicator.
- » Press UP button to increase the threshold value, and press DOWN button to decrease the threshold values.
- » Press the POWER button to save the changes and move to the next setting.
- » Press the POWER button again to go back to the detection mode.

Default Alarm Threshold Value:

Bad level is 2.7 ... 4.0 pCi/L, and Severe level above 4.0 pCi/L.

Alarm Length:

When radon level is detected above the fair level, the alarm will chirp for 20 seconds.

When radon level is detected greater than the poor level, the alarm will chirp for 60 seconds.

Wi-Fi Setting:

Quick press POWER button 3 times to activate/ deactivate Wi-Fi. Quick press POWER button 5 times to reset Wi-Fi to default factory setting.

Data Storage Capacity:

This device comes with a 128 MB memory card, which can continuously store radon data for 12 months and transfer the stored data to PC.

RECOMMENDED PLACEMENT

The proper placement of the radon gas detector should be roughly at the same height as a person's head (breathing), ie - on the floor of a game room; on a table at an office; on a nightstand in a bedroom.

Radon detector uses highly delicate sensors. It is strongly recommended to avoid exposing ventilation holes on the device to direct sunlight, as well as keeping the device away from sources of strong electromagnetic radiation such as cell phones, computers, radios and high-power electronic devices.

In the case of dangerously high radon levels it is necessary to fully and properly ventilate the venue and preferably to locate the source of the gas leak and to remove it if possible. Another option is to seal off the leak.

MEASUREMENT INSTRUCTIONS

- » The device should be placed at a location which is representative for the indoor air quality of a room.
- » Make sure the device is at least 59 inches / 50cm from the floor and 15 cm from the wall because the wall itself could be the origin of the radon inside a room.
- » Do not move the device during use. Vibration can cause the device to pause the measurement.
- » Please place the device at a location with good Wi-Fi connection so this device will send notifications to App.

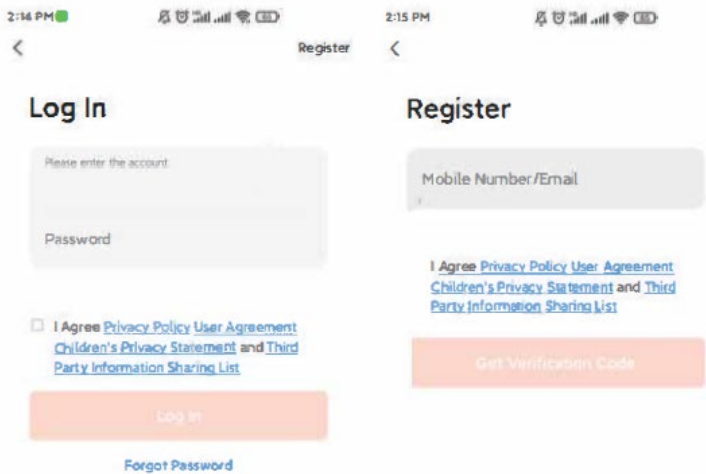
RADON GAS AND HEALTH

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Breathing radon can increase your risk of lung cancer. Radon is the main cause of lung cancer among people who do not smoke. It is the second leading cause of lung cancer for people who do. EPA estimates that radon causes more than 20,000 deaths from lung cancer each year in the U.S. If you smoke and your home has a high radon level, your risk of lung cancer can increase even more.

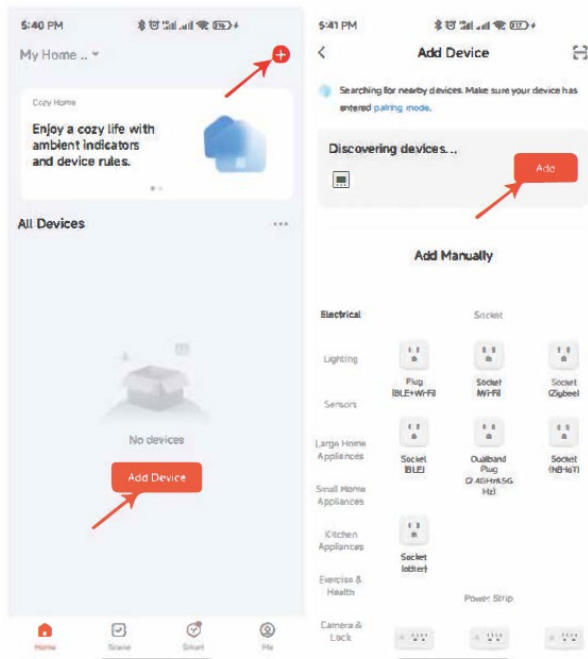
APP GUIDE

- » Download Smart Life App on the Google Play Store or Apple App Store and create an account with phone number or email
- » Make sure Bluetooth is enabled on your smartphone and Wi-Fi is working on 2.4GHz, which will not work on 5GHz.
- » If Wi-Fi icon is not on the display, quick press POWER 3 times to enable Wi-Fi on the device.
- » When you connect this device to another smartphone or reset App connection, quick press POWER button 5 times to return to factory setting within 5 ... 10 seconds.

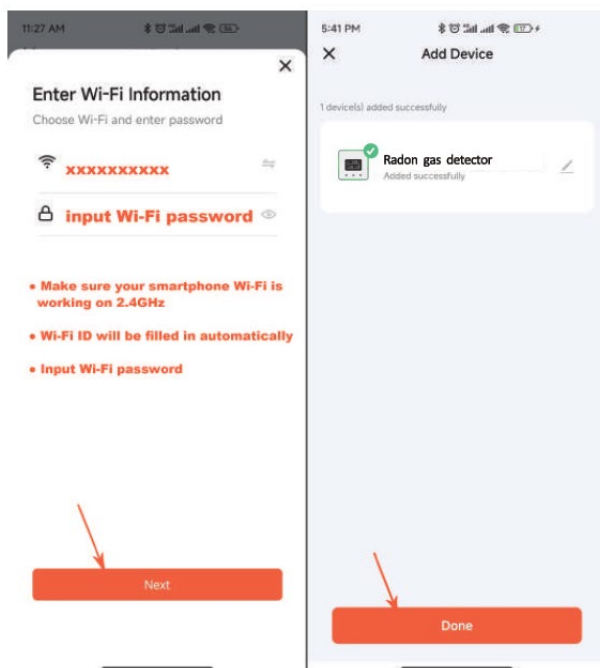


Create your account with a valid mobile phone number or Email ID to receive Verification Code.

- » Step 01: Tap Add Device or "+".
- » Step 02: Tap Add. App automatically finds devices for connecting.

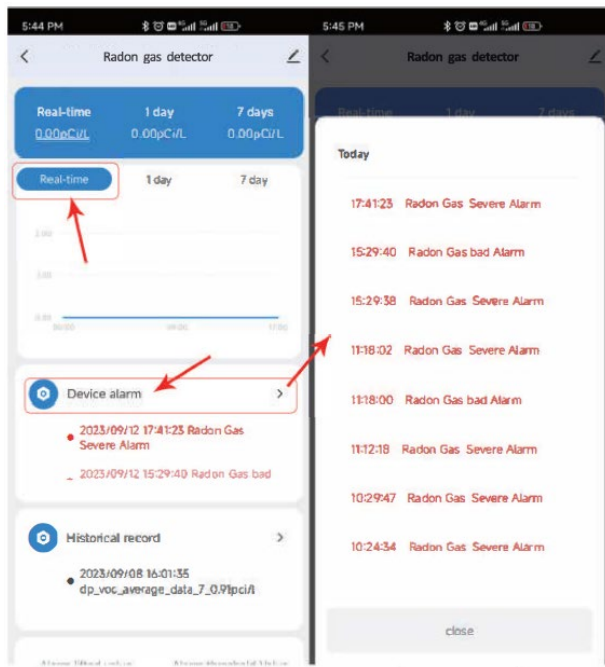


- » Step 03: Input Wi-Fi ID and password, then tap Next.
- » Step 04: After the device is ready on the App, tap Done.



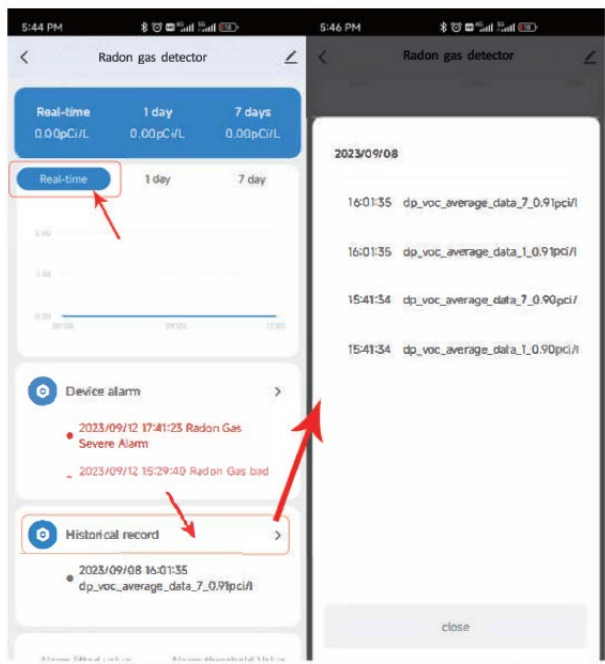
» Step 05: Select real-time and Device alarm to check alarm notifications sent to your smartphone App.

» Step 06: Find the real-time alarm notifications sent to you by time order

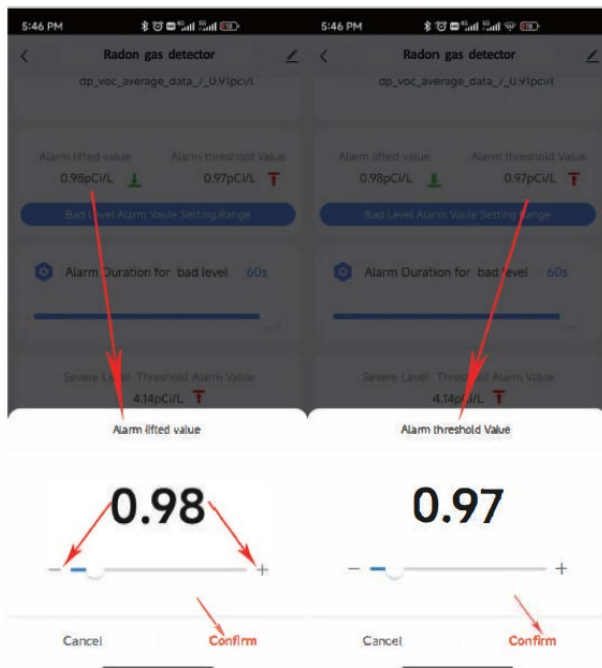


» Step 07: Find the real-time historical records as the above figure.

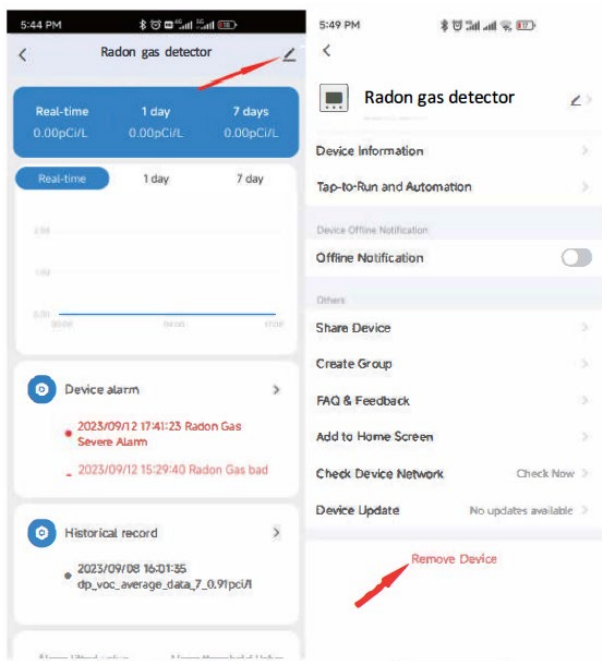
» Step 08: Find the real-time historical records in time order, which is stored on memory card for download to PC.



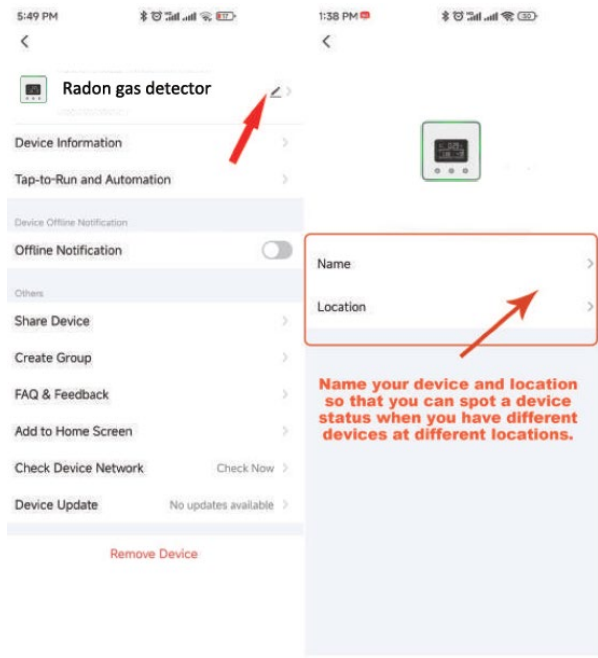
- » Step 09: Tap Alarm lifted value and input values by „-“or“+“.
- » Step 10: Tap Alarm threshold value and input values by „-“or“+“.



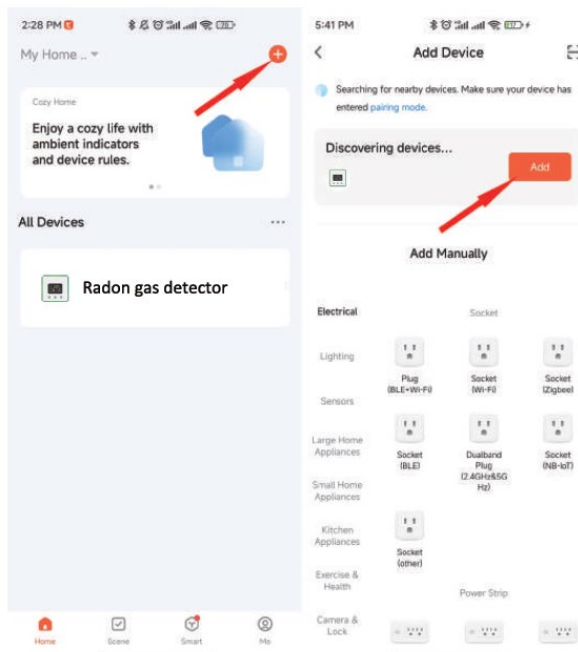
- » Step 11: Tap EDIT icon to device information page.
- » Step 12: Tap Remove Device and remove this device from App.



- » Step 13: Tap EDIT icon as the above to revise the name of the device
- » Step 14: Input a name so that you can remember the location when you have several devices in your house.



- » Step 15: Return to Home Page and tap on „+“ at the upper right corner to add a second device to the same App.
- » Step 16: Tap Add and follow the in-app steps.



DISPOSAL

For the disposal of batteries in the EU, the 2006/66/EC 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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