Front

screen

Work in Progress light

On / Off / Switch information on the screen

Back

USB port to link to a PC or to charge the battery

Power OFF switch

RADEX MR107 Quick Start

Thank You for purchasing the RADEX MR107 Radon Gas Detector. This unit is designed to detect and measure the Equivalent Equilibrium Volume Activity (EEVA) of the Rn-222 (radon) in the air, as well as volumetric activity of its decay products commonly called "daughters of radon".

RADEX MR107 can detect dynamic changes in gas concentration, sound an alarm when the gas levels are no longer safe, transfer data onto a PC for analysis.

Features and capabilities:

• measuring the volume activity of radon in the air (EEVA); relative humidity and air temperature

• adjustable audio alarm that reacts to excessive EEVA levels of radon

• tracking of dynamic changes in radon EEVA, air temperature and relative humidity.

• calculating minimal, median and maximum values of radon EEVA. Air temperature and relative humidity.

• storing gathered data in internal memory

• transferring stored data to PC.

• working with data via PC software

GETTING STARTED

This device does not require any special preparations or a warmup and is ready as soon as is activated.

The device draws power from an internal battery or from an external power source of 5V. To connect to an outside power source use the micro-USB port located on the back side of the device.

PLACING THE DEVICE

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, hence it is strongly recommended to avoid exposing ventilation holes on the device to direct sunlight, as well as keeping the device away from sources or 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.
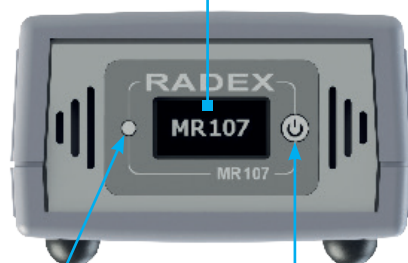
TURNING THE DEVICE ON AND OFF

To turn the device ON

1. Activate the device using the **"Power"** switch located on the back side. The device will go into **Waiting** mode.

2. Press ⏻ on the front side.
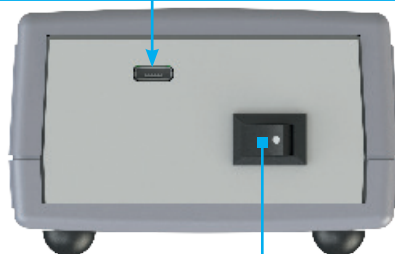
3. The device will switch into **Measuring** mode.

Turning the device OFF.

1. Press and hold the ⏻ button on the front side of the device for 5 seconds. The device will switch from **Measuring** mode to **Waiting** mode.

2. For extended storage or transporting please use the "Power" switch on the back side.

OPERATING THE DEVICE

As the device is activated, the model name appears on its screen and after 5 seconds the device is in **Measuring** mode. At the same time there is a status bar and information about the latest measurements.

To save battery power while operating unplugged, the device will turn off the screen after some time. Meanwhile the measuring continues which is indicated by the blinking **"work in progress"** light.

To turn on the screen press the ⏻ on the front panel of the device. If the device is plugged in the screen remains always on.

IMPORTANT: To achieve the highest possible accuracy we strongly recommend to measure continuously for no less than 72 hours.

MEASUREMENT RESULTS

Information displayed on the screen is switched either in the re-set order or by pressing the ⏻ button.

The status bar shows the following information:
- The sound alarm for elevated Radon EEVA is either **ON** 🔊 or **OFF** 🔇
- 🔌 linked to a PC via USB
- ▭ ... ▭ battery charge remaining
- 🔋 blinking – the devices is plugged-in to external power source and charging
- 🔋 always on – plugged-in, battery is fully charged
- ► measuring in progress
- ■ measuring stopped

The screen might also display any the following:
- **0.5** $\frac{pCi}{L^3}$ level of Radon EEVA in the air
- **86°F** air temperature
- **30%** humidity in the air
- **MAX** maximum level detected
- **MED** medium level of those detected
- **MIN** lowest level detected
- **x1000** result shown need to be multiplied by 1000

DYNAMIC CHANGES

- **pCi/L³** graph of dynamic changes in Radon EEVA
- **°F** graph of dynamic changes in air temperature
- **%** graph of dynamic changes in air humidity
- **927** maximum detected value (at the top)
- **237** lowest detected value (on the bottom)

SETTINGS

All operation modes on the device are set through PC software **Radex Data Center** via USB connection to a PC. To download visit www.quartarad.com.

CHARGING BATTERY

The internal battery is charged automatically anytime the device is plugged via USB cable to an outside power source. If the battery is running low, the charge icon with a plug starts blinking. Once the charge is critically low, the screen shows the charge icon only and goes blank after 3 seconds.

NOTE If the battery is completely drained the device will not turn on. It would need to be plugged-in and fully charged first.

NOT RECOMMENDED to ever allow for the battery to be completely drained – that may break the device.

REQUIRED in case the battery has been completely drained and then charged, the device clock needs to be synchronized through Radex Read Software by connecting to PC.
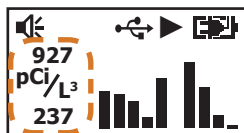
ABOUT RADON GAS

Radon is an odorless, invisible gas that is naturally radioactive. It comes from soil and as part of its decay, tiny radioactive particles called "daughters of radon" are formed that attach themselves to smoke and dust in the air. These can get trapped in your lungs and may result in a very serious health issue by emitting radiation that causes cancer.

When outdoors, the radon gas is quickly diluted and is generally between 0.2 pCi/L - 1.0 pCi/L, with an average level of about 0.5 pCi/L.

If the gas enters a home through cracks in the foundation and remains concentrated in the basement, it creates a risk of long-term exposure which may result in cancer.

The EPA of the U.S. Government has estimated that there are between 5,000 and 30,000 radon-related cancer deaths each year and the radon is the primary cause of lung cancer among non-smokers.

Level Detected	Recommended
Less than 4 pCi/L³	Do additional long-term check. Even levels below 4 pCi/L pose some health risk. Most homes can be reduced to 2 pCi/L or less.
Equal to or greater than 4 pCi/L³ but less than 10 pCi/L³	Do a follow-up long-term test. EPA recommends you fix your home if the average of first and second tests is 4 pCi/L or higher.
Equal to or greater than 10 pCi/L³	Follow up with immediate short-term test. If the average is 4 pCi/L or higher, fix your home.

TECHNICAL SPECIFICATIONS

Detection range of EEVA radon	pCi/L³	0.8 to 999
Audio alarm thresholds of EEVA	pCi/L³	0.8 to 999
Measuring cycle	h	4
Battery run time in measuring mode	h	140
Maximum stored data points		1000
Data transfer method		USB
Battery type		internal Li-Ion battery
Operating temperature range	°F	+50 to +95
Dimensions	in	6 x 3 x 2
Weight	oz	10

COMPONENTS INCLUDED

- device RADEX MR107
- battery
- USB cable
- brief instructions manual
- warranty card

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