

# Radon Scout Home

Personal home monitor



The Radon Scout Home is used for long-term monitoring of the legal reference value for the radon concentration in breathing air. The device was specially designed for homeowners as well as tenants, lessors and housing companies.

The Radon Scout Home records the transient behaviour of the radon concentration over many years reliably, meaning that influences on weather conditions and seasonal changes are safely recorded.

The instrument measures the dangerous rare gas Radon as well as CO<sub>2</sub> - the most important indication for the air quality \*\*).

Thus, the user can check whether the statutory limits \*) for Radon are exceeded or not and at the other hand the instrument signalizes immediately when a room should be ventilated. To prevent mould formation, temperature and humidity are monitored additionally. The measurement data can be read out at any time for preservation of evidence.

Use the Radon Scout Home at home, in your office, in schools and everywhere you are to ensure a healthy environment. Just place the unit on your desk, like a smart clock.

\*) The radioactive noble gas radon counts as the major cause of lung cancer besides smoking. Because of this, a maximum of 300 Bq/m<sup>3</sup> will be defined until 2018 by European law. Radon gets from ground or construction materials into buildings and leads to higher concentrations depending on availability and air exchange.

\*\*) The German limit for the CO<sub>2</sub> indoor concentration is 1500 ppm. A concentration below 1000 ppm is inoffensive while the range between 1000 ppm and 2000 ppm results in reduced personal performance. Concentrations above 2000 ppm are not acceptable.

<b>Principle of operation</b>	<ul style="list-style-type: none"><li>▶ Radon: Silicon detector and Alpha spectroscopy</li><li>▶ CO<sub>2</sub> : Non-dispersive infrared (NDIR)</li></ul>
<b>Range</b>	<ul style="list-style-type: none"><li>▶ Radon: 0...10.000.000 Bq/m<sup>3</sup></li><li>▶ rel. Humidity: 0%rF ... 100%rF</li><li>▶ Temperature: - 40°C ... 120°C</li><li>▶ Pressure: 760 mbar ... 1200 mbar</li><li>▶ CO<sub>2</sub> : 0ppm ... 5000ppm (0% ... 0.5%)</li></ul>
<b>Accuracy</b>	<ul style="list-style-type: none"><li>▶ Radon: &lt; 2%</li><li>▶ rel. Humidity: &lt; 4.5% (3% typ.) for 20% ... 80%rF</li><li>▶ Temperature: &lt; 0.4°C (0.3°C typ.) for 5°C ... 60°C</li><li>▶ Pressure: &lt; 0.5% FSO</li><li>▶ CO<sub>2</sub> : &lt; 5% ± 50ppm</li></ul>
<b>Sensitivity (Radon)</b>	5.52 cph/(kB/m <sup>3</sup> )

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<b>Stat. Error (1<math>\sigma</math>) (Radon)</b>	<ul style="list-style-type: none"> <li>▶ 1 week @ 300 Bq/m<sup>3</sup>.....6%</li> <li>▶ 1 month @ 300 Bq/m<sup>3</sup>.....3%</li> <li>▶ 1 week @ 100 Bq/m<sup>3</sup>.....10%</li> <li>▶ 1 month @ 100 Bq/m<sup>3</sup>.....5%</li> <li>▶ 24 hours @ 300 Bq/m<sup>3</sup>.....15%</li> </ul>
<b>Response time (CO<sub>2</sub>)</b>	10 min
<b>Remark (CO<sub>2</sub>)</b>	CO <sub>2</sub> sensor works only when instrument is powered through USB connector (computer, AC/DC adapter, power bank); measurement of other parameters are not affected. Automatic calibration with respect to outdoor CO <sub>2</sub> level
<b>Environmental conditions</b>	-10°C ... 50°C, 0% rF ... 99%rF (no condensation)
<b>Power supply</b>	2 x AAA battery or USB socket, Battery operation approx. 5 ... 6 months. Low battery indication by red LED, Short time buffering of real time clock during battery replacement.
<b>Data storage</b>	Non-volatile memory with circular structure for 16383 data records in any number of test series. Saves all parameters including tilt detection each four hours
<b>Alert indication</b>	Red backlight will be lighted if the CO <sub>2</sub> concentration exceeds the threshold of 1000ppm (Radon Scout Home – CO <sub>2</sub> only)
<b>Interface</b>	USB (mini USB socket)
<b>Operation</b>	Slide switch to start/stop sampling; Button to toggle display page and backlight
<b>Display</b>	Alpha numeric LCD with bright backlight; Units can be changed between SI and US style; English, German, French and Spanish versions available; date and time; Radon average since start of a measurement series; Radon average of previous 24 hours; Temperature, rel. humidity; Bar. Pressure (Radon Scout Home – P only), CO <sub>2</sub> concentration (Radon Scout Home – CO <sub>2</sub> only), Battery voltage (Radon Scout Home – P/CO <sub>2</sub> only)
<b>Software / Accessory</b>	Radon Vision, USB cable (incl. for all models); NAC/DC adapter (incl. for models with pressure or CO <sub>2</sub> sensor); Power bank (option for mains power independent operation with CO <sub>2</sub> sensor); Factory calibration with certificate (opt.) DKD calibration with certificate (opt.)
<b>Dimensions</b>	80mm x 96mm x 44mm
<b>Weight</b>	140g including batteries