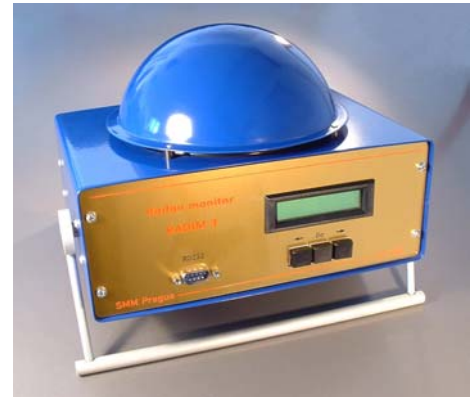


Radim 3A Radon Monitor

The **Radim 3A** is our most sophisticated Radon Monitor that was specially conceived for professional and scientific users. The Radim 3A is the result of more than 20 years experience in the development and manufacturing of professional Radon Monitors.



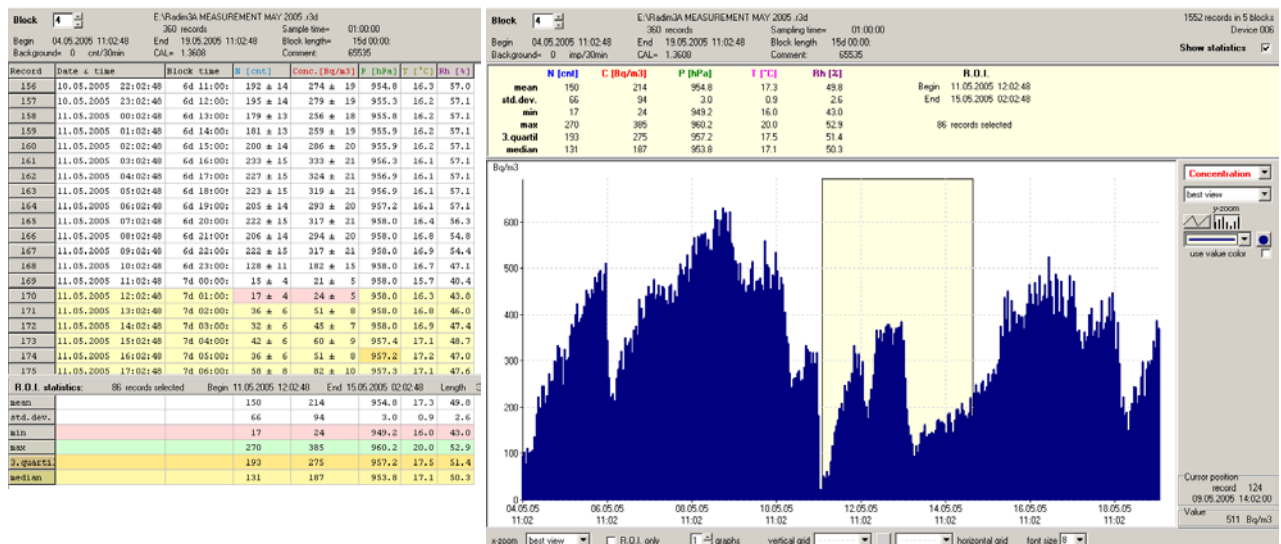
In addition to the ^{222}Rn concentration the Radim 3A continuously detects and records the following parameters: temperature, air pressure and relative humidity. The radon measurement is based on the principle of electrostatic deposition of the radon decay product ^{218}Po on the surface of a Si-semiconductor alpha-detector and the subsequent determination of the ^{218}Po activity by means of alpha-spectrometry. The high precision of the measurement is effected by the large volume of the metering chamber and its optimised geometry. Due to the specific determination of the short lived decay product ^{218}Po , the Radim 3A Radon Monitor has only a very short response time to even strong variations of the radon concentrations.

During a measurement the values of the detected radon levels are recorded in intervals. The length of these measurement intervals is freely adjustable from 10 minutes to 24 hours, in steps of 10 minutes. The results of all individual measurement intervals are finally stored in blocks which are automatically generated each time a radon measurements is started and stopped. The length of a radon measurement can be freely selected and it is only limited by the memory capacity of the Radim3A Radon Monitor. The memory of the Radim 3A can store results of 16.096 individual measurement intervals which, for example, represents a total measurement period of 22 months with measurement intervals of 1 hour.

The Radim3A Radon Monitor can be continuously operated with the mains adapter or for a period of approx. 40 days with the integrated rechargeable NiMH-batteries. The radim3A is equipped with an LCD display and three control buttons for the easy programming of the parameters and the direct reading of the measurement results.

Radim 3A software program:

The very user-friendly software program for the Radim 3A Radon Monitor is already included in the delivery. It is conceived for the easy readout and analysis of the results and it also allows simple operation and programming of the Radim 3A. All measured data can be displayed as graphs or as charts.



For the analysis of freely selectable specific sections of a measurement, the software allows to define individual regions of interest (ROI). All relevant statistical parameters are automatically displayed for the selected ROI.

The software program further enables an easy export of all measured data to MS Excel files. The Radim 3A software program can be used with all PCs working with Microsoft Windows systems software.

GT-Analytic

Gschnaller-Tessadri Forschungs-, Entwicklungs- und Handels KEG

+43 512 290201

office@gt-analytic.at

www.radon.at

GT-Analytic KEG • Innstrasse 38a • 6020 Innsbruck • Austria

Radim 3A Radon Monitor

Technical Specifications:

Application:	For the continuous measurement of ^{222}Rn concentrations [Bq/m^3] in air and the additional determination of air temperature [$^{\circ}\text{C}$], relative humidity [% rel. hum.] and air pressure [hPa].
Measuring range:	1 Bq/m^3 - approx. 150 kBq/m^3
Resolution:	1 Bq/m^3
Response:	(0.8 Imp/h) / (Bq/m^3)
Minimum concentration:	Suitable also for low-level measurements; e.g. 30 Bq/m^3 for 1-hour measurement with a statistical error equal to $\pm 20\%$. For measurements of lower radon concentrations the measurement period must be longer than 1 hour.
Principle of measurement:	Diffusion of ^{222}Rn into the metering chamber; electrostatic deposition of the radon decay product ^{218}Po on the surface of a silicon-semiconductor detector; determination of the ^{218}Po activity by means of alpha-spectrometry and automatic calculation of the radon concentration.
Detector:	Silicon-semiconductor detector; (alpha-spectrometry quality)
Mode of operation:	Diffusion mode – no interference by ^{220}Rn (Thoron)
Measuring intervals:	The length of the measurement intervals is freely adjustable from 10 minutes to 24 hours, in steps of 10 minutes.
Memory capacity:	For the results of 16.096 individual measurement intervals. This, for example, represents a total measurement period of 22 months with measurement intervals of 1 hour.
Effect of humidity:	Not sensitive to changes in the humidity of the ambient air, since the results are automatically corrected for effect of humidity.
Power supply:	Mains supply for the continuous operation of the Radim 3A and integrated rechargeable NiMH-batteries for an autonomous operation of approx. 40 days.
Power consumption:	4mA in measurement mode and 50 μA in standby mode.
Hygrometer:	Range: 10 % to 95 % rel. humidity; precision: $\pm 3\%$; the value of the absolute humidity [g/m^3] is automatically calculated by the Radim 3A.
Thermometer:	Precision: $\pm 0,5\text{ }^{\circ}\text{C}$
Barometer:	Range: 750 hPa to 1150 hPa; resolution: 0,1 hPa; precision: $\pm 3\text{ hPa}$; temperature coefficient: 0,1 hPa / $^{\circ}\text{C}$
Display:	LCD; 2 x 16 characters
Transfer of data:	Radim 3A \leftrightarrow PC via serial interface RS232
Climatic conditions:	Temperature: 5 $^{\circ}\text{C}$ to 40 $^{\circ}\text{C}$; rel. humidity: 10 % to 95 %
Dimensions:	230 x 170 x 90 mm
Weight:	2,5 kg

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