

Radon Scout Professional

Electronical radon monitor



Applications:

- for **short and long-term measurements** of the activity concentrations of airborne radon (^{222}Rn) in homes, workplaces (including underground), water treatment plants, nuclear facilities, etc.
- for ventilation control when the set limit value is exceeded
- personal dosimetry

Features:

- outstanding sensitivity in dosimeter format
- insensitive to humidity and temperature fluctuations, external radiation, vibrations and mechanical shocks
- several months of autonomous operation with 2x AAA batteries
- optional pressure and CO₂ sensors available
- optional switching output for ventilation control with optional wireless switch for controlling wall and window fans, extractor hoods or similar
- USB interface, external W-LAN module optional
- DAKKS-accredited **calibration according to DIN EN ISO/IEC 17025:2018**

Radon measurement

Detector type	Lucas cell + Si PM	
Range	1 Bq/m ³ ... 1 000 000 Bq/m ³	
Accuracy	<=6%	
Sensitivity	3,3 cpm/(kBq/m ³)	
Stat. error (1σ)	1 h @ 300 Bq/m ³	15%
	1 day @ 300 Bq/m ³	3%
	1 day @ 50 Bq/m ³	8%

Humidity

Range	0% rH ... 100% rH
Accuracy	< 4,5%rH (3% typ.) for 20%rH ... 80% rH

Temperature

Range	-40 °C ... 120 °C
Accuracy	< 0,4°C (0,3°C typ.) for 5°C ... 60°C

Pressure **Only Radon Scout Professional – P**

Range	760 mbar ... 1200 mbar
Accuracy	< 0,5% from measurement range

CO2 **Only Radon Scout Professional – CO2**

Principle of operation	Non-dispersive infrared (NDIR)
Range	400ppm ... 5000ppm (0% to 0.5%)
Accuracy	< 5% ± 50ppm
Response time	10min
Important	CO2 sensor works only when instrument is powered through USB connector (computer, AC/DC adapter, power bank); measurement of other parameters is not affected; automatic calibration with respect to outdoor CO2 level

Instrument

Environmental conditions	0°C ... 40°C 0%rH ... 95%rH non-condensing 800...1100hPa
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Power supply	<p>3,3V DC with 2 x AAA batteries or USB socket battery operation approx. 2.5 ... 3 months low battery indication by red LED (single flash each four seconds) short time buffering of real time clock during battery change</p>
ATEX category	no
Display	alpha numeric LCD with bright backlight
Languages	DE, EN, ES, FR, IT, NO
Displayed values (SI or US)	<p>average radon value or dose since the start of a series of measurements (dose conversion factor adjustable) Current radon value of the last interval with percentage error Temperature, rel. humidity Bar. pressure (RSP – P only) CO2 concentration (RSP – CO2 only) Battery voltage (RSP – P/CO2 only) Date and Time</p>
Data storage	<p>non-volatile memory with circular structure for 16383 data records in any number of test series Saves all parameters including tilt detection each interval (settable from 1 to 255 minutes)</p>
Interface	<p>USB (mini USB socket), external Wi-Fi module optional</p>
Alert indication	<p>red blinking light (four consecutive flashes each four seconds) if Radon concentration exceeds 300 Bq/m³ Red backlight will be lighted if the CO2 concentration exceeds the threshold of 1000 ppm (RSP – CO2 only) optional switch output for ventilation control (optical relay with potential free contacts, max 40 V, 250 mA, max. 0.75 A)</p>
Operation	<p>slide switch to start/stop sampling button to toggle display page and backlight</p>
Radon Vision Software (included in delivery)	<p>setup, data download, interactive graphical display (zoom, pan, fit data cursor, marker for tilt</p>

and start of a new measurement, error bars, smoothing), selective ASCII export (EXCEL format), selective graphical protocol print (space for individual header, user comments), calculation of average concentration / exposure, automatic created file names and path structure, switch over between US / SI-units (Bq/m³/pCi/L)

Dimensions

82 mm x 96 mm x 44 mm

Weight

150 g inkl. Batterien

Scope of delivery

USB cable (for all types)

mains adapter 5 V/DC

transport case

manual & Software (electronic version)

DAkkS-accredited calibration certificate

according to DIN EN ISO/IEC 17025:2018

(1-point calibration with 3000 Bq/m³)