SARAD®

Closer to your application

Smart Radon Sensor

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.
- building automation and system integration (for ventilation control, etc.)

Features:

- very high sensitivity
- immune to changes in temperature and humidity, external radiation, mechanical shock and vibration
- RS485 network interface (for MODBUS RTU protocol or Sarad protocol)
- analog output for integration into existing control systems
- integrated switching output for ventilation control
- optionally integrated wireless interface ZigBee or WI-FI for host system connection
- all signals on one terminal block
- two AAA batteries for data backup in the event of a power failure
- temperature and humidity are standard, CO_2 and pressure measurement are available as options
- DAkkS-accredited **calibration according to DIN EN ISO/IEC 17025:2018**

Radon measurement

Detector type	Lucas cell & SiPM
Measuring range	1 Bq/ m³… 1 MBq/m³
Accuracy	<=6%
Sensitivity	3,3 cpm/(kBq/m³)

Stat. error (1σ)	1 h @ 300Bq/m³	15%
	1 day @ 300Bq/m³	3%
	1 day @ 50Bq/m³	8%

Sensors:

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 (optional)

Range	760 mbar … 1200 mbar
Accuracy	< 0,5% from measuring range

CO2 (optional)

Principle of operation	non-dispersive infrared (NDIR)
Range	400 ppm … 5000 ppm (0% to 0,5%)
Accuracy	< 5% ± 50 ppm
Response time	10 min
Important	automatic calibration with respect to outdoor CO2 level

Instrument

Environmental conditions	-10°C … 40°C 0% rH … 95% rH, non-condensing 800…1100 hPa
Power supply	12 V to 24 VDC 2 x AAA batteries only as backup (approx.10 days)
ATEX category	no
Data storage	non-volatile memory with circular structure for 16383 data records in any number of test series; saves all parameters including temperature and humidity each interval (from 1 to 255 minutes)
Interfaces	RS485 (MODBUS RTU and SARAD protocol) ZigBee wireless (SARAD Net Monitors) - optional 4…20 mA analogous output (range configurable) alert switch (potential free contacts, max 40 V, 250 mA, peak current 0.75A) all interfaces with screw terminals
Alert indication	red, yellow and green LED indicators for alert and state of operation
Operation	automatic start after powering up
Radon Vision Software (incl.)	set-up, data download, interactive graphical display (zoom, pan, fit data- cursor, marker for tilt 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	82mm x 96mm x 44mm
Weight	150 g incl. batteries
Scope of delivery	bracket for wall mounting USB cable batteries 2 x AAA user manual & Software (electronic version) DAkkS-accredited calibration certificate according to DIN EN ISO/IEC 17025:2018 (1-point calibration with 3000 Bq/m³) power supply adapter (on request)

■ made
■ in
■ Germany

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ISO 9001

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