

RTM 2300

Multi-purpose Radon/Thoron Gas monitor



Applications:

- for measurements of airborne **radon (^{222}Rn) and thoron (^{220}Rn)** activity concentrations
- use at workplaces, in mining and for geophysical investigations for measurements in the air, in soil air, in water samples, etc.
- public radiological safety measurements and environmental monitoring
- radiological surveillance of places with sources of ionizing radiation

Features:

- determination of the activity concentrations of radon and thoron
- processor-controlled rotary vane pump
- outstanding sensitivity and perfect separation of the individual radon decay products using alpha spectroscopy, therefore long-term contamination by ^{210}Pb is excluded
- no desiccant cartridge required
- stores the complete alpha spectrum for each measured value
- optional gamma probe (NaJ detector) (MCA 1024 channels)
- numerous customer-specific additional sensors possible
- GPS module, optional water ingress protection, etc.
- DAkkS-accredited calibration according to DIN EN ISO/IEC 17025:2018

Closer to your application

Radon measurement

Detector type	4 x 200mm ² Si detector with HV-chambers
Internal volume	250 ml (total volume of the internal air loop)
Range	1 ... 10 000 000 Bq/m ³
Accuracy	<= 5 %
Sensitivity	3 / 6.5 cpm / (kBq/m ³) for fast / slow mode
Response time	15 / 120 min for fast / slow mode
Results/ Analysis	radon concentration fast (excl. Po-214) and slow (incl. Po-214) thoron concentration storage of record related spectra and over time

Gamma probe (option) *Connected to the front panel of the EQF 3300 by cable*

Detector type	Sodium-Iodid (NaJ(Tl)) with integrated PMT and Bias Scintillation crystal 2" x 2"
MCA	1024 channels
Energy range	25keV – 3MeV
Resolution	<7.5% (Cs-137)
Results / Analysis	dose rate, net-activity of seven user defined nuclides storage of record related spectra and time distribution
Probe dimensions	diameter 60mm, length 260mm cable 5m (optional 10m)

Additional sensors

Standard	rel. Humidity 0 ... 100%, uncertainty ± 2% temperature -20 ... 40°C, uncertainty ± 0.5°C bar. pressure 800 ... 1200mbar, uncertainty 0.5% MW flow rate 0 ... 4 l/min, uncertainty ± 5%
Air analytics (option)	CO, CO ₂ , CH ₄ , combustible gases, several ranges
Water analytics (option)	pH value, Redox potential, conductivity etc.
Process (option)	pressure, differential pressure, flow, velocity etc.
Meteorological (option)	wind direction, wind speed etc.

General

Sampling	simultaneous measurement with all detectors/sensors with respect to the selected sampling cycle
Sampling cycles	storage of up to 16 different sampling cycles with up to 32 steps (pre-defined or infinite repetition) Integration interval from 1 second to several weeks
Warning thresholds	Warning thresholds for several parameter (up to 30) possible

Data storage	SD Card, 2 GByte
Display	Color, touchscreen, 6 x 9 cm
Interfaces	USB, RS232, 2x analog outputs (4-20mA), 2x RS485 (one with ModBusRTU), 2x AUX (one used for RP-head), optional WI-FI. Two interfaces can be working at the same time (see manual)
Power supply	12 V NiMH-rec. battery (>100 h continuously) mains adapter 100-240V ~50/60Hz, 1,8A
ATEX category	No
Dimensions/ Weight	235 mm x 140 mm x 255 mm / 6 kg
Software	dVISION: control and data transfer (also via ZigBee-Wi-Fi), visualization, data management dCONFIG: system configuration, creating / changing cycles (also via Net Monitors) dLIBRARY: Nuclid library for NaJ gamma probe (option)
Extensions	available at internal connectors: 8 analogous inputs, 3 counter inputs, 2 status inputs, 6 switch outputs, clock switch, PID regulator/analogous output
GPS	GPS coordinates are recorded and stored together with the measurement results. GIS compatible *.kml files can be exported (can be opened by Google-Earth) Antenna fixed on the front panel
Environmental conditions	0...40 °C 0...95 % rH, non- condensing 800...1100 mbar

Accessories

Scope of delivery	USB-cable Dust filter (x2) Fuse (x2) PVC tubes 6x4mm (1,5 m) Charger/power supply adapter (x1) Transportation case User manual & software (electronical version) DAkKS-accredited calibration certificate for Radon
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Optional	Measuring case
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Closer to your application

Soil gas kits (pile drive probe or packer probe)
Exhalation bonnet
AquaKit for measurements of Radon in water
Water intake protection
and much more.