

# RTM 1688-2

## Radon/Thoron Monitor



### Applications:

- for measurements of the activity concentrations of airborne **radon ( $^{222}\text{Rn}$ ) and thoron ( $^{220}\text{Rn}$ )** in homes, workplaces, in the ground, etc.
- to determine the radon content in water samples and running water
- soil air measurements in construction projects and geophysical research
- localization of radon entry paths (sniffing) in buildings
- exhalation and emanation measurements
- as autonomous measuring stations for monitoring buildings or systems
- numerous applications in **geology, mineralogy, physics, chemistry, mining and civil engineering**

### Features:

- absolutely universal radon/thoron monitor for the entire measurement range
- high sensitivity and simultaneous determination of the thoron concentration
- **alpha spectroscopy** measurement method, for low radon concentrations and fastest possible measurements
- soil gas and water measurements with built-in pump
- water ingress protection (optional)
- user-friendly one button operation
- remote data transmission possible
- fluctuations in humidity do not affect the readings (no desiccant needed!)
- storage of the complete alpha spectrum for each measuring point
- measurement of samples from small volumes (chamber volume 250 ml)
- DAkkS-accredited calibration according to DIN EN ISO/IEC 17025:2018

**Radon measurement**

<b>Detector type</b>	4 x 200 mm <sup>2</sup> Si-detector with HV-chambers
<b>Internal volume (complete)</b>	250 ml (volume of the air circuit excl. water ingress protection container)
<b>Range</b>	1 ... 10.000.000 Bq/m <sup>3</sup>
<b>Accuracy</b>	<=5%
<b>Sensitivity</b>	3 / 6,5 counts/min @ 1000 Bq/m <sup>3</sup> for fast/slow mode
<b>Response time</b>	12 / 120 min for fast / slow mode
<b>Mesurement/Analysis</b>	alpha spectroscopy with separate calculation of the radon and thoron concentration storage of all individual spectra
<b>Pump</b>	high quality and powerful diaphragm pump flow rate 0,3 l/min continuous / interval operation

**Control functions**

<b>Water ingress protection (opt.)</b>	the pump is automatically switched off by the float switch as soon as water is sucked in. Removable stainless-steel container for emptying
<b>Alert</b>	internal buzzer for alert function and Radon-„Sniffing“
<b>Internal sensors</b>	rel. humidity, temperature, pressure, motion

**General**

<b>Measuring interval</b>	1...255 min, could be defined by user
<b>Data storage</b>	2047 data records (non-volatile memory) alpha spectra included
<b>Operation</b>	one button control (lock-function)
<b>Display</b>	back light display (3 x 16 characters)
<b>Software</b>	Radon Vision 7
<b>Interfaces</b>	USB, RS232 or RS485 with ModBus RTU (optional)
<b>Power supply</b>	18 V/DC 1 A, rechargeable battery > 150 h (continuous pump operation) > 10 days (interval pump operation)
<b>ATEX Kategorie</b>	no
<b>Battery charging</b>	8 h
<b>Power supply adapter</b>	100 – 240 V/AC. 50/60 Hz / 18 V/DC 1 A
<b>Dimensions</b>	232 mm x 182 mm x 135 mm (without handle)
<b>Weight</b>	3,5 kg

**Environmental conditions**

<b>Temperature</b>	0...40 °C
<b>Rel. Humidity</b>	0..95%, non-condensing
<b>Bar. Pressure</b>	800...1100 hPa