RTM 1688-2 :: Radon and thoron monitor

New: MODBUS RTU protocol implemented

Radon entry paths can be discovered by the “sniffing mode”. Soil gas sampling as well as radon in water measurements are simple because of the built in pump.

The operation of the radon/thoron monitor is realized by only one button. A serial printer may be connected to the interface of the RTM 1688-2 to present a protocol directly on site.

The radon/thoron monitor can be directly connected to a modem for remote data transmission. The Radon Vision software (included in delivery) handles the remote connection as simply as a direct cable link.

The measurement chamber is not sensitive against humidity variations; a drying tube, commonly used in such instrument types, is not required.

Special attention was paid for the issue of quality assurance. Each stored data record contains a complete alpha spectrum which shows the error-free operation of the instrument for each single integration interval. Any number of measurement series may be created by starting/stopping the data acquisition. The data stored within the instrument can be read by PC even if a measurement is in progress.

The small chamber volume of only 130 ml must be pointed out. The measurement of probes taken from small and limited volumes is possible due to this property.

The radon/thoron monitor RTM 1688-2 can be powered either by a mains power adapter or by the internal battery which gives an autonomous operation time up to 14 days.

The instrument is equipped with sensors for temperature, humidity and barometric pressure. An integrated tilt detector will give a signal if the radon/thoron monitor has been removed from its original position during the measurement.

Technical Data

- Optimised high voltage chamber with electrostatic focus of short living Radon daughters generated inside the chamber at the surface of a semiconductor detector
  - No changes of the sensitivity due to the ambient humidity
  - Usage of a drying tube or similar equipment is **NOT** required!
  - High sensitivity at low chamber volume (approx. 250 mL)
- Spectrometric analysis of the short living Radon daughters
  - Minimum possible response time using the Fast-Mode (90% of the final value within 10 Minutes)
  - Double sensitivity using the Slow-Mode (including Po-214)
  - Measurement of the Thoron (Rn-220) concentration
  - No contamination by long living Radon daughters
  - 100% quality assurance by readable Alpha spectrums
- Measurement Range 0 ... 10 MBq/m³
- Sensitivity 3/7 counts/Minute @ 1000 Bq/m³ (Fast/Slow-Mode)
  - 200 Bq/m³ with a 10% statistical error (1□) at a 1h sample interval
  - 10 Bq/m³ with a 25% statistical error (1□) at a 4h sample interval
- Sensors included for
  - Relative humidity (0 ... 100%)
  - Temperature (-20 ... 40°C)
  - Barometric pressure (800 ... 1200mbar)
  - Tamper
- Sample interval from 1 Minute to 4 hours, 1 Minute steps
- Non-volatile memory for 2047 data records (circular), Alpha Spectrum for each included
- Internal sampling pump (0.30 L/min continuous and interval mode)
- Power supply by AC/DC wall adapter and internal rechargeable battery (battery operation up to 14 days)
- One button control (lock-function)
- Display (3 x 16 characters) with back-light
- RS232 and USB interface for set-up and data transfer (also via modem or ZigBee)
- Internal buzzer for alert function and Radon-„Sniffing“
- Dimensions 232 x 182 x 135 mm, weight 3.5 kg
- Radon Vision Software included