

AlphaE

Personal Radon Monitor



Ultra-small continuous radon monitor

The AlphaE is an ultra-small continuous radon monitor for fast and time-resolved radon monitoring in buildings, outdoor as well as in mines.

Typ. 80 % of the final result is achieved after 2 hrs. (faster response with higher radon levels). Due to the lightweight and small dimensions it can also perfectly be used to measure the personal radon exposure and to manage personal dose. Low radon levels below 100 Bq/m³ (2.7 pCi/l) can also be measured as specified by the latest WHO recommendations (12% uncertainty at 1 sigma/24 hrs.).

Up to 6 months battery life allows long-term measurement without mains power, permanent operation via mains supply possible via USB port. AlphaE stores all measurement data in the internal flash storage. In 1 hr. measurement cycle up to 11 months of measurement data is available for read-out via the USB port. In addition to the radon concentration the temperature, air pressure, air humidity as well as the signals of the built-in tampering detector are recorded simultaneously all accompanied by respective time stamps. The DataVIEW software (Light version included with AlphaE) is available for readout and export to Excel. DataVIEW PRO offers further functions like the generation of customized reports.

Calibration from an accredited calibration lab (BfS, GER) as well as extensive measurements and comparative tests with AlphaGUARD (traceable to PTB national standard) and site-tests under harsh conditions prove the validity of calibration and correct operation, even in higher humidity applications like in water works, mines, etc.

FEATURES

- For time-resolved and fast measurement of radon concentration in buildings, outdoor, personal exposure and dose
- Ultra-small, light-weight
- Measurement from 20 Bq/m³ ... 10 MBq/m³ (0,54 pCi/l ... 270 nCi/l)
- Simultaneous recording of air temperature, humidity and pressure
- Up to 6 months battery life
- Acoustic alert for radon concentration and radon dose

AlphaE

CHARACTERISTICS

Detection principle	Diffusion chamber with silicon diode	
Measurement range / Unit	20 Bq/m ³ ... 10 MBq/m ³ (0,54 pCi/l ... 270 nCi/l) (specify with order)	
Sensitivity	3 cph at 100 Bq/m ³ (2,7 pCi/l)	
Dose calculation	Based on user-settable equilibrium factor and dose conversion factor (standard values are preset)	
Dose range	0 ... 1 Sv (0 ... 10 rem)	
Measuring cycle	Adjustable from 1 min to 12 hours	
Storage capacity	8 500 data sets (7 ... 4 250 days, depending on set measuring cycle)	
Diffusion time constant	Typically 1 ... 2 hours (user adjustable smoothing factor)	
Detector background compensation	User settable	
Additional sensors (measuring range)	Air temperature	-40 - 175°F (-40 - 80°C)
	Air pressure	800 - 1100 hPa
	Air humidity	0 % - 99 % rH
	Relocation	
Operation range	Air temperature	-4°F - 122° F (-20°C - 50°C)
	Air humidity	5 % ... 90 % rH non-condensing (for air humidity > 80 % rH the AlphaE should be protected by the humidity protection bag)
Battery life (rechargeable)	Up to 6 months (rechargeable via USB)	
Interface	USB, cable incl. charging unit	
Display	6 digit LCD + 5 digit alphanumeric, backlight	
Dimensions	4.4 x 3 x 1.4 in (111 x 78 x 36 mm)	
Weight	7.5 oz (213 g)	
Housing	Aluminum	
Protection class	IP40 without belt pouch/bag, IP51 with belt pouch, IP62 with dust protection bag	

ACCESSORIES

- Free DataVIEW software for data analysis and visualization
- DataVIEW PRO software with additional functionalities
- Wall support
- Belt Pouch
- Suitcase
- Dust protection bag (Tyvek®)
- Silicon bag for humidity protection

