

Radon, Temperature, Humidity and Pressure Sensor

The sensor is plug-and-play and can be installed in any room where there is a need to monitor radon, pressure, temperature, and humidity levels. The device features a sleek and discreet design that blends seamlessly into both office and home environments.

PERFORMANCE

The internal radio antenna is optimized for 868 MHz and is tuned for mounting on concrete, wood, or plaster surfaces.

MEASUREMENTS

Sensor parameters are transmitted every 60 seconds using the wireless M-Bus protocol, compliant with OMS. This makes the sensor ideal for integration into data collection systems.

Data from the device is protected using AES128 encryption in accordance with the OMS standard. All parameters are updated every 60 seconds, except for the radon level, which is updated every 10 minutes.

SPECIFICATION

FIRMWARE

MODE	T1
SEND INTERVAL	60 sec
Radon update interval:	10 min
All other parameters	Same as send interval
ENCRYPTION	AES128 encryption, OMS mode 5, Profile A

WARNINGS

CO ₂ ERROR	CO ₂ sensor not working.
Radon:	Radon sensor malfunction
Calibration:	Calibration not performed

POWER SUPPLY

POWER	24 ±20% VAC or VDC (adapter not included)
RADIO	16 dBm (25 mW) output power ERP (typical): 10.7 dBm (11.75 mW)

GENERAL INFORMATION

STANDARD	2014/53/EU (RED) EN 13757-3/4:2018, OMS 4.0.2
COLOR	White
MATERIAL	ABS/PC front, ABS back
Dimensions (W × H × D):	142 × 142 × 40 mm

OPERATING ENVIRONMENT

RADIO TRANSMITTER	
TEMPERATURE	-30°C to +85°C

RADON SENSOR

The radon sensor is a high-performance sensor that measures the decay of radon particles. The radon value is updated as frequently as every 10 minutes, and this fast response time allows the device to be used even in HVAC systems.

TEMPERATURE SENSOR

The built-in temperature sensor is highly accurate, with a typical accuracy of ±0.5 °C.

HUMIDITY SENSOR

The built-in humidity sensor is highly accurate across the entire temperature range, with a typical accuracy of ±2% RH.

CO₂ SENSOR

The on-board NDIR CO₂ sensor with diffusion technology is used to measure the absolute CO₂ level. An intelligent calibration routine calibrate the device at startup and during the entire lifetime. The sensor calibrates every 20 days to ensure good readings and the calibration is done using the lowest reading in the interval. This reading is then used as the 415 ppm baseline for the next period. This works on the fact that the CO₂ level moves towards 415 ppm (clean air) when the building is not occupied for a period.



Specifications in this document are subject to change without notice V.1.4

SENSORS

Type	Range	Typical accuracy	Sample intervall	Operating condition
Temperature	-40°C to +85°C	±0.5°C at -20°C to +85°C	60 sec	Non condensing
Humidity	0 – 100% RH	±2 %RH at 20-80 %RH. ±3 %RH at 10-90 %RH ±3,5 %RH at 0-100 %RH	60 sec	Non condensing
CO ₂	0-5000 ppm	±(50 ppm+3%) after calibration	60 sec	<u>Temperature:</u> 0°C to +55°C <u>Pressure:</u> 950 mbar to 1050 mbar <u>Humidity:</u> %RH < 90% and non condensing
Radon	Sensitivity: 0.3cpm/pCi/L (11,1 Bq/m3) Range: 0.2 ~ 99.9pCi/L (7~3,700Bq/m3))	< ±15% Min. uncertainty: 26 bq/m3	10 minutes	Temperatur:e 10°C to +50°C Humidity: %RH < 80 and non condensing
Pressure	300 to 1200 hPa	± 2 hPA	60 sec	Temperature: -30°C to +85°C