# Radon / Temperature/ Humidity/ Pressure

## DEVICE
The Q-series sensor from Lansen continuously measures important indoor parameters. It is plug-and-play and can be mounted in any room where there is a need to know the radon, pressure, temperature and humidity level. The device has a sleek and discrete design and blend nicely in any office or home environment.

## PERFORMANCE
The internal radio antenna is optimized for 868Mhz and is tuned for mounting on concrete, wood or plaster.

## MEASUREMENTS
Sensor parameters are sent every 60 seconds using the wireless M-Bus protocol OMS compliant. This makes the sensor ideal for integration in data collecting systems or drive by solutions.

The data from the device is protected using the AES128 encryption compliant with OMS standard. All parameters are updated every 60 seconds except the radon level which is updated every 10 minutes.

## FIRMWARE

| | |
|---|---|
| MODES | C-, T- or S-mode (selectable on order) |
| SEND INTERVAL | 60s - 1 hour (selectable on order) |
| SAMPLE INTERVAL | |
| Radon | 10 minutes (not changeable) |
| All other parameters | Same as send interval |
| ENCRYPTION | AES128 encryption OMS mode 5, Profile A. |
| | ON/OFF, unique key (selectable on order) |
| STANDARD | T1-Mode, 60 seconds, Encryption ON, unique key. |

## WARNINGS

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|---|---|
| RADON ERROR | Radon sensor not working. |
| CALIBRATION | Calibration not performed yet. |

## POWER/LIFETIME

| | |
|---|---|
| POWER SUPPLY | 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

| | |
|---|---|
| STANDARDS | 2014/53/EU (RED) |
| | EN 13757-3/4:2018, OMS 4.0.2 |
| COLOR | Signal white |
| MATERIAL | ABS/PC Front, ABS back. |
| SIZE (W x H x D) | 142 x 142 x 40 mm |

## OPERATING CONDITIONS
RADIO TRANSMITTER

| | |
|---|---|
| TEMPERATURE | -30°C to + 85°C |

## RADON SENSOR
The radon sensor is a high performance radon sensor that measures the decay of radon particles. The radon value is updated as often as every 10 minutes and this fast response time allows the device to be used even in HVAC system.

## TEMPERATURE SENSOR
The on-board temperature sensor is highly accurate with typical accuracy ±0.5°C.

## HUMIDITY SENSOR
The on-board humidity sensor is highly accurate in the entire temperature range, with typical accuracy ±2%RH.

PiiGAB

# CO2 / Temp / Humidity

## DEVICES

| Name | Temperature | Humidity | Pressure | Radon | $CO_2$ | 24 VDC or 24 VAC |
|------|-------------|----------|----------|-------|--------|------------------|
| LAN-WMBUS-Q-RC | X | X | X | X | X | X |
| LAN-WMBUS-Q-C | X | X | X | | X | X |
| LAN-WMBUS-Q-R | X | X | X | X | | X |

## SENSORS

| Type | Range | Typical accuracy | Sample intervall | Operating condition |
|------|-------|------------------|------------------|---------------------|
| TEMPERATURE | -40ºC to +85ºC | ±0.5ºC at -20ºC to +85ºC | 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 | Temperature: 0°C to +55°C (-20°C to +55°C on request) Pressure: 950 mbar to 1050 mbar (other range on request) Humidity: %RH < 90% and non condensing) |
| Radon | Sensitivity: 0.3cpm/pCi/L (11,1 Bq/m$^3$) Range: 0.2 ~ 99.9pCi/L (7~3,700Bq/m$^3$) | < ±15% Min. uncertainty: 26 bq/m3 | 10 minutes | Temperature: 10°C to +50°C Humidity: %RH < 80 and non condensing |
| Pressure | 300 to 1200 hPa | ± 2 hPA | 60 sec | Temperature: -30° to +85° |