

# LANSEN

Temp/Humidity/Radon/Pressure

LAN-WMBUS-Q-R

## 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)
<u>STANDARD</u>	T1-Mode, 60 seconds, Encryption ON, unique key.

## WARNINGS

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  $\pm 0.2^{\circ}\text{C}^*$ .

## HUMIDITY SENSOR

The on-board humidity sensor is highly accurate in the entire temperature range, with typical accuracy  $\pm 2\% \text{RH}$ .



\*For hardware revision IAQ Rev B the temperature measurements has a known offset error of approximately +3°C. Newer hardware will not have this issue.

# LANSEN

Temp/Humidity/Radon/Pressure/CO<sub>2</sub>

LAN-WMBUS-Q-series

## DEVICES

Name	Temperature	Humidity	Pressure	Radon	CO <sub>2</sub>	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 interval	Operating condition
TEMPERATURE	-40°C to +85°C	±0.2°C* at +5°C to +60°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 <sub>2</sub>	0-5000 ppm	±(50 ppm+3%) after calibration	60 sec	<u>Temperature:</u> 0° to +55° (-20° to +55° on request) <u>Pressure:</u> 950 mbar to 1050 mbar (other range on request) <u>Humidity:</u> %RH < 90% and non condensing
Radon	Sensitivity: 0.3cpm/pCi/L (11,1 Bq/m <sup>3</sup> ) Range: 0.2 ~ 99.9pCi/L (7~3,700Bq/m <sup>3</sup> )	< ±15% Min. uncertainty: 26 bq/m <sup>3</sup>	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°

\*For hardware revision IAQ Rev B the temperature measurements has a known offset error of approximately +3°C. Newer hardware will not have this issue.