

# LANSEN

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

LAN-MIOTY-Q-C

## 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 pressure, CO<sub>2</sub>, 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 mioty protocol. This makes the sensor ideal for integration in data collecting systems or drive by solutions.

Furthermore, all parameters are updated every 60 seconds.

## FIRMWARE

MODES                    mioty ETSI TS-103-357  
ENCRYPTION            Network: AES128 encryption

## INTERVAL

TRANSMISSION        Every 60 seconds.  
SAMPLE                 Same as transmission interval.

## MIOTY DATA

(TBD)  
TEMPERATURE         Last measured temperature.  
HUMIDITY              Last measured humidity.  
CO<sub>2</sub>                      Last measured CO<sub>2</sub>.  
CO<sub>2</sub> ERROR             CO<sub>2</sub> sensor not working.  
CO<sub>2</sub> CALIBRATION    CO<sub>2</sub> calibration not performed yet.  
PRESSURE              Last measured pressure.

## 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)  
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 Max: 0°C to +85°C  
Recommended: +5°C to +50°C

## 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.

## CO<sub>2</sub> SENSOR

The on-board NDIR CO<sub>2</sub> sensor with diffusion technology is used to measure the absolute CO<sub>2</sub> 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 CO<sub>2</sub> level moves towards 415 ppm (clean air) when the building is not occupied for a period.

Note that the first accurate readings can typical be expected after 3-9 days after installation.



# LANSEN

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

LAN-MIOTY-Q-series

## DEVICES

| Name           | Temperature | Humidity | Pressure | Radon | CO <sub>2</sub> | 24 VDC or 24 VAC |
|----------------|-------------|----------|----------|-------|-----------------|------------------|
| LAN-MIOTY-Q-RC | X           | X        | X        | X     | X               | X                |
| LAN-MIOTY-Q-C  | X           | X        | X        |       | X               | X                |
| LAN-MIOTY-Q-R  | X           | X        | X        | X     |                 | X                |

## SENSORS

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