# LANSEN

VOC/temperature/humidity sensor

**LAN-WMBUS-E2-VOC**

## DEVICE

The combined VOC, ambient temperature and humidity device from Lansen is a plug-and-play transmitter. Great care has been taken to design a sleek, good looking device with high security and performance. The device has two antennas for maximum range in both vertical and horizontal directions.

## PERFORMANCE

The battery level is continuously monitored and a low level warning is issued when battery is nearing depletion.

## TEMPERATURE SENSOR

The on-board temperature sensor is highly accurate with typical accuracy ±0.2$^0$.

## FIRMWARE

| | |
|---|---|
| MODES | C-, T-, or S-mode (selectable on order) |
| SEND INTERVAL | 60s - 1 hour (selectable on order) |
| SAMPLE INTERVAL | Same as send interval |
| ENCRYPTION | AES128 encryption OMS mode 5. Profile A ON/OFF, and custom KEY |
| STANDARD | T1-mode, 90 seconds. Encryption ON, unique key |

## SENSORS

| | |
|---|---|
| TEMPERATURE | RANGE: -40$^0$C to +85$^0$C. |
| | ACC: ±0.2$^0$C at +5$^0$C to +55$^0$C |
| HUMIDITY | RANGE: 0-100 %RH. |
| | ACC: ±2 %RH at 10-90 %RH. |
| VOC | RANGE: 0 - 60000 ppb. |
| | ACC: ±(15-25%) at 25$^0$C & 50 %RH |

## WARNINGS

| | |
|---|---|
| BATTERY | Low battery |
| NOT ACTIVATED | Device has not been activated |

## POWER/LIFETIME

| | |
|---|---|
| POWER SUPPLY | 2 x ER18505 3.6V Li-SOCl2 battery pack. |
| CAPACITY | 8200 mA |
| VOLTAGE | 2.6to 3.6V |
| LIFESPAN | 14 years* typical, depending on configuration and operating temperature. |
| RADIO | 14 dBm (25 mW) output power to antenna |
| | ERP typical: 9.4 dBm (8.7 mW) |
| ANTENNAS | Two antennas for true differential transmission |

## GENERAL INFORMATION

| | |
|---|---|
| STANDARDS | 2014/53/EU (RED) |
| | EN 13757-3/4:2013, OMS 4.0.2 |
| OP TEMPERATURE | -40$^0$ to +85$^0$ (Recommended +5$^0$ to +55$^0$) |
| RELATIVE HUMIDITY | Non condensing |
| MATERIAL | White, ABS |
| SIZE (W x H x D) | 80 x 80 x 25 mm |

## DEVICES

| | |
|---|---|
| LAN-WMBUS-E2-VOC | Ambient Sensor for VOC/temperature/humidity |

## HUMIDITY SENSOR

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

## VOC SENSOR

The on-board VOC sensor is used for sensing VOC gases (air quality). The sensor is a high performance sensor with minimum drift and reliable performance over long time. The VOC sensor uses a gliding average algorithm as well as a baseline compensation algoritm to be able to detect bad air quality. Note, this technique captures changes in air quality, therefore cannot be used in areas where there is a constant air quality problem over a really long period.

Furthermore, the first accurate reading can typically be expected after 24 hours.

## MEASUREMENTS

The VOC, temperature and humidity is sampled every 90 seconds (default, depends on send interval) and sent synchronous using the wireless M-Bus protocol OMS compliant. This makes the sensor ideal for integration in data collecting systems, drive by solutions or for controlling ventilation.

The data from the device is protected using the AES128 encryption compliant with OMS standard.

M-Bus wireless

OMS®

***** The expected battery lifetime stated is based on simulations and true measurements at 25 °C and is valid to the best of our ability but not a guarantee. The calculations and measurements can be sent upon request for your reference.

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