

CO₂ / Temp / Humidity

DEVICE

The combined true CO₂, 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 2 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. The CO₂ sensor is also monitored and a warning is issued if it is not working. The device also keeps count on the total running time since first start and powerup.

WARNING / ALARM INDICATION

The CO₂ also comes in one version with visual and acoustic warning/alarm to alert on high CO₂ concentration.

The sensor will in this case using a buzzer and high brightness LED indicate that the CO₂ reached the Warning or Alarm level. This indication can then be used to alert that is time to ventilate the room (open windows) in order to have a safe environment. The CO₂ level correlates to the amount of virus and thus it can be used to provide a safer workplace.

FIRMWARE

MODES	C1-A/B, T1 or S1 (selectable on order)
SAMPLE INTERVAL	4 minutes CO ₂ 2 minutes Humidity and Temperature
TRANSMISSION INT.	2 minutes
ENCRYPTION	AES128 encryption OMS mode 5. Profile A.
MBUS DATA	Instant, Average hour, Average 24 hours.

STANDARD	T1 Mode, Encryption ON. Transmission interval 2 minutes,
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WARNINGS

BATTERY	Low battery.
SENSOR ERROR	CO ₂ sensor not working
CALIBRATION	Calibration not completed yet

LIFESPAN

LAN-WMBUS-E2-CO ₂	14 years typical
LAN-WMBUS-E2-CO ₂ -I	10 years typical

The battery lifetime is the typical lifetime using standard configuration and operating temperature. For the LAN-WMBUS-E2-CO₂-I (with indication) the lifetime is also depend on the number high CO₂ levels that are detected. Contact us for details.

TEMPERATURE SENSOR

The on-board temperature sensor is highly accurate with typical accuracy $\pm 0,2^{\circ}$.

HUMIDITY SENSOR

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

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. The calibration is done using the lowest average hour reading in the interval. This reading is used as the 400 ppm baseline for the next period. This works on the fact that the CO₂ level move towards 400 ppm when the building is not occupied for a period. The first accurate readings can typical be expected after 3-9 days after installation.

MEASUREMENTS

The parameters are sampled every 2 or 4 minutes and sent synchronous using the Wireless MBUS protocol as defined by OMS. This makes the sensor ideal for integration in data collecting systems, drive by solutions or for controlling ventilation. The data from the device could is also protected using the AES128 encryption compliant with OMS standard.

