**CO2/TEMP/HUMIDITY AMR-Wireless M-BUS**

**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.

**TEMPERATURE SENSOR**
The on-board temperature sensor is highly accurate with typical accuracy ±0.3°C.

**HUMIDITY SENSOR**
The on-board humidity sensor is highly accurate in the entire temperature range, with typical accuracy ±3%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 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.

**MEASUREMENTS**
The CO2, Temperature and humidity is sampled every 6 minutes and sent synchronous using the Wireless MBUS protocol OMS compliant. The data is also repeated every 90 seconds as an asynchronous message. 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.

**FIRMWARE**
- **MODES**: Configurable* C1-A/B, T1 or S1
- **SAMPLE INTERVAL**: Configurable* 6 minutes.
- **ENCRYPTION**: AES128 encryption OMS mode 5. Profile A.
- **MBUS DATA**: Instant, Average hour, Average 24 hours.
- **STANDARD**: T1 Mode, 6 min synchronous.
- **SENSORS**
  - **TEMPERATURE**: RANGE: -40°C to +85°C. ACC. ±0.3 at 0 to +65°C.
  - **HUMIDITY**: ACC. ±3%RH at 10-90% RH.
  - **CO2**: ACC typical ±(50 ppm + 3% ). 0-2000 ppm. (other range on request)
- **WARNINGS**
  - **BATTERY**: Low battery
  - **SENSOR ERROR**: Sensor not working.

**POWER/LIFETIME**
- **POWER SUPPLY**: 2 x ER18505 3.6V Li-SOCl2 battery pack.
- **CAPACITY**: 8200 mA
- **VOLTAGE**: 2.6 to 3.6V
- **LIFESPAN**: 16 years typical, depending on configuration and operating temperature.
- **RADIO**: 14 dBM (25mW) output power to antennas
- **ANTENNAS**: 2 antennas for true differential transmission

**GENERAL INFORMATION**
- **STANDARDS**: 2014/53/EU (RED)
- **EN 13757-3/4:2013, OMS 4.0.2**
- **OP TEMPERATURE**: 0° to +55°C (other range on request)
- **OP PRESSURE**: 950 mbar to 1050 mbar (other range on request)
- **RELATIVE HUMIDITY**: Non condensing
- **MATERIAL**: White, ABS
- **SIZE (W x H x D)**: 80 x 80 x 25 mm

**DEVICES**
- **LAN-WMBUS-E-CO2**: Ambient Sensor for CO2/temperature/humidity

*Configuration will be enabled in future versions.

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