

Atmospheric Air Quality probe



Usage

This probe is intended to measure the **Atmospheric Air Quality (AAQ)**.

Energy saving strategies (Free cooling), remediation and indoor air quality control strategies can be optimized taking into account OAQ.

In addition, manual ventilation operations by opening windows can also be optimized by informing the occupants of the OAQ for each facade and each floor (see EP5000 IAQ probe).

The increasing airtightness of buildings requires controlled air renewal to guarantee productivity, comfort and health, and taking into account the quality of so-called "new" air makes it possible to optimize the means of remediation for a better energy efficiency and sobriety (recycling vs. dilution).

Local authorities can also use these probes to assess the impact of their policy (heating networks, direction of traffic, traffic fluidity and red light synchronization, vegetation, traffic restrictions, support for energy renovation work on buildings, etc.).

The AAQ probe uses sensor modules with a lifespan of at least 10 years.

Sensor modules are all plug and play and easily replaceable at a low cost. The modularity of the probe (choice of sensor modules) makes it possible to meet different uses and needs.

This probe fits easily and discreetly on a facade, a pylon...

The modular architecture allows the probe to be interfaced with different home automation, IOT or industrial systems (RS485 Modbus, EnOcean, LoRaWAN, NB IOT).

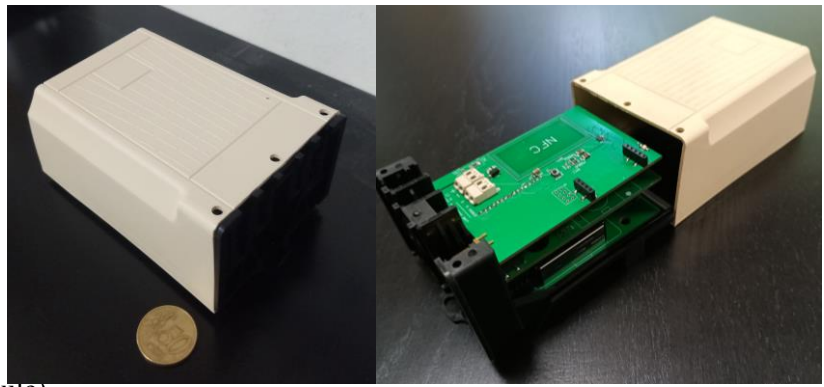
Built-in self-test: indicates sensor module failures and their expiry (preventive maintenance on theoretical end of life).

Sensors fitted as standard:

- PM1, PM2.5 and PM10
- Humidity (absolute and relative)
- Temperature
- Atmospheric pressure

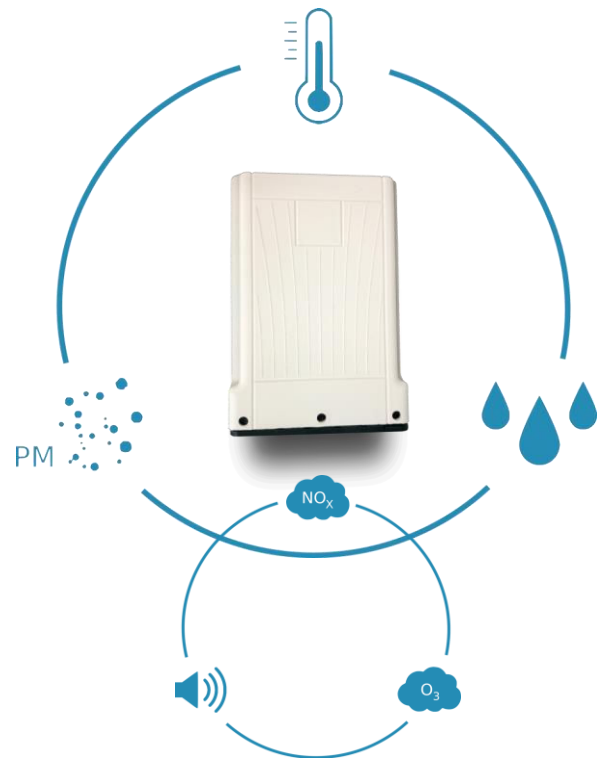
Optional sensors (3 max):

- Noise (average and peak)
- O3
- VOCt
- H2S – SO2 (olfactory index with VOCt module)
- CO2 (double band NDIR)
- NOx + O3 (by software with O3 module)
- NOx (available soon, by software with O3 module)
- NH3 (Ammonia) under dev.



Technical characteristics

| | |
|----------------------|--|
| Protection Rating | 23 (rain up to 60° from vertical) |
| Protocol | Modbus and EnOcean or LoRa |
| Power supply | 12 to 30V DC |
| PM Sensor | Laser scattering |
| PM range | 0.3-10µm - 0 ~ 1000 µg/m ³ |
| PM Classification | PM1, PM2.5, PM10 |
| Temperature Range | -20 / +51.5°C |
| Humidity Range | 0-99% non-condensing |
| PM2.5 accuracy | < 50µg/m ³ : ± 10µg/m ³ 50~100µg/m ³ : ± 15µg/m ³ > 100µg/m ³ : ± 15% reading |
| Temperature accuracy | 0,3°C (no direct light exposition) |
| Humidity accuracy | 2% on 10% to 90% RH range |
| Atmospheric pressure | 10 to 1 200 mbar, resolution: 0.13 mbar |
| Sensors Lifespan | ≥ 10 years without maintenance |



Optional sensors

| | |
|------------------|--------------------------|
| O3 | 20 à 500ppb |
| NOx | 20 à 500ppb |
| NOx + O3 | 20 à 500ppb |
| H2S | Confidential |
| SO2 | Confidential |
| Ammoniac | Confidential |
| Noise resolution | 1 dB |
| Noise range | 100 à 10KHz, 18 to 120dB |

Metrology

Best PM measurement accuracy at the 2018 Airlab micro sensor challenge (rated 98/100 of regulatory measurements in PM2.5)

Weight

< 250gr with radio antenna

Settings

With Android App via NFC

