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Indoor air quality monitors

Ensure safe and healthy indoor air conditions with sensor monitoring

Indoor air quality monitors are designed to measure and evaluate various parameters and pollutants. They track and report on air conditions in real time, enabling measures to be taken to reduce the health risks associated with poor indoor air quality and optimize comfort. Air quality monitors typically measure Particulate Matter, CO2, volatile organic compounds (VOC), Formaldehyde and temperature and humidity.

Target customers:

- Indoor air quality monitor manufacturers (OEMs & ODMs)
- Climate control solution providers

Application challenges

1. Development of responsive, accurate, and durable devices
2. Managing costs while accelerating the time to market
3. Compliance with building standards

Sensirion's solutions

1. Factory-calibrated and compensated sensor modules specified for 10 years, ensuring long-term reliability and precision
2. Plug-and-play sensor modules, providing all relevant IAQ signals, simplifying integration and reducing development time.
3. Integrated sensors are WELL, RESET and CA24 compliant

SENSIRION

Sensirion sensor solution:

SEN66 (upcoming Q1 2025): Sensing platform for simplified indoor air quality measurements

Size (LxWxH): 55.5 x 25.6 x 21.5 mm³

Key sensor features

- Integrated temp. compensation algorithm and acceleration engines
- All sensors included for simplified integration compared to discrete sensors
- Identical mechanical interface for all SEN6x variants
- Dust protection and long life-time
- One of the smallest combo modules on the market

Other applications

- Air purifiers
- VAV controllers
- HVAC control
- Smart home systems
- Vape and smoke detectors
- Room sensors

FAQs

- **What parameters does SEN6x measure, and do I have to buy the module with all parameters?**
  SEN6x measures PM1, PM2.5, PM4, PM10, RH, T, VOC, NOx, CO_2, or HCHO. It is modular, so you can choose what works best for your application:
  - SEN60 – PM
  - SEN65 – PM, RH&T, VOC & NOx
  - SEN66 – PM, RH&T, VOC & NOx, CO_2
  - SEN68 – PM, RH&T, VOC & NOx, HCHO
- **What use cases can I enable using an all-in-one solution?**
  The data generated by the SEN6x can be used to power smart features, such as presence detection, IAQ prediction, open window detection (pollen) and viral infection risk.
- **Do I need to include my own microcontroller?**
  No, for the SEN6x all algorithms, including temperature acceleration and compensation, VOC & NOX index calculation and tuneability, are integrated.
- **What do I need to consider for a successful integration?**
  Sensor module orientation, sealing, good coupling to ambient air without restrictions, isolation from heat sources. For more information, see mechanical design and assembly guide.
- **What is the ideal position of the sensor in the device?**
  Close to the lower edge of the housing with a good ambient air coupling, good internal sealing and far away from any heat sources.
- **Do the sensor components have different lifetimes and how do I cope with that?**
  All components will last at least 10 years with sheath flow protecting them from contaminants.

Getting started

Simplifying indoor air quality sensing with the SEN6x

Useful documents

Datasheets, application notes, handling instructions, sample codes, step files, certificates

Related sensors

↗STCC4 ↗SHT40 ↗SGP41
↗SCD41 ↗SHT41

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