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Air purifiers

Environmental sensors make air purifiers smart

Air quality monitoring in combination with air filtration protects our health and improves well-being. Air purifiers clean the air inside offices and homes by trapping pollutants such as fine dust, smoke, odors and formaldehyde. For air purifiers to work efficiently, precise measurement of air quality parameters is key.

Target customers:
- Air purifier manufacturers (OEMs & ODMs)
- Climate control solution providers

Application challenges

1. Quick time to market
2. Cost pressure
3. Detecting harmful indoor air pollutants
4. Intelligent filter monitoring

Sensirion's solutions

1. Straightforward design-in characteristics with standardized size and connector across the entire SEN6x range
2. Saves time and resources for design-in with incorporated optimal airflow, temperature compensation algorithms and reading acceleration engines
3. Selected SEN6x variants include PM, VOC & NOx, HCHO and CO_2 concentration measurements
4. Add a flow sensor to accurately measure filter status, or reach out to discuss sensor fusion options

SENSIRION

Sensirion sensor solution:

SEN66:
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
- Reduced power modes
- Identical mechanical interface for all SEN6x variants
- Dust protection and long life-time
- One of the smallest combo modules on the market

Other applications

- IAQ monitors
- VAV controllers
- HVAC control
- Smart home systems
- Vape and smoke detectors

FAQs

- **What parameters does SEN6x measure, and do I have to buy the module with all sensors?**
  SEN6x provides output on 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 would be the low-cost version for an automated mode?**
  To control your air purifier based on PM-only pollution, a SEN60 (module with fan) or the laser-based PM sensor component SPS6x are the preferred choice.
- **Do I need to add a microcontroller?**
  No, the SEN6x has a microcontroller integrated with features such as temperature acceleration algorithms, temperature compensation engines and VOC / NOx indexes.
- **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. Scan the QR code at the bottom of this page to get access to the mechanical design and assembly guide.
- **Will the SEN6x perform well in dusty environments?**
  The SEN60 particulate matters sensor will remain accurate for at least 10 years thanks to the patented sheath flow technology, protecting laser and photoreceptors cells for settling dust particles.
- **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, notifications for exposure to pollen, energy savings with open window detection and viral infection risk.

Getting started

SEK-SEN66

Related sensors

↗SEN6x series

Useful documents

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

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