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Vape detection

Address public vaping and promote a healthier environment

E-cigarettes become more widely available, and their use is increasingly prohibited in schools, hotels, and public buildings. Detecting vaping however can be challenging. By combining all environmental sensor signals, including particulate matter, relative humidity, temperature, volatile organic compounds, and carbon dioxide, smart algorithms play a crucial role in addressing this issue while maintaining user anonymity.

Application challenges

1. Managing costs while accelerating time to market
2. Limited knowledge of air quality sensor integration
3. Processing all the sensor outputs at once in order to develop an algorithm that is covering vape detection needs

Sensirion's solutions

1. Plug-and-play sensor modules, providing all relevant IAQ signals, simplifying integration and reducing development time
2. FAEs at our distributors and Sensirion are familiar with the associated design-in challenges and are ready to support
3. Sensor output is calibrated, compensated and is done with a single communication protocol

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
- Identical mechanical interface for all SEN6x variants
- Dust protection and long life-time
- Very small size for easy and discrete intergration

Other applications

- Indoor air quality monitors
- Air purifiers
- VAV controllers
- HVAC control

FAQs

- **Can Sensirion support for algorithm development?**
  The module features a microcontroller with integrated algorithms and engines, such as temperature compensation, acceleration engines, and the VOC/NOx indexes. Most algorithm development requires direct access to large field datasets, owned by the OEM. Moreso, vape detection algorithm functionality is often considered the OEM‘s intellectual property. Sensirion therefore does not develop vape detection algorithms specifically.
- **What parameters does SEN66 measure, and do I have to buy the module with all parameters?**
  SEN66 measures PM1, PM2.5, PM4, PM10, RH, T, VOC, NOx and CO2. SEN6x is modular, so you can choose from a range of sensors depending on what suits best for you.
- **What other use cases can I enable using an all-in-one solution?**
  Besides vape detection, other use cases include presence detection, IAQ prediction, open window detection (pollen) and viral infection risk.
- **What do I need to consider for a successful integration?**
  Sensor module orientation, sealing, good coupling to ambient air without restrictions and isolation from heat sources. Using the link hereunder, you can download the mechanical design and assembly guide. Our customer support team is here to assist you with sensor integration and provide guidance on gathering valuable sensor insights. Please don‘t hesitate to reach out to us.

Getting started

Start evaluating with the SEK-SEN66

Useful documents

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

Related sensors

↗SEN66

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