

# Demand controlled ventilation (DCV)

## CO<sub>2</sub> enhanced ventilation for more energy efficiency in ventilation

DCV systems regulate the amount of fresh air supplied to a given room. CO<sub>2</sub> concentration is monitored to optimize exchange rates, maximize comfort and reduce energy consumption. Sensirion's CO<sub>2</sub> sensor portfolio supports a wide range of DCV system requirements, from matching high accuracy regulations to meeting building standards (e.g. ASHRAE 91.2, WELL, etc) to non-regulated use cases.

### Target customers:

- Ventilation components and building control manufacturers



### Application challenges

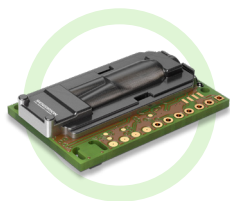
- 1 Regulation compliance
- 2 Size constraints
- 3 Size and cost pressure
- 4 Alternatives



### Sensirion's solutions

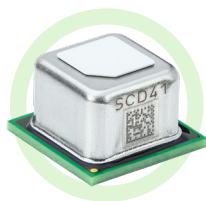
- 1 Sensirion's portfolio can cover all the requirements for current and future DCV regulations
- 2 SCD41 is an attractive alternative to larger NDIR sensors
- 3 Options available to meet customer requirements on size and cost
- 4 STCC4 can support non-regulated and battery-powered use cases

# Sensirion sensor solution:



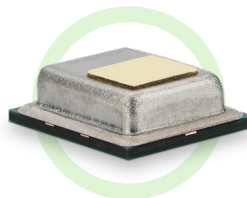
**SCD30: High accuracy NDIR CO<sub>2</sub> sensor**

Size (LxWxH): LxWxH mm3



**SCD41: High accuracy CO<sub>2</sub> sensor with reduced form factor**

Size (LxWxH): LxWxH mm3



**STCC4: CO<sub>2</sub> sensor with unmatched form factor**

Size (LxWxH): 4 x 3 x 1.2 mm3

## Key sensor features

- SCD30: NDIR high accuracy CO<sub>2</sub> sensor for ASHRAE compliance applications.
- SCD41: Photoacoustic high accuracy sensor for WELL & RESET compliance
- STCC4: Low power, low size CO<sub>2</sub> sensor for non-regulated application

## Other applications

- Indoor air quality monitors
- Smart speakers
- Mobile phones, laptops, tablets
- Air purifiers (window open)
- Thermostats

## FAQs

- **What support does Sensirion offer for successful design-in?**

If support for design-in, algorithm development or data analysis is necessary, Sensirion's field application engineering teams cover all continents and are ready to support. With excellent sensor expertise, design-in experience, in-house testing set-ups and applications insights, with Sensirion you can comfortably rely on bringing solutions successfully to market.

- **At what point in the development process do I need to involve Sensirion?**  
Involving Sensirion should occur as soon as the design and requirements of the application have been defined. Early collaboration ensures optimal sensor performance in the end device and preventing common pitfalls.

- **What is the value of adding a CO<sub>2</sub> feature to a thermostat?**

CO<sub>2</sub> detection is crucial for defining air freshness, as high levels indicate poor air quality. Numerous research proved a clear correlation between CO<sub>2</sub> levels and sleep quality, cognitive performance and virus infection risk. Integrating a CO<sub>2</sub> sensor can prompt manual action such as opening a window or an automated response such as activating an HRV system.

- **Why Sensirion?**

As one of the largest manufacturers, Sensirion sensors are integrated into millions of households worldwide, intensively cooperating with numerous renowned brands. With decades of experience, robust supply chains and manufacturing control, Sensirion ensures top-quality products.

## Getting started



SEK-SCD30



SEK-SCD41



SEK-STCC4



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

## Useful documents

**SENSIRION**