



CO<sub>2</sub>

VOC

PM<sub>2.5</sub>

RH/T

# Environmental Sensing

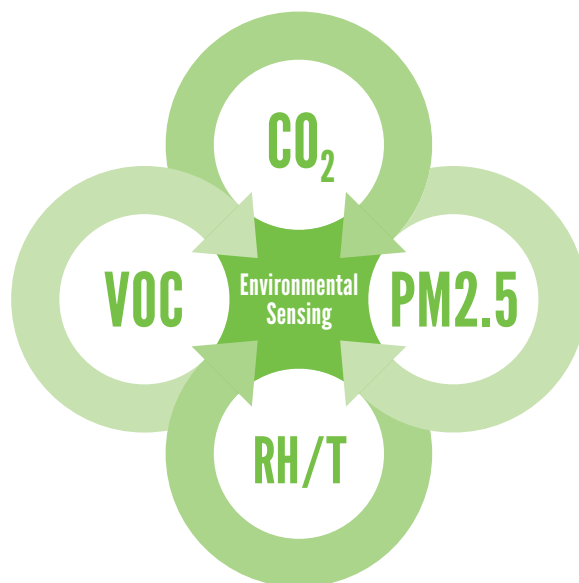
Experts for Smart Sensor Solutions

**SENSIRION**  
THE SENSOR COMPANY

# Environmental Sensing Solutions

Environmental conditions have a major impact on our well-being, comfort, and productivity. Sensirion's sensor solutions provide detailed and reliable data on key environmental parameters such as humidity, temperature, volatile organic compounds (VOCs), particulate matter (PM2.5), and CO<sub>2</sub>. Environmental Sensing opens up new possibilities to create smarter devices that improve our comfort and well-being as well as increase energy efficiency in a wide variety of applications.

For more information, please visit [www.sensirion.com/environmental-sensing](http://www.sensirion.com/environmental-sensing)

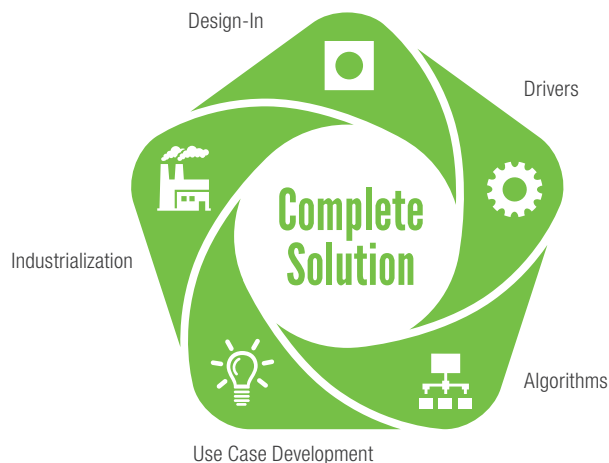


## INNOVATION PIONEER

Thanks to our patented CMOSens® Technology, Sensirion was the first company to offer an automotive-grade, digital humidity sensor with a calibrated and linearized signal output. As an innovation-driven company, we did not stop with state-of-the-art humidity sensors, but have continued to develop other sensor types, such as multi-pixel gas sensors, CO<sub>2</sub> sensors, mass flow meters and controllers for gases, differential pressure sensors and liquid flow sensors. We are always keen to find new sensor solutions for demanding applications, which is why we develop new environmental sensors, such as PM2.5 sensors to provide valuable air quality data.

## COMPLETE SOLUTIONS PROVIDER

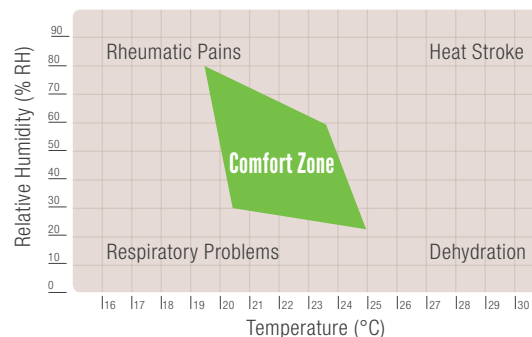
With more than 15 years' experience in the development and supply of environmental sensor solutions, we lead the field in sensor technology innovation. We provide the sensor hardware and support our customers during the design-in, the development of sophisticated algorithms and the industrialization all the way to mass production. In addition to providing unparalleled performance, we also focus on key characteristics such as size, ultra-low power consumption, fully calibrated digital output and compatible supply voltages.



# Key Environmental Parameters

## AMBIENT HUMIDITY AND TEMPERATURE

Thermal comfort is an important factor in climate control systems. Under which conditions does one feel comfortable, when does one feel discomfort and at what point do conditions impair human health? Relative humidity and temperature play a key role in this context, and thus personal well-being can be improved by the use of humidity and temperature sensors.

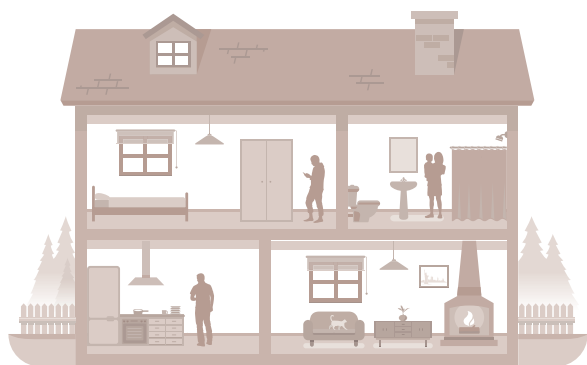


## VOCs

The widespread use of new products and building materials has resulted in increased concentrations of indoor pollutants, in particular volatile organic compounds (VOCs). Many of these compounds are known to impair well-being and productivity, e.g. through headaches, eye irritation or dizziness. Sensirion gas sensor solutions monitor these indoor air pollutants and thus help manufacturers in the development of new smart home and HVAC applications.

## PM2.5

PM2.5 and PM10 refer to particulate matter with particle diameter up to 2.5 microns and 10 microns, respectively, and are among the most dangerous air pollutants. Due to their small size, PM2.5 particles can travel deep into the human lung and cause a variety of health issues, for instance, by triggering asthma attacks or contributing to cardiovascular disease. Sensirion's new PM2.5 sensor solution will enable the implementation of innovative air quality monitoring devices that prevent air pollution damage.



## CO<sub>2</sub>

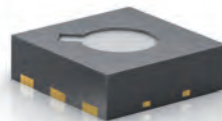
Carbon dioxide is a key indicator for indoor air quality. Thanks to new energy standards and better insulation, houses have become increasingly energy-efficient, but the air quality can deteriorate rapidly. Active ventilation is needed to maintain a comfortable and healthy indoor environment and improve the well-being and productivity of the inhabitants. Sensirion sensor solutions offer an accurate and stable monitoring of CO<sub>2</sub> in the air, as well as temperature and humidity. This enables our customers to develop new solutions that increase energy efficiency and simultaneously support the well-being of everyone.

# Sensirion's Environmental Sensing Solutions



## HUMIDITY & TEMPERATURE SENSOR

- Excellent performance
- Proven reliability
- Low power consumption
- Economy of scale



## MULTI-PIXEL GAS SENSOR

- Outstanding long-term stability based on Sensirion's MOXSens® Technology
- Calibrated indoor air quality signals
- Ultra-low power consumption
- Very small DFN package and I<sup>2</sup>C interface



## CO<sub>2</sub> SENSOR

- Outstanding stability due to compensation of long-term drifts by dual channel principle
- Three sensor signals based on Sensirion's CMOSens® Technology
  - Absolute carbon dioxide measurement, relative humidity and temperature
- Small form factor and thinnest package



## PM2.5 SENSOR (TECHNOLOGY PREVIEW)

- Unique long-term stability
- Superior accuracy in mass-concentration sensing
- Compact size
- Fully calibrated digital output

# Sensirion Evaluation Kit for Environmental Sensors

## FAST AND EASY EVALUATION FOR YOUR SENSOR APPLICATION

The evaluation kit SEK-Environmental Sensing is designed for a quick, easy and cost-efficient evaluation of Sensirion's environmental sensors. This facilitates to evaluate sensors and develop innovative sensor applications.

The kit combines plug-and-play hardware with an easy-to-use viewer software for in-depth evaluation, the ControlCenter. Each evaluation kit includes a Sensirion SensorBridge, all required connector cables, as well as various sensor samples. The SensorBridge features two independent I<sup>2</sup>C channels that allow simultaneous evaluation of two environmental sensor samples. The ControlCenter viewer software makes it possible to display and log the sensor signals for multiple sensors connected to several SensorBridges on the same PC.



# With Our Environmental Sensing Solutions, We Improve...



## HEALTH

Your health is your greatest asset. In order to enable more people to live longer, healthier and happier lives, Sensirion has developed sensor solutions to improve medical devices and smart home applications, such as air purifiers and air cleaners.



## QUALITY OF LIFE

Deep down, everyone is looking to increase their quality of life, and Sensirion's unique, intelligent sensor solutions do just that. As the leading international manufacturer of environmental sensor solutions, we offer our clients sensor solutions for increased convenience and security.



## ENERGY EFFICIENCY

With efficient systems, we have the chance to significantly improve the global energy balance and make a major contribution to environmental protection. Through energy-efficient applications, we can counteract the constantly growing energy consumption around the world and at the same time reduce harmful emissions. That's why we offer our clients in a wide variety of industries sensor solutions for sustainable and efficient energy management.

# Sensing. Anytime. Anywhere.

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