Use case brief

Smart CO_2 detection enabled by XENSIV™ PAS CO2 sensor

Innovative, plug & play CO_2 sensor combines high accuracy with a small form factor to measure what matters – indoor air quality

Our XENSIV™ PASCO2V01 sensor sets a new standard for CO_2 measurement. Based on a unique Photoacoustic Spectroscopy (PAS) concept, it provides unprecedented levels of accuracy at ppm level (±30 ppm ±3 percent of reading). Its ultra-compact design (14 x 13.8 x 7.5 mm^3) offers more than 75 percent space saving compared to existing NDIR solutions as well as being three times lighter.

The sensor is ideal for measuring indoor air quality as CO_2 is known to have a massive impact on health and wellbeing. Furthermore, it can provide highly accurate data to control HVAC (Heating, Ventilation, and Air Conditioning) applications and DCV (Demand Controlled Ventilation) for smarter operation, achieving optimal user comfort and significant energy (cost) savings.

Some of the many other applications for this novel sensor include:

- In homes, offices and other indoor spaces, monitoring CO_2 ensures optimal levels of fresh air, facilitating comfort and productivity.
- Connected CO_2 monitoring devices can reduce the risk of virus transmission by alerting users to poor ventilation indicated by high CO_2 levels.
- In smart farming, monitoring CO_2 levels ensures that crops have the correct level of this key ingredient for optimum growth.

The advanced design includes a dedicated microcontroller for direct ppm readouts as well as advanced compensation algorithms to achieve superior accuracy. A range of customisable options means that it can be easily tailored to suit the application.

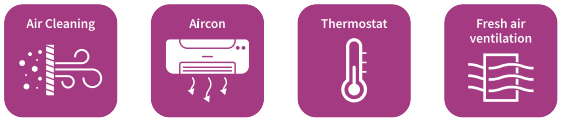
We have a complete suite of evaluation boards and application notes to allow you to easily integrate the sensor into your application to make it smarter, giving you a significant edge over your competition as well as a fast time to market.

Product's benefits for your application

- High accuracy (±30 ppm ±3 percent of reading)
- Smaller (14 x 13.8 x 7.5 mm^3) than existing NDIR CO_2 sensors
- Operating range: 400 ppm to 10000 ppm
- SMD package for smooth high-volume assembly
- Plug & play enabling fast time to market



Further details can be found here.



www.infineon.com/co2

© 2021 Infineon Technologies AG. All Rights Reserved. Date: 07/2021