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High CO₂ accuracy with comprehensive building standard compatibility



The SCD43 delivers a best-in-class accuracy specification of +/- (30ppm + 3% m.v.) as well as compatibility with the most stringent building standards, including ANSI/ASHRAE 62.1-2022 Draft Addendum d, California Title 24, RESET® grade B and WELL Building Standard™ (WELL v2). Furthermore, SCD43 features an extended specified range up to 5'000 ppm and single shot operation mode.

Sensor features:

- Photoacoustic NDIR sensing technology
- Small footprint of 10.1 × 10.1 × 6.5 mm³
- Fully encapsulated sensor package
- SMD solderable, tape & reel packaging
- On-chip compensation and self-calibration
- Supply voltage range of 2.4–5.5 V
- Multiple operation and reduced power modes
- Digital I2C interface

Benefits:

- High accuracy, selective CO₂ measurement
- Space saving integration
- Long lifetime of > 10 years; Robust against dust, water ingress and mechanical force
- Allows for highly automated, cost-effective on-board assembly
- Calibrated and linearized sensor output with long-term drift compensation (ASC)
- Operable in wide variety of applications
- Flexible trade-off between power-consumption and performance
- Straight-forward design-in and interfacing

Applications:

- Commercial or residential HVAC systems
- Wall-mounted thermostats
- Air purifiers
- Indoor air quality monitors

Sensor evaluation SEK-SCD43:

The SEK-SCD43, with a SCD43 integrated on a development board, enables fast testing of the SCD43 for different applications.

Includes:

- 1x SCD43 development board
- 1x adapter cable
- 1x jumper wire set

1x SEK-SensorBridge required

2 Related material

- Product-Page SCD43: <https://sensirion.com/products/catalog/SCD43>
- Picture SCD43 (no login required):
<https://brand.sensirion.com/share/yMZ47cfF3eM2AZPARwZ3/assets/57283>
- Product-Page SEK-SCD43 : [SEK-SCD43 - Evaluation kit for SCD43 CO2 sensors](#)
- Datasheet: <https://sensirion.com/resource/datasheet/scd4x> ;
<https://sensirion.com/products/catalog/SEK-SCD43>
- Indoor air quality brochure: <https://sensirion.com/resource/flyer/iaq/brochure>
- Carbon dioxide product flyer: <https://sensirion.com/resource/flyer-co2>

Guides:

- Design-in Guide: https://sensirion.com/resource/user_guide/scd4x/design-in
- Handling Instruction:
https://sensirion.com/resource/user_guide/scd4x/handling_instructions
- Testing Guide: https://sensirion.com/resource/user_guide/scd4x/testing_guideline

Software:

- Embedded Driver: <https://sensirion.com/resource/software/embedded/scd4x>
- Arduino Driver: <https://sensirion.com/resource/software/arduino/scd4x>
- Raspberry Pi driver: <https://sensirion.com/resource/software/raspberry-pi/scd4x>
- Makecode for micro:bit:
<https://sensirion.com/resource/software/makecode/microbit/scd4x>
- Arduino snippets SCD4x:
<https://sensirion.com/resource/software/arduino/scd4x/snippets>
- BLE gadget SCD4x: <https://sensirion.com/resource/software/ble-gadget/scd4x>
- Python driver SCD4x: <https://sensirion.com/resource/software/python/scd4x>
- SEK-ControlCenter (all devices):
https://sensirion.com/resource/viewer_software/controlcenter

Drawings, application notes & certificates:

- REACH/ RoHS Certificate: https://sensirion.com/resource/certificate/scd/reach_rohs
- Step File: <https://sensirion.com/resource/cad/scd4x> ;
<https://sensirion.com/resource/cad/sek-scd41>
- Low power operation SCD4x:
https://sensirion.com/resource/application_note/scd4x/low_power_operation
- What type of NDIR sensors exist and how do they work?
https://sensirion.com/resource/application_note/ndir-sensors-types
- Altium footprint SCD4x:
https://sensirion.com/resource/software/altium_footprint/scd4x
- Calibration certification SCD4x : <https://sensirion.com/resource/certificate/calibration-certification-scd4x>