

Sensor Operation Guide

For SCD4x Photoacoustic CO₂ Sensors

The SCD4x is Sensirion's family of miniature photoacoustic CO₂ sensors for indoor air quality and building applications. Combining high CO₂ accuracy with integrated temperature and humidity sensing, the SCD4x line supports multiple operating modes ranging from continuous monitoring to ultra-low-power operation. Built-in calibration and compensation features help maintain reliable performance across a wide range of deployment conditions.

This document provides guidance for selecting and operating the SCD4x measurement mode that best suits the requirements of the final application. It covers recommended operation, calibration and compensation mechanisms, advanced single-shot and low-power strategies, and the associated trade-offs in response time, power consumption, long-term stability and EEPROM lifetime.



Key instructions

Features

- Photoacoustic NDIR sensor technology PASens®
- Small form factor: 10.1 x 10.1 x 6.5 mm³
- Reflow solderable for cost-effective assembly
- Digital I²C interface
- Integrated temperature and humidity sensor

Product Variants

- **SCD40:** Base accuracy, specified measurement range 400 – 2'000 ppm, compatible with WELL Building Standard™ ¹
- **SCD41:** Improved accuracy, specified measurement range 400 – 5'000 ppm, additionally compatible with California Title 24 ² and RESET® ³, features single-shot operation mode
- **SCD43:** High accuracy, specified measurement range 400 – 5'000 ppm, additionally compatible with ASHRAE Standard 62.1 ⁴, features single-shot operation mode

¹ WELL v2, Q4 2024

² 2025 California Building Energy Efficiency Standards for Residential and Nonresidential Buildings

³ RESET Air Standard v2.0 Grade B

⁴ ASHRAE 62.1-2022 incl. Addendum d

Contents

1	Operation Modes.....	3
1.1	Recommended Operation	3
1.2	Advanced use	3
2	Recalibration: ASC & FRC	5
2.1	Recalibration Strategy	5
2.2	Automated Self-Calibration	5
2.2.1	ASC Working Principle	5
2.2.2	ASC Baseline Target	7
2.3	Forced Recalibration (FRC)	7
2.3.1	FRC Principle	7
2.3.2	FRC as ASC Substitute	7
2.4	EEPROM Lifetime and Use of <i>persist_settings</i>	7
3	Pressure and Altitude Compensation	8
3.1	Altitude compensation	8
3.2	Pressure compensation	9
3.3	Baseline correction via FRC or ASC	9
3.4	Compensation Selection Guide	9
4	Power Optimization & Advanced Operation	10
4.1	Low-Power Mode	10
4.2	Idle Single-Shot Operation (SCD41 only)	10
4.2.1	Working Principle	10
4.2.2	ASC in Idle Single-Shot Operation	10
4.2.3	FRC in Idle Single-Shot Operation	10
4.2.4	EEPROM Operation and Lifetime in Idle Single-Shot Operation	11
4.3	Power-Cycled Single-Shot Operation	11
4.3.1	Working Principle	11
4.3.2	EEPROM Operation and Lifetime in Power-Cycled Single-Shot Operation	11
4.4	Power Consumption	12
4.4.1	Typical Power Consumption	12
4.4.2	Current Consumption in Single-Shot Modes	13
5	Revision History	14

1 Operation Modes

1.1 Recommended Operation

The use of the high-performance mode is recommended unless the application requires otherwise.

This mode represents the standard periodic measurement mode for SCD4x sensors as initiated using the *start_periodic_measurement* command detailed in section 3.5 of the SCD4x datasheet. It features a fixed update interval of 5 seconds and is the recommended operation mode for applications requiring relatively fast response times and detailed knowledge of the evolution of the CO₂ concentration over time. Automatic Self Calibration (ASC) is activated by default in this measurement mode to ensure long-term sensor accuracy.

1.2 Advanced use

SCD4x CO₂ sensors feature up to four different operation modes with different features and capabilities: two periodic measurement modes and two single-shot modes. An overview of the typical average supply current required by the sensor at different sampling periods is provided in Table 1 below.

High-performance mode is the default and recommended operating mode. For other modes, verify that the response time, calibration strategy, and power profile meet the application requirements; see the SCD4x datasheet

	Recommended use	Advanced use		
	High-performance mode	Low-power mode	Idle single-shot mode	Power-cycled single-shot mode
Description	Default mode ; strongly recommended unless the application requires another operating mode. Rapid detection of CO ₂ changes.	Continuous monitoring with reduced power consumption.	Flexible trade-off between responsiveness and low average power consumption.	Maximum battery lifetime as priority.
Available on	All SCD4x	All SCD4x	SCD41 only	SCD41 only
Advantages	• Fastest response time • Simple continuous operation	• Continuous measurement operation • Significantly reduced power consumption compared to high-performance mode	• User-configurable measurement interval • Significantly reduced power consumption compared to high-performance mode	• Lowest average power consumption • User-configurable measurement interval
Limitations	• Highest power consumption	• Longer response time compared to high-performance mode	• Sensor remains powered between measurements	• First measurement after wake-up must be discarded for sensor stabilization • ASC not supported
Calibration mode	ASC (default), FRC	ASC (default), FRC	ASC (default)*, FRC	FRC only
Sampling Period	5 s	30 s	configurable	configurable
Typical average supply current at V _{dd} = 3.3 (mA)	15	3.2	1.5 (T = 1 min) 0.45 (T = 5 min)	0.25 (T = 10 min) 0.13 (T = 20 min) 0.043 (T = 60 min)
Typical average supply current at V _{dd} = 5 (mA)	11	2.8	1.1 (T = 1 min) 0.36 (T = 5 min)	0.18 (T = 10 min) 0.09 (T = 20 min) 0.03 (T = 60min)

Table 1: Overview of the operation modes available in the SCD4x sensors.

*ASC parameters may require adaptation for non-default sampling intervals

2 Recalibration: ASC & FRC

To achieve the long-term CO₂ sensing performance specified in the SCD4x datasheet, the SCD4x CO₂ sensor must be operated with the built-in automatic self-calibration (ASC) algorithm enabled. The ASC algorithm corrects offsets to the sensor output due to factors such as transportation, assembly and sensor drift over the sensor operating lifetime.

Should the application require it, the ASC algorithm can be disabled. Please note that accuracy is not guaranteed when operating the sensor without ASC.

2.1 Recalibration Strategy

For most standard applications, ASC should always be enabled to ensure long-term sensor accuracy. For applications where regular exposure to fresh air is not possible, see section 2.3.2.

2.2 Automated Self-Calibration

2.2.1 ASC Working Principle

ASC maintains long-term sensor accuracy by periodically adjusting the sensor baseline based on the lowest CO₂ concentration measured during a defined calibration period. With default settings, ASC assumes exposure to fresh air (approximately 400 ppm CO₂) for at least 3 minutes once per week. For applications that cannot regularly reach sufficiently low CO₂ concentrations, see 2.2.2

The first correction is performed after the initial ASC period, and subsequent corrections are performed after each standard ASC period. Default ASC periods and instructions for modifying them are provided in the SCD4x datasheet. Selecting unsuitable values may negatively affect ASC accuracy.

If the sensor remains below 400 ppm for approximately 2 minutes, ASC immediately triggers an upward baseline correction. The ASC state is stored periodically in non-volatile memory. Power cycling should be avoided, as it can delay subsequent ASC corrections. The non-volatile memory is shared by the ASC algorithm and the FRC algorithm and dimensioned for the specified sensor lifetime when operated in standard periodic measurement mode or idle single-shot mode with a 5-minute sampling interval. In both cases default ASC algorithm parameters are assumed.

Figure 1 and **Figure 2** show illustrative examples an upward and downward ASC correction, respectively.

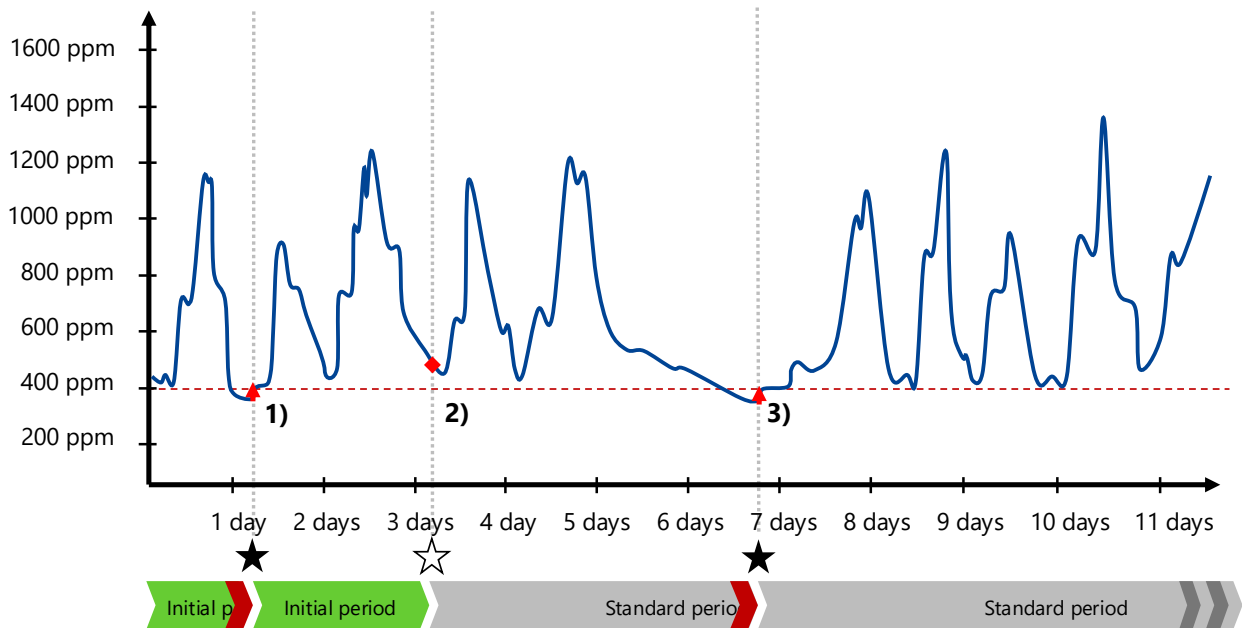


Figure 1: Illustrative example of upward ASC corrections. **1)** Output below 390 ppm causes upward correction during initial period, which then restarts the timer for the initial period. **2)** End of initial period, start of first standard period and adoption of lowest seen value as baseline (= 400 ppm). **3)** Output below 390 ppm causes upward correction and restarts timer for standard period.

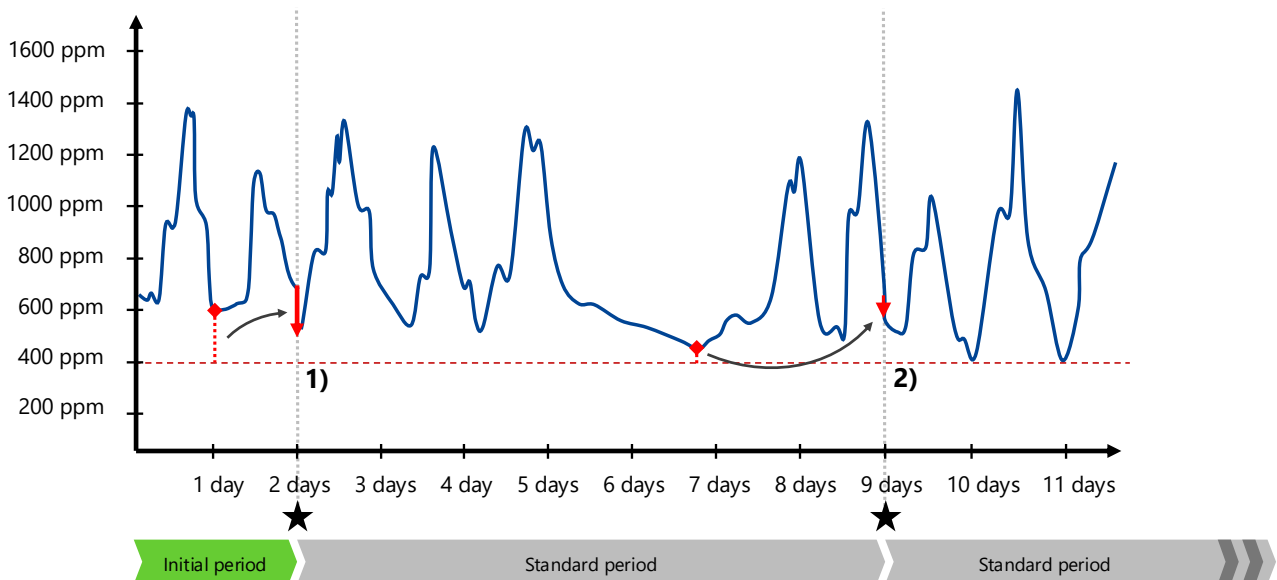


Figure 2: Illustrative example of two downward ASC corrections. **1)** Initial period complete, correction such that historic minimum is equal to 400 ppm. **2)** Standard period complete, correction such that historic minimum is equal to 400 ppm.

2.2.2 ASC Baseline Target

The default ASC baseline target is 400 ppm. For operating conditions where regular exposure to fresh air cannot be achieved, the baseline can be adjusted to fit the lowest expected CO₂ value seen during regular use, as described in Section 3.8.4 of the SCD4x Datasheet. Please note that for the ASC algorithm to function properly, the sensor must be exposed to CO₂ concentrations corresponding to the baseline target once per standard period for at least 3 minutes. Exposure to CO₂ concentrations below the set baseline target may negatively affect the sensor accuracy.

2.3 Forced Recalibration (FRC)

2.3.1 FRC Principle

Forced recalibration (FRC) allows to correct the sensor output quickly by providing a trusted reference value to the SCD4x via its digital interface as described in Section 3.8.1 of the SCD4x datasheet. For recommendations on reference sensors, see Section 4.1.3 of the SCD4x Testing Guide.

Note that the FRC must be performed in an environment with stable CO₂ concentration, as well as relative humidity, temperature and pressure. Environmental conditions during FRC should closely match expected conditions during use in the field.

2.3.2 FRC as ASC Substitute

In cases where ASC cannot be used, e.g. in environments where fresh air exposure cannot be achieved, regular FRCs can be used as an ASC replacement. Follow the guidelines and instructions outlined in Section 2.3 as well as Section 3.8.1 of the SCD4x datasheet.

Note that FRC should not be performed more than once every 4 hours, as this will reduce the lifetime of the EEPROM and as a result, the sensor. Refer to Section 2.4 for more information.

2.4 EEPROM Lifetime and Use of *persist_settings*

The SCD4x uses two separate EEPROM areas:

- one for configuration settings, which can be stored using the *persist_settings* command
- one for ASC/FRC history, which is stored automatically in its dedicated EEPROM.

The ASC history EEPROM area is dimensioned to last the specified sensor lifetime when the sensor runs continuously, or in single-shot mode with a five-minute measurement interval. During ASC-enabled single-shot operation, the sensor writes its measurement history to non-volatile memory after every 48 single-shots, provided no power cycle occurs in between. The sections below describe how deviating from this five-minute design assumption affects EEPROM lifetime, depending on whether the sensor is power-cycled between measurements.

Separately, the EEPROM area used for persisted configuration has a lifetime of 2,000 write cycles. Using the *persist_settings* command more than 2,000 times over the sensor's lifetime will therefore reduce this EEPROM's lifetime.

3 Pressure and Altitude Compensation

The accuracy of the SCD4x CO₂ output signal can be affected by ambient pressure and weather variations or altitude at the place of operation. As ambient pressure changes, the number of CO₂ molecules within the same sensing volume changes accordingly, which can lead to deviations in the reported CO₂ concentration if not compensated. To reduce pressure-related deviations, the SCD4x allows externally obtained pressure or altitude values to be provided to the sensor, enabling on-board compensation of the CO₂ output signal.

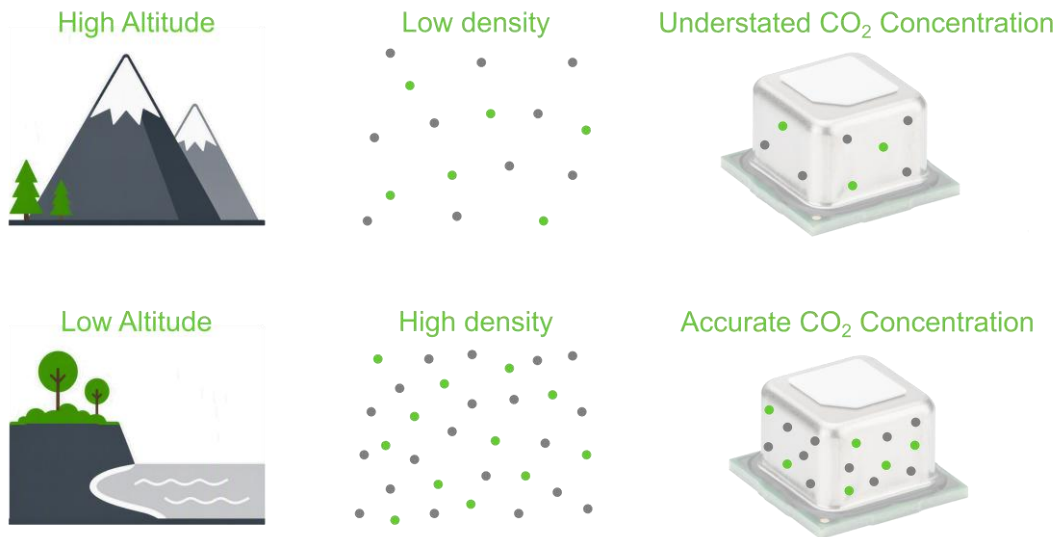


Figure 3: Illustrative explanation of the relation between altitude and signal strength

By default, SCD4x sensors are calibrated to a pressure of 1'013 hPa corresponding to an altitude of 0 meters. If the sensor is operated at a different altitude in the final application, it is recommended to compensate for pressure-related deviations.

There are three on-board mechanisms available in the SCD4x to compensate pressure dependence:

- Pressure compensation,
- Altitude compensation,
- Baseline correction via FRC or ASC.

Note that: In these cases, if FRC is performed, the reference value for altitude or pressure compensation must be provided to the sensor beforehand with the commands specified in Sections 3.1 and 3.2.

3.1 Altitude compensation

Altitude compensation can be used when the installation altitude is known and the application is stationary. The altitude is configured using the `set_sensor_altitude` command and takes effect on the next measurement. Reading and writing the altitude must be performed while the sensor is in idle mode.

If an ambient pressure value is provided via `set_ambient_pressure`, it overrides the configured altitude compensation. To retain the altitude setting across power cycles, issue `persist_settings`.

The configured altitude can be read using `get_sensor_altitude`. Detailed command information is provided in the datasheet.

3.2 Pressure compensation

Pressure compensation can be used in applications experiencing significant ambient pressure changes, such as those caused by altitude or weather variations.

An ambient pressure value from an external pressure sensor can be supplied using the *set_ambient_pressure* command, enabling dynamic compensation of the CO₂ output signal in all operating modes. The compensation takes effect on the next measurement and overrides any previously configured altitude compensation.

The ambient pressure value currently stored in the sensor can be read out using the *get_ambient_pressure* command during periodic measurements. This value is not automatically stored in the EEPROM and must be re-applied after power-up if required. Detailed command information is provided in the SCD4x datasheet.

3.3 Baseline correction via FRC or ASC

In the context of pressure dependence, baseline correction via FRC or ASC is suitable for mitigating small pressure-related deviations, particularly at lower CO₂ concentrations. When combined with altitude or pressure compensation, the altitude value is applied first and the remaining CO₂ signal offset is then corrected either by FRC in a stable CO₂ environment or by ASC over time.

3.4 Compensation Selection Guide

Application conditions	Recommended compensation mechanism	How it is applied	Can be combined with
Ambient pressure changes significantly during operation	Pressure compensation	Regularly provide the current ambient pressure from an external pressure sensor using <i>set_ambient_pressure</i>	ASC and FRC
The device is installed at a known and approximately constant altitude	Altitude compensation	Set the installation altitude once using <i>set_sensor_altitude</i> ; use <i>persist_settings</i> if the setting must remain across power cycles	ASC and FRC
The device is exposed to suitable reference conditions	ASC	Enable ASC and allow the sensor to correct its baseline using its measurement history with <i>set_automatic_self_calibration_enabled</i>	Altitude or pressure compensation
Baseline correction is required and a trusted external CO ₂ reference is available	FRC	Operate the sensor and reference under stable, homogeneous conditions, then provide the reference CO ₂ concentration using <i>perform_forced_rec calibration</i>	Altitude or pressure compensation

Table 2: Selection of the appropriate compensation mechanism

4 Power Optimization & Advanced Operation

4.1 Low-Power Mode

Low-power mode operation allows for measurement of the ambient CO₂ concentration with a longer, fixed sampling period of 30 seconds. This reduces the average current consumption of the sensor by more than 80% as compared to high-performance mode operation. It is initiated using the *start_low_power_periodic_measurement* command detailed in section 3.8 of the datasheet. ASC is also available and enabled by default in this measurement mode

4.2 Idle Single-Shot Operation (SCD41 only)

4.2.1 Working Principle

For idle single-shot operation, the SCD41 performs individual measurements only on-demand using the *measure_single_shot* command detailed in section 3.10 of the datasheet. Thus, the energy required for taking a CO₂ reading is consumed only when a measurement is needed, allowing for significant reductions in the average power consumption of the sensor as compared to the periodic measurement modes. In between measurements, the sensor remains powered-up and in the idle state. This enables flexible adjustment of the sampling period to the sensing requirements of the application.

By default, ASC is enabled and configured for idle single-shot operation with an average measurement interval of 5 minutes. For idle single-shot operation with average measurement intervals other than 300 s, it is recommended to adjust the sensor's ASC parameters based on the true average measurement interval and the conditions seen by the sensor in the field. Please consult section 4.2.2 of this document for details.

4.2.2 ASC in Idle Single-Shot Operation

When operating the sensor in single-shot mode, the ASC algorithm assumes a measurement frequency of 5 minutes. Thus, when operating with a single-shot measurement interval shorter than 5 minutes, ASC corrections will occur more frequently. The opposite is true for measurement intervals greater than 5 minutes. Consequently, the initial and standard periods must be adjusted to ensure proper function of the ASC algorithm, as described in section 3.11 of the SCD4x datasheet. Note that input values must be integer multiples of 4. The following formula can be used to calculate the adjusted initial and standard periods:

$$t_{adjusted} = t_{target} * \left(\frac{5 \text{ minutes}}{f_{single-shot}} \right)$$

$t_{adjusted}$	Adjusted initial/ standard period [h]
t_{target}	Target initial/standard period [h]
$f_{single-shot}$	Single-shot interval [min]

Example: 10-minute single-shot interval & want 4 week (=672 hours) standard period

$$\rightarrow t_{adjusted} = 672 \text{ h} * \left(\frac{5 \text{ minutes}}{10 \text{ minutes}} \right) = 336 \text{ h}$$

Note that for larger measurement intervals, the duration of exposure to fresh air must be increased accordingly. For instance, if the fresh air exposure duration is shorter than the measurement interval, it is possible that the ASC correction will not be triggered.

4.2.3 FRC in Idle Single-Shot Operation

For **idle single-shot** mode, if the average sampling period intended for field use is 60 seconds or longer, FRC preparation is required: perform one single-shot measurement per minute (sampling period of 1 minute) for 5 minutes and then execute FRC.

The same procedure also applies to performing FRC if the sensor is to be operated in **power-cycled single-shot** mode in the field.

4.2.4 EEPROM Operation and Lifetime in Idle Single-Shot Operation

(See section 2.4 for general EEPROM architecture and write mechanism)

The ASC implementation assumes a five-minute single-shot interval, for which 48 measurements correspond to four hours of operation. If the sampling interval is shorter than five minutes, the 48-shot threshold is reached more often, resulting in more frequent writes to the ASC EEPROM.

Consequently, the lifetime of the ASC EEPROM is reduced proportionally when ASC-enabled single-shot measurements are taken at intervals shorter than five minutes. This reduction applies only to the ASC EEPROM and should not be interpreted as a proportional reduction in the lifetime of the complete sensor.

4.3 Power-Cycled Single-Shot Operation

4.3.1 Working Principle

The sensor is powered down between single-shot measurements in this mode, which eliminates the idle power consumption of the sensor. This can be achieved either by cutting and later re-applying the supply voltage to the sensor or by using the *power_down* / *wake_up* commands described **Table 3** below and in section 3.10 of the datasheet. Single-shot measurements are requested using the *measure_single_shot* command just as in idle single-shot operation.

Command	Hex. Code	Sequence type	Max. command duration [ms]
power_down	0x36e0	write	1
wake_up	0x36f6	write	20

Table 3: Commands for power cycling

Note: ASC is not supported for power-cycled single-shot operation. For best long-term stability, it is recommended to operate the sensor in idle single-shot mode at a measurement interval of 5 minutes with default ASC parameters and weekly exposure to fresh air with CO₂ concentration at 400 ppm.

4.3.2 EEPROM Operation and Lifetime in Power-Cycled Single-Shot Operation

(See section 2.4 for general EEPROM architecture and write mechanism)

When the sensor is power-cycled two cases can occur:

- **power-cycled before 48 single shots:** the field-calibration history is not written to the EEPROM.
- **power-cycled after 48 single shots:** the field-calibration history is written to the EEPROM, and this happens more frequently than the design assumption.

Because of these more frequent writes, the lifetime of the ASC EEPROM is reduced proportionally when ASC-enabled single-shot measurements are taken at intervals shorter than five minutes (although ASC itself is not supported in power-cycled single-shot operation, the EEPROM area used for storing ASC/FRC history remains in use). This reduction applies only to the ASC EEPROM and should not be interpreted as a proportional reduction in the lifetime of the complete sensor.

4.4 Power Consumption

Performing a CO₂ measurement is the most significant part of the power consumption of the SCD4x. Consequently, adapting the sampling period is the simplest and most effective way to optimize the sensor's power consumption.

However, optimizing power consumption by increasing the sampling period introduces two main trade-offs. First, the signal update rate is reduced, resulting in a longer response time to changes in CO₂ concentration. Second, fewer measurements are available over time, which increases the noise level of the output signal by limiting the possibility of filtering or averaging over multiple data points. The sampling period should therefore be selected carefully to meet the power consumption and sensing performance requirements of the final application.

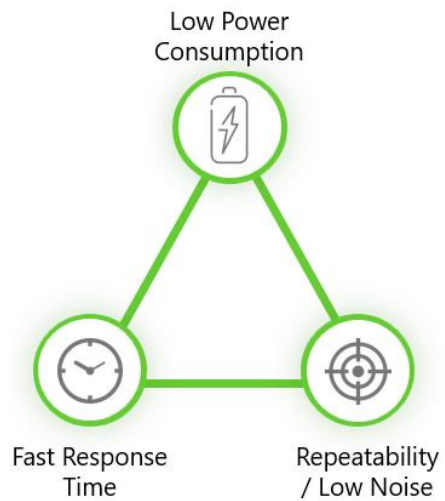


Figure 4: The three-way trade-off to be mastered for low power applications

4.4.1 Typical Power Consumption

The sampling period can be adjusted by selecting the measurement mode that best matches the application requirements. Refer to Section 1 for definitions of the multiple operating modes.

Figure 5 provides an overview of the average power consumption that can be expected from SCD4x sensors at a supply voltage of 3.3 V, depending on the operation mode and the sampling period. The longer the sampling period, the lower the average current consumption.

Note that enabling ASC does not influence the sensor's power consumption.

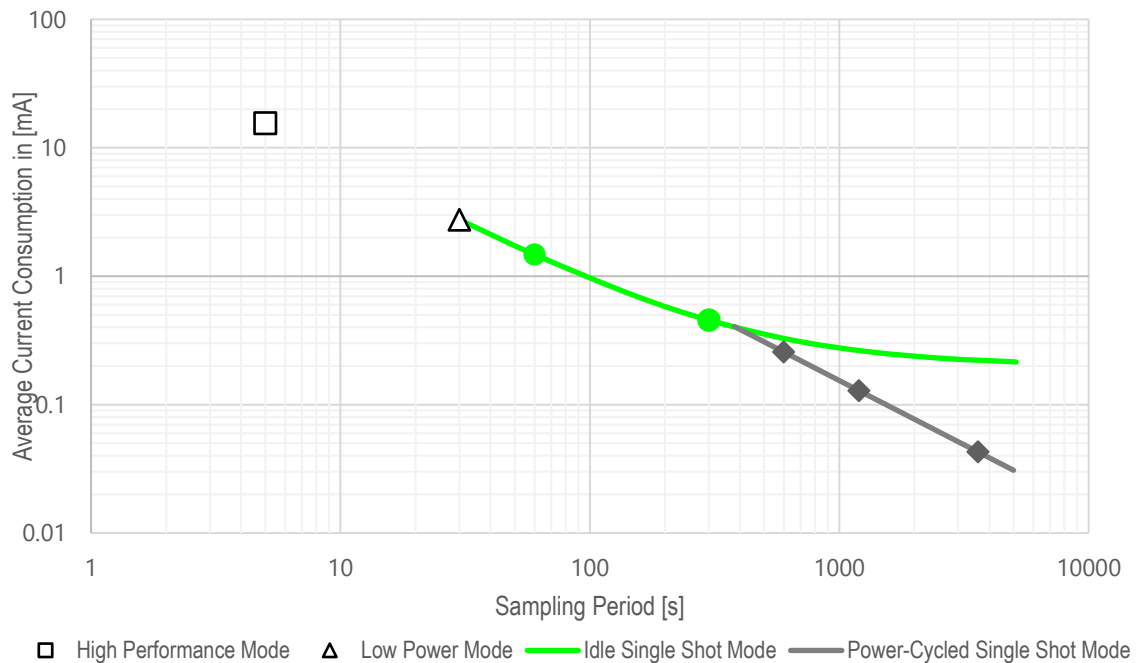


Figure 5: Typical average current consumption by operation mode and sampling period at 3.3 V

When examined over a shorter timescale, the power consumption profile of SCD4x is characterized by two phases for all operating modes:

- 1) Sensor data acquisition: the sensor exhibits a pulsed current profile that may reach the sensor's specified peak supply current.
- 2) Idle operation between samples: the required current returns below 200 μA .

Figure 6 provides a schematic illustration of this characteristic. The sensor's power supply should be designed with respect to the peak current and maximum peak-to-peak voltage ripple (without the sensor) as specified in the datasheet.

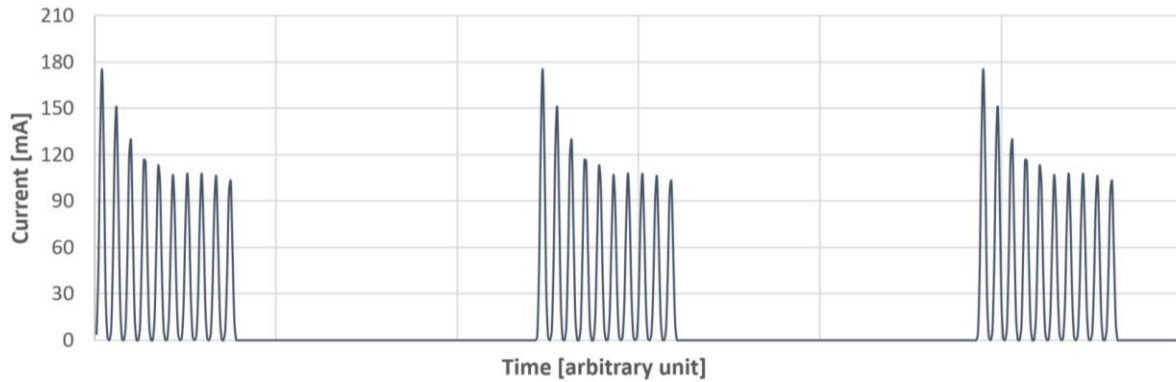


Figure 6: Schematic illustration of the current profile of SCD4x sensors

4.4.2 Current Consumption in Single-Shot Modes

As measurements are only taken on demand in single-shot mode, the current consumption of the sensor varies depending on the resulting average sampling period.

The average current consumption that can typically be expected from the SCD4x in **idle single-shot mode** can be calculated using **Equation 1**:

$I_{avg} = I_i + \frac{q_{ss}}{T_s}$	I_{avg}	Average current consumption [mA]
	T_s	Average sampling period [s]
	I_i	Idle current $\begin{cases} 0.20 \text{ mA}, V_{dd} = 3.3 \text{ V} \\ 0.17 \text{ mA}, V_{dd} = 5 \text{ V} \end{cases}$
	q_{ss}	Additional charge per idle single-shot $\begin{cases} 77 \text{ mC}, V_{dd} = 3.3 \text{ V} \\ 54 \text{ mC}, V_{dd} = 5 \text{ V} \end{cases}$

Equation 1: Typical average current consumption in idle single-shot mode

The average current consumption that can typically be expected from the SCD4x in **power-cycled single-shot mode** can be calculated using Equation 2.

$I_{avg} = \frac{q_{pcss}}{T_u}$	I_{avg}	Average current consumption [mA]
	T_s	Average sampling period [s]
	q_{pcss}	Total charge per single-shot $\begin{cases} 154 \text{ mC}, V_{dd} = 3.3 \text{ V} \\ 108 \text{ mC}, V_{dd} = 5 \text{ V} \end{cases}$

Equation 2: Typical average current consumption in power-cycled single-shot mode

5 Revision History

Date	Version	Pages	Changes
October 2026	1	all	Initial version

Important Notices

Warning, Personal Injury

Do not use this product as safety or emergency stop devices or in any other application where failure of the product could result in personal injury (including death). Do not use this product for applications other than its intended and authorized use. Before installing, handling, using or servicing this product, please consult the data sheet and application notes. Failure to comply with these instructions could result in death or serious injury.

If the Buyer purchases or uses SENSIRION products for any unintended or unauthorized application, Buyer shall defend, indemnify and hold harmless SENSIRION and its officers, employees, subsidiaries, affiliates and distributors against all claims, costs, damages and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if SENSIRION is allegedly negligent with respect to the design or the manufacture of the product.

ESD Precautions

The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation, take customary and statutory ESD precautions when handling this product. See application note "ESD, Latchup and EMC" for more information.

Warranty

SENSIRION solely warrants to the original purchaser of this product for a period of 12 months (one year) from the date of delivery that this product is of the quality, material and workmanship defined in SENSIRION's published specifications of the product. Within such period, if proven to be defective, SENSIRION shall as sole and exclusive remedy, in SENSIRION's discretion, repair this product or send a replacement product, free of charge to the Buyer, provided that:

- notice in writing describing the defects shall be given to SENSIRION within fourteen (14) days after their appearance;
- such defects shall be found, to SENSIRION's reasonable satisfaction, to have arisen from SENSIRION's faulty material or workmanship;
- the defective product shall be returned to SENSIRION's factory at the Buyer's expense; and
- the warranty period for any repaired or replaced product shall be limited to the unexpired portion of the original period.

The Buyer shall at its own expense arrange for any dismantling and reassembly that is necessary to repair or replace the defective product. This warranty does not apply to any product which has not been installed or used within the specifications recommended by SENSIRION. EXCEPT FOR THE WARRANTIES EXPRESSLY SET FORTH HEREIN, SENSIRION MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT. ANY AND ALL WARRANTIES, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY EXCLUDED AND DECLINED.

SENSIRION is only liable for defects of this product arising under the conditions of operation provided for in the data sheet and proper use of the goods. SENSIRION explicitly disclaims all warranties, express or implied, if the goods are operated or stored not in accordance with the technical specifications.

SENSIRION does not assume any liability arising out of any application or use of any product or circuit and specifically disclaims any and all liability, including without limitation indirect, consequential, and incidental damages, and loss of profit. No obligation or liability shall arise or grow out of SENSIRION's rendering of technical advice, consulting, or implementation instructions or guidelines. Examples regarding possible product use or design-in suggestions are for illustrative purposes only and do not relieve the Buyer of its responsibility to investigate potential infringement of third-party rights. All operating parameters, including without limitation recommended parameters, must be validated for each Buyer's applications by Buyer's technical experts. Recommended parameters can and do vary in different applications.

SENSIRION reserves the right, without further notice, (i) to change the product specifications and/or the information in this document and (ii) to improve reliability, functions and design of this product.

Headquarters and Subsidiaries

Sensirion AG

Laubisruetistr. 50
CH-8712 Staefa ZH
Switzerland

phone: +41 44 306 40 00
fax: +41 44 306 40 30
info@sensirion.com
www.sensirion.com

Sensirion Taiwan Co. Ltd

phone: +886 2 2218-6779
info@sensirion.com
www.sensirion.com

Sensirion Inc., USA

phone: +1 312 690 5858
info-us@sensirion.com
www.sensirion.com

Sensirion Japan Co. Ltd.

phone: +81 45 270 4506
info-jp@sensirion.com
www.sensirion.com/jp

Sensirion Korea Co. Ltd.

phone: +82 31 337 7700~3
info-kr@sensirion.com
www.sensirion.com/kr

Sensirion China Co. Ltd.

phone: +86 755 8252 1501
info-cn@sensirion.com
www.sensirion.com/cn

To find your local representative, please visit
www.sensirion.com/distributors

Copyright ©, by SENSIRION. CMOSens® is a trademark of Sensirion. All rights reserved