

zehnder Surface Mounted CO2 Sensor User Manual

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zehnder Surface Mounted CO2 Sensor



Preface

Please read this document carefully before use.

Congratulations on the purchase of this CO2 Sensor from Zehnder. This user manual contains all the necessary information for a safe and correct use of this CO2 Sensor.

Questions

Please contact your local Zehnder representative with any questions, contact details can be found at the back of this user manual.

The CO2 Sensor regularly undergoes new developments and improvements. This may cause the operation to deviate from the description in this manual. In that case, an up-to-date user manual can be downloaded online or ordered from local Zehnder representative.

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This user manual has been compiled with the utmost care. However, the publisher cannot be held responsible for any damage caused by failure to follow safety or operating instructions. In the event of disputes, the Dutch text prevails.

Reading guide

The following symbols are used in this user manual to alert the reader to safety aspects and important information:

Zehnder Group Zwolle B.V.

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Description and identification

General

The CO2 Sensor measures the amount of CO2 in the air of the room in which this sensor is installed. The device sends the results to the ventilation system. If the CO2 level is too high, the system regulates the ventilation based on the maximum CO2 values. As a result, healthy air quality in the room is maintained. Reducing high CO2 values in the air of the home is conducive to concentration, good sleep quality and helps prevent headaches.

- Are there multiple active CO2 Sensors in the home? If so then the ventilation rate is based on the CO2 Sensor that transmits the highest ventilation requirement to the ventilation system.

Automatic measurement and control of air quality

This device measures the level of CO₂ in the air of the room in which the device is active. Depending on the measured CO₂ level in the air, the device provides a signal to the ventilation system to adjust the ventilation rate. If the CO₂ level in the air exceeds the threshold, the ventilation rate is gradually increased. Increased ventilation reduces the CO₂ level in the air and thus improves the air quality. As soon as the CO₂ level in the air drops below the threshold again, the ventilation rate is gradually reduced automatically.

Manually setting the ventilation

The CO₂ Sensor, which has been set as a controller by the installer, offers the possibility of setting the degree of ventilation manually. Refer to section 4 Operation.

A CO₂ Sensor set as a sensor by the installer cannot be used to adjust the ventilation rate manually. If a (temporary) manual preset is selected, the measured CO₂ value has no influence on the ventilation rate. In this case, the ventilation system follows the manually set ventilation level. This will remain active for up to 12 hours after the last manual setting. After a maximum of 12 hours, the system automatically returns to control based on the measured CO₂ values, if the ventilation unit is set to AUTO. If the ventilation unit is set to MANUAL, the manual setting remains until it is changed again. Please refer to the ventilation unit manual.

Safety

- The CO₂ Sensor must only be used as described in the user manual.
- Always follow the local safety regulations when using this device.
- The device may only be used if it has been properly installed according to the instructions and guidelines found in the installation manual.
- The device can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the device in a safe way and understand the hazards involved.
- The device may only be installed and maintained by a qualified professional.
- The responsibility for the correct use of the device lies with the end user. The manufacturer cannot be held responsible for any (consequential) damage caused by inexpert, incorrect or inadvisable use.
- Do not get the device wet. Do not install it in a damp place.

Intended use of the device

- The CO₂ Sensor measures the amount of CO₂ in the air of the room in which this sensor is installed. The device sends the results to the ventilation system.
- The ventilation rate can be adjusted manually. Please follow the instructions in this user manual.
- The brightness of the LEDs can be adjusted manually. Please follow the instructions in this user manual.

Inexpert use of the device

- Do not open the casing. The installer makes sure that all parts that can cause personal injury are behind the casing.
- Children must not play with the device.
- Children must not clean and maintain the device unsupervised.

Inexpert use can cause personal injury and lead to material damage to the CO₂ Sensor. The CO₂ Sensor is a

precision instrument with the best accuracy in its class. Each sensor is individually calibrated for optimum performance. Shocks during installation or installation at higher elevations can temporarily affect the accuracy, but are compensated for by the internal long-term compensation mechanisms.

Warranty

Zehnder offers a 24-month warranty on this device. This period applies from the date of installation up to a maximum of 30 months after the production date of the device.

The warranty is void if:

- a defect is the result of inexpert or careless use of the device;
- a defect resulting from contamination of the device;
- parts from another manufacturer have been used;
- repairs have been carried out by unauthorized persons.

Not covered by the warranty:

- costs for disassembly and assembly on-site;
- wear and tear from normal use.

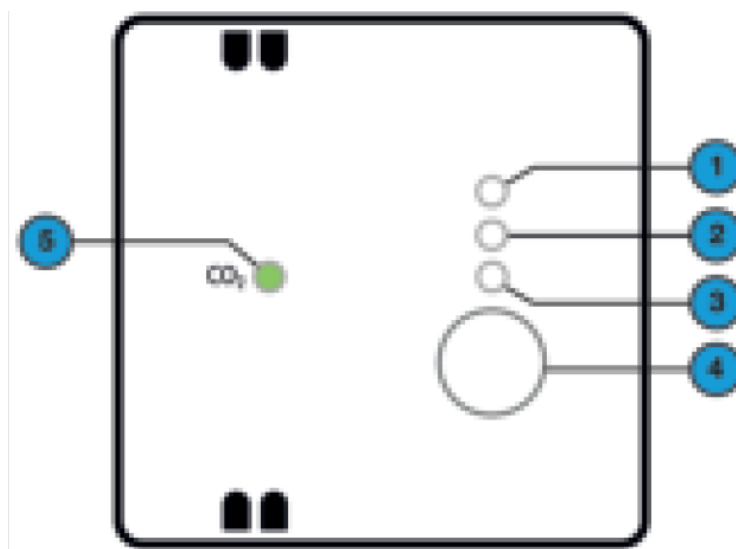
Commissioning

Prerequisites for the correct functioning of the CO2 Sensor

- Make sure that the device is not covered so that the air quality can be measured.
- Ensure sufficient air supply. To do this open a hinged window or existing ventilation grilles in the windows, window frames or sliding doors. This is only necessary for mechanical ventilation, not for ventilation with heat recovery.
- The ventilation setting cannot be adjusted manually on every device. This is only possible on a CO2 Sensor set by the installer as a controller.

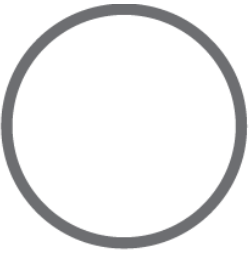








Operation

General



Front of the CO2 Sensor
Legend

1. Top LED
2. Middle LED
3. Bottom LED
4. Operating button
5. CO2 LED

	<p>Operating button</p> <ul style="list-style-type: none"> • First touch (only if LEDs do not have the highest intensity): temporarily set display LEDs to the highest intensity • Touch briefly: select the next function • Touch for 5 seconds: <p>first time: activate settings menu then: confirm the selected setting If the operating button is not pressed for 30 seconds while no mode is confirmed, the device returns to the normal operating mode. No changes are saved.</p>
	<p>Display of the manually selected ventilation level: preset 1 (low). Use if you require low ventilation. With the CO₂ C Sensor, the active ventilation setting is always visible, even when the measured CO₂ level is programmed as control.</p>
	<p>Display of the manually selected ventilation level: preset 2 (medium). Use if you require medium ventilation. With the CO₂ C Sensor, the active ventilation setting is always visible, even when the measured CO₂ level is programmed as control.</p>
	<p>Display of the manually selected ventilation level: preset 3 (high). Use if you require maximum ventilation. With the CO₂ C Sensor, the active ventilation setting is always visible, even when the measured CO₂ level is programmed as control.</p>
	<p>Display of the CO₂ levels. Off: Brightness is off: Press the operating button once. The CO₂ LED turns on for 5 seconds.</p>
	<p>Green CO₂ LED: the CO₂ level in the measured air is good.</p>
	<p>Orange CO₂ LED: the CO₂ level in the measured air has increased.</p>
	<p>Red CO₂ LED: the CO₂ level in the measured air is too high.</p>
	<p>The below only applies to the CO₂ C Sensor.</p> <ul style="list-style-type: none"> • Temporary preset 3 (high), automatic control • Temporary preset 2 (medium), automatic control • Temporary preset 1 (low), automatic control

- If there is a red CO2 LED: select ventilation based on the measured CO2 value (see section 4.3). If the indicator remains red, provide extra ventilation by opening windows and/or doors.

Information about ventilation

The CO2 Sensor is used to offer automatic demand control ventilation. If installed correctly, it will provide sufficient ventilation in the room where it is installed.

In certain cases, it is recommended to select a manual ventilation preset or, if the situation occurs regularly, to set a timer programme on the ventilation unit:

- Select preset 2 when a few people are in a room where there is no CO2 Sensor.
- Select preset 3 when many people are in a room where there is no CO2 Sensor.

Setting the ventilation mode

1. Briefly press the operating button to select a ventilation level.
 2. Repeat step 1 until the LEDs of the desired ventilation preset light up.
- The manual use of ventilation preset 1 is not recommended except for short-term use.
 - When the ventilation mode is set to temporary manual, automatic control of the ventilation rate based on the measured CO2 level is disabled for 12 hours.
 - For the CO2 C Sensor, the settings on the ventilation unit determine whether switching off control based on the measured CO2 values is permitted, aside from a (temporarily) increased manual preset. Automatic return to ventilation based on the measured CO2 values is also determined by the settings of the ventilation unit.
 - When the LEDs are not lit: briefly press the operating button.
 - If only the CO2 LED is lit, the device controls the ventilation based on the measured CO2 values (with the exception of the CO2 C Sensor).

LED brightness setting

Within 30 seconds during installation, press the operating button of the CO2 Sensor to confirm a setting.

- For an instruction video, please visit our website under CO2 Sensors (new generation), or YouTube:
<https://bit.ly/31DPNjA>

The 6 brightness settings for the LEDs can be adjusted from high to low:

- there are 4 settings descending from bright to dim;
- there is 1 setting where the LED is only visible in case of warnings;
- for the last setting the lighting is switched off completely in all cases except during operation.



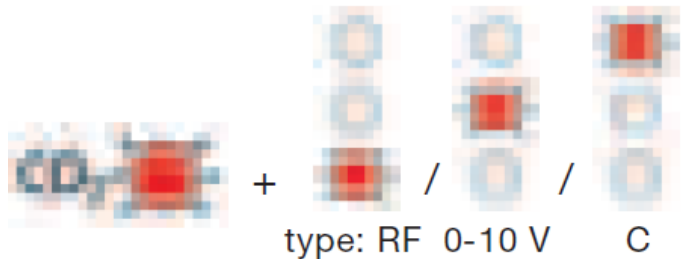
1. Press the operating button for 5 seconds to start the menu.
 - All LEDs blink green 3 times.
 - Depending on the type of device, the bottom LED (RF type), the middle LED (0-10V type) or the top LED

(C type) flashes red for 30 seconds. The CO2 LED also flashes red.

2. Briefly press the operating button to select the brightness menu.
 - The top LED flashes red.
3. Press the operating button for 5 seconds to enter the brightness menu.
 - All LEDs blink green 3 times.
4. Briefly press the operating button to select a different brightness.
5. Repeat step 4 until the desired brightness is selected.
 - The mode in which only warnings are shown is indicated by a red CO2 LED during this selection.
 - The mode in which the lights are off is displayed during this selection because all the LEDs are off.
6. Press the operating button for 5 seconds to confirm the selection.
 - All LEDs blink green 3 times.
7. Brightness adjustment is complete and the CO2 Sensor returns to standard functionality.

Malfunctions

Determine the CO2 Sensor type

1. Activate the menu	
	<p>3x</p> 
	 <p>type: RF 0-10 V C</p>
2. Leave the menu	Wait 30 sec.

Malfunctions and alerts for the CO2 C Sensor

Fault	Problem	Solution
All 4 LEDs flash orange (0.25Hz, 1x per 4s).	The CO ₂ C Sensor is starting up.	Wait until the sensor has started up (about 10s).
All 4 LEDs flash orange (1Hz, 1x per 1s).	Too many CO ₂ C Sensors are registered in a single zone (>8).	Contact your installer.
All 4 LEDs flash red (1Hz, 1x per 1s).	There is no communication via ComfoNet.	The wiring and connections need to be checked. Contact your installer.
All 4 LEDs flash red (0.25Hz, 1x per 4s).	The CO ₂ C Sensor is defective.	The CO ₂ C Sensor needs to be replaced. Contact your installer.

Malfunctions of the CO2 RF Sensor

Fault	Problem	Solution
After pressing the confirmation button, the CO ₂ LED displays the CO ₂ level. The 3 LEDs blink alternately green and red.	<ul style="list-style-type: none"> The CO₂ Sensor is not yet paired with a ventilation unit. The installation has not been completed correctly. 	Pair the CO ₂ Sensor to the ventilation unit. Refer to the device installation manual.
The CO ₂ LED flashes red 3x and the selected ventilation setting flashes 3x. The original pairing is then displayed continuously.	The pairing works, but there's no communication.	<ol style="list-style-type: none"> Remove objects that may block wireless communication. Try changing the pairing mode.
The CO ₂ LED flashes red continuously.	The CO ₂ level is too high. The pairing works, but there's no communication.	<ol style="list-style-type: none"> Remove objects that may block wireless communication. Ensure sufficient air quality by opening windows and doors.

- In case of recurring malfunctions, please contact your local Zehnder representative.

Malfunctions of the CO2 0-10V Sensor

There are no known malfunctions of the CO2 0-10V Sensor. If this does not work, please contact your local Zehnder representative.

Unsafe situations

Situation	Safety	Action	Support
The CO ₂ Sensor got wet.	Do not touch the CO ₂ Sensor.	<ol style="list-style-type: none"> 1. Switch off the electricity. 2. Dry the sensor on the outside and wait until it is also dry on the inside before switching on the electricity again. 	In the event of damage to the CO ₂ Sensor, please contact your local Zehnder representative.

Maintenance

Regularly remove dust with a dry duster or carefully with a vacuum cleaner.

- Never clean the device with any moisture.
- Never use cleaning agents.

Disassembly and disposal

If the CO₂ Sensor is disassembled, the waste disposal regulations applicable on-site and at the time of disassembly must be observed. Dispose of the CO₂ Sensor in an environmentally friendly way. Do not dispose of the device together with household waste. The CO₂ Sensor can be handed in at a collection point for electronic waste.

- It is the responsibility of the owner of the CO₂ Sensor to dispose of the device responsibly.

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Documents / Resources

	<p>zehnder Surface Mounted CO2 Sensor [pdf] User Manual</p> <p>Surface Mounted CO2 Sensor, Mounted CO2 Sensor, CO2 Sensor, Sensor</p>
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References

- systems.ch - Systems Resources and Information.
- [Messe München Unternehmensportal](#) | [Messe München](#)

-  [Solutions for a perfect indoor climate | Zehnder Group Sales International](#)
-  [VENTERMO – wyłączny dystrybutor rekuperatorów AERIS, R-VENT, systemu dystrybucji powietrza R-VENT Flex, materiały instalacyjne, akcesoria wentylacyjne](#)
-  [Wernig - Kunststoff- und Lüftungstechnik](#)
-  [Lösungen für ein perfektes Raumklima | Zehnder](#)
-  [Lösungen für ein perfektes Raumklima | Zehnder](#)
-  [Oplossingen voor een perfect binnenklimaat | Zehnder België](#)
-  [Solutions for a perfect indoor climate | Zehnder Group UK](#)
-  [Soluciones para un ambiente interior perfecto | Zehnder Group Ibérica](#)
-  [Solutions pour un climat ambiant optimal | Zehnder Group en France](#)
-  [Soluzioni per un clima ambientale perfetto | Zehnder Group Italia S.r.l.](#)
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-  [YouTube](#)

Manuals+.