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S+S Regeltechnik RCO2-AS NT

S+S Regeltechnik RCO2-AS NT CO2 Meter User Manual

Model: RCO2-AS NT

1. Introduction

The S+S Regeltechnik RCO2-AS NT is a maintenance-free CO2 meter designed to monitor ambient air quality. It features a traffic light LED indicator and an acoustic signal to provide clear and immediate feedback on CO2 levels. This device is suitable for use in classrooms, offices, meeting rooms, hotels, apartments, and retail spaces, enabling energy-efficient and demand-oriented ventilation. This manual provides essential information for the safe and effective operation of your CO2 meter.

2. Product Overview

The RCO2-AS NT measures CO2 concentration in the range of 0 to 3000 ppm using a high-precision NDIR (Non-Dispersive Infrared) optical sensor. The device features an auto-calibration function, ensuring reliable measurements. Visual indication is provided by five colored LEDs, and an acoustic alarm can be activated or deactivated via a DIP switch.

- **LED Traffic Light System:** Green (good air quality), Yellow (ventilation recommended), Red (intensive ventilation required).
- **Acoustic Signal:** Sounds when warning levels are reached, can be disabled.
- **Maintenance-Free:** Designed for long-term, reliable operation without regular maintenance.
- **Auto-Calibration:** Ensures accurate CO2 measurements over time.

Figure 1: S+S Regeltechnik RCO2-AS NT CO2 Meter with plug-in power supply. The device features a traffic light LED display and measures CO2 levels in the air.

3. Safety Instructions

- Read this manual completely before operating the device.
- Do not expose the device to extreme temperatures, humidity, or direct sunlight.
- Use only the provided power adapter or a compatible power source as specified.
- Do not attempt to open or repair the device yourself. Refer all servicing to qualified personnel.

- Keep the device away from water and other liquids.

4. Setup

4.1 Placement

For optimal performance, place the RCO2-AS NT in a central location within the area to be monitored. Avoid placing it near windows, doors, or ventilation outlets where air currents might distort readings. A general recommendation is to use one sensor per 30 m² of floor area.

4.2 Power Connection

1. Connect the plug-in power supply to the device's power input port.
2. Plug the power supply into a standard electrical outlet.
3. Upon power-up, the device will initiate a self-test and warm-up phase, which may take a few minutes. During this time, the LEDs may cycle or remain off.

4.3 Initial Calibration

The RCO2-AS NT features automatic calibration. For accurate initial readings, it is recommended to operate the device in a well-ventilated area with fresh air for at least 24 hours after the first power-up. This allows the auto-calibration function to establish a baseline for CO2 levels.

5. Operating Instructions

5.1 Reading the LED Indicator

The device uses a traffic light system to indicate CO2 levels:

- **Green LED:** Air quality is good. No ventilation is currently needed.
- **Yellow LED:** Ventilation is recommended. Open windows or activate ventilation systems.
- **Red LED:** Intensive ventilation is necessary. High CO2 levels detected, requiring immediate air exchange.

5.2 Acoustic Signal

The RCO2-AS NT can emit an acoustic signal when CO2 levels reach the warning (Yellow) or critical (Red) thresholds. This signal serves as an additional alert for users.

5.3 Disabling the Acoustic Signal

The acoustic signal can be deactivated using an internal DIP switch. To access the DIP switch:

1. Carefully open the device casing. (*Note: This should only be done by qualified personnel or with extreme care to avoid damaging internal components.*)
2. Locate the DIP switch labeled 'ON' or '1' on the circuit board.
3. Toggle the switch to the 'OFF' position to disable the acoustic signal.
4. Close the device casing securely.

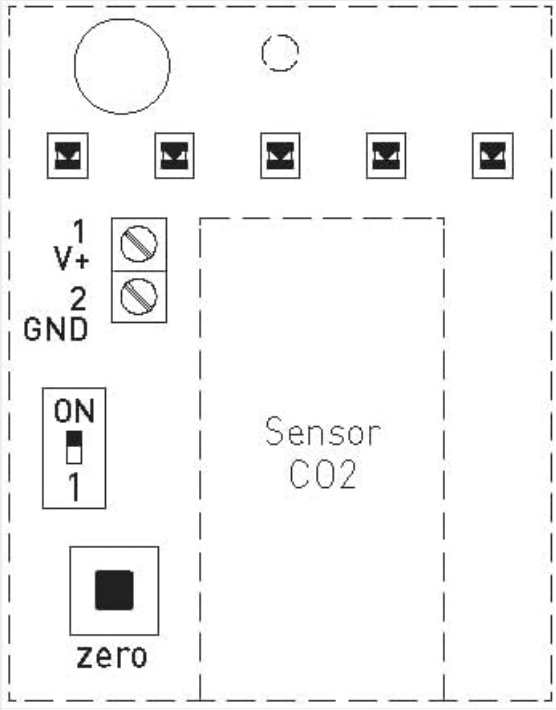

Figure 2: Internal view of the CO2 sensor, showing the location of the DIP switch for acoustic signal deactivation.

6. Maintenance

The RCO2-AS NT is designed to be maintenance-free. However, to ensure continued accuracy and longevity:

- **Cleaning:** Gently wipe the exterior of the device with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Airflow:** Ensure that the ventilation openings on the device are not obstructed.
- **Auto-Calibration:** For the auto-calibration feature to function optimally, ensure the device is exposed to fresh air periodically (e.g., during regular room ventilation).

7. Troubleshooting

Problem	Possible Cause	Solution
No LEDs light up	No power supply or faulty connection.	Check power adapter and wall outlet. Ensure the power cable is securely connected.
Readings seem inaccurate	Device not properly calibrated or placed in an area with poor airflow.	Ensure the device has been exposed to fresh air for auto-calibration. Relocate the device to a more central position away from direct drafts or stagnant air.
Acoustic alarm does not sound	Acoustic signal is deactivated via DIP switch.	Refer to Section 5.3 to check and activate the acoustic signal if desired.
Acoustic alarm sounds constantly	Consistently high CO2 levels or faulty sensor.	Ensure adequate ventilation in the room. If the problem persists after ventilation, contact support.

8. Specifications

- **Manufacturer:** S+S Regeltechnik
- **Model Number:** RCO2-AS NT
- **CO2 Measurement Range:** 0 - 3000 ppm
- **Sensor Type:** NDIR (Non-Dispersive Infrared) optical sensor
- **Power Source:** Electrical cable (plug-in power supply included)
- **Dimensions (L x W x H):** 2.72 x 8.5 x 8.5 cm (approx. 1.07 x 3.35 x 3.35 inches)
- **Weight:** 225 Grams (approx. 0.5 lbs)
- **Color:** White
- **Alarm:** Acoustic signal (deactivatable)
- **Components Included:** CO2 meter, plug-in power supply

Figure 3: Technical drawing illustrating the dimensions of the S+S Regeltechnik RCO2-AS NT CO2 Meter.

9. Warranty and Support

For information regarding warranty, technical support, or spare parts, please contact S+S Regeltechnik directly or refer to their official website. Please have your model number (RCO2-AS NT) and purchase details available when contacting support.