

**Room CO2 sensor and measuring transducer,
self-calibrating, with multi-range switching
and active/switching output**

Maintenance-free room sensor **AERASGARD® RCO2 - SD** with active output, automatic calibration (fixed), in an elegant plastic housing with snap-on lid, for determining the CO2 content of the air (0...2000ppm). The measuring transducer converts the measured values into a standard signal of 0-10 V.

Maintenance-free room sensor **AERASGARD® RCO2 - W** with active/switching output, automatic calibration (can be deactivated), in an elegant plastic housing with snap-on lid, optional with traffic light indicator (five coloured LEDs), for determining the CO2 content of the air (0...2000 ppm/0...5000 ppm). The measuring transducer converts the measured values into a standard signal of 0-10 V or 4...20 mA (switchable).

The sensor is used in offices, hotels, convention centres, apartments, shops, etc. for the purpose of evaluating the indoor climate. This enables energy-saving room ventilation on an as-needed basis, thereby reducing operating costs and improving well-being. One sensor for every 30 m² of room area is recommended.

The CO2 measurement is performed using an optical **NDIR sensor** (non-dispersive infra-red technology). The detection range is calibrated for standard applications such as monitoring residential rooms and conference rooms.

TECHNICAL DATA

| | |
|-------------------------|--|
| Power supply: | 24 V AC / DC (± 10 %) |
| Power consumption: | < 1.5 W / 24 V DC typical; < 2.9 VA / 24 V AC typical; peak current 200 mA |
| Sensor: | optical NDIR sensor (non-dispersive infra-red technology), with manual calibration (via zero button), RCO2 - SD with automatic calibration (fixed) RCO2 - W with automatic calibration (can be deactivated via DIP switches) |
| Measuring range: | RCO2 - SD 0...2000 ppm (fixed) RCO2 - W 0...2000 ppm or 0...5000 ppm (selectable via DIP switches) |
| Output: | RCO2 - SD 0-10 V (fixed) RCO2 - W 0-10 V or 4...20 mA, working resistance < 800 Ω (selectable via DIP switches), with offset potentiometer (± 10 % of the measuring range) |
| Relay output: | RCO2 - SD without changeover contact RCO2 - W with potential-free changeover contact (24 V / 1 A) |
| Accuracy: | typically ± 30 ppm ± 3 % of measured value |
| Temperature dependence: | ± 5 ppm / °C or ± 0.5 % of measured value / °C (whichever is higher) |
| Pressure dependence: | ± 0.13 % / mm Hg |
| Long-term stability: | < 2 % in 15 years |
| Gas exchange: | by diffusion |
| Ambient temperature: | 0...+50 °C |
| Warm up time: | approx. 1 hour |
| Response time: | < 2 minutes |
| Electrical connection: | 0.14 - 1.5 mm ² , via screw terminals |
| Housing: | plastic, flame retardant (UL 94 V-0), PC/ABS material, colour white (similar to RAL 9016), stainless steel housing optional V2A (1.4301) |
| Dimensions: | 85 x 85 x 27 mm (Baldur 1) 100 x 100 x 25 mm (stainless steel) |
| Installation: | wall mounting or on in-wall flush box, Ø 55 mm, base with 4-hole for mounting on vertically or horizontally installed in-wall flush boxes for cable entry from the back, with predetermined breaking point for on-wall cable entry from top / bottom in case of plain on-wall installation |
| Protection class: | III (according to EN 60 730) |
| Protection type: | IP 30 (according to EN 60 529) |
| Standards: | CE conformity according to EMC Directive 2014 / 30 / EU, Low Voltage Directive 2014 / 35 / EU |
| Optional: | with traffic light indicator (five coloured LEDs, see table) for displaying the CO2 concentration with display (see AERASGARD® RFTM-LQ-CO2) for displaying the actual CO2 content in ppm |



S+S REGELTECHNIK

AERASGARD® RC02-W
AERASGARD® RC02-SD

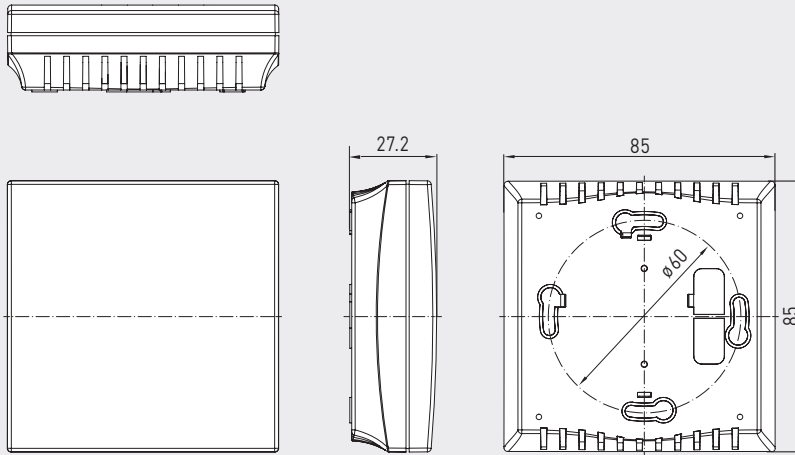
Room CO2 sensor and measuring transducer,
self-calibrating, with multi-range switching
and active/switching output



Dimensional drawing

RC02-W
RC02-SD

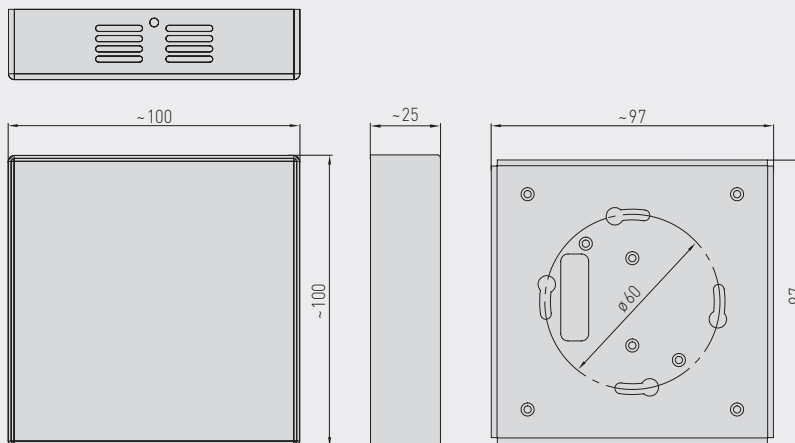
RC02-W
RC02-SD



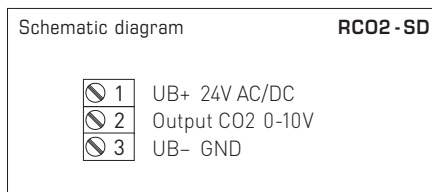
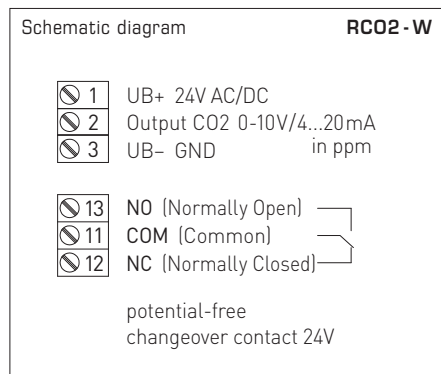
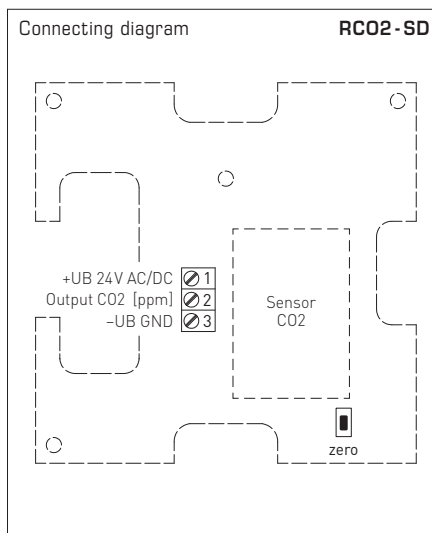
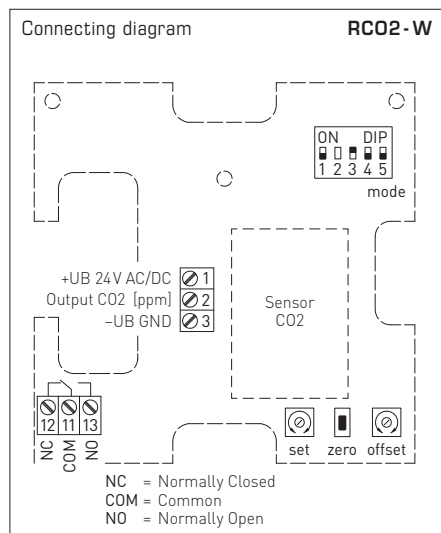
Dimensional drawing

RC02-W VA

RC02-W VA
(stainless steel housing)



Room CO2 sensor and measuring transducer,
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| DIP switches RCO2 - W | |
|---------------------------------|--------------|
| CO2 content | DIP 1 |
| 0...2000 ppm (default) | OFF |
| 0...5000 ppm | ON |
| CO2 automatic zero point | DIP 3 |
| deactivated | OFF |
| activated (default) | ON |
| Output | DIP 4 |
| Voltage 0-10V (default) | OFF |
| Current 4...20mA | ON |
| Traffic light (5x LEDs) | DIP 5 |
| deactivated | OFF |
| activated | ON |
| Note: DIP 2 is not assigned! | |



S+S REGELTECHNIK

AERASGARD® RC02-W
AERASGARD® RC02-SD

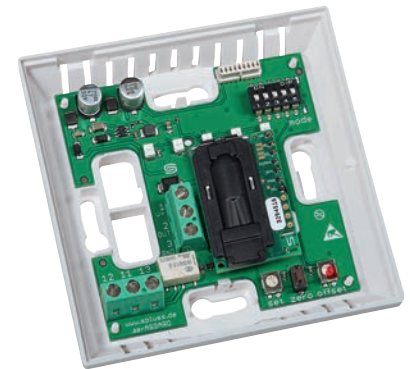
Room CO2 sensor and measuring transducer,
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| Traffic light indicator | | RC02-W-A | | | | |
|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| CO2 content in ppm | | LED 1 | LED 2 | LED 3 | LED 4 | LED 5 |
| 0...2000 ppm | 0...5000 ppm | green | green | yellow | yellow | red |
| 350 | 350 | 20 % | - | - | - | - |
| 416 | 536 | 40 % | - | - | - | - |
| 482 | 722 | 60 % | - | - | - | - |
| 548 | 908 | 80 % | - | - | - | - |
| 614 | 1094 | 100 % | - | - | - | - |
| 680 | 1280 | | 20 % | - | - | - |
| 746 | 1466 | | 40 % | - | - | - |
| 812 | 1652 | | 60 % | - | - | - |
| 878 | 1838 | | 80 % | - | - | - |
| 944 | 2024 | | 100 % | - | - | - |
| 1010 | 2210 | | | 20 % | - | - |
| 1076 | 2396 | | | 40 % | - | - |
| 1142 | 2582 | | | 60 % | - | - |
| 1208 | 2768 | | | 80 % | - | - |
| 1274 | 2954 | | | 100 % | - | - |
| 1340 | 3140 | | | | 20 % | - |
| 1406 | 3326 | | | | 40 % | - |
| 1472 | 3512 | | | | 60 % | - |
| 1538 | 3698 | | | | 80 % | - |
| 1604 | 3884 | | | | 100 % | - |
| 1670 | 4070 | | | | | 20 % |
| 1736 | 4256 | | | | | 40 % |
| 1802 | 4442 | | | | | 60 % |
| 1868 | 4628 | | | | | 80 % |
| 1934 | 4814 | | | | | 100 % |
| 2000 | 5000 | | | | | |

Once the aforementioned values have been reached, the respective LED becomes active (with increasing luminosity of 20%, 40%, 60%, 80% and 100%); LEDs that are already active continue to be illuminated.

RC02-W-A
with LEDs



AERASGARD® RC02-SD Room CO2 sensor and measuring transducer, *Standard*
AERASGARD® RC02-W Room CO2 sensor and measuring transducer, *Premium*

| Type / WG02 | Measuring Range CO2 | Output CO2 | Equipment | Display | Item No. (Baldur 1) | Price |
|-----------------|-----------------------------|--------------------|---|-------------------|---------------------------|-----------------|
| RC02-SD | (fixed) | (fixed) | | | | |
| RC02-SD-U | 0...2000 ppm | 0-10 V | - | | 1501-61A0-1001-200 | 231,38 € |
| RC02-W | (switchable) | (switchable) | | | | |
| RC02-W | 0...2000 ppm / 0...5000 ppm | 0-10 V / 4...20 mA | Changeover contact | | 1501-61A0-7301-200 | 274,11 € |
| RC02-W VA | 0...2000 ppm / 0...5000 ppm | 0-10 V / 4...20 mA | Changeover contact, stainless steel housing | | 1501-61A0-7301-205 | 391,76 € |
| RC02-W LCD | 0...2000 ppm / 0...5000 ppm | 0-10 V / 4...20 mA | Changeover contact, display | ■ see RFTM-LQ-CO2 | | |
| RC02-W-A | (switchable) | (switchable) | | | with traffic light | |
| RC02-W-A | 0...2000 ppm / 0...5000 ppm | 0-10 V / 4...20 mA | Changeover contact, LEDs | | 1501-61A0-7331-200 | 322,14 € |

A = with "traffic light" (five coloured LEDs) for displaying the CO2 concentration.

Note: This unit **must not** be used as safety-relevant device!