

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

The maintenance-free microprocessor-controlled room sensor **AERASGARD® RCO₂-SD** with automatic calibration (fixed) is used for recording the CO₂ content of the air within a range of 0...2000 ppm. The measurement value is converted into standard signal of 0-10V.

The maintenance-free microprocessor-controlled room sensor **AERASGARD® RCO₂-W** with automatic calibration (can be deactivated via DIP switches) is used for detecting the CO₂ content of the air within a range of 0...2000 ppm or 0...5000 ppm. The measurement value is converted into standard signal of 0-10V or 4...20mA. Optional with traffic light indicator (five coloured LEDs).

Elegant enclosure made of plastic, with snap-on lid, based with 4-hole attachment, for installation on vertically or horizontally installed flush-mounted boxes, with predetermined breaking point for surface-mounted connection or in enclosure made of stainless steel (top and bottom parts are stainless steel, the cover is screwed on), vandal-proof version e.g. for schools, barracks and public buildings.

The CO₂ content of the air is measured using an optical NDIR sensor (non-dispersive infra-red technology). The detection range of the CO₂ sensor is calibrated for standard applications such as monitoring residential rooms and conference rooms. Room ventilation on an as-needed basis, improved well-being and customer benefit, increased comfort as well as reduced operating costs through energy conservation. For more information, see the start of the chapter!

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)
Measuring 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
Enclosure:	plastic, material ABS, colour pure white (similar to RAL 9010), stainless steel enclosure 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 60730)
Protection type:	IP 30 (according to EN 60529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, EMC Directive 2014 / 30 / EU, Low Voltage Directive 2014 / 35 / EU
Optional:	with traffic light indicator (five coloured LEDs, see table) for displaying the CO ₂ concentration with display (see AERASGARD® RFTM-LQ-CO₂) for displaying the actual CO ₂ content in ppm



S+S REGELTECHNIK

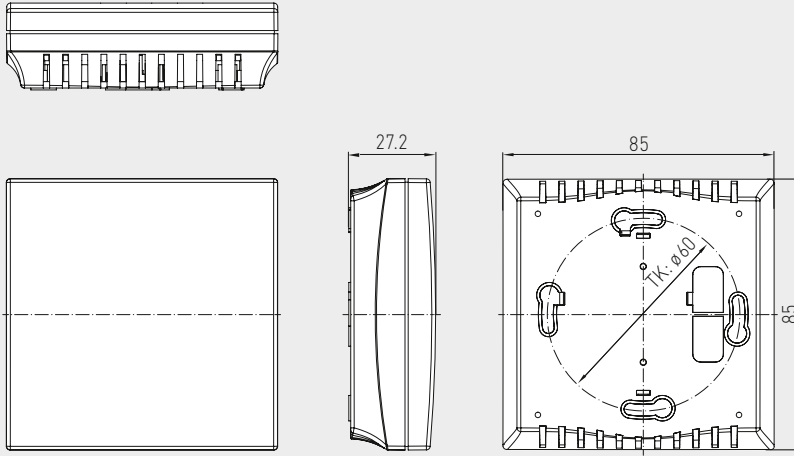
AERASGARD® RCO₂-W
AERASGARD® RCO₂-SD

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



Dimensional drawing

RCO₂-W
RCO₂-SD



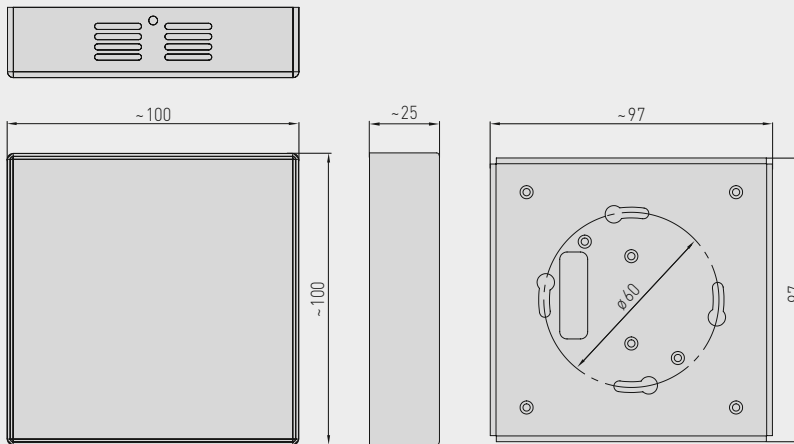
RCO₂-W
RCO₂-SD



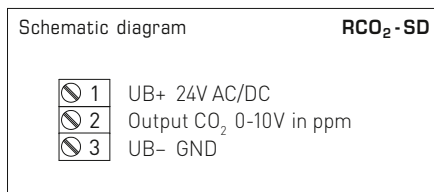
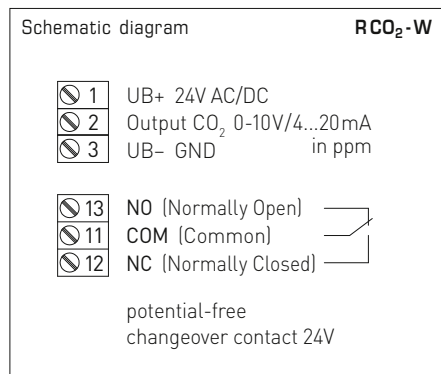
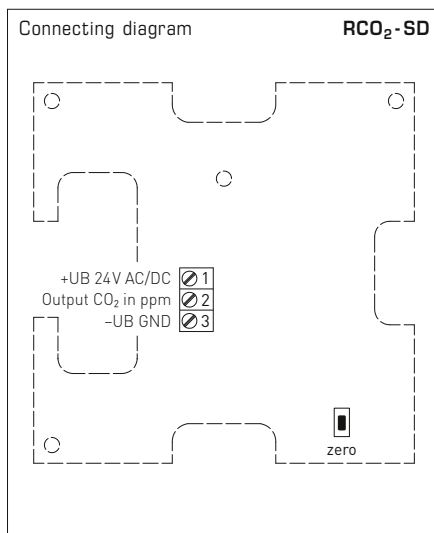
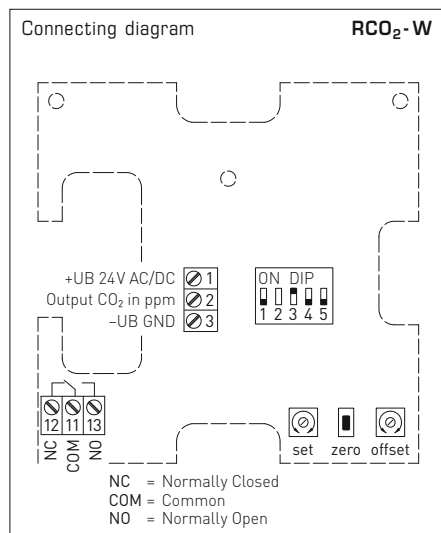
Dimensional drawing

RCO₂-W VA

RCO₂-W VA
(stainless steel enclosure)



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



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

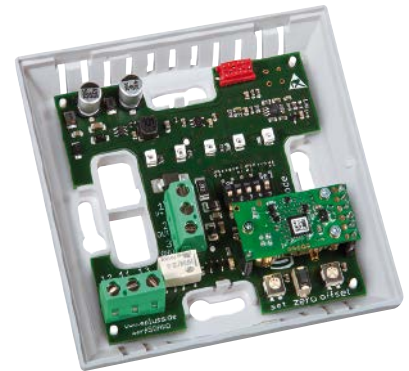
Note: **DIP 2** is not assigned!



Traffic light indicator		RCO ₂ -W-A				
CO ₂ 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	50 %	-	-	-	-
-	500	75 %	-	-	-	-
350	750	100 %	-	-	-	-
400	1000		25 %	-	-	-
500	1250		50 %	-	-	-
600	1500		75 %	-	-	-
700	1750		100 %	-	-	-
800	2000			25 %	-	-
900	2250			50 %	-	-
1000	2500			75 %	-	-
1100	2750			100 %	-	-
1200	3000				25 %	-
1300	3250				50 %	-
1400	3500				75 %	-
1500	3750				100 %	-
1600	4000					25 %
1700	4250					50 %
1800	4500					75 %
1900	4750					100 %
2000	5000					

Once the aforementioned values have been reached, the respective LED becomes active (with increasing luminosity of 25 %, 50 %, 75 % and 100%); LEDs that are already active continue to be illuminated.

RCO₂-W-A
with LEDs



AERASGARD® RCO₂-SD Room CO₂ sensor and measuring transducer, *Standard*
AERASGARD® RCO₂-W Room CO₂ sensor and measuring transducer, *Premium*

Type / WG02	Measuring Range CO ₂	Output CO ₂	Equipment	Display	Item No. (Baldur 1)	Price
RCO₂-SD	(fixed)	(fixed)				
RCO2-SD-U	0...2000 ppm	0-10 V	-		1501-61A0-1001-200	182,58 €
RCO₂-W	(switchable)	(switchable)				
RCO2-W	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	Changeover contact		1501-61A0-7301-200	219,30 €
RCO2-W VA	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	Changeover contact, stainless steel enclosure		1501-61A0-7301-205	309,24 €
RCO2-W DISPLAY	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	Changeover contact, display	■ see RFTM-LQ-CO ₂		
RCO₂-W-A	(switchable)	(switchable)			with traffic light	
RCO2-W-A	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	Changeover contact, LEDs		1501-61A0-7331-200	256,02 €

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

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