LUFTKVALITETS- & FLOWFØLERE

RUMFØLERE

NEWTRONIC

AERASGARD® RLQ-W
AERASGARD® RLQ-SD

Room air quality sensor (VOC) and measuring transducer, self-calibrating, with multi-range switching and active/switching output

S+S REGELTECHNIK

Maintenance-free room sensor **AER**ASGARD® **RLQ-SD** with active output, automatic calibration, in an elegant plastic housing with snap-on lid, for determining the air quality (0...100 % VOC). The measuring transducer converts the measured values into a standard signal of 0-10 V or 4...20 mA (switchable).

Maintenance-free room sensor **AER**ASGARD® **RLQ-W** with active/switching output, automatic calibration in an elegant plastic housing with snap-on lid, optional with traffic light indicator (five coloured LEDs), for determining the air quality (0...100 % VOC). 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.

The air quality is detected by a **VOC sensor** (mixed gas sensor for volatile organic substances). This sensor determines the loading of the room air due to contaminated gases such as cigarette smoke, body perspiration, exhaled breathing air, solvent vapours, emissions, etc. With regard to the expected air contamination, low, medium or high VOC sensitivity can be selected. As an alternative, use IAQ categories (from excellent to unhealthy) following the guidelines of the German Federal Environmental Agency to assess the room air.

For more information, see the start of the chapter.

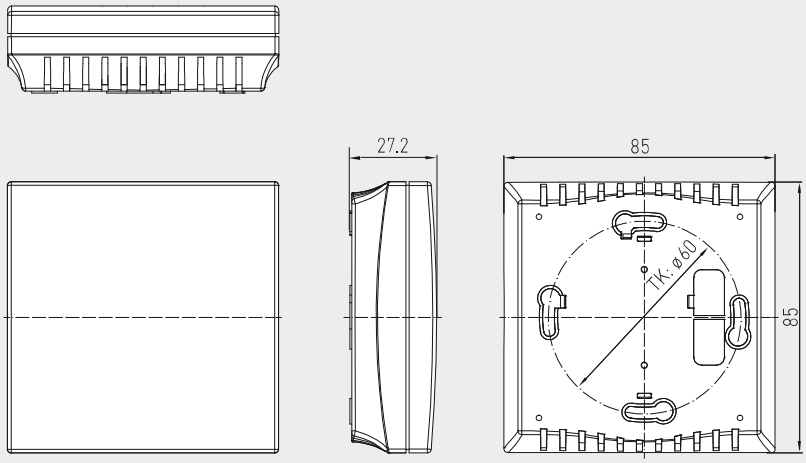
RLQ-W
RLQ-SD

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
Sensor:	VOC sensor (metal oxide) (VOC = volatile organic compounds),, with manual calibration (via zero button), with automatic calibration (permanently active)
Measuring range:	0...100 % air quality; referred to calibrating gas; **multi-range switching** (selectable via DIP switches) VOC sensitivities (low/medium/high) or IAQ category (Indoor Air Quality)
Output:	(0 V = clean air, 10 V = polluted air) **RLQ-SD** 0-10 V (fixed) **RLQ-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:	**RLQ-SD** without changeover contact **RLQ-W** with potential-free **changeover contact** (24 V / 1 A) (switchpoint can be adjusted from 0...100 % of the output signal)
Measuring accuracy:	typically ± 20 % of final value (referred to calibrating gas)
Service life:	> 60 months (under normal load conditions), depending on the type of loading and gas concentration
Gas exchange:	by diffusion
Ambient temperature:	0...+ 50 °C
Warm-up time:	approx. 1 hour
Response time:	approx. 1 minute
Electrical connection:	0.14 - 1.5 mm², via screw terminals
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010), optional stainless steel **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, electromagnetic compatibility according to EN 61 326, EMC Directive 2014 / 30 / EU, Low Voltage Directive 2014 / 35 / EU
Optional:	**with traffic light indicator** (five coloured LEDs, see table) for displaying the air quality.

Dimensional drawing

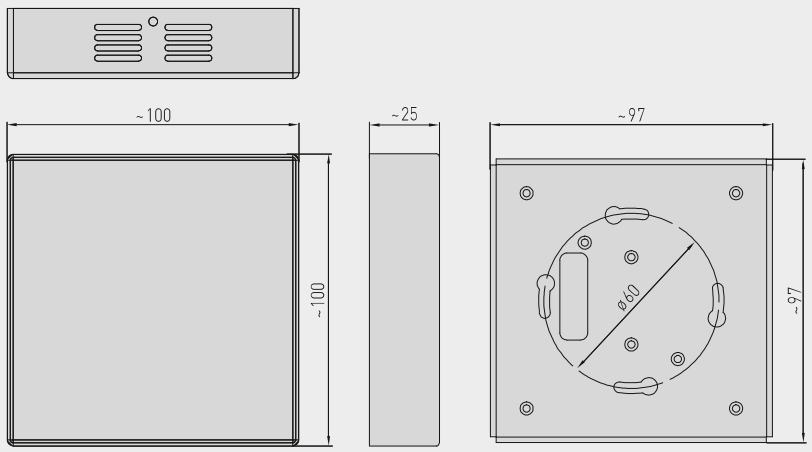
RLQ-W
RLQ-SD



RLQ-W-A
with LEDs

Dimensional drawing

RLQ-W VA



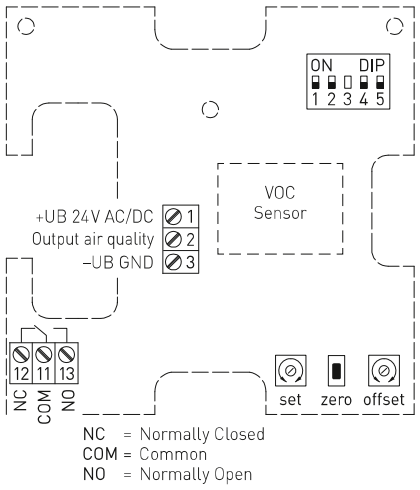
RLQ-W VA
(stainless steel housing)

AERASGARD® RLQ-W
AERASGARD® RLQ-SD

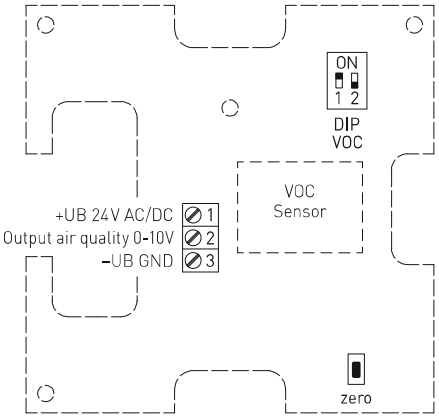
Room air quality sensor (VOC) and measuring transducer, self-calibrating, with multi-range switching and active/switching output

S+S REGELTECHNIK

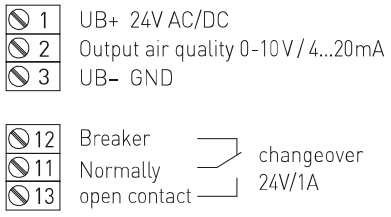
Connecting diagram **RLQ-W**



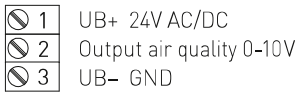
Connecting diagram **RLQ-SD**



Schematic diagram **RLQ-W**



Schematic diagram **RLQ-SD**



DIP switches	RLQ-W	
VOC sensitivity	**DIP 1**	**DIP 2**
LOW	OFF	OFF
MEDIUM (default)	**ON**	OFF
HIGH	OFF	**ON**
IAQ (Indoor Air Quality)	**ON**	**ON**
Output		**DIP 4**
Voltage 0-10 V (default)		OFF
Current 4...20 mA		**ON**
Traffic light (5x LEDs)		**DIP 5**
deactivated		OFF
activated		**ON**
Note: **DIP 3** is not assigned!		

DIP switches	RLQ-SD	
VOC sensitivity	**DIP 1**	**DIP 2**
LOW	OFF	OFF
MEDIUM (default)	**ON**	OFF
HIGH	OFF	**ON**
IAQ (Indoor Air Quality)	**ON**	**ON**

Level	IAQ (Indoor Air Quality)	VOC
1	**excellent** no action required	0...19 %
2	**good** prompt airing recommended	20...39 %
3	**moderate** airing recommended	40...59 %
4	**poor** increased airing required	60...79 %
5	**unhealthy** intense airing necessary	80...100 %

Table according to TVOC guidelines of the German Federal Environmental Agency to assess indoor air contamination *(Bundesgesundheitsbl – Gesundheitsforsch – Gesundheitsschutz 2007, 50: 990–1005)*

Traffic light indicator					RLQ-W-A
VOC content	**LED 1** green	**LED 2** green	**LED 3** yellow	**LED 4** yellow	**LED 5** red
0 %	25 %	–	–	–	–
5 %	50 %	–	–	–	–
10 %	75 %	–	–	–	–
15 %	**100 %**	–	–	–	–
20 %		25 %	–	–	–
25 %		50 %	–	–	–
30 %		75 %	–	–	–
35 %		**100 %**	–	–	–
40 %			25 %	–	–
45 %			50 %	–	–
50 %			75 %	–	–
55 %			**100 %**	–	–
60 %				25 %	–
65 %				50 %	–
70 %				75 %	–
75 %				**100 %**	–
80 %					25 %
85 %					50 %
90 %					75 %
95 %					**100 %**
100 %					

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.

RLQ-W-A
with LEDs

AERASGARD® RLQ-SD Room air quality sensor (VOC) and measuring transducer, *Standard*
AERASGARD® RLQ-W Room air quality sensor (VOC) and measuring transducer, *Premium*

Type/WG02	Measuring Range VOC	Output VOC	Equipment	Item No.	Price
RLQ-SD		(fixed)			
RLQ-SD-U	0...100 %	0-10 V	–	1501-61C0-1001-500	**164,14 €**
RLQ-W		(switchable)			
RLQ-W	0...100 %	0-10 V / 4...20 mA	Changeover contact	1501-61C0-7301-500	**172,04 €**
RLQ-W VA	0...100 %	0-10 V / 4...20 mA	Changeover contact, stainless steel housing	1501-61C0-7301-505	**275,11 €**
RLQ-W-A		(switchable)		**with traffic light**	
RLQ-W-A	0...100 %	0-10 V / 4...20 mA	Changeover contact, LEDs	1501-61C0-7331-500	**196,29 €**
	A = with "traffic light" (five coloured LEDs) for displaying the air quality (VOC).				
Note:	This unit **must not** be used as safety-relevant device!				

AERASGARD® RCO2-AS xx

**CO2 traffic light / mobile CO2 sensor,
room CO2 sensor with traffic light indicator and acoustic signal,
self-calibrating**

NEW

S+S REGELTECHNIK

Maintenance-free room sensor **AER**ASGARD® **RCO2-AS xx** with traffic-light indicator and acoustic signal, self-calibrating, in an attractive plastic housing, for determining the CO2 content of the room air (0...3000 ppm). The measuring transducer converts the measurand to a standard signal, which is directly presented visually via coloured LEDs (traffic light indicator). An additional signal tone sounds when the warning levels are reached (can be switched off via DIP switch).

Available as a table-top unit**RCO2-AS NT ST** with micro USB power cord and stainless steel stand holder, as well as the device versions **RCO2-AS NT** (with plug-in power supply unit), **RCO2-AS UPNT** (with in-wall power supply unit) and **RCO2-AS** (without power supply unit) for wall mounting.

The room filter with **CO2 traffic light** is used in classrooms, training rooms and convention centres, offices, hotels, apartments, shops, etc. and is used for easy and quick evaluation of the indoor climate. This enables energy-saving demand-based room ventilation, 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). You will find more information at the beginning of the chapter.

RCO2-AS
without power supply unit

RCO2-AS UPNT
with in-wall power supply unit

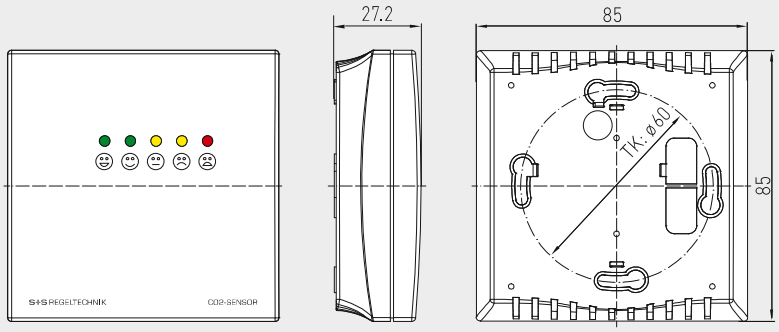
TECHNICAL DATA

Power supply:	**RCO2-AS:**	5...24 V DC
	RCO2-AS UPNT:	5...24 V DC / 230 V AC (power supply unit)*
	RCO2-AS NT:	5...24 V DC / 230 V AC (power supply unit)*
	RCO2-AS NT ST:	5 V DC / 230 V AC (power supply unit)* *(included in the scope of delivery)
electrical connection:	**RCO2-AS:**	terminal screws on circuit board (0.14 - 1.5 mm²), without power supply unit
	RCO2-AS UPNT:	terminal screws on circuit board (0.14 - 1.5 mm²), in-wall power supply unit (open cable ends)
	RCO2-AS NT:	terminal screws on circuit board (0.14 - 1.5 mm²), plug-in power supply unit (open cable ends/Euro plug)
	RCO2-AS NT ST:	Micro-USB socket on circuit board, Micro-USB power supply (micro-USB/Euro plug)
Connection type:	2-wire circuit (no reverse polarity protection!)	
Sensor:	optical NDIR sensor (non-dispersive infrared technology), with manual calibration (via zero button) with automatic calibration	
Measurement range:	0...3000 ppm	
Measuring accuracy:	typically ± 30 ppm ± 3 % of measured value	
Temperature dependence:	± 5 ppm / °C or ± 0.5 % of measured value / °C (whichever is greater)	
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	
Measuring interval:	< 3 seconds	
Housing:	plastic, material ABS, colour: pure white (similar to RAL 9010)	
Dimensions:	85 x 85 x 27 mm (Baldur 1 housing) 110 x 85 x 100 mm (housing for stand holder)	
Mounting:	**RCO2-AS NT ST:** immediately usable free-standing device without mounting (plug-and-play) **RCO2-AS, RCO2-AS NT, RCO2-AS UPNT:** wall mounting or on in-wall flush box, Ø 55 mm, base with 4 holes, for attachment to vertically or horizontally installed in-wall flush boxes for rear cable entry, with predetermined breaking point for top/bottom cable entry for surface-mounted installation	
Protection class:	III (according to EN 60 730)	
IP rating:	**IP 30** (according to EN 60 529)	
Standards:	CE-conformity, electromagnetic compatibility according to EN 61 326, EMC directive 2014 / 30 / EU, low voltage directive 2014 / 35 / EU	
Equipment:	**traffic light indicator** (five coloured LEDs), **acoustic signal** (signal can be switched off) for displaying the CO2 concentration Type-specific equipment (see table): **Plug-in power supply unit** (CL = approx. 1.5 m) **In-wall power supply unit** for mounting on in-wall flush boxes **Stand holder** made from stainless steel	

**CO2 traffic light / mobile CO2 sensor,
room CO2 sensor with traffic light indicator and acoustic signal,
self-calibrating**

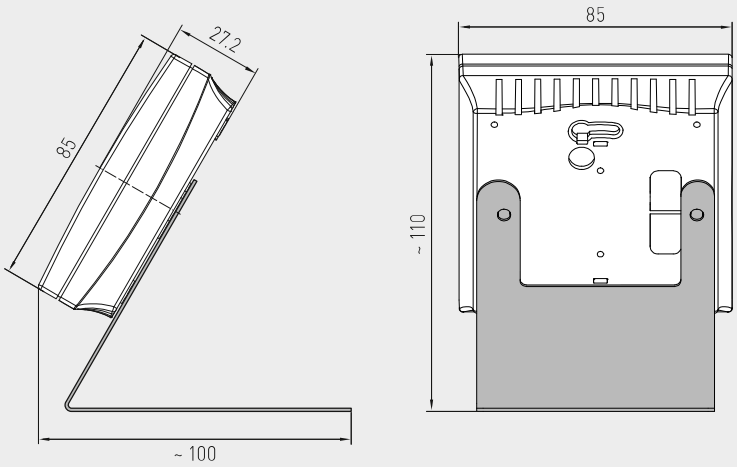
Dimensional drawing
(Baldur 1)

RCO2-AS xx



Dimensional drawing
with stand holder

RCO2-AS NT ST



RCO2-AS NT
with plug-in power supply unit

RCO2-AS NT ST
with Micro-USB power supply unit
and stainless steel
stand holder

**CO2 traffic light / mobile CO2 sensor,
room CO2 sensor with traffic light indicator and acoustic signal,
self-calibrating**

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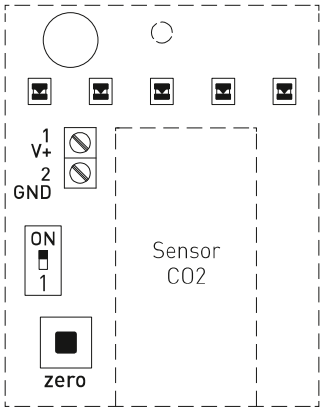
Indicator						RCO2-AS xx
CO2 content [ppm]	**LED 1** green	**LED 2** green	**LED 3** yellow	**LED 4** yellow	**LED 5** red	**signal tone**
< 400	20 %	–	–	–	–	
401 - 500	40 %	–	–	–	–	
501 - 600	60 %	–	–	–	–	
601 - 700	80 %	–	–	–	–	
701 - 800	**100 %**	–	–	–	–	
801 - 840		20 %	–	–	–	
841 - 880		40 %	–	–	–	
881 - 920		60 %	–	–	–	
921 - 960		80 %	–	–	–	
961 - 1000		**100 %**	–	–	–	
1001 - 1080			20 %	–	–	1x **0.5 s**
1081 - 1160			40 %	–	–	
1161 - 1240			60 %	–	–	
1241 - 1320			80 %	–	–	
1321 - 1400			**100 %**	–	–	
1401 - 1520				20 %	–	2x **0.5 s**
1521 - 1640				40 %	–	
1641 - 1760				60 %	–	
1761 - 1880				80 %	–	
1881 - 2000				**100 %**	–	
2001 - 2200					20 %	3x **0.5 s**
2201 - 2400					40 %	
2401 - 2600					60 %	
2601 - 2800					80 %	
2801 - 3000					**100 %**	1x **1.5 s**

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.

Recommendation		RCO2-AS xx
Level	**Traffic light indicator** Actions	**signal tone** (0.5 sec)
1	**green** no action required	
2	**green** prompt airing recommended	
3	**yellow** airing recommended	
4	**yellow** airing required	
5	**red** intensive airing necessary	

Schematic diagram **RCO2-AS xx**



Connecting diagram **RCO2-AS**
RCO2-AS UPNT

UB+ 24V AC/DC
UB– GND

ATTENTION:
No reverse polarity protection!

DIP switches	RCO2-AS xx
Acoustic signal (can be switched off)	**DIP 1**
active signal tone On (default)	**ON**
deactivated signal tone Off	OFF

CO2 traffic light / mobile CO2 sensor, room CO2 sensor with traffic light indicator and acoustic signal, self-calibrating

RCO2-AS
without power supply unit

RCO2-AS UPNT
with in-wall power supply unit

RCO2-AS NT
with plug-in power supply unit

RCO2-AS NT ST
with Micro-USB power supply unit and stainless steel stand holder

AERASGARD® RCO2-AS xx	Room CO2 sensor with traffic light display and acoustic signal				
Type / WG02	**Measuring ranges** CO2	**Display** CO2	**Equipment**	**Item no.** (Baldur 1)	**Price**
RCO2-AS xx					
RCO2-AS	0...3000 ppm	5 LEDs, signal tone	without power supply unit	1501-61A0-0686-230	**192,12 €**
RCO2-AS NT	0...3000 ppm	5 LEDs, signal tone	Plug-in power supply unit	1501-61A0-0686-232	**196,23 €**
RCO2-AS NT **ST**	0...3000 ppm	5 LEDs, signal tone	Micro-USB power supply unit, **stainless steel stand holder**	1501-61A0-0686-231	**193,19 €**
RCO2-AS UPNT	0...3000 ppm	5 LEDs, signal tone	In-wall power supply unit	1501-61A0-0686-233	**286,42 €**
Note:	This unit must **not** be used as a safety-relevant device!				

AERASGARD® RCO2 - W
AERASGARD® RCO2 - SD

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

S+S REGELTECHNIK

Maintenance-free room sensor **AER**ASGARD® **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...2000 ppm). The measuring transducer converts the measured values into a standard signal of 0 -10 V.

Maintenance-free room sensor **AER**ASGARD® **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.

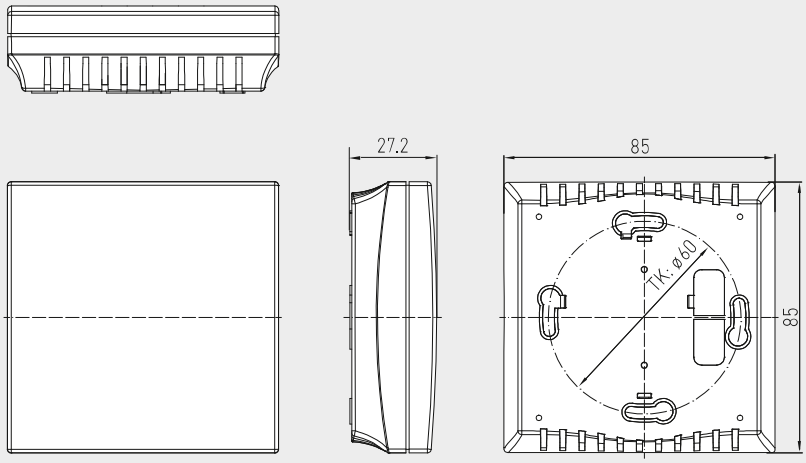
For more information, see the start of the chapter.

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 mm², via screw terminals
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010), 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, electromagnetic compatibility according to EN 61 326, 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 **AER**ASGARD® **RFTM-LQ-CO2**) for displaying the actual CO2 content in ppm

Dimensional drawing

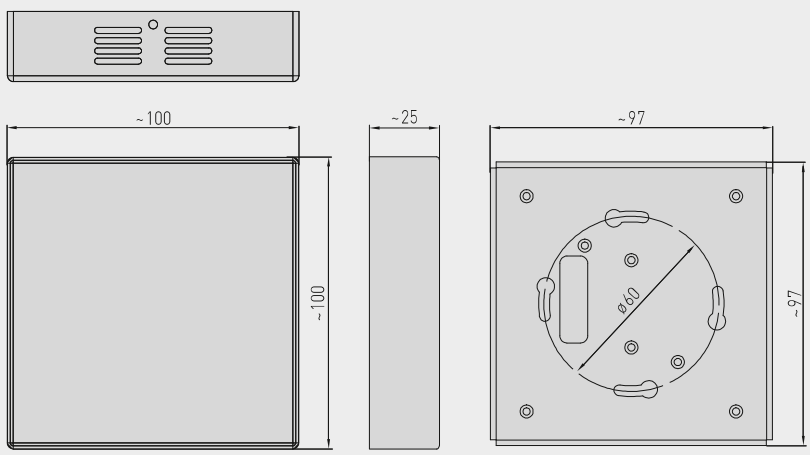
RCO2-W
RCO2-SD



RCO2-W
RCO2-SD

Dimensional drawing

RCO2-W VA



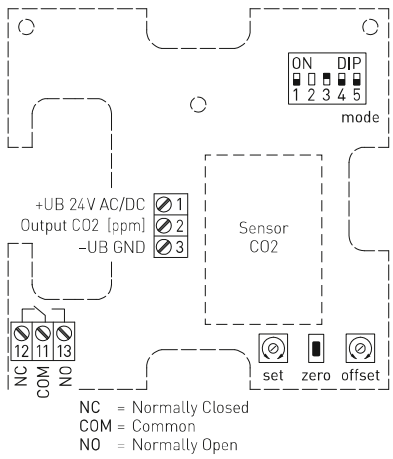
RCO2-W VA
(stainless steel housing)

AERASGARD® RCO2-W
AERASGARD® RCO2-SD

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

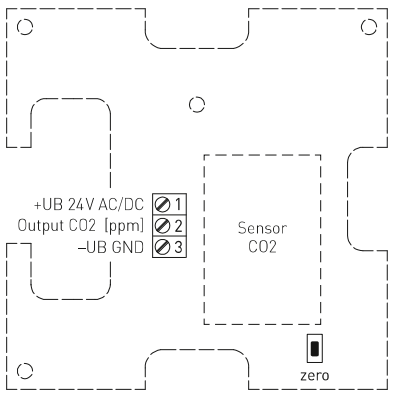
S+S REGELTECHNIK

Connecting diagram **RCO2-W**

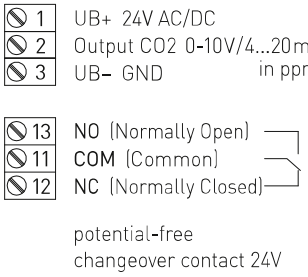


NC = Normally Closed
COM = Common
NO = Normally Open

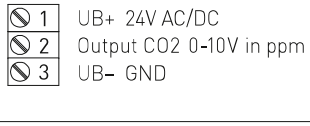
Connecting diagram **RCO2-SD**



Schematic diagram **RCO2-W**



Schematic diagram **RCO2-SD**



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 0-10 V (default)	OFF
Current 4...20 mA	**ON**
Traffic light (5x LEDs)	**DIP 5**
deactivated	OFF
activated	**ON**
Note: **DIP 2** is not assigned!	

Traffic light indicator						RCO2-W-A
CO2 content in ppm 0...2000 ppm	0...5000 ppm	**LED 1** green	**LED 2** green	**LED 3** yellow	**LED 4** yellow	**LED 5** 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.

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 CO2	Output CO2	Equipment	Display	Item No. (Baldur 1)	Price
RCO2-SD	(fixed)	(fixed)				
RCO2-SD-U	0...2000 ppm	0-10 V	–		1501-61A0-1001-200	**199,72 €**
RCO2-W	(switchable)	(switchable)				
RCO2-W	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	Changeover contact		1501-61A0-7301-200	**236,61 €**
RCO2-W VA	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	Changeover contact, stainless steel housing		1501-61A0-7301-205	**338,16 €**
RCO2-W LCD	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	Changeover contact, display	■	see **RFTM-LQ-CO2**	
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	**278,07 €**
	A = with "traffic light" (five coloured LEDs) for displaying the CO2 concentration.					
Note:	This unit **must not** be used as safety-relevant device!					

AERASGARD® RCO2-W / RLQ-CO2-W
AERASGARD® RFTM-(LQ)-CO2-W / RTM-CO2-SD

Multifunctional room sensors and measuring transducers, for humidity, temperature, air quality (VOC) and CO2 content, calibratable, with active/switching output

S+S REGELTECHNIK

Maintenance-free room sensor **AER**ASGARD® **RTM-CO2-SD** with active output, automatic calibration, in an elegant plastic housing with snap-on lid, for determining the CO2 content of the air (0...2000 ppm) and the temperature (0...+50°C). The measuring transducer converts the measured values into a standard signal of 0-10 V.

Maintenance-free room sensor **AER**ASGARD® **RFTM-LQ-CO2-W** with active/switching output, automatic calibration, in an elegant plastic housing with snap-on lid, optionally with/without display, for determining the CO2 content of the air (0...2000 ppm/0...5000 ppm), the quality in three VOC sensitivity (0...100 % VOC), the temperature (0...+50°C) as well as the relative air humidity (0...100 % r.H). 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.

A long-term stable, **digital humidity and temperature sensor** guarantees exact measurement results.

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.

The air quality is detected by a **VOC sensor** (mixed gas sensor for volatile organic substances). This sensor determines the loading of the room air due to contaminated gases such as cigarette smoke, body perspiration, exhaled breathing air, solvent vapours, emissions, etc. As an alternative, use IAQ categories (from excellent to unhealthy) following the guidelines of the German Federal Environmental Agency to assess the room air.

For more information, see the start of the chapter.

TECHNICAL DATA

Voltage supply:	24 V AC / DC (± 10 %)
Power consumption:	**RCO2-W / RTM-CO2-SD:** < 1.5 W / 24 V DC typical; < 2.9 VA / 24 V AC typical; peak current 200 mA **RLQ-CO2-W / RFTM-LQ-CO2-W:** < 4.4 W / 24 V DC typical; < 6.4 VA / 24 V AC typical; peak current 200 mA
Outputs:	**RTM-CO2-SD** 0-10 V (fixed) **Rxx-CO2-W** 0-10 V **or** 4...20 mA, working resistance < 800 Ω (selectable via DIP switches, selected variant applies for all outputs), with offset potentiometer (± 10 % of the measuring range)
Relay output:	**RTM-CO2-SD** without changeover contact **Rxx-CO2-W** with potential-free **changeover contact** (24 V / 1 A) (assignment selectable via DIP switches, switchpoint adjustable)
HUMIDITY	
Sensor (RH / °C):	**digital humidity sensor with integrated temperature sensor,** low hysteresis, high long-term stability
Measuring range (RH):	0...100 % r. H.
Output (RH):	0-10 V or 4...20 mA (selectable via DIP switches)
Deviation (RH):	typically **± 2.0** % (20...80 % r. H.) bei +25 °C, sonst ± 3.0 %
TEMPERATURE	
Measuring range (°C):	0...+ 50 °C
Deviation (°C):	typically ± 0.2 K bei +25 °C
Output (°C):	**RTM-CO2-SD** 0-10 V (fixed) **Rxx-CO2-W** 0-10 V **or** 4...20 mA (selectable via DIP switches)
AIR QUALITY (VOC)	
Sensor (VOC):	VOC sensor (metal oxide) (VOC = volatile organic compounds), with manual calibration (via zero button) and automatic calibration (permanently active)
Measuring range (VOC):	0...100 % air quality; referred to calibrating gas; **multi-range switching** (selectable via DIP switches) VOC sensitivities (low/medium/high) or IAQ category (Indoor Air Quality)
Output (VOC):	0-10 V (0 V = clean air, 10 V = polluted air) **or** 4...20 mA (selectable via DIP switches, switchpoint can be adjusted from 0...100 % of the output signal)
Measuring accuracy (VOC) :	typically ± 20 % of final value (referred to calibrating gas)
Service life (VOC):	> 60 months (under normal load conditions) depending on the type of loading and gas concentration
CARBON DIOXIDE (CO2)	
Sensor (CO2):	optical NDIR sensor (non-dispersive infra-red technology), with manual calibration (via zero button), **RTM-CO2-SD** with automatic calibration (fixed) **Rxx-CO2-W** with automatic calibration (can be deactivated via DIP switches)
Measuring range (CO2):	**RTM-CO2-SD** 0...2000 ppm (fixed) **Rxx-CO2-W** 0...2000 ppm **or** 0...5000 ppm (selectable via DIP switches)
Output (CO2):	**RTM-CO2-SD** 0-10 V (fixed) **Rxx-CO2-W** 0-10 V **or** 4...20 mA (selectable via DIP switchesr)
Measuring accuracy (CO2):	typically ± 30 ppm (± 3 % of measured value)
Temperature dependence (CO2):	± 5 ppm / °C or ± 0.5 % of measured value / °C (whichever is higher)
Pressure dependence (CO2):	± 0.13 % / mm Hg
Long-term stability (CO2):	< 2 % in 15 years
Gas exchange (CO2):	by diffusion

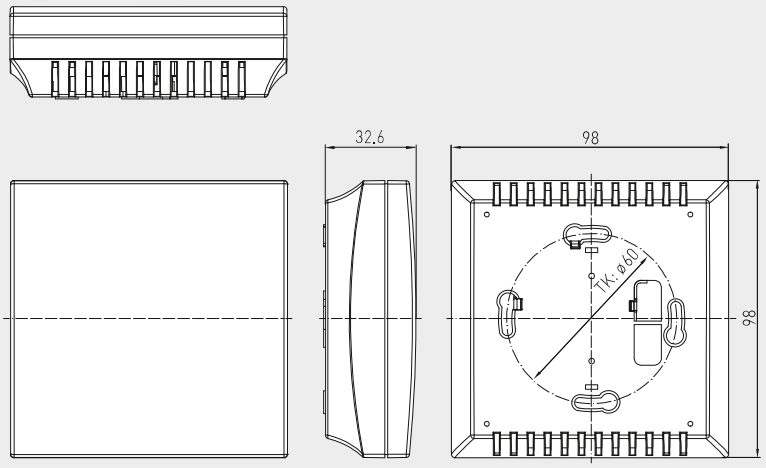
continued on next page!

AERASGARD® RCO2-W / RLQ-CO2-W
AERASGARD® RFTM-(LQ)-CO2-W / RTM-CO2-SD

Multifunctional room sensors and measuring transducers, for humidity, temperature, air quality (VOC) and CO2 content, calibratable, with active/switching output

Dimensional drawing

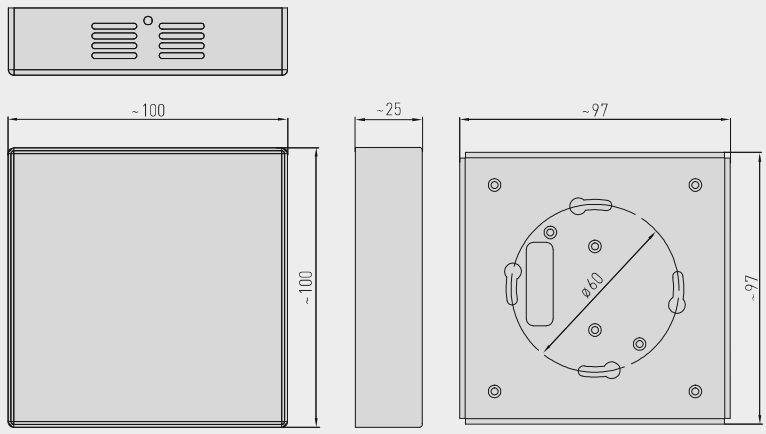
RCO2-W with display
RLQ-CO2-W
RFTM-LQ-CO2-W
RTM-CO2-SD



RLQ-CO2-W
RFTM-LQ-CO2-W
RTM-CO2-SD

Dimensional drawing

Stainless steel housing
(See picture on next page)



RCO2-W
RLQ-CO2-W
RFTM-LQ-CO2-W
with display

TECHNICAL DATA (continued)

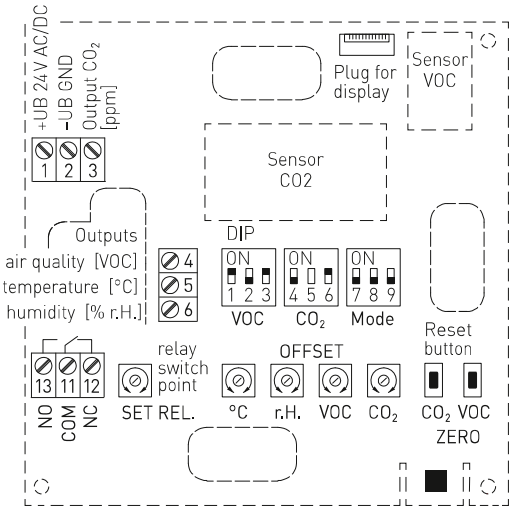
Ambient temperature:	0...+50 °C
Permitted humidity:	0...95 % r. H. (non-precipitating air)
Warm up time:	approx. 1 hour
Response time:	< 2 minutes
Electrical connection:	0.14 - 1.5 mm², via screw terminals
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010), stainless steel **V2A** (1.4301) housing optional
Dimensions:	98 x 98 x 33 mm (Baldur 2)
Installation:	wall mounting or on in-wall flush box, Ø 55 mm, base with 4 holes, for attachment to vertically or horizontally installed in-wall flush boxes for rear cable entry, with predetermined breaking point for 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, electromagnetic compatibility according to EN 61 326, EMC Directive 2014/30/EU, Low Voltage Directive 2014/35/EU
Optional:	**display with illumination,** two line, cutout approx. 36 x 15 mm (W x H), for displaying actual humidity, actual temperature, air quality and the actual CO2 content

AERASGARD® RCO2-W / RLQ-CO2-W
AERASGARD® RFTM-(LQ)-CO2-W / RTM-CO2-SD

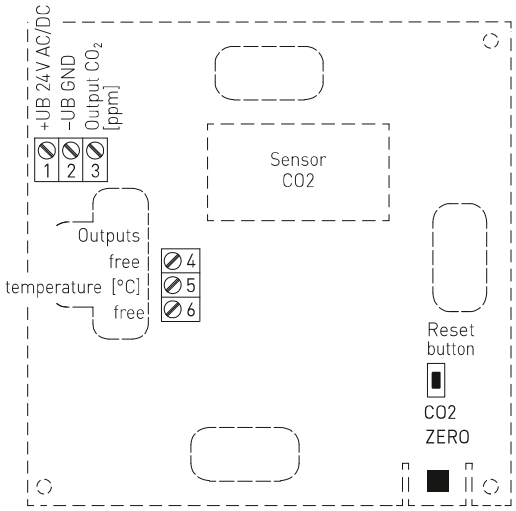
Multifunctional room sensors and measuring transducers, for humidity, temperature, air quality (VOC) and CO2 content, calibratable, with active/switching output

S+S REGELTECHNIK

Schematic diagram **RFTM-LQ-CO2-W**



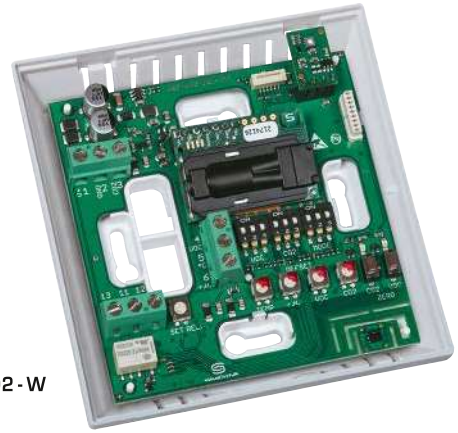
Schematic diagram **RTM-CO2-SD**



DIP switches (Baldur 2)	RFTM-LQ-CO2-W	
VOC sensitivity	**DIP 1**	**DIP 2**
LOW	OFF	OFF
MEDIUM (default)	**ON**	OFF
HIGH	OFF	**ON**
IAQ (Indoor Air Quality)	**ON**	**ON**
CO2 content		**DIP 4**
0...2000 ppm (default)		OFF
0...5000 ppm		**ON**
CO2 automatic zero point		**DIP 6**
deactivated		OFF
activated (default)		**ON**
Relay assignment	**DIP 7**	**DIP 8**
CO2 (default): 600...1900 ppm / 900...4700 ppm	OFF	OFF
VOC: 10...95 %	**ON**	OFF
Temperature: +5...+48 °C	OFF	**ON**
Humidity: 10...95% r.H.	**ON**	**ON**
Output		**DIP 9**
Voltage 0-10 V (default)		OFF
Current 4...20 mA		**ON**
Note: **DIP 3** and **DIP 5** are not assigned!		

Level	IAQ (Indoor Air Quality)	VOC
1	**excellent** no action required	0...19 %
2	**good** prompt airing recommended	20...39 %
3	**moderate** airing recommended	40...59 %
4	**poor** increased airing required	60...79 %
5	**unhealthy** intense airing necessary	80...100 %

Table according to TVOC guidelines of the German Federal Environmental Agency to assess indoor air contamination *(Bundesgesundheitsbl - Gesundheitsforsch - Gesundheitsschutz 2007, 50: 990–1005)*



RFTM-LQ-CO2-W
(Baldur 2)

Stainless steel housing
(optionally available upon request)

AERASGARD® RCO2-W / RLQ-CO2-W
AERASGARD® RFTM-(LQ)-CO2-W / RTM-CO2-SD

Multifunctional room sensors and measuring transducers, for humidity, temperature, air quality (VOC) and CO2 content, calibratable, with active/switching output

Humidity table
MR: 0...100 % r. H.

% r.H.	U_A in V	I_A in mA	% r.H.	U_A in V	I_A in mA
0	0	4.0	**50**	5.0	12.0
5	0.5	4.8	**55**	5.5	12.8
10	1.0	5.6	**60**	6.0	13.6
15	1.5	6.4	**65**	6.5	14.4
20	2.0	7.2	**70**	7.0	15.2
25	2.5	8.0	**75**	7.5	16.0
30	3.0	8.8	**80**	8.0	16.8
35	3.5	9.6	**85**	8.5	17.6
40	4.0	10.4	**90**	9.0	18.4
45	4.5	11.2	**95**	9.5	19.2
Continued at the right ...			**100**	10.0	20.0

Temperature table
MR: 0...+50 °C

°C	U_A in V	I_A in mA
0	0	4.0
5	1.0	5.6
10	2.0	7.2
15	3.0	8.8
20	4.0	10.4
25	5.0	12.0
30	6.0	13.6
35	7.0	15.2
40	8.0	16.8
45	9.0	18.4
50	10.0	20.0

AERASGARD® **RTM-CO2-SD**	Room temperature and CO2 sensor, *Standard*
AERASGARD® **RCO2-W**	Room CO2 sensor, *Premium*
AERASGARD® **RLQ-CO2-W**	Room air quality (VOC) and CO2 sensor, *Premium*
AERASGARD® **RFTM-CO2-W**	Multifunctional room sensor for humidity, temperature and CO2 content, *Deluxe*
AERASGARD® **RFTM-LQ-CO2-W**	Multifunctional room sensor for humidity, temperature, CO2 content and air quality (VOC), *Deluxe*

Type / WG02	Measuring Range Humidity	Temperature	CO2	VOC	Equipment Display	Item No. (Baldur 2)	Price
RTM-CO2-SD			(fixed)				
RTM-CO2-SD-U	–	0...+50 °C	0...2000 ppm	–	–	1501-61B2-1001-200	**218,67 €**
RCO2-W			(switchable)				
RCO2-W (without display)	–	–	0...2000 / 5000 ppm	–	W	see **RCO2-W / RCO2-SD**	
RCO2-W **LCD**	–	–	0...2000 / 5000 ppm	–	W ■	1501-61B0-7321-200	**284,06 €**
RLQ-CO2-W			(switchable)				
RLQ-CO2-W	–	–	0...2000 / 5000 ppm	0...100 %	W	1501-61B1-7301-500	**357,53 €**
RLQ-CO2-W **LCD**	–	–	0...2000 / 5000 ppm	0...100 %	W ■	1501-61B1-7321-500	**404,99 €**
RFTM-CO2-W			(switchable)				
RFTM-CO2-W	0...100 % r.H.	0...+50 °C	0...2000 / 5000 ppm	–	W	1501-61B6-7301-200	**334,00 €**
RFTM-CO2-W **LCD**	0...100 % r.H.	0...+50 °C	0...2000 / 5000 ppm	–	W ■	1501-61B6-7321-200	**370,45 €**
RFTM-LQ-CO2-W			(switchable)				
RFTM-LQ-CO2-W	0...100 % r.H.	0...+50 °C	0...2000 / 5000 ppm	0...100 %	W	1501-61B8-7301-500	**392,09 €**
RFTM-LQ-CO2-W **LCD**	0...100 % r.H.	0...+50 °C	0...2000 / 5000 ppm	0...100 %	W ■	1501-61B8-7321-500	**439,54 €**
Outputs:	**0-10 V or 4...20 mA** (selectable via DIP switches, selected variant applies for all outputs) – *Standard* room sensor **RTM-CO2-SD** with fixed output 0-10 V!						
Equipment:	**W = changeover contact** – *Standard* room sensor **RTM-CO2-SD** without changeover contact!						
Note:	This unit **must not** be used as safety-relevant device!						

AERASGARD® RPS-SD
AERASGARD® RFTM-PS-CO2-W

Fine dust sensor / particulate sensor, multifunctional room sensor and measuring transducer for humidity, temperature, fine dust (PM) and CO2 content, calibratable, with active / switching output

NEW

S+S REGELTECHNIK

Maintenance-free room sensor **AER**ASGARD® **RPS-SD** with active output, in an elegant plastic housing with snap-on lid, base with 4-hole attachment, for detecting the fine dust content (0...500 µg/m³). The measuring transducer converts the measurand into a standard signal of 0-10 V (fixed).

Maintenance-free, multifunctional room sensor **AER**ASGARD® **RFTM-PS-CO2-W** with active/switching output, automatic calibration, in an elegant plastic housing with snap-on lid, base with 4-hole attachment, optionally with/without display, for detection of measurands air humidity (0...100 % r.H.), temperature (0...+50°C), fine dust (PM) (0...50 / 100 / 300 / 500 µg/m³) and CO2 content (0...2000 / 5000 ppm). The measuring transducer converts the measurand into a standard signal of 0-10 V or 4...20 mA (switchable).

Use just one device to monitor and control the entire indoor climate effectively. This enables energy-saving room ventilation on an as-needed basis, thereby reducing operating costs and improving well-being. It is used in offices, hotels, convention centres, apartments, shops, etc. One sensor for every 30 m² of room area is recommended.

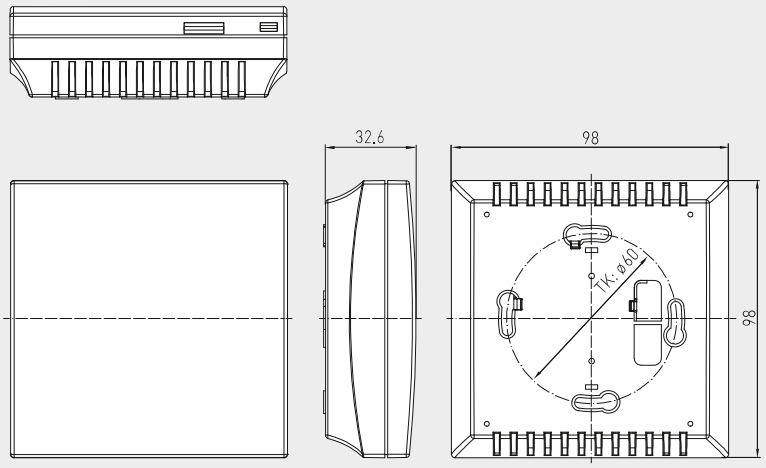
A long-term stable, **digital humidity and temperature sensor** guarantees exact measurement results. The CO2 content of the air is measured using an optical **NDIR sensor** (non-dispersive infra-red technology). An optical **fine dust sensor** precisely detects **particulate (PM)** of the size category 0.3 to 10 micrometres. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible (except for particulate sensor).

TECHNICAL DATA

Power supply:	24 V AC / DC (± 10 %)	
Power consumption:	**RPS-SD**	typically < 1.5 W / 24 V DC; < 2.9 VA / 24 V AC
	RFTM-PS-CO2-W	typically < 4.4 W / 24 V DC; < 6.4 VA / 24 V AC; peak current 200 mA
Output:	**RPS-SD**	0-10 V (fixed)
	RFTM-PS-CO2-W	0-10 V **or** 4...20 mA, working resistance < 800 Ω (selectable via DIP switches, selected version applies **uniformly** to all outputs), with offset potentiometer (± 10 % of measuring range)
Relay output:	**RPS-SD**	without changeover contact
	RFTM-PS-CO2-W	with potential-free **changeover contact** (24 V / 1 A) (assignment selectable via DIP switches, switch point can be set)
HUMIDITY		
Sensor (RH / °C):	**digital humidity sensor with integrated temperature sensor,** low hysteresis, high long-term stability	
Measuring range (RH):	0...100 % r. H.	
Output (RH):	0-10 V or 4...20 mA (selectable via DIP switches)	
Deviation (RH):	typically **± 2.0** % (20...80 % r. H.) at +25 °C, otherwise ± 3.0 %	
TEMPERATURE		
Measuring range (°C):	0...+ 50 °C	
Output (°C):	0-10 V or 4...20 mA (selectable via DIP switches)	
Deviation (°C):	typically ± 0.2 K at +25 °C	
FINE DUST (PM)		
Sensor (PM):	optical **particulate sensor** (**PM** = particulate matter), **fine-dust sensor** with laser- and soiling-resistant technology	
Measuring range (PM):	multi-range switching (selectable via DIP switches) 0...50, 0...100, 0...300 or 0...500 µg/m³	
Output (PM):	**RPS-SD**	0-10 V (fixed)
	RFTM-PS-CO2-W	0-10 V or 4...20 mA (selectable via DIP switches)
Particle size (PM):	**PM 2.5** (0.3...2.5 µm); **PM 10** (0.3...10 µm)	
Measuring accuracy (PM):	typically ± 10 µg/m³ (± 10 % of measured value) at PM 2.5 typically ± 25 µg/m³ (± 25 % of measured value) at PM 10	
Long-term stability (PM):	± 1.25 µg/m³ (± 1.25 % of measured value/year)	
Service life (PM):	> 10 years	
CARBON DIOXIDE (CO2)		
Sensor (CO2):	Optical **NDIR sensor** (non-dispersive infra-red technology), with manual calibration (via zero button), with automatic calibration (can be deactivated via DIP switches)	
Measuring range (CO2):	0...2000 ppm or 0...5000 ppm (selectable via DIP switches)	
Output (CO2):	0-10 V or 4...20 mA (selectable via DIP switches)	
Measuring accuracy (CO2):	typically ± 30 ppm (± 3 % of measured value)	
Temperature dependence (CO2):	± 5 ppm / °C or ± 0.5 % of measured value / °C (whichever is greater)	
Pressure dependence (CO2):	± 0.13 % / mm Hg	
Long-term stability (CO2):	< 2 % in 15 years	
Gas exchange (CO2):	Diffusion	Continued on next page!

Dimensional drawing

RPS-SD
RFTM-PS-CO2-W



RPS-SD
RFTM-PS-CO2-W
without display

RFTM-PS-CO2-W
with display

TECHNICAL DATA (continued)

Ambient temperature:	0...+50 °C
Permitted humidity:	0...95 % r. H. (non-precipitating air)
Warm up time:	approx. 1 hour
Response time:	< 2 minutes
Electrical connection:	0.14 - 1.5 mm², via screw terminals
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010)
Dimensions:	98 x 98 x 33 mm (Baldur 2)
Mounting:	wall mounting or on in-wall flush box, Ø 55 mm, base with 4 holes, for attachment to vertically or horizontally installed in-wall flush boxes for rear cable entry, with predetermined breaking point for top/bottom cable entry for surface-mounted installation
Protection class:	III (according to EN 60 730)
IP rating:	**IP 30** (according to EN 60 529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC Directive 2014 / 30 / EU, Low Voltage Directive 2014 / 35 / EU
Optional:	**Display with illumination,** 2-line, cutout approx. 36 x 15 mm (W x H), to display the actual humidity, actual temperature, of the fine-dust and CO2 content as well as for switch point display

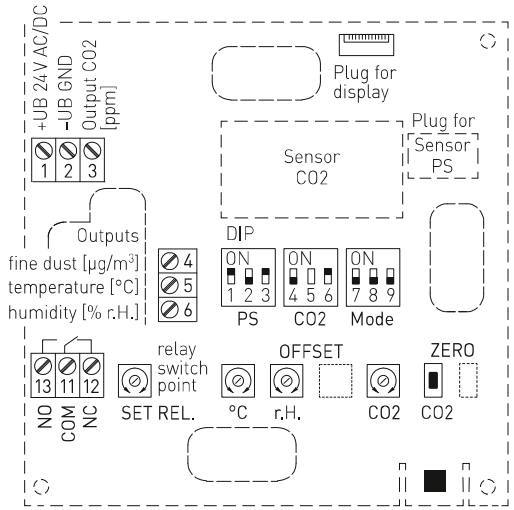
AERASGARD® RPS-SD
AERASGARD® RFTM-PS-CO2-W

Fine dust sensor / particulate sensor, multifunctional room sensor and measuring transducer for humidity, temperature, fine dust (PM) and CO2 content, calibratable, with active / switching output

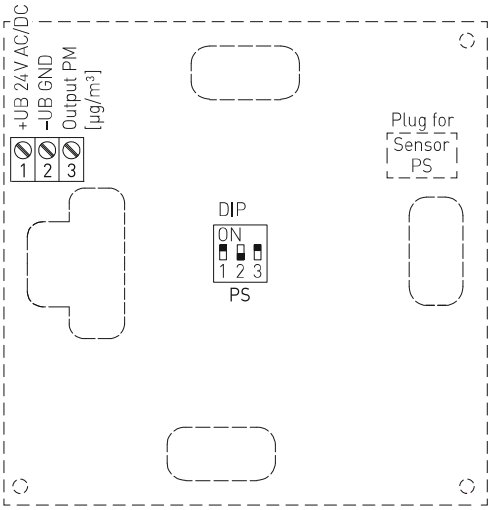
NEW

S+S REGELTECHNIK

Schematic diagram **RFTM-PS-CO2-W**

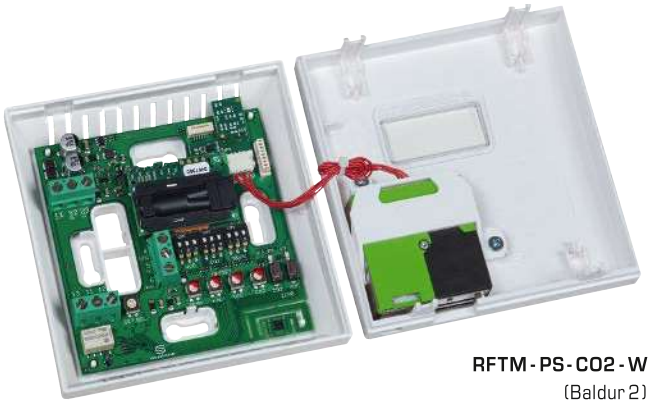


Schematic diagram **RPS-SD**



DIP switch	RFTM-PS-xx	
Fine dust (PM) Measuring range	**DIP 1**	**DIP 2**
0…50 µg/m³	OFF	OFF
0…100 µg/m³ (default)	**ON**	OFF
0…300 µg/m³	OFF	**ON**
0…500 µg/m³	**ON**	**ON**
Fine dust (PM) Particle size		**DIP 3**
PM 2.5 (default)		**ON**
PM 10		OFF
CO2 content		**DIP 4**
0…2000 ppm (default)		OFF
0…5000 ppm		**ON**
CO2 automatic zero point		**DIP 6**
deactivated		OFF
activated (default)		**ON**
Relay assignment	**DIP 7**	**DIP 8**
CO2 (default) 600…1900 ppm / 900…4700 ppm	OFF	OFF
Fine dust 10 %…95 % of measuring range	**ON**	OFF
Temperature +5…+48 °C	OFF	**ON**
Humidity 10…95 % r.H.	**ON**	**ON**
Output		**DIP 9**
Voltage 0-10 V (default)		OFF
Current 4…20 mA		**ON**
Note: **DIP 5** is not assigned !		

DIP switch	RPS-SD	
Fine dust (PM) Measuring range	**DIP 1**	**DIP 2**
0…50 µg/m³	OFF	OFF
0…100 µg/m³ (default)	**ON**	OFF
0…300 µg/m³	OFF	**ON**
0…500 µg/m³	**ON**	**ON**
Fine dust (PM) Particle size		**DIP 3**
PM 2.5 (default)		**ON**
PM 10		OFF



RFTM-PS-CO2-W
(Baldur 2)

Humidity table
MR: 0...100 % r. H.

% r.H.	U_A in V	I_A in mA	% r.H.	U_A in V	I_A in mA
0	0	4.0	**50**	5.0	12.0
5	0.5	4.8	**55**	5.5	12.8
10	1.0	5.6	**60**	6.0	13.6
15	1.5	6.4	**65**	6.5	14.4
20	2.0	7.2	**70**	7.0	15.2
25	2.5	8.0	**75**	7.5	16.0
30	3.0	8.8	**80**	8.0	16.8
35	3.5	9.6	**85**	8.5	17.6
40	4.0	10.4	**90**	9.0	18.4
45	4.5	11.2	**95**	9.5	19.2
Continued at the right ...			**100**	10.0	20.0

Temperature table
MR: 0...+50 °C

°C	U_A in V	I_A in mA
0	0	4.0
5	1.0	5.6
10	2.0	7.2
15	3.0	8.8
20	4.0	10.4
25	5.0	12.0
30	6.0	13.6
35	7.0	15.2
40	8.0	16.8
45	9.0	18.4
50	10.0	20.0

AERASGARD®

RPS-SD Room fine dust sensor / fine dust sensor / particulate sensor (PM), *Standard*

RFTM-PS-W Multifunctional room sensor for humidity, temperature and fine dust (PM), *Premium*

RFTM-PS-CO2-W Multifunctional room sensor for humidity, temperature, fine dust (PM) and CO2 content, *Deluxe*

Type / WG02	Measuring Range Humidity	Temperature	PM	CO2	Equipment Display	Item No.	Price
RPS-SD			(switchable)				
RPS-SD	–	–	0... 50 µg/m³ 0...100 µg/m³ 0...300 µg/m³ 0...500 µg/m³	–		1501-2110-1001-000	**292,47 €**
RFTM-PS-W			(switchable)	(switchable)			
RFTM-PS-W	0...100 % r.H.	0...+50 °C	0... 50 µg/m³ 0...100 µg/m³ 0...300 µg/m³ 0...500 µg/m³	–	W	1501-2116-7301-000	**381,51 €**
RFTM-PS-W **LCD**	0...100 % r.H.	0...+50 °C	(4x as above)	–	W ■	1501-2116-7321-000	**463,51 €**
RFTM-PS-CO2-W							
RFTM-PS-CO2-W	0...100 % r.H.	0...+50 °C	0... 50 µg/m³ 0...100 µg/m³ 0...300 µg/m³ 0...500 µg/m³	0...2000 ppm / 0...5000 ppm	W	1501-2113-7301-000	**444,16 €**
RFTM-PS-CO2-W **LCD**	0...100 % r.H.	0...+50 °C	(4x as above)	0...2000 ppm / 0...5000 ppm	W ■	1501-2113-7321-000	**491,63 €**
Outputs:	**0-10 V or 4...20 mA** (selectable via DIP switches, selected variant applies for all outputs) – *Standard* room sensor **RPS-SD** with fixed output 0-10 V!						
Equipment:	**W = changeover contact** – *Standard* room sensor **RPS-SD** without changeover contact!						
Note:	These units must **not** be used as safety-relevant devices!						

AERASGARD® FSCO2
AERASGARD® FSTM-CO2

Room CO2 and temperature sensor or measuring transducer, in-wall in the panel switch programme, with active output

S+S REGELTECHNIK

The room sensor **AER**ASGARD® **FSCO2 / FSTM-CO2** in the in-wall housing is used for measuring the CO2 content and temperature of the air. It converts the measured values into a standard signal of 0-10 V.

The CO2 content of the air is measured using an optical NDIR sensor (non-dispersive infra-red technology). A digital, long-term stable sensor is used for temperature measurement.

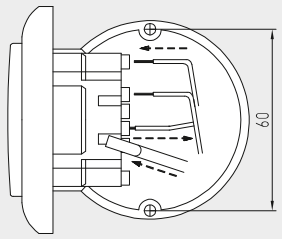
The in-wall sensor is mounted in high-quality panel switch programmes, ideally of the brands Gira, Berker, Merten, Jung, Siemens or Busch-Jaeger (using in-wall adapters) either individually or in combination with light switches, socket outlets, etc.

It is used in non-aggressive, dust-free environments, in refrigeration, air conditioning and clean room technology, and in interior rooms, such as living rooms, offices, hotels, etc.

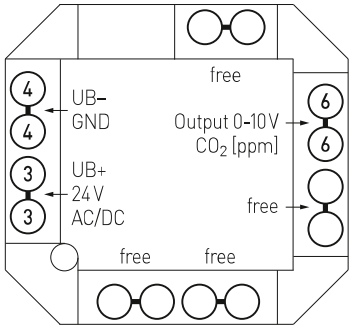
TECHNICAL DATA

Power supply:	24 V AC / DC (± 10 %)
Power consumption:	< 1.5 W / 24 V DC ; < 2.9 VA / 24 V AC
CARBON DIOXIDE (CO2)	
Sensor, CO2:	**optical NDIR sensor** (non-dispersive infra-red technology), with manual calibration (via zero button) and automatic calibration (fixed)
Long-term stability:	< 2 % in 15 years
Measuring range, CO2:	0...2000 ppm
Output, CO2:	0-10 V
Measuring accuracy, CO2:	typically ± 30 ppm ± 3 % of measured value
Temperature dependence, CO2:	± 5 ppm / °C or ± 0.5 % of measured value / °C (whichever is higher)
Pressure dependence:	± 0.13 % / mm Hg
Gas exchange:	by diffusion
Warm up time:	approx. 1 hour
Response time:	< 2 minutes
TEMPERATURE	
Sensor:	**digital temperature sensor,** low hysteresis, high long-term stability
Long-term stability:	± 1 % per year
Measuring range:	0...+50 °C
Deviation, temperature:	typically ± 0.8 K at +25 °C
Output, temperature:	0-10 V
Mounting:	in-wall flush box Ø 55 mm
Electrical connection:	1.0 - 2.5 mm², via plug terminals
Ambient temperature:	Storage –35...+85 °C; Operation 0...+50 °C
Permitted humidity:	max. 90 % r.H., non-precipitating air
Medium:	clean air and other non-aggressive, non-combustible gases
Protection class:	III (according to EN 60730)
Protection type:	IP 20 (according to 60529)
Standards:	CE-conformity, electromagnetic compatibility according to EN 61 326, EMC Directive 2014 / 30 / EU
SWITCH PROGRAMME	
Manufacturer:	GIRA System 55 (other switch programmes, manufacturers, colours as well as prices available upon request)
Housing:	plastic, the standard colour is pure glossy white (similar to RAL 9010) (other colours are available upon request with colour variants depending on the respective light switch programme)

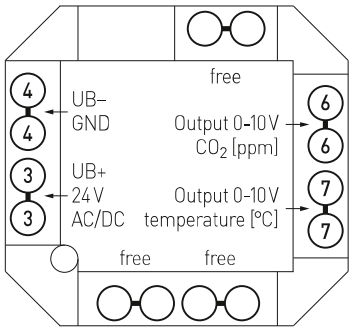
Mounting diagram **in-wall**



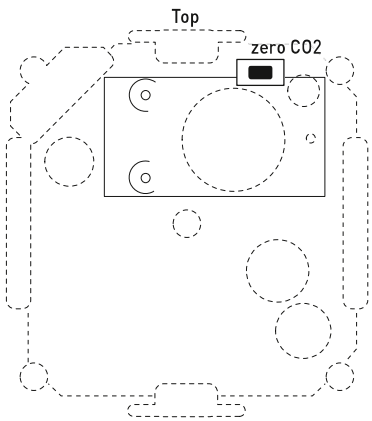
Connection diagram **FSCO2**



Connection diagram **FSTM-CO2**

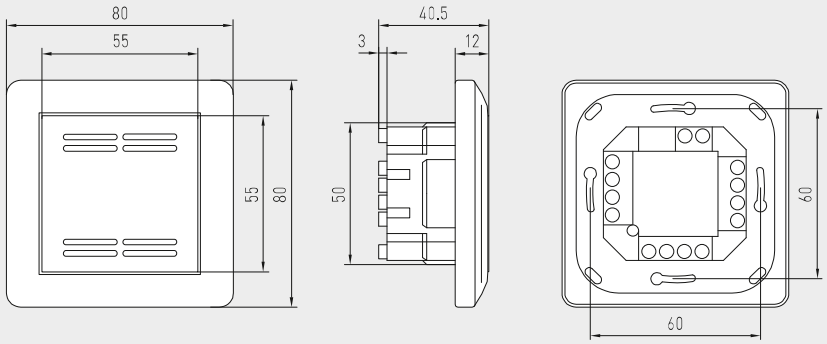


Schematic diagram **FSFTM-CO2**



Dimensional drawing

FSCO2
FSTM-CO2



FSCO2
FSTM-CO2

CO2 content table
MR: 0...2000 ppm

ppm	U_A [V]	ppm	U_A [V]
0	0.00	**1000**	5.0
350	1.75	**1100**	5.5
400	2.00	**1200**	6.0
450	2.25	**1300**	6.5
500	2.50	**1400**	7.0
550	2.75	**1500**	7.5
600	3.00	**1600**	8.0
700	3.50	**1700**	8.5
800	4.00	**1800**	9.0
900	4.50	**1900**	9.5
Continued to the right ...		**2000**	10.0

Temperature table
MR: 0...+50 °C

°C	U_A [V]
0	0.0
5	1.0
10	2.0
15	3.0
20	4.0
25	5.0
30	6.0
35	7.0
40	8.0
45	9.0
50	10.0

AERASGARD® FSCO2 Room CO2 sensor or measuring transducer, in-wall
AERASGARD® FSTM-CO2 Room temperature and CO2 sensor or measuring transducer, in-wall

Type / WG02	Measuring Range CO2	Measuring Range Temperature	Output CO2	Output Temperature	Item No.	Price
FSCO2						
FSCO2-U	0...2000 ppm	–	0-10 V	–	1501-9120-1001-162	**321,81 €**
FSTM-CO2						
FSTM-CO2-U	0...2000 ppm	0...+50 °C	0-10 V	0-10 V	1501-9122-1001-162	**326,32 €**

AERASGARD® ACO2-W
AERASGARD® ACO2-SD

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

S+S REGELTECHNIK

Maintenance-free on-wall sensor **AER**ASGARD® **ACO2-SD** with active output, automatic calibration (fixed), in an impact-resistant plastic housing with quick-locking screws, 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.

Maintenance-free on-wall sensor **AER**ASGARD® **ACO2-W** with active/switching output, automatic calibration (can be deactivated), in an impact-resistant plastic housing with quick-locking screws, optionally with/without display, for determining the CO2 content of the air (0…2000 ppm/0…5000 ppm). he 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.

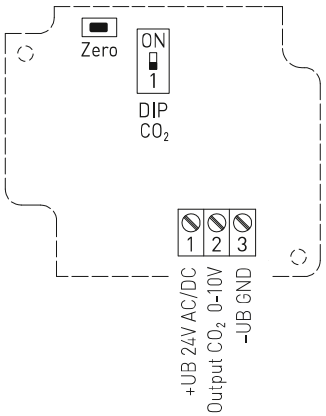
The CO2 measurement is performed using an optical **NDIR sensor** (non-dispersive infra-red technology). The detection range is calibrated for standard applications such as monitoring residential rooms and conference rooms.

For more information, see the start of the chapter.

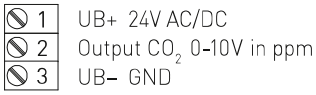
TECHNICAL DATA

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), **ACO2-SD** with automatic calibration (fixed) **ACO2-W** with automatic calibration (can be deactivated via DIP switches)
Measuring range:	**Multi-range switching** (selectable via DIP switches) 0…2000 ppm; 0…5000 ppm
Output:	**ACO2-SD** 0-10 V (fixed) **ACO2-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:	**ACO2-SD** without changeover contact **ACO2-W** with potential-free **changeover contact** (24 V / 1 A), switchpoint adjustable
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
Warm up time:	approx. 1 hour
Ambient temperature:	–10…+60 °C
Response time:	approx. 1 minute
Electrical connection:	0.14 - 1.5 mm², via screw terminals
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016)
Housing dimensions:	126 x 90 x 50 mm (Tyr 2)
Cable connection:	**cable gland**, plastic (M 16 x 1.5; with strain relief, exchangeable, max. inner diameter 10.4 mm) **or** **M12 connector** according to DIN EN 61076-2-101 (optional on request)
Process connection:	by screws
Protection class:	III (according to EN 60 730)
Protection type:	**IP 65** (according to EN 60 529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC Directive 2014 / 30 / EU
Optional:	**with display** (see **AER**ASGARD® **AFTM-LQ-CO2**) for displaying the actual CO2 content in ppm
ACCESSORIES	see table

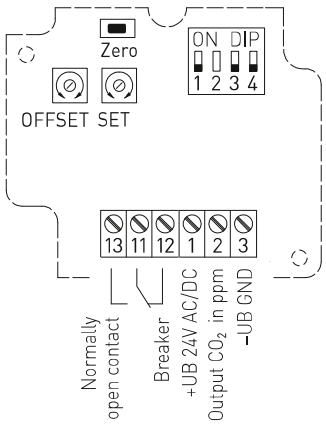
Schematic diagram **ACO2-SD**



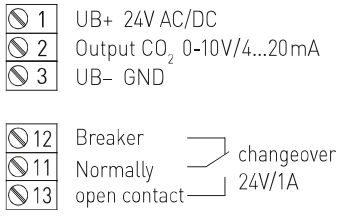
Connecting diagram **ACO2-SD**



Schematic diagram **ACO2-W**

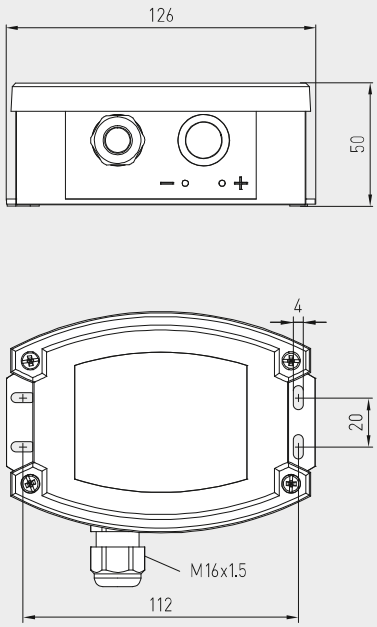


Connecting diagram **ACO2-W**



Dimensional drawing

ACO2-W
ACO2-SD



M12 connector
(optional on request)

ACO2-W
ACO2-SD

WS-03
Weather and sun protection hood
(optional)

DIP switch	ACO2-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 0-10 V (default)	OFF
Current 4...20 mA	**ON**
Note: **DIP 2** is not assigned!	

DIP switch	ACO2-SD
CO2 content	**DIP 1**
0...2000 ppm (default)	OFF
0...5000 ppm	**ON**

AERASGARD® ACO2-SD On-wall CO2 sensor and measuring transducer, *Standard*
AERASGARD® ACO2-W On-wall CO2 sensor and measuring transducer, *Premium*

Type/WG02B	Measuring Range CO2	Output CO2	Equipment	Display	Item No.	Price
ACO2-SD	(switchable)	(fixed)				
ACO2-SD-U	0...2000 ppm / 0...5000 ppm	0-10 V	–		1501-7110-1001-200	**233,15 €**
ACO2-W	(switchable)	(switchable)				
ACO2-W	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	changeover contact		1501-7110-7301-200	**334,50 €**
ACO2-W LCD	0...2000 ppm / 0...5000 ppm	0-10 V / 4...20 mA	changeover contact, display	■	see **AFTM-LQ-CO2**	
Optional:	Cable connection with **M12 connector** according to DIN EN 61076-2-101 (on request)					
Note:	This unit **must not** be used as safety-relevant device!					

ACCESSORIES			
WS-03	**Weather and sun protection hood**, 200 x 180 x 150 mm, stainless steel **V2A** (1.4301)	7100-0040-6000-000	**42,61 €**
	For further information see last chapter!		

AERASGARD® ACO2-W / ALQ-CO2-W
AERASGARD® AFTM-(LQ)-CO2-W / ATM-CO2-SD

Multifunctional on-wall sensors and measuring transducers, for humidity, temperature, CO2 content and air quality (VOC), calibratable, with active/switching output

S+S REGELTECHNIK

Maintenance-free on-wall sensor **AER**ASGARD® **ATM-CO2-SD** with active output, automatic calibration, in an impact-resistant plastic housing with quick-locking screws, for determining the CO2 content of the air (0...2000 ppm/0...5000 ppm) and the temperature (–35...+80 °C). The measuring transducer converts the measured values into a standard signal of 0-10 V.

Maintenance-free on-wall sensor **AER**ASGARD® **AFTM-LQ-CO2-W** with active/switching output, automatic calibration, in an impact-resistant plastic housing with quick-locking screws, optionally with/without Display, for determining the CO2 content of the air (0...2000 ppm/0...5000 ppm), the quality (0...100 % VOC), the temperature (–35...+80 °C) as well as the relative air humidity (0...100 % r.H). 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.

A long-term stable, **digital humidity and temperature sensor** guarantees exact measurement results. 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. The air quality is detected by a **VOC sensor** (mixed gas sensor for volatile organic substances). This sensor determines the loading of the room air due to contaminated gases such as cigarette smoke, body perspiration, exhaled breathing air, solvent vapours, emissions, etc. With regard to the expected air contamination, low, medium or high VOC sensitivity can be selected. As an alternative, use IAQ categories (from excellent to unhealthy) following the guidelines of the German Federal Environmental Agency to assess the room air.

For more information, see the start of the chapter.

TECHNICAL DATA

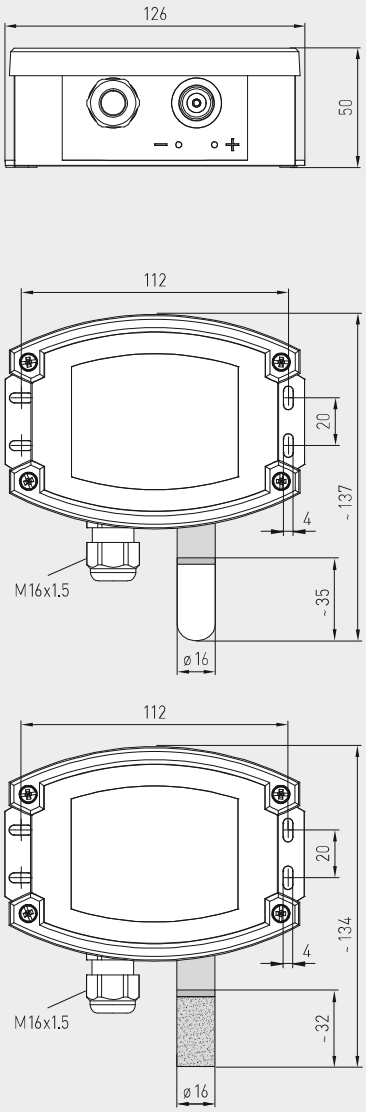
Voltage supply:	24 V AC / DC (± 10 %)
Power consumption:	< 4.8 W / 24 V DC typical; < 6.8 VA / 24 V AC typical; peak current 200 mA
Outputs:	**Axx-SD** 0-10 V (fixed) **Axx-W** 0-10 V **or** 4...20 mA, working resistance < 800 Ω (selectable via DIP switches, selected variant applies for all outputs), with offset potentiometer (± 10 % of the measuring range)
Relay output:	**Axx-SD** without changeover contact **Axx-W** with potential-free **changeover contact** (24 V / 1 A)
HUMIDITY	
Sensors:	**digital humidity sensor with integrated temperature sensor,** low hysteresis, high long-term stability
Sensor protection:	**plastic** sinter filter, Ø 16 mm, L = 35 mm, exchangeable (optional **metal** sinter filter, Ø 16 mm, L = 32 mm)
Measuring range, humidity:	0...100 % r. H.
Operating range, humidity:	0...95 % r. H. (without dew formation)
Deviation of humidity:	typically **± 2.0** % (20...80 % r. H.) at +25 °C, otherwise ± 3.0 %
Output, humidity:	0-10 V **or** 4...20 mA (selectable via DIP switches)
TEMPERATURE	
Measuring range, temperature:	–35...+80 °C
Operating range, temperature:	–10...+60 °C
Temperature deviation:	typically ± 0.4 K at 25 °C
Output, temperature:	**Axx-SD** 0-10 V (fixed) **Axx-W** 0-10 V **or** 4...20 mA (selectable via DIP switches)
AIR QUALITY (VOC)	
Sensor, VOC:	VOC sensor (metal oxide) (VOC = volatile organic compounds), with manual calibration (using zero button) and automatic calibration (permanently active)
Measuring range, VOC:	0...100 % air quality; referred to calibrating gas; **multi-range switching** (selectable via DIP switches) VOC sensitivities (low/medium/high) or IAQ category (Indoor Air Quality)
Output, VOC:	0-10 V (0 V = clean air, 10 V = polluted air) **or** 4...20 mA (selectable via DIP switches, switchpoint can be adjusted from 0...100 % of the output signal)
Measuring accuracy, VOC:	typically ± 20 % of final value (referred to calibrating gas)
Service life:	> 60 months (under normal load conditions) depending on the type of loading and gas concentration
CARBON DIOXIDE (CO2)	
Sensor, CO2:	optical NDIR sensor (non-dispersive infra-red technology), with manual calibration (via zero button), **Axx-SD** with automatic calibration (fixed) **Axx-W** with automatic calibration (can be deactivated via DIP switches)
Measuring range, CO2:	0...2000 ppm **or** 0...5000 ppm (selectable via DIP switches)
Output, CO2:	**Axx-SD** 0-10 V (fixed) **Axx-W** 0-10 V **or** 4...20 mA (selectable via DIP switches)
Measuring accuracy, CO2:	typically ± 30 ppm ± 3 % of measured value
Temperature dependence, CO2:	± 5 ppm / °C or ± 0.5 % of measured value / °C (whichever is higher)

continued on next page!

AERASGARD® ACO2-W / ALQ-CO2-W
AERASGARD® AFTM-(LQ)-CO2-W / ATM-CO2-SD

Multifunctional on-wall sensors and measuring transducers, for humidity, temperature, CO2 content and air quality (VOC), calibratable, with active/switching output

Dimensional drawing — **AFTM-LQ-CO2-W**



M12 connector
(optional on request)

SF-K
plastic sinter filter
(standard)

SF-M
metal sinter filter
(optional)

AFTM-LQ-CO2-W
with plastic sinter filter
(standard)

AFTM-LQ-CO2-W
with display and
plastic sinter filter
(standard)

TECHNICAL DATA (continued)

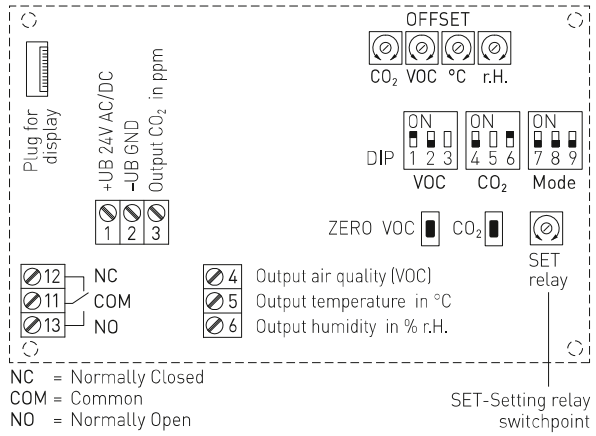
Pressure dependence:	± 0.13 % / mm Hg
Long-term stability:	< 2 % in 15 years
Gas exchange:	by diffusion
Ambient temperature:	–10...+60 °C
Response time:	< 2 minutes
Electrical connection:	0.14 - 1.5 mm², via screw terminals
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), housing cover for display is transparent!
Housing dimensions:	126 x 90 x 50 mm (Tyr 2)
Cable connection:	**cable gland**, plastic (M 16 x 1.5; with strain relief, exchangeable, max. inner diameter 10.4 mm) **or** **M12 connector** according to DIN EN 61076-2-101 (optional on request)
Protective tube:	**stainless steel V2A** (1.4301), Ø 16 mm, NL = 55 mm
Process connection:	by screws
Protection class:	III (according to EN 60730)
Protection type:	**IP 65** (according to EN 60529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC Directive 2014 / 30 / EU
Optional:	three-line **display with illumination,** cutout approx. 70 x 40 mm (W x H), for displaying actual humidity, actual temperature, air quality and / or the actual CO2 content

AERASGARD® ACO2-W / ALQ-CO2-W
AERASGARD® AFTM-(LQ)-CO2-W / ATM-CO2-SD

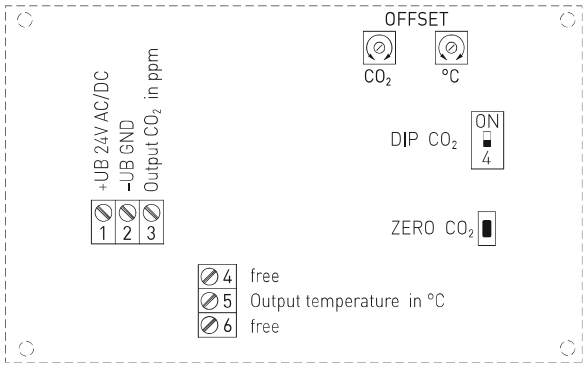
Multifunctional on-wall sensors and measuring transducers, for humidity, temperature, CO2 content and air quality (VOC), calibratable, with active/switching output

S+S REGELTECHNIK

Schematic diagram **AFTM-LQ-CO2-W**



Schematic diagram **ATM-CO2-SD**



DIP switches	AFTM-LQ-CO2-W	
VOC sensitivity	**DIP 1**	**DIP 2**
LOW	OFF	OFF
MEDIUM (default)	**ON**	OFF
HIGH	OFF	**ON**
IAQ (Indoor Air Quality)	**ON**	**ON**
CO2 content		**DIP 4**
0...2000 ppm (default)		OFF
0...5000 ppm		**ON**
CO2 automatic zero point		**DIP 6**
deactivated		OFF
activated (default)		**ON**
Relay assignment	**DIP 7**	**DIP 8**
CO2 (default): 600...1900 ppm / 900...4700 ppm	OFF	OFF
VOC: 10...95 %	**ON**	OFF
Temperature: –23...+74 °C	OFF	**ON**
Humidity: 10...95% r.H.	**ON**	**ON**
Output		**DIP 9**
Voltage 0-10 V (default)		OFF
Current 4...20 mA		**ON**
Note: **DIP 3** and **DIP 5** are not assigned!		

DIP switches	ATM-CO2-SD
CO2 content	**DIP 4**
0...2000 ppm (default)	OFF
0...5000 ppm	**ON**

Level	IAQ (Indoor Air Quality)	VOC
1	**excellent** no action required	**0...19 %**
2	**good** prompt airing recommended	**20...39 %**
3	**moderate** airing recommended	**40...59 %**
4	**poor** increased airing required	**60...79 %**
5	**unhealthy** intense airing necessary	**80...100 %**

Table according to TVOC guidelines of the German Federal Environmental Agency to assess indoor air contamination
(Bundesgesundheitsbl - Gesundheitsforsch - Gesundheitsschutz 2007, 50: 990–1005)

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AFTM-LQ-CO2-W
with display

Humidity table
MR: 0...100 % r. H.

% r.H.	U_A in V	I_A in mA	% r.H.	U_A in V	I_A in mA
0	0	4.0	**60**	6.0	13.6
5	0.5	4.8	**65**	6.5	14.4
10	1.0	5.6	**70**	7.0	15.2
15	1.5	6.4	**75**	7.5	16.0
20	2.0	7.2	**80**	8.0	16.8
25	2.5	8.0	**85**	8.5	17.6
30	3.0	8.8	**90**	9.0	18.4
35	3.5	9.6	**95**	9.5	19.2
40	4.0	10.4	**100**	10.0	20.0
45	4.5	11.2			
50	5.0	12.0			
55	5.5	12.8			

Continued at the right ...

Temperature table
MR: –35...+80 °C

°C	U_A in V	I_A in mA	°C	U_A in V	I_A in mA
-35	0.0	4.0	**+25**	5.2	12.3
-30	0.4	4.7	**+30**	5.7	13.0
-25	0.9	5.4	**+35**	6.1	13.7
-20	1.3	6.1	**+40**	6.5	14.4
-15	1.7	6.8	**+45**	7.0	15.1
-10	2.2	7.5	**+50**	7.4	15.8
-5	2.6	8.2	**+55**	7.8	16.5
0	3.0	8.9	**+60**	8.3	17.2
+5	3.5	9.6	**+65**	8.7	17.9
+10	3.9	10.3	**+70**	9.1	18.6
+15	4.3	11.0	**+75**	9.6	19.3
+20	4.8	11.7	**+80**	10.0	20.0

Continued at the right ...

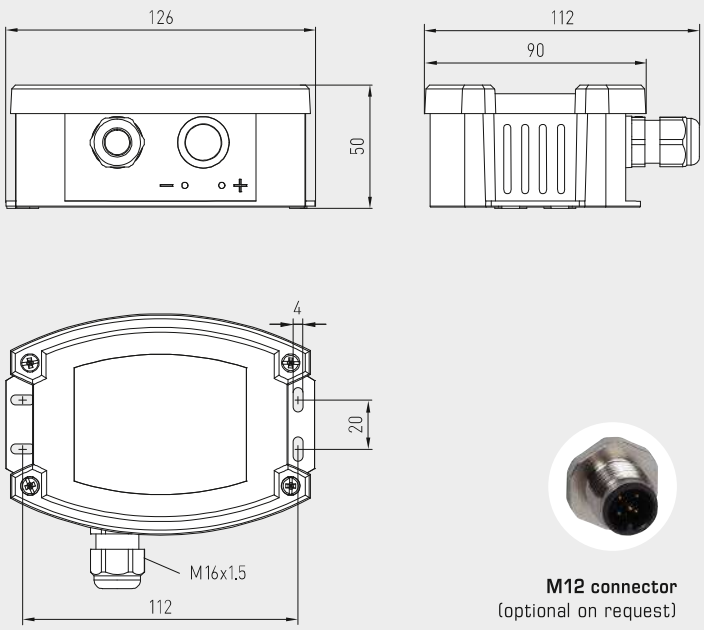
AERASGARD® ACO2-W / ALQ-CO2-W
AERASGARD® AFTM-(LQ)-CO2-W / ATM-CO2-SD

Multifunctional on-wall sensors and measuring transducers, for humidity, temperature, CO2 content and air quality (VOC), calibratable, with active/switching output

S+S REGELTECHNIK

Dimensional drawing

ACO2-W
ALQ-CO2-W

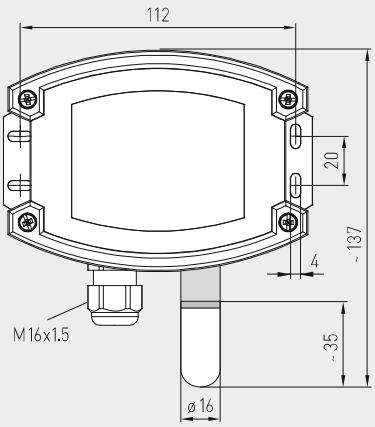


M12 connector
(optional on request)

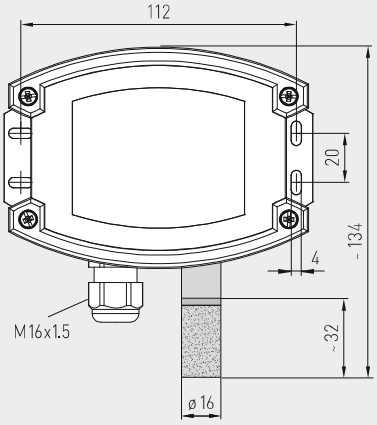
ACO2-W
ALQ-CO2-W

Dimensional drawing

AFTM-CO2-W
AFTM-LQ-CO2-W
ATM-CO2-SD



SF-K
plastic sinter filter
(standard)



SF-M
metal sinter filter
(optional)

AFTM-CO2-W
AFTM-LQ-CO2-W
ATM-CO2-SD
with metal sinter filter
(optional)

AERASGARD® ACO2-W / ALQ-CO2-W
AERASGARD® AFTM-(LQ)-CO2-W / ATM-CO2-SD

Multifunctional on-wall sensors and measuring transducers, for humidity, temperature, CO2 content and air quality (VOC), calibratable, with active/switching output

WS-03
Weather and sun protection hood (optional)

AFTM-CO2-W
AFTM-LQ-CO2-W
ATM-CO2-SD
with plastic sinter filter (standard)

AERASGARD® ATM-CO2-SD	On-wall temperature and CO2 sensor, *Standard*
AERASGARD® ACO2-W	On-wall CO2 sensor, *Premium*
AERASGARD® ALQ-CO2-W	On-wall air quality (VOC) and CO2 sensor, *Premium*
AERASGARD® AFTM-CO2-W	Multifunctional on-wall sensor for humidity, temperature and CO2 content, *Deluxe*
AERASGARD® AFTM-LQ-CO2-W	Multifunctional on-wall sensor for humidity, temperature, CO2 content and air quality (VOC), *Deluxe*

Typ / WG02	Measuring Range Humidity	Temperature	CO2	VOC	Equipment Display	Item No. (Baldur 2)	Price
ATM-CO2-SD			(switchable)				
ATM-CO2-SD-U	–	–35…+80 °C	0…2000 / 5000 ppm	–	–	1501-7112-1001-200	**296,79 €**
ACO2-W			(switchable)				
ACO2-W (without display)	–	–	0…2000 / 5000 ppm	–	W	see **ACO2-W / ACO2-SD**	
ACO2-W **LCD**	–	–	0…2000 / 5000 ppm	–	W ■	1501-7110-7371-200	**391,86 €**
ALQ-CO2-W			(switchable)				
ALQ-CO2-W	–	–	0…2000 / 5000 ppm	0…100 %	W	1501-7111-7301-500	**446,15 €**
ALQ-CO2-W **LCD**	–	–	0…2000 / 5000 ppm	0…100 %	W ■	1501-7111-7371-500	**503,69 €**
AFTM-CO2-W			(switchable)				
AFTM-CO2-W	0…100 % r.H.	–35…+80 °C	0…2000 / 5000 ppm	–	W	1501-7116-7301-200	**428,49 €**
AFTM-CO2-W **LCD**	0…100 % r.H.	–35…+80 °C	0…2000 / 5000 ppm	–	W ■	1501-7116-7371-200	**514,18 €**
AFTM-LQ-CO2-W			(switchable)				
AFTM-LQ-CO2-W	0…100 % r.H.	–35…+80 °C	0…2000 / 5000 ppm	0…100 %	W	1501-7118-7301-500	**561,12 €**
AFTM-LQ-CO2-W **LCD**	0…100 % r.H.	–35…+80 °C	0…2000 / 5000 ppm	0…100 %	W ■	1501-7118-7371-500	**671,68 €**
Outputs:	**0-10 V or 4…20 mA** (selectable via DIP switches, selected variant applies for all outputs) – *Standard* on-wall sensor **ATM-CO2-SD** with fixed output 0-10 V!						
Equipment:	**W = changeover contact** – *Standard* on-wall sensor **ATM-CO2-SD** without changeover contact!						
Optional:	Cable connection with **M12 connector** according to DIN EN 61076-2-101 (on request)						
Note:	This unit **must not** be used as safety-relevant device!						
ACCESSORIES							
SF-M	**Metal** sinter filter, Ø 16 mm, L = 32 mm, exchangeable stainless steel **V4A** (1.4404)					7000-0050-2200-100	**40,31 €**
WS-03	**Weather and sun protection hood**, 200 x 180 x 150 mm, stainless steel **V2A** (1.4301)					7100-0040-6000-000	**42,61 €**
	For further information see last chapter!						

AERASGARD® APS-SD

Fine dust sensor / particulate sensor, on-wall sensor and measuring transducer, with multi-range switching and active output

NEW

S+S REGELTECHNIK

Maintenance-free on-wall sensor **AER**ASGARD® **APS-SD** with active output, in an impact-resistant plastic housing with quick-locking screws, for measuring the fine-dust content (0...500 µg /m³).
The measuring transducer converts the measured values into a standard signal of 0-10 V.

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

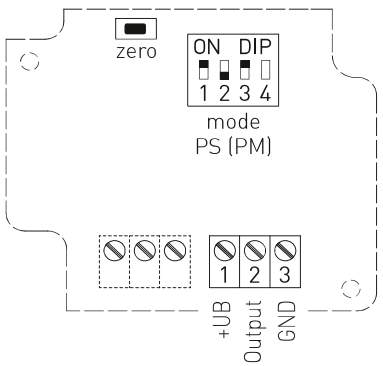
An optical **fine dust sensor** precisely detects **particulate (PM)** of the size category 0.3 to 10 micrometres. The sensor is factory-calibrated.

TECHNICAL DATA

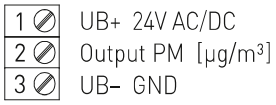
Power supply:	24 V AC / DC (± 10 %)
Power consumption:	typical < 1.5 W / 24 V DC; < 2.9 VA / 24 V AC
Output:	0-10 V
FINE DUST (PM)	
Sensor (PM):	optical **particulate sensor** (**PM** = particulate matter), **fine-dust sensor** with laser- and soiling-resistant technology
Measuring range:	multi-range switching (selectable via DIP switches) 0...50, 0...100, 0...300 or 0...500 µg/m³
Particle size:	**PM 2.5** (0.3...2.5 µm); **PM 10** (0.3...10 µm)
Measuring accuracy:	typical ± 10 µg/m³ (± 10% of the measured value) for PM 2.5 typical ± 25 µg/m³ (± 25% of the measured value) for PM 10
Long-term stability:	± 1.25 µg/m³ (± 1.25 % of measured value/year)
Service life:	> 10 years
Response time:	< 2 minutes
Warm-up time:	approx. 1 hour
Ambient temperature:	0...+ 50 °C
Permitted humidity:	0...95 % r. H. (non-precipitating air)
Housing:	plastic, UV-resistant, polyamide material, 30 % glass-globe reinforced, with quick-locking screws (slotted/Phillips head combination) colour traffic white (similar to RAL 9016)
Housing dimensions:	126 x 90 x 50 mm (Tyr 2)
Cable connection:	**cable gland** plastic (M 16 x 1.5; with strain relief, exchangeable, max. inner diameter 10.4 mm) **or** **M12 connector** according to DIN EN 61076-2-101 (optional on request)
Electrical connection:	0.14–1.5 mm², via screw terminals
Process connection:	via screws
Protection class:	III (according to EN 60 730)
Safety class:	**IP 30** (according to EN 60 529)
Standards:	CE-conformity, electromagnetic compatibility according to EN 61 326, EMC Directive 2014 / 30 / EU

DIP switch	APS-SD	
Fine dust (PM) Measuring range	**DIP 1**	**DIP 2**
0...50 µg/m³	OFF	OFF
0...100 µg/m³ (default)	**ON**	OFF
0...300 µg/m³	OFF	**ON**
0...500 µg/m³	**ON**	**ON**
Fine dust (PM) Particle size		**DIP 3**
PM 2.5 (default)		**ON**
PM 10		OFF
Note: **DIP 4** is not assigned !		

Schematic diagram **APS-SD**

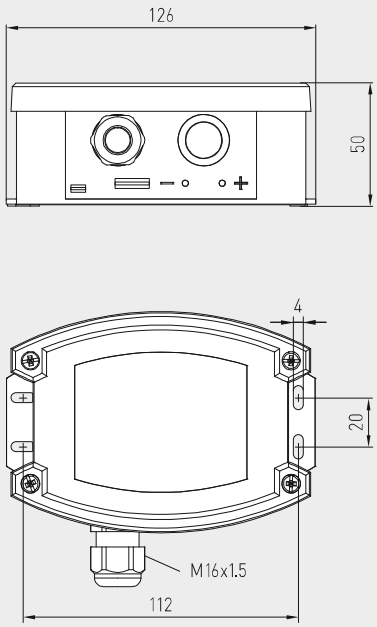


Connecting diagram **APS-SD**



Fine dust sensor / particulate sensor, on-wall sensor and measuring transducer, with multi-range switching and active output

Dimensional drawing **APS-SD**



M12 connector
(optional on request)

APS-SD

AERASGARD® APS-SD	On-wall fine dust sensor / fine dust sensor / particulate sensor (PM), *Standard*				
Type / WG02	**Measuring Range**	**Particle size**	**Output**	**Item No.**	**Price**
APS-SD	(switchable)	(switchable)			
APS SD-U	0... 50 µg/m³ 0...100 µg/m³ 0...300 µg/m³ 0...500 µg/m³	PM 2.5 PM 10	0-10 V	1501-7130-1001-000	**393,88 €**
Optional:	Cable connection with **M12 connector** according to DIN EN 61076-2-101 (on request)				
Note:	This unit **must not** be used as safety-relevant device!				

HVAC & BYGNINGS-
AUTOMATIK

VORES PRODUKTSORTIMENT INKLUDERER:

CONTROLLER - RUMFØLERE

TEMP. AKTIV - RUMFØLERE

TEMP. AKTIV - UDEFØLERE

CO2- & VOCFØLERE

MODBUS/BACNET

LUFTKVALITETS- & FLOWFØLERE

VI FØRER PRODUKTER INDENFOR KATEGORIERNE:

AUTOMATIK

ELVARME

KØLEPROFILER

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