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

RLQ-W
RLQ-SD

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.

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.

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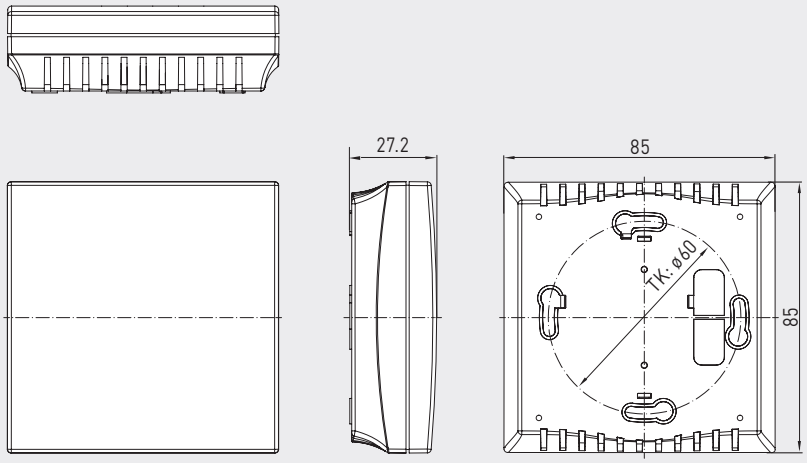
Dimensional drawing

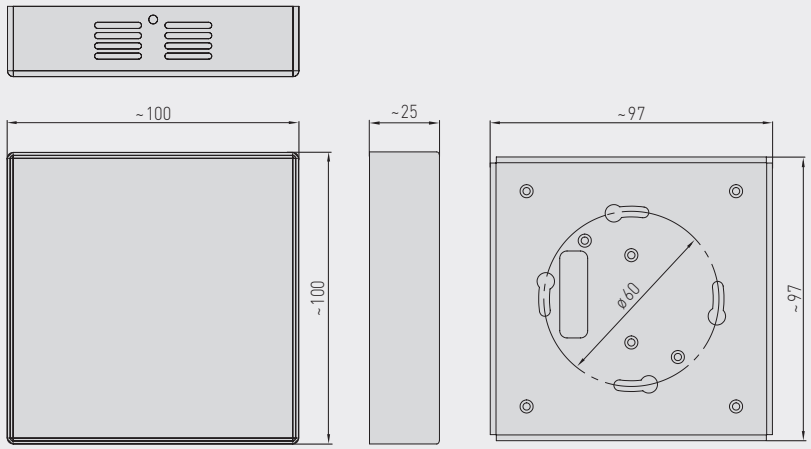
RLQ-W
RLQ-SD



RLQ-W-A
with LEDs

Dimensional drawing

RLQ-W VA



RLQ-W VA
(stainless steel housing)

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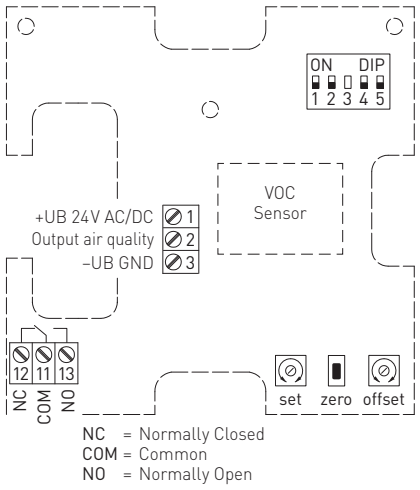
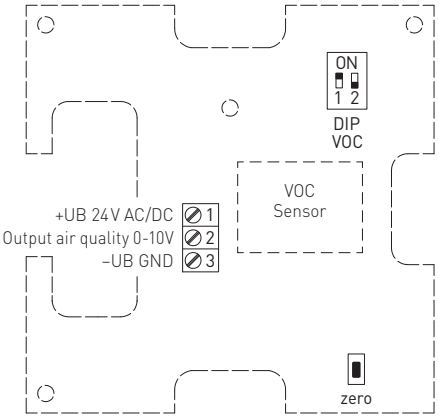
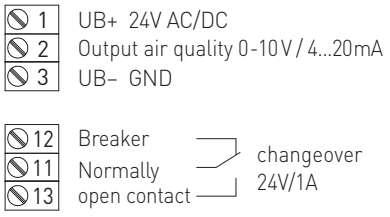
Connecting diagram **RLQ-W**



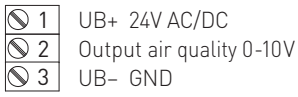
Connecting diagram **RLQ-SD**



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 0-10V (default)		OFF
Current 4...20mA		**ON**
Traffic light (5x LEDs)		**DIP 5**
deactivated		OFF
activated		**ON**
Note: **DIP 3** is not assigned!		

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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)*

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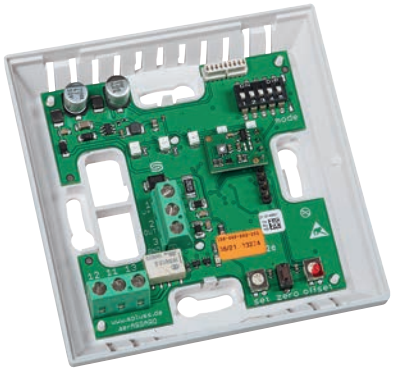
Traffic light indicator					RLQ-W-A
VOC content	**LED 1** green	**LED 2** green	**LED 3** yellow	**LED 4** yellow	**LED 5** red
0 %	25 %	–	–	–	–
5 %	50 %	–	–	–	–
10 %	75 %	–	–	–	–
15 %	**100 %**	–	–	–	–
20 %		25 %	–	–	–
25 %		50 %	–	–	–
30 %		75 %	–	–	–
35 %		**100 %**	–	–	–
40 %			25 %	–	–
45 %			50 %	–	–
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	**172,35 €**
RLQ-W		(switchable)			
RLQ-W	0...100 %	0-10 V / 4...20 mA	Changeover contact	1501-61C0-7301-500	**180,64 €**
RLQ-W VA	0...100 %	0-10 V / 4...20 mA	Changeover contact, stainless steel housing	1501-61C0-7301-505	**288,87 €**
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	**206,10 €**
	A = with "traffic light" (five coloured LEDs) for displaying the air quality (VOC).				
Note:	This unit **must not** be used as safety-relevant device!				