

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

Maintenance-free room sensor **AERASGARD® RLQ - SD** with active output, calibratable, 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 0-10V.

Maintenance-free room sensor **AERASGARD® RLQ - W** with active/switching output, calibratable, 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 0-10V or 4...20mA (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 (SLOW), medium (NORMAL) or high (FAST) VOC sensitivity can be selected.

**RLQ - W
RLQ - SD**



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:	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) Switching point can be set via SET-Potentiometer, Setting range 10...95% of set measuring range, Hysteresis 1% of set measuring range
Measurand:	VOC [%]
Sensor:	VOC sensor (metal oxide) with automatic air quality algorithm (volatile organic compounds)
Measuring range:	0...100% air quality (0% = clean air / 100% = polluted air), referred to calibrating gas, multi-range switching VOC sensitivity SLOW / NORMAL / FAST (selectable via DIP switches)
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
Warm-up time:	approx. 1 hour
Response time:	approx. 1 minute
Gas exchange:	by diffusion
Ambient temperature:	0...+50 °C
Electrical connection:	0.14 - 1.5 mm ² , via screw terminals
Housing:	Plastic, flame retardant (UL 94 V-0), PC/ABS material, colour white (similar to RAL 9016), optional stainless steel V2A (1.4301)
Housing 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, Ø55 mm, base with 4-hole for mounting on vertically or horizontally installed in-wall flush boxes for cable entry from the back, with predetermined breaking point for on-wall cable entry from top / bottom in case of plain on-wall installation
Protection class:	III (according to EN 60 730)
Protection type:	IP 30 (according to EN 60 529)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU, Low Voltage Directive 2014 / 35 / EU
Optional:	with traffic light indicator (five coloured LEDs, see table) for displaying the air quality



S+S REGELTECHNIK

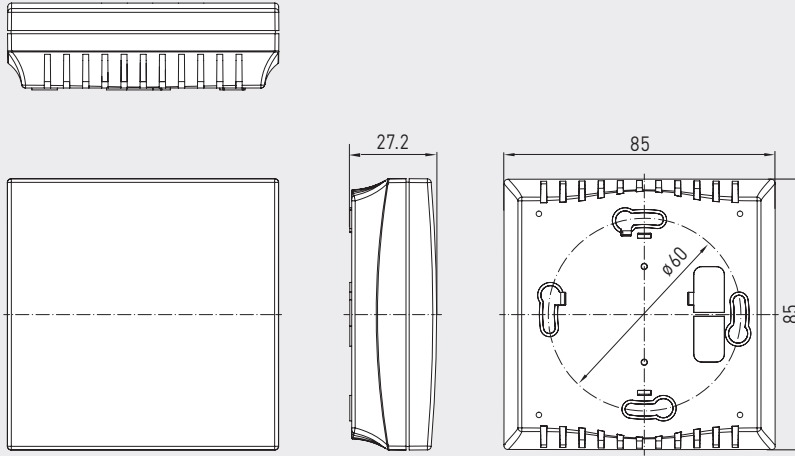
AERASGARD® RLQ-W
AERASGARD® RLQ-SD

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



Dimensional drawing

RLQ-W
RLQ-SD

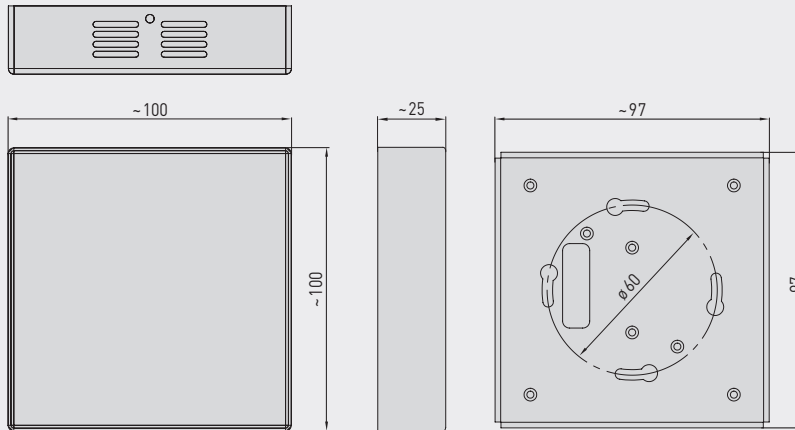


RLQ-W-A
with LEDs



Dimensional drawing

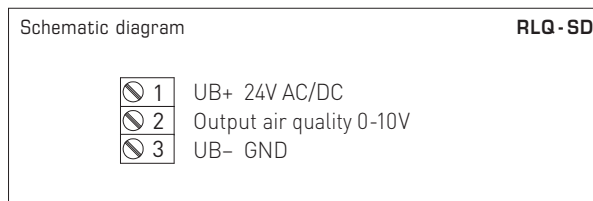
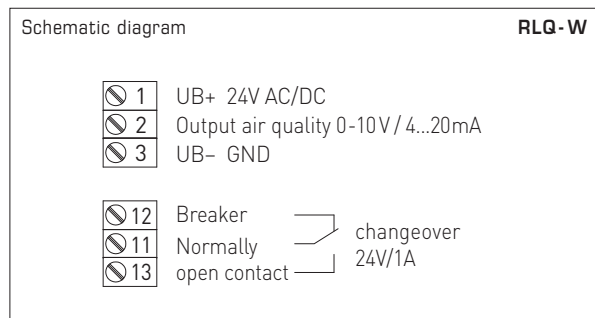
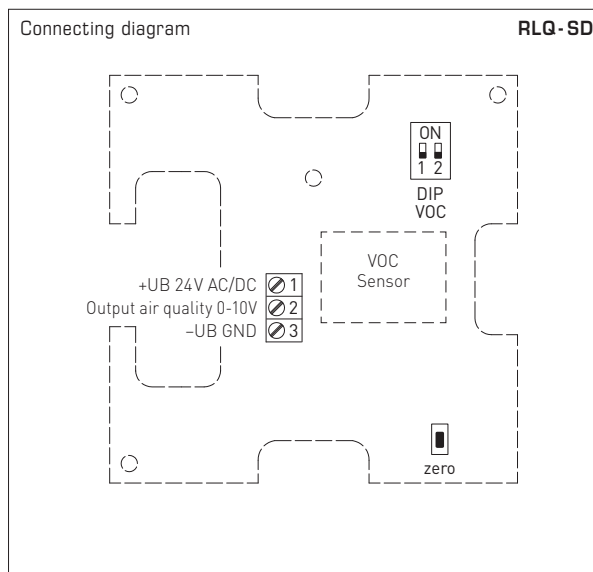
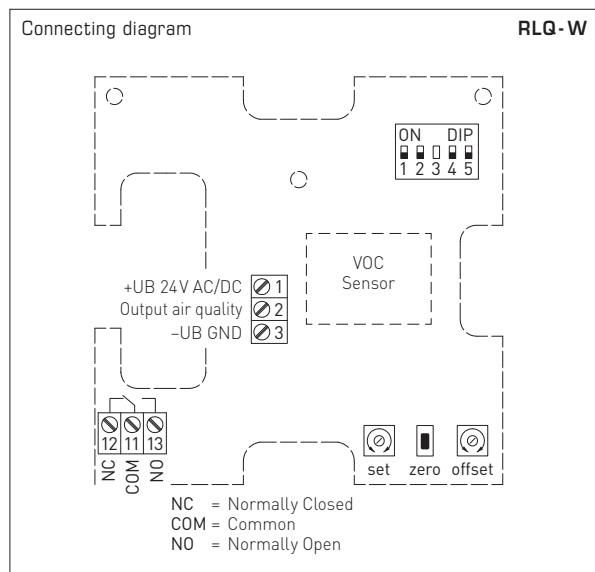
RLQ-W VA



RLQ-W VA
(stainless steel housing)



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



DIP switches		RLQ - W	
VOC sensitivity		DIP 1	DIP 2
FAST		ON	ON
SLOW		ON	OFF
NORMAL (default)		OFF	OFF
Output		DIP 4	
Current 4...20 mA		ON	
Voltage 0-10 V (default)		OFF	
Traffic light (5x LED)		DIP 5	
activated		ON	
deactivated		OFF	
Note: DIP 3 is not assigned!			

DIP switches		RLQ - SD	
VOC sensitivity		DIP 1	DIP 2
FAST		ON	ON
SLOW		ON	OFF
NORMAL (default)		OFF	OFF

Level	Air Quality Index (AQI)	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.

% VOC	U _A [V]	I _A [mA]
0	0.0	4.0
5	0.5	4.8
10	1.0	5.6
15	1.5	6.4
20	2.0	7.2
25	2.5	8.0
30	3.0	8.8
35	3.5	9.6
40	4.0	10.4
45	4.5	11.2
50	5.0	12.0

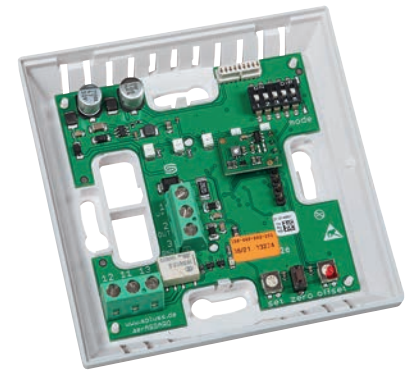
% VOC	U _A [V]	I _A [mA]
50	5.0	12.0
55	5.5	12.8
60	6.0	13.6
65	6.5	14.4
70	7.0	15.2
75	7.5	16.0
80	8.0	16.8
85	8.5	17.6
90	9.0	18.4
95	9.5	19.2
100	10.0	20.0



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	-	1501-61C0-1001-600	190,16 €
RLQ-W		(switchable)			
RLQ-W	0...100 %	0-10 V / 4...20 mA	Changeover contact	1501-61C0-7301-600	199,31 €
RLQ-W VA	0...100 %	0-10 V / 4...20 mA	Changeover contact, stainless steel housing	1501-61C0-7301-605	318,72 €
RLQ-W-A		(switchable)		with traffic light	
RLQ-W-A	0...100 %	0-10 V / 4...20 mA	Changeover contact, LED	1501-61C0-7331-600	227,39 €

A = with "traffic light" (five coloured LEDs) for displaying the air quality (VOC).

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