

Duct air quality sensors (VOC) and measuring transducers,  
including installation flange, self-calibrating, with multi-range switching  
and active/switching output

**Patented quality product (patent no. DE 10 2014 010 719.1)**

The maintenance-free microprocessor-controlled duct sensor **AERASGARD® KLQ-SD** with automatic calibration (fixed), enclosure with snap-on lid, is used for determining the air quality based on a mixed gas sensor/VOC sensor. The measurement value is converted into standard signal of 0-10V.

The maintenance-free microprocessor-controlled duct sensor **AERASGARD® KLQ-W** with automatic calibration (can be deactivated via DIP switches), enclosure with quick-locking screws, is used for determining the air quality or based on a mixed gas sensor/VOC sensor. The measurement value is converted into standard signal of 0-10V or 4...20 mA.

It is used

- For air quality measurement in offices, hotels, meeting rooms and convention centres, apartments, stores, and restaurants, etc.
- For quantitative evaluation of room air pollution with contaminating gases (cigarette smoke, body perspiration, exhaled breathing air, solvent vapours, emissions from building members and cleaning agents)
- For adjustable sensitivity regarding the maximum air contamination to be expected
- For room ventilation as-needed, enabled by air changes only taking place when air is polluted while conserving energy at the same time.

The sensor's service life depends on the type of burden and gas concentration and is more than 60 months under normal load conditions. The new design allows you to choose between three sensitivity ranges that are adjusted using DIP switches, giving you three measuring ranges: LOW for low, MEDIUM (default) for medium, and HIGH for high VOC sensitivity. VOC is the abbreviation for volatile organic compounds. According to the definition by the World Health Organization WHO, VOC are organic substances with a boiling range from +60 to +250 °C. Examples of VOCs include compounds of the substance groups alkanes / alkenes, aromatic compounds, terpenes, halogenated hydrocarbons, esters, aldehydes, and ketones. There is a large number of naturally occurring VOCs, some of which are also released into the atmosphere in substantial quantities, e.g. terpenes and isoprene from forests. For more information, please refer to beginning of this 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:	VOC sensor (metal oxide) (VOC = volatile organic compounds), with manual calibration (via zero button), <b>KLQ-SD</b> with automatic calibration (fixed) <b>KLQ-W</b> with automatic calibration (can be deactivated via DIP switches)
Measuring range:	0...100% air quality; referred to calibrating gas; <b>multi-range switching</b> (selectable via DIP switches) VOC sensibility low, medium, high
Output:	(0 V = clean air, 10 V = polluted air) <b>KLQ-SD</b> 0-10 V (fixed) <b>KLQ-W</b> 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:	<b>KLQ-SD</b> without changeover contact <b>KLQ-W</b> with potential-free <b>changeover contact</b> (24 V / 1 A), switchpoint adjustable
Measuring accuracy:	±20% of final value (referred to calibrating gas)
Service life:	> 60 months
Gas exchange:	by diffusion
Warm-up time:	approx. 1 hour
Response time:	approx. 1 minute, minimum flow rate 0.3 m/s (air)
Ambient temperature:	-10...+60 °C
Electrical connection:	0,14 - 1,5 mm <sup>2</sup> , via terminals
Enclosure:	plastic, UV-stabilised, material polyamide, 30% glass-globe-reinforced, colour traffic white (similar to RAL 9016), <b>KLQ-SD</b> with snap-on lid, <b>KLQ-W</b> with quick-locking screws (slotted / Phillips head combination)
Enclosure dimensions:	72 x 64 x 37,8 mm (Tyr 1/Tyr 01 without display) 72 x 64 x 43,3 mm (Tyr 1 with display)
Cable gland:	M 16 x 1,5, including strain relief, exchangeable, max. inner diameter 10,4 mm
Protective tube:	<b>PLEUROFORM™</b> , material polyamide (PA6), with torsion protection, Ø 20 mm, NL = 202,5 mm, v <sub>max</sub> = 30 m/s (air)
Process connection:	by mounting flange, plastic (included in the scope of delivery)
Protection class:	III (according to EN 60 730)
Protection type:	<b>KLQ-SD</b> IP 43 (according to EN 60 529) enclosure only! <b>KLQ-W</b> IP 65 (according to EN 60 529) enclosure only!
Standards:	CE conformity, electromagnetic compatibility according to EN 61 326, EMC Directive 2014 / 30 / EU
<b>ACCESSORIES</b>	See last chapter

**MFT-20-K**  
Mounting flange,  
plastic





S+S REGELTECHNIK

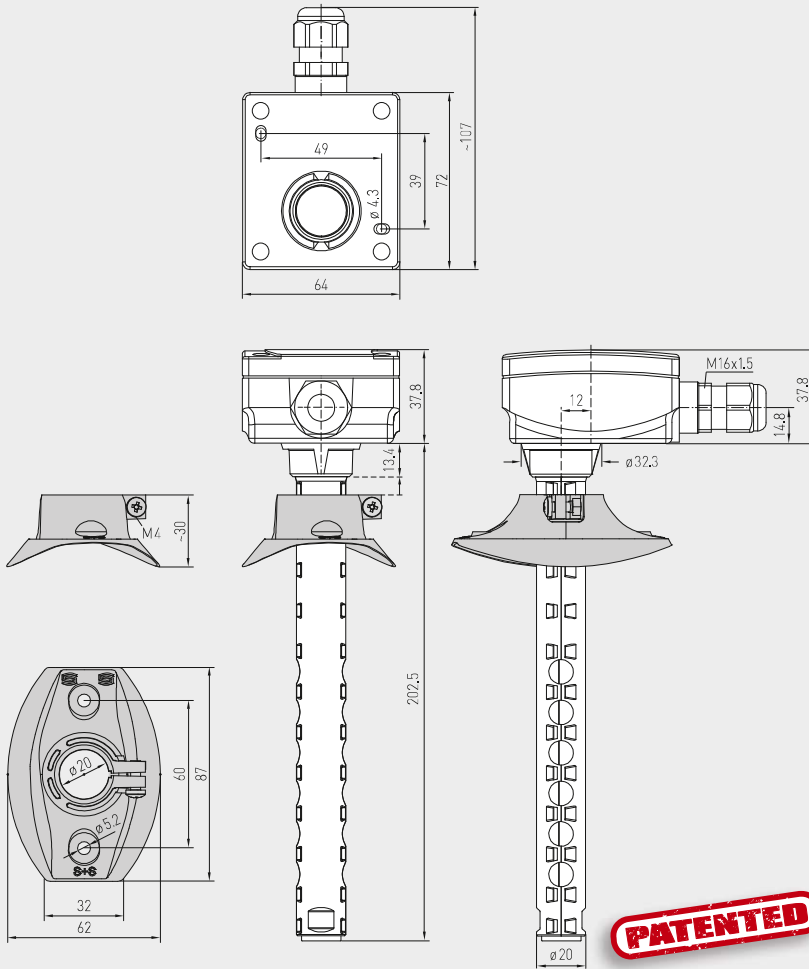
AERASGARD® KLQ-W  
AERASGARD® KLQ-SD

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Dimensional drawing

KLQ-W  
KLQ-SD



KLQ-SD  
with snap-on lid  
(IP 43)

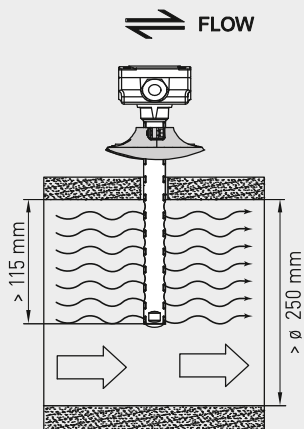


KLQ-W  
with quick-locking  
screws (IP 65)

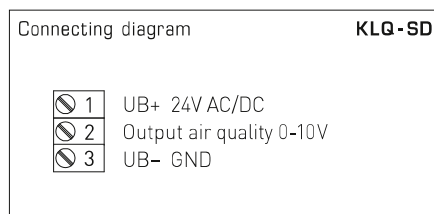
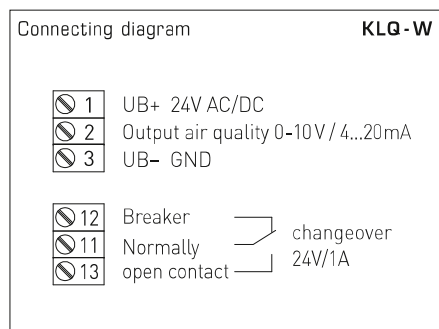
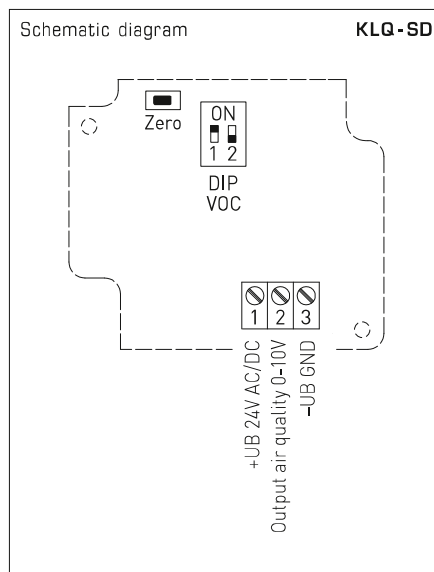
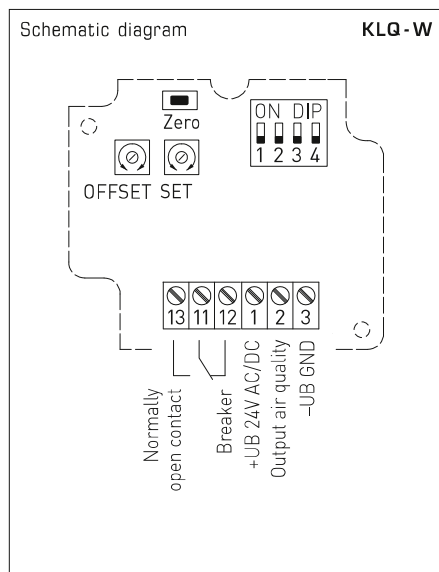


Mounting diagram

KLQ-W  
KLQ-SD



Duct air quality sensors (VOC) and measuring transducers,  
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DIP switches		<b>KLQ-W</b>	
VOC sensitivity	DIP 1	DIP 2	
LOW	OFF	OFF	
MEDIUM (default)	<b>ON</b>	OFF	
HIGH	OFF	<b>ON</b>	
VOC automatic zero point		<b>DIP 3</b>	
deactivated		OFF	
activated (default)		<b>ON</b>	
Output		<b>DIP 4</b>	
Voltage 0-10V (default)		OFF	
Current 4...20 mA		<b>ON</b>	

DIP switches		<b>KLQ-SD</b>	
VOC sensitivity	DIP 1	DIP 2	
LOW	OFF	OFF	
MEDIUM (default)	<b>ON</b>	OFF	
HIGH	OFF	<b>ON</b>	



**AERASGARD® KLQ-SD** Duct air quality sensor and measuring transducer, *Standard*  
**AERASGARD® KLQ-W** Duct air quality sensor and measuring transducer, *Premium*

Type / WG02	Measuring Range VOC	Output VOC	Equipment	Item No.	Price
<b>KLQ-SD</b>		(fixed)		<b>IP 43</b>	
KLQ-SD-U	0...100 %	0-10 V	–	1501-3170-1001-200	<b>189,00 €</b>
<b>KLQ-W</b>		(switchable)		<b>IP 65</b>	
KLQ-W	0...100 %	0-10 V / 4...20 mA	changeover contact	1501-3150-7301-200	<b>196,86 €</b>

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