

Duct air quality sensor (VOC) or measuring transducer, incl. mounting flange, calibratable, with multi-range switching and active (Automatic Output Switching) / switching output

Patented quality product (patent no. DE 10 2014 010 719.1 (FLOW), DE 10 2015 015 941 B4 (AOS))

Maintenance-free duct sensor **AERASGARD® KLQ-SD** with active output, calibratable, in an impact-resistant plastic housing with quick-locking screws, incl. mounting flange, for determining the air quality (0...100% VOC). The measuring transducer converts the measured values into a standard signal of 0-10 V.

Maintenance-free duct sensor **AERASGARD® KLQ-AW** with active/switching output, calibratable, in an impact-resistant plastic housing with quick-locking screws, incl. mounting flange, for determining the air quality (0...100% VOC). The measuring transducer automatically detects the required output type (**Automatic Output Switching**) and converts the measurands into a standard signal of 0-10 V or 4...20 mA.

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 contaminant load 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.

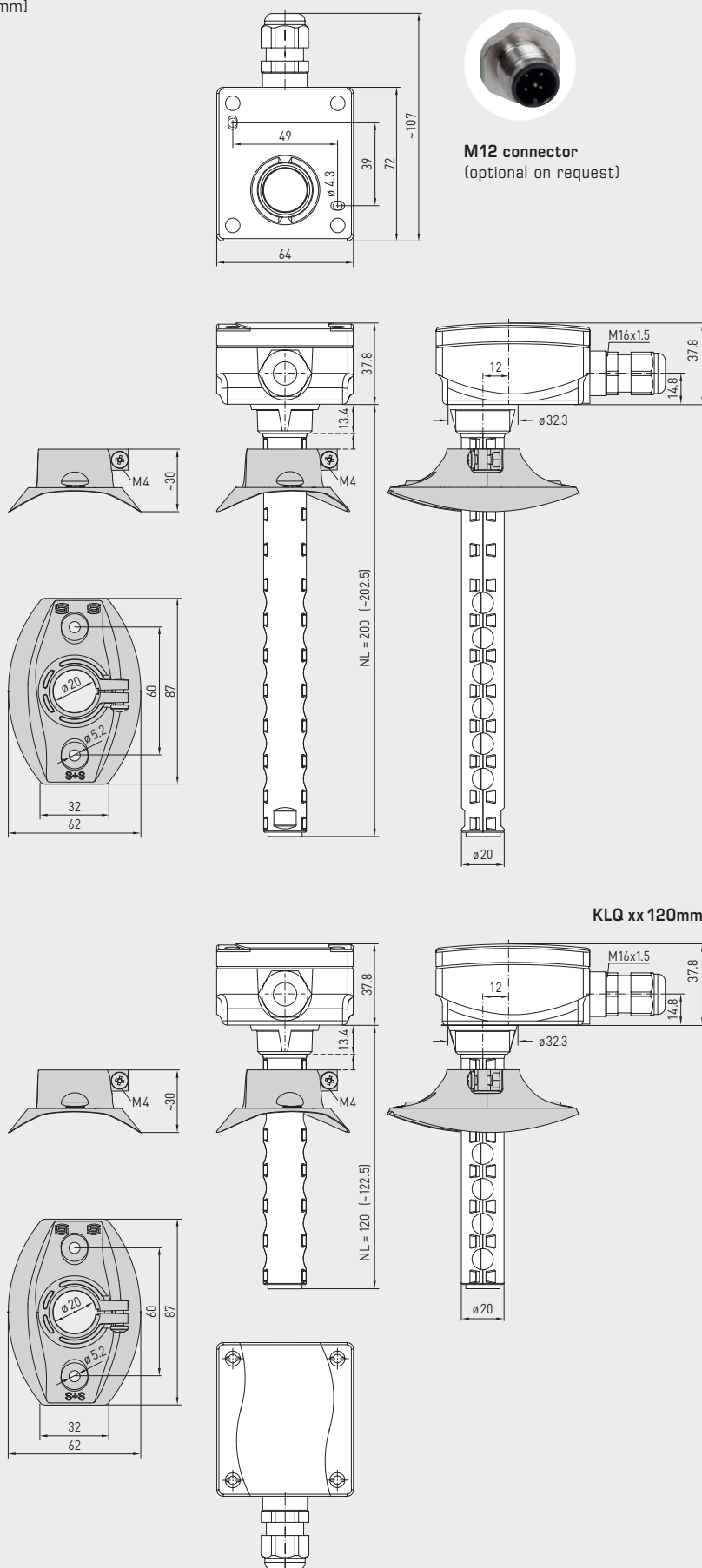
TECHNICAL DATA

Power supply:	24 V AC / DC ($\pm 10\%$)
Power consumption:	typical < 4.8 W / 24 V DC; < 6.8 VA / 24 V AC; peak current 200 mA
Output:	KLQ-SD 0-10 V (fixed) KLQ-AW automatic 0-10 V / 4...20 mA (Automatic Output Switching – the unit detects the required output type and automatically switches to U or I output), >15k Ω load at AOS-U / 25...450 Ω working resistance at AOS-I, with Offset potentiometer ($\pm 10\%$ of the measuring range)
Relay output:	KLQ-SD without changeover contact KLQ-AW 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:	typical $\pm 20\%$ of final value (referred to calibrating gas)
Service life:	> 60 months (under normal load conditions), depending on the type of loading and gas concentration
Pressure dependence:	$\pm 0.13\%$ per mm Hg
Long-term stability:	< 2% in 15 years
Response time:	< 2 minutes, minimum flow rate 0.3 m/s (air)
Warm-up time:	approx. 1 hour
Gas exchange:	by diffusion
Ambient temperature:	-10...+60 °C
Electrical connection:	0.14 - 1.5 mm ² , via screw terminals
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)
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:	72 x 64 x 37,8 mm (Tyr 1 without display)
Protective tube:	PLEUROFORM™ , material polyamide (PA6), with torsion protection, $\varnothing$ 20 mm, NL = 200 mm / 120 mm (shortened), $v_{\max} = 30$ m/s (air)
Process connection:	via flange made of plastic (included in scope of delivery)
Protection class:	III (according to EN 60 730)
Protection type:	IP 65 (according to EN 60 529)* Housing tested, TÜV SÜD, Report No. 713139052 (Tyr 1) * Housing in the built-in state (permeable PLEUROFORM: IP 30)
Standards:	CE conformity according to EMC Directive 2014 / 30 / EU

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Dimensional drawing
[mm]

KLQ xx



KLQ-SD
KLQ-AW



KLQ-SD 120mm
KLQ-AW 120mm

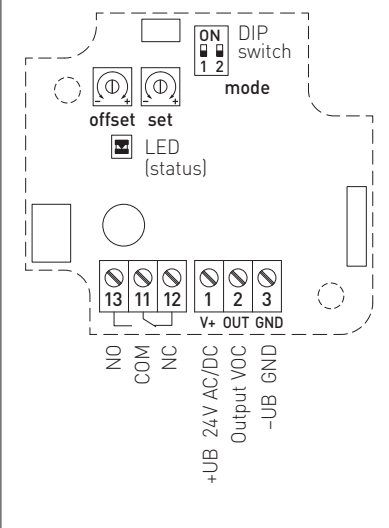


MFT-20-K

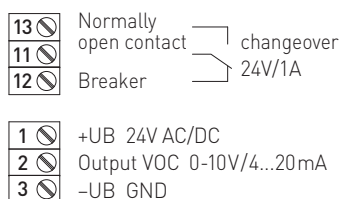
Mounting flange,
plastic



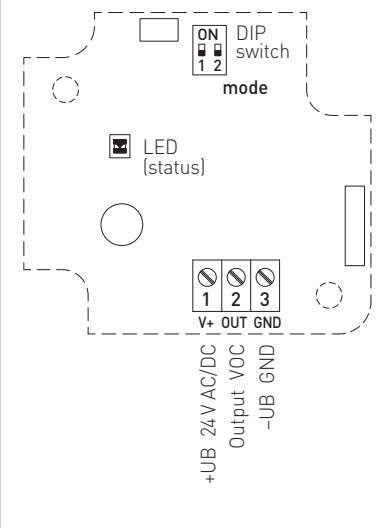
Schematic diagram (AOS) **KLQ-AW**



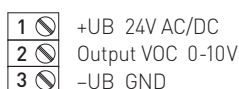
Connecting diagram (AOS) **KLQ-AW**



Schematic diagram (0-10 V) **KLQ-SD**

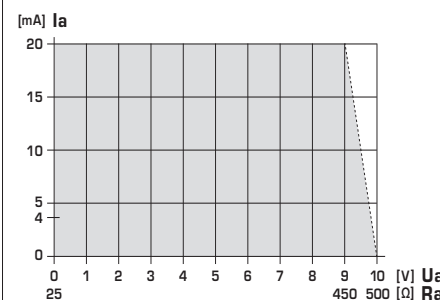


Connecting diagram (0-10 V) **KLQ-SD**

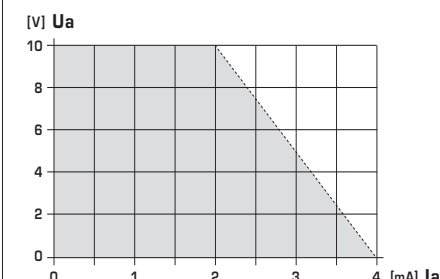


For further technical information,
see the operating instructions

Dependence of output voltage on output current **AOS-I**
4...20mA



Dependence of output current on output voltage **AOS-U**
0-10 V



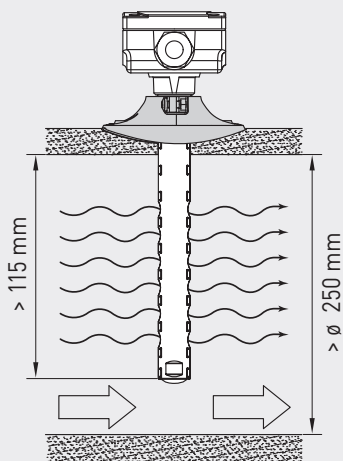
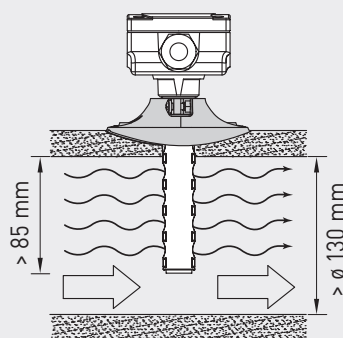
DIP switch		KLQ-AW / KLQ-SD	
VOC			
VOC sensitivity		DIP 1	DIP 2
FAST		ON	ON
SLOW		ON	OFF
NORMAL (default)		OFF	OFF

Automatic detection and switching
to standard signal 0...10V or 4...20 mA

AOS-PATENTED
AUTOMATIC OUTPUT SWITCHING

**NEW**

S+S REGELTECHNIK

AERASGARD® KLQ-SD
AERASGARD® KLQ-AWDuct air quality sensor (VOC) or measuring transducer, incl. mounting flange,
calibratable, with multi-range switching
and active (Automatic Output Switching) / switching output**PATENTED**Mounting diagram
(NL 200 mm)**PATENTED**Mounting diagram
(NL 120 mm)**AERASGARD® KLQ-SD** Duct air quality sensor, *Standard*
AERASGARD® KLQ-AW Duct air quality sensor with changeover contact, *Premium*

Type / WG02	Measuring ranges VOC	Output VOC	Equipment (NL)	Item No.
KLQ-SD		(fixed)		U variant
KLQ-SD-U 120mm	0...100 %	0-10 V	120 mm	– 1501-3170-1001-601
KLQ-SD-U	0...100 %	0-10 V	200 mm	– 1501-3170-1001-600
KLQ-AW		(automatic)		AOS
KLQ-AW 120MM	0...100 %	0-10 V / 4...20 mA	120 mm	W 1501-3150-E301-601
KLQ-AW	0...100 %	0-10 V / 4...20 mA	200 mm	W 1501-3150-E301-600
Output / equipment:	0-10 V / 4...20 mA (automatic via AOS) – W = with changeover contact For unit type 'SD', 0-10 V is permanently set – no 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!			