

# LK+ VOC V

Duct sensor for air quality

**thermokon**<sup>®</sup>  
HOME OF SENSOR TECHNOLOGY

## Datasheet

Subject to technical alteration  
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### » APPLICATION

Duct air quality sensor for detection of VOC. Designed for duct mounted applications with 0..10 V output.

### » TYPES AVAILABLE

**Duct sensor VOC – active 0..10 V**

- LK+ VOC V

**optionally with shorter sensor tube, type 100**

- LK+ VOC 100 V

*Options: additional passive temperature sensor, eg: PT100/PT1000/NI1000/NI1000TK5000/NTC10K... and other sensors on request.*

### » SECURITY ADVICE – CAUTION

The installation and assembly of electrical equipment should only be performed by authorized personnel.



The product should only be used for the intended application. Unauthorised modifications are prohibited! The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or assets. Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Please comply with

- Local laws, health & safety regulations, technical standards and regulations
- Condition of the device at the time of installation, to ensure safe installation
- This data sheet and installation manual

### » PRODUCT TESTING AND CERTIFICATION



#### Declaration of conformity

The declaration of conformity of the products are available on our website  
<https://www.thermokon.de/direct/en-gb/categories/lkplus>

### » NOTES ON DISPOSAL



The crossed-out wheeled bin symbol indicates that the product or removable batteries must not be disposed of with household or commercial waste. Within the EU, you are legally obliged to dispose of the product separately and appropriately in accordance with the national laws of your country. Alternatively, please contact your supplier or Thermokon Sensortechnik GmbH. Further information can be found at: [www.thermokon.com](http://www.thermokon.com)

## » GENERAL REMARKS CONCERNING SENSORS

Especially with regard to passive sensors in 2-wire conductor versions, the wire resistance of the supply wire has to be considered. If necessary the wire resistance has to be compensated by the follow-up electronics. Due to self-heating, the wire current affects the measurement accuracy, so it should not exceed 1 mA.

When using lengthy connection wires (depending on the cross section used) the measuring result might be falsified due to a voltage drop at the common GND-wire (caused by the voltage current and the line resistance). In this case, 2 GND-wires must be wired to the sensor - one for supply voltage and one for the measuring current.

Sensing devices with a transducer should always be operated in the middle of the measuring range to avoid deviations at the measuring end points. The ambient temperature of the transducer electronics should be kept constant. The transducers must be operated at a constant supply voltage ( $\pm 0,2$  V). When switching the supply voltage on/off, onsite power surges must be avoided.

## » APPLICATION NOTICE FOR AIR QUALITY SENSORS VOC

Volatile organic compounds (VOC) are gaseous and vaporous substances of organic origin in the air. VOC-sensors monitor the significant part of humanly olfactory sensed air quality. (e.g. body odor | tobacco smoke | odor of materials, furniture, carpets, paint, adhesives, ...)

**The VOC-Value is an application-specific indication for air quality and doesn't provide any information about individual components of VOC**

A VOC sensor oxidises the organic molecules that collide with it, which results in changing the resistance of the semiconductor.

**Any contact with the sensitive sensors must be avoided and will invalidate the warranty.**

The VOC Sensor is factory calibrated and can be calibrated via USEapp subsequently, if needed.

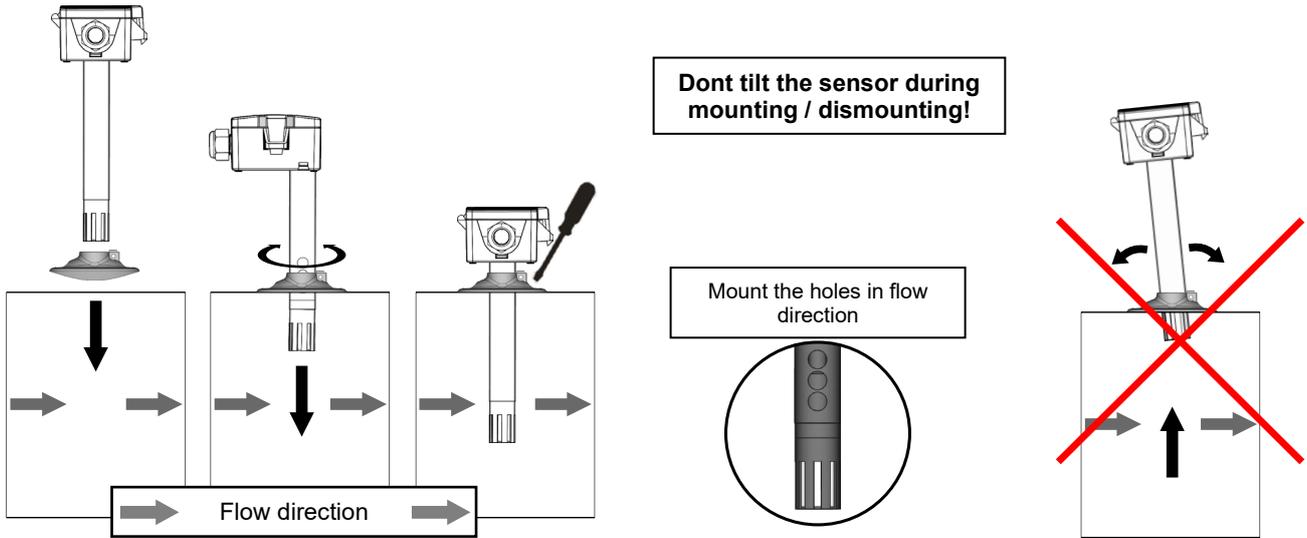
## » TECHNICAL DATA

Measuring values	VOC
Output voltage	0..10 V, min. load 10 k $\Omega$
Output passive	<b>Passive</b> Options: additional passive temperature sensor eg: PT100/PT1000/NI1000/NI1000TK5000/NTC10K... and other sensors on request
Power supply	15..35 V = or 19..29 V ~ SELV
Power consumption	max. 2,3 W (24 V =)   max. 4,3 VA (24 V ~)
Measuring range temp.	<b>Passive</b> depending on used sensor
Accuracy temperature	<b>Passive</b> depending on used sensor
Air speed	min. 0,3 m/s, max. 12 m/s
Sensor	NDIR (non-dispersiv, infrared)
Enclosure	enclosure USE-M, PC, pure white, cover PC, transparent, with removable cable entry
Protection	IP65 according to EN 60529
Cable entry	Flextherm M20, for wire $\varnothing=4,5..9$ mm, removable
Connection electrical	removable plug-in terminal, max. 2,5 mm <sup>2</sup>
Pipe	PA6, black, $\varnothing=19,5$ mm, length 150 mm, optional length 70 mm
Ambient condition	0..+50 °C, max. 85% rH short term condensation
Mounting	installation is also possible using mounting base

» **MOUNTING ADVICE**

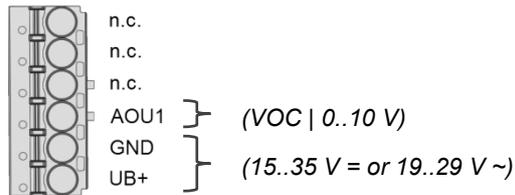
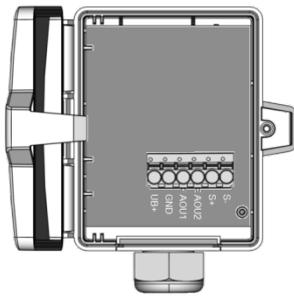
The sensor can be mounted on the ventilation duct by means of the mounting flange MF20 TPO (optional with mounting base). **Align the openings on the sensor tube according to the flow direction.** To prevent condensate permeation the pipe must be installed in an orientation that occurring condensate can run off.

Remove the lower section of the sensor carefully and pulling straight out.

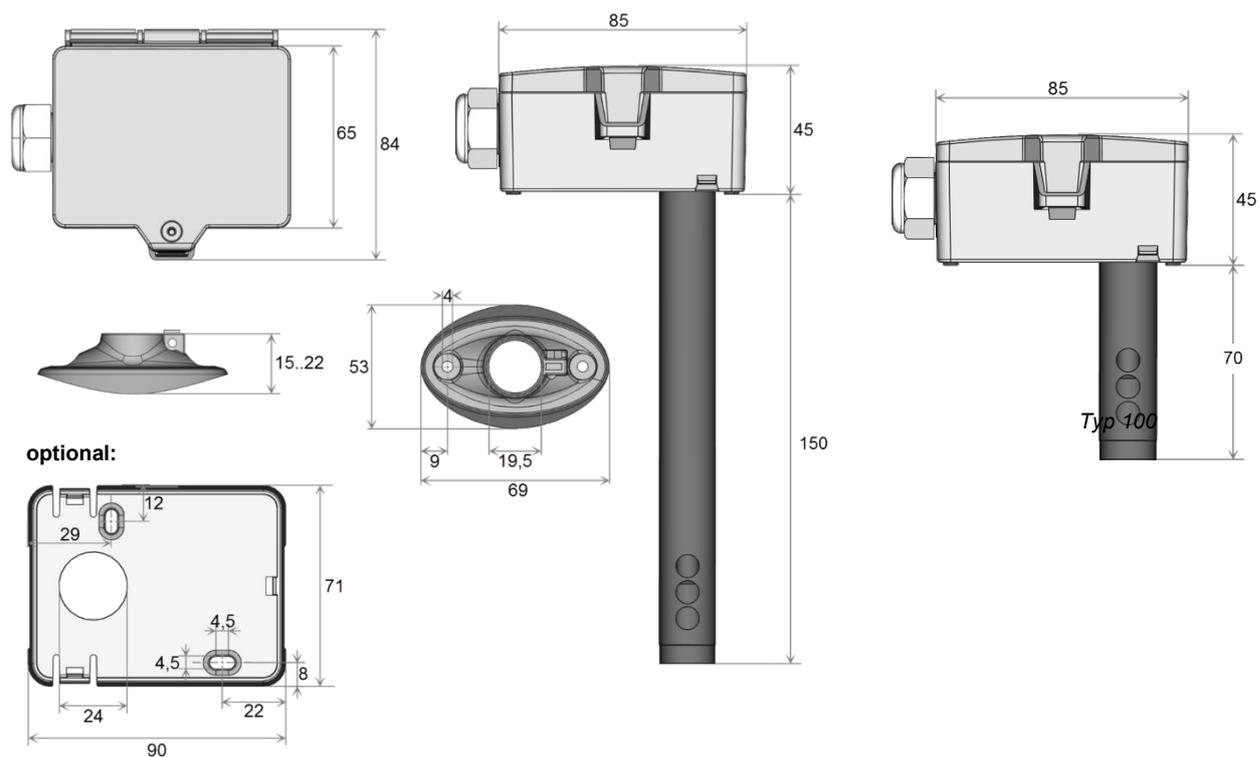


» **CONNECTION PLAN**

LK+ VOC (100) V



## » DIMENSIONS (MM)



## » ACCESSORIES (INCLUDED IN DELIVERY)

Mounting flange MF20

Item No. 612562

Mounting kit universal

Item No. 698511

• Cover screw + screw cover • 2 Rawplugs • 2 Screws (countersunk head) • 2 Screws (rounded head)

## » ACCESSORIES (OPTIONAL)

Mounting base

Item No. 631228

Filter stainless steel, wire mesh

Item No. 231169

Sealing insert M20 USE white, 2x Ø=7 mm (for 2 wire; PU 10 pieces)

Item No. 641333