FTK LON

Duct sensor for relative humidity and temperature with LON interface

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Data Sheet

Subject to technical alteration
Issue date: 18.05.2015

LONMARK®

Application

Duct humidity and temperature sensor for all HVAC duct applications. Designed for control and monitoring applications.

Types Available

FTK xxx LON	Duct sensor xxx=130/260/390 mm, with LON interface

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 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

Notes on Disposal

As a component of a large-scale fixed installation, Thermokon products are intended to be used permanently as part of a building or a structure at a pre-defined and dedicated location, hence the Waste Electrical and Electronic Act (WEEE) is not applicable. However, most Thermokon products contain valuable materials that should be recycled rather than disposed as domestic waste. Please note the relevant regulations for local disposal.

Build-up of Self-Heating by Electrical Dissipative Power

Temperature sensors with electronic components always have a dissipative power, which affects the temperature measurement of the ambient air. The dissipation in active temperature sensors shows a linear increase with rising operating voltage. This dissipative power has to be considered when measuring temperature. In case of a fixed operating voltage (±0,2 V) this is normally done by adding or reducing a constant offset value. As Thermokon transducers work with a variable operating voltage, only one operating voltage can be taken into consideration, for reasons of production engineering. Transducers 0..10 V / 4..20 mA have a standard setting at an operating voltage of 24 V =. That means, that at this voltage, the expected measuring error of the output signal will be the least. For other operating voltages, the offset error will be increased or lowered by a changing power loss of the sensor electronics. If a re-calibration should become necessary later directly on the sensor, this can be done by means of a trimming potentiometer on the sensor board.

Remark: Occurring draft leads to a better carrying-off of dissipative power at the sensor. Thus temporally limited fluctuations might occur upon temperature measurement.

Application Notice for Humidity Sensors

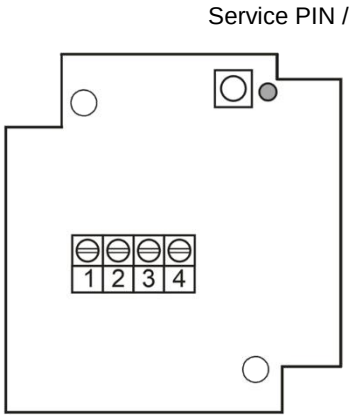
Refrain from touching the sensitive humidity sensor. Any touch of it will result in an expiration of warranty.

Under normal environmental conditions we recommend a recalibration interval of about 1 year to maintain the indicated accuracy. At high ambient temperatures and high humidity or when using the sensor in aggressive gases, an earlier recalibration or a change of the humidity sensor can become necessary. Such recalibrations or a probable sensor change are not part of the general warranty.

Technical Data

Measuring values	Temperature, humidity
Network technology	LON, communication FTT transceiver, free topology
Power supply	15..24 V = (±10%) or 24 V ~ (±10%)
Power consumption	typ. 0,7 W (24 V =) | 1,9 VA (24 V ~)
Measuring range temp	-20..+80 °C (active)
Scale range humidity	0..100% rH non condensed
Measuring range humidity	10..90% rH
Accuracy temperature	±0,3% at 25 °C
Accuracy humidity	typ. ±2% between 10..90% rH (typ. at 21 °C)
Enclosure	PA6, pure white
Protection	IP65 (mounted) according to EN 60529
Cable entry	M20 with double seal insert for 2 wires max. Ø=8 mm
Connection electrical	Terminal block max. 1,5 mm²
Pipe	PA6, black, Ø=19 mm, mounting length 130, 260 or 390 mm
Filter	PVDF Ambient condition -20...+70 °C, max. 85% rH non-condensed
Weight:	approx. 170 g

Connection Plan

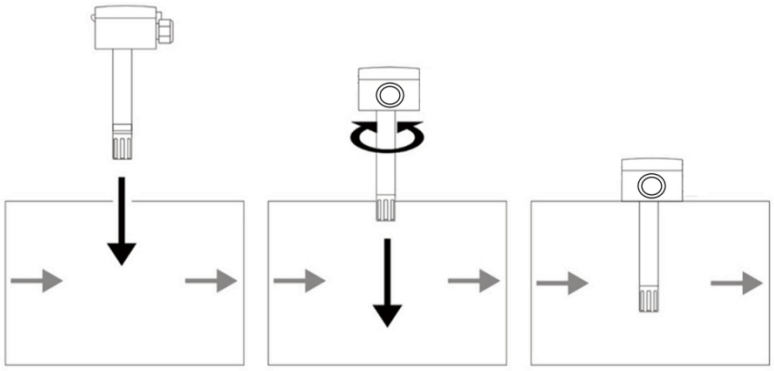


Clamp	
1	Uv 15..24 V = / 24 V ~
2	GND
3	LON A
4	LON B

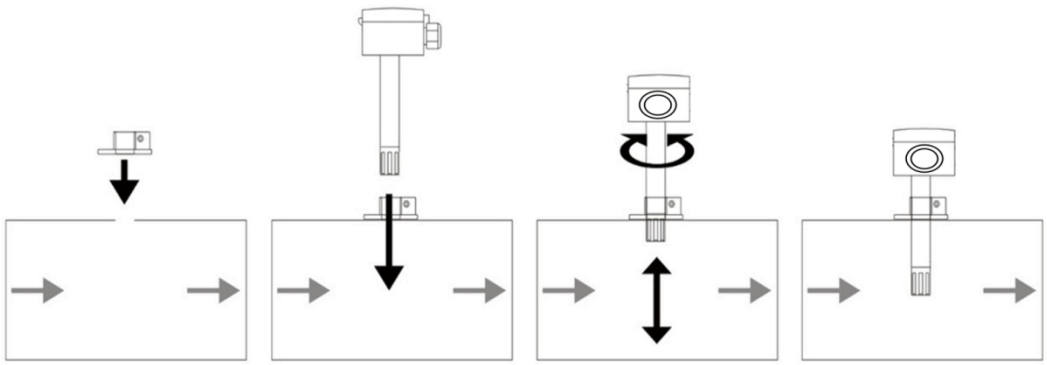
Mounting advices

The sensor can be mounted to the ventilation duct using a mounting flange (recommended) or directly. Maximum air speed is 10 m/s.

Mounting without mounting flange (screwing sensor directly to the duct)

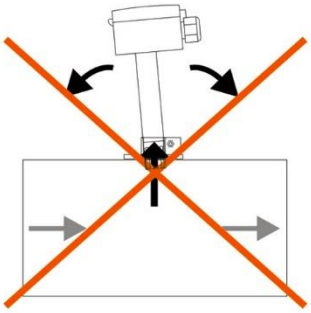


Mounting with mounting flange (screwing mounting flange to the duct, fixing sensor to mounting flange)



Dismounting Advices

Unfix sensor and pull out vertically. **Do not tilt the sensor when pulling it out!**

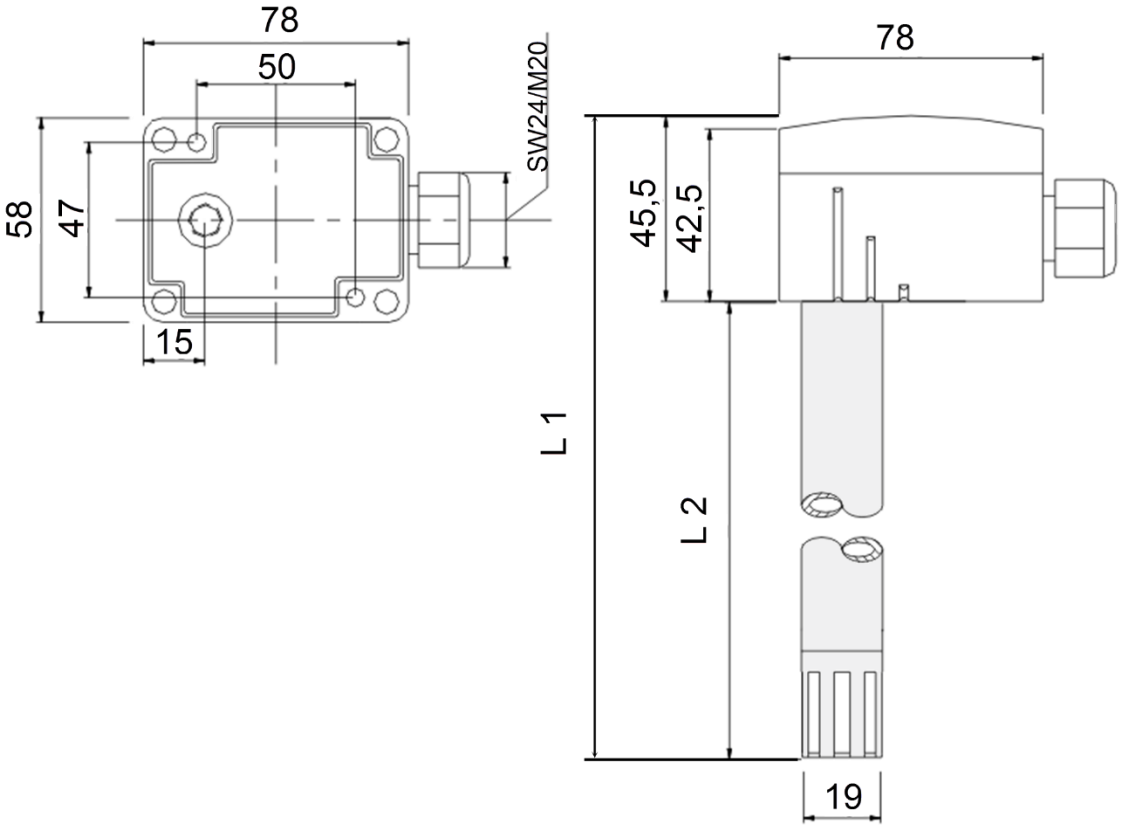


Application Notice

Due to air circulations, dirt and dust particles can be piled up in the course of time on the sintered filter, which is protecting the sensor. Thus, the function of the sensor can be affected.

After having dismounted the filter, it can be air-cleaned with oil-free and filtered compressed air, super-clean air or nitrogen or by washing it out with distilled water. If the filter is too dirty, it should be replaced.

Dimensions (mm)



		FTK 130 LON		FTK 260 LON		FTK 390 LON	
Length over all	L1	175,5	/	305,5	/	435,5	mm
Length sensor tube	L2	130	/	260	/	390	mm

Accessories (optional)

Rawlplugs and screws (2 pcs. Each)	ArtNo. 102209
Filter PVDF (spare part)	ArtNo. 118583
Mounting flange MF19 (TPO)	ArtNo. 527705