FTA 54

Outdoor sensor for relative humidity and temperature

525398

Data Sheet

Subject to technical alteration
Stand: 20.07.2015

Application

Sensor for measurement relative humidity and temperature in outdoor areas. Designed for locking on control and display systems.

Types Available

FTA 54 VV	output: 2x 0..10 V	rel. humidity, temperature
FTA 54 VVS	output: 2x 0..10 V	rel. humidity, temperature 1x active + 1x passive
FTA 54 AA	output: 2x 4..20 mA	rel. humidity, temperature
FTA 54 AAS	output: 2x 4..20 mA	rel. humidity, temperature 1x active + 1x passive

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 the product may contain valuable materials that should be recycled and not disposed of as domestic waste. Please note the relevant regulations for local disposal.

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 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 (±0,2 V).When switching the supply voltage on/off, onsite power surges must be avoided.

Application Notice for Humidity Sensors

Refrain from touching the sensitive humidity sensor/element. Touching the sensitive surface will void warranty.

For standard environmental conditions re-calibration is recommended once a year to maintain the specified accuracy.

When exposed to high ambient temperature and/or high levels of humidity or presence of aggressive gases (i.e. chlorine, ozone, ammonia) the sensor element may be affected and re-calibration may be required sooner than specified. Re-calibration and deterioration of the humidity sensor due to environmental conditions are not subject of the general warranty.

Technical Data

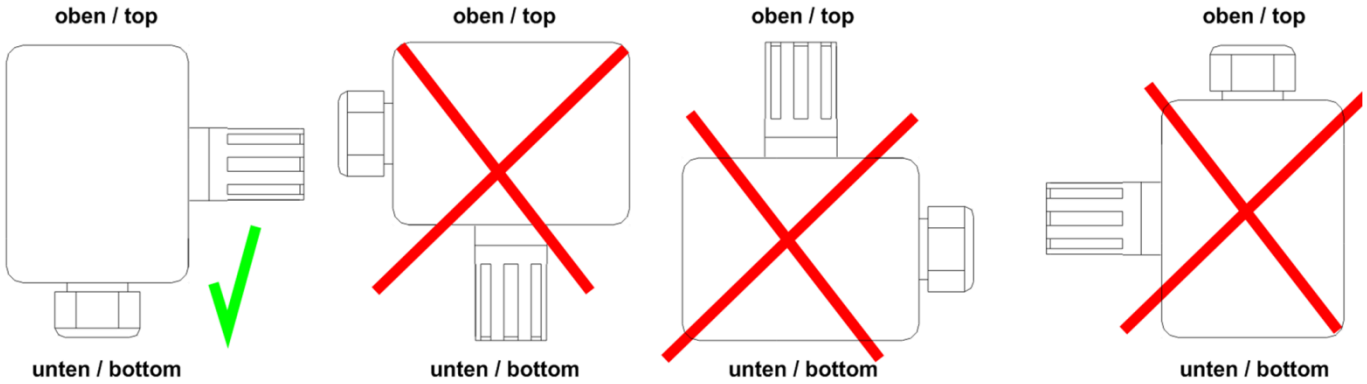
Measuring values	temperature, humidity	
Output voltage	VV | VVS	2x 0..10 V | 2x 0..10 V (min. load 10 kΩ) + passive Sensor,
Output Amp	AA | AAS	2x 4..20 mA | 2x 4..20 mA (max. load 500 Ω) + passive Sensor
Power supply	VV | VVS AA | AAS	15..24 V = (±10%) or 24 V ~ (±10%) 15..24 V = (±10%)
Power consumption	VV | VVS AA | AAS	max. 0,3 W (24 V =) | 0,5 VA (24 V ~) max. 1 W (24 V =)
Measuring range temperature	-20..+80 °C (active), depending on used sensor (passive)	
Measuring range humidity	0..100% rH	
Accuracy temperature	±0,5 °C at 25 °C (active), depending on used sensor (passive)	
Accuracy humidity	±2% between 10..90% rH (typ. at 21 °C)	
Enclosure	PA6, pure white	
Protection	IP65 according to EN 60529	
Cable entry	M16 for wire max. Ø=8 mm	
Connection electrical	terminal block, max. 1,5 mm²	
Pipe	PA6, pure white	
Filter	Stainless steel, wire mesh	
Ambient condition	-20..+70 °C, max. 85% rH non-condensing	
Weight	120 g	

Mounting Advice

When mounting outdoors, protect the device against direct sun or rain. If necessary use a protective cover.

After a certain time dirt in the air can collect on the filter and then adversely affect the operation of the sensor.

Under normal ambient condition an annual maintenance is recommended. Rinse the filter after cleaning with distilled water and dry it using clean oil-free air or nitrogen. Extremely contaminated filters should be replaced.



Connection Plan

FTA VV

1	2	3	4	5	6
Out Temp 0...10V	Out rH 0...10V	Uv 24V AC/DC	GND		

FTA VVS

1	2	3	4	5	6
Out Temp 0...10V	Out rH 0...10V	Uv 24V AC/DC	GND	Sensor A-	Sensor B+

FTA AA

1	2	3	4	5	6
+24V DC rH	Out rH 4...20mA	+24V DC Temp	Out Temp 4...20mA		

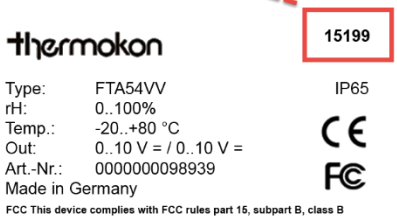
valid-from production date 15199

1	2	3	4	5	6
+24V DC Temp	Out Temp 4...20mA	+24V DC rH	Out rH 4...20mA		

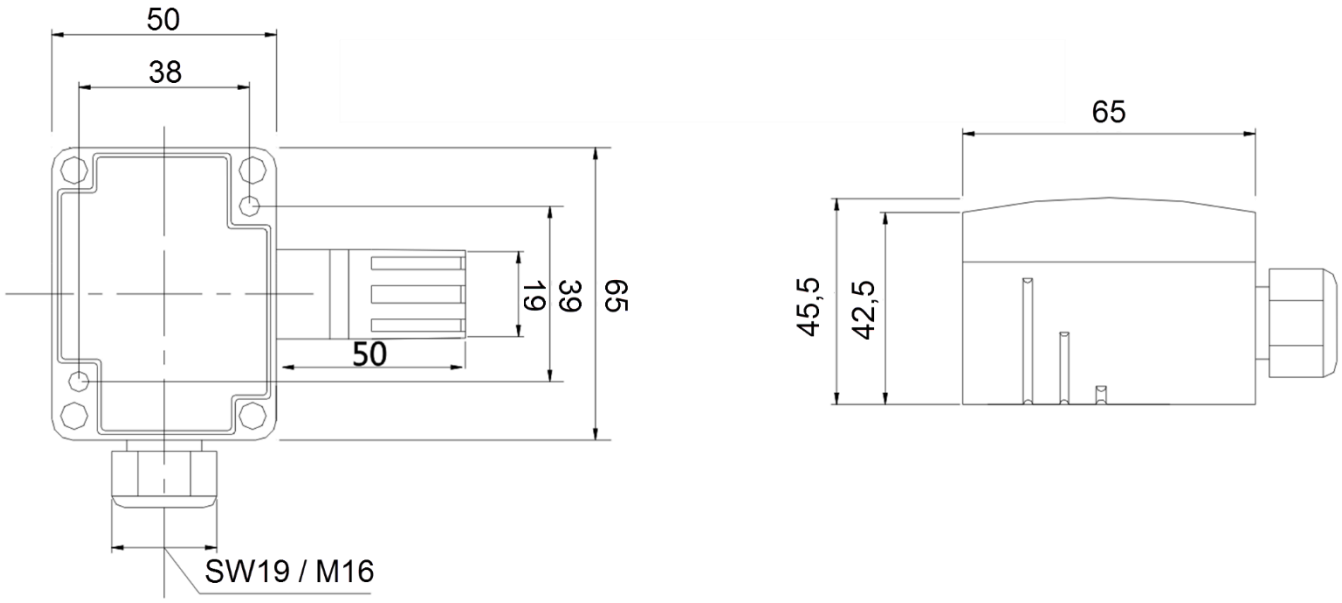
valid-to production date 15197

FTA AAS

1	2	3	4	5	6
+24V DC rH	Out rH 4...20mA	+24V DC Temp	Out Temp 4...20mA	Sensor A-	Sensor B+



Dimensions (mm)



Accessories (optional)

Rain protection PA6, white	Item No. 587709
Replacement filter stainless steel, wire mesh	Item No. 231169
Raw plugs and screws (2 pcs.)	Item No. 102209