

FTW06 (until 12-2022)

Combined sensor rel. Humidity and Temperature

thermokon[®]
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
Issue date: 01/11/2023 • A122



» APPLICATION

Flush mounting sensor for detection of temperature and relative humidity in room and office spaces. Fits into switch frames 55x55 mm. For direct connection to a DDC or a monitoring system, using 0..10 V outputs.

» TYPES AVAILABLE

Room sensor temperature + relative humidity – active 2x 0..10 V

- FTW06 VV

» 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 can be found on our website <https://www.thermokon.de/> .

» 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 of the products 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 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.

» MOUNTING ADVISE ROOM SENSORS

The Accuracy of the room sensors are influenced by the technical specifications as well as the positioning and the installation type.

During Assembly:

- Seal mounting box (if present).
- Installation type, air draught, heat source, radiation heat or direct sunlight can affect the measurement.
- Building material specific properties of the installation place (*brick-, concrete-, partition wall, cavity wall, ...*) can affect the measurement. (e.g.: *Concrete accepts room temperature variation slower than cavity walls*)

Assembly not recommendet in...

- Air draught (e.g.: close to windows / doors / fans ...)
- Near heating sources,
- Direct sunlight
- Niches / between furniture / ...

» BUILD-UP OF SELF-HEATING BY ELECTRICAL DISSIPATIVE POWER

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 ($\pm 0,2$ V) this is normally done by adding or reducing a constant offset value.

Thermokon transducers can be operated with variable operating voltages. The transducers are set at the factory with a reference operating voltage of 24 V =.

At this voltage, the expected measuring error of the output signal will be the least. Other operating voltages, can cause a measurement deviation changing power loss of the sensor electronics.

A recalibration can be carried out directly on the unit or via a software variable (app or bus).

Remark: Occurring draught 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

At regular environmental condition, it is recommended to calibrate the sensor annually to check the compliance with the accuracy required in the application. The following conditions can damage the sensor element or lead in long term to loss of the specified accuracy:

- Mechanical stress
- Contamination (e.g. dust / fingerprints)
- Aggressive chemicals
- Ambient conditions (e.g. condensation on measuring element)



Do not touch the sensor elements!

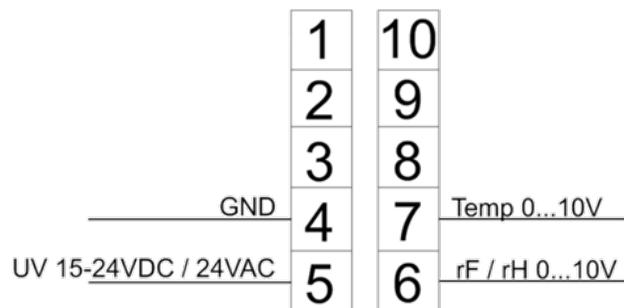
Re-calibration or exchange of the sensor element are not subject of the general warranty.

» **TECHNICAL DATA**

Measuring values	Temperature + humidity
Measuring values	VV 2x 0..10 V (min. load 10 kΩ)
Power supply	15..24 V = (±10%) or 24 V~ (±10%) SELV
Power consumption	max. 1,6 W (24 V = 3,9 VA (24 V =)
Measuring values temp	+32..+122 °F
Accuracy temperature	±0,5 K (typ. at 70 °F)
Measuring range humidity	0..100% rH non-condensing
Accuracy humidity	±2% between 10..90% rH (typ. at 70 °F)
Switch ranges Berker	S.1, B.3 Aluminium, B.7 glass
Switch ranges Busch-Jaeger	Busch-balance® SI, solo®, future® linear, Busch-axcent®
Switch ranges Feller	EDIZIOdue
Switch ranges Gira	E2, E3, Standard 55, Esprit, Event
Switch ranges Jung	LS 990, A 500, AS 500, A plus, A creation, CD 500
Switch ranges Merten	M-Smart, M-Arc, M-Plan, 1-M, Atelier-M, M-Pure, Artec
Switch ranges Peha	Aura, Aura glass
Enclosure	PC, pure white brilliant, pure white matt, aluminium, anthracite
Protection	IP30 according to EN 60529
Connection electrical	terminal block max. 1,5mm ²
Ambient condition	+32..+122 °F, max. 85% rH non-condensing
Mounting	flush mounted in standard EU box (Ø=2.36in. 60 mm, min. depth=1.77in 45 mm)
Notes	optional with traffic light function "TLF", please specify frame design when ordering

» **CONNECTION PLAN**

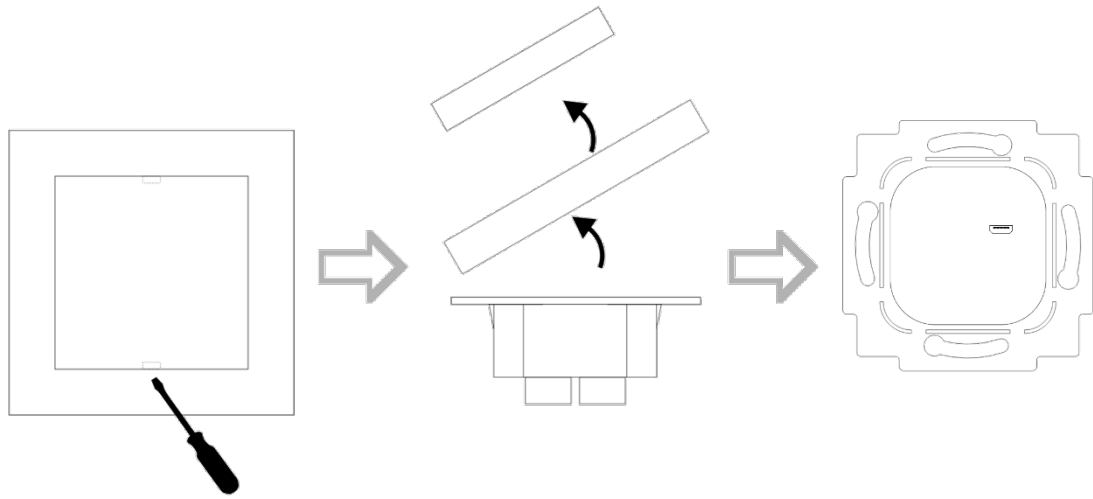
The availability of the measuring values varies depending on the device type.



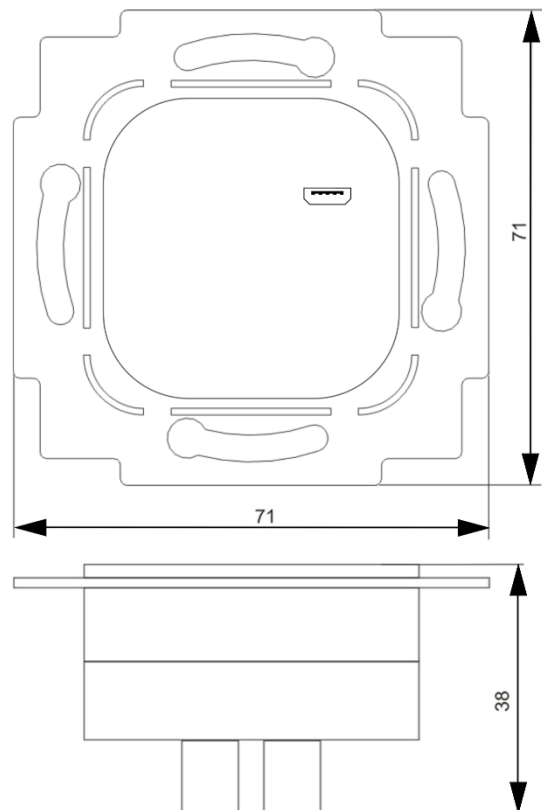
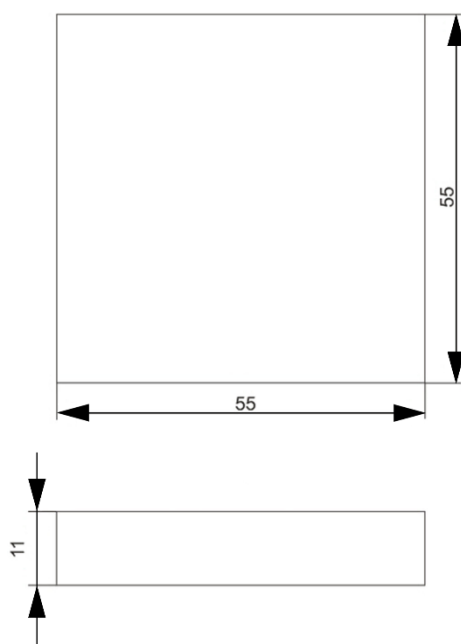
» MOUNTING ADVICES

The device is designed for mounting on a flush box. The bus cable is connected to the device by a terminal screw. For pre-wiring, the terminal screw can be drawn from the device.

Due to the extended retaining capacity for the cabling, the use of deep installation boxes is recommended. Installation must be made on representative places for the measurement value logging to avoid a falsification of the measuring result. Solar radiation and draught should be avoided. The end of the installation tube in the flush box must be sealed to avoid any draught in the tube falsifying the measuring result.



» DIMENSIONS (MM)



» ACCESSORIES (OPTIONAL)

Raw plugs and screws (2 pcs. each)

Item No.: 102209