

thevios 3 RS485 Modbus

Ceiling sensor

thermokon[®]
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
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thevios[®]



» APPLICATION

The thevios 3 is a ceiling sensor for recording a wide range of sensor data. This data can be used, among other things, for the intelligent control of lighting and air conditioning systems depending on occupancy and environmental conditions.

Optional flush or surface mounting allows flexible integration into a variety of interior scenarios. Thanks to tool-free wiring and communication via the RS485 Modbus, the thevios 3 is already one of the most future-proof solutions for increasing energy efficiency, comfort, and productivity.

» TYPES AVAILABLE

Ceiling sensor – RS485 Modbus

- thevios 3 OCC LUM RS485 Modbus
- thevios 3 OCC LUM Temp_rH RS485 Modbus
- thevios 3 OCC LUM Temp_rH IR RS485 Modbus

» INTENDED USE

Ceiling/room sensor and hub for measuring type-dependent variables with BACnet IP (RJ45) interface. Must not be used in conjunction with devices that directly or indirectly serve health or life-saving purposes or whose operation may pose a risk to people, animals, or property.

Intended for use only as specified. Unauthorized modification or alteration is prohibited!

» SECURITY ADVICE – CAUTION



The installation and assembly of electrical devices (modules) may only be carried out by an authorized electrician. Devices with a power connection may only be connected when the connection cable is disconnected!

Always comply with:

- Laws, standards, and regulations
- The state of the art at the time of installation
- The technical data and operating instructions for the device

» NOTES ON TEMPERATURE SENSORS (ACTIVE)

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.

» NOTICE ON 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)



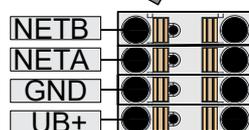
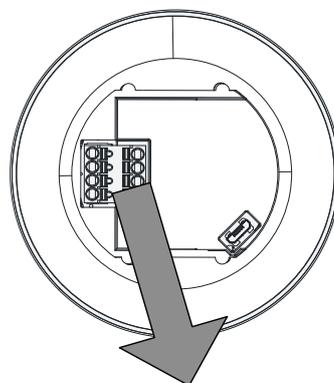
Do not touch the sensor elements!

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

» TECHNICAL DATA

Measuring values	Movement, luminosity, optional: temperature, rel. humidity, radiation temperature (temp-IR)
Network technology	RS485 Modbus, RTU, half-duplex, baud rate 9.600, 19.200, 38.400 or 57600, parity: none (1 stopbit, alternative 2 stopbits), even or odd (1 stopbit), Fail-safe Biasing required
Power supply	24 V = ($\pm 10\%$) SELV*
Power consumption	0,4 W max.
Connection electrical	removeable 1,5mm ² plug-in terminal (2x4), loop-through wiring compatible
Connection BUS	2-wire RS485 Modbus
Motion detection range	Detection angle 96°, with a ceiling height of 2.7 m, this results in a circular detection area with approx. D=6.0 m.
Measurement range brightness	0..1000 lux
Accuracy brightness	$\pm (15 \text{ Lux} + 8\% \text{ of measured value})$ Field calibration required
Measuring range temperature (optional)	0..+50 °C
Accuracy temperature (optional)	$\pm 0,5 \text{ K}$ (typ. at 21 °C)
Measuring range radiation temperature (optional)	0..+50 °C
Accuracy radiation temperature (optional)	$\pm 0,5 \text{ K}$ (typ. at 21 °C)
Enclosure	PC V0, pure white
Protection	IP30 according to DIN EN 60529
Ambient condition	0..50 °C, max. 85% non-condensing
Mounting	Ceiling installation, mounted flat in flush-mounting box ($\varnothing=2.36\text{in.} \mid 60 \text{ mm}$) or surface mounting (with optional surface-mounted housing)

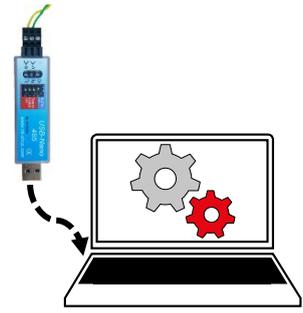
» CONNECTION PLAN



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internally connected

» CONFIGURATION

The configuration is performed in powered state. The following options are available for configuring the device:

Device connection	RS485	Micro-USB cable
Configuration-adapter	<p>USB-RS485 Converter</p> 	
Configurations-software	<p>PC/Notebook with uConfig software</p> <p><i>Parameterization with Thermokon software uConfig, via USB/RS485 Converter* (Art.-No.: 668293)</i></p>	<p>PC/Notebook with uConfig software</p> <p><i>Parameterization with Thermokon software uConfig, via Micro-USB Cable</i></p>
Default communication settings	<p>Address: 1 Baud rate: 38400 Parity: even Stop bit: 1</p>	<p><i>When using a USB cable and the uConfig software, the following default communication settings apply permanently:</i></p> <p>Address: 1 Baud rate: 115200 Parity: none Stop bit: 1</p>

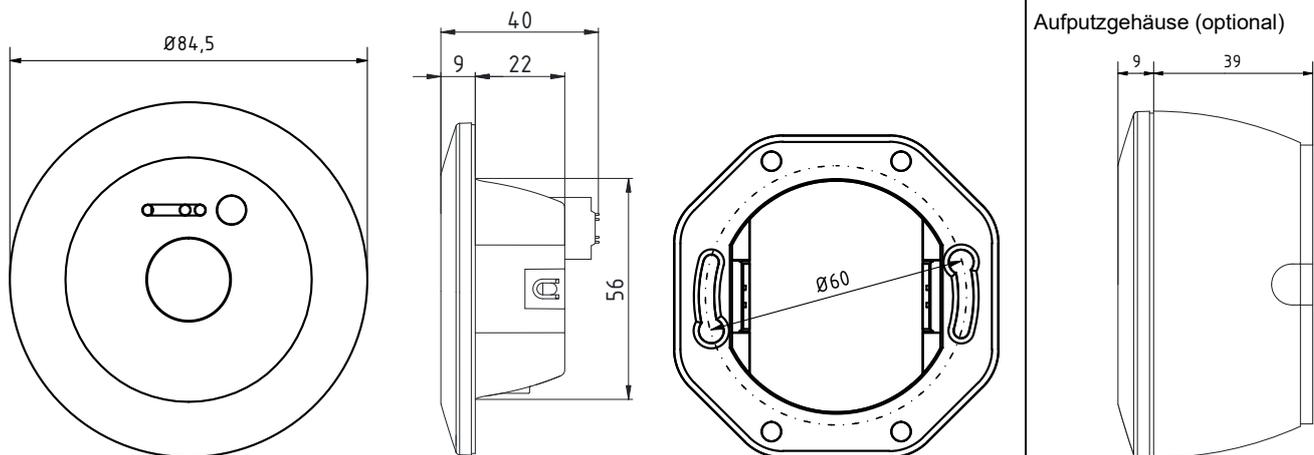


Additionally a configuration via RS485 interface via BMS during powered state is possible.



Thermokon uConfig can be found on our website:
<https://www.thermokon.de/en-gb/download>

» DIMENSIONS (MM)



» ACCESSORIES (OPTIONAL)

Rawplugs and screws (2 pcs. each)
Surface mounting housing thevios 3 / thevios Sat

Item No. 102209
Item No. 837279

» ADDITIONAL DOCUMENTS

Installation Instructions
<https://www.thermokon.de/direct/files/thevios-3-rs485-modbus-mont-de-en-all.pdf>



Manual
<https://www.thermokon.de/direct/files/thevios-3-rs485-modbus-manual-en.pdf>

» PRODUCT CONFORMITY

Declaration of conformity
The declaration of conformity of the products can be found on our website
<https://www.thermokon.de/direct/en-gb/categories/thevios-3>

» 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