NOVOS 3 x LRW

Radio room operating unit temperature/humidity, optional with CO2

thermokon®
HOME OF SENSOR TECHNOLOGY

» APPLICATION

LoRaWAN® Room operating unit with recording room temperature and humidty, optionally with CO2. The Transmission of the recorded values, the The transmission of the acquired measured values, the setpoint and optionally a pressed button is done via LoRaWAN® wireless technology.

» TYPES AVAILABLE

Room operating unit LRW

NOVOS 3 P

NOVOS 3 PTD

» PRODUCT TESTING AND CERTIFICATION

CE UKCA

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.

»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

»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.
- Bulding 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 / …

»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 therm 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.

»INFORMATION ABOUT SELF-CALIBRATION FEATURE CO2

All gas sensors are subject to drift. The degree of drift is dependent on the use of components and product design. In addition, the following environmental conditions, among others, can accelerate/ favor the aging and wear of the sensors:

- Mechanical stress (also due to temperature fluctuation)
- Contamination (dust / fingerprints e.g.)
- Abrasive chemicals
- Environmental influences (high humidity / condensation on measuring element)

An internal self calibration function with dual channel technology compensates the caused drift. Thermokon sensors are for permanent use (e.g. hospitals).

»INFORMATION ABOUT INDOOR AIR QUALITY CO2

EN 13779 defines several classes for indoor air quality:

Category	CO₂ content above the content in outdoor air in ppm		Description
	Typical range	Standard value	
IDA1	<400 ppm	350 ppm	Good indoor air quality
IDA2	400.. 600 ppm	500 ppm	Standard indoor air quality
IDA3	600..1.000 ppm	800 ppm	Moderate indoor air quality
IDA4	>1.000 ppm	1.200 ppm	Poor indoor air quality

»TECHNICAL DATA

Enclosure	PC V0, pure white, design cover (optional)
Protection	IP20 according to DIN EN 60529
Ambient condition	-20..+70 °C, max. 85% non-condensing, with CO2 sensor operating temperature range 0..+50 °C
Mounting	surface mounted on flush-mounting box (Ø=60 mm) or to be mounted flat onto the surface using screws, base part can be mounted and wired separately
Measuring values *(type dependend)*	Temperature | humidity | (CO2)
Power supply	1x AA Batterie 1,5-3,6V (Alkaline or Lithium)
Battery life	+/- 5 years (depending on device configuration, LoRaWAN®-network setup and ambient conditions)

* 3,6V Lithium battery (compared to 1,5V alkaline) recommended to increase battery life

Set point (P) *(optional)*	potentiometer
Button (T) *(optional)*	for presence detection, with LED (TD)
LED (D) *(optional)*	for status feedback, color can be set (from 7 colours) via Thermokon LRWapp (any from RGB)

» Temperature

Measuring range temperature	-20..+70 °C
Accuracy temperature	±0,4K (typ. at 21 °C)

» Humidity

Measuring range humidity	0..100% rH
Accuracy humidity	±5% between 30..70% rH (typ. at 21 °C)

» CO2 *(optional)*

Measuring range CO2	0..5000 ppm
Accuracy CO2	±50 ppm +3 % of reading (typ. at 21 °C, 50% rH, 1015 hPa)
Display *(optional)*	RGB-LED indicating air quality (traffic light function 'TLF')

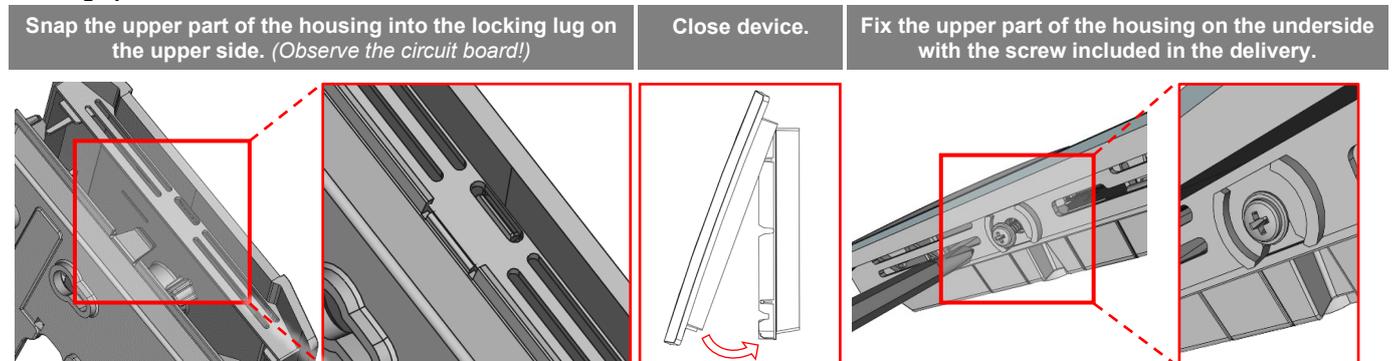### » LoRaWAN®

Radio technology	LoRaWAN®
LoRaWAN version	1.0.4
Device class	Class A
Frequency	EU868 (863-870 MHz)
Max. transmission power	+14 dBm (25 mW)
Receiver sensitivity	-137 dBm
Antenna	internal send- / receiver antenna
LoRaWAN Features	Over The Air Activation (OTAA), Adaptive Data Rate (ADR)
Data transmission *(configurabel)*	Heartbeat interval (default: 1440 min), Measurement-interval (default: 1 min), hysteresis transmission behavior,

» MOUNTING ADVICES

The installation can be performed on the flat wall surface or on a flush-mounted box. A representative place should be selected. Sunshine and draft, e.g. in the installation tube should be avoided, so that the measurement result is not falsified. Seal the end of the installation tube.

- For wiring, the upper part of the device must be removed from the base plate. Base plate and upper part are detachably connected to each other by means of locking lugs.
- The mounting of the base plate on the flat wall surface is done with rawplugs and screws.
- Finally, the device is attached to the base plate and fixed with the screw.

Housing open / close

Snap the upper part of the housing into the locking lug on the upper side. *(Observe the circuit board!)*	Close device.	Fix the upper part of the housing on the underside with the screw included in the delivery.

» BATTERY INSTALLATION

Position the battery as shown in the picture.
(Observe battery polarity)
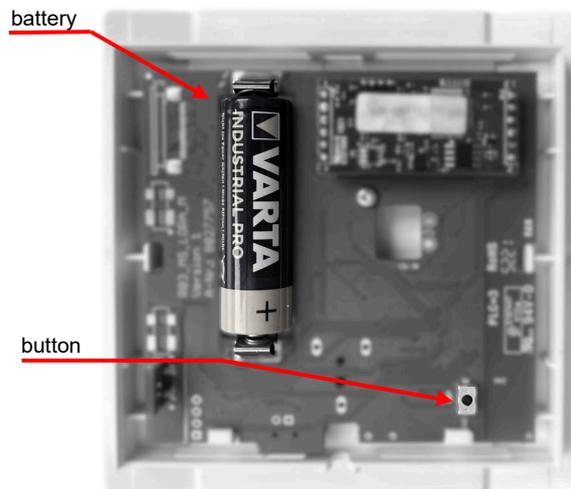
» CONFIGURATION

The device is configured with the Thermokon LRWapp.

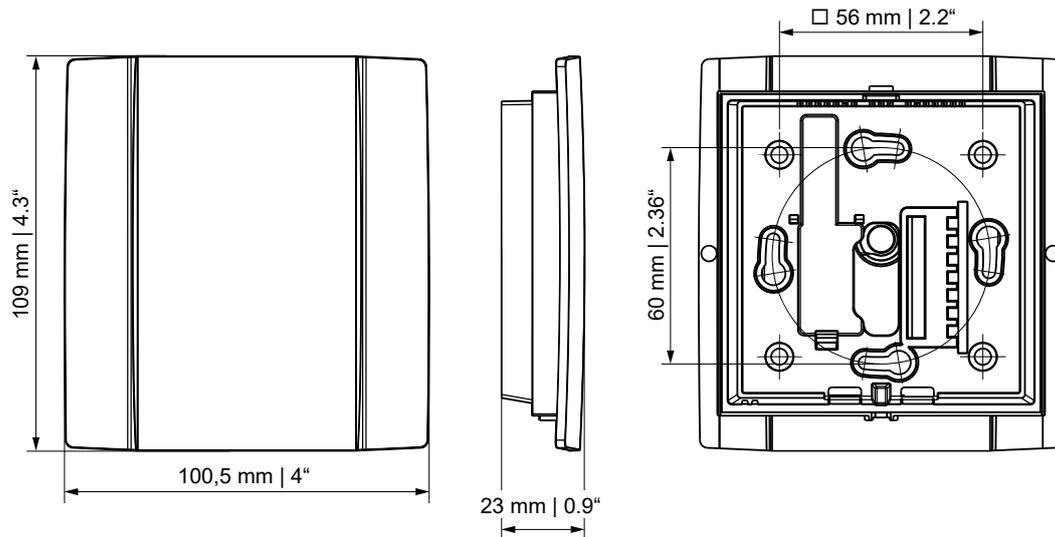Press the button to start the bluetooth communication.

After pressing the button a connection can be set up via the LRWapp within a 20 second time period.

» INFORMATION ABOUT LORAWAN SPECIFICATION

The Thermokon LoRaWAN® specification can be downloaded from our website.

» DIMENSIONS (MM | IN.)

□ 56 mm | 2.2"

109 mm | 4.3"

100,5 mm | 4"

23 mm | 0.9"

60 mm | 2.36"

» ACCESSORIES (SCOPE OF DELIVERY)

battery 1,5V AA   Item-No.: 459099

» ACCESSORIES (OPTIONAL)

Rawplugs and screws (2 pcs. each)   Item No. 102209

Mounting bracket (surface mounted) white   Item No. 795050
Mounting bracket (surface mounted) black   Item No. 795074