WRF06 LCD 2V

Flush mounting room temperature sensor

thermokon®
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
Issue date: 24.06.2025 · A141



(Illustration may be similar or different)

» APPLICATION

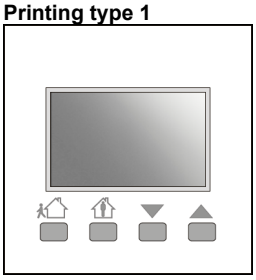
The flush-mounted room operating unit with setpoint adjustment and occupancy button is used for individual temperature control in living, hotel and office rooms. The device with 4 control buttons and LCD can be integrated into the most common switch ranges It is available in many color versions and suitable for design-oriented facilities. Depending on the type, it is also possible to control continuous valves for heating or cooling. The removable terminal block allows pre-wiring.

» TYPES AVAILABLE

Room operating unit temperature – aktiv 2x 0..10 V (temperature & set point)

- WRF06 LCD 2V

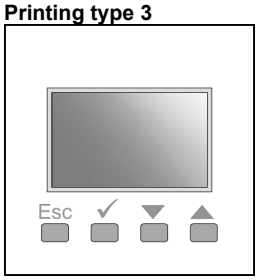
Printing type 1



➔ Set point adjustment

➔ Adjustment of room occupancy (occupied / unoccupied)

Printing type 3



➔ Set point adjustment

➔ Cancel or confirm setpoint value

» 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 are available on our website
https://www.thermokon.de/direct/en-gb/categories/wrf06-lcd

»NOTES ON DISPOSAL



The crossed-out wheelie 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

»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.

Assembly not recommendet in…

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

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

»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 (±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.

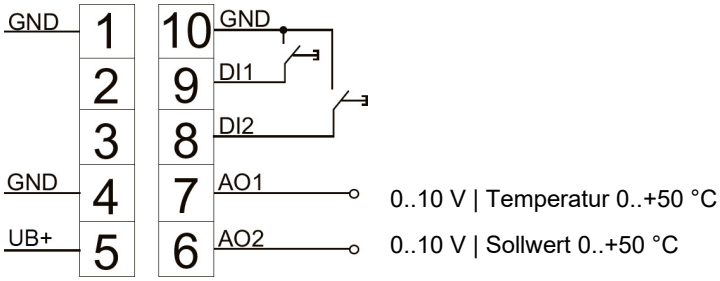
A recalibration can be carried out directly on the unit or via a software variable (app or bus).

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

» TECHNICAL DATA

Measuring values	Temperature
Output voltage	2x 0..10 V, min. load 1 kΩ
Power supply	15..24 V = (±10%) or 24 V ~ (±10%) SELV
Power consumption	typ. 0,8 W (24 V =) | 2,5 VA (24 V ~)
Measuring range temperature	0..+50 °C
Accuracy temperature	±0,5 K (typ. at 21 °C)
Display	2x digital input for floating contact, for activation of messages on the LCD display
Display	LCD 34x21 mm, monochrome
Enclosure	PC, pure white brilliant, pure white matt, aluminium, anthracite, frame color may differ slightly
Protection	IP30 according to EN 60529
Connection electrical	terminal block, max. 1,5 mm², pluggable
Ambient condition	0..+50 °C, max. 85% rH non-condensing
Mounting	flush mounted in standard EU box (Ø=60 mm)

» CONNECTION PLAN



0..10 V | Temperatur 0..+50 °C

0..10 V | Sollwert 0..+50 °C

» FUNCTION BUTTONS

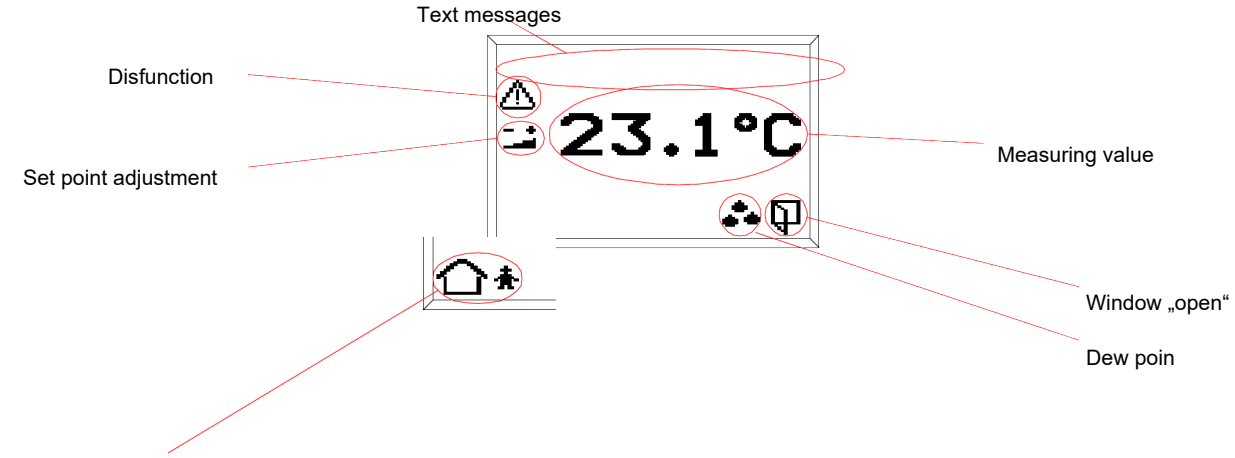
1. Press any menu button once to turn on the LCD backlight.
2. Press the ▲ or ▼ key once to enter the setpoint adjustment.
3. Press the ▲ or ▼ key again to change the setpoint.
4. Accepting the set setpoint: push-button ✓ or 10 sec no interaction
5. Abort: **Esc** key setpoint adjustement is cancelled

»CONFIGURATION MENU

The configuration menu allows the user to make subsequent changes to basic settings. The configuration menu is opened by simultaneously pressing the key ▲ and the **Esc** key (both outer keys) for approx. 5 seconds. The following parameters can be changed: minimum setpoint adjustment, maximum setpoint adjustment, basic setpoint (after reset), setpoint change per push-button operation. In addition, it is possible to recalibrate the temperature sensor by entering an offset in the event of measurement inaccuracies.

»DISPLAY

The following symbols can be activated and displayed. The symbols depend on the type and function of the device.



»DIMENSIONS (MM)

