WRF06 (x) BJ LON

Flush mounting room temperature sensor/ controller

thermokon®
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
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BUSCH-JAEGER

LON
LOCAL OPERATING NETWORK

Abbildung ähnlich, abhängig vom Schalterprogramm

» APPLICATION

Room operating unit for room/space temperature measurement with fan stage adjustment and manual override. Designed for control and monitoring systems. Optionally available on request with operating elements for controlling HVAC systems.

» TYPES AVAILABLE

WRF06 BJ LON

Room temperature sensor– DI4 LON
- WRF06 BJ DI4 LON

Room controller temperature – AO2V LON
- WRF06 BJ AO2V LON

» 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

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Declaration of conformity
The declaration of conformity of the products can be found on our website
https://www.thermokon.de/direct/en-gb/categories/wrf06-lcd-rc

» DISPOSAL INFORMATION

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

» 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.

» 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 / …

» 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

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Measuring values	temperature
Output voltage	**AO2V** 2x 0..10 V, min. Last 5 kΩ
Network technology	LON FT (free topology)
Power supply	15..24 V = (±10%) or 24 V ~ (±10%) SELV
Power consumption	typ. 0,9 W (24 V =) | 1 VA (24 V ~)
Measuring range temperature	0..+50 °C
Operating temperature range	max. permissible operating temperature 0..+50 °C
Accuracy temperature	±1% of Measuring range (typ. at 21 °C)
Inputs	**DI4** 4x for floating switching contacts
Switch range Busch-Jaeger	Busch-balance® SI, Busch-Duro 2000® SI, Reflex SI, solo®, future® linear, impuls, Busch-axcent®, alpha nea®
Protection	IP20 according to EN 60529
Connection electrical	terminal block, max. 1,5 mm², pluggable
Ambient condition	max. 85% rH non-condensing
Mounting	flush mounted in standard EU box (Ø=55 mm)
Notes	Operating elements on request

» CONNECTION PLAN AND CONFIGURATION

WRF06 AO2V LON
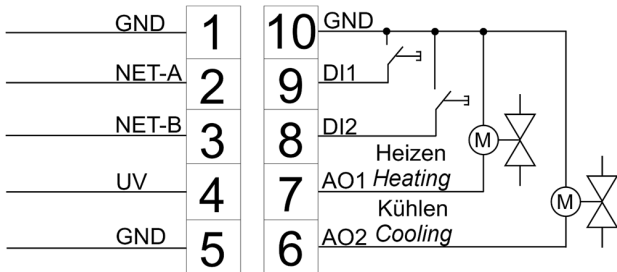
WRF06 DI4 LON

Front view

Service LED
Service button
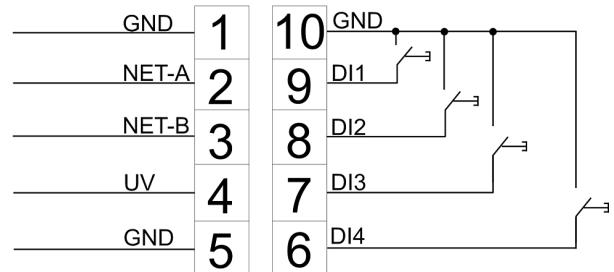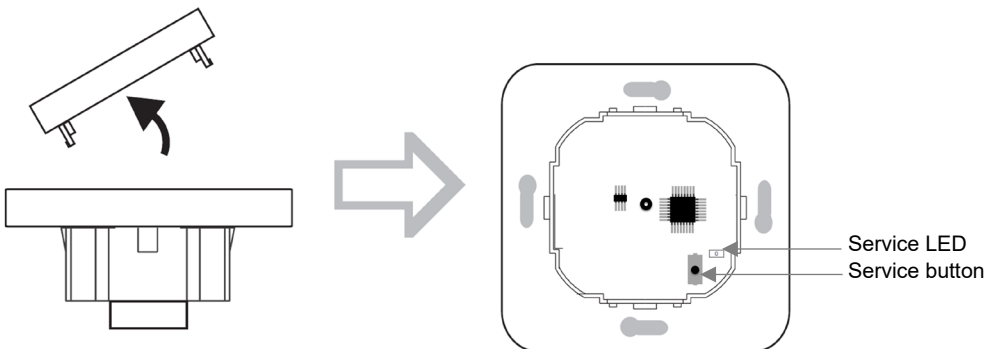
Software:

The LNS Plug-In and more information about the parameter of the WRF06 LON, please download from our Website: Link