» WRF07

Flush mounting room operating unit

thermokon®
HOME OF SENSOR TECHNOLOGY

Datasheet

Subject to technical alteration
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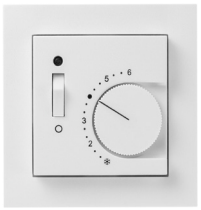
WRF07 P Gira E2

WRF07 P TD Gira E2



WRF07 P SD Gira E2

(Illustration may be similar or different, depending on switch range)

» APPLICATION

Room operating unit for room/space temperature measurement with fan stage adjustment and manual override. Designed for control and monitoring systems.

» TYPES AVAILABLE

Room operating unit temperature – without sensor

WRF07 P without sensor <Switch range>, <Fan stages>
WRF07 P <Operating elements> without sensor <Switch range>, LED green

Room operating unit temperature – passive

WRF07 P <Operating elements> <Sensor> <Switch range>, LED green

Room operating unit 0..+50 °C – 0..10 V, active potentiometer

WRF07 P <Operating elements> TRV3 < Switch range >
WRF07 P <Operating elements> TRV3 < Switch range>, LED grün

<Operating elements>: Rotary switch (S), Button+Diode (TD)
<Switch ranges>: see technical data
<Sensor>: PT100/PT1000/NI1000/NI1000TK5000/LM235Z/NTC.../PTC... other sensors on request

»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

»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 (±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

Temperature 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. As Thermokon transducers work with a variable operating voltage, only one operating voltage can be taken into consideration, for reasons of production engineering. Transducers 0..10 V / 4..20 mA have a standard setting at an operating voltage of 24 V =. That means, that at this voltage, the expected measuring error of the output signal will be the least. For other operating voltages, the offset error will be increased by a changing power loss of the sensor electronics.

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

»PRODUCT TESTING AND CERTIFICATION

Declaration of conformity

The declaration of conformity of the products can be found on our website https://www.thermokon.de/.

»TECHNICAL DATA

Measuring values	temperature	
Output voltage *(type-dependent)*	**TRV3** 1x 0..10 V, min. load 5 kΩ	
Output passive *(type-dependent)*	**passive** optional, PT100/PT1000/NI1000/NI1000TK5000/ LM235Z/NTC.../PTC... other sensors on request	
Power supply *(type-dependent)*	15..24 V = (±10%) or 24 V~ (±10%) SELV	
Power consumption	typ. 0,42 W (24 V =) | 0,84 VA (24 V ~)	
Measuring range temp *(type-dependent)*	**TRV3** +32..+122 °F	**passive** -31..+158 °F
Accuracy temperature *(type-dependent)*	**TRV3** ±1% of measuring range (typ. at 70 °F)	**passive** depending on used sensor
Set point (P) *(optional)*	**TRV3** active output 0..10 V	**passive** set point adjustment, 3-wire, default values 1 kΩ, 5 kΩ or 10 kΩ, optional active output 0..10 V*
Rotary switch (S) *(optional)*	mini rotary switch for fan stage adjustment with up to 5 stages available (please request), switching capacity max. 24 V =/~, 5 W	
Rocker switch (S) *(optional)*	for fan speed adjustment, optional switching stages, 0/I or 0/I/II, switching capacity max. 24 V =/~, 5 W	
Button (T) *(optional)*	occupancy signal, 2-wire, switching capacity max. 600 mW	
LED (D) *(optional)*	status response, 2-wire, more LED´s available, colour green, red or yellow	
Enclosure	Central disc in switch manufacturer's design (appearance may vary)	
Protection	IP20 according to EN 60529	
Connection electrical	terminal block max. 16AWG	
Ambient condition	-31..+158 °F, max. 85% rH non-condensing	
Weight	1.76 oz.	
Mounting	flush-mounting in standard EU box (Ø=60 mm, min. depth=45 mm)	
Notes	for further variants see catalogue, chapter room controller, other sensors | operating elements| switch ranges on requeststst	

***Passive variant with active potentiometer:** The self-heating results in a deviation of the actually measured value. Therefore, it is necessary to compensate the actual deviation of the passive sensor in the BMS with an offset.

»CONNECTION PLAN

The terminal assignments vary depending on the type of the device. Terminal plan is attached to the device.

»DIMENSIONS (IN.)

WRF07 + Gira E2