

Product Page

The KNX-Sensor SK30-TC-VOC-R is used for measuring and controlling indoor air parameters

- Air temperature (sensor in the housing) also weighted with external temperature
- VOC level (sensor in the housing) (see page 2)
- Control functions for heating and cooling applications (can be combined)
- Setpoint temperatures for Comfort, Standby, Economy and Protection, selectable via KNX HVAC objects
- Setpoint change via rotary controller and/or objects
- Storage of minimum- and maximum-temperature
- Heat- and frost-alarm
- Limits for temperature
- Fan control by VOC limits and external inputs
- Adaptation for setpoint and maximum temperatures
- Controller output 0...100% or programmable PWM for thermal actuators
- Valve rinse function
- Second temperature controller as auxiliary controller

Rotary controller

Two binary inputs / outputs (floating)

- Light control as switch / button with short, long, double and both function
- Dimmer
- Blind and shutter control
- Programmable Encoder
- Temperature adjustment
- The binary contacts can be configured as outputs.
Possibility of connecting low-current LEDs without a series resistor.
- Rotary controller to change the operational state (comfort / standby) and increase / decrease the setpoint temperature in several steps

The current state of the temperature controller can be indicated by LED's.

- Heating or cooling
- Slow pulsing if controller is active
- Pulse depth represents deviation between actual- and setpoint-temperature
- Display for comfort / standby / night mode configurable

Four logic blocks for the logical link between internal and external signals.

- 10 associated logic inputs / outputs
- Heat- and cooling-request as additionally available signals
- Functions "AND, OR, NOT, XOR" for binary logic
- Functions "+ - *" for 8-bit values
- Function "=" for conditional forwarding of events

Applications

- Detection and control of room temperature
- Detection of VOC level
- Decentralized control for steady KNX-valves or thermal actuators
- Decentralized ventilation control depending on air quality
- Evaluation of external switches and push buttons for switching functions

Article No. 3051335x



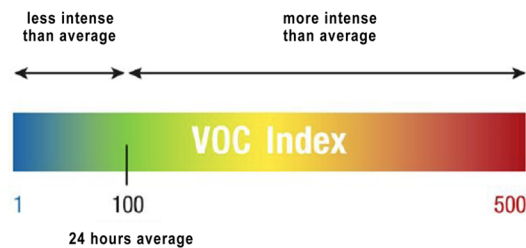
SK30-TC-VOC-R
white / anthrazit

VOC level

Two different VOC sensor chips from Sensirion are used.

1. The new type is used with devices starting with serial number 03304721.

The gas index algorithm used by Sensirion automatically adjusts its output to any indoor environment and maps all VOC events to a VOC index scale ranging from 1 to 500 VOC index points (see figure).



Output data type: 2-byte float without unit

The value 100 refers to the average indoor gas composition over the past 24 hours. While values between 100 and 500 indicate a deterioration, values between 1 and 100 inform about improvement of the air quality.

To ensure that the 24-hour average value does not swing up, a regular fresh air event (shock ventilation) is indispensable.

2. The previous type is used for devices up to serial number 03304720.

The value is composed of a mixture of volatile gases in ppb (parts per billion) and converted into a CO₂ equivalent ppm value.

Its output data type is a 2 byte float and can take values between 400 - 59000 ppm.

This sensor registers a deterioration in the air and its value increases.

If the air pollution remains constant, this condition is rated as "good" again.

If the air pollution now increases, the output value also increases.

This behavior can cause the measured value to swing up.

For this reason, a regular fresh air event (shock ventilation) is indispensable.

If the value remains high, the sensor must be reset to the delivery status and reprogrammed.

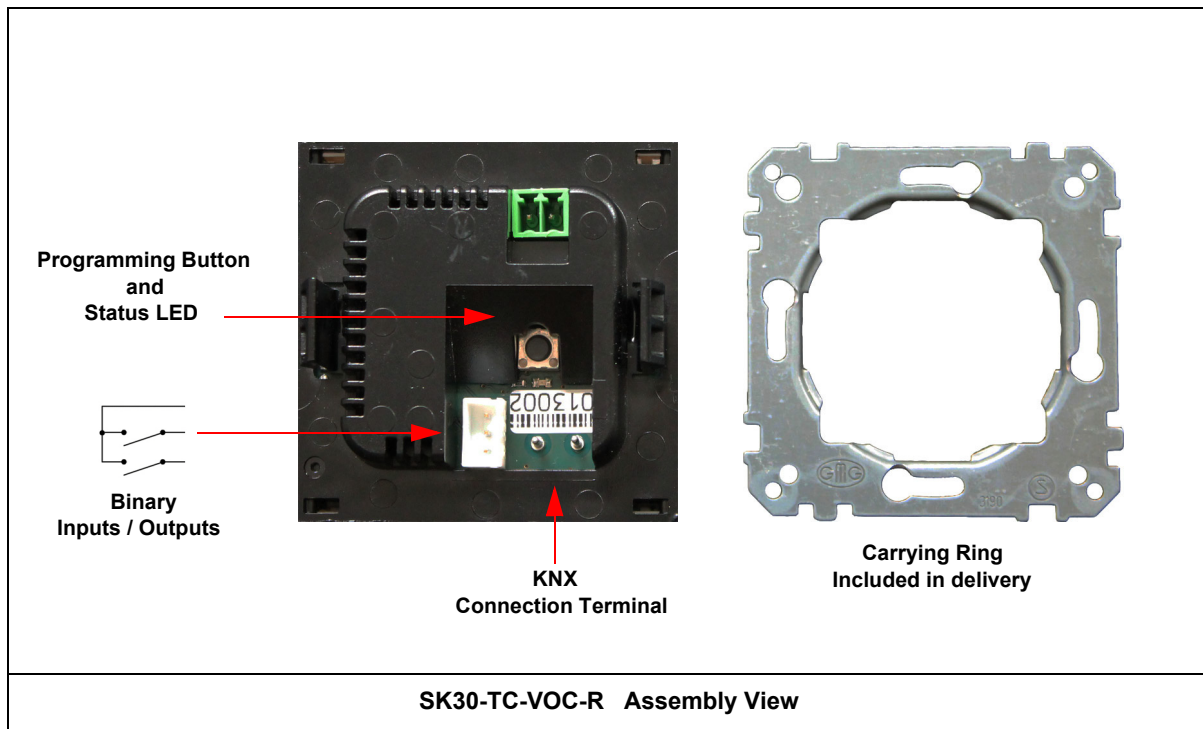
Startup

The KNX sensor is initialized via the ETS from version 4 in conjunction with the associated application program.

The sensor is delivered unprogrammed.

All functions are programmed and parameterized with ETS.

Please read the ETS instructions.



Assembly

The Sensor **SK30-TC-VOC-R** is intended for mounting in the interior.

The sensor is located in a IP20 plastic housing with 55mm standard frame size.

The sensor is delivered with a carrier frame for mounting in a 68 mm flush-mounted box.

In Case of Bus Voltage Recurrence

All changes made using the help key for the KNX bus are saved if the device has been correctly parameterized..

By using the weighted mixture temperature, the external temperature scaling is set to 0% until an external temperature value is received.

The measuring and control values start with their current values (integral component=0 by PI-Controller).

The ETS parameter settings are retained.

Discharge Program and Reset Sensor

In order to delete the programming (projecting) and to reset the module back to delivery status, it must be switched off (disconnect the KNX bus).

Press and hold the programming button while reconnecting the KNX bus and wait until the programming LED lights up (approx. 5-10 seconds).

Now you can release the programming button.

The module is ready for renewed projecting.

If you release the programming button too early, repeat the aforementioned procedure.

Technical Data

Technical Data - SK30-TC-VOC-R

Measurement	temperature VOC level
Control	integrated
Temperature Range	-25 .. +80°C
Resolution	0,02°C
Accuracy	± 0.4°C (5..60°C), else ± 0.8°C
Measurement Range VOC	depends on used sensor - see page 2
Rotary Controller	Setpoint adjustment (max. ± 5°C)
Binary In / Output	2
Operating Voltage	KNX bus voltage 21 .. 32VDC
Power Consumption	approx. 240mW (at 24VDC)
Environment Temperature KNX-Module	Operating: -25 .. +80°C Storage: -25 .. +80°C
Environment Humidity KNX-Module	10 .. 95% r.H non condensing
Bus Coupler	integrated
Startup with the ETS Version 4 or higher	HLK305
Curcuit Points	KNX 2 pole clamps (red / black)
Protection Class	IP20
Housing KNX-Module	plastic
Dimensions Housing KNX-Module	55mm standard frame size
Article Number	30513351 white 30513352 anthrazit

Imprint

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The crossed-out wheeled bin symbol on the device or packaging means that the product must not be disposed of with other general waste at the end of its useful life.

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We provide warranty within the scope of the legal provisions.

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Manufacturer



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