

## Product Page

The KNX-Sensor SK30-TTHC-CO2 is used for measuring and controlling indoor air parameters

- Air temperature ( sensor in the housing ) also weighted with external temperature
- Humidity ( sensor in the housing )
- CO2 level ( sensor in the housing )
- Calculated values absolute humidity, dew point temperature and energy content ( enthalpy )
- Additional floor, ceiling or component temperature ( Terminal for external PT1000 )
- 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 objects
- Storage of minimum- and maximum-temperature
- Heat- and frost-alarm
- Limits for temperature, humidity and CO2 level
- Fan control by humidity, CO2 limits and external inputs
- Detecting of dew point temperature and alarm / regulation at risk of condensation
- 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

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 inputs can be configured as outputs ( LED / Beeper )

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

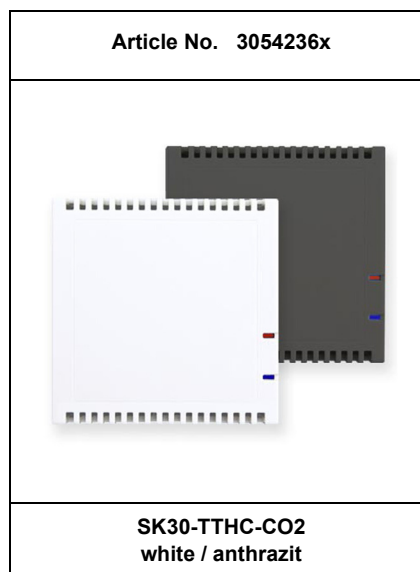
- Heating or cooling
- Slow pulsing if controller is active
- Pulse depth represents deviation between actual- and setpoint-temperature
- Display for comfort / standby / night mode configurable

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

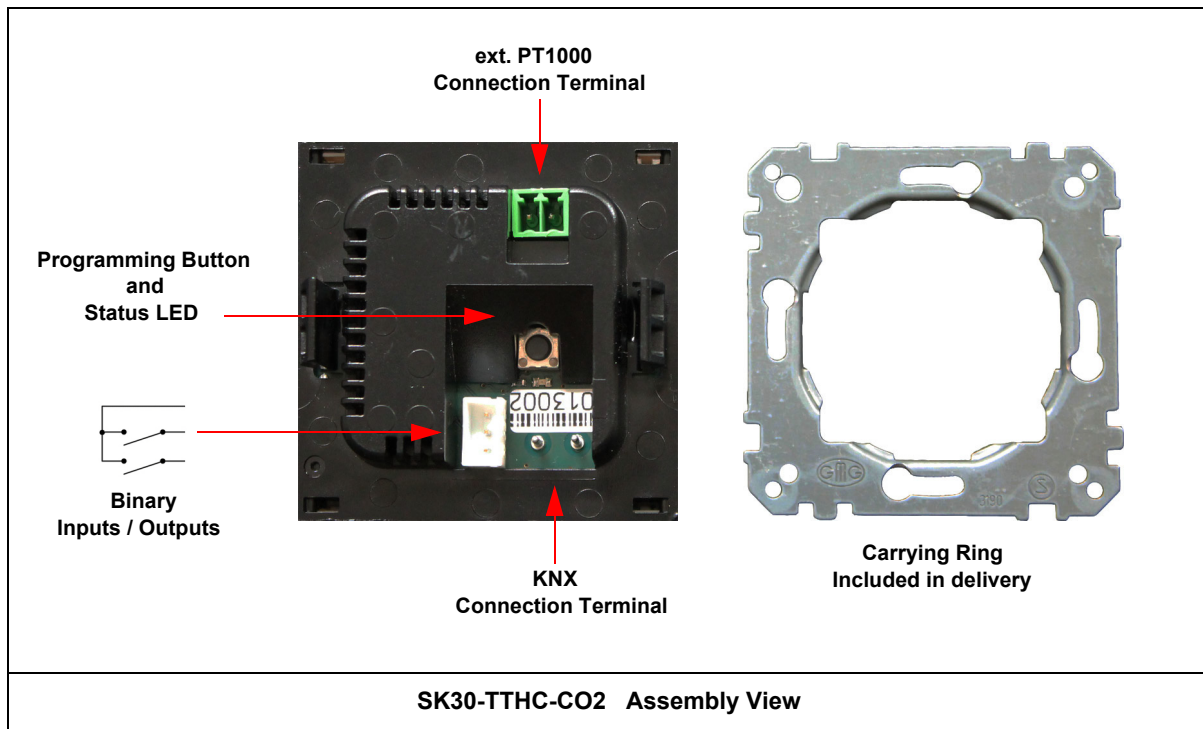
## Applications

- Detection and control of room temperature and humidity
- Detection of CO2 level
- Decentralized control for steady KNX-valves or thermal actuators
- Decentralized ventilation control depending on humidity and air quality
- Detecting of component temperature and temperature control ( Terminal for external PT1000 ) to prevent condensation and structural damage
- Evaluation of external switches and push buttons for switching functions



## Startup

The KNX Sensor is set up using the ETS ( Version 4 or higher ) and the applicable application program.  
Application for ETS from version 3f on request.  
The sensor is delivered unprogrammed.  
All functions are programmed and parameterized with ETS.  
Please read the ETS instructions.



## Assembly

The Sensor **SK30-TTHC-CO2** 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-TTHC-CO2

|  |   |
|--|---|
| Measurement                              | Temperature<br>rel. Humidity<br>CO2 Concentration<br>Temperature ( PT1000, external ) |
| Calculated Values                        | abs. Humidity<br>Dewpoint Temperature<br>Enthalpie                                    |
| Control                                  | Integrated  |
| Temperature Range                        | -20 .. +60°C  |
| Accuracy                                 | ± 0,3°C   |
| Resolution                               | ± 0,01°C  |
| Humidity Range                           | 0 .. 95% r.H  |
| Accuracy                                 | ± 3% r.H (20..80%) at +20°C, else ± 5% r.H  |
| Measurement Range CO2                    | 0 - 2000 ppm  |
| Temperature Range ( PT1000, external )   | -50 .. +250°C   |
| Accuracy                                 | ± 0,3°C ( depending on the sensor used )  |
| Resolution                               | ± 0,01°C  |
| Binary In- / Output                      | 2   |
| Operating Voltage                        | KNX Bus Voltage 21 .. 32VDC   |
| Power Consumption                        | approx. 240mW ( at 24VDC )  |
| Environment Temperature KNX-Module       | Storage: -20 .. +60°C<br>Operating: -20 .. +60°C                                      |
| Environment Humidity KNX-Module          | 5 .. 95% r.H Non Condensing   |
| Bus Coupler                              | Integrated  |
| Auxiliary Supply                         | Not Required  |
| Startup with the ETS Version 4 or higher | <b>HLK305</b>   |
| 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                           | <b>30542361 white</b><br><b>30542362 anthrazit</b>                                    |

## Imprint

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## Safety Regulations

Attention! Installation and mounting must be carried out by a qualified electrician.  
The buyer/operator of the facility has to make sure that all relevant safety regulations, issued by VDE, TÜV and the responsible energy suppliers are respected. There is no warranty for defects and damages caused by improper use of the devices or by non-compliance with the operating manuals.

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