

## Product Page

The KNX-Sensor SK10-TTHC-AFF is used for measuring and controlling indoor air parameters

- Air temperature ( sensor on housing ) also weighted with external temperature
- Relative humidity ( sensor on housing )
- Calculated values absolute humidity, dew point temperature and energy content ( enthalpy )
- External PT1000 connector ( PT1000 not included )
- 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 and humidity
- Fan control by humidity 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

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

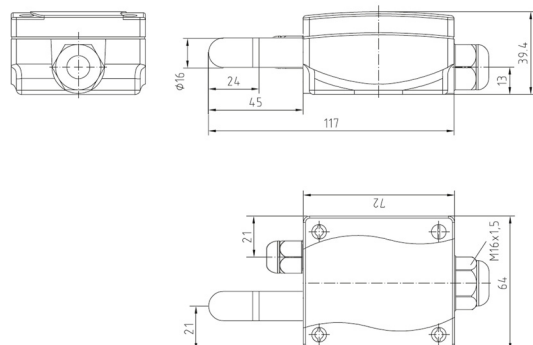
- 10 associated logic inputs / outputs
- Heat- and cooling-request as additionally available signals
- Functions "AND, OR, NOT, XOR" for binary logic
- Functions "+ - \*" for 8-bit values
- Function "=" for conditional forwarding of events

Article No. 30541053



**SK10-TTHC-AFF**  
+ ext. PT1000 Connector

|                        |  |
|------------------------|--|
| Sensor:                | Sensirion SHT11<br>Ø 14mm, 45 mm<br>The probe is protected from dust by a poroplast protective coating |
| ext. Sensor            | PT1000 ( not included )  |
| Measurement Ranges     |  |
| Temperature:           | -20 .. +80°C   |
| Resolution:            | 0,01°C   |
| Accuracy:              | ± 0,4°C @ 25°C, up to ± 2°C  |
| rel. Humidity:         | 0 .. 95% r.H   |
| Resolution:            | 0.05% r.H  |
| Accuracy:              | ± 3% r.H (20..80%) @ 25°C, else ± 5%   |
| ext. Temperature:      | -50 .. +400°C ( depending from sensor )  |
| Resolution:            | ± 0,01°C   |
| Accuracy:              | ± 0,3°C<br>+ accuracy of the sensors   |
| Operation Temperature: | -20 .. +80°C   |
| Storage Temperature:   | -25 .. +85°C   |
| Protection Class:      | IP54/65  |



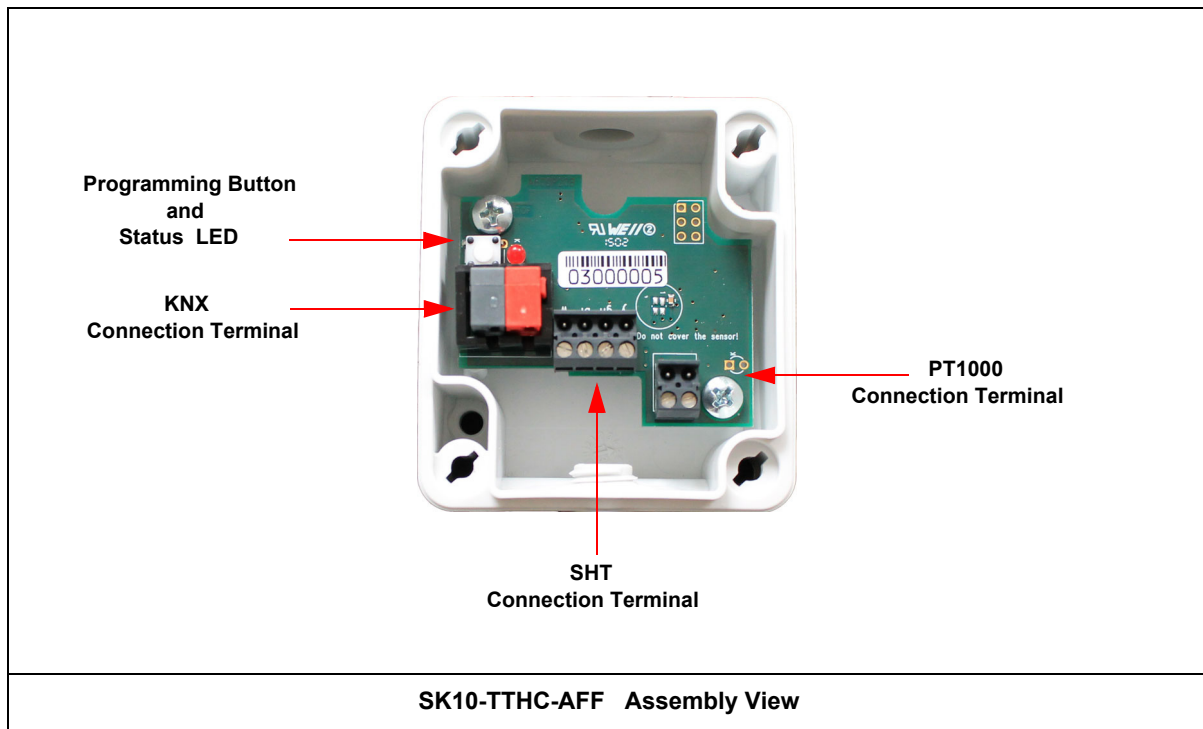
## Startup

The KNX Sensor is set up using the ETS ( Version 4 or higher ) and the applicable application program.

The sensor is delivered unprogrammed.

All functions are programmed and parameterized with ETS.

Please read the ETS instructions.



## Assembly

The **SK10-TTHC-AFF** sensor is designed for indoor and outdoor installation with the sensor facing down.

The sensor is located in a IP54/65 plastic housing.

The sensor is mounted on the wall with two screws.

**Caution, the mounting must be done with the sensor downwards !**

## 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 - SK10-TTHC-AFF

|  |  |
|--|--|
| Measurement                              | Temperature<br>Relative Humidity                       |
| Calculated Values                        | Absolute Humidity<br>Dewpoint Temperature<br>Enthalpie |
| Control                                  | Integrated   |
| Temperature Range                        | -20 .. +80°C   |
| Resolution                               | ± 0,01°C   |
| Accuracy                                 | ± 0,4°C @ 25°C, up to ± 2°C                            |
| rel. Humidity Range                      | 0 .. 95% r.H   |
| Resolution                               | 0.05% r.H  |
| Accuracy                                 | ± 3% r.H (20..80%) @ +25°C, else ± 5% r.H              |
| <b>PT1000 not included</b>               |  |
| Temperature Range                        | -50 .. +400°C ( depending from sensor used )           |
| Resolution                               | ± 0,01°C   |
| Accuracy                                 | ± 0,3°C + accuracy of the sensor                       |
| Operating Voltage                        | KNX Bus Voltage 21 .. 32VDC                            |
| Power Consumption                        | approx. 240mW ( at 24VDC )                             |
| Environment Temperature KNX-Module       | Storage: -25 .. +85°C<br>Operating: -20 .. +80°C       |
| Environment Humidity KNX-Module          | 0 .. 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                         | IP54/65  |
| Housing KNX-Module                       | Plastic  |
| Dimensions Housing KNX-Module            | ( 72 x 64 x 40 ) mm                                    |
| Article Number                           | 30541053   |

## Imprint

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