

1.1 Product Page

The KNX-sensor Temperature-Humidity-Climate **Ax-TFK** is used to measure the air temperature and humidity in dry interior spaces IP20. The integrated KNX bus coupler does not need additional auxiliary supply. The transducer with the bus coupler is enclosed in a plastic casing which fulfils protection degree IP20.

Several controllers are available in the application software HVAC, Continuous, (PWM) for the temperature, and a two-position controller is available for humidity. Additional functions include frost alarm, temperature and humidity limits, minimum/maximum value and update. The climate controller displays absolute humidity (g/kg), dew point temperature (°C), enthalpy (kJ/kg) and comfort according to DIN 1946.

The sensor is configured with ETS (KNX Tool Software) and the application program. Controlling functions such as HVAC, switching threshold and various adjustment parameters are parameterized with ETS.



Areas of Application

- Recording the temperature and relative humidity of indoor areas
- Decentralized heating regulation for constant KNX-Valves or electro-thermal valves
- Decentralized ventilation controller
- Dew point controller and alarm for cooling ceilings or winter gardens
- Dew point alarm for identification of possible mould build-up in cellars
- Shows saved maximum and minimum values on external displays
- Room temperature controller with options Comfort/Standby/Night/Frost Protection
- Direct set point presetting and display of current set point via KNX-Bus
- Various disable options for the controller

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| <p>Sensor: Sensirion SHT11</p> <p>Measurement Range: -25 .. +55 °C 10 .. 90% rH</p> <p>Accuracy: ± 0,01 °C Resolution: ± 0,3 °C 3% rH + Accuracy of the sensors</p> <p>Operating Temperature: -25 .. +55 °C Storage Temperature: -25 .. +55 °C</p> <p>Protection Class: IP20</p> | <p>Technical drawings showing dimensions: 45.15 mm (width), 45.15 mm (height), 8 mm (thickness), 28 mm (width of side view), and 82 mm (width and height of front view).</p> |
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1.2 Technical Data

Technical Data - Ax-TFK

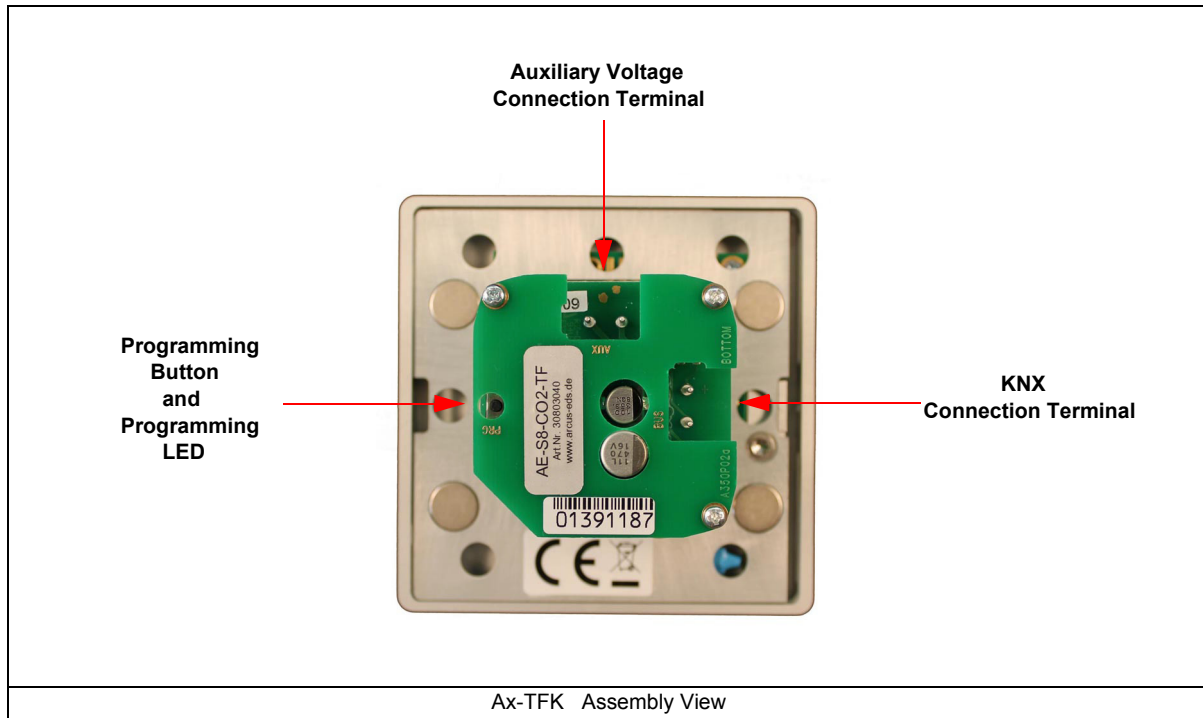
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|--|---|
| Measurement | Temperature, Humidity |
| Object Typ | 2-Byte-float |
| Temperature Controller HVAC Modi | HVAC with Increase / Decrease Options HVAC with Relative Set Point Adjustment HVAC with Absolute Set Point Adjustment |
| Temperature Controller Operating Modes | Comfort Temperature Standby Temperature Night Temperature Frost Protection Temperature |
| Temperature Controller Controller Output | Steady PI Controller Switched PI Controller (PWM) Two-Position Controller |
| Temperature Controller HVAC-Display | HVAC-Status Byte |
| Limit Alarm (upper / lower) | Temperature |
| Minimum / Maximum Temperature | Saved Minimum / Maximum Actual Temperature |
| Frost Protection Alarm | Falling Below Frost Protection Temperature |
| Humidity Controller Mode | Controller with increase/decrease options |
| Humidity Controller, Controller Output | Two-position controller with hysteresis |
| Tracking | Temperature |
| Comfort Field | Comfort Output Text |
| Calculated Value | Absolute Humidity, Dew Point Temperature, Enthalpy |
| Adjustment Parameters | Offset Adjustment, Output Inversion |
| Lock and Reset Object | Minimum / Maximum Temperature |
| Send Options | Do not Send Periodic Sending by Adjustments |
| Environment Temperature | Storage: -25 .. +55°C Operating: -25 .. +55°C |
| Environment Humidity | 0 .. 95% rH not Condensed |
| Temperature Range | -25 .. +55°C |
| Accuracy | ± 0,3°C |
| Resolution | ± 0,01°C |
| Humidity Range | 10 .. 90% rH |
| Accuracy of Humidity | 3% rH |

Technical Data - Ax-TFK (Fortsetzung)

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|--------------------------|---|
| Operating Voltage | EIB/KNX Bus Voltage 21 .. 32VDC |
| Power Consumption | approx. 240mW (at 24VDC) |
| Auxiliary Supply | not Required |
| Bus Coupler | Integrated |
| Start-up with ETS | ARC_TFK.VD2 Product: Temperature/Humidity/Climate SK01 |
| Circuit Points | EIB-2-Pole Clamps (red / black) |
| Protection Class | IP20 |
| Assembly Type Transducer | In-wall mounting |
| Casing Transducer | Aluminium anodized , white |
| Casing Dimensions | 82 x 82 x 8 mm (W x D x H) |
| Article Number | 30104200 anodized 30104201 white |
| Sensor | Sensirion SHT11 |

1.3 Startup

The KNX Sensor is set up using the ETS (KNX Tool Software) and the applicable application program.
The sensor is delivered unprogrammed.
All functions are programmed and parameterized with ETS.
Please read the ETS instructions.



1.4 Assembly

The **Ax-TFK** sensors for indoor areas.
They fulfill protection class (IP20).

After the sensor has been mounted onto the wall or ceiling, lead the KNX bus cable through the hole in the casing (PK screw connection). Remove the bus clamps from the device and connect the cable to it. Place the bus clamps back onto the device. After programming the device, place the lid back on by twisting the screws 90°.

Be careful not to damage the electronics during the installation process.

In Case of Bus Voltage Recurrence

All changes made using the help key for the KNX/EIB bus are saved if the device has been correctly parameterized.
The controller and outputs start with their current values and the ETS parameter settings are saved.

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 to zero potential (disconnect the EIB bus coupler).

Press and hold the programming button while reconnecting the EIB bus coupler 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.