



KNX T-AP

Temperature Sensor

Technical specifications and installation instructions

Item number 70121



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1. Description

The **Temperature Sensor KNX T-AP** measures temperature in indoor and outdoor areas. The sensor can receive an external measured value via the bus and process it with the own data to an overall temperature (mixed value).

The **KNX T-AP** provides four switching outputs with adjustable threshold values as well as additional AND and OR logic gates. The sensor has got a PI controller for heating and cooling.

Functions:

- Measurement of **temperature**
- **Mixed value** from own measured value and external value (proportions can be set in percentage)
- **PI controller for heating** (one or two step) and **cooling** (one or two step)
- **4 switching outputs** with adjustable threshold values (Threshold values can be set by parameter or via communication objects)
- **4 AND and 4 OR logic gates** with each 4 inputs. Every switching incident as well as 8 logic inputs in the form of communication objects may be used as inputs for the logic gates. The output of each gate may optionally be configured as 1 bit or 2 x 8 bits

Configuration is made using the KNX software ETS. The **product file** can be downloaded from the Elsner Elektronik homepage on **www.elsner-elektronik.de** in the "Service" menu.

1.1. Technical specifications

Housing	Plastic material, sensor sleeve metal
Colour	Grey
Mounting	On-wall
Protection category	IP 65
Dimensions	approx. 65 x 93 x 38 (W x H x D, mm)
Weight	approx. 70 g
Ambient temperature	Operation -30...+85°C, Storage -55...+125°C
Operating voltage	KNX bus voltage
Bus current	max. 5.5 mA, max. 15 mA when programming LED is active
Data output	KNX +/- bus terminal plug
BCU type	Own micro controller
PEI type	0
Group addresses	max. 184
Allocations	max. 184
Communication objects	80
Measurement range temperature	-30...+80°C

Resolution (temperature)	0.1°C
Accuracy (temperature)	±1°C at -30...+80°C

The product conforms with the provisions of EU directives.

2. Installation and commissioning

2.1. Installation notes



Installation, testing, operational start-up and troubleshooting should only be performed by an electrician.



CAUTION!

Live voltage!

There are unprotected live components inside the device.

- National legal regulations are to be followed.
- Ensure that all lines to be assembled are free of voltage and take precautions against accidental switching on.
- Do not use the device if it is damaged.
- Take the device or system out of service and secure it against unintentional use, if it can be assumed, that risk-free operation is no longer guaranteed.

The device is only to be used for its intended purpose. Any improper modification or failure to follow the operating instructions voids any and all warranty and guarantee claims.

After unpacking the device, check it immediately for possible mechanical damage. If it has been damaged in transport, inform the supplier immediately.

The device may only be used as a fixed-site installation; that means only when assembled and after conclusion of all installation and operational start-up tasks and only in the surroundings designated for it.

Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

2.2. Location

The sensor is designed for surface mounting. When selecting an installation location, please ensure that the measurement results are affected as little as possible by external influences. Possible sources of interference include:

- Direct sunlight
- Drafts from windows and doors
- Warming or cooling of the building structure on which the sensor is mounted, e.g. due to sunlight, heating or cold water pipes

- Connection lines which lead from warmer or colder areas to the sensor

Temperature variations from such sources of interference must be corrected in the ETS in order to ensure the specified accuracy of the sensor (temperature offset).

For outdoor installation it must be ensured that a 60 cm gap is left below the sensor in order to prevent it from being snowed during snowfall.

The sensor must be mounted vertically. The measurement probe and the cable outlet must point downwards.

2.3. Mounting and connection

2.3.1. Layout

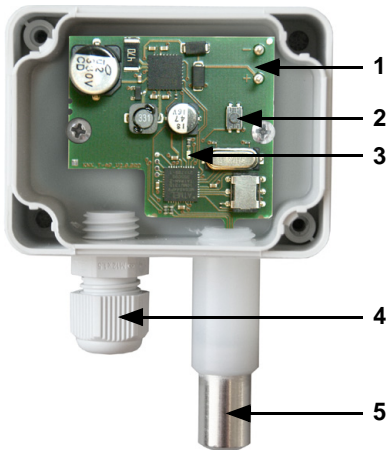


Fig. 1 Opened casing, board

- 1 Slot for KNX terminal +/-
- 2 Programming button for teaching the instrument
- 3 Programming LED
- 4 Cable entry with threaded joint
- 5 Temperature sensor tip



Fig. 2 Rear view with dimensioning of openings for mounting

2.3.2. Connection of the sensor

Remove the screwed on cover. Lead the KNX bus connection cable through the cable entry on the bottom of the casing and connect the bus +/- to the terminal provided for this purpose. Screw the cover back on.

2.4. Notes on mounting and commissioning

Do not open the device if water (rain) might ingress: even some drops might damage the electronic system.

After the bus voltage has been applied, the device will enter an initialisation phase lasting a few seconds. During this phase no information can be received or sent via the bus.

3. Maintenance



Always isolate the device from the voltage supply for servicing and cleaning.

The device must regularly be checked for dirt twice a year and cleaned if necessary. In case of severe dirt, the sensor may not work properly anymore.



ATTENTION

The device can be damaged if significant volumes of water penetrate the housing.

- Do not clean with high pressure cleaners or steam jets.
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