

KNX T-UP basic

Temperature sensor

Technical specifications and installation instructions

Article number 70350 (white)



Insert for 55 mm frame

1. Description

The **Temperature sensor KNX T-UP basic** measures the room temperature. Via the bus, the sensor receives an external measuring value and processes it to an overall temperature (composite result) together with its own data.

The **KNX T-UP basic** provides switching outputs with adjustable threshold values. The switching outputs and further communication objects can be linked by AND and OR logic gates. In addition, an integrated control variable comparator compares and outputs variables that were received via communication objects. The sensor features a PI control for heating and cooling.

The housing is supplemented with a frame of the switch series used in buildings, and thus fits seamlessly into the interior fittings.

Functions:

- **Temperature** measurements
- **Composite value** from own measured value and external value (proportions are adjusted as a percentage)
- **PI-controller for heating** (one or two-stage) and **cooling** (one or two-stage) according to temperature. Regulation according to separate setpoints or basic setpoint temperature
- **Threshold values** can be adjusted per parameter or via communication objects
- **8 AND and 8 OR logic gates**, each with 4 inputs. All switching events as well as 16 logic inputs (in the form of communications objects) are used as inputs for the logic gates. The output from each gate can be configured optionally as 1-bit or 2 x 8-bit
- **2 control variable comparators** to output minimum, maximum or average values. 5 inputs each for values received via communication objects

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

1.1. Deliverables

- Housing with sensor PCB
- Base frame

1.1.1. Accessories required

- Device socket according to DIN 49073
- Frame (for insert 55 x 55 mm), compatible with the switch scheme used in the building

1.2. Technical specifications

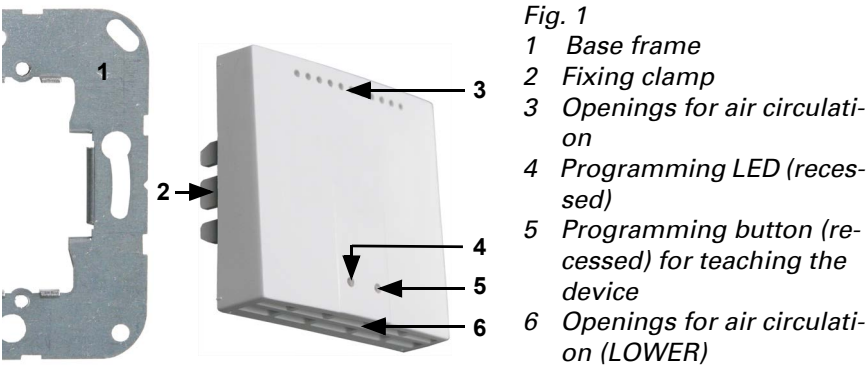
General:	
Housing	Plastic (partially painted)
Colours	White, glossy, similar to RAL 9016 Traffic White
Assembly	on device socket according to DIN 49073
Dimensions	Housing approx. 55 x 55 (W x H, mm), Installation via socket approx. 18.5 mm, Total depth approx. 25.5 mm, Baseplate approx. 71 x 71 (W x H, mm),
Weight	approx. 45 g
Ambient temperature	-5...+45°C
Ambient humidity	5...95% RH, non-condensing
Storage temperature	-40...+85°C
Overvoltage category	III
Degree of contamination	2
KNX bus:	
KNX medium	TP1-256
Configuration mode	S-Mode
Group addresses	max. 254
Assignments	max. 254

Communication objects	151
Nominal voltage KNX	30 V SELV
Power consumption KNX	max. 10 mA
Connection	KNX plug terminals
Duration after bus voltage restoration until data is received	approx. 5 seconds
Sensors:	
Measurement range	-25...+80°C
Resolution	0.1°C

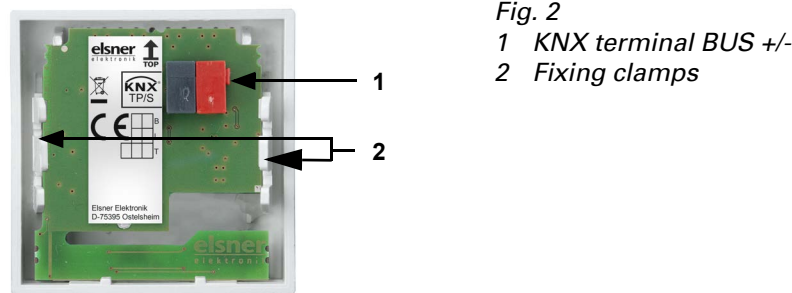
The product is compliant with the provisions of EU guidelines.

1.2.1. Construction of the sensor

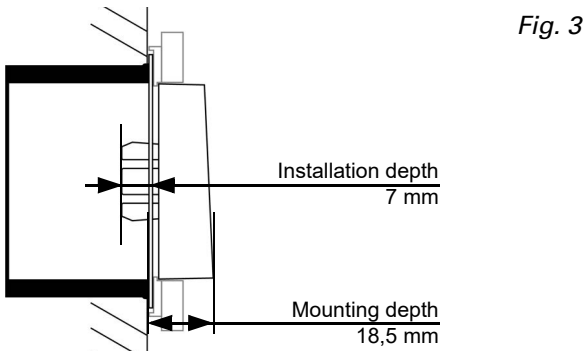
Housing



Rear view sensor plate with connection



Sectional view



2. Safety and use instructions



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



CAUTION! Live voltage!

There are unprotected live components inside the device.

- Inspect the device for damage before installation. Only put undamaged devices into operation.
- Comply with the locally applicable directives, regulations and provisions for electrical installation.
- Immediately take the device or system out of service and secure it against unintentional switch-on if risk-free operation is no longer guaranteed.

Use the device exclusively for building automation and observe the operating instructions. Improper use, modifications to the device or failure to observe the operating instructions will invalidate any warranty or guarantee claims.

Operate the device only as a fixed-site installation, i.e. only in assembled condition 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.

3. Installation

3.1. Installation location and preparation

The sensor is installed on a device socket.



The sensor may be installed and operated in dry interior rooms only. Avoid condensation.

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
- When mounted in-wall: Draft from ducts which lead from other rooms to the junction box in which the sensor is mounted
- 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).

3.2. Connection



For installation and wiring at the KNX connection, the provisions and standards applicable to SELV circuits must be complied with!

Prevent contact between the mains voltage line and SELV wiring!

- The socket with the device and adjacent device sockets with a metal base frame must not contain any 230 V wiring.

First of all fit the socket with connection. Seal inlet pipes to avoid infiltration.

Then screw the base plate onto the socket and position the frame of the switching programme. Connect the bus line +/- (black-red plug) to the terminals provided on the sensor board of the sensor. Pin the sensor with the fixing clamps on to the metal frame, so that sensor and frame are fixed.

4. Commissioning

After the bus voltage has been applied, the device will enter an initialisation phase lasting approx. 5 seconds. During this phase no information can be received or sent via the bus.

4.1. Addressing the equipment

The individual address is assigned via the ETS. For this purpose there is a button with a control LED on the unit (Fig. 1, No. 4+5).

The equipment is delivered with the bus address 15.15.255. Another address can be programmed using the ETS.

5. Disposal

After use, the device must be disposed of in accordance with the legal regulations. Do not dispose of it with the household waste!