

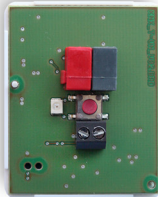


KNX T-UN 100

Temperature Sensor

Technical specifications and installation instructions

Item number 70221



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1. Description

The **Temperature Sensor KNX T-UN 100** consists of evaluation electronics and measuring sensor. The sensor 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-UN 100** 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**, the data sheet and the manual 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	Housing white, cable black
Installation	Mounting
Protection category meas. sensor	IP 43
Dimensions evaluation electronics	approx. 38 x 47 x 24 (W x H x D, mm)
Dimensions measuring sensor	length sensor sleeve approx. 32 mm, diameter approx. 6 mm, cable length approx. 300 cm
Ambient temperature	Evaluation electronics: Operation -20...+70 °C, storage -55...+150°C Measuring sensor and cable: Operation -35...+100 °C, storage -55...+150°C
Ambient air humidity	Evaluation electronics: max. 95% R. H., avoid bedewing
Operating voltage	KNX bus voltage
Bus current	max. 8 mA
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	-35...+100°C	
Accuracy at +25°C housing temperature of evaluation electronics	Sensor temperature	Max. difference of measured value
	±0°C	± 1.0°C
	-35...+25°C	± 1.5°C
	-35...+70°C	± 2.5°C
	-35...+100°C	± 4.0°C

The product conforms with the provisions of EC guidelines

- EMC Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC

The following standards and/or technical specifications have been applied:

- EN 50491-5-1: 2010
- EN 50491-5-2: 2011
- EN 60730-1: 2011

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. Installation position

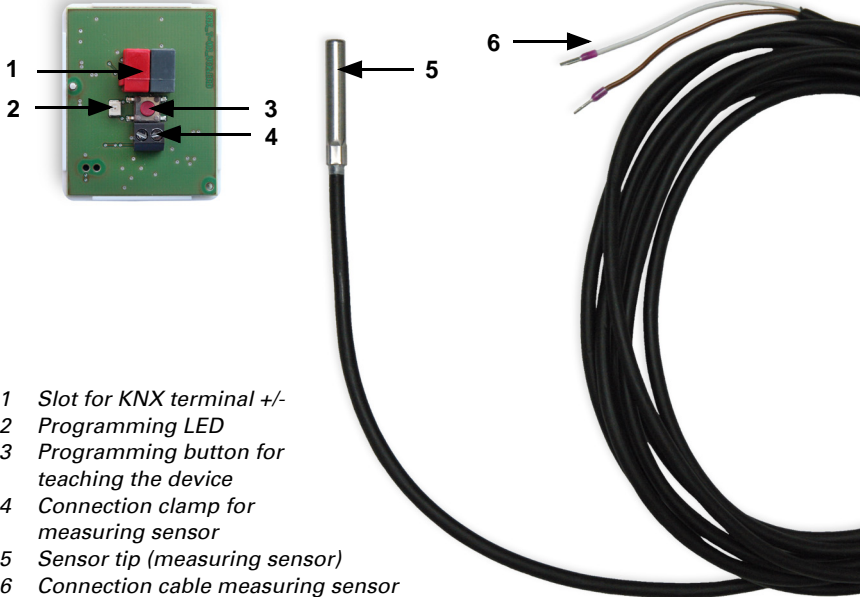
The evaluation electronics of the sensor is installed in a socket. When selecting an installation location for the measuring sensor, please ensure that the measurement results are affected as little as possible by external influences. Possible sources of interference include:

- 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).

2.3. Mounting and connection

2.3.1. Composition of the sensor



- 1 Slot for KNX terminal +/-
- 2 Programming LED
- 3 Programming button for teaching the device
- 4 Connection clamp for measuring sensor
- 5 Sensor tip (measuring sensor)
- 6 Connection cable measuring sensor

2.3.2. Connection of the sensor

Connect the cable of the measuring sensor to the evaluation electronics (connection is reverse polarity protected). The cable connection may be extended up to 10 m maximum.

2.4. Notes on mounting and commissioning

Never expose the device to water (e.g. rain) or dust. This can damage the electronics. You must not exceed a relative humidity of 95%. Avoid condensation.

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 via the bus.