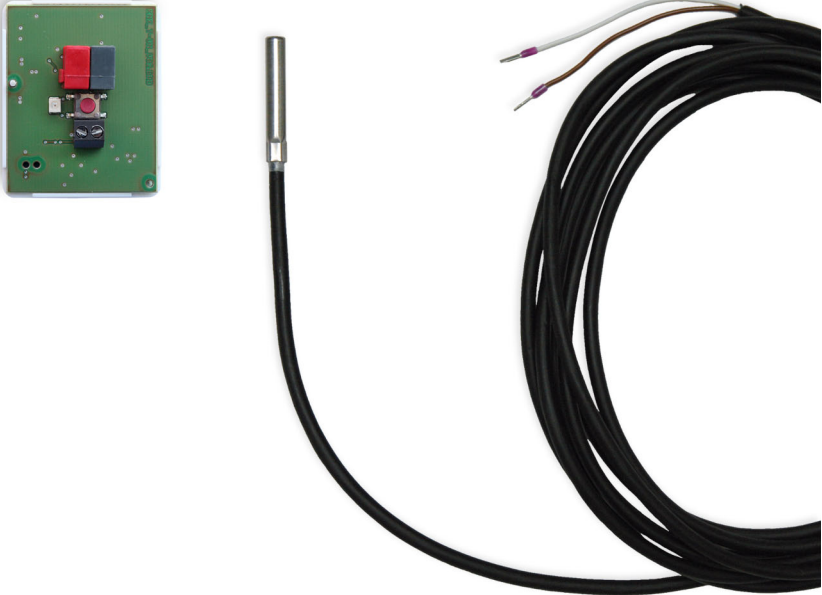# KNX T-UN 100
Temperature Sensor

Technical specifications and installation instructions
Item number 70221

KNX

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)
* **Threshold values** can be adjusted per 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 website 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
Degree of protection 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
Group addresses	max. 184
Allocations	max. 184
Communication objects	80
Measurement range	-35…+100°C

The product conforms with the provisions of EU directives.

2. Installation and commissioning

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.
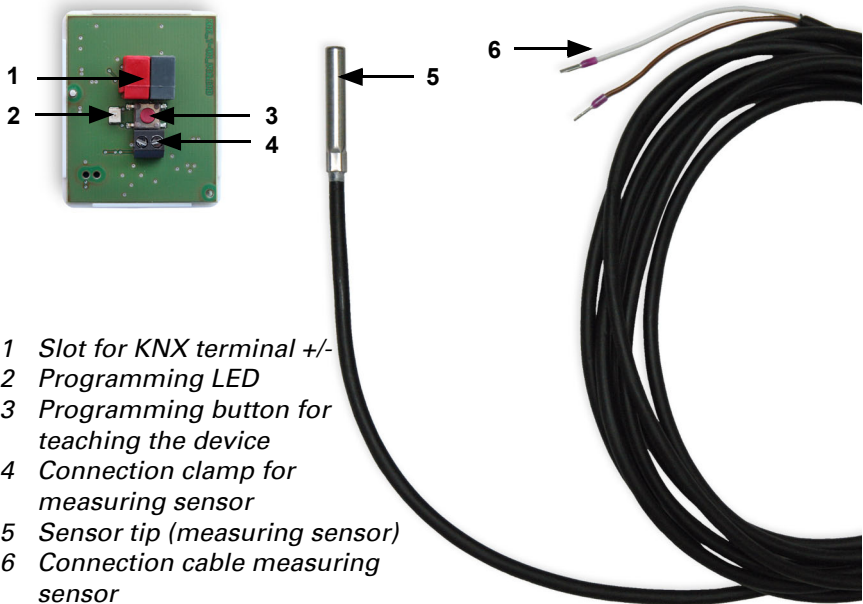
2.1. Installation position

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).

2.2. Mounting and connection

2.2.1. 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

2.2.2. 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.

3. 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 or sent via the bus.

4. Addressing of the device at the bus

The device is supplied with the bus address 15.15.255. You can program another address into the ETS by overwriting the 15.15.255 address or by teaching via the programming button.

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!