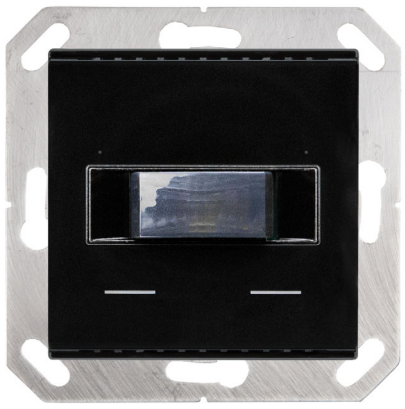
KNX T-L-Pr-UP Touch Presence, brightness and temperature sensor

Technical specifications and installation instructions
Item numbers 70850 (pure white), 70852 (deep black)



1. Description

The **Sensor KNX T-L-Pr-UP Touch** for the KNX building system detects brightness and the presence of persons in the room and measures the temperature. Via the bus, the indoor sensor can receive an external temperature measurement and processes it together with its own data to generate an overall temperature (mixed value).

The **KNX T-L-Pr-UP Touch** has a settable brightness limit. The limit output and other communication objects can be connected with an AND and OR logic gate.

Two integrated touch buttons (bus buttons) and two red LEDs can be freely assigned bus commands. The device is supplemented with a frame of the switch series used in the building, and thus fits seamlessly into the interior fittings.

Functions:

- **Brightness measurement Brightness limit value** settable by parameter or communication object
- **Presence of persons is detected**
- **Temperature** measurements. **Mixed value** from its own measurement and external values (settable by percentage proportion)
- **2 AND and 2 OR logic gates** each with 4 inputs. All switching events as well as 8 logic inputs (in the form of communications objects) can be 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 Touch buttons**. Bus button, can be configured as switch, toggle, dimmer, for controlling the drives, as 8 or 16-bit encoder for scene call up/storage
- **2 LEDs**. Can be configured separately, flash or switch using objects

Configuration is made using the KNX software ETS 5. The **product file** can be downloaded from the ETS online catalogue and the Elsner Elektronik website on **www.elsner-elektronik.de** in the “Service” menu.

1.0.1. Scope of delivery

- Housing with display
- Base plate

Additionally required (not included in the deliverables):

- Junction box Ø 60 mm, 42 mm deep
- Frame (for insert 55 x 55 mm), compatible to the switch scheme used in the building

1.1. Technical data

Housing	ABS plastic
Colours	• similar to RAL 9010 pure white • similar to RAL 9005 deep black
Assembly	Flush-mounted (wall installation in junction box Ø 60 mm, 42 mm deep or cavity wall socket for burr hole Ø 68 mm)
Degree of protection	IP 20
Dimensions	Housing approx. 55 x 55 (W x H, mm), Mounting depth approx. 10 mm, Base plate approx. 71 x 71 (W x H, mm),
Total weight	approx. 50 g
Ambient temperature	Operation -20…+60°C, storage -20…+70°C
Ambient humidity	max. 95% RH, avoid condensation
Operating voltage	KNX bus voltage
Bus current	max. 10 mA
Data output	KNX +/- Bus plug-in terminal
Group addresses	max. 205
Allocations	max. 205
Communication objects	86
Temperature measurement range	-20…+60°C
Temperature resolution	0.1°C
Temperature accuracy	± 0.5°C at 0…+50°C (Note the instructions on *Accuracy of the measurement*)
Brightness sensor:	
Measurement range	0 lux … 20,000 lux (higher values may be measured and displayed)
Resolution	1 lux
Accuracy	±15% of the measurement value at 100…5,000 lux
Presence sensor:	
Recording angle	horizontal approx. 150° vertical approx. 35° (see also *Recording range of the presence detector*)
Range	approx. 5 m

The product is compliant with the provisions of EU Directives.

1.1.1. Accuracy of the measurement

Measurement variations from permanent sources of interference (see chapter *Installation position*) can be corrected in the ETS in order to ensure the specified accuracy of the sensor (offset).

When **measuring temperature**, the self-heating of the device is considered by the electronics. The heating is compensated by the software.

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 the intended purpose described in this manual. 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 location

The **Sensor KNX T-L-Pr-UP Touch** is designed for wall installation in a connector socket (Ø 60 mm, 42 mm deep).

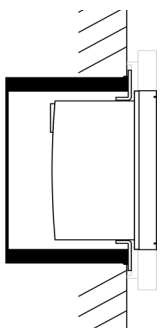


Fig. 1: Cross-section drawing.
*The **Sensor KNX T-L-Pr-UP Touch** fits in a standard connector socket (Ø 60 mm, depth 42 mm).*

The frame is not included in the delivery!

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
- Draft from ducts which lead from other rooms or from the outside 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 and ducts which lead from warmer or colder areas to the sensor

Measurement variations from permanent sources of interference can be corrected in the ETS in order to ensure the specified accuracy of the sensor (offset).

2.2.1. Detection range of the presence sensor

Detection range: horizontal approx. 150°, vertical approx. 35°
Range: approx. 5 m

Size of the detection range

Fig. 2 horizontal (see from above)

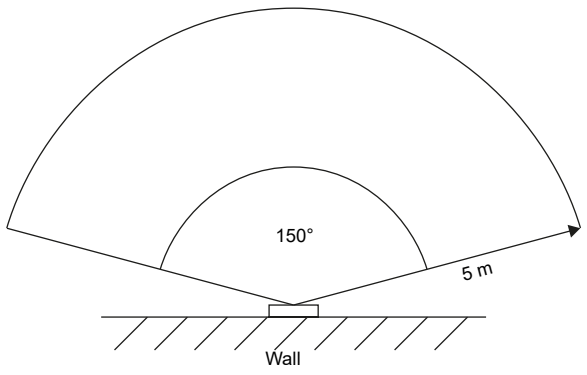
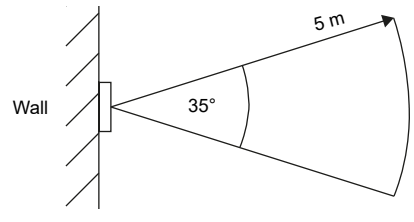


Fig. 3 vertical (seen from the side)



2.3. Device structure

2.3.1. Housing

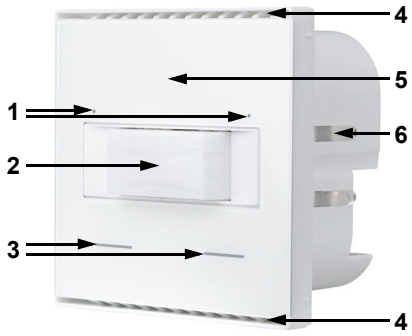


Fig. 4 Front
1 LEDs
2 Presence sensor
3 Touch buttons
4 Ventilation slots (top and bottom)
5 Position of the brightness sensor
6 Breaks

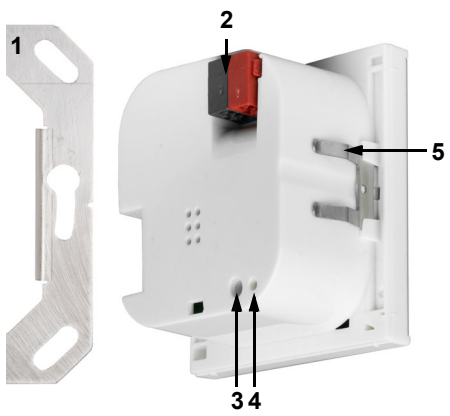


Fig. 5 Rear
1 Support frame
2 KNX terminal BUS +/-
3 Programming LED (recessed) for teaching the device
4 Programming LED (recessed)
5 Catches

2.4. Installing the sensor

First fit the wind-proof socket with cable. Seal the inlet tubes as well, in order to prevent draughts.
Then screw the base plate to the socket and insert the frame of the switch program.
Connect the bus cable +/- to the plug (black-red).
Insert the device firmly onto the metal frame using the catches so that the device and the housing are fixed together.

2.5. 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 or sent via the bus.

The presence sensor has a start-up phase of approx. 15 seconds, during which the presence of persons is not detected.

3. 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.

4. Maintenance

Presence and brightness sensor, and the ventilation slots, must not become dirty or be covered. As a rule, it is sufficient to wipe the device with a soft, dry cloth as required.

5. Disposal

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