Sewi KNX L-Pr Presence Detector with Brightness Sensor

Technical specifications and installation instructions
Item numbers 70396 (white), 70696 (jet black)

1. Description

The **Sensor Sewi KNX L-Pr** for the KNX building bus system captures brightness and the presence of persons in rooms. The brightness value measured can be used for the control of limit-dependent switching outputs. States can be linked via AND logic gates and OR logic gates. Multi-function modules change input data as required by means of calculations, querying a condition, or converting the data point type.

Functions:

- **Brightness measurement** with **brightness control**
- **Presence of persons is detected**
- **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 can be used as inputs for the logic gates. The output of each gate can be configured optionally as 1-bit or 2 x 8-bit
- **8 multi-function modules** (computers) for changing the input data by calculations, by querying a condition or by converting the data point type

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.

1.0.1. Scope of delivery

- Combined sensor

1.1. Technical data

Housing	Plastic
Colours	• White similar to signal white RAL 9003 (skirting)/ grey white RAL 9002 (cover) • Jet black RAL 9005
Assembly	Surface, ceiling installation
Protection category	IP 30
Dimensions	Ø approx. 105 mm, height approx. 32 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
BCU type	Integrated microcontroller
PEI type	0
Group addresses	max. 2000
Assignments	max. 2000
Communication objects	230
Brightness sensor:	
Measurement range	0 lux … 2,000 lux (higher values can be measured and output)
Resolution	1 lux at 0…2,000 lux
Accuracy	±15% of the measurement value at 30 lux … 2,000 lux
Presence sensor:	
Coverage angle	approx. 94° × 82° (see also *Coverage area of the presence detector*)
Range	approx. 5 m

The product conforms with the provisions of EU directives.

2. Installation and start-up

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 location

Install and use only in dry interior rooms! Avoid condensation.

The **Sensor Sewi KNX L-Pr** is installed surface mounted on ceilings.

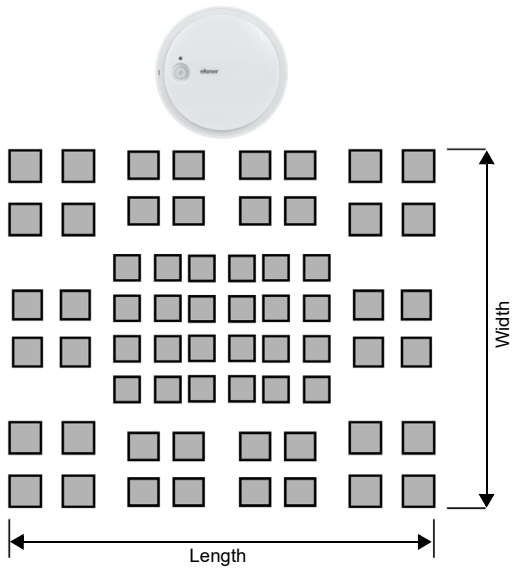
To detect the presence of persons make sure that the desired area is covered by the sensor's coverage angle and that no obstacles obstruct the recording.

2.2.1. Coverage area of the presence detector

Angle of coverage: approx. 94° × 82°
Range: approx. 5 m

Segmentation of the coverage area

Fig. 1



Size of the coverage area

Distance	Length	Width
2.50 m	approx. 5.40 m	approx. 4.30 m
3.50 m	approx. 7.50 m	approx. 6.10 m

2.3. Construction of the sensor

2.3.1. Housing from the outside

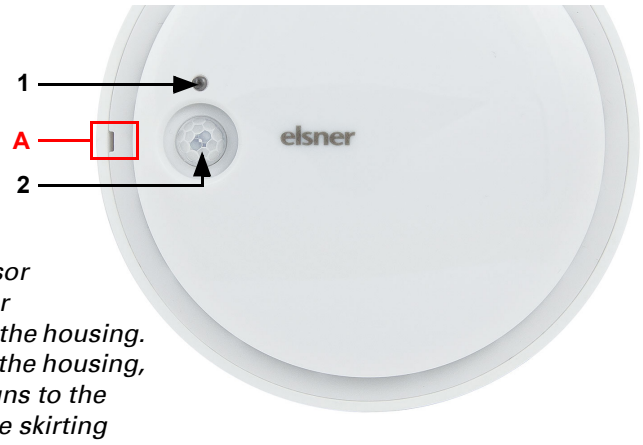
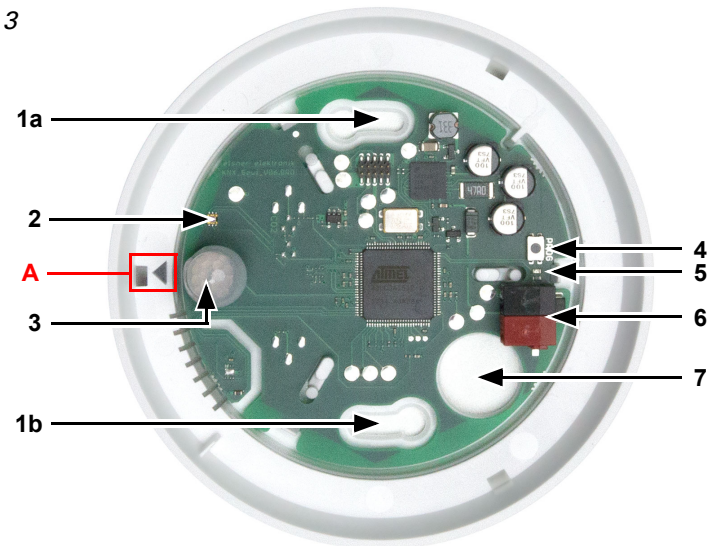


Fig. 2
1 Brightness sensor
2 Presence sensor
A Recess to open the housing. When closing the housing, the recess aligns to the marking on the skirting

2.3.2. Printed circuit boards / connections

Fig. 3



1 a+b Long holes for mounting (hole distance 60 mm)
2 Brightness sensor
3 Presence sensor
4 Programming button
5 Programming LED
6 KNX-terminal BUS +/-
7 Cable bushing
A Mark for aligning the cover

2.4. Assembly

Fig. 4

Open the housing. To do this, carefully lift the cover from the skirting. Start at the recess (Fig. 2: A).

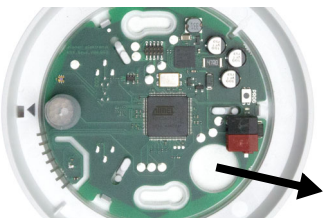


Fig. 5

Lead the bus cable through the cable bushing in the skirting.

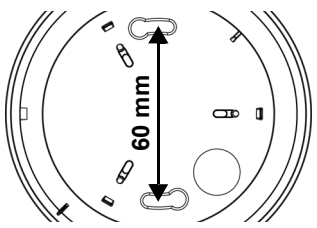


Fig. 6

Screw the skirting to the ceiling.

Hole distance 60 mm.

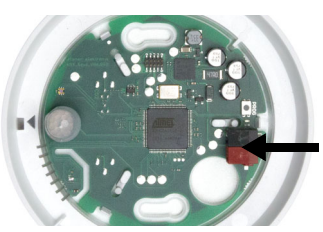


Fig. 7

Connect the KNX bus to the KNX terminal.

Fig. 8

Close the housing by positioning the cover and snapping it into place. To do this, align the recess on the cover to the marking on the skirting (Fig. 2+3: A).

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.

The air slots on the side must not be closed or covered. The brightness sensor and the presence sensor must not be painted over or covered.

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 the equipment

The equipment is delivered with the bus address 15.15.255. You can program a different address in the ETS by overwriting the address 15.15.255 or by teaching the device via the programming button.

The programming button is on the inside of the housing (Fig. 3: No. 4).

4. Maintenance

The brightness sensor, the presence sensor and the air slots on the side must not get dirty or covered. As a rule, it is sufficient to wipe the device with a soft, dry cloth twice a year.