

Adapter for KNX and relay

Order no.: 7590 00 32

Operation and assembly instructions

1 Safety instructions

Installation and assembly of electrical devices may only be carried out by an electrician.

The glass sensor of the product line Berker TS Sensor which is to be connected to the adapter is not suitable for direct switching of mains voltage or low voltage.

Connection of KNX interfaces requires specialised knowledge obtained from KNX training courses.

Failure to observe these instructions may lead to damage to the device, fire, or other hazards.

These instructions are an integral component of the product, and must be retained by the end user.

2 Structure of the device (Figure 1)

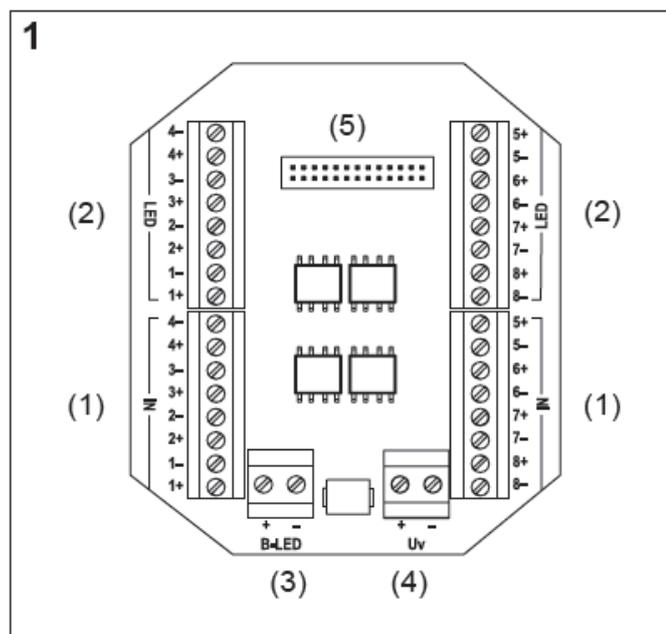


Figure 1

- (1) Terminal blocks for connecting the sensor surfaces
- (2) Terminal blocks for controlling the white LEDs
- (3) Connecting terminals for controlling the blue LED
- (4) Connecting terminals for the power supply
- (5) Connection for the ribbon cable

3 Function

The adapter serves to connect the glass sensor of a Berker TS Sensor to the control systems of the building installations, such as KNX or relay circuits. These can be connected within the limits of the technical specifications.

i Each adapter can be used to connect one glass sensor to a building installation system.

The glass sensor requires a supply voltage in the range from 8 to 30 V_±.

The connection to the control systems and the power supply is via screw terminals on the adapter. The adapter is connected to the glass sensor via the ribbon cable included with the sensor. Please observe the operation and assembly instructions for the glass sensor.

The adapter is installed in a wall box 2gang for glass sensor or in another suitable wall box.

4 Information for electricians

4.1 Assembly and electrical connections

**CAUTION!**

Risk of destruction of the sensor or the connected system.

Fault voltages may occur when working under voltage.

Isolate from voltage before connecting the installation environment.

The LEDs of the glass sensor can be operated with their factory setting or controlled via the connected system, if this is allowed by the system.

i To control the white/blue LEDs on the glass sensor the connected system, the corresponding jumpers on the back of the glass sensor must be adjusted. For information about the positions of the jumpers, please consult the operating and assembly instructions for the glass sensor.

**CAUTION!**

Risk of destruction of the device or the connected sensor.

High switching currents can destroy the electronics.

Do not apply more than 10 mA switching current to any terminal pair of the IN terminal blocks.

Do not apply more than 1 mA switching current to any terminal pair of the LED and B-LED terminal blocks.

To connect the sensor surfaces to the installation system, in each case assign a terminal pair of the terminal block **IN** with corresponding + and – terminals on the adapter.

To control a white LED, in each case assign a terminal pair of the terminal block **LED** with corresponding + and – terminals on the adapter.

To control the blue LED, assign the separate connecting terminal **B-LED** (Figure 1, 3).

i Because the signal transmission from systems to the glass sensor takes place via optocouplers in the adapter, attention must be paid to the potentials when making connections.

In each case the conductor with the higher potential must be connected to the + terminal of the numbered terminal space. Observe the specifications of the system interfaces being used.

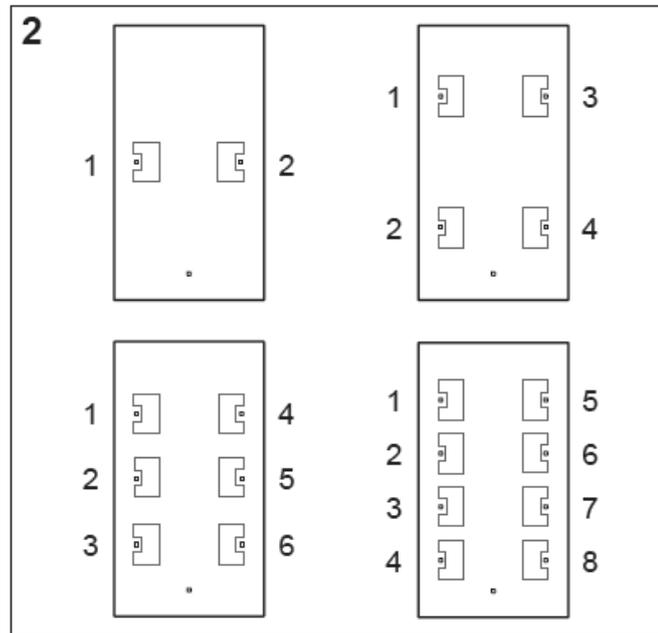


Figure 2

The numbered terminals of the adapter are assigned to the sensor surfaces and white LEDs of the glass sensor. The assignments depend on the variant of the glass sensor (Figure 2).

- ❶ When connecting the system interfaces and assigning the functions, pay attention to the assignment of the terminal spaces to the sensor surfaces!

Examples for connecting the adapter to individual system interfaces are described below. Several of the same or different interfaces can be used to provide sufficient channels from the system in question.

Connecting the adapter to the KNX system via universal interface 2gang comfort flush-mounted

A universal interface 2gang comfort flush-mounted can be used to connect a glass sensor 1gang. Two sensor surfaces for signal transmission to the KNX system can be connected.

- ❶ The interface must be programmed with two inputs. The white LEDs are operated with their factory setting.

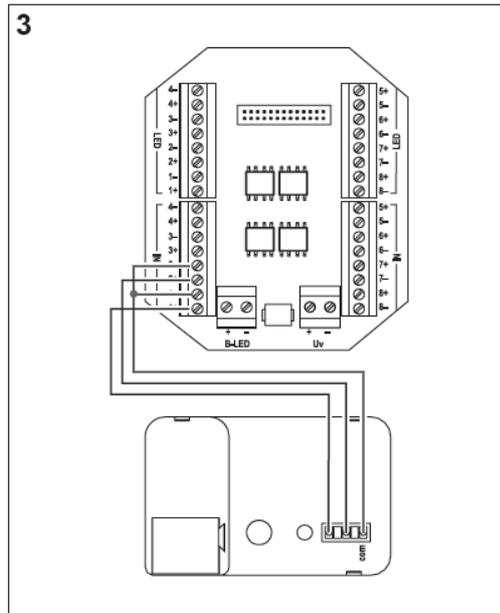


Figure 3

- Route cables of inputs **E1** and **E2** into terminals **1+** and **2+** of the **IN** terminal block on the adapter (Figure 3) and tighten screw terminals.
- Loop **com** connecting cable through terminals **1-** and **2-** of the **IN** terminal block on the adapter and tighten screw terminals.
The sensor surfaces can now be used to transmit signals to the KNX system.

Connecting the adapter to the KNX system via universal interface 4gang comfort flush-mounted

A universal interface 4gang comfort flush-mounted can be used to connect a glass sensor 1gang. Two sensor surfaces for signal transmission to the KNX system and two white LEDs can be connected.

- i The interface must be programmed with two inputs and two outputs.

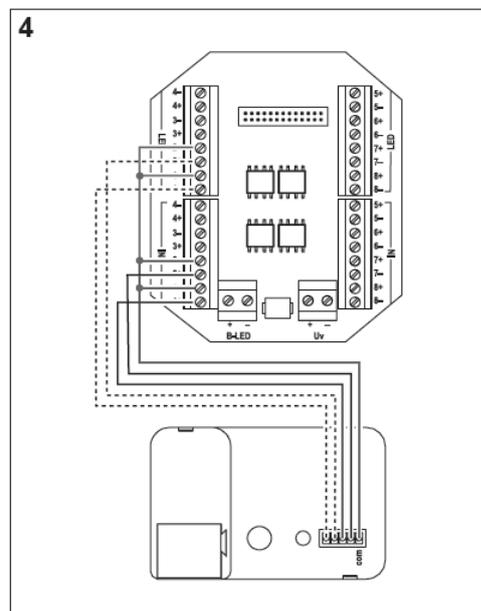


Figure 4

- Route cables of outputs **A1** and **A2** into terminals **1+** and **2+** of the **LED** terminal block on the adapter (Figure 4) and tighten screw terminals.
 - Route cables of inputs **E3** and **E4** into terminals **1+** and **2+** of the **IN** terminal block on the adapter (Figure 4) and tighten screw terminals.
 - Loop **com** connecting cable through terminals **1–** and **2–** of the **IN** terminal block and **1–** and **2–** of the **LED** terminal block on the adapter and tighten screw terminals.
- The sensor surfaces can now be used to transmit signals to the KNX system. The white LEDs can now be controlled from the system.

i Alternatively, the universal interface 4gang can also be used to connect all sensor surfaces of a glass sensor 2gang. The interface must then be programmed with 4 inputs. The wiring should be carried out as shown in (Figure 3) into terminals **1** to **4** of the **IN** terminal block on the adapter.

Connecting the adapter to the KNX system via universal interface 8gang comfort flush-mounted

A universal interface 8gang comfort flush-mounted can be used to connect a glass sensor 2gang. Four sensor surfaces for signal transmission to the KNX system and four white LEDs can be connected.

i The interface must be programmed with four inputs and four outputs.

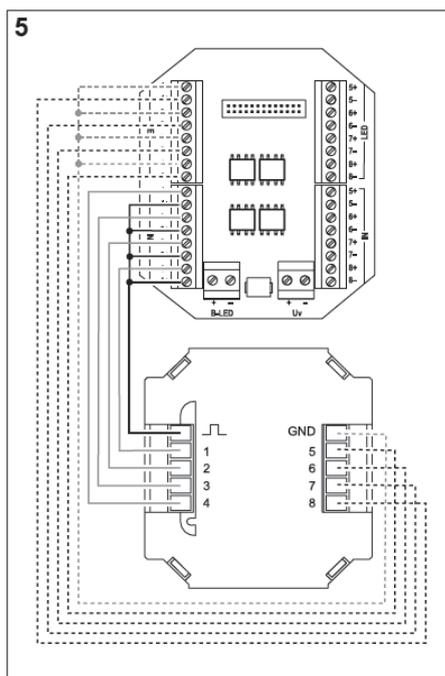


Figure 5

- Wire inputs **1** to **4** respectively to terminals **1–** to **4–** of the **IN** terminal block on the adapter (Figure 5) and tighten screw terminals.
- Loop cable from the \perp terminal through terminals **1+** to **4+** of the **IN** terminal block on the adapter and tighten screw terminals.
- Wire outputs **5** to **8** respectively to terminals **1+** to **4+** of the **LED** terminal block on the adapter and tighten screw terminals.

- Loop cable from the **GND** terminal through terminals **1–** to **4–** of the **LED** terminal block on the adapter and tighten screw terminals.
The sensor surfaces can now be used to transmit signals to the KNX system. The white LEDs can now be controlled from the system.
- ❶ Alternatively, the universal interface 8gang can also be used to connect all sensor surfaces of a glass sensor 3gang or 4gang. The interface must then be programmed with 8 inputs. The wiring of inputs **5** to **8** to terminals **5** to **8** of the **IN** terminal block on the adapter is then carried out in an analogous manner to the wiring of inputs **1** to **4**.

Preparing control of the blue LED via the KNX system

An additional output is needed to control the blue LED. If no free output is available, an additional universal interface 2gang comfort flush-mounted is necessary.

- ❶ The interface must be programmed with at least one output.

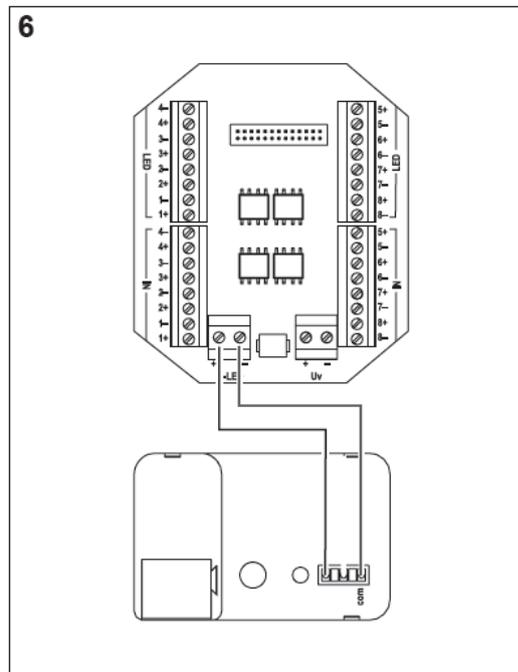


Figure 6

- Route cable of output **A1** into the **+** terminal of the **B-LED** connecting terminals on the adapter (Figure 6) and tighten screw terminal.
- Route **com** connecting cable into the **B-LED** connecting terminals on the adapter and tighten screw terminal.
The blue LED can now be controlled from the KNX system.

Connecting the adapter to other systems



CAUTION!

Risk of destruction of the device or the connected sensor.

High switching currents can destroy the electronics.

Do not apply more than 10 mA switching current to any terminal pair of the IN terminal blocks.

Do not apply more than 1 mA switching current to any terminal pair of the LED and B-LED terminal blocks.

When connecting glass sensors to other control systems via the adapter, please observe the applicable technical specifications.

Connecting the power supply

The glass sensor requires a supply voltage in the range from 8 to 30 V_{DC}. It may be necessary to provide a separate power supply.

The connection for the power supply is equipped with reversed voltage protection.



CAUTION!

Risk of destruction of the sensor or the adapter.

Continued polarity reversal of the supply voltage leads to excessive heating of the devices that destroys the reversed voltage protection.

Ensure correct polarity when making connections.

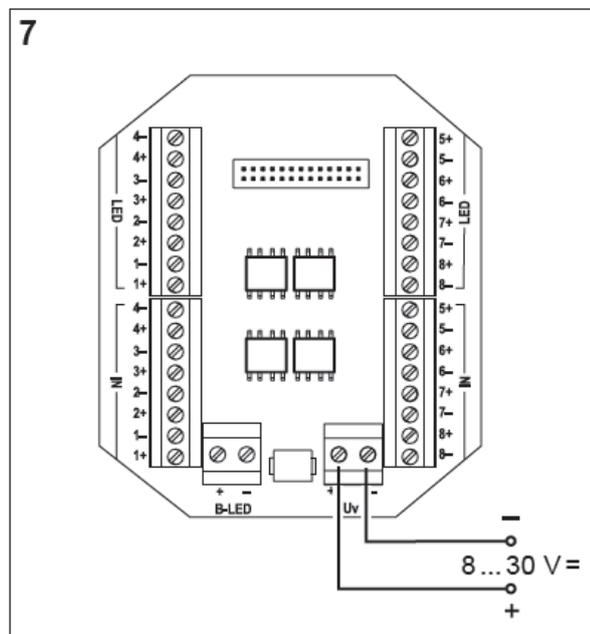


Figure 7

- Route + cable from the power supply into the + terminal of connecting terminal **Uv** on the adapter (Figure 7) and tighten screw terminal.
 - Route – cable from the power supply into the – terminal of connecting terminal **Uv** on the adapter (Figure 7) and tighten screw terminal.
- The power supply is now connected.

5 Annex

5.1 Technical data

Dimensions (W x H)	46 x 51 mm
Screw terminals	
IN/LED	0.14 ... 0.5 mm ²
B-LED/Uv	max. 1 mm ²
Operating voltage	8 ... 30 V=
Switching voltage	max. 30 V=
Switching current	max. 10 mA
LED input voltage	max. 5 V=
LED input current	max. 1 mA

5.2 Accessories

Glass sensor 1 – 4gang	168xx, 169xx
Universal interface 2gang comfort flush-mounted	7564 20 01
Universal interface 4gang comfort flush-mounted	7564 40 01
Universal interface 8gang comfort flush-mounted	7564 80 01
Wall box 2gang for glass sensor	1870

5.3 Warranty

We reserve the right to make technical and formal changes to the product in the interest of technical progress.

Our products are under guarantee within the scope of the statutory provisions.

If you have a warranty claim, please contact the point of sale or ship the device postage free with a description of the fault to the appropriate regional representative.

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