Product information
Berker TS Sensor

B.
Berker by :hager

Table of contents

The perfect connection
Exclusive design …

Even at first glance the Berker TS Sensor is anything but a conventional switch. Its glass surface is completely uninterrupted – no rockers, no recesses, no buttons, not even fastening screws. The extremely flat cover and the reduced surface design give the TS Sensor a unique and unmistakeable character. Without a frame, and flush-mounted to the wall, it delivers a surprisingly wide range of features – the maxim “less is more” has never been so true. Even so, the unit can control all kinds of applications - from blinds, shutters and lighting to heating, ventilation and air conditioning systems or, in fact, any other application which is controlled by the KNX system or via relay circuits.

With the colour choices of polar white, aluminium and black, this product will impress even in its basic version. What is more, the Berker TS Sensor's product concept offers a wide range of design possibilities. Each TS Sensor can be produced to suit the specific application and the living space. As well as the **Basic** model, Berker also offers the **Configured** and **Manufacturing** variants of the TS Sensor.

Basic

Unprinted
- Background colours polar white, aluminium, black
- Order from the catalogue

Configured

Printed
- Layout configuration on the Internet[1]
- Free text entry, selection from predefined fonts, symbols

[1] also available for the glass sensor Comfort from July 2013

… Innovative technology

- Background colours polar white, aluminium, black
- Order using design number

Manufacture

Individually Designed
- Individual layout design
- Free choice of texts, fonts, symbols and colours
- Enquire with field sales staff

Individual character
Design possibilities

Basic
The product variants of the Berker TS Sensor can be ordered as a catalogue model in non-printed form with a choice of three background colours: polar white, aluminium and black.

Configured
The TS Sensor can be designed in a multitude of ways to meet even the most varied customer needs. The innovative product concept makes it possible to print lettering or symbolic labels on the back of the glass plate. Lettering and symbols are ideally protected against dirt, wear and damage.

This concept means, however, that the planned functions for each control section must be defined in cooperation with the customer before ordering. Since printing is carried out only once during the production process, theselected labelling and symbols can no longer be changed after ordering.

It is this simple:

1. Complete planning for the installations
   - Functions of each control section are permanently defined

2. Create an individual design using the Web Configurator at www.berker.de
   - Select product
   - Fill in the layout template with symbols/lettering
   - Save the design on the Berker server
   - Agree upon design with the customer

3. Order the sensor
   - Layout no. for the design is generated automatically and displayed in the order form
   - Print out order form and place order for TS sensor with wholesaler

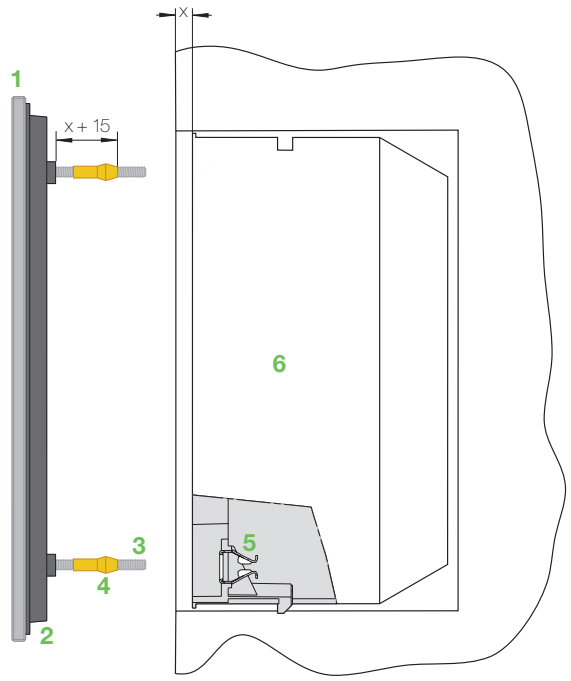
Manufacture
The Web Configurator already offers a wide range of customisation options. If, however, this is still not sufficient to meet your customer's wishes, then Berker Manufacture is what you need. As far as it is technically feasible, the Berker TS Sensor can be manufactured with customised printing in any colour, even with logos or drawings as a background. Only the colours of the LEDs are predefined, for technical reasons.
For further information, please contact your regional sales representative.

Simple installation
Quick and easy - no tools required

Preparations
Regardless of the planned application for the TS sensor, a 2gang wall box (Order number 1870, see graphic below) should be plastered into the wall ready for mounting. This provides sufficient room for the wiring. The flat 2gang wall box (Order number 1871) should be provided for installing the Comfort variant or TS sensor with thermostat. The wall boxes have a clamp for the setscrews/mounting pins under the glass plate. In addition, the TS sensor requires a separate power supply, which in KNX applications can be provided from the non-reduced output of the RMD power supply (yellow, white cable).

Mounting
The glass sensor – if necessary together with the accessory components and interfaces – is installed in the wall box (**6**) and seated on the wall . The supplied adapter ring (**2**) increases the space between the wall and the sensor plate. It gives the otherwise insubstantial effect of the glass plate discrete contours. Technically it is intended for special installation conditions and increased dismantling protection because this can be screwed together with the 2gang wall box.

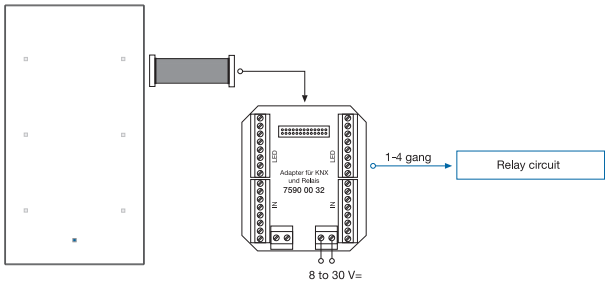
The glass plate (**1**) is simply locked into the clamping springs (**5**) of the wall box with the retaining pins (**4**) on the set screws (**3**), without tools. The adjustable retaining pins can be used to compensate for installation depths or irregularities of the wall of up to 20 mm.



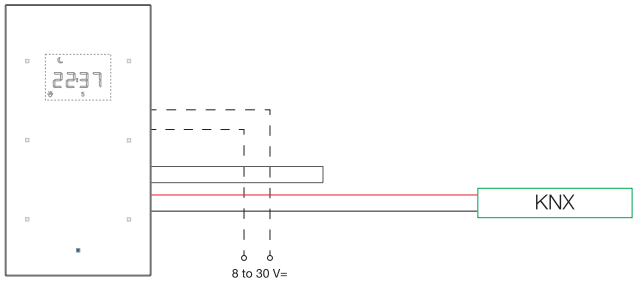
Disassembly
The removal tool with suction cups which is included in the package can be used to pull the glass plate relatively easily out of the clamps in the wall box.

Uncomplicated connections
Direct or with adapter

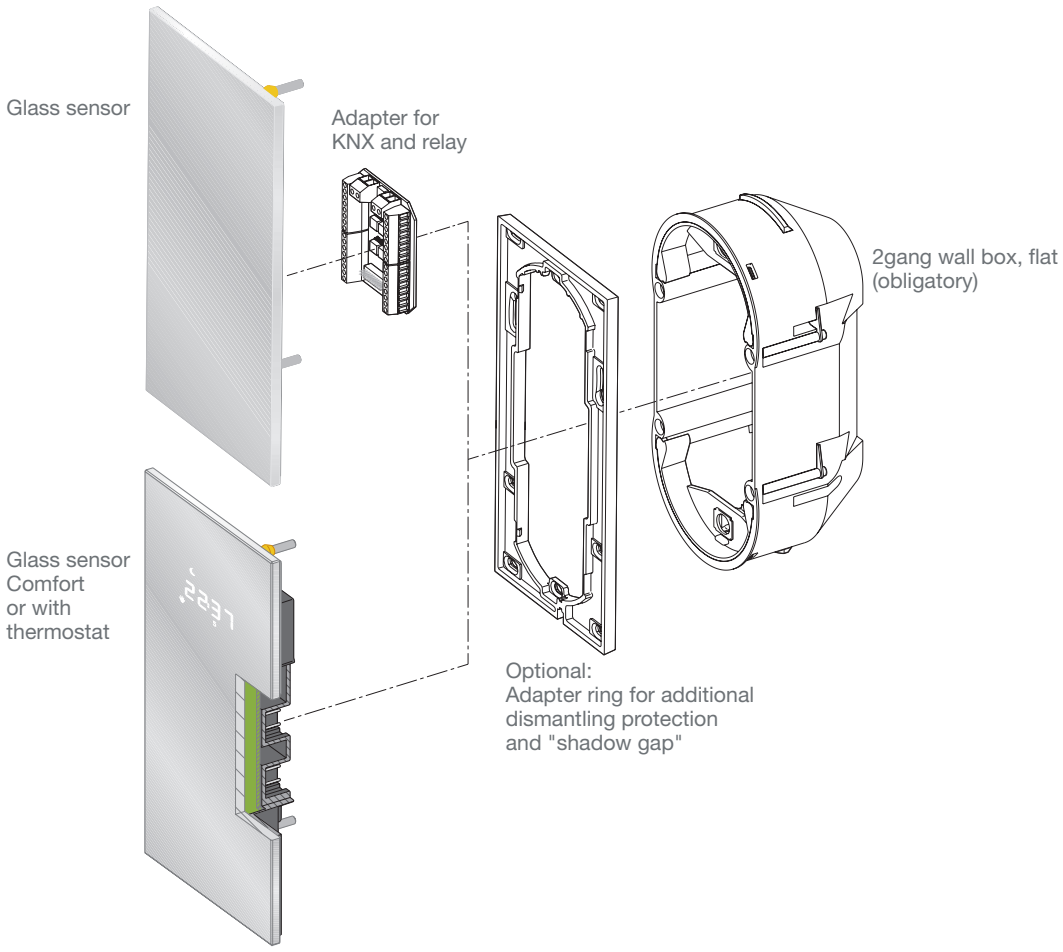
A power supply must be provided by the customer. For the standard variant of the glass sensor it is wired with an adapter for KNX and relay. The adapter supplies power to the glass sensor via a ribbon cable. In this way, operations on the glass sensor can be transmitted directly to relay circuits.
The glass sensors Comfort and those with a thermostat have been developed exclusively for KNX applications. As a monoblock, they are equipped with an integrated bus coupling unit. This means that there are connecting terminals on the back of the unit which are used to connect the sensor directly to the bus system and to a separate power supply. In addition, an external temperature sensor can also be connected.



Connection of the glass sensors in the standard variant on relay circuits.



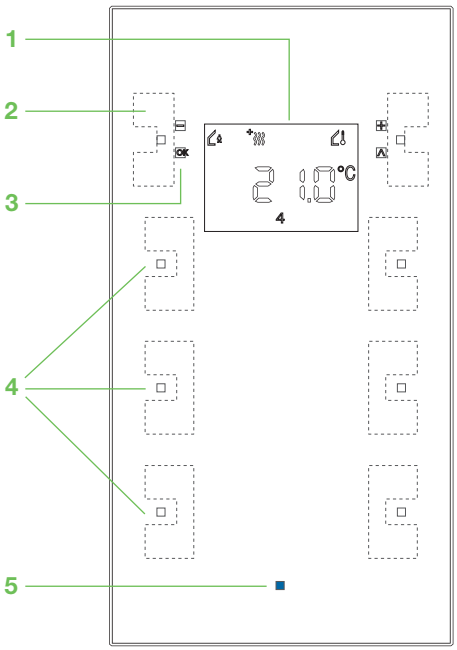
Connection of the TS sensor with thermostat and the Comfort variant via the integrated bus coupling unit.



Superlative comfort
Features in KNX applications[1]

Both TS sensor variants Comfort and those with a thermostat include the integrated bus coupling unit directly and have thus been developed exclusively for use in KNX applications. Therefore, these room control devices can offer the ease of operation and range of functions that can be expected from a modern control section in the house.

- Free assignment of functions to every sensor surface
- Every sensor surface can be parameterised for the functions push-button, dimmer, blind, 1-byte value transmitter, 2-byte value transmitter, 2-channel operation or for single room control
- Each rocker or push-button can control two independent channels with different functions at the same time (2-channel operation)
- Sensor surfaces can be parameterised as push-buttons with one button operation – including room thermostat functions like thermostat extension unit, ventilator speed control, thermostat operating mode, setpoint shift – or as a rocker with two button operation.
- Integrated scene control allows up to eight scenes to be saved with eight output channels; as a scene extension unit up to 64 scenes can be called up and saved



Variants with thermostat
1 Display
2 Capacitive sensor surfaces for display operation
3 Status indications for display operation

Variants comfort and with thermostat
4 Status indications Capacitive sensor surfaces with status LED
5 Operation LED

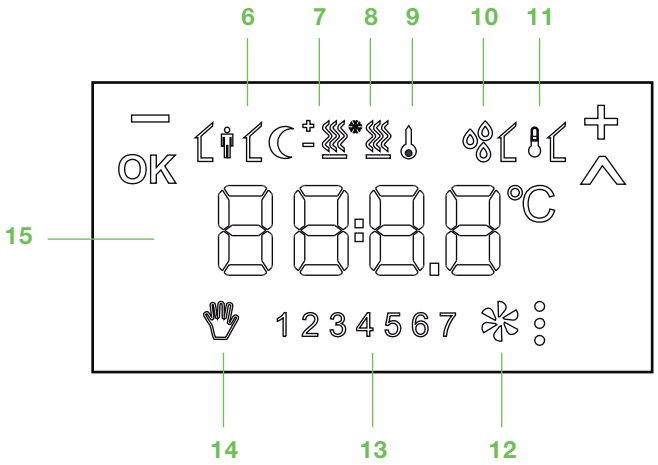
[1] Features of the TS sensor in the standard variant are dependent on the possibilities of the relay for relay controls

Superlative comfort
With temperature control

KNX TS Sensor with thermostat
In a very unique way, the TS Sensor with thermostat successfully expands the functions of a push-button device with capacitive sensor surfaces by adding temperature control with digital display elements. As a result, this push-button sensor has now evolved into a complete room control device which is capable of controlling all the different functions in a room and combining them all in a uniform design.

Thermostat functions
- Switchable LED display
- Up to four display functions (time, actual temperature, set temperature, outside temperature) can be rotated
- Sensor surfaces on the display for operation of the thermostat via two menu levels
- Temperature measurements via an internal or external sensor (the latter is used if the TS Sensor is mounted in a location where temperature measurements are difficult)
- Various operating modes with their own temperature setpoint values can be activated
- Different control modes can be set for heating and cooling levels (continuous or switching pulse-width modulation or bswitching two-point control)
- Temperature-controlled switch-off function for underfloor heating (protection function)
- Setpoint temperature limitation is available in cooling mode in order to comply with legally prescribed limits
- Operation of a fully-fledged extension unit can be activated in order to control an additional thermostat

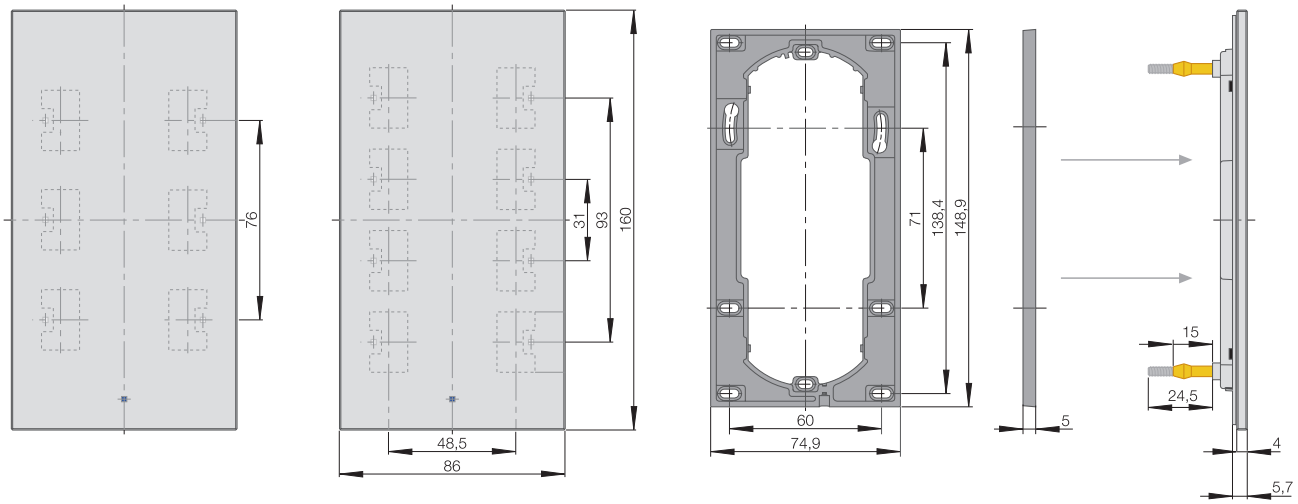
Display
The integrated “Dark Design” LED display only displays the symbol elements of active functions, and all inactive functions are invisible. Depending on the colour variant of the glass sensor, the display will be shown in different ways: the polar white background has a subtle and muted display, while the display elements on the aluminium coloured glass plate are very pleasing and homogeneous, and the black sensor glass variant uses striking visuals with much more contrast. Capacitive sensor surfaces are arranged on the side of the display. They enable menu-guided control of the thermostat and transform the digital display into an interactive control panel for controlling a heating circuit. As Berker has continued with the established symbols already used on previous room control devices, use of the panel is particularly intuitive and easy.



6 Operating modes: Comfort, Standard, Night
7 Operating modes: Heating/cooling
8 Frost/heat protection
9 Sensor surface disable
10 Dew point operation
11 Display modes: Inside/outside temperature
12 Fan stages 1, 2 or 3
13 Day of the week
14 Manual base setpoint shift (“handwheel function”)
15 Time or temperature

TS Sensor

Scale drawings



Technical data

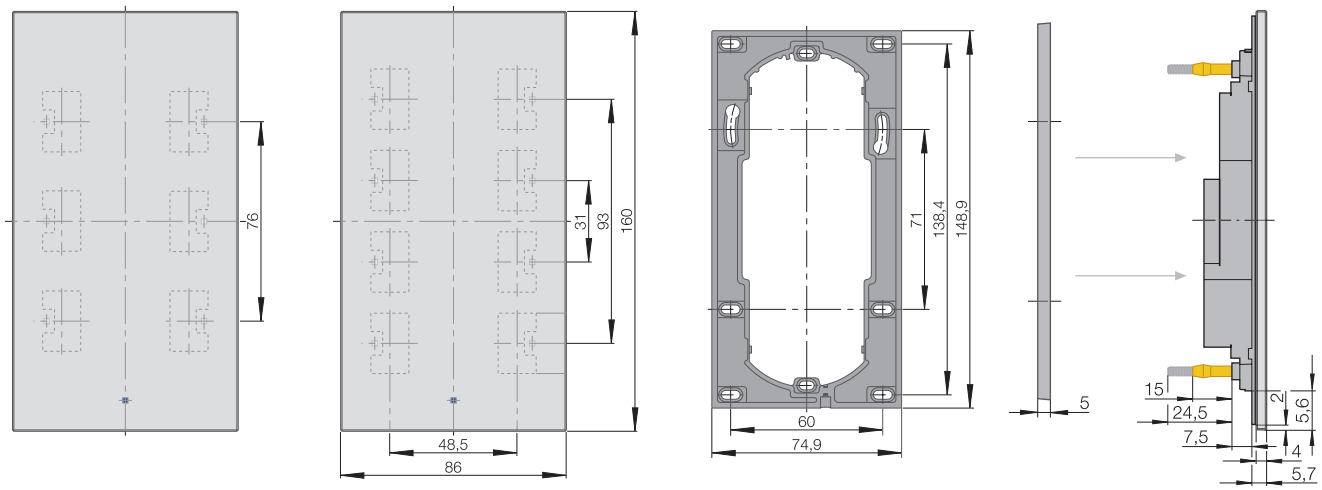
Power supply	8 to 30 V =
Switching voltage	max. 30 V =
Switching current	max. 1 mA
Loads are not directly switchable (only via interfaces):	
- LED input voltage	max. 5 V =
- LED input current	max. 1 mA
LED, adjustable:	
- Status LEDs	white
- Operation LED	blue
Degree of protection	IP 21 (protected against moisture from cleaning)
Dimensions of the glass plate (W x H x D)	86 x 160 x 4 mm
Overall height:	
- wall-mounted	5.7 mm
- with adapter ring	10.7 mm
Surface adjustment	max. 20 mm
Phasing of the glass plate	0.5 mm; 45°

Scope of delivery

Glass sensor
Adapter ring
Ribbon cable (approx. 20 cm)
Removal tool with suction cups

TS Sensor comfort

Scale drawings



Technical data

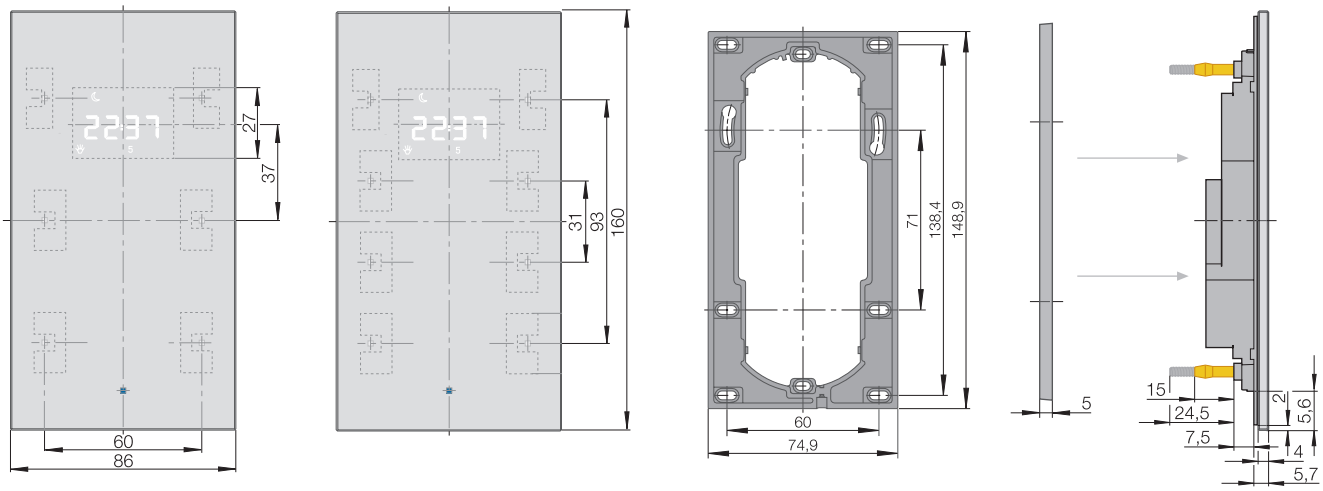
Power supply	18 to 30 V =
Current input	12.5 mA
Connection	Bus connection terminal
LED, programmable:	
- Status LEDs	white
- Operation LED	blue
Ambient conditions:	
- Operating temperature	-5 to + 45 °C
Protection class	IP 20 (protected against moisture from cleaning)
Dimensions of the glass plate (W x H x D)	86 x 160 x 4 mm
Overall height:	
- wall-mounted	5.7 mm
- with adapter ring	10.7 mm
Surface adjustment	max. 20 mm
Phasing of the glass plate	0.5 mm; 45°

Scope of delivery

Glass sensor Comfort
Adapter ring
Removal tool with suction cups

TS Sensor with thermostat

Scale drawings



Technical data

Power supply	18 to 30 V =
Current input	max. 23 mA
Connection	Bus connection terminal
LED, programmable:	
- Status LEDs	white
- Operation LED	blue
Ambient conditions:	
- Operating temperature	-5 to + 45 °C
- Storage/transport temperature	-25 to + 70 °C
Protection class	IP 20 (protected against moisture from cleaning)
Dimensions of the glass plate (W x H x D)	86 x 160 x 4 mm
Overall height:	
- wall-mounted	5.7 mm
- with adapter ring	10.7 mm
Surface adjustment	max. 20 mm
Phasing of the glass plate	0.5 mm; 45°

Scope of delivery

Glass sensor with thermostat
Adapter ring
Removal tool with suction cups

Product	Equipment	1gang Order no.	2gang Order no.	3gang Order no.	4gang Order no.
Glass, polar white (adapter ring: polar white)					
 Glass sensor (Comfort)	Unprinted	1681 00	1682 00	1683 00	1684 00
	Comfort, unprinted	75141830	75142830	75143830	75144830
	Printed in black	1691 00 .. [1]	1692 00 .. [1]	1693 00 .. [1]	1694 00 .. [1]
	Comfort, printed in black	75141930 [1]	75142930 [1]	75143930 [1]	75144930 [1]
 Glass sensor with room thermostat	Unprinted		7564 20 30	7564 30 30	
	Printed in black		7564 21 30 .. [1]	7564 31 30 .. [1]	
Glass, aluminium (adapter ring: anthracite)					
 Glass sensor (Comfort)	Unprinted	1681 07	1682 07	1683 07	1684 07
	Comfort, unprinted	75141034	75142034	75143034	75144034
	Printed in black	1691 07 .. [1]	1692 07 .. [1]	1693 07 .. [1]	1694 07 .. [1]
	Comfort, printed in black	75141134 [1]	75142134 [1]	75143134 [1]	75144134 [1]
 Glass sensor with room thermostat	Unprinted		7564 20 34	7564 30 34	
	Printed in black		7564 21 34 .. [1]	7564 31 34.. [1]	
Glass black (adapter ring: anthracite)					
 Glass sensor (Comfort)	Unprinted	1681 05	1682 05	1683 05	1684 05
	Comfort, unprinted	75141835	75142835	75143835	75144835
	Printed in white	1691 05 .. [1]	1692 05 .. [1]	1693 05 .. [1]	1694 05 .. [1]
	Comfort, printed in white	75141935 [1]	75142935 [1]	75143935 [1]	75144935 [1]
 Glass sensor with room thermostat	Unprinted		7564 20 35	7564 30 35	
	Printed in white		7564 21 35 .. [1]	7564 31 35.. [1]	
Supplementary products					
	Designation				Order no.
	Berker electrical power supply in 24 V DC RMD				75910003
	Note: With KNX applications the non-reduced output of the power supply can be used.				
	2gang wall box, flat[3]				1870
	2gang wall box, flat[2]				1871
	Temperature sensor[2]				161
	Adapter for KNX and relay[3]				7590 00 32

[1] Layout number is generated by the Web Configurator (new as from July 2013)
[2] only in conjunction with the glass sensor Comfort or with thermostat
[3] only when using the standard variant of the TS sensor

Hager Electro S.A.S.
132, boulevard d'Europe
B.P.3
67215 Obernai cedex
France

Phone: +33 (0)3 88 49 50 50
Fax: +33 (0)3 88 49 51 44
www.hager.com