KNX eTR 205 Light
KNX eTR 206 Light
Button for Temperature Control and Light

Technical specifications and installation instructions

KNX

KNX eTR 205 Light:
Item number 71160

KNX eTR 206 Light:
Item number 71170

1. Description

The **KNX eTR 205/206 Light push button** has touch-sensitive buttons with which functions can be called up in the KNX building bus system. The glass surface is printed with areas for setting the temperature and light. LEDs are integrated in these areas and their behaviour can be adjusted.

A temperature sensor is integrated into **KNX eTR 205/206 Light**. An external temperature reading can be received via the bus and processed with its own data to create a total temperature (mixed value).

The **KNX eTR 205/206 Light** has a PI controller for heating and cooling. The setpoint temperature can be changed using the "+" and "-" touch buttons.

Communication objects can be linked via AND and OR logic gates.

Functions:
- **Operating zone for temperature control** with 2 areas (warmer, cooler)
- **LEDs** can be set. All LEDs Off, all LEDs as ambient lighting, all LEDs individually controllable
- **Area function** when touching two or more push buttons. Can be configured as switch, selector switch, as 8 or 16 bit encoder or for scenario recall
- **Temperature** measurements. **Mixed value** from own measured value and external values (proportion can be set by percentage), output of minimum and maximum values
- **PI-controller for heating** (one or two-level) and **cooling** (one or two-level) according to temperature. Regulation according to separate setpoints or basic setpoint temperature
- **2 AND and 2 OR logic gates** each with 4 inputs. 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

Additional functions KNX eTR 205 Light:
- **1 operating zone for light** with 2 areas (switching/dimming with short/long distinction)

Additional functions KNX eTR 206 Light:
- **2 operating zones for light** with 2 areas (switching/dimming with short/long distinction)

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.
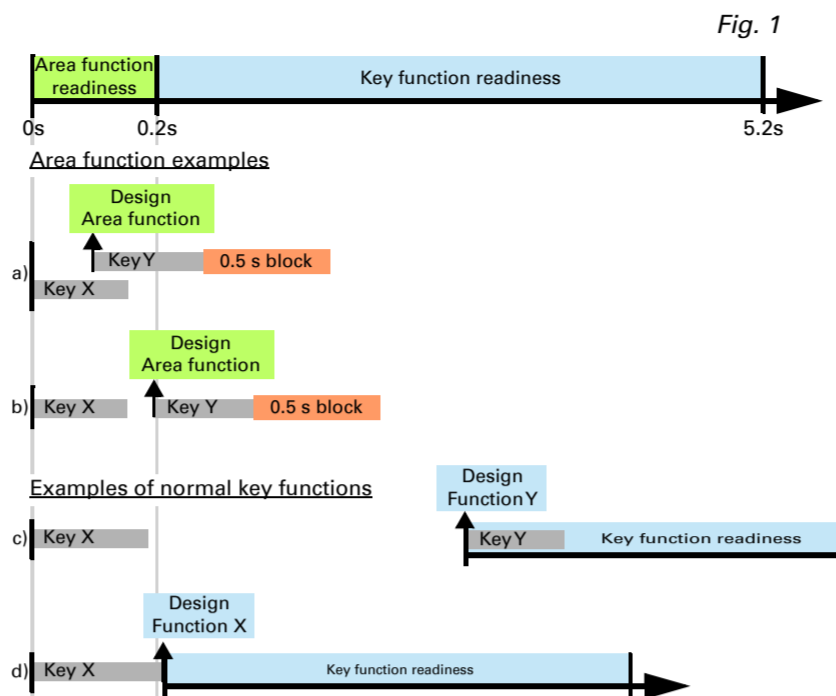
1.0.1. Area function

If the area function in ETS has been activated, another function is available alongside the regular key functions. This is triggered by touching multiple keys, e.g. if you touch the sensor with the palm of your hand.

Using the area function

If a key is pressed and another (different) key is touched within 0.2 seconds, the action set in the ETS is performed for the area operation (See Fig. 1 a) and b)). The keys are then blocked for 0.5 seconds.

Using the normal key function

If a key is pressed and no other key is touched within 0.2 seconds, the normal key function is enabled/provided for 5 seconds (See Fig. 1 c) and d)). This is extended for 5 seconds with each push of the button.

Fig. 1

If the area function in the ETS is disabled, the keys can be used normally at any time.

1.0.2. Scope of delivery

- Room temperature controller with mounting
- 4 screw anchors 4 × 20 mm, 4 flat head screws 3 × 25 mm

1.1. Technical specifications

Housing	plastic material, glass
Colours	similar to RAL 9003 signal white
Mounting	on-wall (directly or with a socket Ø 60 mm, resp. cavity wall socket for hole Ø 68 mm)
Degree of protection	IP 10
Dimensions	housing approx. 81,5 x 81,5 (W x H, mm), mounting depth approx. 12 mm
Total weight	approx. 70 g
Ambient temperature	Operation 0…+55°C, storage -30…+85°C
Ambient air humidity	5…95% RH, avoid bedewing
Operating voltage	KNX bus voltage
Bus current	max. 25 mA
Data output	KNX +/- bus terminals
Group addresses	max. 254
Allocations	max. 254
Communication objects	KNX eTR 205 Light: 92 KNX eTR 206 Light: 98
Temperature measurement range	0…+55°C
Temperature resolution	0.1°C

The product conforms with the provisions of EU guidelines.

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 compensated.

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 position

The **KNX eTR 205/206 Light push button** is made for wall mounting. The device can be mounted directly on plaster or on a socket (Ø 60 mm).

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).
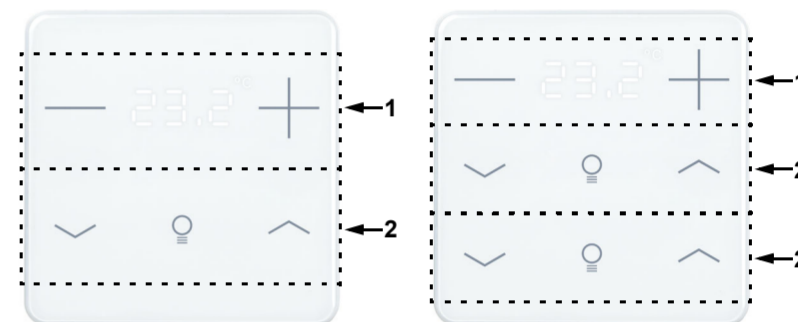
2.3. Composition of the device

Fig. 2
Front view
1 „Temperature" area with 2 touch surfaces and temperature display
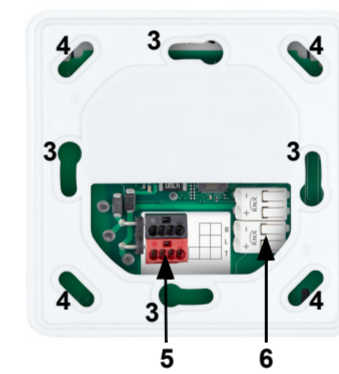2 „Light" area with 2 touch surfaces

Fig. 3
Back view with mounting
3/4 Screw holes for different sockets. Fastening with 2 screws is sufficient. For wall mounting, use a fixing material suitable for the ground!
5 KNX bus terminal +/- for connection when mounted on a socket
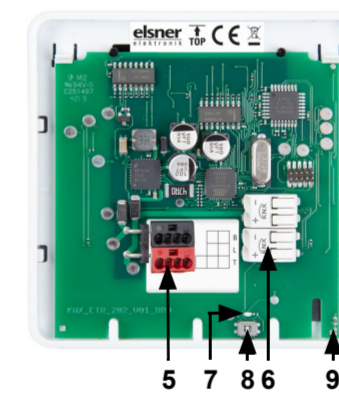6 Spring-loaded terminals KNX bus for mounting directly on the wall

Fig. 4
Back view without mounting
5 KNX bus terminal +/- for connection when mounted on a socket
6 Spring-loaded terminals KNX bus for mounting directly on the wall
7 Programming LED
8 Programming button (recessed) for teaching device
9 Temperature sensor

PRG key is accessible from below/outside when the device is mounted (see chapter *Addressing the device*).

2.4. Mounting

Prepare the device

Remove the front panel from the mounting. Release the lock by moving the front panel a few millimetres upwards. The two parts can then be easily separated (Fig. 5).

Fig. 5 Locking of front panel and mounting

Screw the mounting onto the wall or socket. The connecting wires (bus line +/-) are led through the opening in the mounting.

Installation directly on the wall
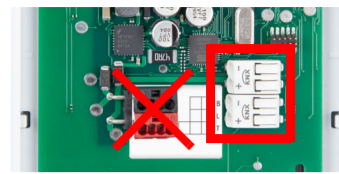
Remove the red-black KNX bus terminal, it is not required.

Connect the bus +/- connecting wires to the spring-loaded terminals on the front panel.

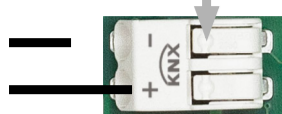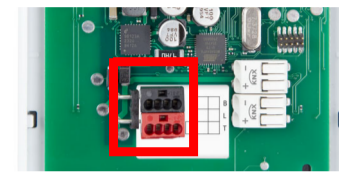The wires are pushed into the connection openings.

Fig. 6 Spring-loaded terminals

To pull it out, press the spring down, e.g. with a screwdriver.

Installation on a socket

If there is a cavity behind the device, e.g. when using a socket, you can use the red/black KNX bus terminal for connection.

To avoid falsifying the temperature value, use a wind-proof socket and also seal the inlet pipes against draughts.

Finish mounting

Snap the front panel into place on the mounting (see Fig. 5): Place it slightly above the centre position, hook it in and slide it downwards.

3.   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.

4.   Addressing the device

The device is delivered ex works with the bus address 15.15.255. You program a different address in the ETS by overwriting the address 15.15.255 or teach the device using the programming button.

The programming button is located at the bottom outer side of the front panel of the device and is recessed. Use a thin object to reach the button, e. g. a 1.5 mm² wire. When the button is pressed, the temperature display on the front flashes.
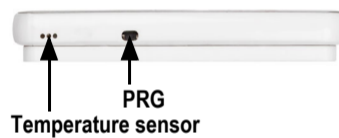

Fig. 7
View from bottom

PRG
Temperature sensor

5.   Display and operation at the device

5.1.   Adjust room temperature (using the example KNX eTR 205 Light)

Depending on the setting of the "Display mode" parameter in the device application, the **KNX eTR 205/206 Light push button** displays the current room temperature value (or mixed value), the target value or the shift in relation to the basic setpoint. The display can be dimmed and switched off via the bus so that *no* value is displayed.

Option A: Display of actual temperature (room temperature)

The current room temperature is displayed. It is *not* possible to change the room temperature manually using the +/- buttons.

Option B: Display of target temperature or basic setpoint shift

Depending on the setting, the current target value or the shift relative to the base setpoint is displayed. The temperature can be changed by touching the +/- buttons.
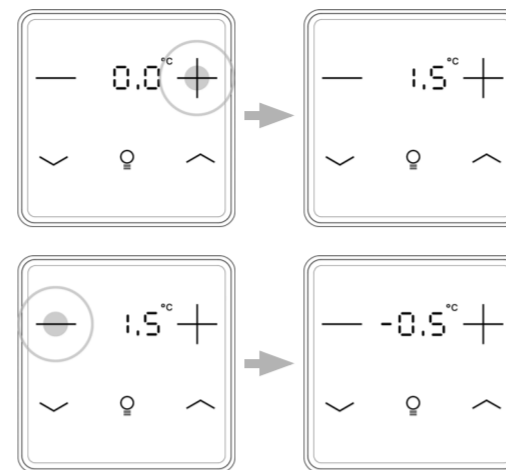
Target value display (absolute value):
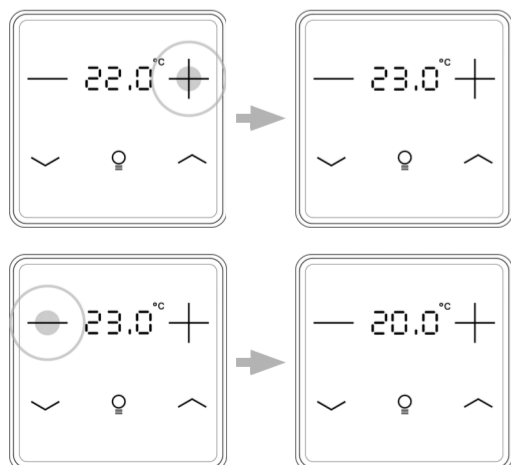
Tap +:
Increase room temperature
(target temperature is increased)

Tap -:
Lower room temperature
(target temperature is lowered)

Display of the **basic setpoint shift** (change compared to the basic setpoint of the control):

Tap +:
Increase room temperature
(Basic setpoint shift direction PLUS)

Tap -:
Lower room temperature
(Basic setpoint shift direction MINUS)

Option C: Display of actual temperature and target temperature/basic setpoint shift

During normal operation, the current room temperature is displayed. By touching the buttons, the display jumps to the target temperature or to the basic setpoint shift, depending on the presetting. Changes with + or - are visible. The display returns to the room temperature if no button is touched for 7 seconds.

or

Touch the **+ or -** button briefly: The current **target temperature** (or the basic setpoint shift) is displayed.

Tap +: Increase room temperature
(target temperature/basic setpoint shift is increased).

Tap -: Lower room temperature
(target temperature/basic setpoint shift is lowered).

General:

The step size for the change and the possible setting range are defined in the device application (ETS). There you can also define whether the manually changed values are retained after a mode change (e.g. Eco mode overnight) or reset to the stored values.

The button functions can be disabled in the ETS or locked due to operating mode with priority 1.

6.   Maintenance and care

Fingerprints on the glass panel are best removed with a cloth moistened with water or a microfiber cloth. Do not use an abrasive cleaning agent or aggressive cleansing agents.

7.   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!