Bluetooth Low Energy radio transmitter   ⒼⒷ

Ref.-no.: BLE A 590 .., BLE LS 990 ..
        BLE A 595 .., BLE LS 995 ..

Operating instructions

1 Safety instructions

Electrical devices may only be mounted and connected by electrically skilled persons.

Serious injuries, fire or property damage possible. Please read and follow manual fully.

The radio communication takes place via a non-exclusively available transmission path, and is therefore not suitable for safety-related applications, such as emergency stop and emergency call.

These instructions are an integral part of the product and must remain with the end customer.

2 Device components
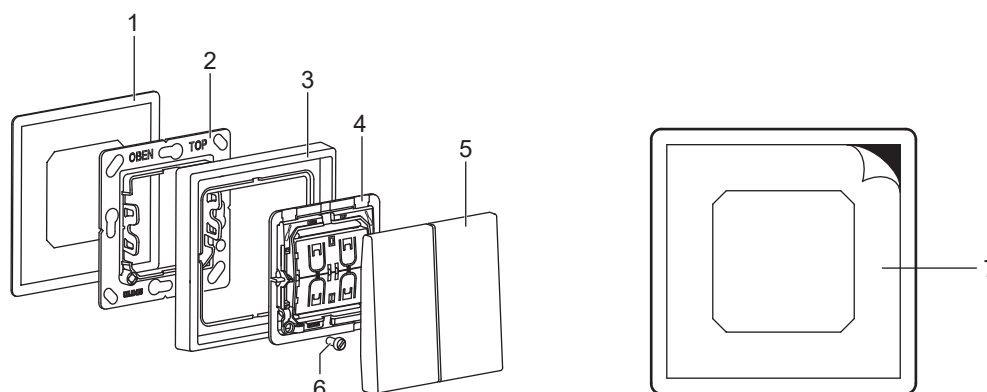

Fig. 1 and fig. 2: Device components

(1) Adhesive pad
(2) Holder plate
(3) Frames (not included in delivery)
(4) Radio module
(5) Rockers
(6) Retaining screw
(7) Protective film for holder plate

3 Function

Intended use

- Smart switch for wireless device control using wireless standard Bluetooth Low Energy (BLE)
- For switching, dimming and controlling individual light scenes
- Mounting on appliance box according to DIN 49073, screw fixing on walls or adhesive fixing on smooth, even surfaces (glass). Adhesive pad included.

Product characteristics

- Battery-free device without external power supply
- Transmitting energy is generated from mechanical energy of actuation (energy harvesting)
- Encrypted transmission with AES-128 (CBC mode) and sequence code
- Compatible with various wireless Bluetooth systems (up-to-date list on our website)
- Configuration interface: NFC Forum Type 2 Tag (ISO/IEC 14443 Part 2 + 3)
- Automatic range extension (depending on the system) via BT Mesh devices connected to the mains

4 Information for electrically skilled persons

Installation and electrical connection

⚠️ **DANGER**
Electrical shock on contact with live parts in the installation environment.
Electrical shocks can be fatal.
Before working on the device, disconnect the power and cover live parts in the area!

Installation location

The radio range in buildings is approx. 10 m without wall penetration.
A wall penetration is not recommended, because it attenuates the radio signal too much.
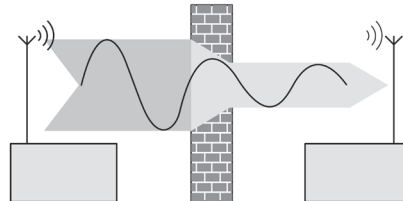

Fig. 3: Installation location

In that case, the receiver may not be able to receive the signal from the transmitter correctly
Metal parts at the installation site (e.g. metal door frames) or moisture (e.g. in outdoor areas) can also have a negative effect on the radio transmission.

Fitting the device

- Fix holder plate (2) with adhesive pad (1) at the installation location. (see section „Adhesive fixing")
  Alternatively, screw the holder plate onto an appliance box or directly onto the wall.
  Note marking „Top".
- Push frame (3) onto holder plate.
- Snap radio module (4) onto holder plate.
  arrow on sticker (rear side of radio module) points upwards (or „O" is up and „I" is down).
- Optional: Secure the radio module with the enclosed screw (6).
- Snap on rockers (5).

Adhesive fixing

Important:
The final strength of the adhesive is only reached after 24 hours.
- After gluing the holder plate, let the adhesive cure a little.
Important:
The installation location cannot be changed after the adhesive fixing.
- To test the range, carry out commissioning before adhesive fixing.
Prerequisite:
Surface is dry, clean, stable and even.
Suitable cleaning agents:
water, degreaser, glass cleaner, methylated spirit
Not suitable for cleaning:
Bath or all-purpose cleaner, aggressive detergents
- Remove the protective film from the back of the adhesive pad (1).
- Stick the adhesive pad aligned on the surface.
  Press firmly for about 10 seconds.
- Remove the protective film (7) for the holder plate (2).
  Do not remove the remaining protective films.
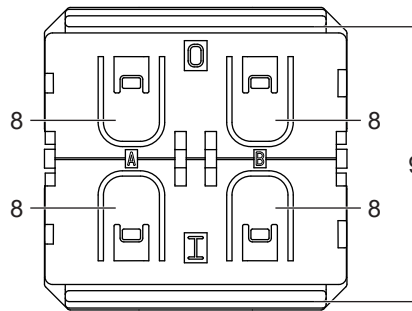- Stick the holder plate onto the adhesive pad.

5 Operation

Fig. 4: Operation

Operating elements

The radio transmitter is operated either via one rocker (2-channel) or via two rockers (4-channel). There are four push-buttons (8) under the rockers. The push-buttons are grouped into two channels (A and B). A distinction is made between two states (I and O) for each channel.

The functions of the rockers (switching, push-button, dimming or blind) are not configured in the factory settings of the device.

Factory settings/Reset

Restoring factory settings:

- Remove rockers (5) carefully with a suitable tool (e.g. button lever).
- Press all four push-buttons (8) and the activation bar (9) simultaneously.
  Factory settings are restored automatically.
  The radio transmitter is no longer taught.
  Rockers are without function.
- Snap rockers on again.

6 Commissioning

The commissioning of the radio transmitter depends on the receiver used in the Bluetooth system. In the following description the commissioning is referred to as „teaching" in the receiver. A channel of the radio transmitter can be taught in any number of receivers. After teaching, the receiver can clearly assign the signals of the transmitter.

Teaching the radio transmitter

The Bluetooth system used specifies the procedure for teaching. Usually, the system manufacturer provides an app for this purpose. The app explains the teaching procedure step by step. Two methods can be used for teaching:

- NFC chip
  The chip is integrated in the radio module.
- QR code
  The code is on a sticker on the back of the radio module.

Requirements:

- Radio network with receiver is ready for operation.
- Device with app and receiver are within range of the radio transmitter.
- App is installed.

7 Configuration

The functions of the rockers (switching, push-button, dimming or blind) depend on the Bluetooth system used and can be configured in the respective app.

The possible configurations depend on the number of channels or rockers:

- one rocker, 2-channel
- two rockers, 4-channel

8 Technical data

Radio frequency:	2.402 ... 2.480 GHz
Transmission range	
in free field	up to 75 m
in buildings	approx. 10 m
Transmitting power	0.4 dBm / 1.1 mW
Ambient temperature	−5 ... +45 °C
Storage/transport temperature	−25 ... +65 °C

9 Warranty

The warranty follows about the specialty store in between the legal framework as provided for by law.