ZigBee radio transmitter module

1 Safety instructions

⚠ CAUTION
Read all instructions first before mounting the product.
Do not drink any alcohol or take any drugs before or during the mounting of the product. Follow the safety instructions carefully.
This device is intended for installation in accordance with the National Electric Code® and local regulations in the United States. If you are unsure or uncomfortable about performing this installation consult a qualified electrician.
These instructions are an integral part of the product, and must remain with the end customer.

Device components
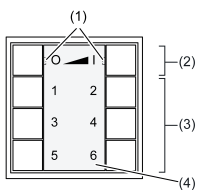
(1) LED
The LED of the respective button side lights up green as long as the button is pressed. When the functions "Individually set luminaires" or "Service functions" are active, both LEDs light up red.
During initial start-up, the LEDs indicate the status of the functions, see Chapter 4.

(2) Buttons for switching/dimming

(3) Scene buttons/functional buttons

(4) Cover

Intended use

- ZigBee Light Link transmitter for operation of ZigBee Light Link compatible participants, e.g. lamps, luminaires, light bands, ballast units, adapters
- The transmitter can work with ZigBee Light Link devices or with systems of other manufacturers, e.g. Philips Hue or Osram Lightify.
- Surface-mounted installation inside in dry rooms.
- Battery-powered device
ℹ In the operating manual, participants will henceforth be called luminaires.

Insert battery

| ⚠ WARNING |
| --- |
| Risk of fire and burns or chemical burns. Do not disassemble, heat above 212 °F (100°C), or incinerate. Do not expose cells or batteries to heat or fire. Avoid storage in direct sunlight. Do not short-circuit cells or batteries. Do not subject cells or batteries to mechanical shock. Dispose of used battery promptly. Replace battery with UL listed lithium battery CR 2450N only. Keep battery out of reach of children and in original package until ready to use. Never put batteries in mouth. If swallowed, contact your physician or local poison control center. |

- Carefully remove cover (4) from the wall transmitter.
ℹ Keep contacts of batteries and device free of grease.
- Observe polarity: The positive pole of the battery must be on top.
- Place battery on the positive contact of the battery holder and push lightly to lock in place.
- Snap on the cover.

## 2 Basic functions

2.1 Switching or dimming luminaires

ℹ All luminaires connected to the transmitter will be collectively switched or dimmed.
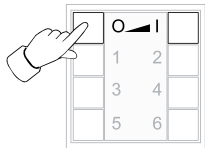
- Switching: Short press on the ☐ or ☐ button.
- Dimming: Long press on the ☐ or ☐ button. The dimming process ends when the button is released.

2.2 Recalling scene

Scenes help you to save individual settings of one or more persons and to recall them with a single press of a button.
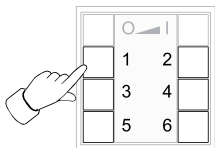
- Briefly press the corresponding scene button 1 to 6.
The luminaires that belong to that scene will switch to the stored values.

2.3 Saving scene

ℹ If the scene is to be recalled from several transmitters, it must be stored separately at each transmitter.
- Luminaires that are not part of the scene must be switched off prior to saving.
- To set the luminaires to the desired values, see chapter 3.
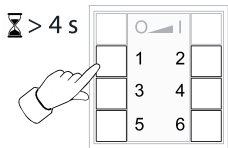
- Press the corresponding scene button 1 to 6 longer than 4 seconds.
The LED on the respective button side lights up green for 3 seconds. The scene has been saved on the selected button.

3 Setting luminaires individually

3.1 Selecting a luminaire
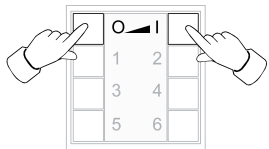
- Briefly press the ☐ and ☐ buttons simultaneously.
Both LEDs light up red.
All luminaires that are connected to the transmitter are selected. The luminaires acknowledge this e.g. by short flashing.

ℹ If only a single luminaire is to be set, press the ☐ and ☐ buttons simultaneously until the respective luminaire is selected. When the last luminaire connected to the transmitter has been selected, all luminaires connected to the transmitter will be selected the next time the buttons ☐ and ☐ are pressed.
- Switch on the luminaire by briefly pressing the ☐ button.
- Set the luminaire. The available settings depend on the luminaire used.

Luminaire selection	☐ and ☐
Switching and brightness	☐ or ☐
Light color	1 or 2
Color saturation	3 or 4
Color temperature	5 or 6

- Wait for approx. 6 seconds until the transmitter switches back to the basic functions.
- As an option, save the settings as a scene, see chapter 2.3.

3.2 Switching or dimming luminaires individually

- Selecting a luminaire, see chapter 3.1.
- Switching: Short press on the ☐ or ☐ button.
- Dimming: Long press on the ☐ or ☐ button. The dimming process ends when the button is released.

3.3 Setting the light color

- Selecting a luminaire, see chapter 3.1.
- Setting a predefined color: press the 1 or 2 button briefly until the desired light color is set.
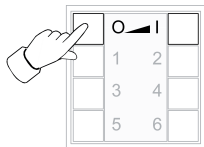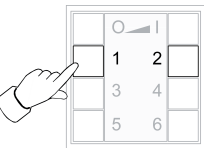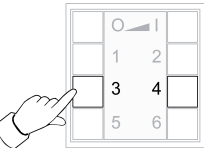- Setting an individual light color: press the 1 or 2 button until the desired light color is set.
Depending on the current light color, the color changes towards the next predefined color.

3.4 Setting the color saturation

- Selecting a luminaire, see chapter 3.1.
- Setting white: briefly press 3.
- Setting the maximum color saturation: briefly press 4.
- Setting individual color saturations: press the 3 or 4 button until the desired color saturation is set.

3.5 Setting color temperature
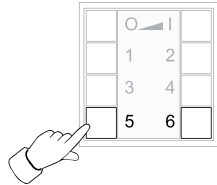
- Selecting a luminaire, see chapter 3.1.
- Setting warm white: briefly press the 5 button.
The color temperature is set to approx. 2700 K, which is typical for light bulbs.
- Setting cold white: briefly press the 6 button.
The color temperature is set to approx. 4500 K, which is typical for fluorescent lamps.
- Setting individual color temperatures: press the 5 or 6 button until the desired color temperature is set.
The color temperature increases or decreases to the respective final value that the luminaire supports.

4 Commissioning

4.1 Basic commissioning procedure

Prerequisites:
During commissioning, the respective devices must have a distance of 10 to 50 cm to each other.
Each device can only be part of one network.

The luminaire should be operated using a Philips Hue Bridge or an Osram Lightify Gateway and transmitters
- Up-to-date information is always available on our website.

The luminaire should be operated exclusively using a transmitter without connection to a Philips Hue Bridge or Osram Lightify Gateway.
The luminaire has default settings.
- Connect the luminaire to a transmitter, see Chapter 4.2.
or the luminaire belongs to another network.
- Reset luminaire, see Chapter 4.5.
- Connect the luminaire to a transmitter, see Chapter 4.2.
ℹ Repeat these steps for additional luminaires.

The luminaire should be operated with several transmitters without a connection to a Philips Hue Bridge or Osram Lightify Gateway.
Prerequisite:
The luminaire is already connected to a transmitter, see Chapter 4.2.
- Add a new transmitter to the network, see Chapter 4.3.
- Connect the luminaire to the new transmitter, see chapter 4.2.

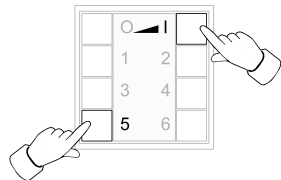### 4.2 Connecting a luminaire to a transmitter
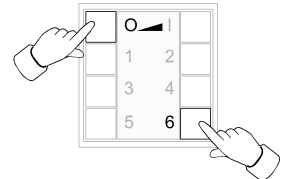
- Press the ☐ and 6 buttons simultaneously until the LEDs flash green.
The luminaire flashes briefly. Connection in process.
LEDs on transmitter light up green. Lamp lights up green or flashes twice. Connection has been set up successfully.
LEDs on transmitter flash red quickly for 3 seconds. Could not set up connection.

ℹ In case of error, if the distance between the devices is too big or the luminaire already belongs to an existing network, see Chapter 4.5. Alternatively, all memory locations in the transmitter are occupied. In this case, delete all connections to luminaires that are not needed, see Chapter 4.6.

4.3 Adding the transmitter to an existing network

ℹ If the transmitter already belongs to a network, reset it beforehand, see Chapter 4.7.

Prerequisite:
At least one luminaire must be switched on.
- Press the 5 and ☐ buttons on the new transmitter simultaneously until the LEDs flash green.
The new transmitter is in programming mode.
- Within 10 seconds, start a connection process on a transmitter from the existing network (see Chapter 4.2 or the manual of the respective transmitter).
ℹ After 10 seconds, if no connection process is started, the transmitter will search for an open network in order to join it.
LEDs light up green for 3 seconds. Transmitter has been added to a network.
LEDs flash red quickly for 10 seconds. Transmitter has not been added to a network.

4.4 Cloning the transmitter

All connections of a transmitter are transferred to another transmitter. This function can only be used with our company's transmitters.
- To add a new transmitter to the existing network, see Chapter 4.3.
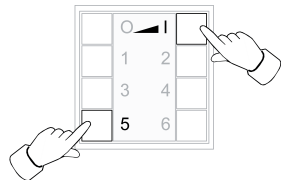
Prerequisite:
At least one luminaire must be switched on.
- Press the 5 and ☐ buttons on the new transmitter simultaneously until the LEDs flash green.
The new transmitter is in programming mode.
- Within 10 seconds, start a connection process to the transmitter to be cloned, see Chapter 4.2.
LEDs light up green for 3 seconds. The new transmitter has accepted the connections.
LEDs flash red quickly for 10 seconds. The new transmitter has not accepted any connections.

4.5 Resetting a luminaire

All connections of the luminaire will be disconnected and the assignment to a network deleted.
ℹ If several luminaires are mounted near each other, it might be necessary to switch off those luminaires that are not to be reset.
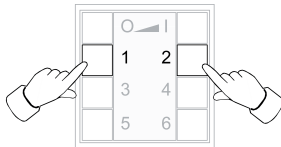
- Keep the 1 and 2 buttons pressed until the LEDs flash green.
Luminaire flashes: reset in progress.
LEDs light up green; lamp lights up. Resetting successful.

LEDs flash red quickly for 3 seconds. Participant could not be reset.

4.6 Deleting connections from the transmitter to the luminaires

ℹ The transmitter can store a maximum of 10 connections to luminaires. If the memory is full, a connection needs to be deleted first in order to save a new connection.

1.

2. ⧖ > 4s
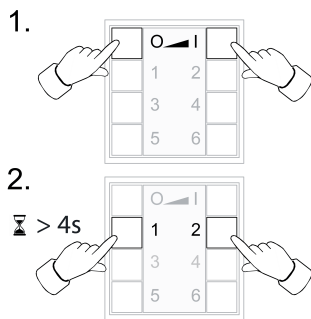
- Press ☐ and ☐ buttons simultaneously.
LEDs light up red. All connections to luminaires are selected.
- Press the ☐ and ☐ buttons briefly and simultaneously until the connection to be deleted is selected.
The corresponding luminaire flashes.
ℹ If the corresponding luminaire is defective or no longer exists, press the ☐ and ☐ buttons simultaneously until no luminaire flashes after pressing. The transmitter indicates this by an LED flashing red.
- Press the 1 and 2 buttons simultaneously for longer than 4 seconds.
LEDs light up green for 3 seconds. The connection has been deleted from the transmitter.

4.7 Resetting the transmitter to the default setting

ℹ All connections to luminaires will be disconnected and the assignment to a network deleted.

1.

⧗ > 10 s

2.
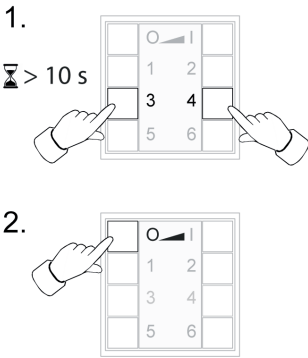
- Keep the ③ and ④ buttons pressed.

  After approx. 10 seconds, the LEDs flash green.

- Release the ③ and ④ buttons and press the ⬚◯�− button within 10 seconds.

  Transmitter is reset to the default settings. After completion, the LEDs light up green for 3 seconds.

5 Service functions

5.1 Switching on the service functions

The service functions can only be used with our company's transmitters. They enable you, for example, to connect fixed wall transmitters to luminaires when these cannot be brought into connection range to each other or to pass on existing connections from one transmitter to another.

Prerequisite:
To use the service functions (switched on), the transmitter must be part of the network, see Chapter 4.3, and at least one luminaire must be switched on.

- Hold the transmitter within a range of 10 to 50 cm from the luminaire or transmitter.
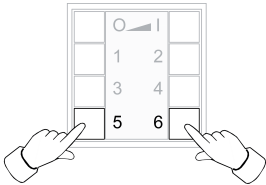
- Switch on the service functions. To do so, briefly press the ⑤ and ⑥ buttons simultaneously.

  LEDs light up red. The service functions are switched on.

- Save luminaires or connections in the buffer memory of the transmitter, see Chapter 5.2, 5.3 or 5.4.

- Pass on luminaires or connections to a transmitter, see Chapter 5.5.

ℹ If the above buttons are pressed again, or after 2 minutes without action, the service functions are switched off and the buffer memory is deleted.

5.2 Registering selected luminaires
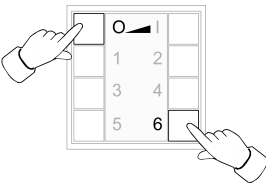
- Switch on the service functions, see Chapter 5.1.

- Press the ⬚◯⬦ and ⑥ buttons simultaneously until the LEDs flash green.

LEDs light up green for 3 seconds: The connection to the luminaire is saved in the buffer memory. The transmitter waits for further connections.

LEDs flash red quickly for 3 seconds: The connection to the luminaire has not been saved in the buffer memory. The transmitter is waiting for further connections.

- Optionally save further connections in the buffer memory. To do so, repeat the previous step.

- Optionally press the ⬚◯⬦ button briefly to show all luminaires present in the buffer memory.

  The luminaires saved in the buffer memory light up briefly.

- Within 2 minutes after the last button has been pressed, transfer the buffer memory to the desired transmitter, see Chapter 5.5.

5.3 Accepting connections from another transmitter

- Switch on the service functions, see Chapter 5.1.

- On the receiving transmitter, press the ⬗◫ and ⑤ buttons simultaneously until the LEDs flash green.

- Start a connection process on the transmitter to be read out, see Chapter 4.2.

  LEDs light up green for 3 seconds. The connections from the transmitter to be read have been saved in the buffer memory.

  LEDs flash red quickly for 3 seconds. The connections from the transmitter to be read have not been saved in the buffer memory.

- Optionally press the ⬚◯⬦ button briefly to show all luminaires present in the buffer memory.

  The luminaires saved in the buffer memory light up briefly.

- Within 2 minutes after the last button has been pressed, transfer the buffer memory to the desired transmitter, see Chapter 5.5.

5.4 Copy the transmitter connections that are saved in the transmitter to the buffer memory

⧗ > 4 s

- Switch on the service functions, see Chapter 5.1.

- Press the ① button for longer than 4 seconds.

  LEDs light up green for 3 seconds. The connections have been saved to the buffer memory.

- Optionally press the ⬚◯⬦ button briefly to show all luminaires present in the buffer memory.

  The luminaires saved in the buffer memory light up briefly.

- Within 2 minutes after the last button has been pressed, transfer the buffer memory to the desired transmitter, see Chapter 5.5.

5.5 Passing connections from the buffer memory to a transmitter

- Put the receiving transmitter in programming mode, see chapter 4.3.

- Start a connection process on the sending transmitter by pressing the ⬚◯⬦ and ⑥ buttons simultaneously until the LEDs flash green.

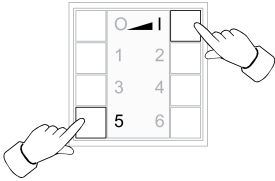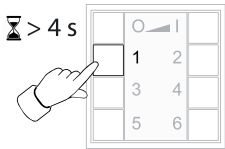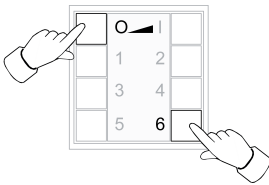 The connections are passed from the buffer memory to the receiving transmitter.

  LEDs light up green for 3 seconds. The connections from the buffer memory have been passed on.

  LEDs flash red quickly for 3 seconds. The connections from the buffer memory have not been passed on.

6 Updating the device software

The device software is updated via radio. This requires a separately available additional module. Up-to-date information on this is always available on our website.
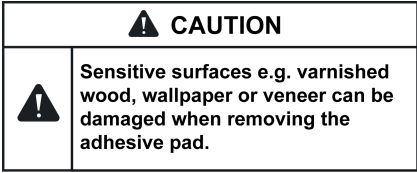
7 Mounting

Prerequisite: To ensure good transmission quality, keep a sufficient distance from any possible sources of interference, e.g. metallic surfaces, microwave ovens, hi-fi and TV systems, ballasts or transformers.

ℹ Perform commissioning procedures before mounting (see Commissioning chapter).

▭▭▭ 2x (10)
▭▭▭ 2x (6)

(12) (5) (6)   (7)   (8)   (9) (10)   (11)
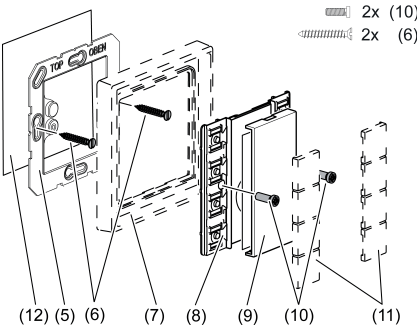
- Insert battery (see chapter Inserting battery).

- Screw (6) or glue (12) the base plate (5) to an even surface. The **TOP/OBEN** label must be on top.

- Position the design frame (7) on the base plate.

- Screw the wall transmitter module (8) to the base plate.

ℹ Tightening the screws too firmly could impair functions of the wall transmitter.

- Snap on the buttons (11) .

Information on glue mounting

> ⚠ **CAUTION**
>
> ⚠ Sensitive surfaces e.g. varnished wood, wallpaper or veneer can be damaged when removing the adhesive pad.

Prerequisite: To fasten the wall transmitter safely, the surface must be flat and free of dust and grease.

- Remove the rear, unpunched film of the enclosed adhesive pad.

- Align the adhesive pad, glue it to the surface and smooth it out. Remove air bubbles.

- Remove the two inner segments of the front film.

- Align the base plate to the external punching and glue it on.

---

8 Appendix

Disposal

Please consider your local regulation for disposal and electronic waste recycling.

This product contains lithium batteries. Please consider your local regulations for disposal of lithium batteries.

8.1 Technical data

Rated voltage	DC 3 V
Battery type	Lithium CR 2450N (UL listed)
Ambient temperature	23 ... 113 °F (-5 ... +45 °C)
Relative humidity	max. 80 % (No moisture condensation)
Storage/transport temperature	-13 ... +158 °F (-25 ... +70 °C)
Protection class	III
Number of connections	max. 10
Transmitting range in free field	328 ft (100 m)
Radio frequency	2.400 ... 2.483 GHz
Transmission capacity	< 10 mW

This ZigBee® Certified product works in ZigBee Light Link networks (version 1.0; December 5th, 2014).

This device works with other ZigBee Light Link products.

Global 2.4 GHz wireless use.

ZigBee® Certified is a registered trademark of the ZigBee Alliance.

8.2 Troubleshooting

Removing a luminaire from a scene

Cause: A luminaire was not switched off during saving of a scene to which it should not belong.

> Reset the lamp and connect it to the transmitters again, see Chapter 4.2

Luminaire cannot be connected to the transmitter; LEDs on the transmitter flash red.

The luminaire is already part of another network.

> Reset the luminaire, see Chapter 4.5, and then start another connection process, see Chapter 4.2.

The LED does not light up when a button is pressed.

Battery in the transmitter is empty.

> Change the battery, see inserting a battery.

8.3 Accessories

Cover kit 4-gang   Order No. ..504TSA..

8.4 FCC Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device must not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

This product complies with FCC radiation exposure limits for an uncontrolled environment. This equipment shall be installed and operated with a minimum distance of 7.9 in (20 cm) between the user and the device.

8.5 ISED Notice

This device complies with ISED's licence-exempt RSSs standard(s). Operation is subject to the following two conditions:
(1) This device may not cause interference; and
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

This product complies with ISED radiation exposure limits for an uncontrolled environment. This equipment shall be installed and operated with a minimum distance of 7.9 in (20 cm) between the user and the device.

Cet appareil est conforme aux normes d'exemption de licence RSS ISED Canada. Son fonctionnement est soumis aux deux conditions suivantes :
(1) cet appareil ne doit pas causer d'interférence et
(2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement

Ce produit est conforme aux limites d'exposition aux radiations ISED pour un environnement non contrôlé. L'équipement doit être installé et fonctionné à une distance minimum de 7,9 po (20 cm) entre l'utilisateur et le dispositif.

8.6 Warranty

If you have any questions about this product, contact:

Jung USA, Inc.
350 Fifth Avenue, Suite 5220
New York, NY 10118
Phone: +1 800.311.6135
Email: sales@jungcontrols.com
www.jungcontrols.com

For the product warranty, please refer to the attached document.