



# homematic IP HmIP-RGBW LED Controller RGBW Switching Actuator with Dimmer Installation Guide

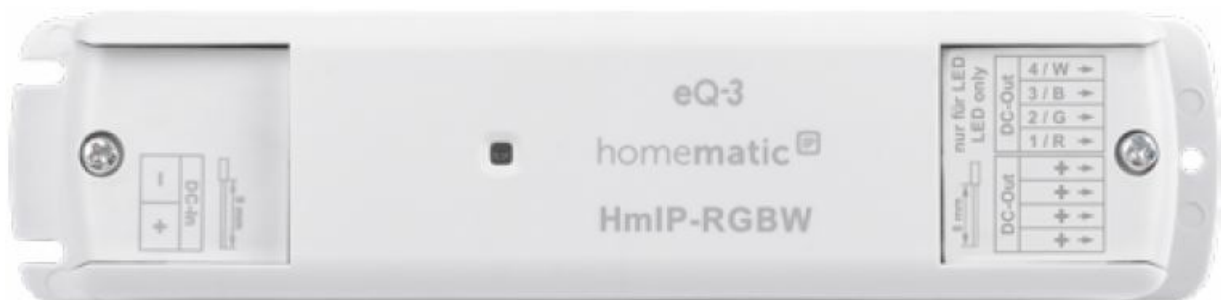
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homematic 

**homematic IP HmIP-RGBW LED Controller RGBW Switching Actuator with Dimmer**





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- All trademarks and industrial property rights are acknowledged.
- Printed in Hong Kong
- Changes may be made without prior notice as a result of technical advances. 157662 (web)
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## Information about this manual








- Please read this manual carefully before beginning operation with your Homematic IP device. Keep the manual so you can refer to it at a later date if you need to.
- If you hand over the device to other persons for use, please hand over this manual as well.






## Symbols used

### Important!

-  This indicates a hazard.
-  Please note: This section contains important additional information.

## Hazard information

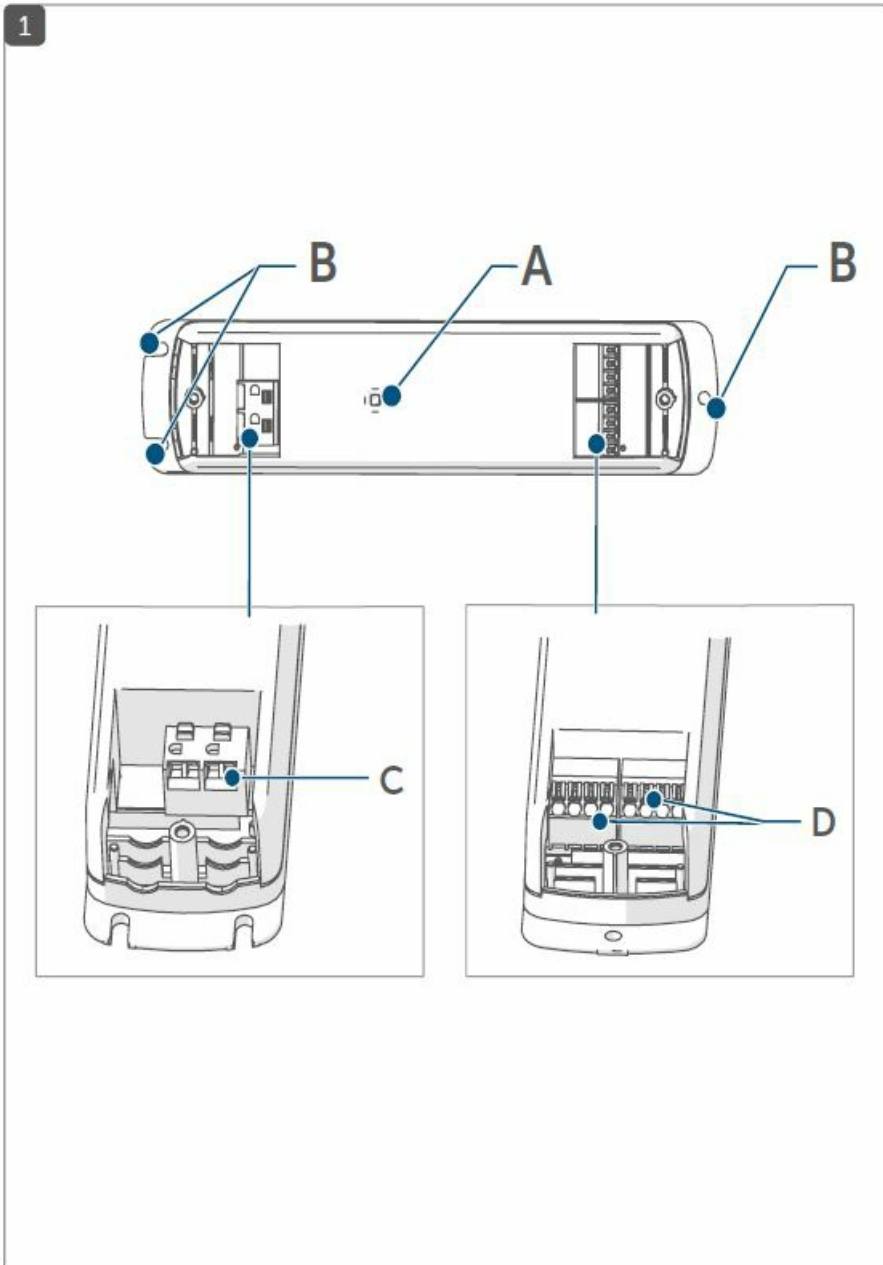
-  Do not open the device. It does not contain any parts that need to be maintained by the user. If you have any doubts, have the device checked by an expert.
-  For safety and licensing reasons (CE), unauthorized changes and/or modifications of the device is not permitted.
-  Do not use the device if there are signs of damage to the housing, control elements or connecting sockets, for example. If you have any doubts, have the device checked by an expert.
-  The device may only be operated in dry and dust-free environment and must be protected from the effects of moisture, vibrations, solar or other methods of heat radiation, excessive cold and mechanical loads.
-  The device is not a toy: do not allow children to play with it. Do not leave packaging material lying around. Plastic films/bags, pieces of polystyrene, etc. can be dangerous in the hands of a child.
-  We accept no liability for damage to property or personal injury caused by improper use or the failure to observe the hazard warnings.
-  In such cases, all warranty claims are void. We accept no liability for any consequential damage.

-  When connecting to the device terminals, take the permissible cables and cable cross sections into account.
-  Exceeding this capacity could lead to the destruction of the device, fires or electric shocks.
-  Please take the technical data (in particular the maximum permissible switching capacity of the load circuits and the type of load to be connected) into account before connecting a load. Do not exceed the capacity specified for the controller.
-  The device may only be operated within a domestic environment, in business and trade areas and in small enterprises.
-  Using the device for any purpose other than that described in this operating manual does not fall within the scope of intended use and will invalidate any warranty or liability.

## Function and device overview

- The Homematic IP LED Controller – RGBW enables simple control of RGBW LED lighting directly and wirelessly via the Homematic IP system.
- Colour, brightness and saturation can be controlled independently of each other.
- The LED controller offers the option of controlling either one RGB(W) strip, two tunable white strips or up to four simple strips. Tunable white strips can be operated in Dim2Warm mode or dynamic daylight (HCL) mode.
- Its robust housing makes the LED controller ideal for invisible mounting in partition walls or false ceilings.
- In addition, easy remote control via app further increases ease of use. For example, you can set customised initial brightness levels or automatic switch-offs after a configurable switch-on time.
- All current technical documents and updates are provided at [www.homematic-ip.com](http://www.homematic-ip.com).

## Device overview







- (A) System button (pairing button and device LED)
- (B) Mounting lugs
- (C) Terminal with 2-pin input
- (D) Terminal with 4-pin output
- (E) Cap
- (F) Cap

## General system information

This device is part of the Homematic IP smart home system and works with the Homematic IP protocol. All devices in the Homematic IP system can be configured easily and individually with the CCU3 user interface or flexibly with the smartphone app in connection with the Homematic IP cloud. The functions provided by the system in combination with other components are described in the Homematic IP Wired User Guide, available for download. All current technical documents and updates are provided at [www.homematic-ip.com](http://www.homematic-ip.com).

## Start-up

## Installation instructions

-  Before installation, please note the device number (SGTIN) labelled on the device as well as the exact application purpose in order to facilitate later allocation. You can also find the device number on the QR code sticker supplied.
-  Incorrect installation also means that you risk serious damage to property, e.g. due to fire. You risk personal liability for personal injury and property damage.
-  Please observe the hazard information in section “2 Hazard information” auf Seite 27 during installation.
-  Please note the insulation stripping length of the conductor to be connected, indicated on the device.

Permitted cable cross-sections for connection to a supply voltage of 12–24 VDC are:

### Rigid cable [mm<sup>2</sup>]




- 0.5–2.5

Permitted cable cross sections for connecting to the LED strips are:

### Rigid cable [mm<sup>2</sup>]

- 0.2–1.5

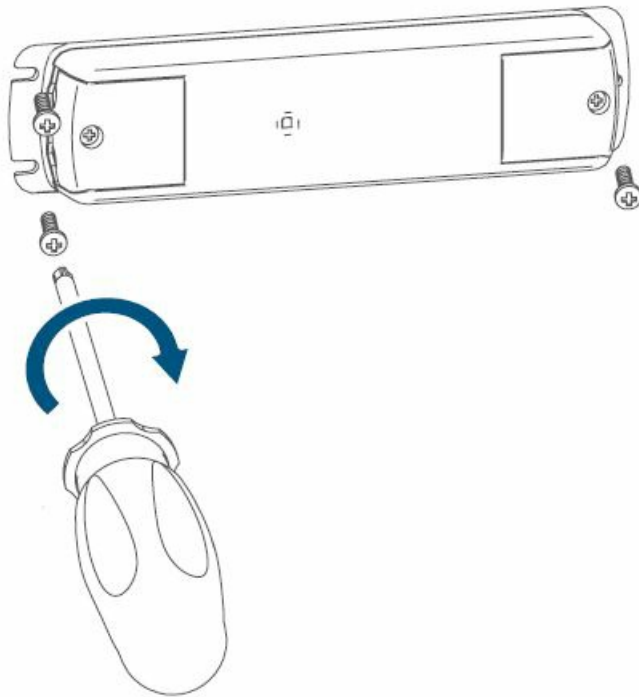
## Mounting and installation

-  Please read this entire section before starting to install the device.
-  Make sure there are no electricity cables or similar at the desired mounting location!
-  The device must only be used for fixed installations. The device must be securely attached within a fixed installation.

Proceed as follows to mount the LED controller in a false ceiling or partition wall

- Position the LED controller at the desired location.
- Mark the drilling points using the openings of the mounting lugs (B).
- Select the appropriate screws and dowels.
- Drill the holes according to the screw size and insert the dowels.
- You can now mount the LED controller over the mounting brackets using the screws (fig. 2).

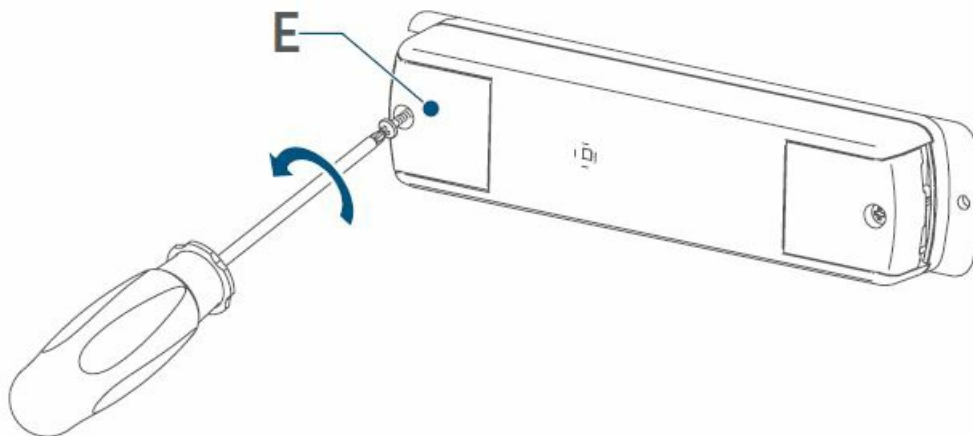
2



Proceed as follows to mount the LED controller in a partition wall or false ceiling:

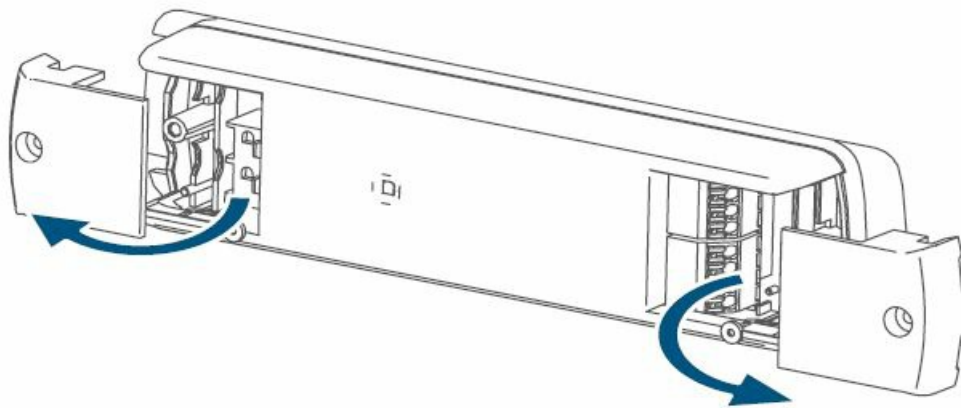
- Loosen the screw on the cap (E) using a screwdriver (fig. 3).

3



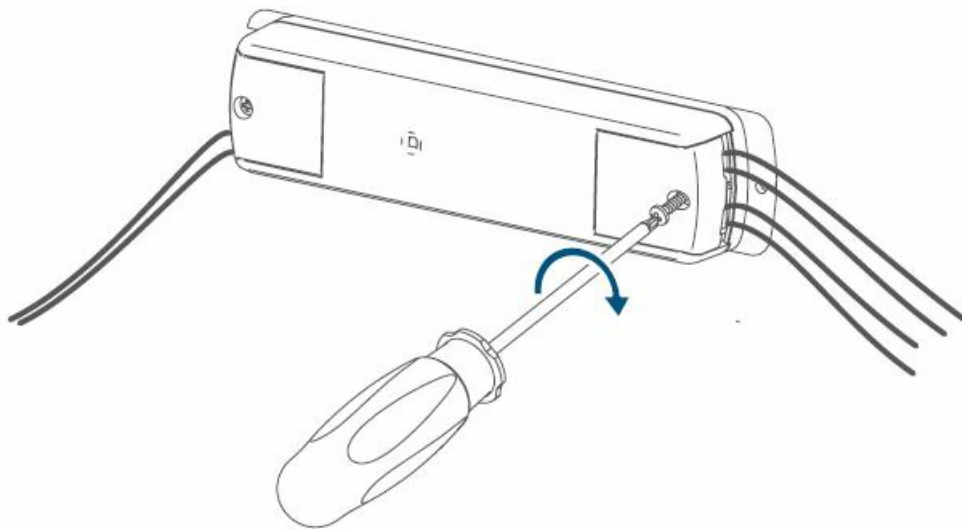
- Open the cap (fig. 5).

5

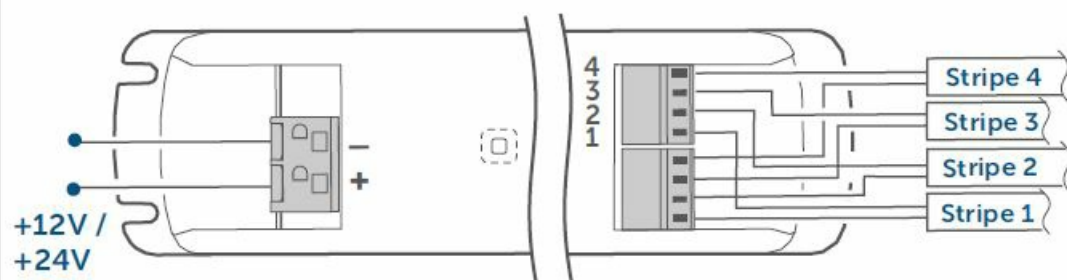


- Connect the power supply unit to the terminal (C) (2-pin input) according to the connection diagrams (fig. 6 to 10).

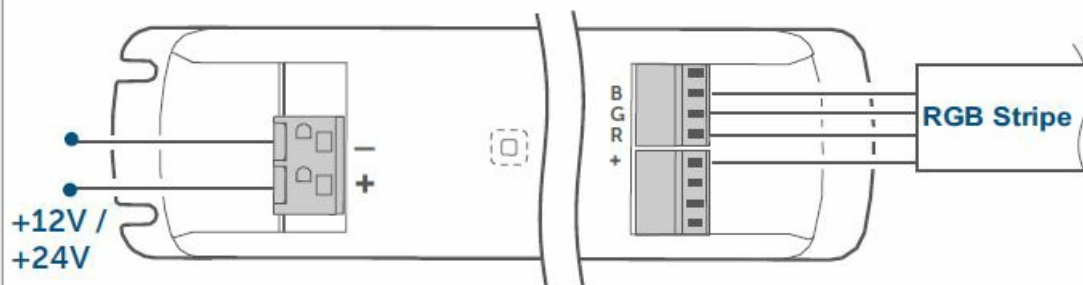
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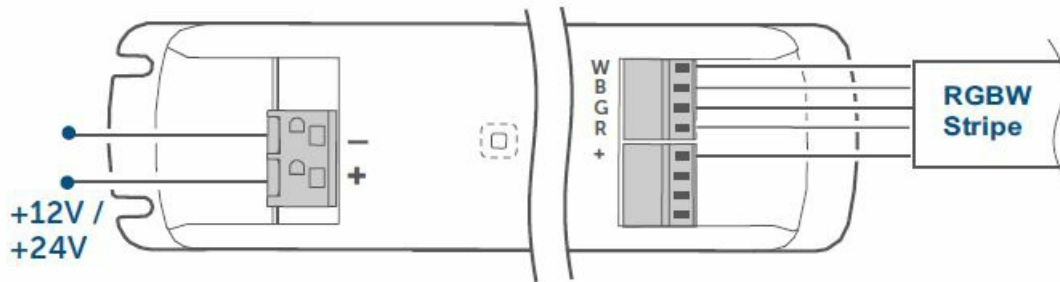


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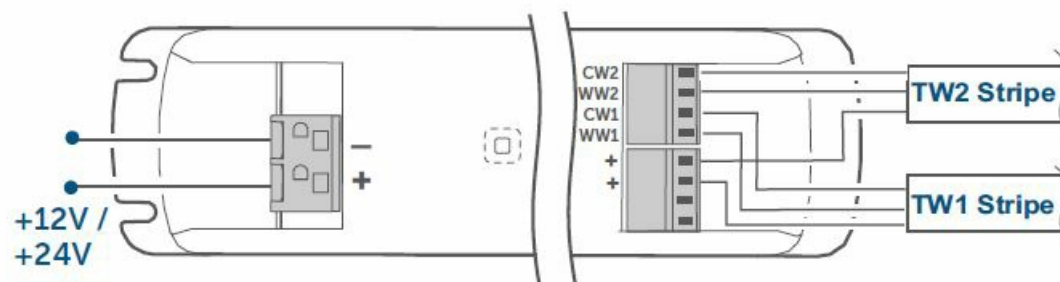




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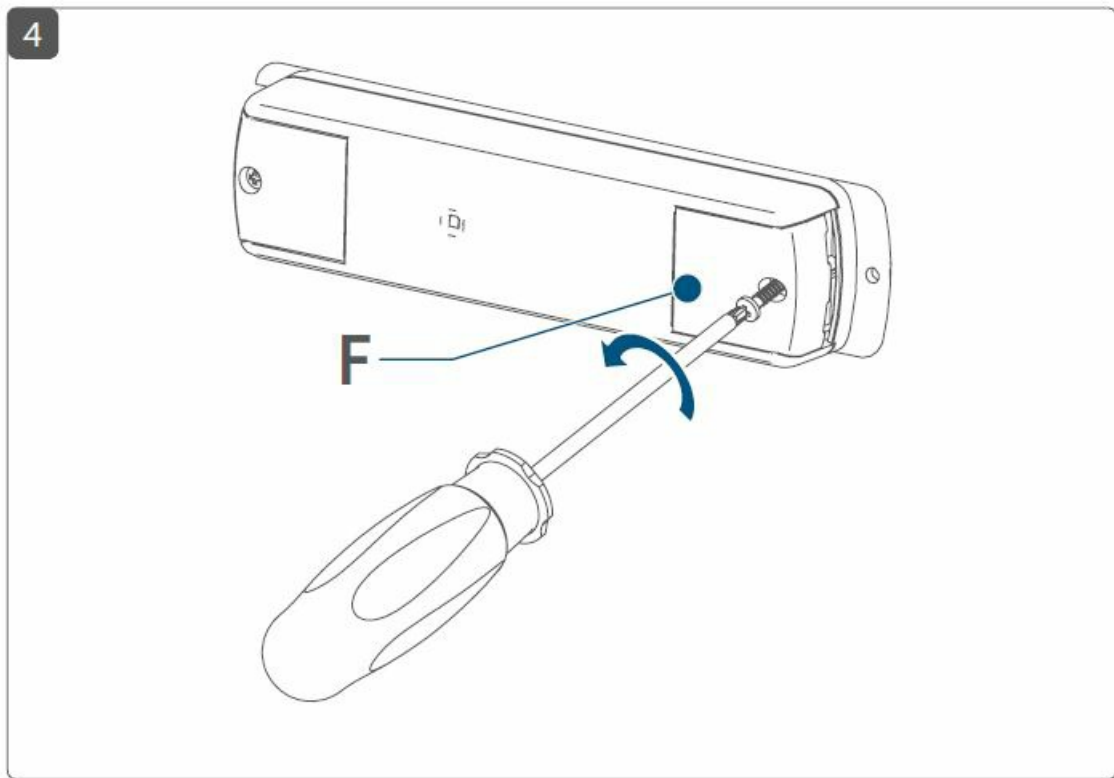
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The power supply unit must be a converter with safety extra-low voltage (SELV) for LED modules in accordance with EN 61347-1, Annex L. The power supply unit must be short-circuit proof (conditional or unconditional) or fail-safe.




- Loosen the screw on the opposite cap (F) (fig. 4).

4



- Open the cap (fig. 5).
- Connect the loads to the terminal (D) (4-pin output) according to the connection diagrams (fig. 7 to 10).
- Close the LED controller caps again.
- Switch on the power supply to activate the device's pairing mode.

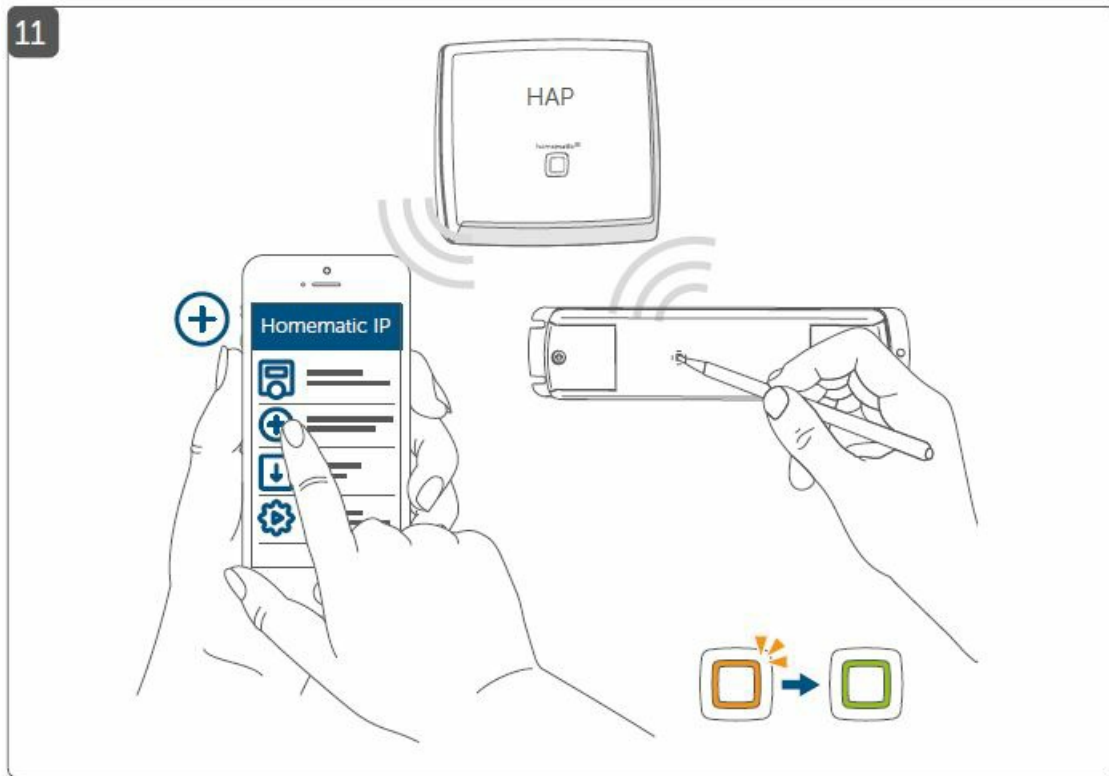
## Pairing

-  Please read this entire section before starting the pairing procedure.
-  First set up your Homematic IP Access Point via the Homematic IP app to enable operation of other Homematic IP devices within your system. For further information, please refer to the Access Point operating manual.
-  You can pair the device with either the access point or the Homematic Central Control Unit CCU3. For detailed information, please refer to the Homematic IP User Guide, available for download in the download area of [www.homematic-ip.com](http://www.homematic-ip.com).

To integrate the device into your system and to enable control via the free Homematic IP app, you must first add the device to your Homematic IP Access Point

To add the device, please proceed as follows:

- Open the Homematic IP app on your smartphone.
- Select the menu item "Add device".
- When the power supply is switched on, the actuator's pairing mode is active for 3 minutes (fig. 11).



You can manually launch the pairing mode for another 3 minutes by briefly pressing the system button (A) (fig. 11).

- Your device will automatically appear in the Homematic IP app.
- To confirm, enter the last four digits of the device number (SGTIN) in your app, or scan the QR code. The device number can be found on the sticker supplied or attached to the device.
- Wait until pairing is completed.
- If pairing was successful, the LED (A) lights up green. The device is now ready for use.
- If the LED lights up red, please try again.
- Select the desired solution for your device.
- In the app, give the device a name and allocate it to a room.

### Basic settings

The operating mode of the LED controller is set in the device settings of the user interfaces (HmIP app and WebUI). This must be set according to the intended use. The following options are available:

- 4 x Single LED strips (fig. 7)
- 1 x RGB (fig. 8)
- 1 x RGBW (fig. 9)
- 2 x Tunable White (fig. 10)

### Colour Representation using the HSV Colour Space

Using the HSV colour space, the starting colour is defined by use of an RGB(W) stripe. It is made up of the three terms Hue (H), Saturation (S) and Value (V). Hue H is defined as a circle (0—360°) in the course of which all colours occur. Saturation S specifies the intensity of the colour, where the starting colour increasingly moves towards white as the number reduces. Value V specifies the total brightness of the defined starting colour.

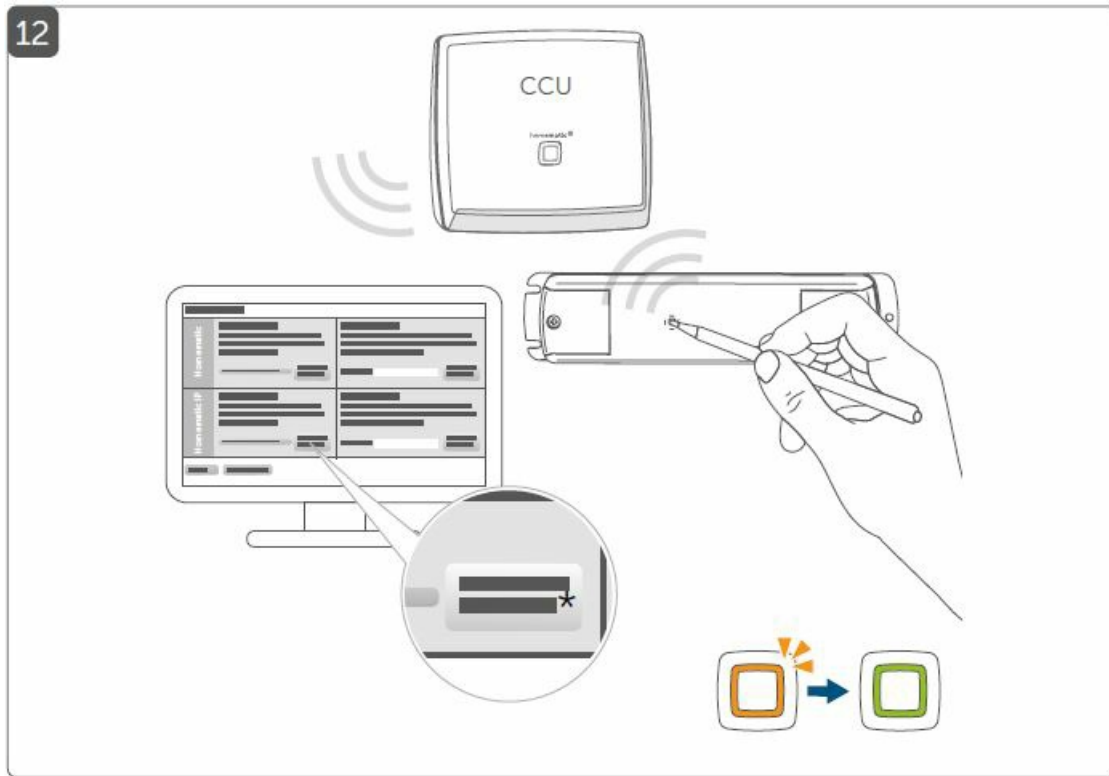
### HCL (Human Centric Lighting)

Human Centric Lighting (HCL) describes the adaptation of the lighting in line with the natural course of daylight: in

the morning, a warm colour temperature (reddish light) dominates, whereas over the course of the day towards noon the colour temperature rises (bluish light). Towards the evening, the colour temperature falls again. The artificial mimicry of the colour temperature progression can help to increase people's ability to concentrate.

### Dim2Warm

The Dim2Warm mode simulates the dimming behaviour of a traditional incandescent lamp: if the lamp is lit very low, a very warm colour temperature is emitted, which can ensure a cosy and comfortable mood. As the brightness increases, the colour temperature is raised, with the result that at full brightness, cold and thus subjectively bright light is emitted.



## Troubleshooting

### Error codes and flashing sequences

Flashing code	Meaning	Solution
Short orange flash- es	Radio transmission/ attempting to trans- mit/data transmis- sion	Wait until the transmission is completed.
1x long green flash	Transmission con- firmed	You can continue opera- tion.
Short orange flash- es (every 10 s)	Pairing mode active	Enter the last four numbers of the device's serial number to confirm (see <a href="#">“5.3 Pairing” auf Seite 31</a> ).
6x long red flashes	Device defective	Please see your app for error message or c ontact your retailer.
1x orange and 1x green flash	Test display	You can continue once the test display has stopped.
1x long red flash	Transmission failed or duty cycl e limit reached	Please try again (see sec. <a href="#">“6.2 Command not con- firmed” auf Seite 34</a> or <a href="#">“6.3 Dut y cycle” auf Seite 35</a> ).

### Command not confirmed

If at least one receiver does not confirm a command, the device LED (A) lights up red at the end of the failed transmission process. The failed transmission may be caused by radio interference (see “9 General information about radio operation” auf Seite 36). This may be caused by the following:

- Receiver cannot be reached.
- Receiver is unable to execute the command (load failure, mechanical blockade, etc.).
- Receiver is faulty.

### Duty cycle

- The duty cycle is a legally regulated limit of the transmission time of devices in the 868 MHz range. The aim of this regulation is to safeguard the operation of all devices working in the 868 MHz range.
- In the 868 MHz frequency range we use, the maximum transmission time of any device is 1% of an hour (i.e. 36 seconds in an hour). Devices must cease transmission when they reach the 1% limit until this time restriction ends. Homematic IP devices are designed and produced with 100% conformity to this regulation.
- During normal operation, the duty cycle is not usually reached. However, repeated and radio-intensive pairing

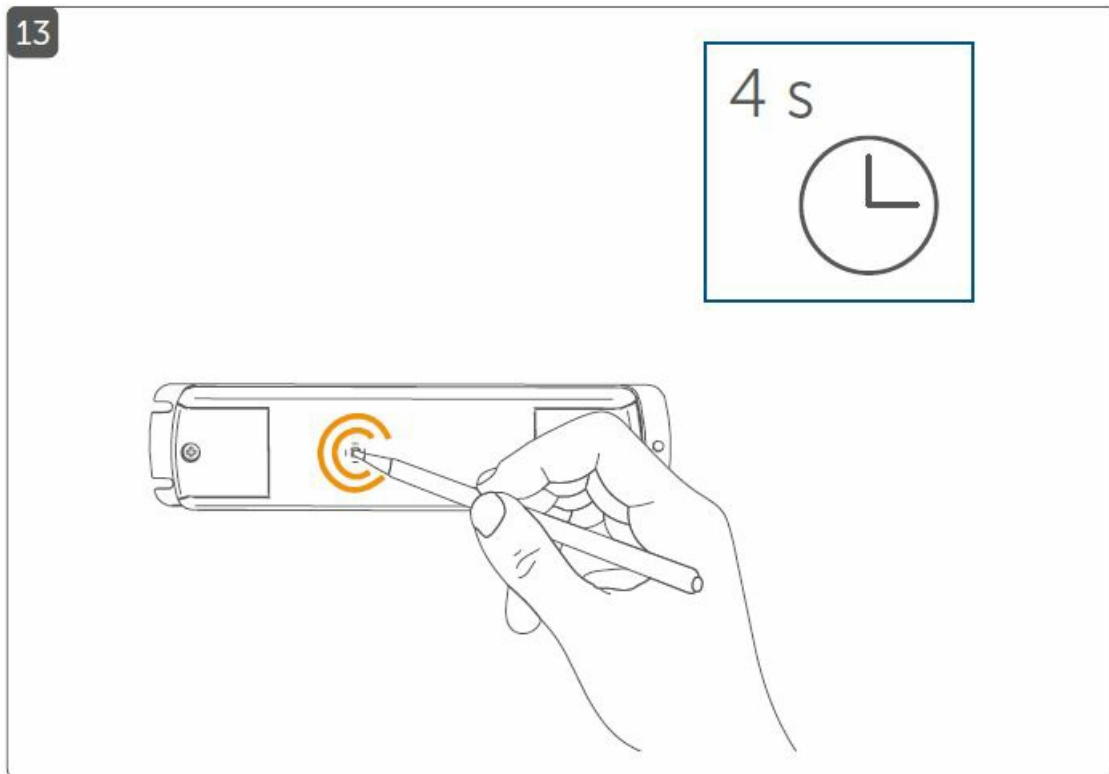
processes mean that it may be reached in isolated instances during start-up or initial installation of a system. If the duty cycle limit is exceeded, this is indicated by the LED (A) emitting a long red flash, and the device may temporarily not function. The device will start working correctly again after a short period (max. 1 hour).

## Restoring factory settings

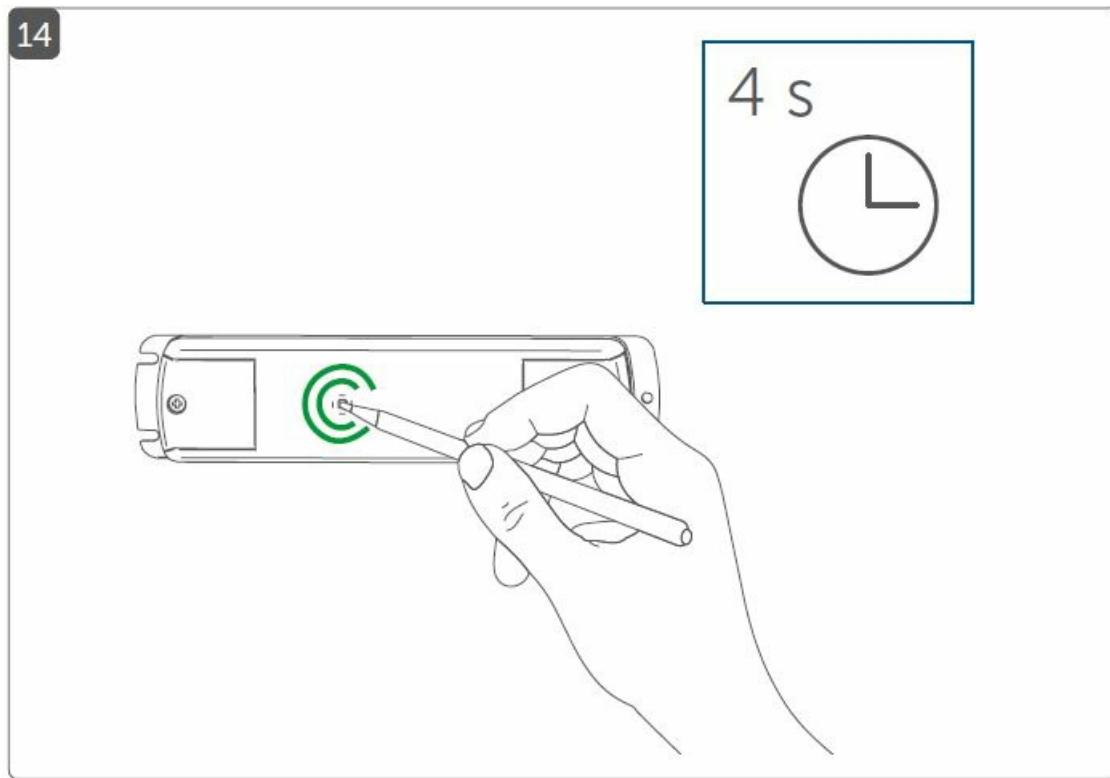
The device's factory settings can be restored. If you do this, you will lose all your settings.

To restore the factory settings of the device, please proceed as follows:

- Press and hold down the system button (A) for 4 seconds, until the LED (A) starts quickly flashing orange (fig. 13).



- Release the system button.
- Press and hold down the system button for 4 seconds again, until the LED lights up green (fig. 14).



- Release the system button again to conclude the procedure.

The device will perform a restart.

## Maintenance and cleaning

- The product does not require any maintenance. Leave any maintenance or repair to a specialist.
- Clean the device using a soft, clean, dry and lint-free cloth. Do not use any detergents containing solvents, as they could corrode the plastic housing and label.

## General information about radio operation


Radio transmission is performed on a non-exclusive transmission path, which means that there is a possibility of interference occurring. Interference can also be caused by switching operations, electrical motors or defective electrical devices. The transmission range within buildings can differ significantly from that available in open space. Besides the transmitting power and the reception characteristics of the receiver, environmental factors such as humidity in the vicinity play an important role, as do on-site structural/ screening conditions. Hereby, eQ-3 AG, Maiburger Str. 29, 26789 Leer/Germany declares that the radio equipment type Homematic IP HmIP-RGBW is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [www.homematic-ip.com](http://www.homematic-ip.com).

## Technical specifications

- **Device short description:** HmIP-RGBW
- **Supply voltage:** 12-24 VDC
- **Current consumption:** 8.5 A (max. 2.1 A per channel) Power consumption
- **Standby:** 60 mW @ 24 V
- **PWM base frequency:** 1 kHz
- **Cable type and cross section:** (Rigid cable)
- **Input terminals:** 0.5–2 mm<sup>2</sup>
- **Output terminals:** 0.2–1.5 mm<sup>2</sup>

- **Cable length (input and output terminals):** < 3 m
- **External diameter Input cables:** 7 mm
- **Output cables:** 5 mm
- **Protection rating:** IP20
- **Ambient temperature:** 5 to 40 °C
- **Dimensions (W x H x D):** 170 x 40 x 26 mm
- **Weight:** 79 g
- **Radio frequency band:** 868.0-868.60 MHz 869.4-869.65 MHz
- **Max. radio transmission power:** 10 dBm
- **Receiver category:** SRD category 2
- **Typical range in open space:** 260 m
- **Duty cycle:** < 1 % per h/< 10 % per h
- **Protection class:** III
- **Pollution degree:** 2

#### Subject to modifications



Load type		Channel 1-4
Resistive load		2.1 A
LED without ballast		2.1 A/50.4 VA

#### Instructions for disposal

- Do not dispose of the device with normal domestic waste! Electronic equipment must be disposed of at local collection points for waste electronic equipment in compliance with the Waste Electrical and Electronic Equipment Directive.



#### Information about conformity

-  The CE mark is a free trademark that is intended exclusively for the authorities and does not imply any assurance of properties.
-  For technical support, please contact your retailer.

Kostenloser Download der Homematic IP App! Free download of the Homematic IP app!






## eQ-3 AG

- Maiburger Straße 29
- 26789 Leer / GERMANY
- [www.eQ-3.de](http://www.eQ-3.de).

## Documents / Resources

 <b>Installations- und Bedienungsanleitung</b> Installation and operating manual Notice d'installation et d'emploi Manual de instalación y uso Istruzioni per l'installazione e l'uso Instalační a bedieningshandleiding	<a href="#">homematic IP HmIP-RGBW LED Controller RGBW Switching Actuator with Dimmer</a> [pdf]   nallation Guide HmIP-RGBW, HmIP-RGBW LED Controller RGBW Switching Actuator with Dimmer, LED Contr oller RGBW Switching Actuator with Dimmer, Controller RGBW Switching Actuator with Dimme r, RGBW Switching Actuator with Dimmer, Switching Actuator with Dimmer, Actuator with Dimm er, Dimmer
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## References

- [e Startseite - eQ-3](#)
- [IP Home page | Homematic IP](#)

Manuals+.