

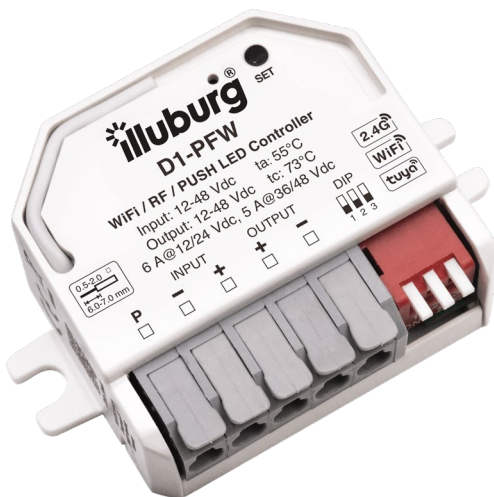
Datasheet & User Manual

Model: D1-PFW

DC Constant Voltage LED Dimmer for single-color LED strip

Push / 2.4G RF / Wi-Fi 3-in-1 Control

Suitable for surface mounting & flush-mount boxes ($\varnothing \geq 55\text{mm}$)



PUSH

2.4G

WiFi



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1. Technical Specifications

Input voltage	12...48 Vdc
Output voltage	12...48 Vdc
Output current	6A@12/24V, 5A@36/48V
Output power	72W@12V, 144W@24V 180W@36V, 240W@48V
Input signal	Push / 2.4G RF / Wi-Fi
Output signal	PWM
PWM frequency	500 Hz, 2 KHz, 8 KHz, 16 KHz
Control distance	30 m (barrier-free)
Dimming range	0...100 %
Dimming level	4096
Dimming curve	Linear / logarithmic

1.1 Operating condition & Protection

Operating temperature range (ta)	-20...+55 °C
Max. surface temperature (tc)	73 °C
Type of protection	IP20
Short circuit protection	Yes
Overheating protection	Yes
Reverse protection	Yes

1.2 Safety & EMC Standards

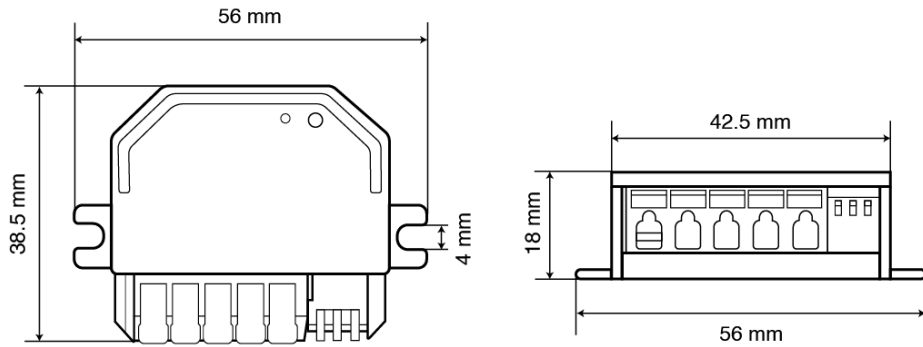
Standards	EN 55015, EN 61547 EN 301489-1, EN 301489-17 EN 61347-1, EN 61347-2
Radio Equipment	EN 300328, EN 300440
Marking	CE, RoHS

1.3 Connection Data

Type of connection	Spring lever terminal
Cable cross-section	0.5...2.0 mm ²
Cable preparation length	6...7 mm

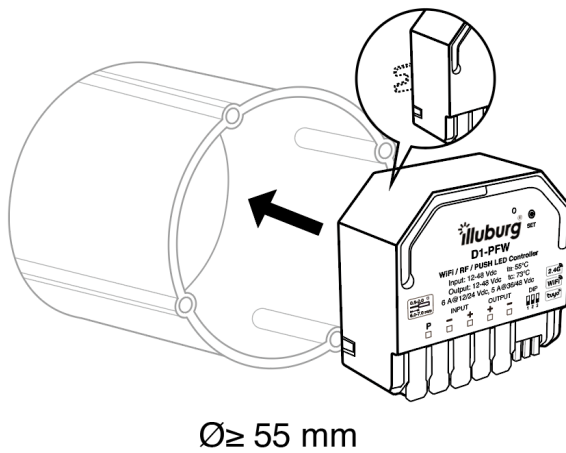
2. Installation & Wiring

2.1 Dimensions

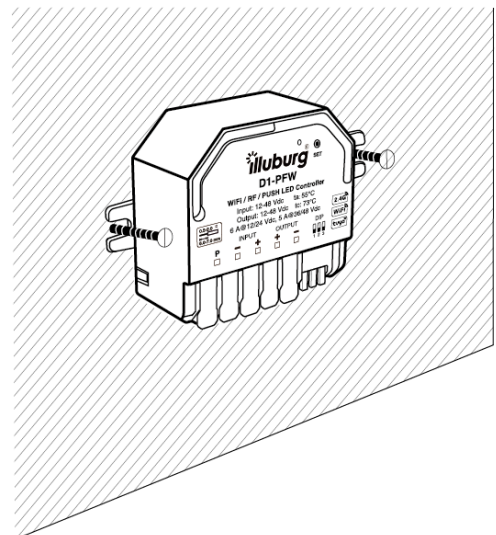


2.2 Installation

Flush Mounting

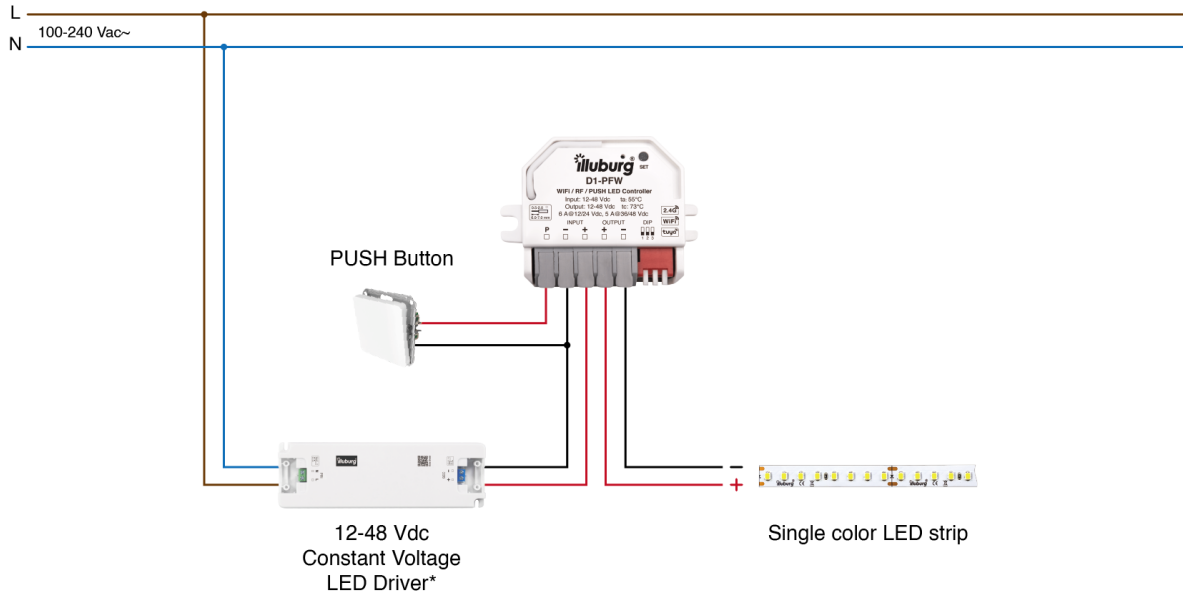


Surface mounting

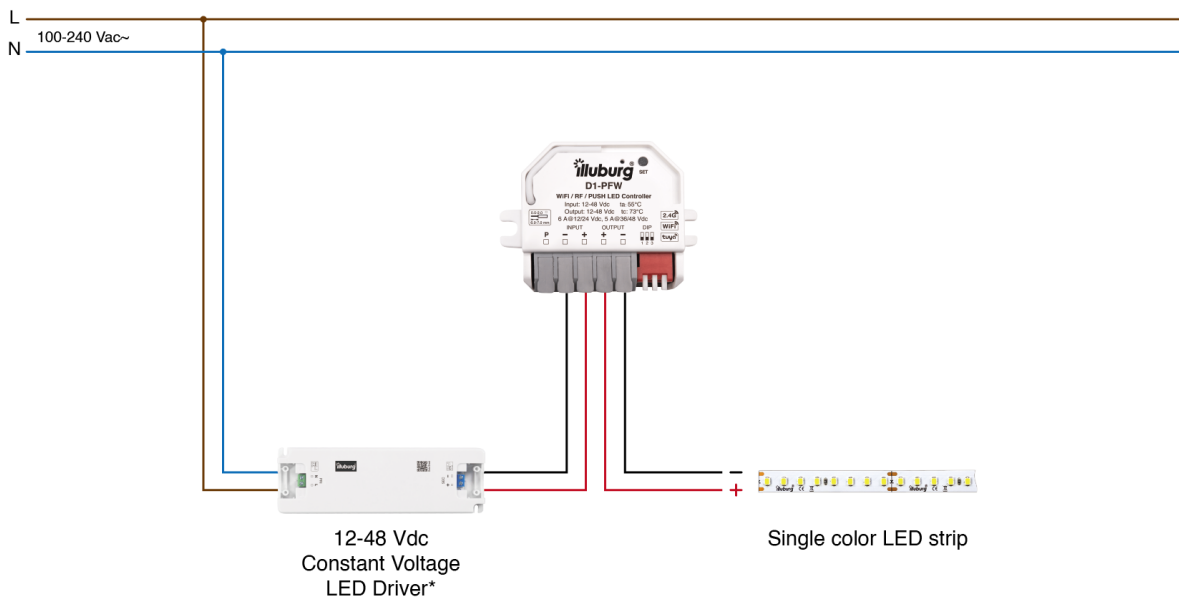


2.3 Wiring Diagram

Wiring Diagram 1: with Push Switch



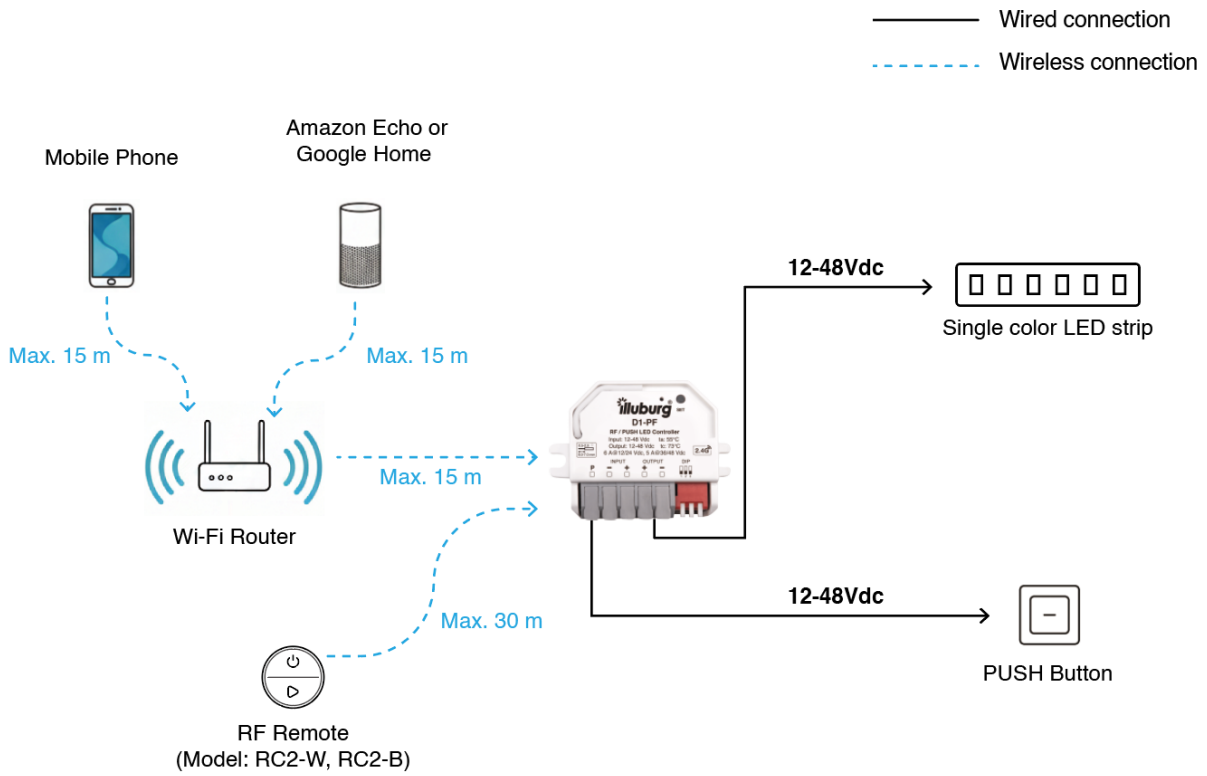
Wiring Diagram 2: without Push Switch



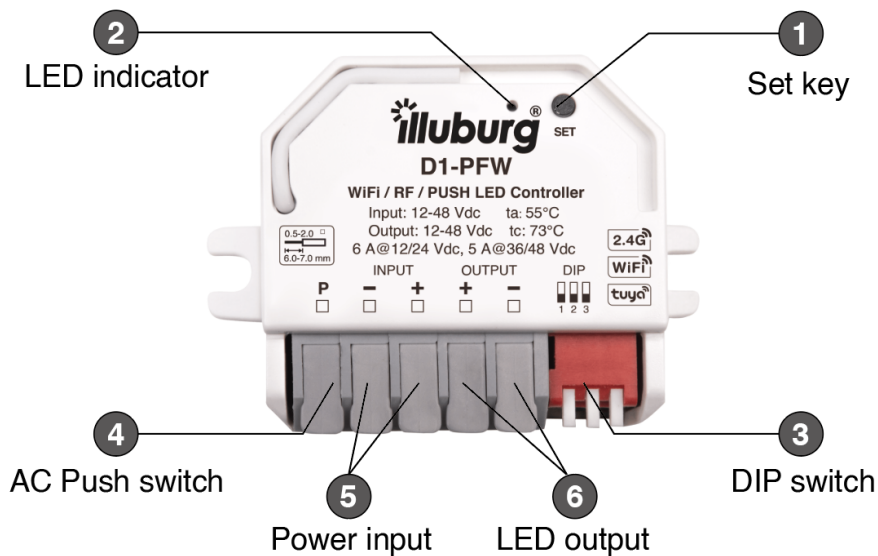
Please carefully ensure all wire connections and polarities are correct and secure before applying power, otherwise this controller will be damaged.

3. Operation & Setup

3.1 System Diagram



3.2 Hardware Overview



3.3 On/Off Fade Time & Factory Reset



Since adjusting the fade time restores factory settings, it is highly recommended to set it prior to remote pairing and network configuration.

On/Off fade time set to 0.5s (Default)

Long press **1** Set Key for 15s to set the fade time to 0.5s, and reset all settings:

1. All RF remotes deleted
2. APP configuration cleared



On/Off fade time set to 3s

Long press **1** Set Key for 20s to set fade time to 3s, and reset all settings:

1. All RF remotes deleted
2. APP configuration cleared



3.4 Remote Control Pairing

Match

Short press **1 Set Key**, and short press the ON/OFF button on your remote control.
2 LED indicator will blink fast when matched.

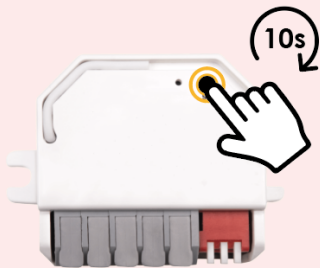


(e.g., Model: RC2-W, not included).

Delete

Long press **1 Set Key** for 10s.  (Do not hold for more than 15s)

2 LED indicator will blink fast when deleted.

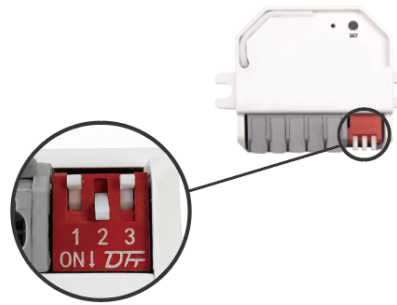


3.5 PWM Frequency Selection



Choosing the right frequency helps balance smooth, flicker-free performance on camera with optimal power efficiency and minimal electrical noise.

Select via **3** DIP switch:



500Hz



2kHz



8kHz



16kHz

Camera Shooting (High Frequency: 8kHz / 16kHz):

Select a higher frequency for video recording or photography. This ensures a smooth, flicker-free image on camera, though it may slightly increase power supply noise and reduce output current.

Standard Usage (Low Frequency: 500Hz / 2kHz):

Select a lower frequency for everyday lighting without cameras. This provides optimal power efficiency, higher output current, and minimizes power supply noise.



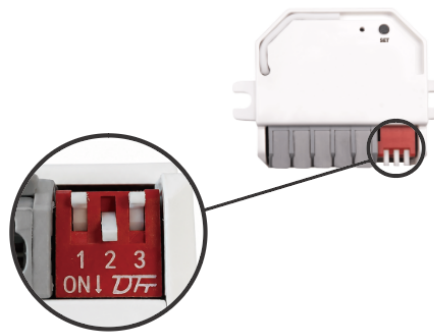
Always disconnect the power supply BEFORE adjusting the DIP switch to avoid device damage or electric shock.

3.6 Dimming Curve Selection



Choosing the right dimming curve allows you to tailor the lighting output to your specific needs, for smooth natural transitions for the human eye, or precise mathematical accuracy for automated control.

Select via **3** DIP switch:



Logarithmic Curve

Ideal for everyday lighting. Provides a smooth, natural fade tailored to human eyesight.



Linear Curve

Ideal for machine vision or professional consoles. Delivers a precise 1:1 output ratio.



Always disconnect the power supply BEFORE adjusting the DIP switch to avoid device damage or electric shock.

3.7 AC Push Dimming Control

The dimmer supports control via an external self-reset PUSH switch.

Connect the dimmer according to **Wiring Diagram 1 (Page 5)**.



Short press the PUSH switch

ON / OFF:

Turns the light on or off.

The light returns to the last brightness level used before it was turned off.



Double click the PUSH switch

Brightness Toggle:

Switches between 10% and 100% brightness.



Long press the PUSH switch for 1-6s

Dimming Up / Down:

Adjusts the brightness level.

The dimming direction (up or down) changes with each long press.



Long press the PUSH switch for 10s

Multi-Dimmer Synchronization:

Synchronizes all connected D1-PFW dimmers to 100% brightness.

Use this to align multiple units before control.

4. Network Configuration

4.1 Smart Control Features Overview

Basic Funktion



Switching

Remote control on/off via App.



Brightness

Smooth 0-100% dimming via APP.



Timer

Set schedules or countdowns via App.

Premium Funktion



Voice Control

Control via Amazon Alexa or Google Assistant.



Device Sharing

Grant device control permissions to other users.



Home Management

Control together with family members.

Wi-Fi Setup with App Account



Create an App account to unlock global remote control, voice control, and device sharing.

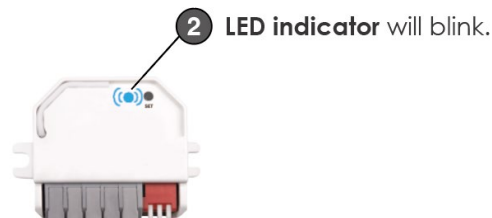
Bluetooth Setup in Experience Mode



Access basic switching, dimming, and timers locally without an account or cloud connection.

4.2 Setup Preparation

Step 1: Connect the dimmer according to the **wiring diagram 1 or 2 (Page 5)** and turn on the power.



Step 2: Download the Smart Life or Tuya Smart App and Create an App account.



Download
Smart Life



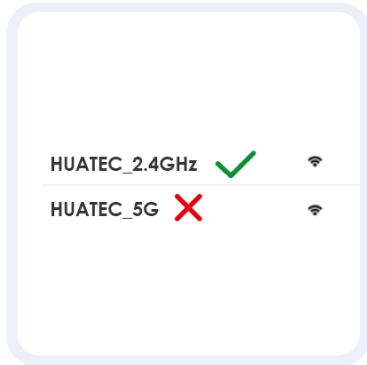
Download
Tuya Smart





4.3 Option A: Wi-Fi Setup (Recommended)

Create an App account to unlock global remote control, voice control, and device sharing.



Step 1: Connect Smartphone to Wi-Fi

Connect to 2.4GHz Wi-Fi only.



Step 2: Enter Pairing Mode

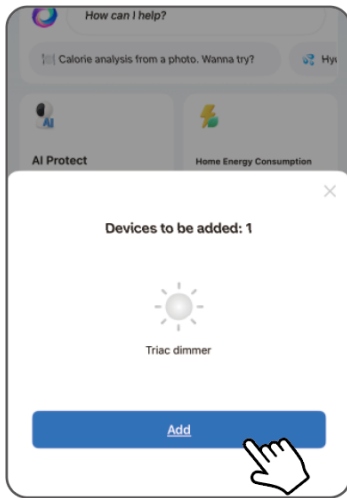
Press and hold **1** Set key for 5 seconds, **2** will blink.
clear previous network connection.



Step 3: Open App

Open the Smart Life or Tuya App.





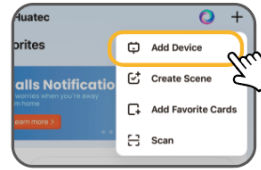
Step 4: Add Device

Click on 'Add'.

If no window appears automatically, check **Step 2** again and follow these steps:



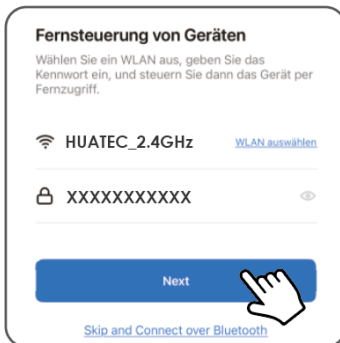
4.1



4.2

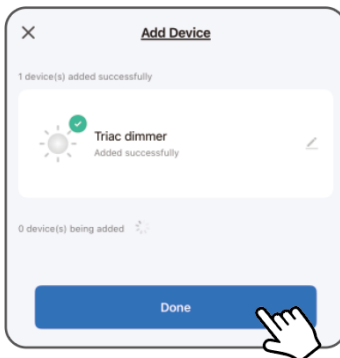


4.3



Step 5: Select Wi-Fi

Enter Wi-Fi password and click 'Next'.



Step 6: Complete Setup

Click on 'Done'.

4.4 Option B: Bluetooth Setup (Local)

Direct control for areas without Wi-Fi (range up to approx. 15–30m), or for quick testing and commissioning.



Step 1: Enable Bluetooth



Step 2: Enter Pairing Mode

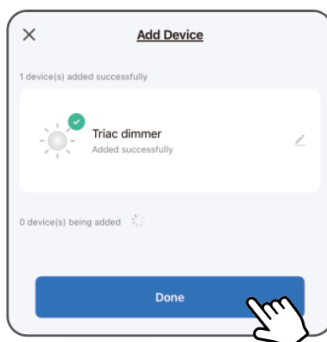
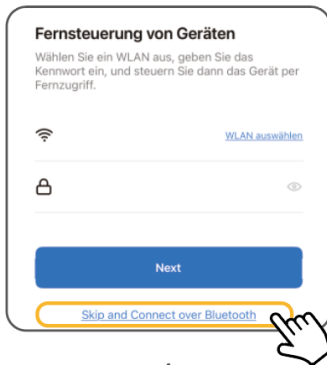
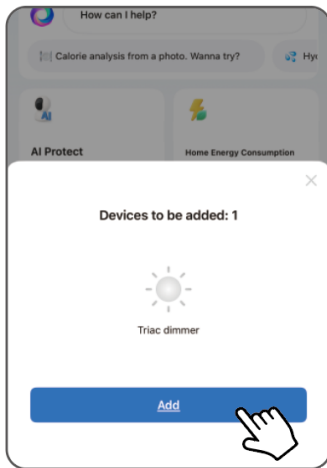
Press and hold **1** Set key for 5 seconds, **2** will blink. clear previous network connection.



Step 3: Open App

Open the Smart Life or Tuya App.

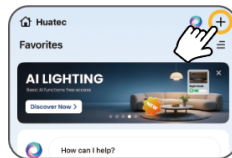




Step 4: Add Device

Click on 'Add'.

If no window appears automatically, check **Step 2** again and follow these steps:



4.1



4.2



4.3

Step 5.1: Select Bluetooth

Click on 'Skip and connect over Bluetooth'.

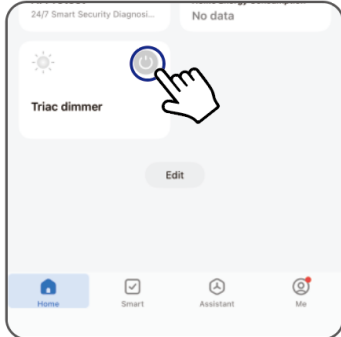
Step 5.2: Bluetooth Pairing

Click on 'Next'.

Step 6: Complete Setup

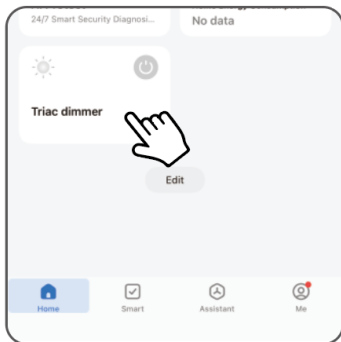
Click on 'Done'.

5. Smart App Operation



Turn On and Off

Turn the device on and off directly from the home page.

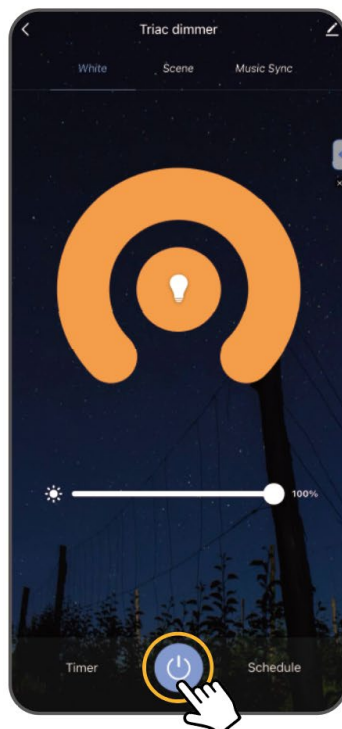


Open Control Panel

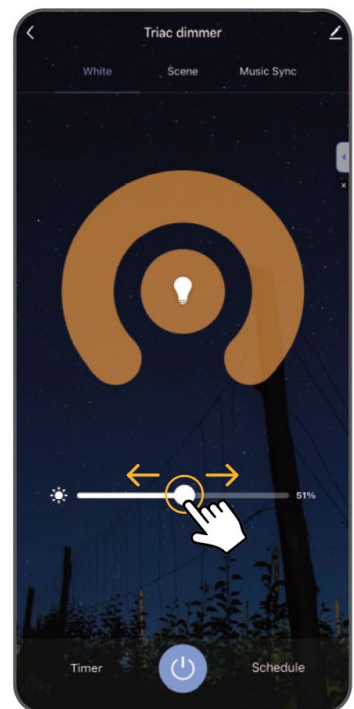
Tap the device to open the detailed control panel.



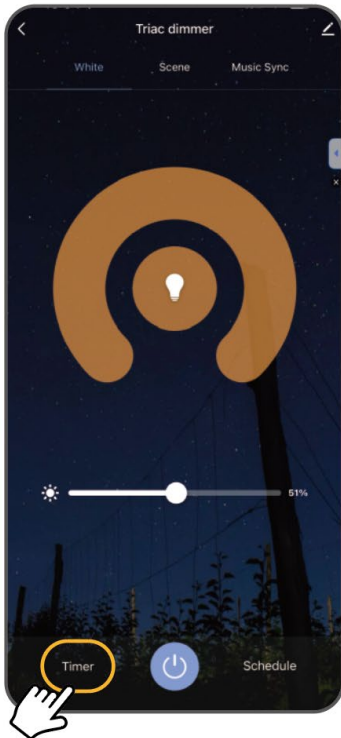
Turn On



Turn Off

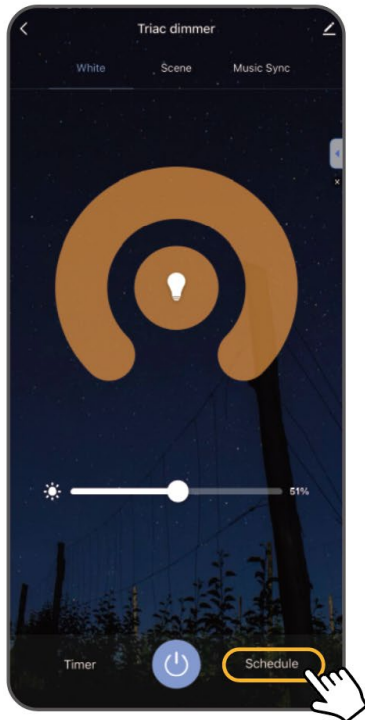
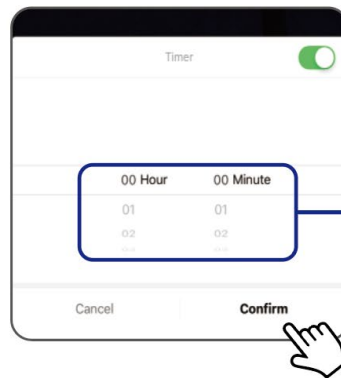


Stepless Dimming



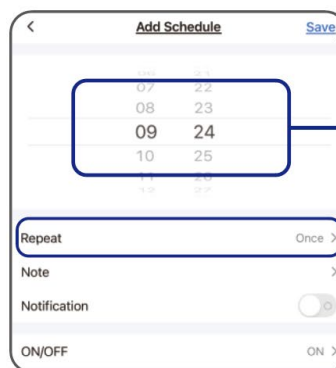
Timer

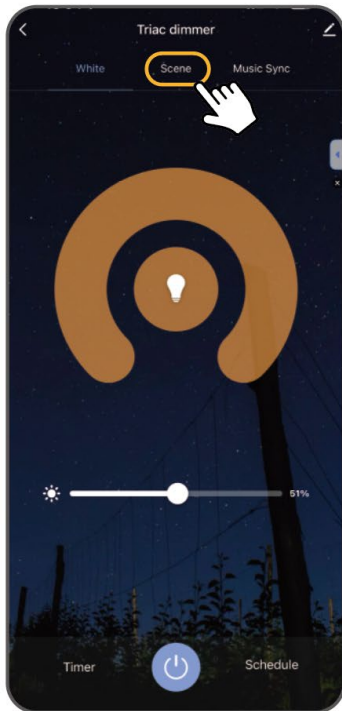
Set a countdown to automatically turn the device on or off.



Schedule

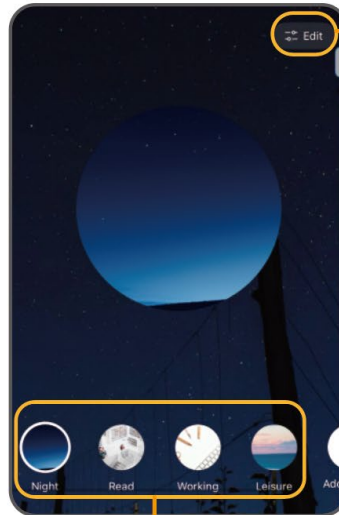
Set specific times and days of the week for automatic switching.



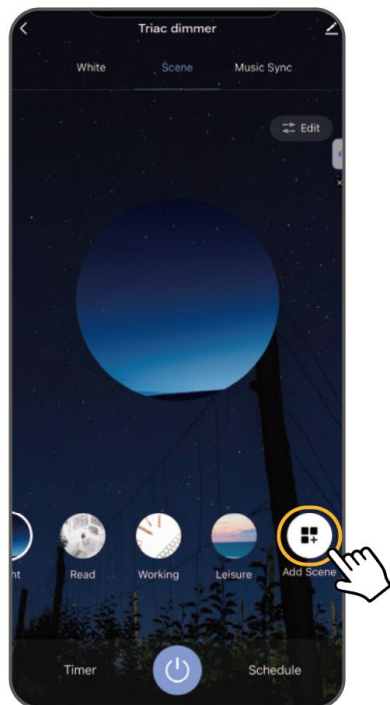


Scenes

Select preset scenes or create your own.

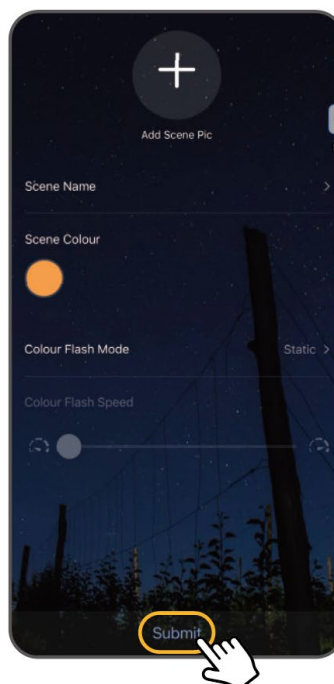


Preset scenes



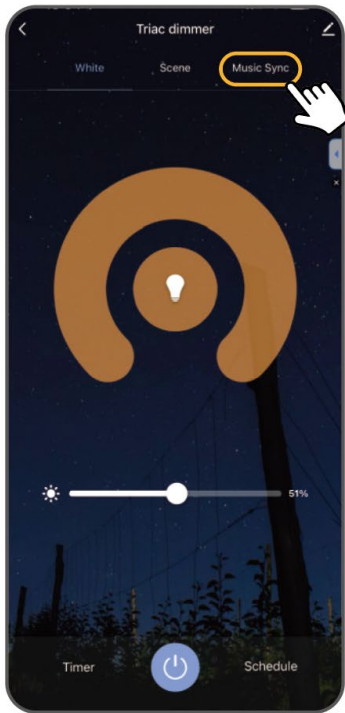
Add Custom Scenes

Set name, brightness, flash mode, and speed, then tap "Submit" to save.



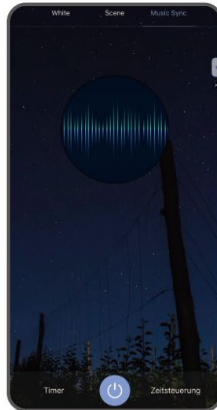
Set brightness

Flash mode



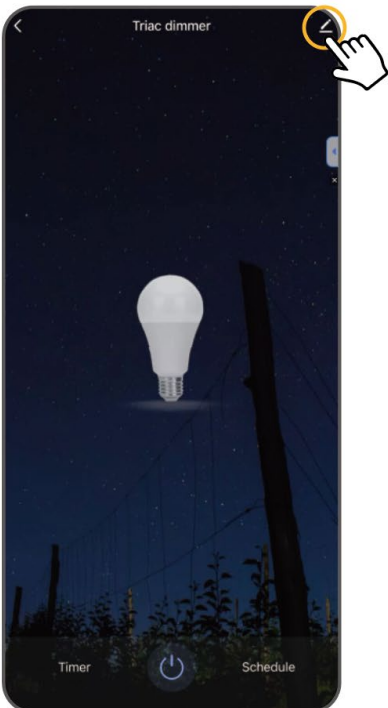
Music Sync

Synchronize light to music via microphone.



5.1 Voice Control Setup

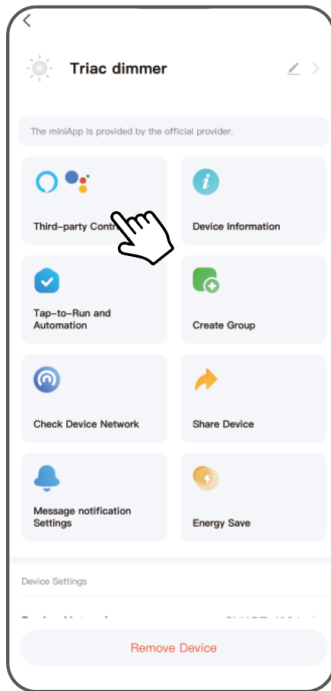
Prerequisite: The Alexa or Google Home is already installed and set up.



Step 1: Open Settings

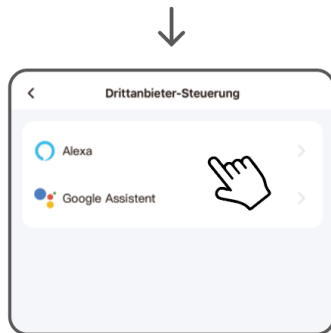
Click the Edit icon (pencil) in the top right corner.





Step 2: Select Menu

Tap on 'Third-party Control'.



Step 3: Select Service

Select the voice assistant you are using.



Step 4: Link Account

Tap on 'LINK'.



Step 5: Complete Setup

Tap on 'Done'.

5.2 Voice Commands (Examples)

Switching:

Alexa / Hey Google, turn on [device name].

Alexa / Hey Google, turn off [device name].

Brightness:

Alexa / Hey Google, set [device name] to 50%.

Alexa / Hey Google, make [device name] brighter.

Alexa / Hey Google, make [device name] 20% darker.

Scenes:

Alexa / Hey Google, activate [scene name].

Group Control:

Alexa / Hey Google, turn [group name] on / off.

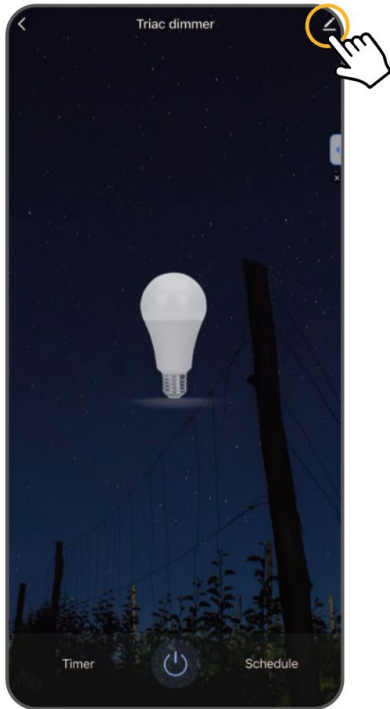
Alexa / Hey Google, set [group name] to 50%.



Notes:

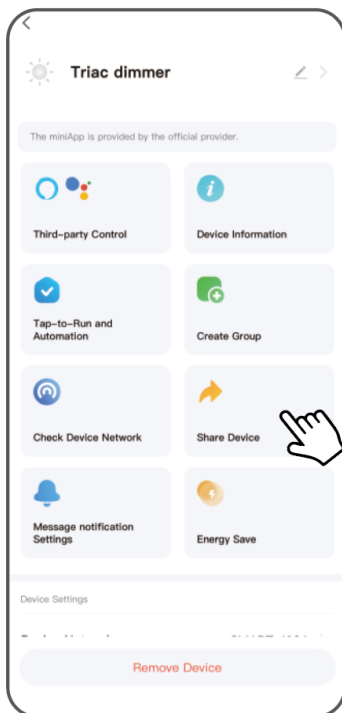
1. Replace [device name] with the name you assigned in the App (e.g., "Living Room").
2. Scenes and groups must be created in the App beforehand before voice assistants can recognize and control them.

5.3 Device Sharing



Step 1: Open Settings

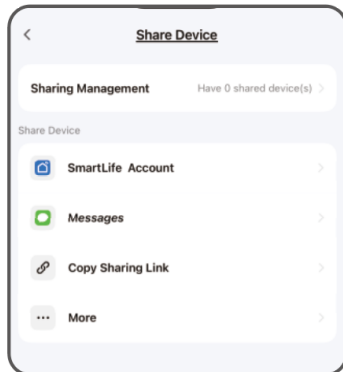
Tap the Edit icon (pencil) in the top right corner.



Step 2: Share Device

Tap on '[Share Device](#)'.





Step 3: Select Sharing Method

Select your preferred method (e.g., Smart Life account or copy sharing link).

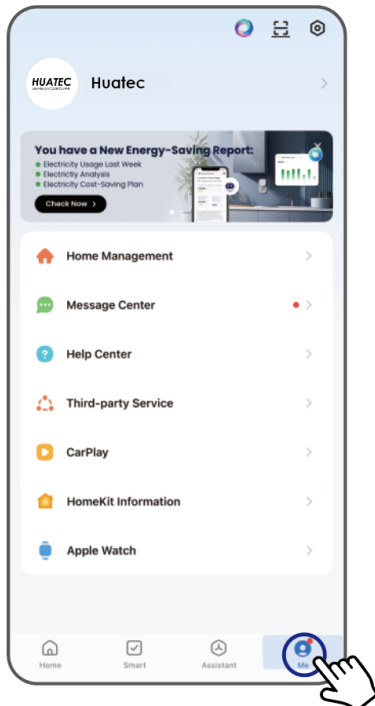


Notes:

1. The recipient must also have the App installed and a registered account.
2. Shared users can control the device but generally cannot change basic device settings.



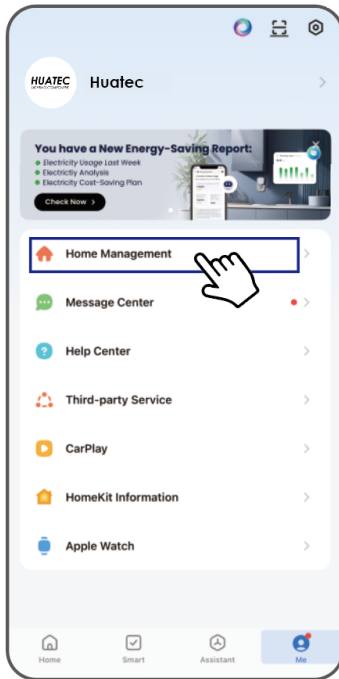
5.4 Home Management



Step 1: Open 'Me'

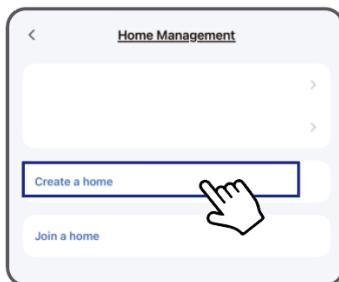
Tap on 'Me' in the bottom right corner.





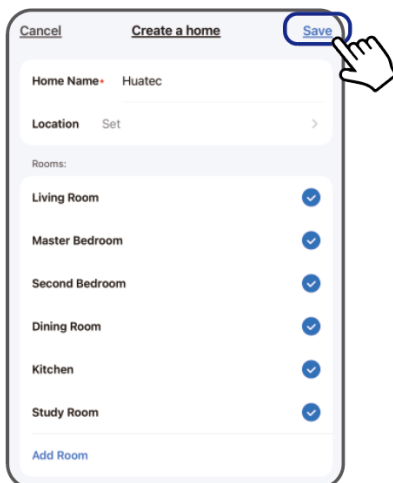
Step 2: Select Home Management

Tap on 'Home Management'.



Step 3: Create a Home

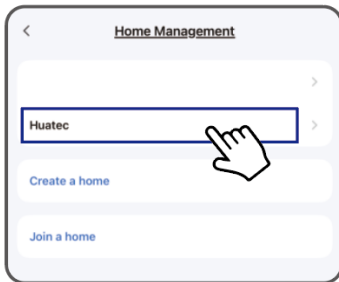
Tap on 'Create a Home'.



Step 4: Set Up Home

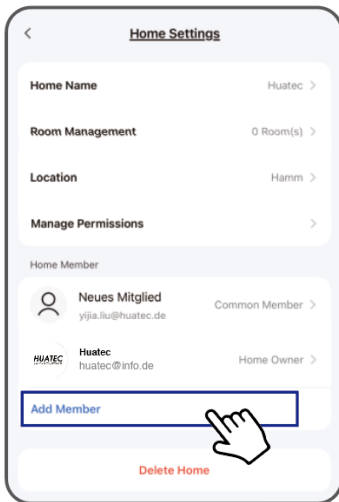
Enter the home name, select rooms, and tap 'Save' in the top right corner.





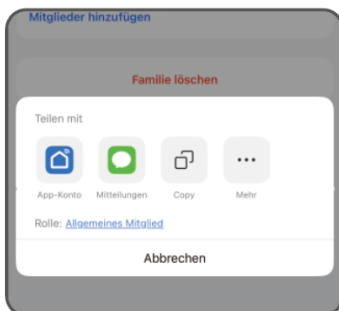
Step 5: Select Home

Tap on the desired home.



Step 6: Add Member

Tap on 'Add Member'.



Step 7: Select Invitation Method

Select your preferred method (e.g., App Account or Copy) to invite family members.



1. Invited members must have the App installed and a registered account before joining the home.
2. As the "Home Owner," you can decide whether new members should be General Members (control only) or Administrators (add/delete devices).

6. Legal & Support

6.1 Important Notice

Download the safety instructions at www.illuburg.de/infocenter, read them carefully and observe the listed instructions and information for proper use.

6.2 Disclaimer of Liability

Subject to changes and errors excepted. Make sure you are using the latest version.

6.3 Manufacturer Information

If you have any further questions, please contact our technical support.

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Website: www.illuburg.de

