



User Manual

Permanent Outdoor Lights Pro
S1080 Series

Safety Instructions

READ AND SAVE THESE INSTRUCTIONS

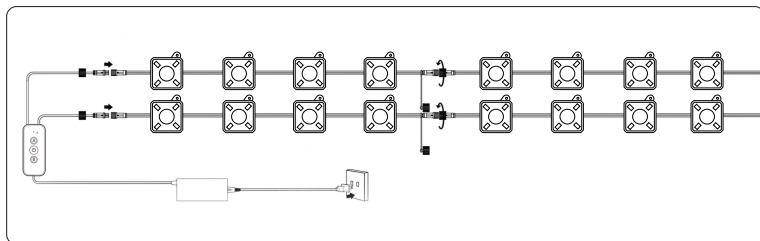
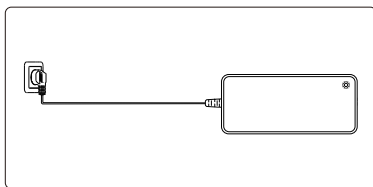
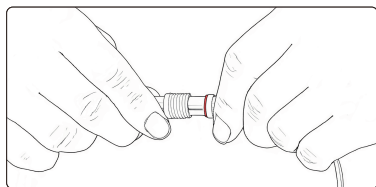
- This product is IP67 waterproof. Suitable for outdoor use, but do not immerse in water.
- Use both adhesive tape and screw clips to secure the light strip and prevent it from falling.
- Ensure the waterproof cap is tightened before use.
- Keep out of reach of children. Do not allow children to install or assemble the product.
- Do not install near heat sources or other hazardous environments.
- Only use the included power adapter. Do not use third-party or non-standard adapters.
- Do not use with external dimmers.
- Always follow installation instructions to ensure safety and optimal performance.

Quick Start Guide

Start your installation in just **6** easy steps!

Make sure to test everything before final installation.

STEP 1 Test Before Installation



What to do:

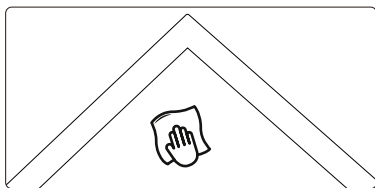
- Connect all string light sections in sequence
- Plug in the power adapter
- Check that all lights are working properly

Ensure all lights are connected before powering on. Otherwise, the lights may not illuminate.

If some lights do not turn on, try setting the correct number of lights in the App first.

If your setup includes more than 144 LEDs, please refer to the Power Injection T-Connector section for proper connection guidelines.

STEP2 Prepare the Mounting Surface

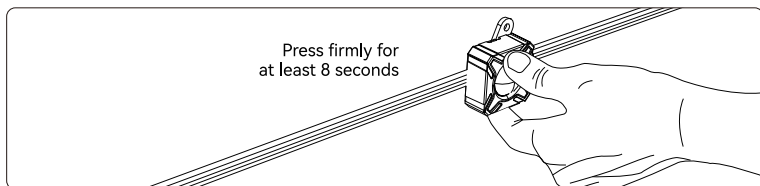
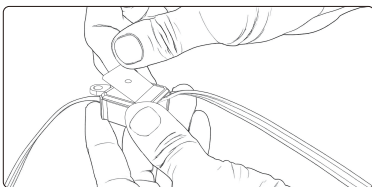
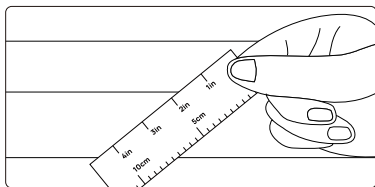


What to do:

- Wipe the mounting surface with a dry cloth or alcohol wipe
- Ensure the surface is clean and completely dry

Dirty or wet surfaces may reduce adhesive strength.

STEP3 Mount the Lights

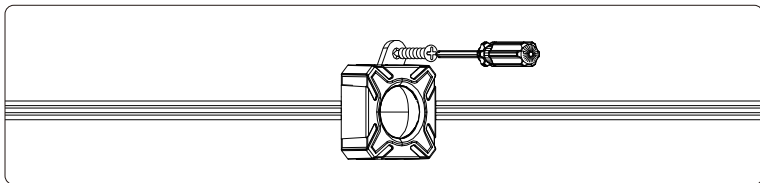


What to do:

- Determine the installation position
- Recommended mounting distance: 5–10 cm away from the wall
- Peel off the adhesive backing
- Firmly press each light base for at least **8 seconds**

Improper spacing may affect lighting angle and appearance.

STEP 4 Secure with Screws

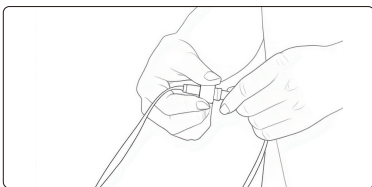
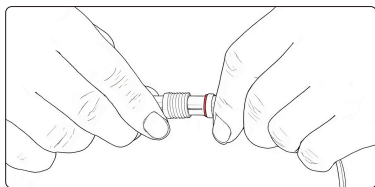


What to do:

- Each light base has a pre-drilled hole for screw mounting
- Use screws to fix each light directly to the mounting surface
- Strongly recommended for outdoor use

Provides long-term stability and durability.

STEP 5 Connect Waterproof Plugs



What to do:

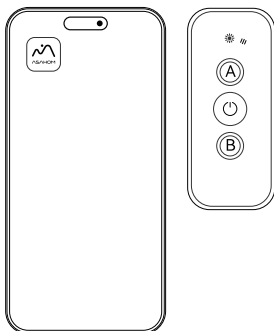
- Insert the red washer before connecting
- Align plugs and tighten waterproof caps securely
- If you have extra lights at the end, cut them off and use the End Cap to seal the end

Make sure the red washer is in place.

Use the End Cap to keep the connection waterproof.

For details, refer to the End Cap section.

STEP6 Power On & Pair with ASAHOM App



What to do:

1. Plug in the power adapter
2. Download and open the ASAHOM App
3. Ensure your phone is connected to 2.4GHz WiFi and Bluetooth is on
4. Keep your phone within 5 meters of the control box
5. Follow the in-app instructions to pair

The control box's blue light flashing indicates pairing mode.

Final Reminder

- Set the correct number of lights in the App to ensure effects work properly
- Refer to the full User Manual for advanced features and troubleshooting

Product Specifications

Model	S108A	S108B	S108C	S108D	S108E	S108F
Number of Adapters	1	1	1	1	2	2
Power Input(Adapter)	100-240V AC 50/60Hz					
Power Input(Light string)	DC28.8V 4.1A(per adapter)					
Color	RGBWW(2700K-6500K)					
Length	50ft	100ft	150ft	200ft	300ft	400ft
Number of Lights	36	72	108	144	216	288
Waterproof	IP67					
Operating Temperature	-20°C~45°C					

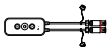
Component Overview

Package Contents by Model

Model	S108A	S108B	S108C	S108D	S108E	S108F
Power Adapter	1	1	1	1	2	2
6ft Power extension cord	1	1	1	1	2	2
Controller	1	1	1	1	1	1
5m (12 LEDs) string section	3	4	6	8	12	16
2.5m (6 LEDs) string section	×	3	5	6	8	12
0.42m (1 LED) string section	×	6	6	12	24	24
6ft Light string extension cord	2	1	3	4	6	6
3ft Light string extension cord	×	2	1	2	2	2
1ft Light string extension cord	×	×	3	6	6	6
Power injection T-connector	×	×	×	×	1	1
Fault detection module	1	1	1	1	1	1
T-splitter	×	×	×	1	1	2
Wire Clip	15	30	30	30	60	60
Screw Pack	5	9	12	15	24	30
Adhesive Backing	6	6	9	12	18	24
Waterproof junction box	×	2	3	4	6	8
End Cap	2	2	4	6	6	6
Mounting Ruler	1	1	1	1	1	1

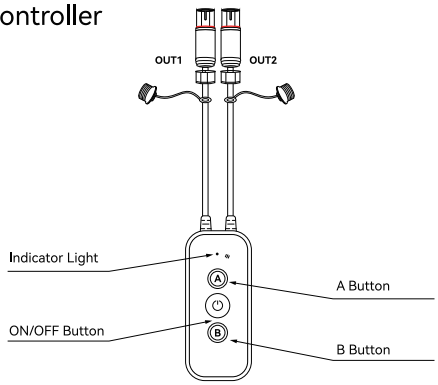


Component Descriptions

Component Name	Illustration	Description
Power Adapter		Provides power for the light system. Use only the original adapter for safety and performance.
Controller		Controls lighting modes, brightness, and pairing with the ASAHOM App.
Power Extension Cord		Connects the power adapter to either the controller or a Power Injection T-connector. Extends the distance between components for flexible installation.
String Sections		Modular LED string lights with 12, 6, or 1 LED per section. Each section connects via waterproof connectors.
Light String Extension Cord		Used to bridge light sections across separate roof lines or corners. Available in 1ft, 3ft, and 6ft lengths.
Power Injection T-Connector		Adds power to the middle of long strings to prevent voltage drop and brightness loss.
Fault Detection Module		Detects signal or power faults in the connected light sections for easier troubleshooting.
T-Splitter		Splits the signal into two branches of light strings. Can be connected directly to the controller or placed between string sections for flexible layout.
Wire Clip / Screw Pack		Used to fix each light securely to the surface using screws through pre-molded holes.
Adhesive Backing		Adhesive backing on each light base allows for initial positioning before screwing.
Waterproof Junction Box		Used after cutting the string lights to protect and seal wiring connections. Ensures waterproofing for exposed joints in outdoor environments.
End Cap		Seals the trimmed end of the last string section after cutting, preventing water ingress.
Mounting Ruler		Helps you maintain a 5–10 cm distance from the wall when installing the light string vertically.

Key Functional Components

Controller



Component	Description
Indicator Light	Blue blinking: In pairing mode Blue solid: Successfully paired
A Button	Single press: Change color
ON/OFF Button	Single press: Power on/off Press and hold (5s+): Reset device
B Button	Single press: Cycle through 7 lighting modes

Power Injection T-Connector

Adds power from an additional power adapter to the middle or end of long string light runs. Prevents voltage drop and brightness loss in extended setups.

Placement Tip: Use a power injection T-connector when the total number of LEDs exceeds 144, or when brightness noticeably drops at the far end.

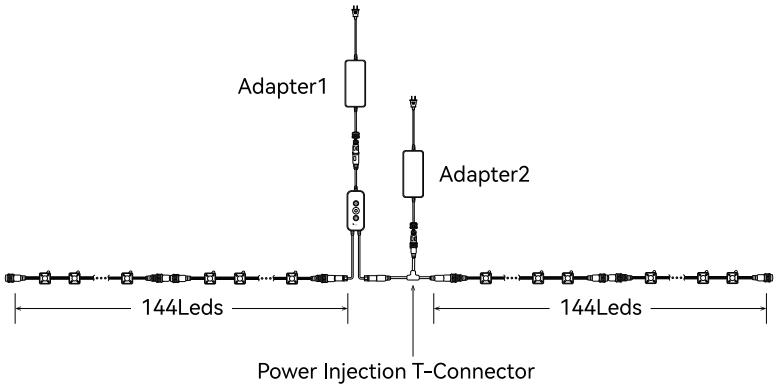
Power and Controller Limits

To ensure safe and stable operation:

- Each power adapter must not supply more than 144 LEDs.
- To exceed 144 LEDs, use an additional adapter with a Power Injection T-Connector.
- Each controller output channel supports up to 288 LEDs in total.
Do not exceed this limit under any configuration.

Power Injection T-Connector Wiring Examples

Example1 – Power Injection at the Controller Output

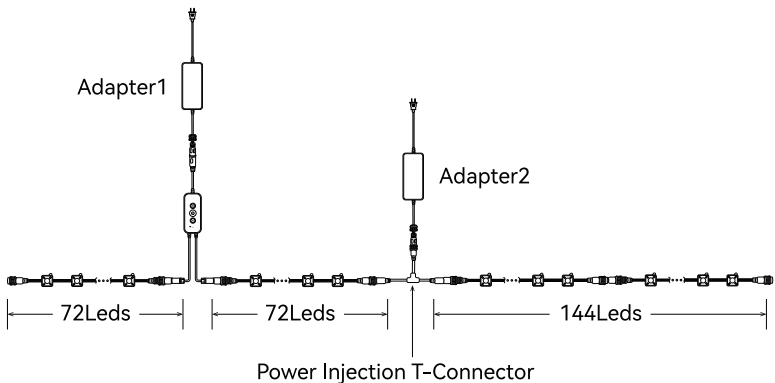


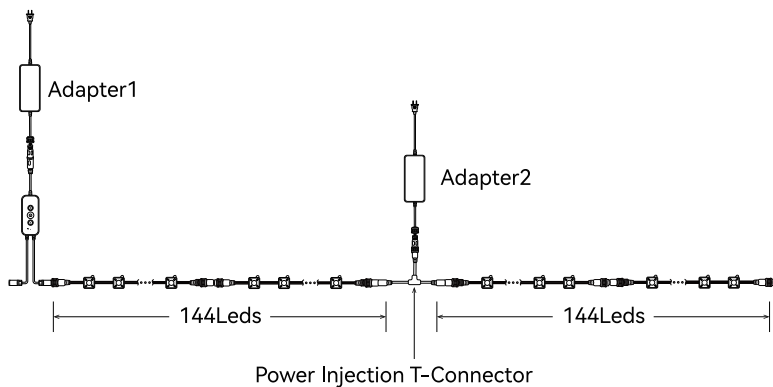
Two power adapters are connected at the beginning of the light string using a Power Injection T-connector.

Each power adapter powers 144 LEDs.

This setup is suitable when the full string layout starts from a central controller location.

Example 2 – Power Injection at the Middle of the String



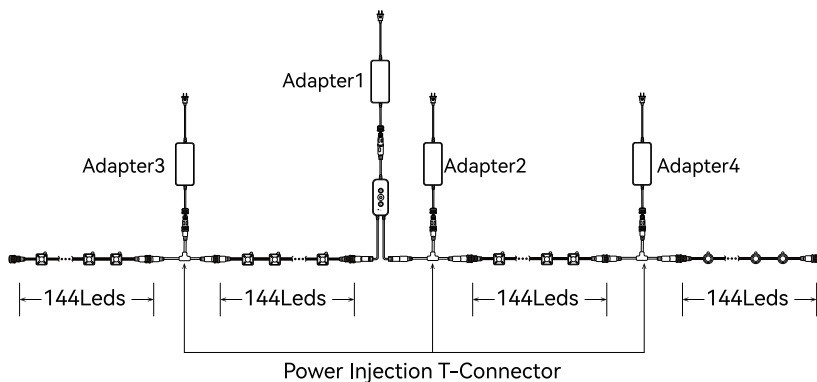


A second power adapter is added in the middle of the light string using a Power Injection T-connector.

The first 144 LEDs are powered by the controller-side adapter, and the remaining 144 LEDs are powered by the second adapter.

This configuration is ideal for long straight runs of 288 LEDs.

How to Connect to 576 LEDs



To safely power 576 LEDs, you must use multiple Power Injection T-Connectors and 4 power adapters.

Important Notes:

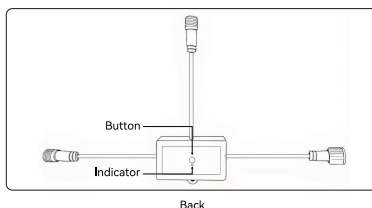
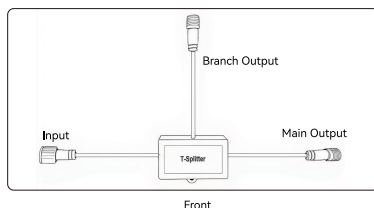
- Do not connect both power adapters directly into the same controller port without using a T-connector.
- Each adapter should only power up to **144 LEDs max.**
- Ensure all connectors are properly sealed for outdoor use.

T-Splitter

Distributes the signal from one output into two separate branches of light strings. Allows for Y-shaped installations or symmetrical layouts using a single controller.

Use Case:

- When you want to run two light strings in opposite directions from the same controller
- Ideal for “center-out” layouts on eaves, fences, or rooftops



Component	Description
Indicator Light	Flashing Green: Pairing mode Solid Green: Successfully paired
Button	Press and hold for 10+ seconds to reset Resetting clears all saved T-Splitter settings and returns the device to pairing mode.

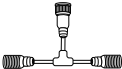
How to use

- Connect the T-splitter at the desired branch point.
- Set the correct number of lights for Out1 and Out2 on the controller. Make sure the lights remain ON.
- Open the ASAHOM App and tap the “+” icon in the upper right corner to add a T-splitter.
- After detection, select brand: ASAHOM, model: S1080.
- Set the number of LEDs on each branch based on your layout.
- Wait for about 1 minute, then the lights can be controlled normally.

Important Notes:

- This component splits signal only, not power.
- Neither the main output nor any branch output of the T-splitter may exceed 288 LEDs.
- If the indicator light is distracting, you can disable it via the app.

Difference Between Power Injection T-Connector and T-Splitter

Component	Image	Function
Power Injection T-Connector		Provides additional power to prevent brightness drop or failure in long light runs. If your total number of connected LEDs exceeds 144, use the T-connector to inject power beyond this point. • Requires use with a power adapter. • Each adapter supports up to 144 LEDs.
T-Splitter		Distributes signal from one controller output into two branches. Installed at branch points such as the center of eaves or wall corners. Each branch output should not exceed 288 LEDs.

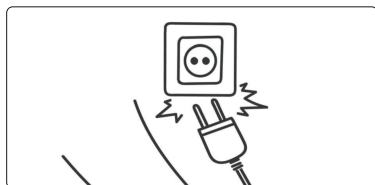
Waterproof Junction Box

Protects and seals wiring connections after cutting or extending the string lights.

Provides waterproof protection for outdoor environments.

Before Installation:

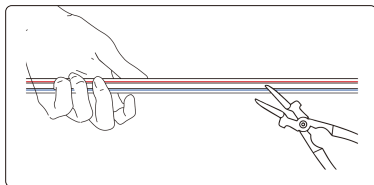
- Ensure the power is completely disconnected before cutting or wiring.



How to use

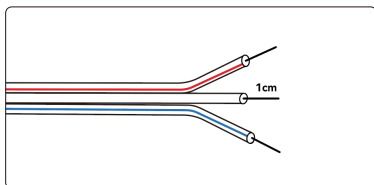
STEP1 Cut the Light String

Cut the string lights at the desired position.



STEP2 Strip the Wires

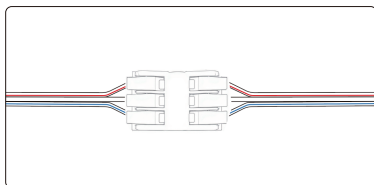
Use a wire stripper to remove 1cm of insulation from each wire end.



STEP3 Connect the Wires

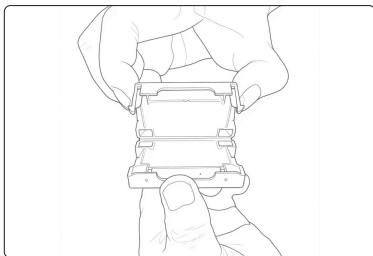
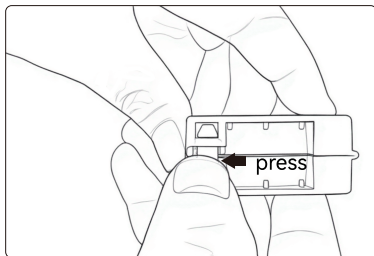
Use the provided connector to join the wires from both sides.

⚠ Make sure to match the wire colors correctly. Incorrect connections may cause malfunction or damage.



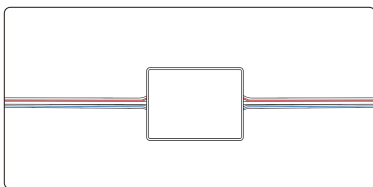
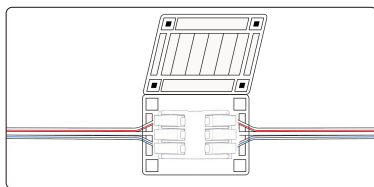
STEP4 Open the Waterproof Junction Box

Press one side of the box to open it



STEP5 Place the Connector Inside

Position the connector in the center of the junction box, then close the box securely.



STEP6 Secure the Box in Place

Use the included adhesive backing or wire clips to mount the junction box at the installation site.

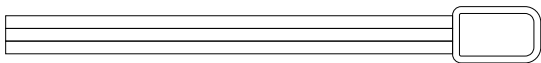
Important Warning:

- The waterproof junction box is designed for one-time use only.
- Reusing it may compromise the waterproof seal and lead to failure in outdoor environments.

End Cap

After installing the lights to the end of the eaves, if there are extra unused LEDs, you may trim them off and insert the end cap. The cap contains

waterproof gel and can be directly pushed onto the wire to prevent water ingress and electrical faults.



Fault Detection Module

What is it for?

Quickly identify why some lights are off or acting abnormally.

What can it detect?

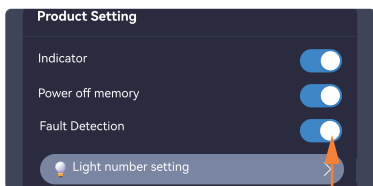
The Fault Detection Module helps you locate issues like:

- Power loss
- Signal failure
- Broken light sections

Think of it as a circuit tester for your light setup.

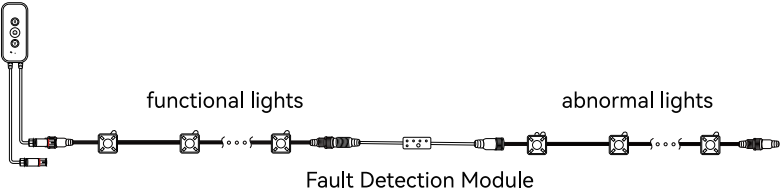
Step-by-Step Troubleshooting

STEP 1 Turn On Detection in App



Why: The module won't work unless the App detection mode is active.

STEP2 Insert the Module



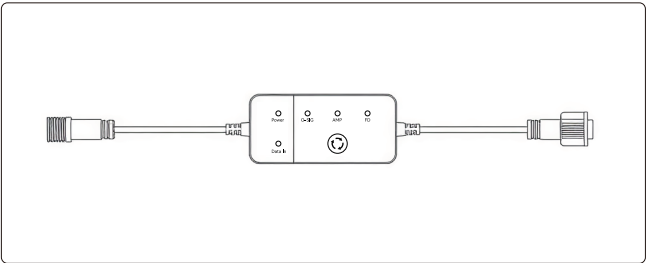
Where to Insert:

- Find the point before the lights stop working or behave abnormally
- Unplug that section and insert the module in between

Example:

If Section 1–4 works but Section 5–8 doesn't, insert the module between 4 and 5

STEP3 Check the Module Lights



Indicator	Meaning
Power	Shows if electricity is coming through
Data In	Shows if a signal is detected from the controller

How to judge:

Both OFF → No power or signal detected. The issue is before the module. Move the module earlier in the light chain and repeat these steps.

Power ON, Data In OFF → Power is OK, but no signal. The issue may be before the module, but you should test the lights after the module. Go to Step 4 and use FD mode to test lights after the module.

Power ON, Data In ON → Power and signal detected, but lights still don't respond. The issue may be before or after the module. Go to Step 4 and use FD mode to verify the lights after the module.

STEP 4 Secure the Box in Place

Press the button on the module to switch test modes.

Mode	What It Does	When to Use
FD	Sends built-in test signal (lights flash through RGBCW colors)	Check if lights after module still work
O-SIG	Forwards original signal from controller	Check if controller signal is good
AMP	Amplifies signal from controller	Use if O-SIG doesn't work (signal is weak)

 Usage Tips:

FD Mode: FD Mode sends a self-generated test signal to check if the lights after the module are working properly.

Result	Meaning	Action
Lights flash (Red, Green, Blue, 2700K, 6500K)	Rear lights are working.	Go back to Step 3 and check earlier sections.
No lights flash	Rear lights are faulty or disconnected.	The lights after the module may be damaged. Please contact customer support for replacement.

O-SIG Mode:O-SIG Mode forwards the original signal from the controller to the lights.

Result	Meaning	Action
Lights behave normally	Controller signal is OK.	No fault found. Inspect physical connections if needed.
No lights respond	Controller signal may be weak or interrupted.	Switch to AMP Mode to boost the signal.

AMP Mode: AMP Mode amplifies the signal from the controller to help overcome signal loss over distance or poor wiring.

Result	Meaning	Action
Lights now respond	Signal was too weak, AMP mode fixed it.	You may need a signal amplifier. Please contact customer support for solutions.
Still no lights respond	The problem may be before the module.	Move the module closer to the controller and test again.

Final Tips

- This module is not waterproof, and should only be used temporarily
- Do not leave connected during regular operation
- If unsure where the issue is, move the module step by step along the line and repeat the above

Cutting & Reconnecting the Light String

To reconnect the string lights after cutting, use the Waterproof Junction Box. For detailed installation steps and safety notes, see the “Waterproof Junction Box” section.

Using the ASAHOM App

Download ASAHOM APP

Download the ASAHOM App from the App Store (iOS) or Google Play (Android).

- Free to use — No charges required
- If you see any charges, you may have downloaded the wrong app
- Scan the QR code below to get the correct version:



App Icon



QR Code

Pairing Your Light with the ASAHOM App

What You Need

- A Wi-Fi router that supports 2.4GHz and 802.11 b/g/n (5GHz is not supported)
- A smartphone or tablet running iOS 8.0+ or Android 4.3+
- Before pairing, connect all light sections and plug them in to confirm they work properly

How to Pair

1. Turn on Bluetooth, and connect your phone to a 2.4GHz Wi-Fi network
2. Keep your phone within 5 meters (16.4 ft) of the control box
3. Open the ASAHOM App, tap the "+" icon in the top right corner
4. The device should appear automatically in the list
5. If no device appears within 2 minutes:
 - Press and hold the ON/OFF button on the control box for 5+ seconds
 - The blue indicator light will begin flashing
 - Return to the app and try again
6. Tap the device and follow the on-screen instructions to finish pairing
7. After entering the device page, please set the correct number of lights.

Notes:

- Flashing blue light on the control box means it's in pairing mode
- If the light is not flashing, hold the ON/OFF button again for 5 seconds
- After pairing, please set the correct number of lights in the app. This ensures the lighting effects work properly across all sections

How to use ASAHOM App

For full tutorials and advanced features, please visit our official website: www.asahom.com

Advanced Features are turned off by default.

You can enable them in the Settings page of the ASAHOM App.

Once enabled, you'll unlock:

- Zone Control: Set different lighting effects and colors for multiple zones.
- Sequence Setting: Customize the lighting order for complex installations.

To learn more about how each feature works, please explore the relevant sections in the App.

WLED Mode Instructions

How to Enter WLED Mode

You can switch to WLED Mode in two ways:

Method 1: Using the Controller Button

Press and hold Button B on the controller for more than 10 seconds.

When the indicator light turns green, it means the controller has entered WLED Mode.

Method 2: Through the App Settings

You can also enter WLED Mode via the Settings page in the ASAHOM App, without pressing the physical button.

Once the controller has entered WLED Mode:

- On your smartphone, search for a Wi-Fi network named **WLED-AP**
- Connect to it using the default password: **wled1234**
- Once connected, your phone should automatically open the WLED control interface.

For detailed usage instructions, visit the official WLED project site:

<https://kno.wled.ge>

Default WLED Configuration

LED Preferences

1: FW1906 GRBCW
mA/LED: Custom
max. mA/LED: 150 mA
PSU: 1800 mA
Color Order: RGB Swap: WW & CW
Start: 0 Length: 72
Data GPIO: 19
Reversed: ☐
Skip first LEDs: 0
Off Refresh: ☐
Auto-calculate W channel from RGB: Accurate

2: FW1906 GRBCW
mA/LED: Custom
max. mA/LED: 150 mA
PSU: 1800 mA
Color Order: RGB Swap: WW & CW
Start: 72 Length: 72
Data GPIO: 22
Reversed: ☐
Skip first LEDs: 0
Off Refresh: ☐
Auto-calculate W channel from RGB: Accurate

Type: FW1906 GRBCW

mA/LED: Custom

max.mA/LED: 150mA (fixed, do not modify)

Color Order: RGB, **Swap:** WW & CW

Data GPIO: 19 (Out1); 22 (Out2)

Auto-calculate W channel from RGB: Accurate

- The **max.mA/LED** parameter is fixed at **150mA**.

Do not change this setting.

Usermods

Digitalmic

Type: Generic I2S *requires reboot!*

Pin I2S SD: 36 (R/O) *sd/data/dout*

Pin I2S WS: 33 *ws/clk/lrck*

Pin I2S SCK: 32 *sck/bclk*

Pin I2S MCLK: unused *only use -1, 0, 1 or 3*

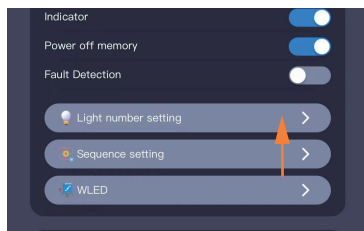
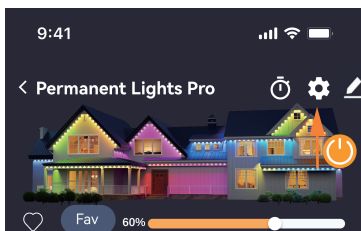
Type: Generic I2S
Pin I2S SD: 36(R/O)
Pin I2S WS: 33
Pin I2S SCK: 32
Pin I2S MCLK: unused

How to Properly Set LED Current in WLED

To ensure safe and stable performance, you must configure current settings based on the number of LEDs connected.

Steps:

Determine the Number of LEDs



Before configuring, use the Output Identification feature in the ASAHOM App to count how many LEDs are connected to Out1 and Out2.

- Calculate PSU Value
Use 25mA per LED as the base.
Length=Number of LEDs
PSU = Number of LEDs × 25mA

Example:

- Out1 with 72 LEDs → Length=72; PSU = 72 × 25 = 1800mA
- Out2 with 36 LEDs → Length=36; PSU = 36 × 25 = 900mA
- Set WLED Parameters
In WLED channel settings:
 - Set max. mA/LED to 150mA
 - Set PSU to your calculated value (e.g., 1800mA / 900mA)

How to Switch Back to ASAHOM App

If you want to exit WLED mode and return to the ASAHOM App for standard operation:

- Press and hold **Button B** on the controller for **10 seconds or more**.
- Watch the indicator light:
Flashing blue or solid blue means the controller is now in ASAHOM mode.

WLED Additional Notes

- WLED is developed by the open-source WLED community.
If you encounter any issues or want to report bugs, please visit the WLED community for support.
- Controller buttons are disabled in WLED Mode.
You cannot use the controller's physical buttons to control the lights while in WLED Mode.

Can't find your WLED device? Try the following:

- Open the wled-native App and check whether the device appears in the list.
- Make sure your phone and the WLED device are connected to the same local Wi-Fi network.
- If the device still doesn't show up, try power cycling (turning off and on) the device, then search for the WLED-AP hotspot again.

Troubleshooting

The following section addresses frequently asked questions and common issues related to this product.

Tip: For step-by-step guides, and detailed technical support, please visit our online Knowledge Base at: [🌐www.asahom.com](https://www.asahom.com)

If your issue persists, feel free to contact us by email at: [📧support@asahom.com](mailto:support@asahom.com)

Issue	Possible Cause	Possible Cause
Lights do not turn on	Power not connected / loose plug	Check all connections and ensure the power adapter is securely plugged in
Only part of the lights are working	Faulty segment or connection	Use the Fault Detection Module to identify the faulty section
Cannot pair with the ASAHOM App	Not in pairing mode / Bluetooth or 2.4GHz WiFi not enabled	Long-press the controller ON/OFF button for 5s until blue light blinks; ensure Bluetooth and 2.4GHz WiFi are enabled
Lights are dim at the far end	Voltage drop due to long distance	Add a Power Injection T-Connector with a second power adapter
App not finding device	Device not in pairing mode / Phone too far from controller	Keep phone within 5 meters and retry pairing with controller blinking
Water entered connection point	Improper sealing of connector or reused waterproof box	Always fully tighten waterproof caps and never reuse waterproof junction boxes

FCC and ISED Canada Statement

This device complies with Part 15 of the FCC Rules and Industry Canada licence-exempt RSS

standard(s). Operation is subject to the following two conditions:

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

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio

exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et

(2)l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage

est susceptible d'en compromettre le fonctionnement."

NOTE:This equipment has been tested and found to comply with the limits for a Class B digital

device,pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a

residential installation. This equipment generates uses and can radiate radio frequency energy

and, if not installed and used in accordance with the instructions, may cause harmful interference

to radio communications. However, there is no guarantee that interference will not occur in a

particular installation. If this equipment does cause harmful interference to radio or television

reception, which can be determined by turning the equipment off and on, the user is encouraged

to try to correct the interference by one or more of the following measures:

1.Reorient or relocate the receiving antenna.

2.Increase the separation between the equipment and receiver.

3.Connect the equipment into an outlet on a circuit different from that to which the receiver is

connected.

4.Consult the dealer or an experienced radio/TV technician for help.

FCC and IC Radiation Exposure Statement

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled

environment. This equipment should be installed and operated with minimum distance 20cm

between the radiator & your body.

la distance entre l'utilisation et l'appareil ne doit pas être inférieure à 20 cm.

This Class B digital apparatus complies with Canadian ICES-005.

Cet appareil numérique de la classe B est conforme à la norme NMB-005 du Canada.

Open Source Notice

This product includes software components based on the open-source project WLED.

- **ASAHOM App Integration**

The default firmware embedded in this product is developed based on WLED v0.14.4, which is licensed under the MIT License.

Custom modifications have been made to enable seamless integration with the ASAHOM App and provide enhanced smart lighting features.

- **Pre-installed Native WLED Software**

This product comes with a pre-installed version of WLED for advanced features.

For safety and to maintain the waterproof design of the controller, we do not recommend removing the enclosure to flash or reinstall firmware using developer tools or third-party methods.

Please note that WLED versions after v0.14.4 are licensed under the EUPL-1.2 (European Union Public License v1.2).

Ensure you review and comply with the applicable license terms before modifying or redistributing such versions.

The WLED project is created and maintained by Christian Schwinne and the WLED contributor community.

Learn more or access the source code at:

<https://github.com/Aircookie/WLED>

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License(s): MIT (for versions up to v0.14.4), EUPL-1.2 (for versions v0.14.5 and later)

Customer Support & Warranty

We're here to help! If you experience any issues or need assistance with this product, please don't hesitate to contact us.

Contact Channels:

 Email: support@asahom.com

 Website & Knowledge Base: www.asahom.com

Warranty Policy

This product comes with a 3-year limited warranty from the date of purchase.

The warranty covers defects in materials and workmanship under normal use.

Not Covered:

- Damage caused by improper installation, misuse, or modifications
- Water damage due to improper sealing or unauthorized disassembly
- Normal wear and tear or cosmetic damage

To claim a warranty:

- Provide your order number and product details
- Send photos or videos of the issue if possible
- Contact us via the support channels listed above

We aim to respond within 24 hours on business days.



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www.asahom.com



Visit our official website for FAQs
and product information!