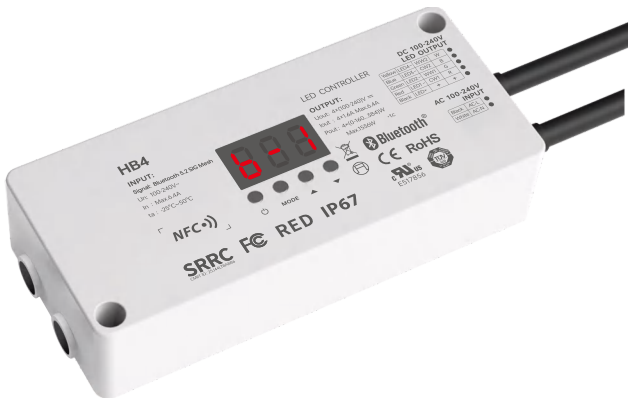


HB4

Bluetooth High-Voltage Waterproof Controller



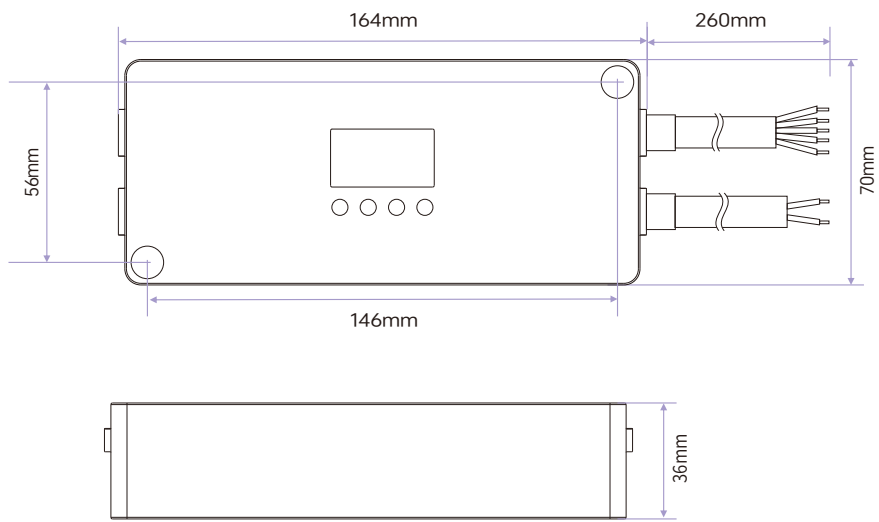
NFC CE RoHS IP67 Bluetooth®

HB4 is a Bluetooth-enabled high-voltage waterproof controller featuring 4 output channels, each capable of delivering up to 1.6A. It controls high-voltage LED strips for dimming, color temperature, RGB, and RGBW functions. Remote control is achievable via the L-Home app, while local control is supported through pairing with a smart gateway, Bluetooth remote, or switch panel. With IP67-rated waterproofing, it is suitable for outdoor and humid environments.

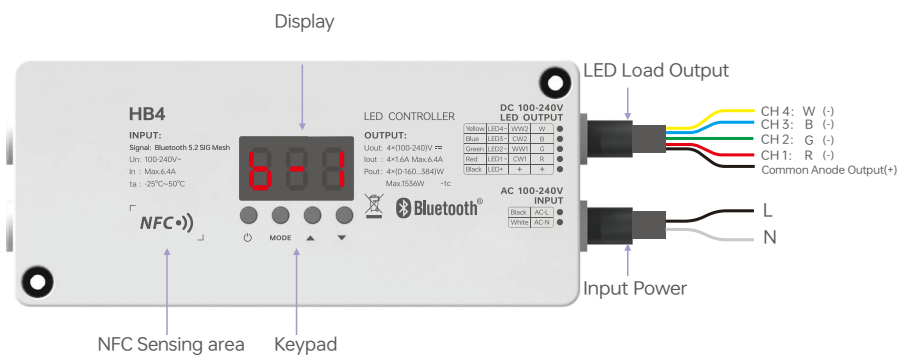
Technical Specifications

HB4			
Input signal:	Bluetooth 5.2 SIG Mesh	Operating temperature:	-25°C~50°C
Input Voltage:	100-240V~	Product Weight:	670g
Input current:	Max. 6.4A	Product dimensions:	L164×W70×H36mm
Output Voltage:	4×(100-240)V =	Package dimensions:	L230×W95×H47mm
Output Current:	4CH×1.6A Max. 6.4A	Waterproof rating:	IP67
Output Power:	4CH×(0-160...384)W Max. 1536W	Protect:	Short-circuit, over-temperature, and over-current protection
Surge:	4KV		

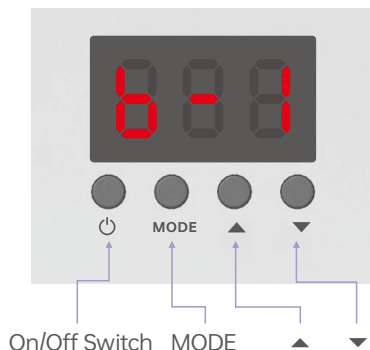
Product Dimensions



Parts Diagram



Digital Display Operation Interface Diagram



Button operation

Switch lights: Short press the power button

Switch adjustment mode: Short press the MODE button

Adjust values: Short press the ▲ or ▼ button

Restore factory settings: Simultaneously long press the power button, ▲, and ▼ buttons for 2 seconds

Note: Depending on the light type configured in the L-home app, the MODE button switches between different adjustment modes.

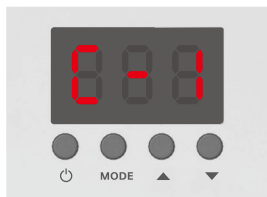
- Dimmable lights: Permanently in brightness adjustment mode; no action on short press.
- Color temperature lights: Brightness/Color temperature; short press to toggle.
- RGB lights: Brightness/Mode/Speed; short press to toggle.
- RGBW lights: Brightness/Mode/Speed/White; short press to toggle.

Brightness Mode



- b-1:5%Brightness
- b-2:10%Brightness
- b-3:25%Brightness
- b-4:50%Brightness
- b-5:75%Brightness
- b-6:100%Brightness (Default)
- b-P:hen in long-press adjustment mode or other adjustment methods, the display shows b-P.

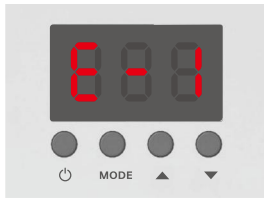
Color Temperature Mode



- C-1:2700K
- C-2:3500K
- C-3:4000K(Default)
- C-4:5000K
- C-5:6000K
- C-6:6500K
- C-P:hen in long-press adjustment mode or other adjustment methods, the display shows C-P

*The above settings are default values. If the color temperature range is modified, the values will change.

RGB/RGBW Mode



- E-01:Black(Default)
- E-02:Red
- E-03:Green
- E-04:Blue
- E-05:Yellow
- E-06:Purple
- E-07:Cyan
- E-08:White
- E-09:Red Gradient
- E-10:Green Gradient
- E-11:Blue Gradient
- E-12:RGB Strobing
- E-13:Seven-color gradient
- E-14:RGB Jumping
- E-15:Rainbow Jump
- E-16:RGB Fade-in/Fade-out
- E-17:Rainbow Fade-in/Fade-out
- E-18:Red-Blue Gradient
- E-19:Red-Blue Gradient
- E-20:Green-Blue Gradient
- E-21:Red-Yellow Gradient
- E-22:Cyan-Green Gradient
- E-23:Blue-Purple Gradient
- E-24:Yellow-Green Gradient
- E-25:Blue-Cyan Gradient
- E-26:Red-Purple Gradient
- E-27:Blue-White Gradient
- E-28:Yellow-Purple-Cyan Gradient
- E-29:RGB Gradient
- E-30:Rainbow Gradient
- E-31:RGB+W Gradient
- E-32:RGBW Gradient
- E-33:RGBY Gradient
- E-P:hen in long-press adjustment mode or other adjustment methods, the display shows E-P

W Mode (This mode is only available for RGBW use)



- F-0:0%Brightness
- F-1:5%Brightness
- F-2:10%Brightness
- F-3:25%Brightness
- F-4:50%Brightness
- F-5:75%Brightness
- F-6:100%Brightness (Default)
- F-P:hen in long-press adjustment mode or other adjustment methods, the display shows F-P

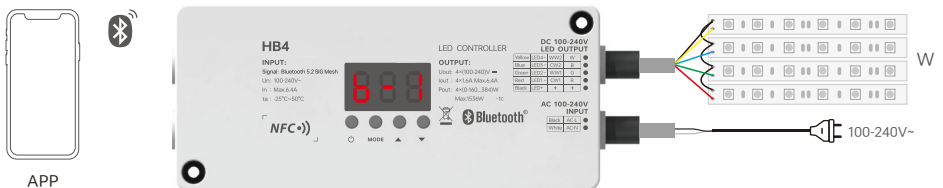
Speed Mode (This mode is only effective for RGB/RGBW models E-09 to E-33)



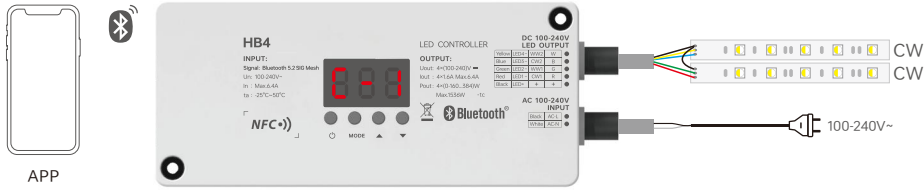
- S-1
- S-2
- S-3
- S-4
- S-5(Default)
- S-6
- S-7
- S-8

Connection Diagram

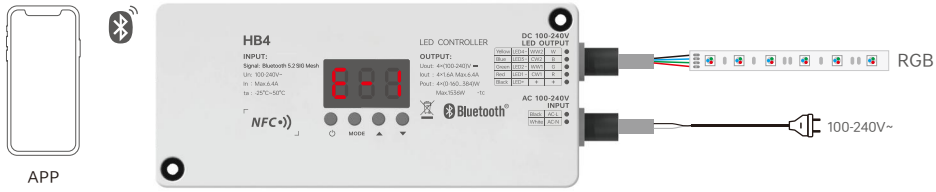
1. Connect 4 dimmable lights



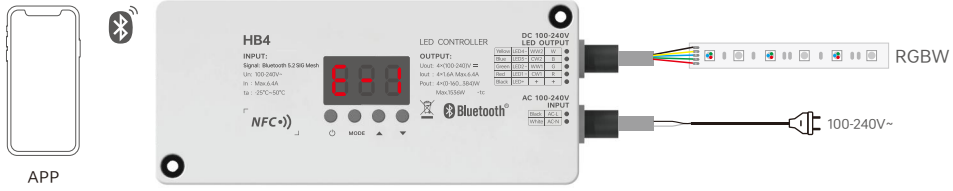
2.Connect 2 color temperature lights.



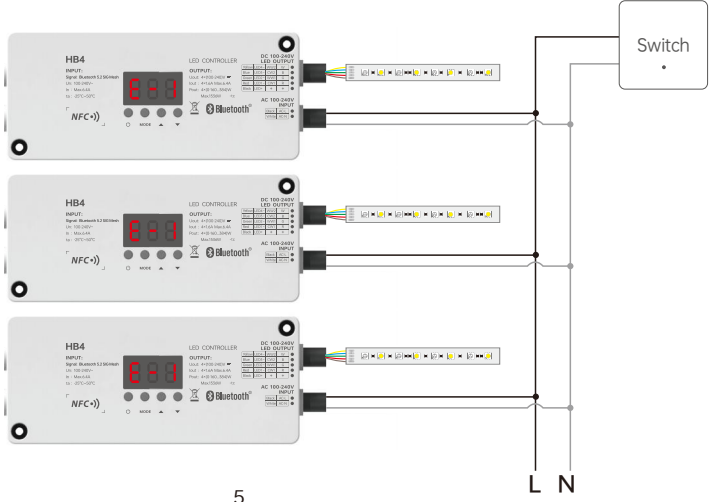
3.Connect 1 RGB light



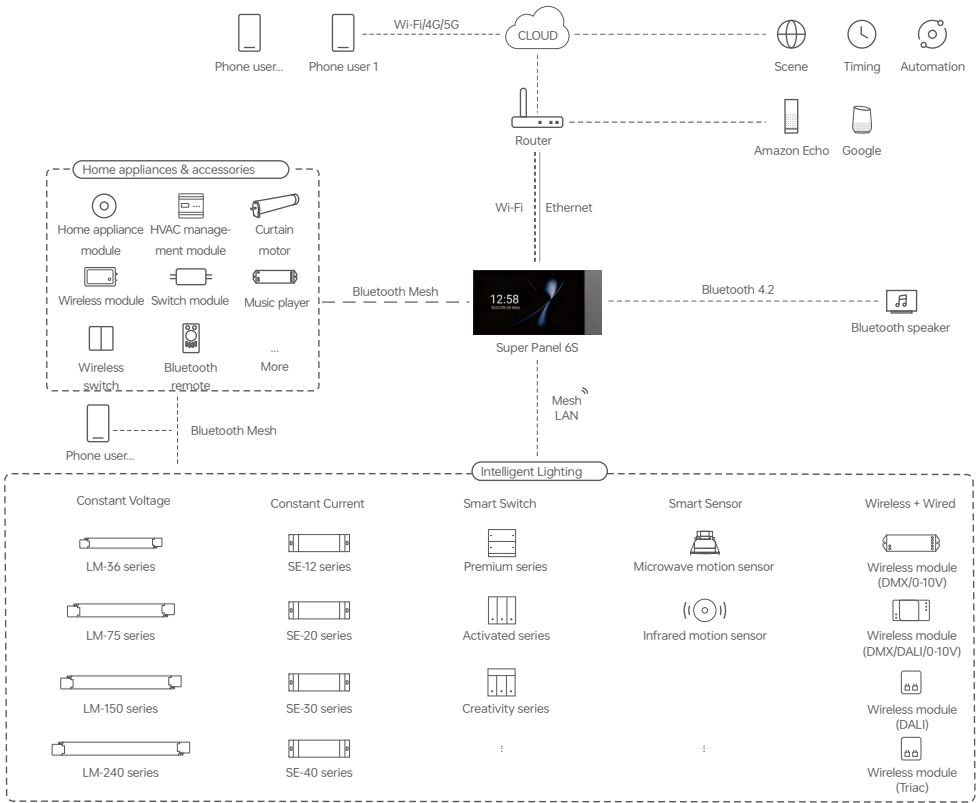
4.Connect 1 RGBW light



5. Adaptive Synchronization: Automatically selects operating modes to ensure consistent lighting effects across multiple devices. When devices are not networked, AC synchronization is enabled (multiple controllers on the same circuit powering up simultaneously can synchronize via AC dynamic mode). When devices are networked, Bluetooth synchronization is enabled (group playback of lighting effects synchronizes devices within the group via Bluetooth dynamic mode).

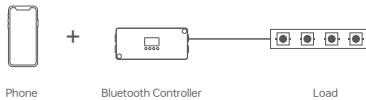


Recommended Applications



Recommended Applications

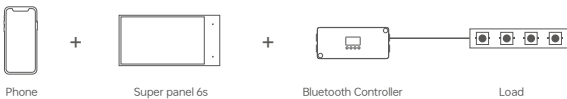
1. Achieve fast dimming control.



2. Both App and remote can control the driver after connecting the remote to the driver with App.



3. Both App and Super Panel can control the driver simultaneously after connecting the Super Panel to the driver with App. By connecting the Super Panel to network, you are allowed to control the driver, cloud scenes and automation remotely with App.

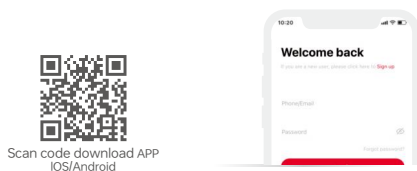


4. More applications of intelligent control are waiting for you to set up.

APP User Guide

1. Register an account

The App is available on iOS or Android devices. Scan the QR code below with you mobile phone and follow the prompts to complete the App installation. Open the App to log in or register an account.



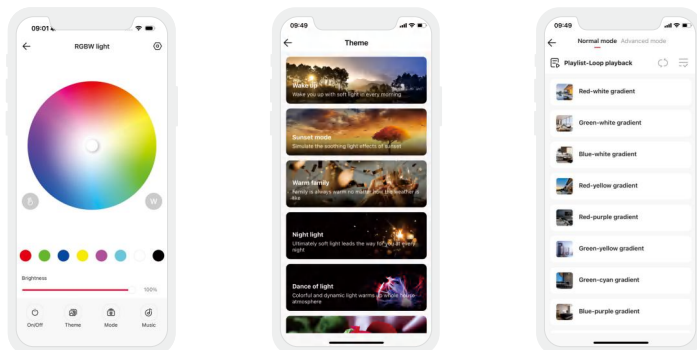
2. Paring instructions

After creating a household in the app, new users can tap the "+" icon in the top-right corner of the Rooms interface to add devices. Select "Smart Lighting - RGBW Light" from the device list and follow the on-screen prompts to complete the setup.



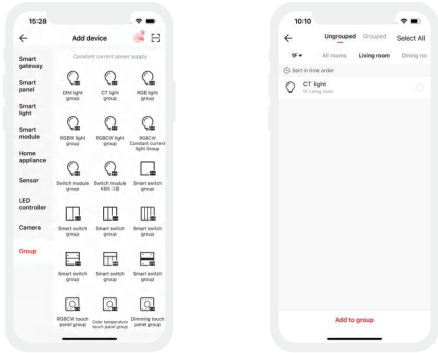
3. Control Interface Settings

After pairing is complete, enter the control interface where you can adjust color, color temperature, and brightness to achieve your desired lighting effect. Tap "Themes" to access the theme interface, where you can switch between multiple themed lighting effects with a single tap. Tap "Modes" to access both editable Standard Mode and Advanced Mode. Customize dynamic modes to make your life more vibrant and colorful.



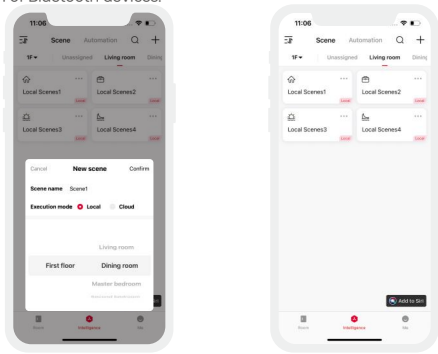
4. Lighting Group

Group RGBW lights of the same type to create a cluster. Users can conveniently control the cluster's color, color temperature, and brightness. Enter the Add Device list, select "Cluster - RGBW Light Group," modify the cluster name as prompted, then click "Next." Select the devices you wish to include in the cluster, save the settings, and you're done.



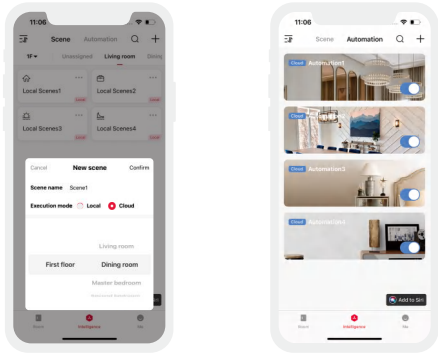
5. Local Scenarios

Switch to the 【Smart】 interface, tap the "+" in the upper-right corner to create a local scene, and after setting the action to execute, you can achieve local interconnection of Bluetooth devices.



6. Cloud Scenes and Automation

Make sure that a smart gateway, such as SP-GW-6S, has been added to the family.
Cloud scenes: Switch to the 【Smart】 interface and click "+" to create a cloud scene. After setting the execution action, remote linkage can be achieved.
Automation: Select "Automation" in the 【Smart】 page and click "+" to create automation. You can choose local/cloud execution mode, and set trigger conditions and execution actions. When the set trigger conditions are met, a series of device actions are automatically triggered to achieve remote linkage



6. More Features

Interstellar Technology

- It has achieved an innovative breakthrough of no power-on required and no on-site debugging required. Staff can deploy smart home solutions in advance, preconfigure network access, grouping, scenarios, and other settings in the early stage, which greatly shortens the project cycle and reduces project costs.

Device Replacement

- When a device is damaged, lost, or offline, you can select a device of the same model to replace it. The new device will synchronize the configuration of the old one, including name, group, mode, scene, automation, and more.

- Record the operation logs of the device.

Fade Time

- Power-on fading time: The fading time for the light to go from off to on when the device is powered on.
- Light-on fading time: The fading time for the light to go from off to on when the light fixture is turned on.
- Light-off fading time: The fading time for the light to go from on to off when the light fixture is turned off.
- Scene fading time: The fading time for the light's brightness and color during scene switching.

Power-On State

- The state maintained by the device (full brightness / off / memory / custom) when the device is powered on.

FAQs

1. What should I do if device addition fails?

- 1.1 Ensure the device is powered on normally and in an activated state;
- 1.2 Ensure the device to be added has not been added to any other account. If it has, manually restore it to factory settings;
- 1.3 Ensure the mobile phone and the device are as close as possible, with a recommended distance of no more than 20 meters;
- 1.4 If the device has been forcibly deleted, manually restore it to factory settings first, then add the device again.

2. What should I do if the device goes offline?

- 2.1 Please check if the device is powered on normally;
- 2.2 Please check if the router is working properly and the network is smooth;
- 2.3 If using remote control, please check if the mobile phone network is working properly and the network is smooth.

3. How to perform remote control / set up cloud scenes?

To use remote control / add and set up cloud scenes, it is necessary to use the company's super panel together.

4. How to Share a Device?

Please go to "My" -> "Family Management", select the family for which you want to share devices, then click "Add Member". Follow the prompts to add the family member or friend with whom you want to share the device to this family, and the sharing process will be completed.

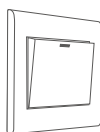
5. Inconsistent dimming for light films or groups in the same area?

There may be differences between hardware of different models. It is necessary to use the same model for group dimming to achieve better dimming consistency.

Reset The Device (Reset to factory defaults)

Method 1:

Make sure the driver is well-connected to a lamp and the lamp is on, turn it off with the switch and after 15s turn it on. After 2s, turn it off again. Repeat the same operation 6 times. When the lamp flashes 5 times, reset the device to factory defaults successfully.



Turn it on 2s



Turn it off 15s

Under the driver being power-on

Turn it off — 15s — Turn it on — 2s —

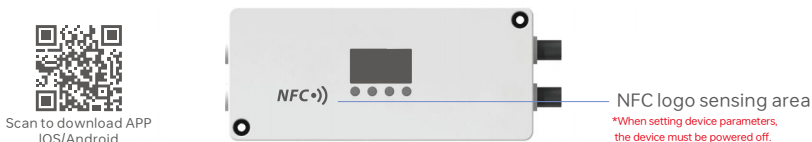
(Repeat 6 times)

Method 2:

Press and hold the power button, up button, and down button simultaneously for over 2 seconds. When the digital display shows "RES" and the light fixture flashes 5 times, this indicates the controller has been reset to factory settings.

Use the NFC Lighting APP

Scan the QR code below with your mobile phone and follow the prompts to complete the APP installation (According to performance requirements, you need to use a NFC-capable Android phone, or an iPhone 8 and later that are compatible with iOS 13 or higher).



1. Read the LED driver

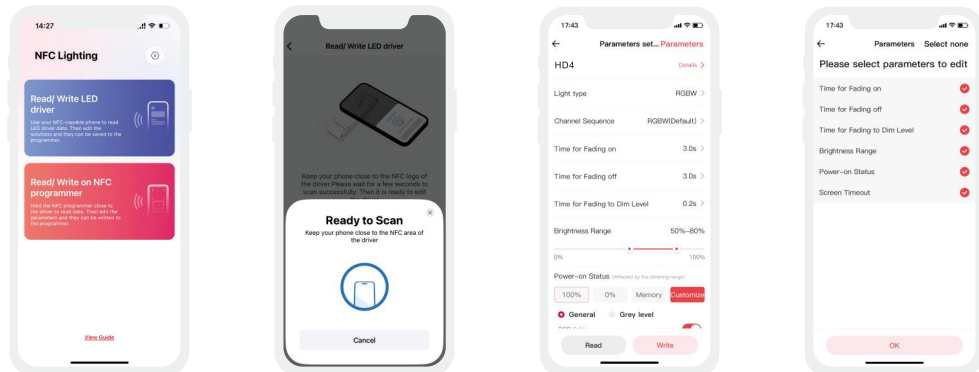
On the APP home page, click **【Read/Write LED driver】**, then keep the programmer's sensing area close to the NFC logo sensing area to read the driver parameters.

2. Edit parameters

Click [Parameters] to edit parameters such as Time for Fading on, Time for Fading off, Time for Fading to Dim Level, Brightness Range, Power-on Status, and Screen Timeout.

3. Write to the driver

After completing the parameter settings, click **【Write】** in the upper right corner, and keep the programmer's sensing area close to the NFC logo sensing area, so the parameters can be written to the driver.



Transportation and Storage

1. Transportation

Products can be shipped via vehicles, boats and planes.

During transportation, products should be protected from rain and sun. Please avoid severe shock and vibration during the loading and unloading process.

2. Storage

The storage conditions should comply with the Class I Environmental Standards. The products that have been stored for more than six months are recommended to be re-inspected and can be used only after they have been qualified.

FCC Statement

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

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

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

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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Warranty Agreement

- Warranty periods from the date of delivery: 5 years.
- Free repair or replacement services for quality problems are provided within warranty periods.

Warranty exclusions below:

Following conditions are not within the guarantee range of free repairing or replacement services:

- Beyond warranty periods.
- Any artificial damage caused by high voltage, overload, or improper operations.
- Products with severe physical damage.
- Damage caused by natural disasters and force majeure.
- Warranty labels and barcodes have been damaged.
- No any contract signed by our company.

1. Repair or replacement provided is the only remedy for customers. Our company is not liable for any incidental or consequential damage unless it is within the law.
2. Our company has the right to amend or adjust the terms of this warranty, and release in written form shall prevail.

Attention

- Product installation and commissioning should be done by a qualified professional.
- Our company products are and not lightningproof non-waterproof(special models excepted). Please avoid the sun and rain. When installed outdoors, please ensure they are mounted in a water proof enclosure or in an area equipped with lightning protection devices.
- Good heat dissipation will prolong the working life of products. Please ensure good ventilation.
- Please check if the working voltage used complies with the parameter requirements of products.
- The diameter of wire used must be able to load the light fixtures you connect and ensure the firm wiring.
- Before you power on products, please make sure all the wiring is correct in case of incorrect connection that causes damage to light fixtures.
- If a fault occurs, please do not attempt to fix products by yourself. If you have any question, please contact your suppliers.

* This manual is subject to changes without further notice. Product functions depend on the goods. Please feel free to contact our official distributors if you have any question.