Xiaolei

LA-10-100-450-U1B
LA-20-100-700-U1B

Bluetooth 5.0 SIG Mesh

Intelligent LED Driver(Constant Current)

- Metal housing for efficient heat dissipation;
- Compact size for easy concealed installation;
- Wide input voltage range: 100–277 VAC;
- Power parameters can be adjusted via NFC using a mobile app, enabling data interaction with the driver;
- Bluetooth 5.0 SIG Mesh communication protocol for robust networking capabilities, ensuring reliability and stability;
- Supports local Bluetooth control via the L-Home app on iOS and Android devices;
- Supports remote control via smart gateways such as SP-GW-4S, SP-GW-6S, and SP-GW-12S;
- Dimming range: 0–100%; LED dimming starts from 0.0001%;
- Features a soft-start gradual dimming function for greater visual comfort;
- Supports online OTA firmware updates;
- Innovative thermal management technology intelligently protects power supply lifespan;
- Over-temperature, over-voltage, overload, and short-circuit protection with automatic recovery;
- IP20 rating, suitable for indoor LED lighting fixtures;
- Lifespan of up to 100,000 hours under normal use;
- Certified to UL Class 2 and Class P standards;
- Compliant with IEEE 1789 and UL 8750 standards;
- 5-year warranty;

* Not for sale or use in China.

Bluetooth®

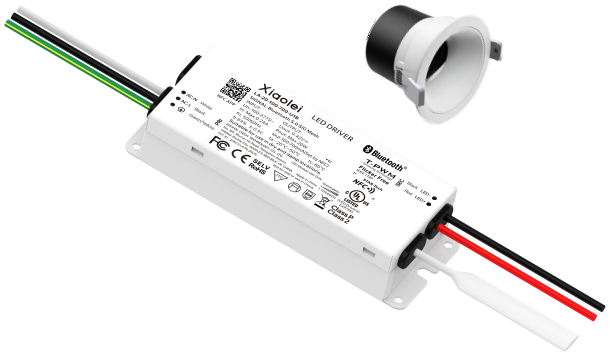
DIM

T-PWM
Dimming Technology

Flicker Free
IEEE 1789

Dimmable:
1:1000000

NFC
STAR-Tech



c UL us LISTED (LED Drivers) E497951

Class 2 Class P SELV RoHS

The certification icon represents undergoing certification applications only, and final certification qualification subject to actual product.

T-PWM Dimming Technology | Flicker Free IEEE 1789 | NFC Multi current setting | Over voltage protection | Short circuit protection | Over Load protection | Overheat Protection

Technical Specs

Model		LA-10-100-450-U1B			LA-20-100-700-U1B
Features	Output Type	Constant current			
	Dimming Interface	Bluetooth 5.0 SIG Mesh			
	Output Feature	Isolation			
	Protection Grade	IP20			
	Insulation Grade	Class II (Suitable for class I/ II /III light fixtures)			
OUTPUT	Output Voltage	9-42V⎓			
	Maximum Output Voltage	≤50V⎓			
	Output Current Range	100-450mA(Set higher current via mobile APP NFC; step value down to 1mA; Default: 100mA)			100-700mA(Set higher current via mobile APP NFC; step value down to 1mA; Default: 100mA)
	Output Power Range	0.9-10W			0.9-20W
	Dimming Range	0-100%, down to 0.0001%(Set More levels can be set via mobile APP NFC; Default: 0.01%)			
	LF Current Ripple	< 5% ((Maximum current for non dimming state)			
	Current Accuracy	±5%			
	PWM Frequency	≤3600Hz			
INPUT	AC Voltage Range	100-277V~			
	Rated Voltage	115V~/230V~/277V~			
	Frequency	50/60Hz			
	Input Current	Max. 0.11A/115V~, Max.0.06A/230V~, Max. 0.055A/277V~(at full load)			Max. 0.21A/115V~, Max.0.11A/230V~, Max. 0.1A/277V~(at full load)
	Power Factor	PF≥0.95/115V~, PF≥0.9/230V~, PF≥0.9/277V~(at full load)			
	THD	115V~@THD≤10%, 230V~@THD≤15%, 277V~@THD≤20% (at full load)			
	Efficiency (Typ.)	80%(at full load)			84%(at full load)
	Inrush Current	Cold start 15A(Test twidth=152us tested under 50% Ipeak)/230V~			
	Anti Surge	L-N: 2KV L,N-FG: 4KV			
	Leakage Current	Max.0.5mA			
ENVIRONMENT	Working Temperature	ta: -20°C ~ 50°C tc: 75°C			ta: -20°C ~ 50°C tc: 80°C
	Working Humidity	20~95%RH, non-condensing			
	Storage Temperature/Humidity	-40~80°C/10~95%RH			
	Temperature Coefficient	±0.03%/°C(-20°C~50°C)			
	Vibration	10-500Hz, 2G 12min/1cycle, 72 min for X, Y and Z axes respectively			
PROTECTION	Overload Protection	Automatically protect the device when the load exceeds 102% of the rated power. Automatically recover once load is reduced			
	Overheat Protection	Intelligently adjust or turn or the current output if the PCB temperature ≥110°C. When the PCB temperature <90°C, automatically recover normal output			
	Overvoltage Protection	Automatically protect the device when voltage exceeds the no-load voltage. It can be recovered automatically			
	Short Circuit Protection	Enter hiccup mode if short circuit occurs, and recover automatically			
SAFETY & EMC	Withstand Voltage	I/P-O/P:3750V~/1min/ < 5mA, I/P-FG:1750V~/1min/ < 5mA,O/P-FG:500V~/1min/ < 5mA, Signal-FG: 500V~/1min/ < 5mA. ①			
	Insulation Resistance	I/P-O/P: 100MΩ/500V~/1min/25°C/70%RH			
	Safety Standards	CE	European Union	EN61347-1，EN61347-2-13，EN62384	
		UL	America	UL8750，UL1310，Class P	
		CUL	Canada	CSAC22.2 No.250.13	
	EMC Emission	FCC	America	FCC part15B	
		CE	European Union	EN55015，ENIEC61000-3-2，EN61000-3-3，EN61547	
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11,EN61547			
ErP	Flicker/Stroboscopic Effect	IEEE1789		Meet IEEE 1789 standard/High frequency exemption level	
		CIESVM		PstLM≤1.0，SVM≤0.4	
	DF	Phase factor		DF≥0.9	
OTHERS	Weight(N.W.)	275g±10g			
	Dimensions	118×43×25mm(L×W×H)			

①Note: During the I/P-FG withstand voltage test, the gas discharge tube located on the input terminal cover of the driver must be temporarily removed to prevent the functional activation of the gas discharge tube inside the driver (see IEC 60598-1-10.2). After the test is completed, the gas discharge tube must be reinstalled to restore the surge protection function of the power line to ground and ensure reliable contact.

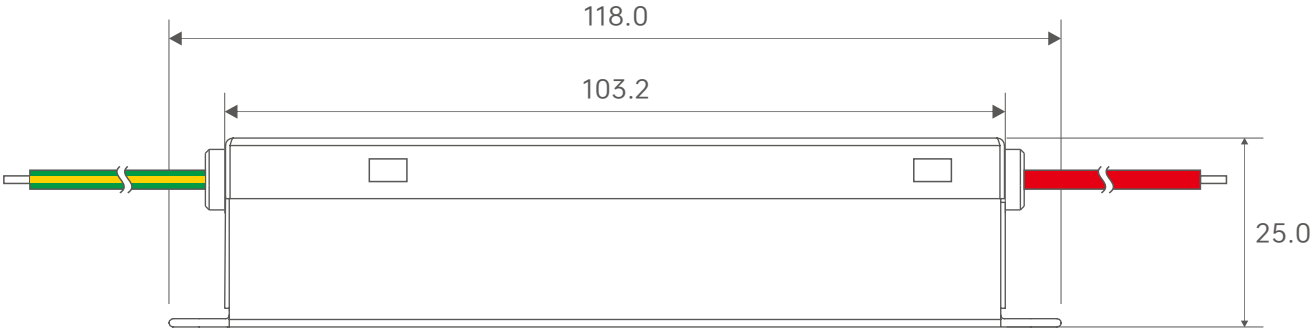
Typical Current Corresponding Parameter Table

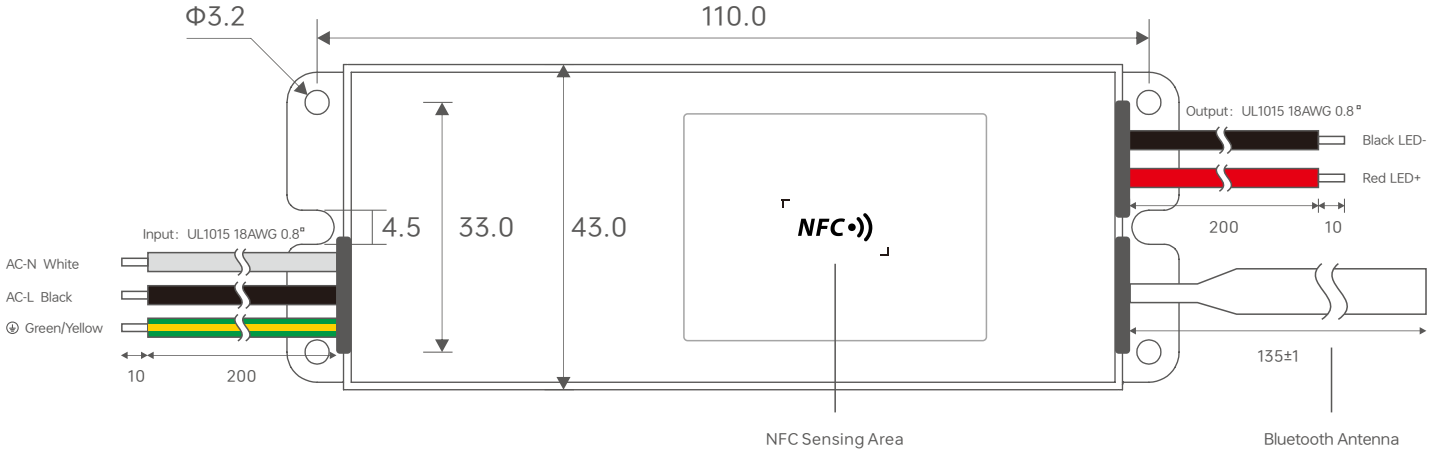
Model	The typical 8 current data sets below are for reference when selecting LED fixture models. More current levels can be set by NFC using mobile APP with 100-450mA adjustable in 1mA step								
LA-10-100-450-U1B	Output Current	100mA	150mA	200mA	250mA	300mA	350mA	400mA	450mA
	Output Voltage	9-42Vdc	9-42Vdc	9-42Vdc	9-40Vdc	9-33Vdc	9-28.5Vdc	9-25Vdc	9-22Vdc
	Output Power	0.9-4.2W	1.35-6.3W	1.8-8.4W	2.25-10W	2.7-9.9W	3.15-9.975W	3.6-10W	4.05-9.9W

Model	The typical 13 current data sets below are for reference when selecting LED fixture models. More current levels can be set by NFC using mobile APP with 100-700mA adjustable in 1mA step							
LA-20-100-700-U1B	Output Current	100mA	150mA	200mA	250mA	300mA	350mA	400mA	450mA
	Output Voltage	9-42Vdc	9-42Vdc	9-42Vdc	9-42Vdc	9-42Vdc	9-42Vdc	9-42Vdc	9-42Vdc
	Output Power	0.9-4.2W	1.35-6.3W	1.8-8.4W	2.25-10.5W	2.7-12.6W	3.15-14.7W	3.6-16.8W	4.05-18.9W
	Output Current	500mA	550mA	600mA	650mA	700mA	/		
	Output Voltage	9-40Vdc	9-37Vdc	9-34Vdc	9-31Vdc	9-29Vdc			
	Output Power	4.5-20W	4.5-20.35W	4.5-20.4W	4.5-20.15W	4.5-19.95W			

Product Size

Unit:mm

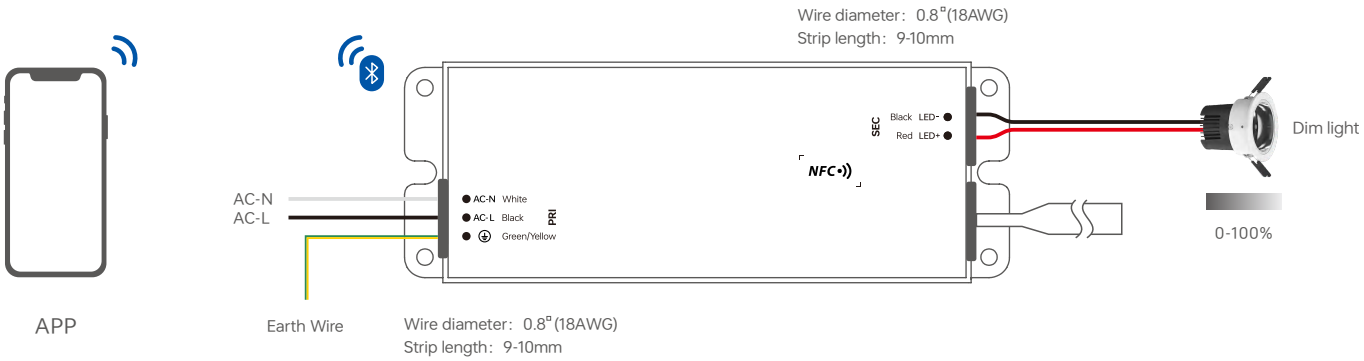




*The antenna must be kept away from metal, otherwise the signal will be affected.

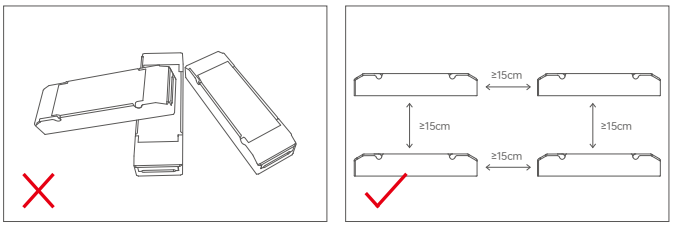
Connectivity Diagram

Wireless Connection Methods

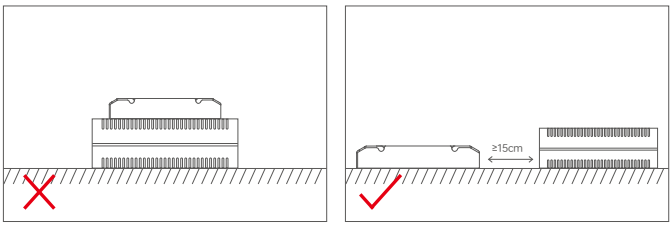


*Controlled via APP after network connection.

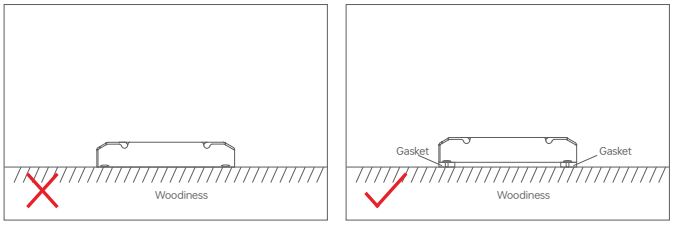
Installation Precautions



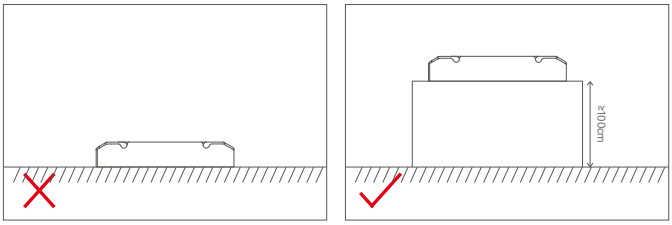
Please do not stack the products. The distance between two products should be ≥15cm so as not to affect heat dissipation and the lifespan of the products.



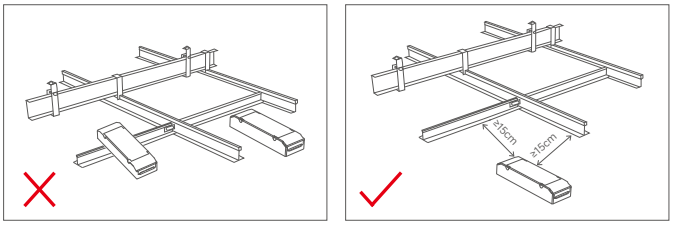
Please do not place the products on the floor. The distance between the product and the floor should be ≥100cm so as to avoid signal interference.



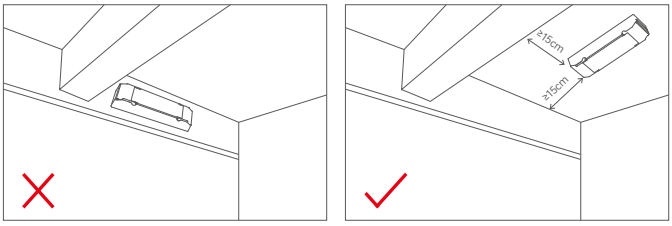
Do not fix the product tightly against the wooden board with screws. Please add a washer ≥7 mm thick under the mounting screws to leave a gap for effective heat dissipation, so as to avoid affecting the heat dissipation and service life of the product.



Please do not place the products on the floor. The distance between the product and the floor should be ≥100cm so as to avoid signal interference.

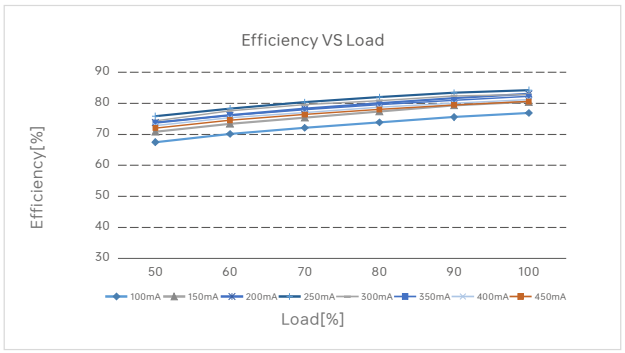


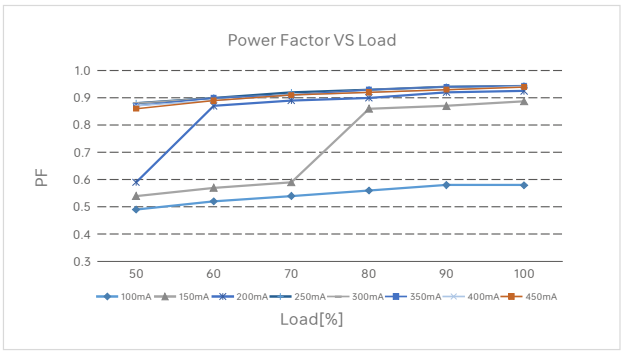
Do not allow the product to come into large-area contact with metal objects (e.g. keel frames). The separation distance shall be ≥15 cm to avoid signal interference affecting operation.

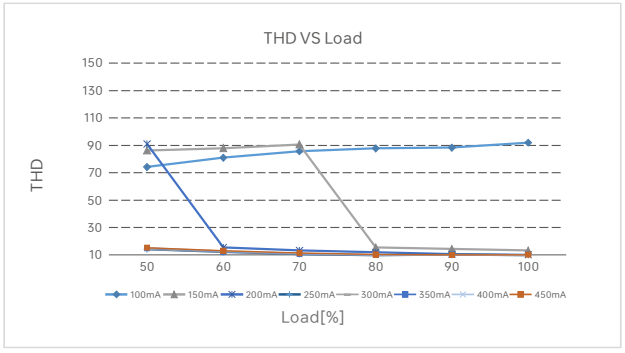


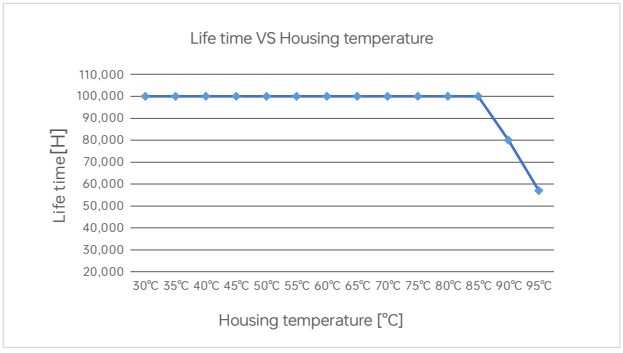
Please do not install the products on beams or near the corners. The distance between the product and the beam or the corner should be ≥15cm so as to avoid signal interference.

Relationship Diagrams

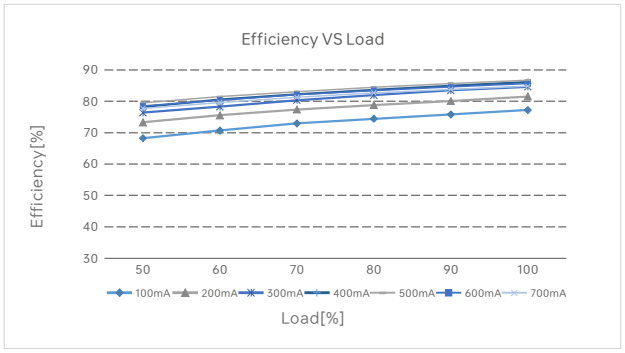


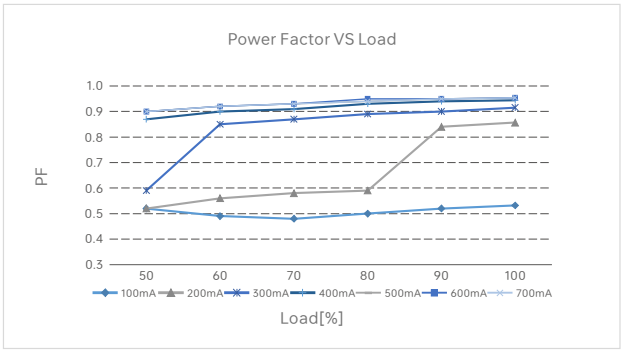


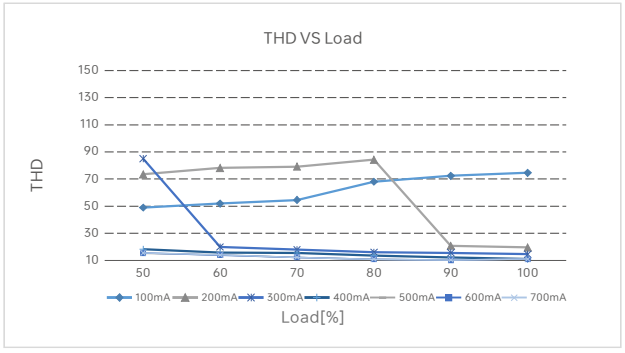


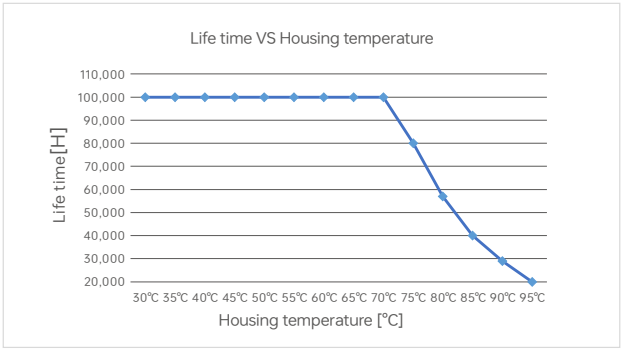


LA-10-100-450-U1B









LA-20-100-700-U1B

Surge Current & Corresponding Miniature Circuit Breaker (MCB) Load Capacity Table

MCB Model	B10	B13	B16	B20	B25	C10	C13	C16	C20	C25	D10	D13	D16	D20	D25
Maximum Load Capacity	20	26	32	40	50	23	30	37	47	58	27	34	42	53	66

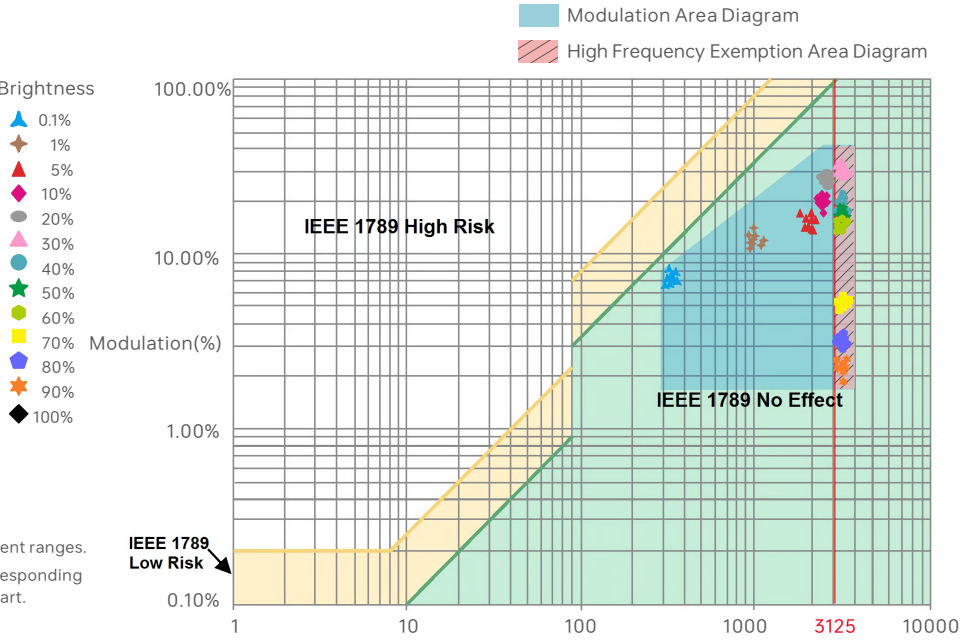
Remarks:

1. Test Conditions: Cold start 15A(Test twidth=152us tested under 50% Ipeak)/230V~.
2. The number of supported drivers may vary depending on the brand and model of the MCB.
3. It is recommended not to exceed the specified load capacity during on-site installation. The actual load should be determined based on field conditions.
4. If the ambient temperature exceeds 30°C or multiple MCBs are installed side by side, the number of installed drivers must be reduced and recalculated accordingly.
5. Electricians typically use Type B MCBs for residential lighting and Type C MCBs for commercial lighting applications.
6. Different testing equipment may yield variations in measured current peaks and pulse widths. Always use professional-grade instruments for accurate testing.

Flicker Test Sheet

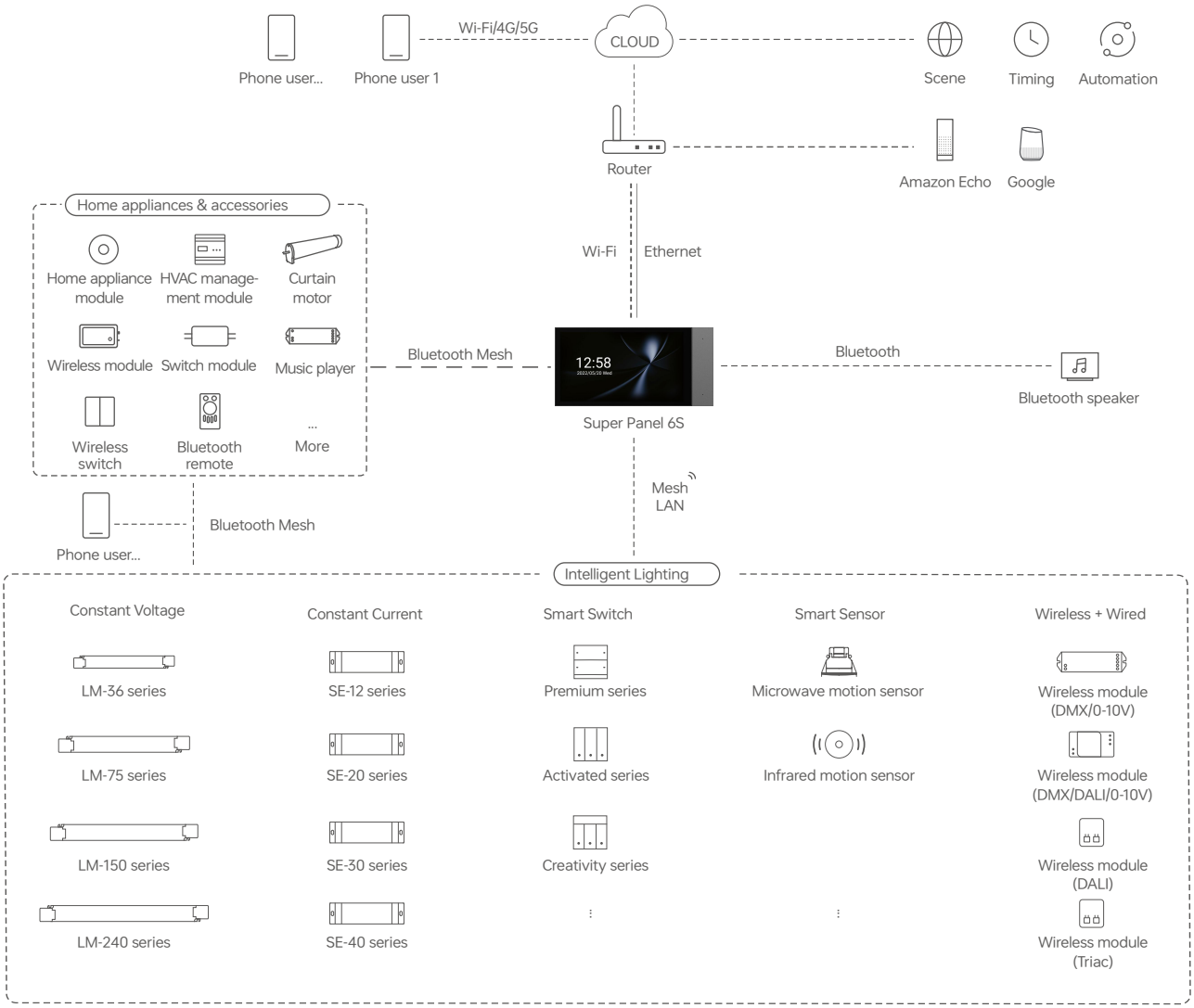
IEEE 1789

Limit of modulation in low risk area	
Waveform frequency of optical output	limit (%)
$f \leq 8Hz$	0.2
$8Hz < f \leq 90Hz$	$0.025 \times f$
$90Hz < f \leq 1250Hz$	$0.08 \times f$
$f > 1250Hz$	Exemption assessment
Limit of modulation in no effect area	
Waveform frequency of optical output	limit (%)
$f \leq 10Hz$	0.1
$10Hz < f \leq 90Hz$	$0.01 \times f$
$90Hz < f \leq 3125Hz$	$(0.08/2.5) \times f$
$f > 3125Hz$	Exemption assessment (High frequency exemption)



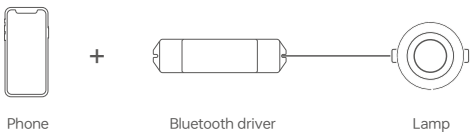
Marks in the right chart were tested results of different current ranges.
The output frequeny is 0Hz in 100% brightness and its corresponding modulation is 0%, which could not be shown in the right chart.

Recommend Applications



Recommend 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 6S can control the driver simultaneously after connecting the Super Panel 6S 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.

List of Compatible Devices

Smart Gateway: Serves as the control center of a smart home, enabling interconnection between Bluetooth devices and the cloud, as well as managing and controlling scenes and automation. It realizes remote control of smart devices such as Bluetooth-driven power supplies and switch panels.



SP-GW-12S



SP-GW-6S



SP-GW-BLE



SP-GW-4S



G4 MAX

CG-KIT: Enables the access of Bluetooth-driven power supplies to Apple Home via HomeKit, and also to all IoT platforms supporting the standard Matter protocol through Matter Bridge, including Apple Home, Google Home, Amazon Alexa, Samsung SmartThings, etc.



CG-KIT

Smart Switch: Can control the on/off, dimming and color tuning of Bluetooth-driven power supplies. When used with a smart gateway, it can realize functions such as App remote control, scene linkage/automation.



S1



S2



S3



S4



S6



S6-B



SQ



SQ-B



S1 PRO



S2 PRO



S3 PRO



S6 PRO



SQ PRO



G4



G4 PRO



S4M



S8M



EB1



EB2



EB5



EB6



EB8



UB1



UB2



UB4



UB5



UB8

Remote Control: Can control the on/off, dimming and color tuning of Bluetooth-driven power supplies. When used with a smart gateway, it can realize functions such as scene linkage.



GQ PRO



GQ MAX



GQ



GQX



B1



B2



B5

B8

R8

RC4-BLE

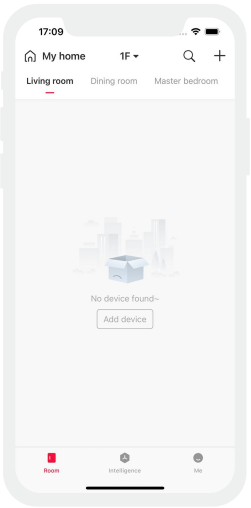
Use with Bluetooth L-Home APP

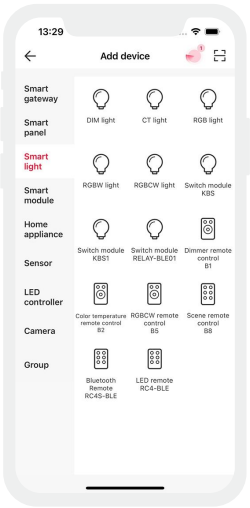
1. Register an account

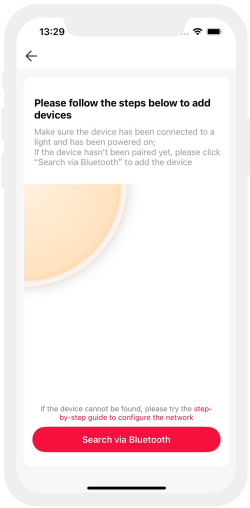
The App is available on iOS or Android devices. Scan the QR code below with you mobile phone and follow the prompts to complete the App installation. Open the App to log in or register an account.

2. Paring instructions

Open the APP and create a home if you are a new user. Click “+” icon in the upper right corner and access the “Add Device” list, then follow the prompts to add the device. Pick “Smart lighting-DIM light” from the list and follow the prompts to power on the device firstly. Make sure the device is not connected to the network. Then click ”Bluetooth Search” and follow the prompts to add the device.

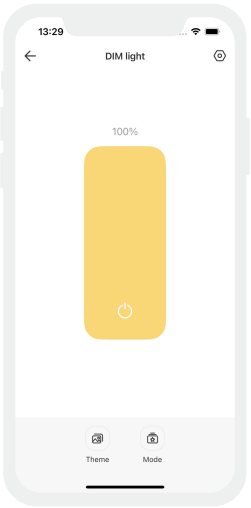


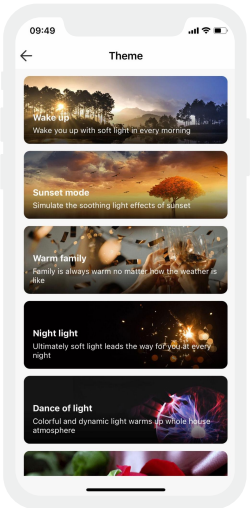


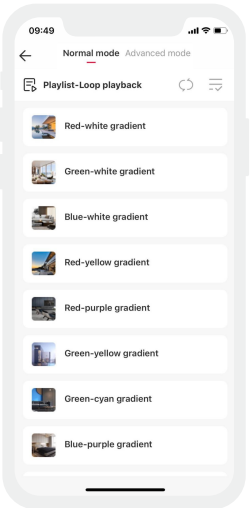


3. Control interface settings

After pairing up your device, go to the control interface. You’ll be able to achieve your desired lighting effects by changing brightness and color temperature. Click “Theme” and you’ll easily switch to multiple theme lighting effects with one tap. Click “Mode” and the App provides you editable advanced modes. Customize dynamic modes to put you into a more colorful life.

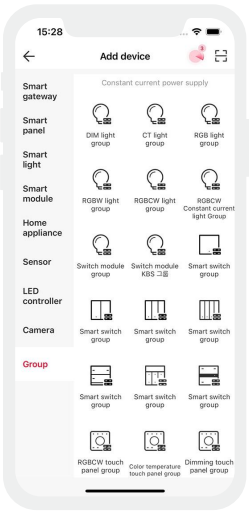


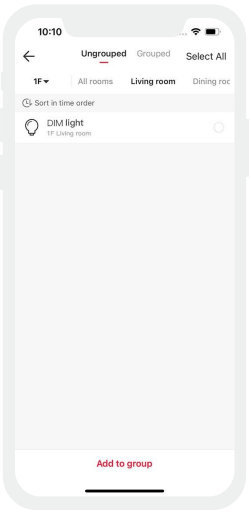


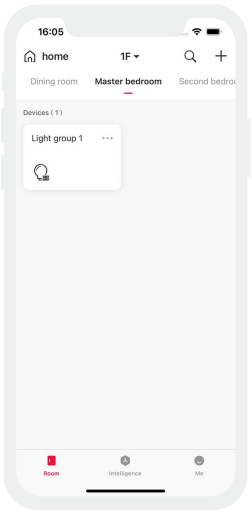


4. Light groups

Users are able to combine the same type of light fixtures into a group to control them simultaneously. Once you create the group, you can set the dim level more easily. Pick “Group-DIM light group”from the list. Follow the prompts to rename the group and click ”Next” to pick the lights you are going to group together and click “Save”.

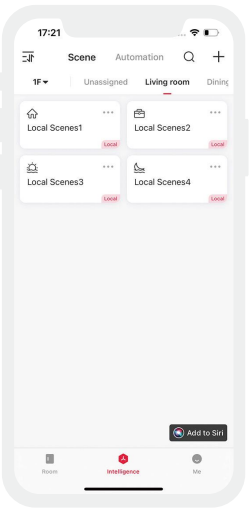


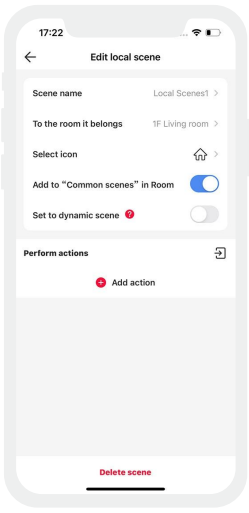


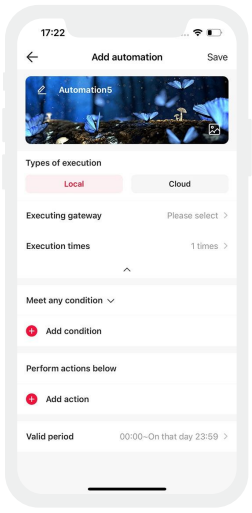


5. Advanced functions

This driver can be linked up with gateway function devices (such as Super Panel 12S) to achieve the advanced functions from local scenes and cloud scenes to automation.

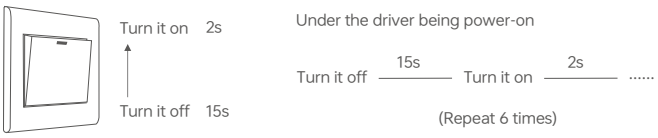




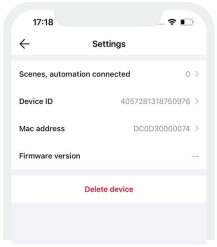


Reset the Device (Reset to Factory defaults)

Method 1: Ensure the driver is connected to the light fixture and is in a constantly lit state. Use a switch to continuously power on and off the driver 6 times (each power-off time is 15 seconds, and power-on time is 2 seconds). After the sixth power-on time of 2 seconds, the light fixture will flash 3 times, indicating that the driver has been restored to the factory settings.



Method 2: Ensure the device is powered on and online, open the L-Home APP, locate the device and access its settings interface, then tap the Delete Device button. When the interface prompts "Deletion Successful", it indicates the device has been restored to factory settings.



Method 3: Power off the device, open the NFC Lighting APP and tap Read/Write Smart Power Supply on the home page. On the Parameter Editing page, tap Restore Factory Settings; a write button will pop up on the interface. After a successful write, power the device back on and it will be restored to factory settings.

More Features

STAR-Tech

- 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.

Device Log

- 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.

Dimming Depth

- The default dimming depth is 0.01%, with a maximum dimming depth of 0.0001%.

Brightness Range

- Customizable adjustable brightness range.

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.

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).

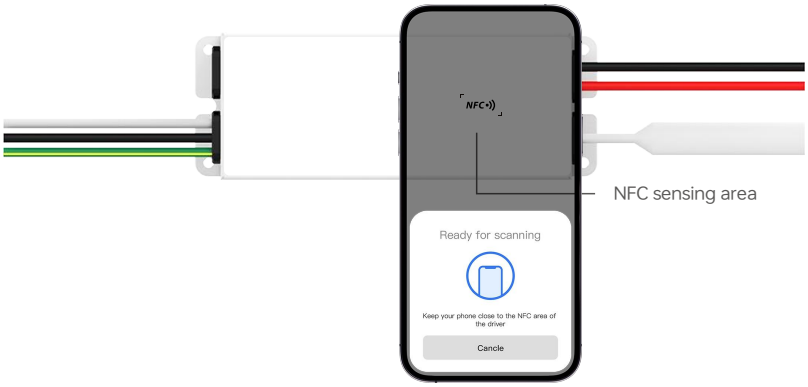
∗ Before you begin setting the parameters of the driver, please make sure the driver is powered off .

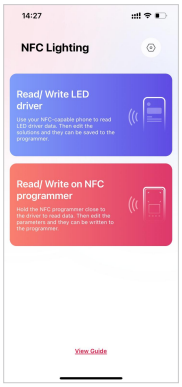
Read/Write the LED driver

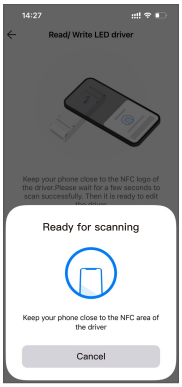
Use your NFC-capable phone to read LED driver data, then edit the parameters and they can be directly written to the driver.

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 sensing area of the driver to read the driver parameters.

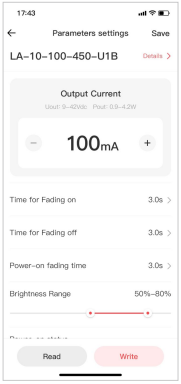


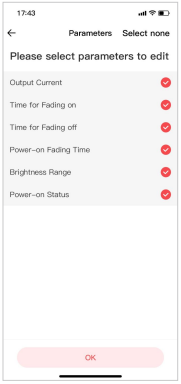




2. Edit parameters

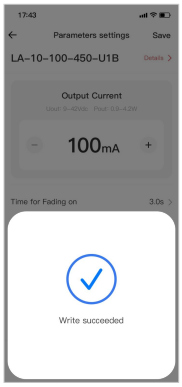
Click on [Parameter Management] to edit more advanced parameters such as Output current, Time for Fading on, Time for Fading off, Power-on Fading Time, Brightness Range, and Power-on Status .





3. Write to the drive

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



Packaging Specifications

Model	LA-10-100-450-U1B、LA-20-100-700-U1B
Packaging Box Dimensions	152×60×35mm（L×W×H）

Packaging Image

Inner Packaging Box

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.

Attentions

- Products shall be installed by qualified professionals.
- LTECH 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.

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:

- 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 LTECH.

1. Repair or replacement provided is the only remedy for customers. LTECH is not liable for any incidental or consequential damage unless it is within the law.

2. LTECH has the right to amend or adjust the terms of this warranty, and release in written form shall prevail.