LTECH

SE-12-100-450-W1B

Bluetooth 5.0 SIG Mesh

0.9-12W 100-450mA 9-42Vdc

Intelligent LED Driver (Constant Current)

- Ultra-small, thin and light screwless end cap
- Bluetooth 5.0 SIG Mesh with high networking capability is reliable and stable
- Gain control on iOS or Android devices through Bluetooth connection
- Adding a super tool allows you to set soft start time, lighting status and dimming curves
- Lighting status and dimming curves.
- The housing is made from V0 flame retardant PC materials from SAMSUNG/COVESTRO
- Comply with no-load power consumption of the EU's ErP Directive, standby power consumption < 0.5W.
- With soft-on and fade-in dimming function, enhancing your visual comfort
- T-PWM™dimming technology allows continuous and flicker freeimages under high-speed photography.
- Dimming from 0~100%, down to 0.1%
- With soft-on and fade-in dimming function, enhancing your visual comfort
- Innovative thermal management technology intelligently protects the life of the LED driver.
- Overheat, over voltage , overload, short circuit protection and automatic recovery.
- Multiple current levels and wide voltage range. Suitable for different power of LEDs.
- Suitable for Class Ⅰ/Ⅱ/Ⅲ indoor light fixtures.
- Up to 50,000-hour life time.
- 5-year warranty (Rubycon capacitor).

T-PWM™
Super depth dimming technology

Flicker-free
IEEE 1789
High frequency exemption level

Dimmable:
0.01-100%

Bluetooth®

The certification icon represents on-going certification applications only, and final certification qualification is subject to actual products.

T-PWM Super depth dimming technology | Flicker-free IEEE 1789 | Multiple current | Short circuit protection | Overload protection | Overheat protection

Technical Specs

Model				
		SE-12-100-450-W1B		
Features	Output Type	Constant Current		
	Wireless protocol type	Bluetooth 5.0 SIG Mesh		
	Output Feature	Isolation		
	Protection Grade	IP20		
	Insulation Grade	Class II (Suitable for class I/ II light fixtures)		
INPUT	Output voltage	9-42Vdc		
	Max output voltage	≤48V		
	Output current	100-450mA		
	Output Power	0.9-12W		
	Strobe level	No visible flicker/High frequency exemption level		
	Dimming range	0~100%, down to 0.1%		
	LF current ripple(＜120Hz)	<3%		
	Current accuracy	±5%		
	Ripple&noise	≤2V		
	PWM dimming frequency	＜3600Hz		
OUTPUT	DC Voltage Range	120-300Vdc		
	AC Voltage Range	100-240Vac		
	Rated Voltage	115Vac / 230Vac		
	Frequency	50/60Hz		
	Input Current	≤0.18A/115Vac		
	Power Factor	PF>0.9C/230Vac , at full load		
	THD	THD<10%/230Vac , at full load		
	Efficiency (Typ.)	>82%@450mA		
	Inrush Current	Cold start 15A@230Vac (Test twidth=102us tested under 50% Ipeak)		
	Anti Surge	L-N: 2kV		
	Leakage Current	<0.5mA/230Vac		
ENVIRONMENT	Working Temperature	ta: -20 ~ 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 ~ 45°C)		
	Vibration	10-500HZ, 2G 12min/1cycle,72 min for X,Y and Z axes respectively.		
PROTECTION	Overload Protection	Shut down the output and recover automatically once it exceeds 1.02 times ofthe rated power		
	Overheat Protection	Intelligently adjust or turn off the current output if the PCB temperature ≥110°C. When the PCB temperature <90°C, automatically recover normal output		
	Short Circuit Protection	When short circuit occurs, shut down the output and recover automatically		
SAFETY & EMC	Withstand Voltage	I/P-O/P: 3750Vac		
	Insulation Resistance	I/P-O/P: 100MΩ/500VDC/25°C/70%RH		
	Safety Standards	CCC	China	GB19510.1，GB19510.14
		TUV	Germany	EN61347-1，EN61347-2-13，EN62493
		CB	CB Member States	IEC61347-1，IEC61347-2-13
		RCM	Australia	AS/NZS61347.1，AS61347-2-13
		CE	European Union	EN61347-1，EN61347-2-13，EN62493
		KC	Korea	KC61347-1 KC61347-2-13
		UKCA	Britain	BS EN61347-1，BS EN61347-2-13，BS EN62493
	EMC Emission	CCC	China	GB/T17743，GB17625.1
		RCM	Australia	EN IEC 55015，EN IEC 61000-3-2，EN61000-3-3
		CE	European Union	EN IEC 5501，EN IEC 61000-3-2，EN61000-3-3
		KC	Korea	KS C 9815, KS C 9547
		UKCA	Britain	BS EN IEC 55015，BS EN IEC 61000-3-2，BS EN 61000-3-3，BS EN 61547
	EMC Immunity	EN6100-4-2,3,4,5,6,8,11, EN61547		
ErP	Power Consumption	Networked standby		＜0.5W (After shutdown by command)
		No-load power consumption		＜0.5W (When the lamp is not connected)
	Flicker/Stroboscopic Effect	IEEE1789		Meet IEEE 1789 standard/High frequency exemption level
		CIESVM		Pst LM≤1.0，SVM≤0.4
		Phase factor		DF 0.9
OTHERS	Weight(N.W.)	85g±10g		
	Dimensions	110×35×20mm(L×W×H)		

LED Current Selection

8 current levels are optional by DIP switch setting

DIP Switch

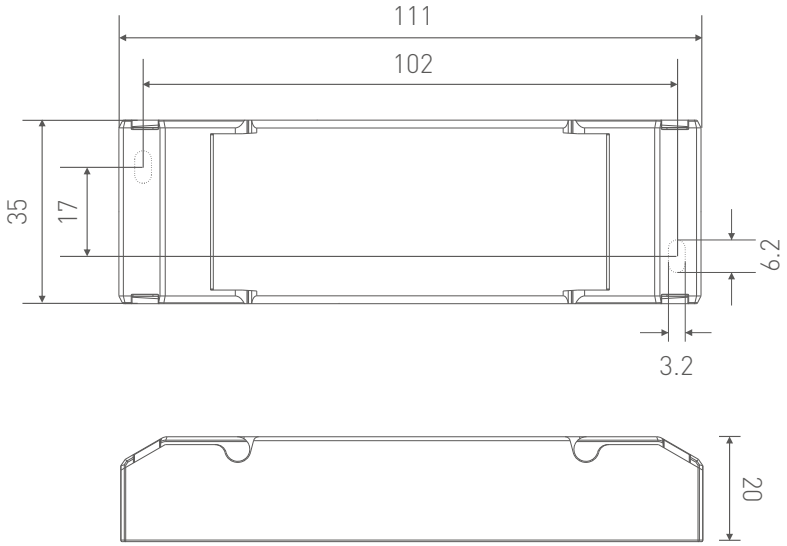
SE-12-100-450-W1B	DIP Switch	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
	Output Current	100mA	150mA	200mA	250mA	300mA	350mA	400mA	450mA
	Output Voltage	9-42V	9-42V	9-42V	9-42V	9-40V	9-34V	9-30V	9-27V
	Output Power	0.9-4.2W	1.35-6.3W	1.8-8.4W	2.25-10.5W	2.7-12W	3.15-11.9W	3.6-12W	4.05-12.15W

ON OFF

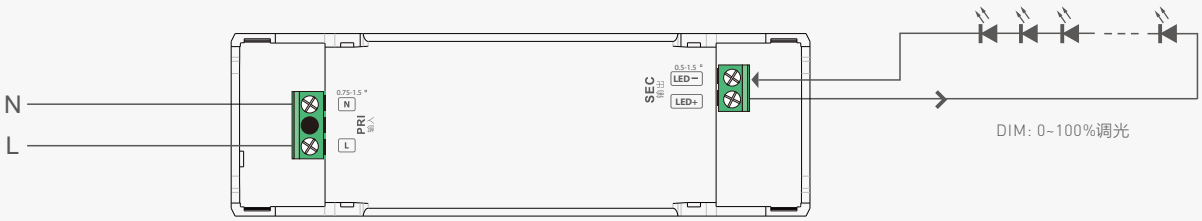
* After setting the current via DIP switches, power off and then power on the driver to make the new current setting effective.
* E.g. LED 3V/pcs: 9-42V can power 3-14pcs LEDs in series, 9-27V can power 3-9pcs LEDs, the max quantity of LEDs in series will be subject to the actual voltage of LEDs.

Product Size

Unit: mm



Wiring Diagram



Wire diameter: 0.75-1.5㎟(22-16AWG)
Strip length: 4.5-5mm

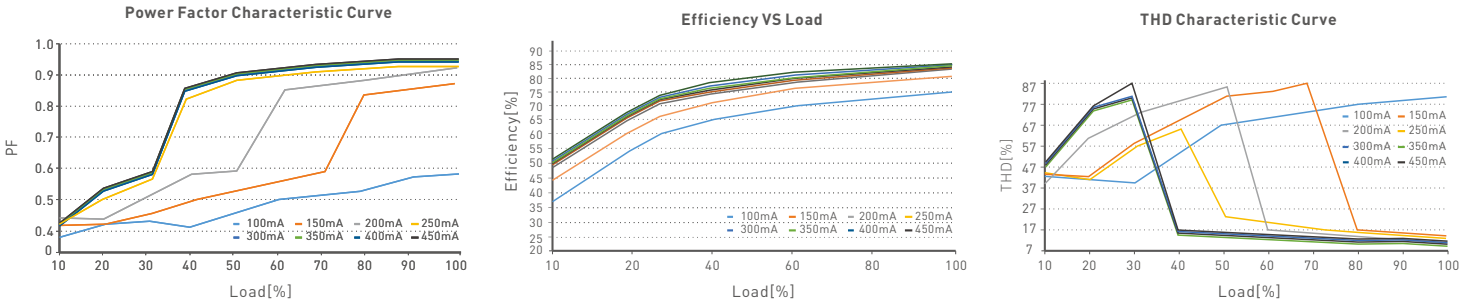
Wire diameter: 0.5-1.5㎟(22-16AWG)
Strip length: 4.5-5mm

* The cable at the LED output end should not exceed 3 meters.

Protective Housing Application Diagram

1. Pry up the protective housing in the side plate position with a tool.
2. Pry up the side edge of the tension plate with a tool to remove it.
3. Use a screwdriver to connect electrical wires as wiring diagram shows.
4. Press down the tension plate to fix the electrical wires.
5. Close the protective housing.

Relationship Diagrams



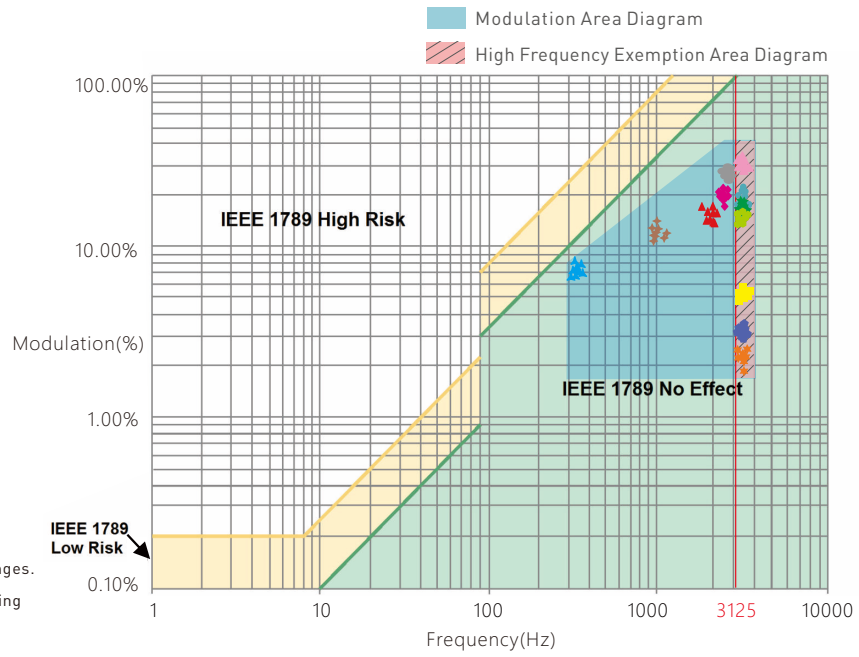
Flicker Test Form

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)

Brightness

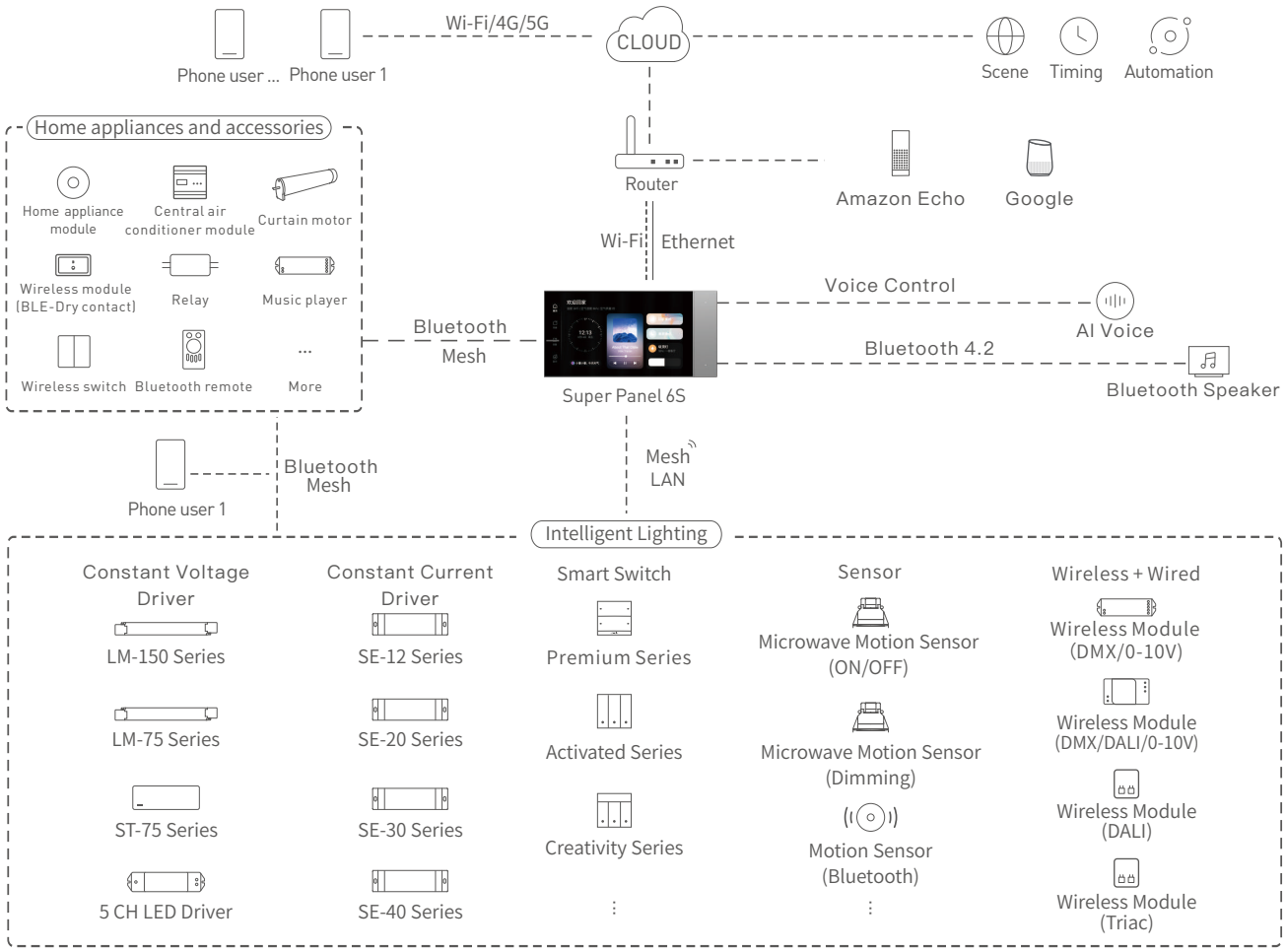
- 0.1%
- 1%
- 5%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%



Marks in the right chart were tested results of different current ranges.

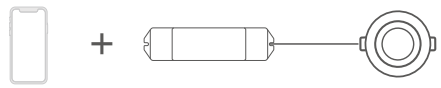
The output frequeny is 0Hz in 100% brightness and its corresponding modulation is 0%, which could not be shown in the right chart.

Application Diagram



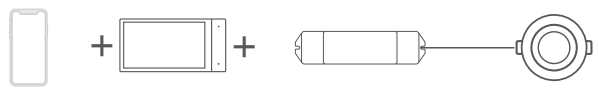
Recommended Applications

1、Achieve fast dimming control.



2、Both the App and the remote can control the controller after linking up the remote with the controller via the App.

3、Both the App and the Super Panel can control the controller after linking up the Super Panel with the controller via the App. By connecting the Super Panel to the network, you are allowed to remotely control the controller, cloud scenes and automation via the App.



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

Other Instructions

If the controller works with a remote, gateway ,intelligent wireless switch or other items ,please refer to related manuals.

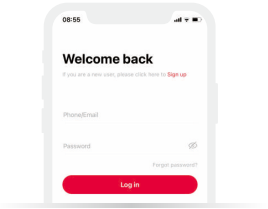
App Operating Instructions

1.Register an account

Scan the QR code below with you mobile phone and follow the prompts to complete the app installation.

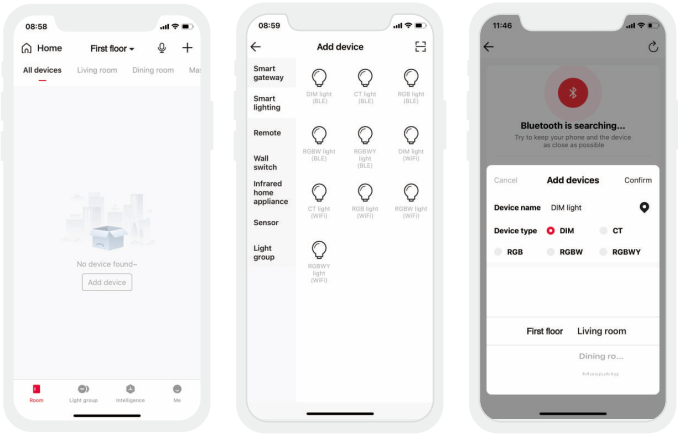
Scan and download the App

1.2 Open the App and log in or register an account.



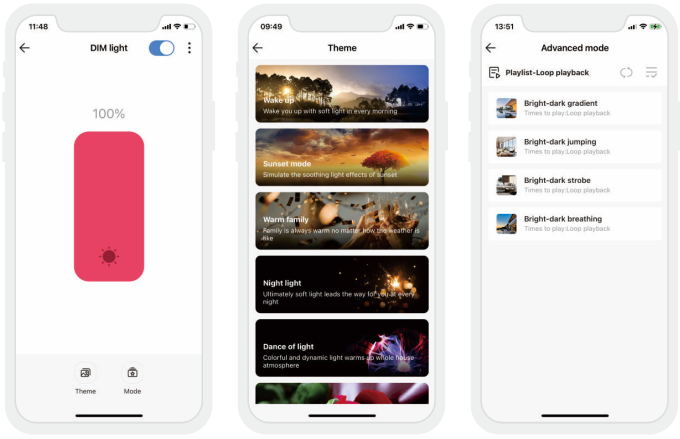
2. Control interface settings

Create a home if you are a new user. Click"+"icon in the upper right corner and access the"Add Device" list. Pick"Smart lighting"from the list and select the light fixture type you want to add. Follow the prompts on the App. Power on the device firstly, and make sure the device is not connected to network . Then click"Bluetooth Search"and follow the prompts to add the device.



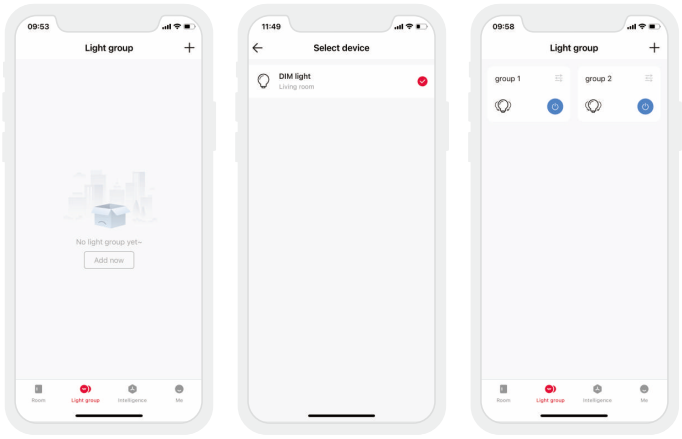
3.Control interface settings

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



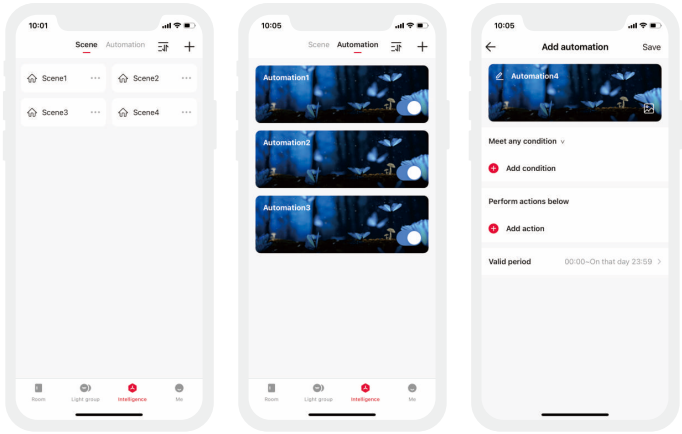
4.Light groups

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. Switch to"Group" menu and click"+"icon in the upper right corner. Follow the prompts to rename the group and click"Next"to pick the lights you are going to group together and to save them.



5.Advanced functions

The driver can be linked up with gateway function devices (such as LTECH Super Panel) to achieve the advanced functions from cloud scenes to automation.



Packaging Specifications

Model	SE-12-100-450-W1B
Carton Dimensions	265×240×215mm(L×W×H)
Quantity	20 PCS/Layer; 5Layers/Carton; 100PCS/Carton
Weight	0.077kg/PC; 8.2kg/Carton

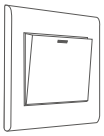
Packaging Image

Inner Packaging Box

Carton Packaging

How to reset a device (reset it to factory defaults)

Make sure the controller is connected to a lamp and keep the lamp on. Turn the controller 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 , the controller has been set to factory defaults.



When the controller is being powered on

Turn it off —15s— Turn it on —2s— .....

(Repeat 6 times)

FAQs

1. What should I do if I fail to add the device?

1.1 Please make sure the device is powered on normally .

1.2 Please make sure the device hasn't been added by any other account. If it has,please reset to factory defaults manually.

1.3 The recommended distance between the mobile phone and the device is no more than 20 meters.

1.4 If the device has been forced to delete, please reset to factory defaults manually and then add the device again.

2. What should I do if the device disconnects from the network?

2.1 Please make sure the device is powered on normally.

2.2 Please make sure Bluetooth on your phone is turned on.

2.3 If you control the device remotely, please make sure your phone network runs smoothly.

3. How to control remotely and set cloud scenes?

Remote control and cloud scenes can achieved only by working with LTECH Super Panel.

4. How to share control of your home devices?

Please go to"Me"- "Home Management"and access the home you want to share. Click"Add Member"and follow the prompts to add members to your home.

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 non-waterproof (special models excepted). Please avoid the sun and rain. When installed outdoors, please ensure it is mounted in a water proof enclosure.
- Good heat dissipation will extend 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.

Update Log

Version	Updated Time	Update Content	Updated by
A0	2023.05.30	Original version	Yang Weiling