# LTECH

LM-150-12-G2B2
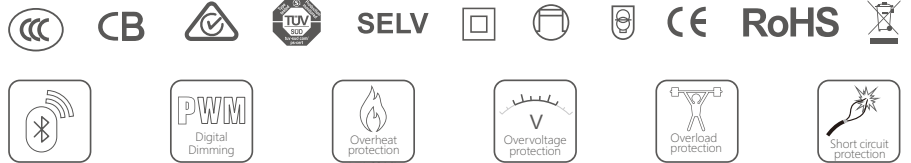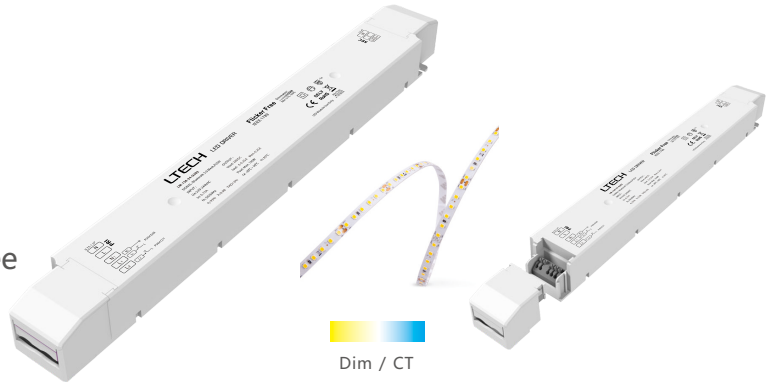LM-150-24-G2B2

**Bluetooth 5.0 Mesh Push DIM**

## Intelligent Tunable White LED Driver (Constant Voltage)

- Adopt SAMSUNG/COVESTRO V0 flame resistant polycarbonate protective housings with small size and light weight.
- Bluetooth 5.0 Mesh with high networking capability are reliable and stable.
- With soft-on and fade-in dimming function enhancing visual comfort.
- T-PWM dimming technology allows continuous and flicker-free images under high-speed shooting.
- 0-100% flicker-free dimming with high frequency exemption level.
- 0-100% dimming range, down to 0.1%.
- Energy-efficient driver: Efficiency 93%, PF>0.98,THD<6%.
- Comply with EU's Energy-Related Products Directive, standby power consumption < 0.5W.
- Innovative thermal management technology protects the power life intelligently.
- Overheat, overvoltage, overload, short circuit protection and automatic recovery.
- The design of removable end housing is convenient to adjust the length of driver.
- Suitable for indoor light applications of Ⅰ/Ⅱ/Ⅲ type.
- Up to 50000-hour life time.
- 5-year warranty (Rubycon capacitor).
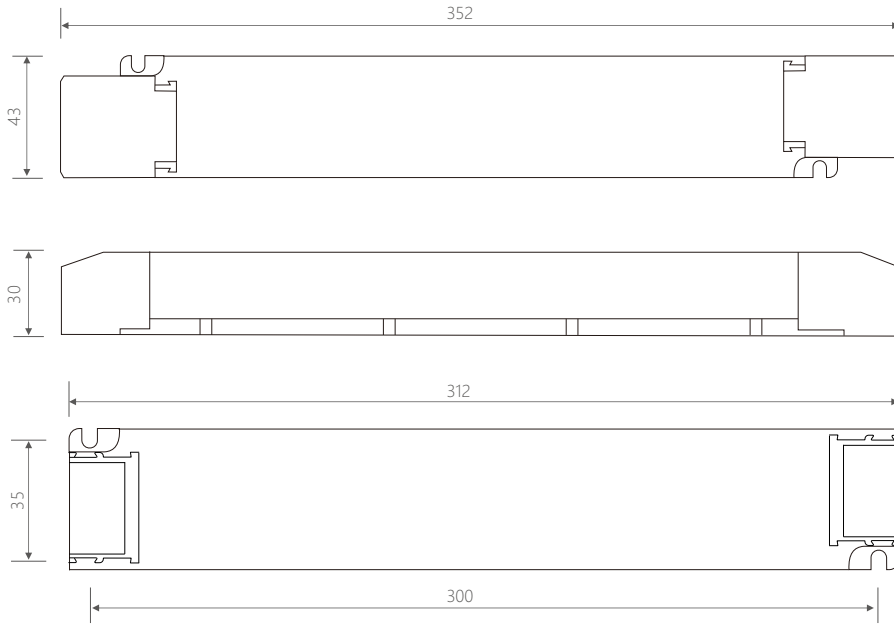
**Flicker-free**
IEEE 1789

**Dimmable:**
0.1%-100%

Dim / CT

CCC  CB  TÜV SÜD  SELV  CE  RoHS

Bluetooth | PWM Digital Dimming | Overheat protection | V Overvoltage protection | Overload protection | Short circuit protection

## Technical Specs

| Model | | LM-150-12-G2B2 | LM-150-24-G2B2 |
|---|---|---|---|
| OUTPUT | Output Voltage | 12Vdc | 24Vdc |
| | Output Voltage Range | 12Vdc ± 0.5Vdc | 24Vdc ± 0.5Vdc |
| | Output Current | Max. 12.5A | Max. 6.25A |
| | Output Power | Max. 150W | |
| | Output Power Range | 0~150W | |
| | Strobe Level | High frequency exemption level. | |
| | PWM Frequency | 3600Hz | |
| | Dimming Range | 0~100%，down to 0.1% | |
| | Overload Power Limitation | ≥102% | |
| | Ripple & Noise | Switch ripple≤200mV，noise≤800mV | Switch ripple≤200mV，noise≤500mV |
| INPUT | Control Mode | Bluetooth 5.0 Mesh, Push DIM | |
| | Input Voltage | 220-240Vac    200-280Vdc | |
| | Frequency | 50/60Hz | |
| | Input Current | Max. 0.75A/230Vac | |
| | Power Factor | PF>0.98/230Vac at full load | |
| | THD | 230Vac@THD<6% at full load | |
| | Efficiency(Typ.) | 92% | 93% |
| | Standby Power Loss | <0.5W | |
| | Inrush Current | Cold start 45A/230Vac | |
| | Anti Surge | L-N: 2KV | |
| | Leakage Current | Max. 0.5mA | |
| ENVIRONMENT | Working Temperature | ta: -20 ~ 50°C   tc: 85°C | |
| | Working Humidity | 20 ~ 95%RH, non-condensing | |
| | Storage Temperature, Humidity | -40 ~ 80°C, 10~95%RH | |
| | Temperature Coefficient | ±0.03%/°C(0-50°C) | |
| | Vibration | 10~500Hz, 2G 12min./1cycle, 72 min for X，Y and Z axes respectively | |
| PROTECTION | Overheat Protection | Intelligently adjust or turn off the output current if the PCB temperature ≥110°C, and recover automatically | |
| | Overvoltage Protection | Shut down the output when non-load voltage≥16V, repower on to recover after fault condition is removed | Shut down the output when non-load voltage≥28V, repower on to recover after fault condition is removed |
| | Overload Protection | Shut down the output when current load≥102%, and recover automatically | |
| | Short Circuit Protection | Enter hiccup mode if short circuit occurs, and recover automatically | |
| SAFETY & EMC | Withstand Voltage | I/P-O/P: 3750Vac | |
| | Isolation Resistance | I/P-O/P: 100MΩ/500VDC/25°C/70%RH | |
| | Safety Standards | IEC/EN61347-1, IEC/EN61347-2-13 | |
| | EMC Emission | EN55015, EN61000-3-2 Class C, IEC61000-3-3 | |
| | EMC Immunity | EN61000-4-2,3,4,5,6,8,11，EN61547 | |
| | Strobe Test Standard | IEEE 1789 | |
| OTHERS | Dimensions | 352×43×30mm(L×W×H) | |
| | Packing Size | 355×44×33mm(L×W×H) | |
| | Weight(G.W.) | 330g±10g | |

✳ The driver is suitable for connecting resistor current-limiting LED fixture (e.g. LED strip). The inrush current will be dozens of times increased if connecting built-in constant current IC current-limiting LED fixtures, the driver will activate the overloaded protection (hiccups flickering). When you order, please remark controlling the constant current LED fixture (e.g. MR16 lamp, underground light, LED wall washer, constant current LED strip, etc.), so that we can prepare them with special procedures.
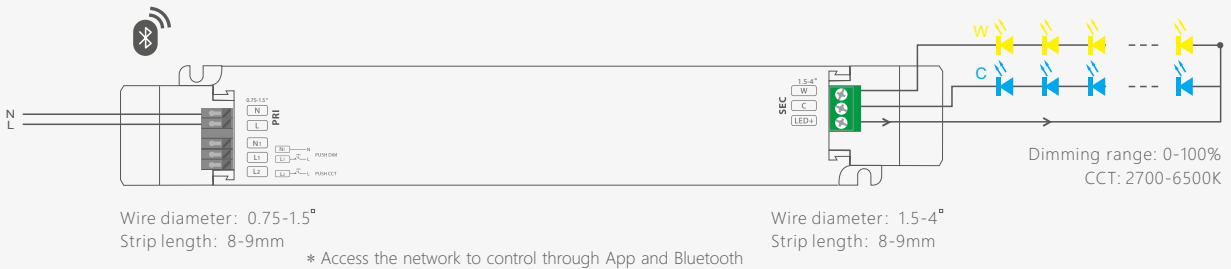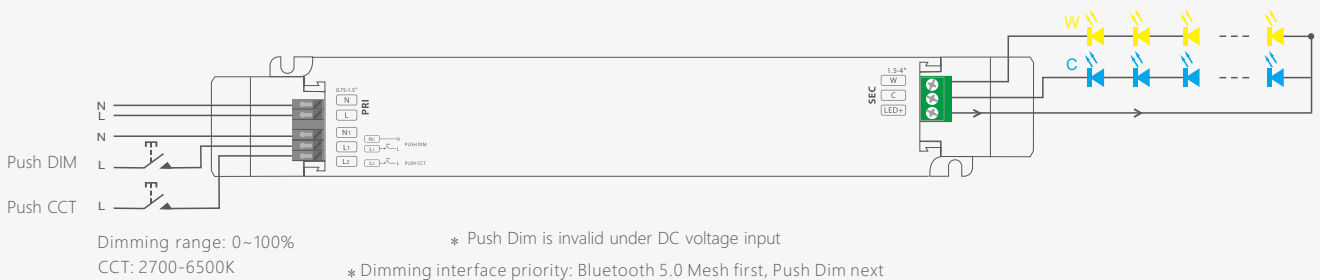
www.ltech-led.com

## Product Size

Uint: mm



## Wiring Diagram

### Wireless connection mode



W
C

N
L

0.75-1.5"
N
L
PRI

N1
L1
L2
PUSH DIM
PUSH CCT

1.5-4"
W
C
LED+
SEC

Dimming range: 0-100%
CCT: 2700-6500K

Wire diameter: 0.75-1.5°
Strip length: 8-9mm

Wire diameter: 1.5-4°
Strip length: 8-9mm

＊ Access the network to control through App and Bluetooth

### Push DIM/CCT connection mode



W
C

N
L
N

Push DIM   L

Push CCT   L

0.75-1.5"
N
L
PRI

N1
L1
L2
PUSH DIM
PUSH CCT

1.5-4"
W
C
LED+
SEC

Dimming range: 0~100%
CCT: 2700-6500K

＊ Push Dim is invalid under DC voltage input

＊ Dimming interface priority: Bluetooth 5.0 Mesh first, Push Dim next

## Push DIM/CCT



Reset switch

**DIM**
• On/off control: Short press.
• Stepless dimming: Long press.
• With every other long press, the brightness level goes to the opposite direction.
• Dimming memory: Go to the brightness level adjusted previously when lights are turned on.

**CCT**
• Color temperature adjustment: Long press.
• With every other long press, the color temperature level goes to the opposite direction.
• Color temperature memory: Color temperature will be the same as previously adjusted when lights are turned on again.

# Protective Housing Application Diagram

### 1. Tension plate
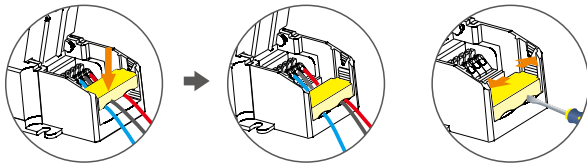


Push the tension plate down to fix the electric wire.

Push the side plate outwards and remove the tension plate by prying it up with a tool at the same time.

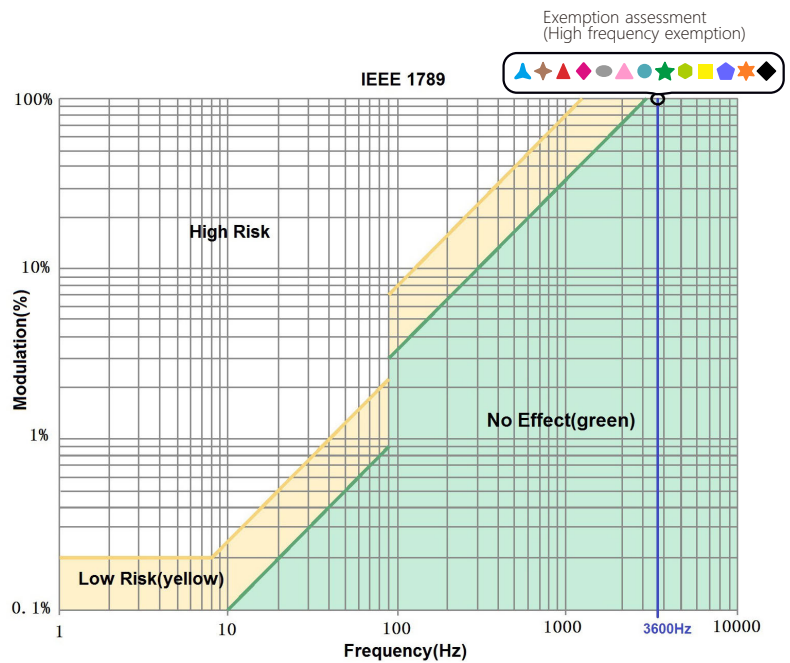### 2. Remove the protective housing
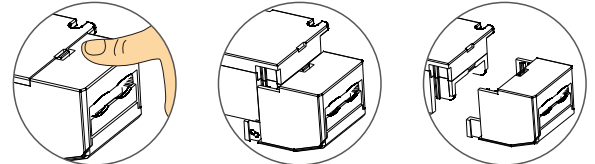


Pull the housing left and right from the bottom to remove it.
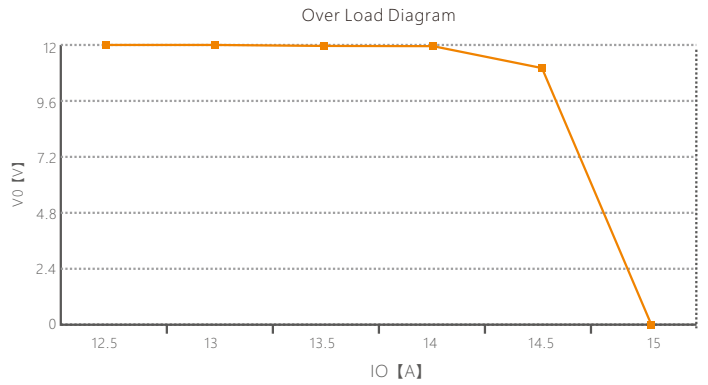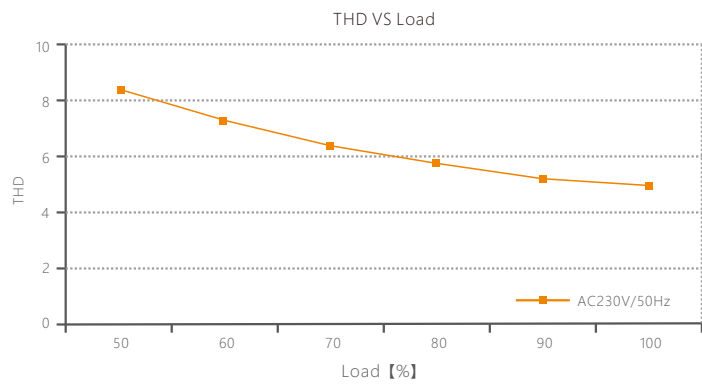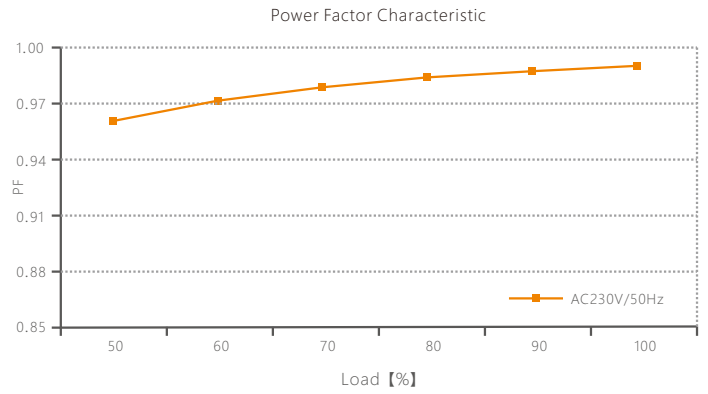
# Flicker Test Table

IEEE 1789

| Limit Value of Modulation in Low Risk Areas | |
|---|---|
| Waveform frequency of Optical output | Limit value (%) |
| $f \le 8Hz$ | 0.2 |
| $8Hz < f \le 90Hz$ | $0.025 \times f$ |
| $90Hz < f \le 1250Hz$ | $0.08 \times f$ |
| $f > 1250Hz$ | Exemption assessment |

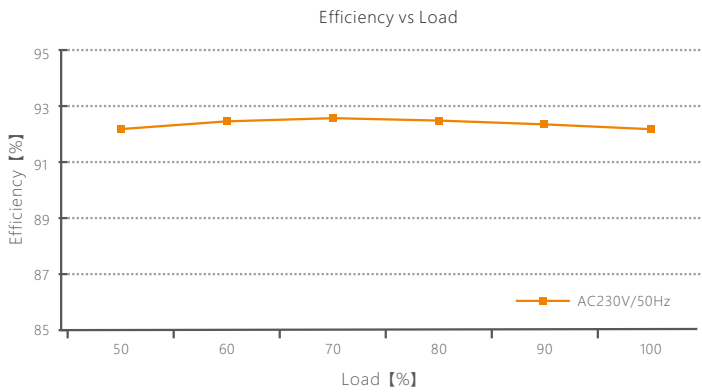| Limit Value of Modulation in No Effect Areas | |
|---|---|
| Waveform frequency of Optical output | Limit value (%) |
| $f \le 10Hz$ | 0.1 |
| $10Hz < f \le 90Hz$ | $0.01 \times f$ |
| $90Hz < f \le 3125Hz$ | $(0.08/2.5) \times f$ |
| $f > 3125Hz$ | Exemption assessment (High frequency exemption) |

Brightness
▲ 0.1 %
✦ 1%
▲ 5%
◆ 10%
● 20%
▲ 30%
● 40%
★ 50%
● 60%
■ 70%
⬠ 80%
✳ 90%
◆ 100%

Exemption assessment (High frequency exemption)

IEEE 1789

## Relationship Diagrams

### Efficiency vs Load



### Power Factor Characteristic



### THD VS Load



### Over Load Diagram



LM-150-12-G2B2

### Efficiency vs Load



### Power Factor Characteristic



### THD VS Load



### Over Load Diagram



LM-150-24-G2B2

# LTECH

## Application Diagram

WiFi/4G/5G

Phone user...　Phone user 2　Phone user 1

CLOUD

Scene　Timing　Automation

WiFi light fixtures

DIM　CT　RGB　RGBW　RGBWY

WiFi

Router

WiFi

Tmall genie　Amazon echo

WiFi　Internet

Home appliance module

**13:14**
2020/05/20 Wednesday

Sunny　30℃　28℃　64%

Bluetooth 5.0 Mesh

Scene panel

Home appliances

Air conditioning　Airer　Curtain

More　TV　Fan

Infrared/433

Super panel

Mesh
LAN

Bluetooth 5.0 Mesh

Bluetooth 5.0 Mesh

Phone user 1

Mesh
LAN

DIM　CT　RGB　RGBW　RGBWY　Relay

Bluetooth 5.0 Mesh

Phone user...

Bluetooth 5.0 Mesh

Phone user 2

Touch panel　wireless switch　Remote　Motion sensor　Bluetooth driver　Signal converter

Bluetooth 5.0 Mesh

Phone user 3

## Recommend Applications

1、Achieve fast dimming control.

Phone　　+　　Bluetooth driver　　Lamp
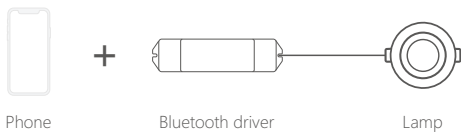
2、Both App and remote can control the driver after connecting the remote to the driver with App.

Phone　+　Remote　+　Intelligent wireless switch　+　Bluetooth driver　Lamp
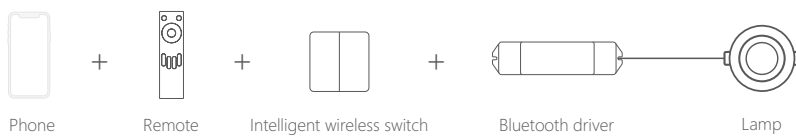
3、Both App and Super Panel can control the driver simultaneously after connecting the Super Panel to the driver with App.
By connecting the Super Panel to network, you are allowed to control the driver, cloud scenes and automation remotely with App.

**13:14**

Phone　+　Super Panel　+　Bluetooth driver　Lamp
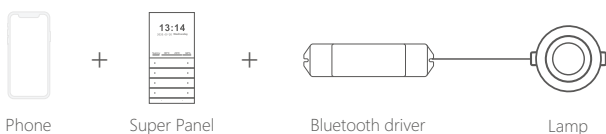
4、......More applications of intelligent control are waiting for you to set up.

## Other Instructions

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

www.ltech-led.com
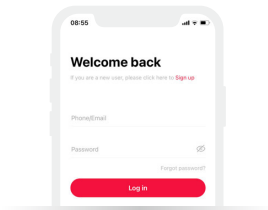
# App Operating Instructions

## 1. Register an account

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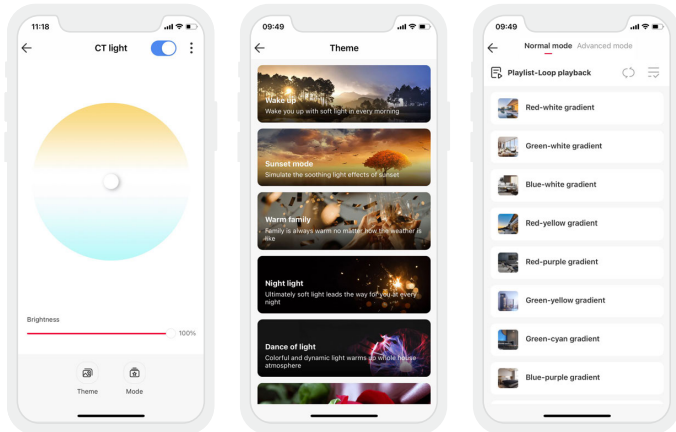
Scan and download the APP

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

## 2. 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 -CT light(BLE)" 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.
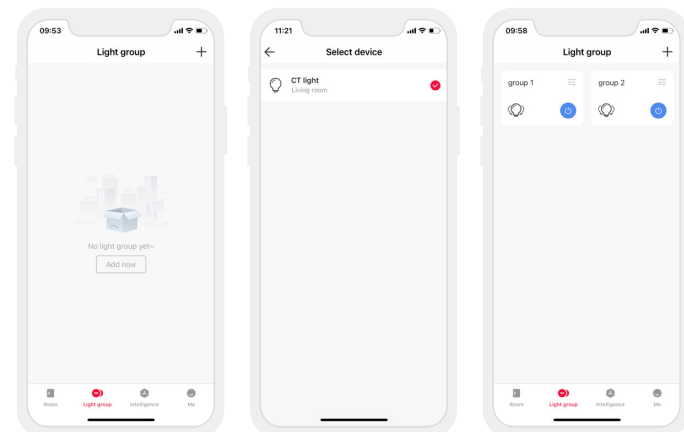
## 3. Control interface settings

After pairing up, go to the control interface. You'll able to achieve your desired lighting effects by color temperature adjustment and brightness changing. Click "Theme" to access eight non-editable dynamic themes provided. Click "Mode" to access "Advanced Mode" and the App offers you eight editable advanced modes.

## 4. Function settings

Click "⋮" icon in the upper right corner of control interface and go to the settings.

4.1 The intelligent driver allows you to set up your desired lighting effects after being power on.

4.2 The driver also supports soft-on dimming that makes a gradual and smooth transformation to create comfortable and healthy lighting environments.

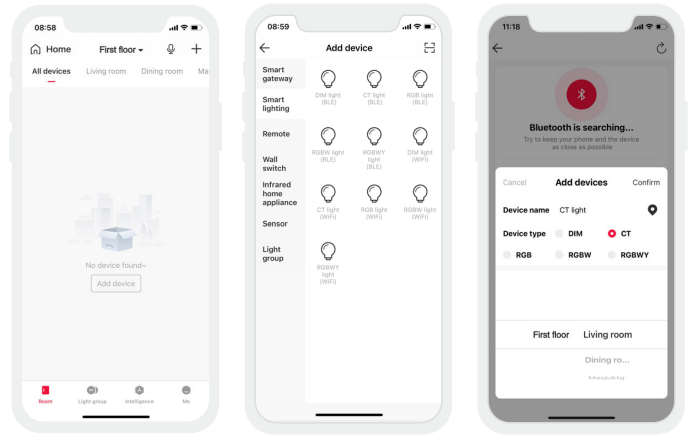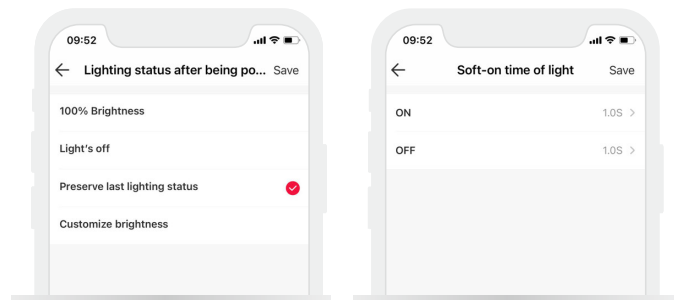Lighting status after being power-on

Soft-on time of light

## 5. 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 and adjust the color temperature more easily. 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.

## 6. Advanced functions

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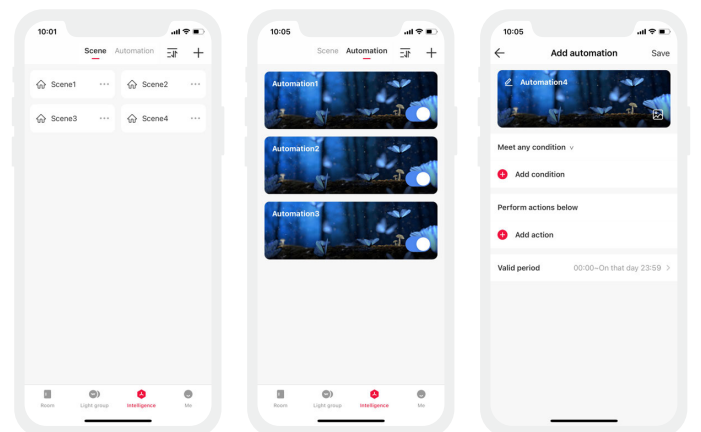
## Reset The Device (Reset to factory defaults)

When the driver is power-on, turn it off and after 10s turn it on. After 2s, turn it off again. Repeat the same operation 10 times and then turn on the driver again. When the lamp is flashing (2 flashes/s), reset the device successfully.
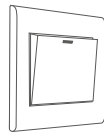
Turn it on  2s

Turn it off  10s

Under the driver being power-on

Turn it off —— 10s —— Turn it on —— 2s —— ......

(Repeat 10 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 and is in the activated mode.

   1.2  Please make sure the device hasn't been added by any other account. If it did, 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 the router works with network available.

   2.3 If you control the device remotely, please make sure your phone network works normally.

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 into your home.

## 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.