## 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 SIG Mesh with high networking capability are reliable and stable.
- Support control iOS or Android devices through Bluetooth connection.
- With soft-on and fade-in dimming function enhancing visual comfort.
- 0-100% dimming range, down to 0.1%.
- Energy-efficient driver: Efficiency 93%, PF>0.98,THD<6%.
- Comply with the EU's ErP 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 50,000-hour life time.
- 5-year warranty (Rubycon capacitor).

**Bluetooth®**
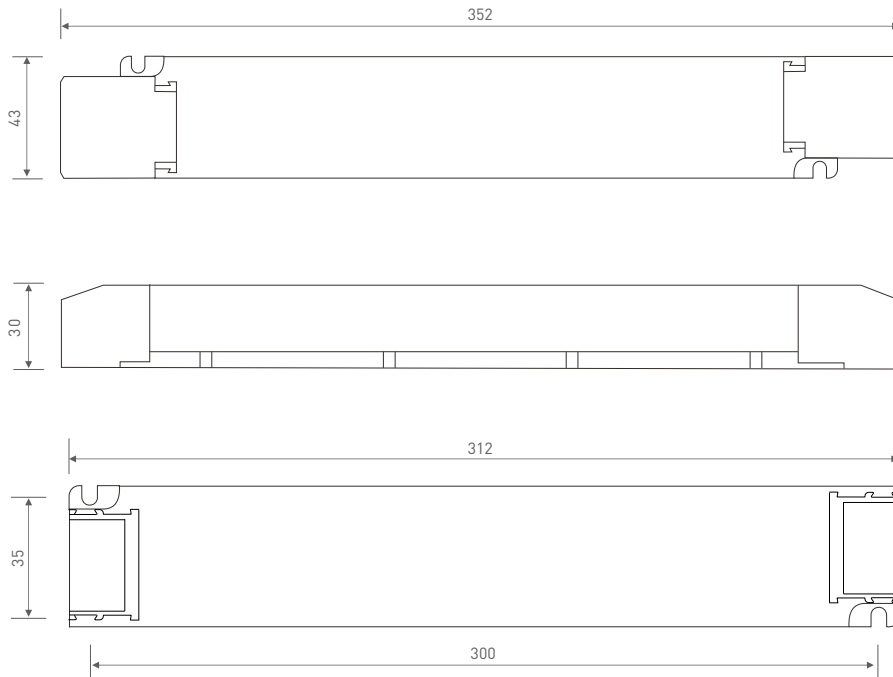
**Flicker Free**
IEEE 1789

Dimmable:
0.1%-100%

DIM/CT

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

Overheat protection

Overvoltage protection

Overload protection

Short circuit protection

## Technical Specs

| Model | | LM-150-24-G2B2 | LM-150-12-G2B2 |
|---|---|---|---|
| OUTPUT | Output Voltage | 24Vdc | 12Vdc |
| | Output Voltage Range | 24Vdc ± 0.5Vdc | 12Vdc ± 0.5Vdc |
| | Output Current | Max. 6.25A | Max. 12.5A |
| | Output Power | Max. 150W | |
| | Output Power Range | 0~150W | |
| | Strobe Level | High frequency exemption level | |
| | Dimming Range | 0~100%, down to 0.1% | |
| | Overload Power Limitation | ≥102% | |
| | Ripple | Switch ripple≤200mV, noise≤500mV | Switch ripple≤200mV, noise≤800mV |
| | PWM frequency | 3600Hz | |
| INPUT | Dimming Interface | Bluetooth 5.0 SIG Mesh | |
| | Input Voltage | 220-240Vac, 200-280Vdc | |
| | Frequency | 50/60Hz | |
| | Input Current | ≤0.75A/230Vac | |
| | Power Factor | PF>0.98/230Vac (at full load) | |
| | THD | THD<6%@230Vac (at full load) | |
| | Efficiency (typ.) | 93% | 92% |
| | Standby Power Loss | <0.5W | |
| | Inrush Current | Cold start 45A(Test twidth=500us tested under 50% Ipeak)/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 | |
| | 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 | |
| | Overvoltage Protection | Shut down the output when non-load voltage≥28V, and recover automatically | Shut down the output when non-load voltage≥16V, 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 | CCC | China | GB19510.1, GB19510.14 |
| | | TUV | Germany | EN61347-1, EN61347-2-13, EN62493 |
| | | CB | CB member states | IEC61347-1, IEC61347-2-13 |
| | | CE | European Union | EN61347-1, EN61347-2-13, EN62384, EN61547 |
| | | KC | Korea | KC61347-1, KC61347-2-13 |
| | | EAC | Russia | IEC61347-1, IEC61347-2-13 |
| | | RCM | Australia | AS 61347-1, AS 61347-2-13 |
| | | EMEC | Europe | EN61347-1, EN61347-2-13, EN62384 |
| | | UKCA | Britain | BS EN 61347-2-13:2014+A1:2017, BS EN 61347-1:2015+A1:2021 |
| | EMC Emission | CCC | China | GB/T17743, GB17625.1 |
| | | CE | European Union | EN55015, EN61000-3-2, EN61000-3-3, EN61547 |
| | | KC | Korea | KS C 9815, KS C 9547 |
| | | EAC | Russia | IEC62493, IEC61547, EH55015 |
| | | RCM | Australia | EN55015, EN61000-3-2, EN61000-3-3, EN61547 |
| | | UKCA | Britain | BS EN IEC 55015:2019/A11:2020, BS EN 61547:2009, BS EN IEC 61000-3-2:2019, BS EN 61000-3-3:2013/A1:2019 |
| | EMC Immunity | | | EN61000-4-2,3,4,5,6,8,11, EN61547 |
| | Strobe Test Standard | | | IEEE 1789 |
| OTHERS | Gross weight(G.W) | | | 430g±10g |
| | Dimensions | | | 352×43×30mm(L×W×H) |

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.
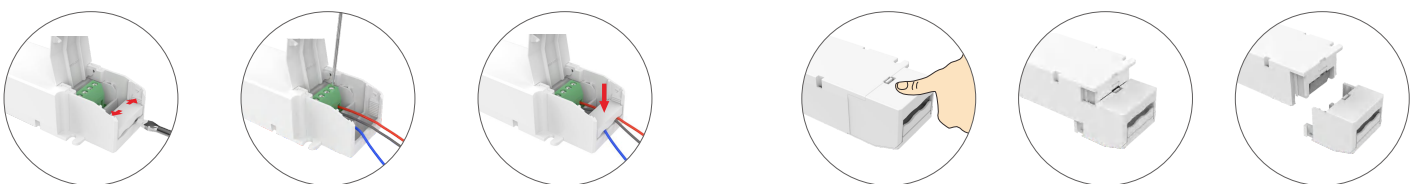
## Product Size

Uint: mm

352

43

30

312

35

300

## Wiring Diagram

Wireless connection mode

N
L

PRI

LED-W
LED-C
LED+

SEC

W

C

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

Wire diameter: 0.75-1.5² (20-16AWG)
Strip length: 8-9mm

Wire diameter: 1.5-2.5² (14-12AWG)
Strip length: 6-7mm

＊Access the network to control through App and Bluetooth

## Protective Housing Application Diagram

Open the protective housing and push the side housing outwards to pry up the wire fixing board with a screwdriver . Then connect to electrical wires as wiring diagram shows. Press down the wire fixing board to fix the the electrical wires, finally close the protective housing.

Press down the back side of the protective housing and move it from side to side to remove it.

## Installation Precautions
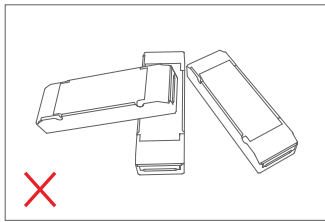
Please do not stack the products. The distance between two products should be ≥15cm so as not to affect heat dissipation and the lifespan of the products.
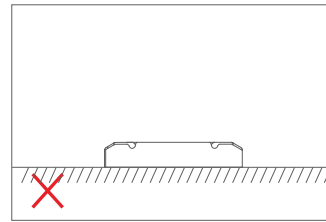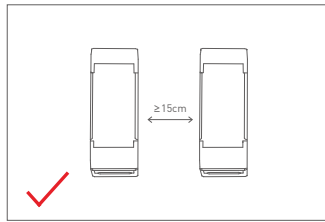
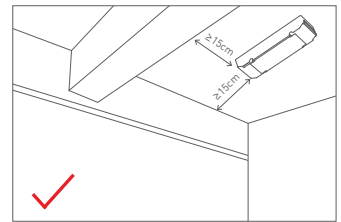Please do not place the products on the floor. The distance between the product and the floor should be ≥100cm so as to avoid signal interference.
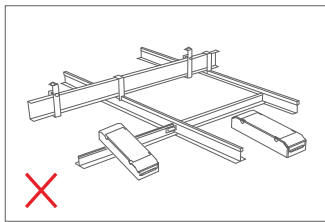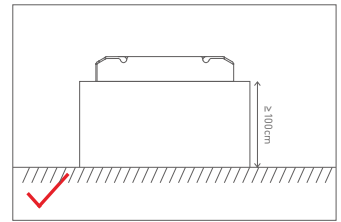
Please do not place the products near a large area of metal objects (such as metal stud ceilings). The distance between the product and the metal object should be ≥15cm so as to avoid signal interference.
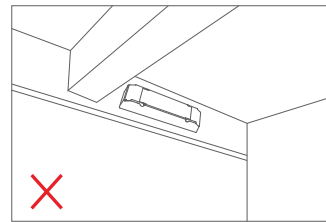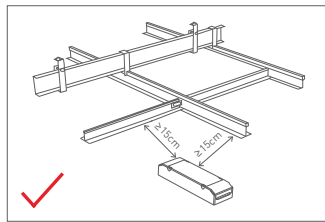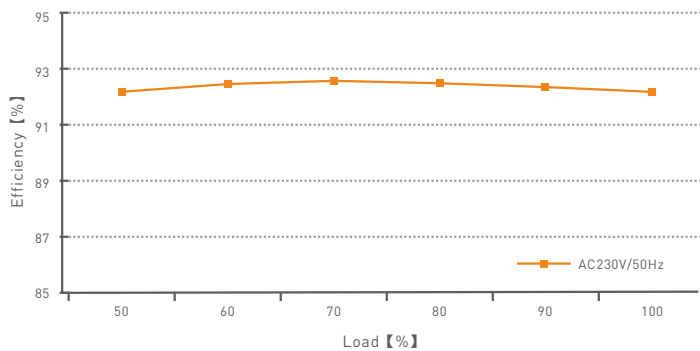
Please do not install the products on beams or near the corners. The distance between the product and the beam or the corner should be ≥15cm so as to avoid signal interference.
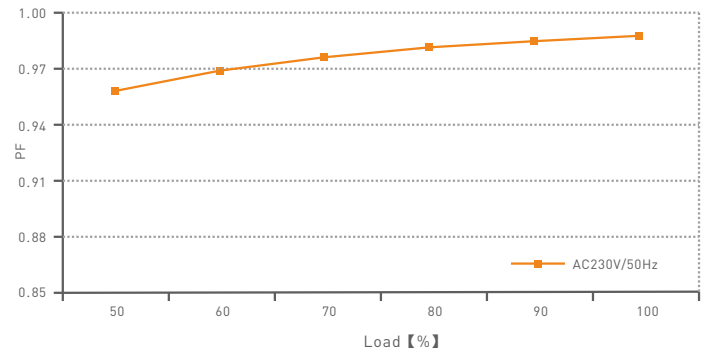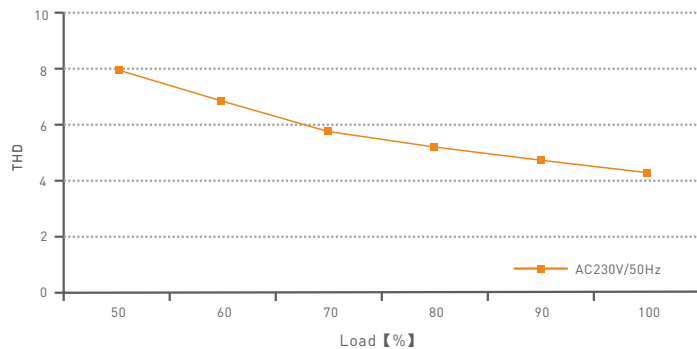
## Relationship Diagrams

**Efficiency vs Load**

Efficiency【%】 vs Load【%】

AC230V/50Hz

**Power Factor Characteristic**

PF vs Load【%】

AC230V/50Hz

**THD VS Load**

THD vs Load【%】

AC230V/50Hz

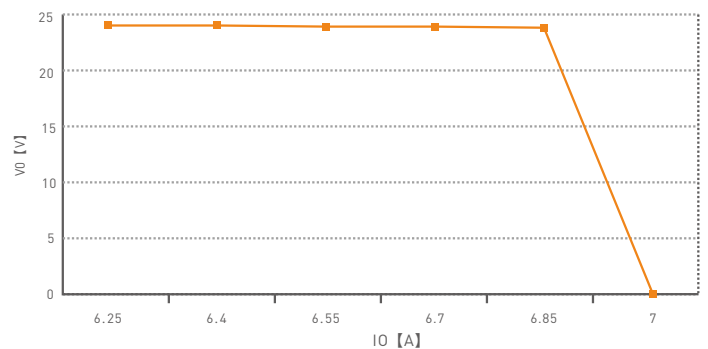**Over Load Diagram**

V0【V】 vs IO【A】

LM-150-24-G2B2

## Efficiency vs Load



AC230V/50Hz

## Power Factor Characteristic



AC230V/50Hz

## THD VS Load



AC230V/50Hz
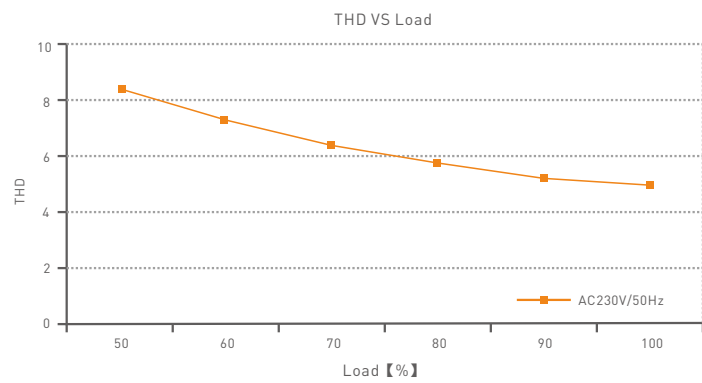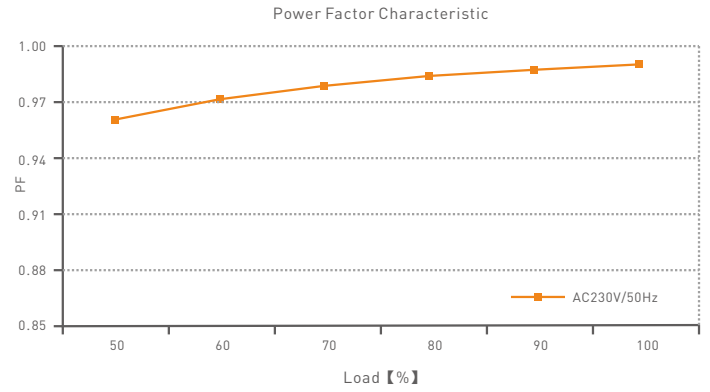
## Over Load Diagram
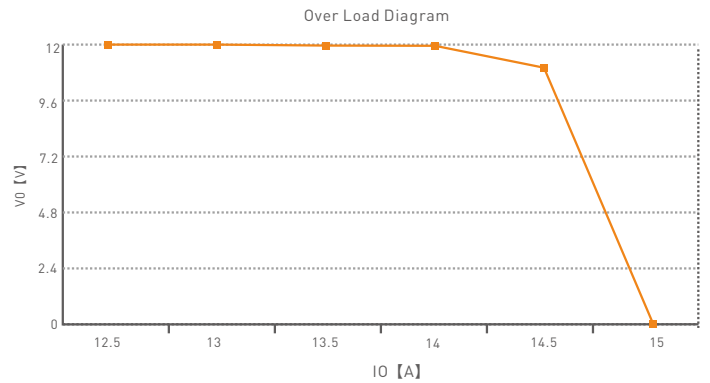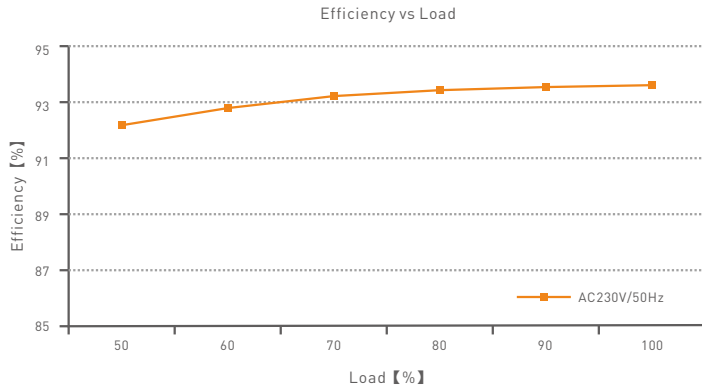


LM-150-12-G2B2

# Flicker Test Table

IEEE 1789

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

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

Brightness

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



Exemption assessment
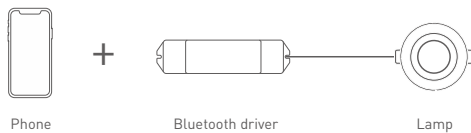(High frequency exemption)

IEEE 1789

High Risk

No Effect(green)

Low Risk(yellow)

Modulation(%)

Frequency(Hz)

3600Hz

# LTECH

## System Diagram

Phone user...　Phone user 1

Wi-Fi/4G/5G

CLOUD

Scene　Timing　Automation

Router

Amazon Echo　Google

Wi-Fi | Ethernet

**Home appliances & accessories**

Home appliance module　HVAC manage-ment module　Curtain motor

Wireless module　Relay　Music player

Wireless switch　Bluetooth remote　... More

Bluetooth Mesh

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2022/05/20 Wed

Super Panel 6S

Bluetooth 4.2

Bluetooth speaker

Phone user...

Bluetooth Mesh

Mesh
LAN

**Intelligent Lighting**

| Constant Voltage | Constant Current | Smart Switch | Sensor | Wireless + Wired |
|---|---|---|---|---|
| LM-150 series | SE-12 series | Premium series | Microwave motion sensor | Wireless module (DMX/0-10V) |
| LM-75 series | SE-20 series | Activated series | Motion sensor | Wireless module (DMX/DALI/0-10V) |
| ST-75 series | SE-30 series | Creativity series | | Wireless module (DALI) |
| 5 CH LED driver | SE-40 series | ⋮ | ⋮ | Wireless module (Triac) |

## 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
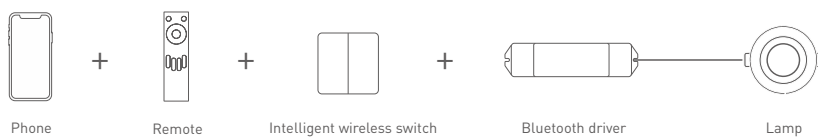
3. Both App and Super Panel 6S can control the driver simultaneously after connecting the Super Panel 6S to the driver with App. By connecting the Super Panel to network, you are allowed to control the driver, cloud scenes and automation remotely with App.

Phone　+　Super panel 6s　+　Bluetooth driver　Lamp
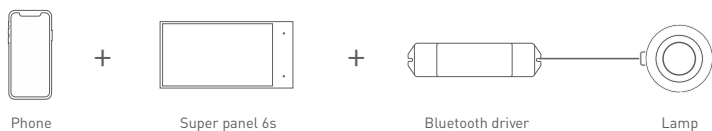
4. ......More applications of intelligent control are waiting for you to set up.

# App Operating Instructions

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.

Scan and download the APP

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" 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.
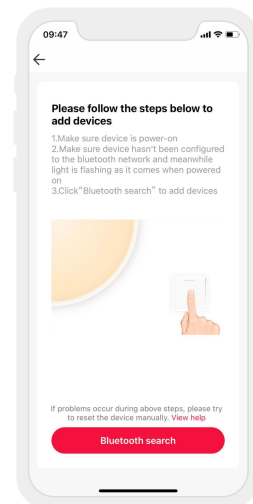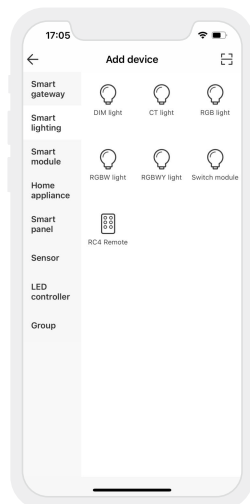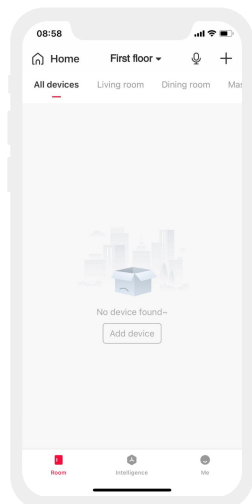


3. Control interface settings

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.
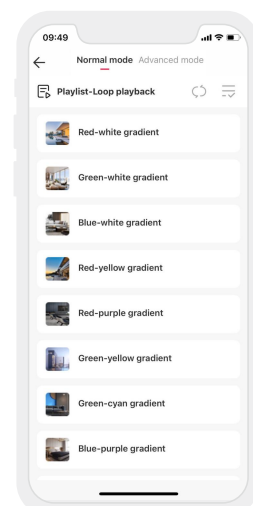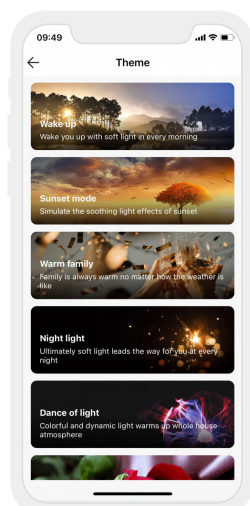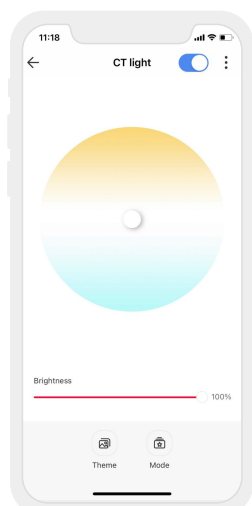
### 4. Light groups

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 and adjust the color temperature more easily. Pick "Group-CT 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".
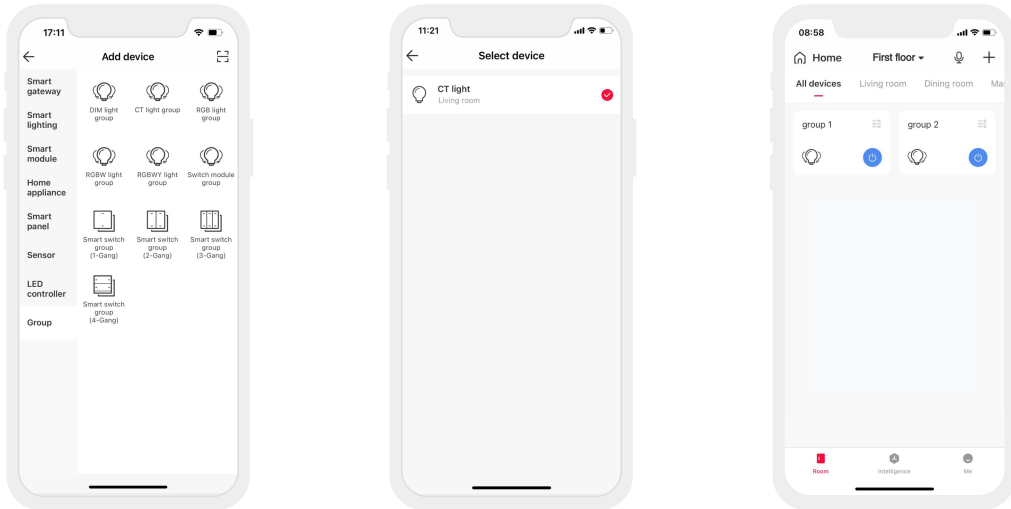
### 5. Advanced functions

This driver can be linked up with gateway function devices (such as Super Panel 6S) to achieve the advanced functions from local scenes and cloud scenes to automation.
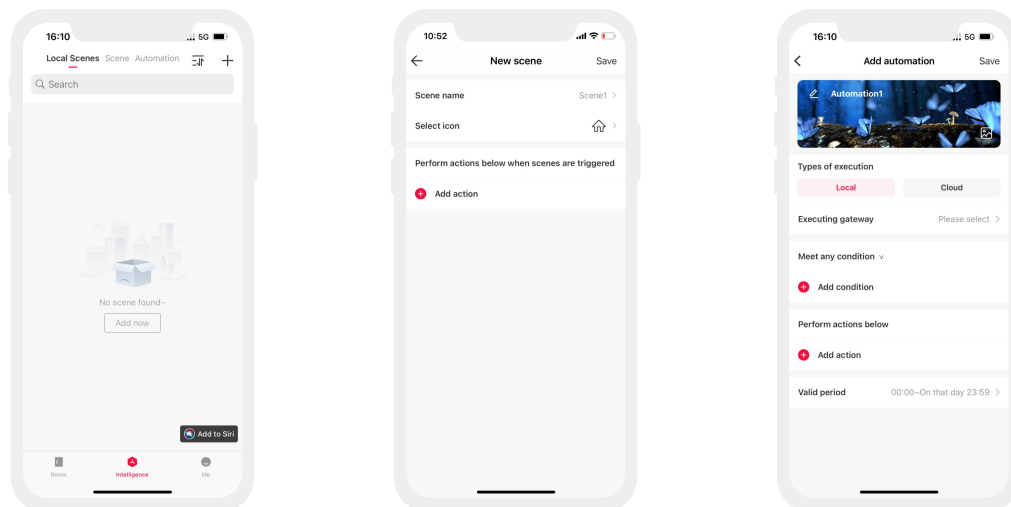
## Reset The Device （Reset to factory defaults）

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.
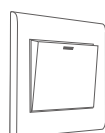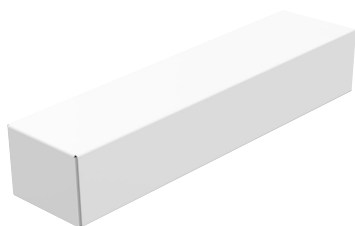
Turn it on  2s

Turn it off  15s

Under the driver being power-on

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

(Repeat 6 times)

# Packaging Specifications

| Model | LM-150-24-G2B2 / LM-150-12-G2B2 |
|---|---|
| Carton Dimensions | 370×340×93mm(L×W×H) |
| Quantity | 10PCS/Layer; 2Layer/Carton; 20PCS/Carton |
| Weight | 0.43kg/PC; 9.4kg±5%/Carton |

# Packaging Image

Inner Packaging Box

Carton Packaging

# 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.

## 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

- This product must be installed and adjusted by a qualified professional.
- This product is 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 life the product. Please install the product in a environment with good ventilation.
- When you install this product, please avoid being near a large area of metal objects or stacking them to prevent signal interference.
- Please keep the product away from a intense magnetic field, a high pressure area or a place where lightning is easy to occur.
- Please check whether the working voltage used complies with the parameter requirements of the product.
- Before you power on the product, please make sure all the wiring is correct in case of  incorrect connection that may cause a short circuit and damage the components, or trigger an accident.
- If a fault occurs, please do not attempt to fix the product by yourself. If you have any question, please contact the supplier.

＊ 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 | 2021.04.09 | Original version | Liu Weili |
| A1 | 2021.06.05 | Update TUV certification icon | Liu Weili |
| A2 | 2021.12.10 | Update product silk screen | Liu Weili |
| A3 | 2023.03.15 | The warranty period is changed to 5 years | Liu Weili |