Intelligent Full Color RGBW LED Driver (Constant Voltage)

- Small size and light weight. The housing is made from V0 flame retardant PC materials that SAMSUNG/COVESTRO uses.
- The clamshell design and screwless type for strain-relief. The design of dismountable end cap allows you to adjust the length of housing depending on your needs.
- Bluetooth 5.0 SIG Mesh with high networking capability is reliable and stable.
- Gain control on iOS or Android devices through Bluetooth connection.
- With soft-on and fade-in dimming function, enhancing your visual comfort.
- Dimming from 0~100%, down to 0.1%.
- Comply with the EU's ErP Directive, standby power consumption<0.5W.
- The secure and reliable design for signal isolation.
- Innovative thermal management technology intelligently protects the life of the LED driver.
- Overheat, over voltage , overload, short circuit protection and automatic recovery.
- Up to 50,000-hour life time.
- 2-year warranty (Rubycon capacitor).

Bluetooth®

DIM / RGBW

Flicker-free
IEEE 1789
Achieve the high frequency exemption level

Dimmable:
0.1%-100%

0.1%
Dimming Dept

Overheat Protection

Short Circuit Protection

Over Load Protection

V
Over Voltage Protection

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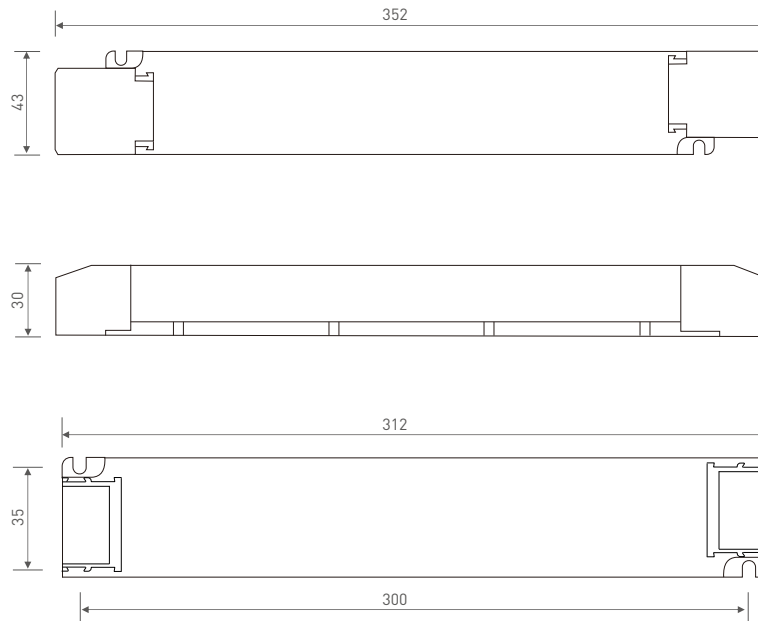
Technical Specs

Model		LM-150-24-G4B1		
Features	Output Type	Constant Voltage		
	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	24Vdc		
	Output Voltage Range	24Vdc ± 0.5Vdc		
	Output Current	Max. 6.25A (1.56Ax4CH)		
	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≤150mV, noise≤300mV		
	PWM Frequency	3600Hz		
INPUT	DC Voltage Range	200-280Vdc		
	AC Voltage Range	198-264Vac		
	Rated Voltage	220-240Vac		
	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%		
	Standby power consumption	<0.5W		
	Inrush Current	Cold start 45A@230Vac (Test twidth=840us tested under 50% Ipeak)		
	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		
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	AS61347-1, AS61347-2-13
		EMEC	Europe	EN61347-1, EN61347-2-13, EN62384
	EMC Emission	CCC	China	GB/T17743, GB17625.1
		CE	European Union	EN55015, EN61000-3-2, EN61000-3-3, EN61547
		KC	Korea	KN15, KN61547
		EAC	Russia	IEC62493, IEC61547, EH55015
		RCM	Australia	EN55015, EN61000-3-2, EN61000-3-3, EN61547
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11, EN61547		
	Strobe Test Standard	IEEE 1789		
OTHERS	Life Time	50000h		
	Warranty	2 years		

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.
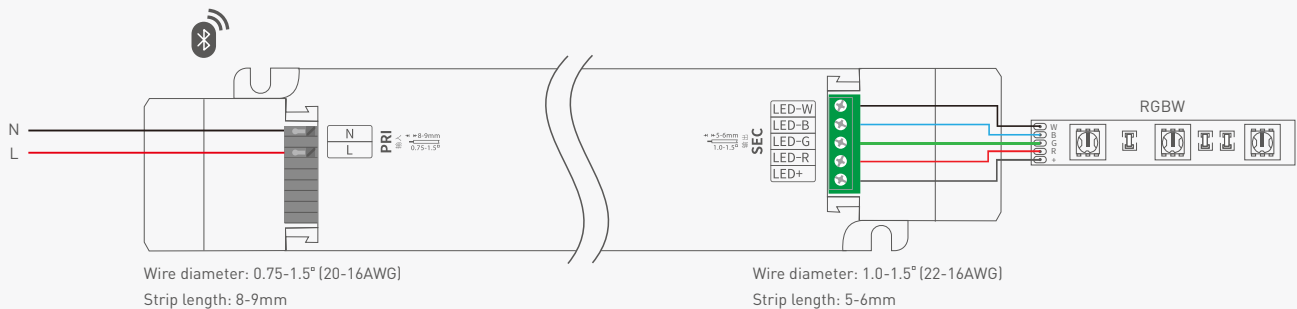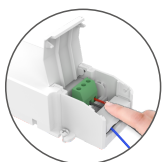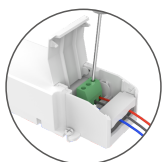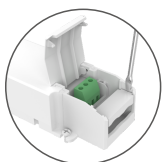
LTECH

Product Size

Unit: mm

Wiring Diagram

Wireless connection

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

Wire diameter: 1.0-1.5² (22-16AWG)
Strip length: 5-6mm

∗ Access the network to control through App and Bluetooth.

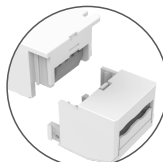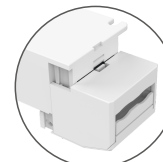## Protective Housing Application Diagram

Tension plate

1. Pry up the protecting housing in the side plate position with a tool.

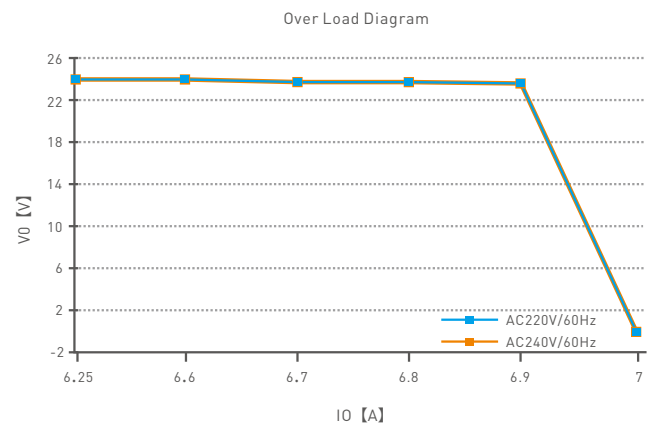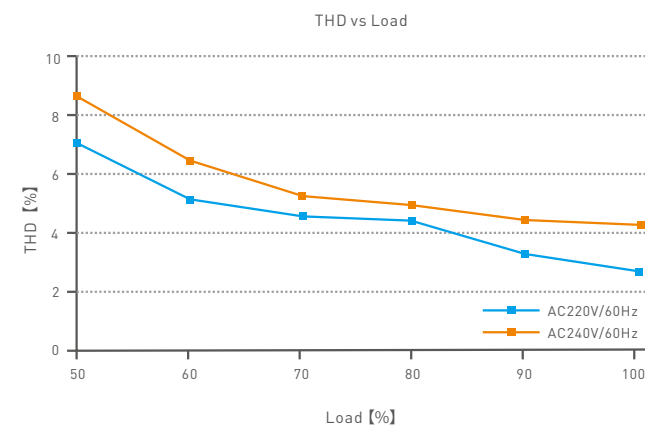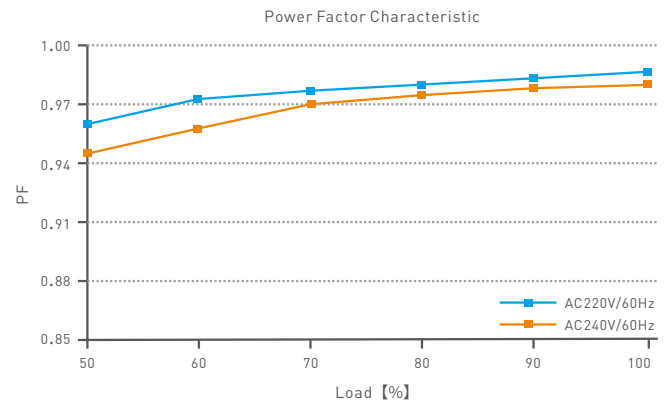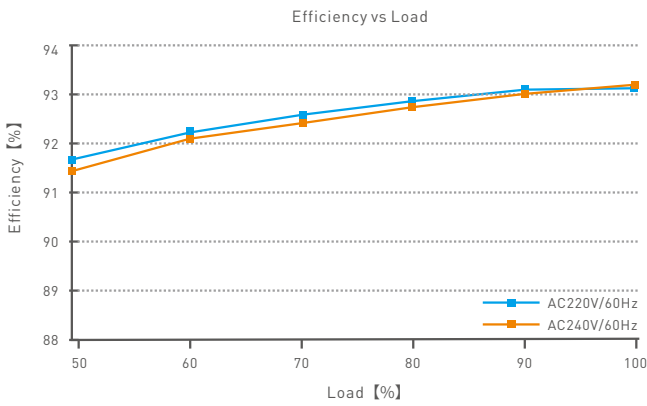2. Connect to electrical wires with a screwdriver as wiring diagram shows.

3. Press down the tension plate to fix the the electrical wires, then close the protective housing.

Remove the protective housing

Pull the housing left and right from the bottom to remove it.
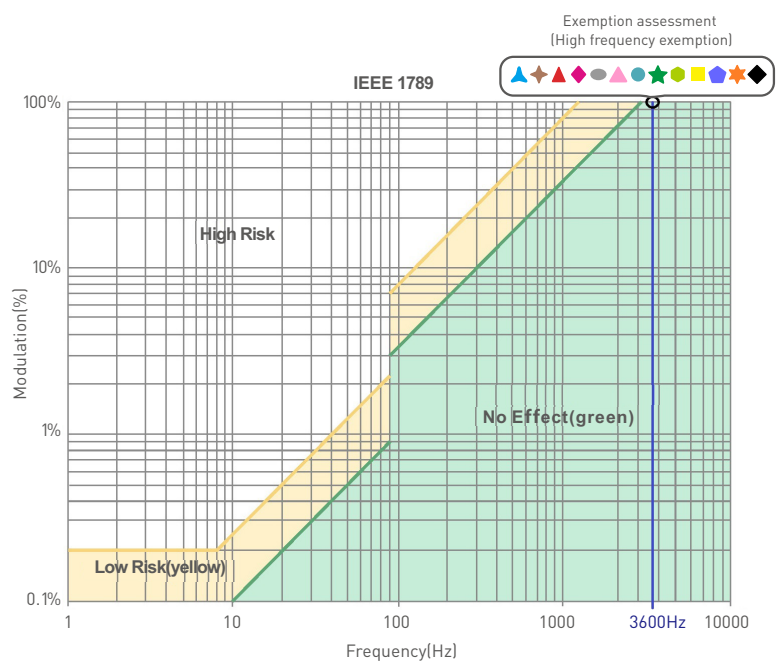
Relationship Diagrams

Efficiency vs Load

Power Factor Characteristic

THD vs Load

Over Load Diagram

Flicker Test Table

IEEE 1789

Limit Value of Modulation in Low Risk Areas	
Waveform frequency of optical output (f)	Limit value (%)
f ≤ 8Hz	0.2
8Hz < f ≤ 90Hz	0.025 × f
90Hz < f ≤ 1250Hz	0.08 × f
f > 1250Hz	Exemption assessment

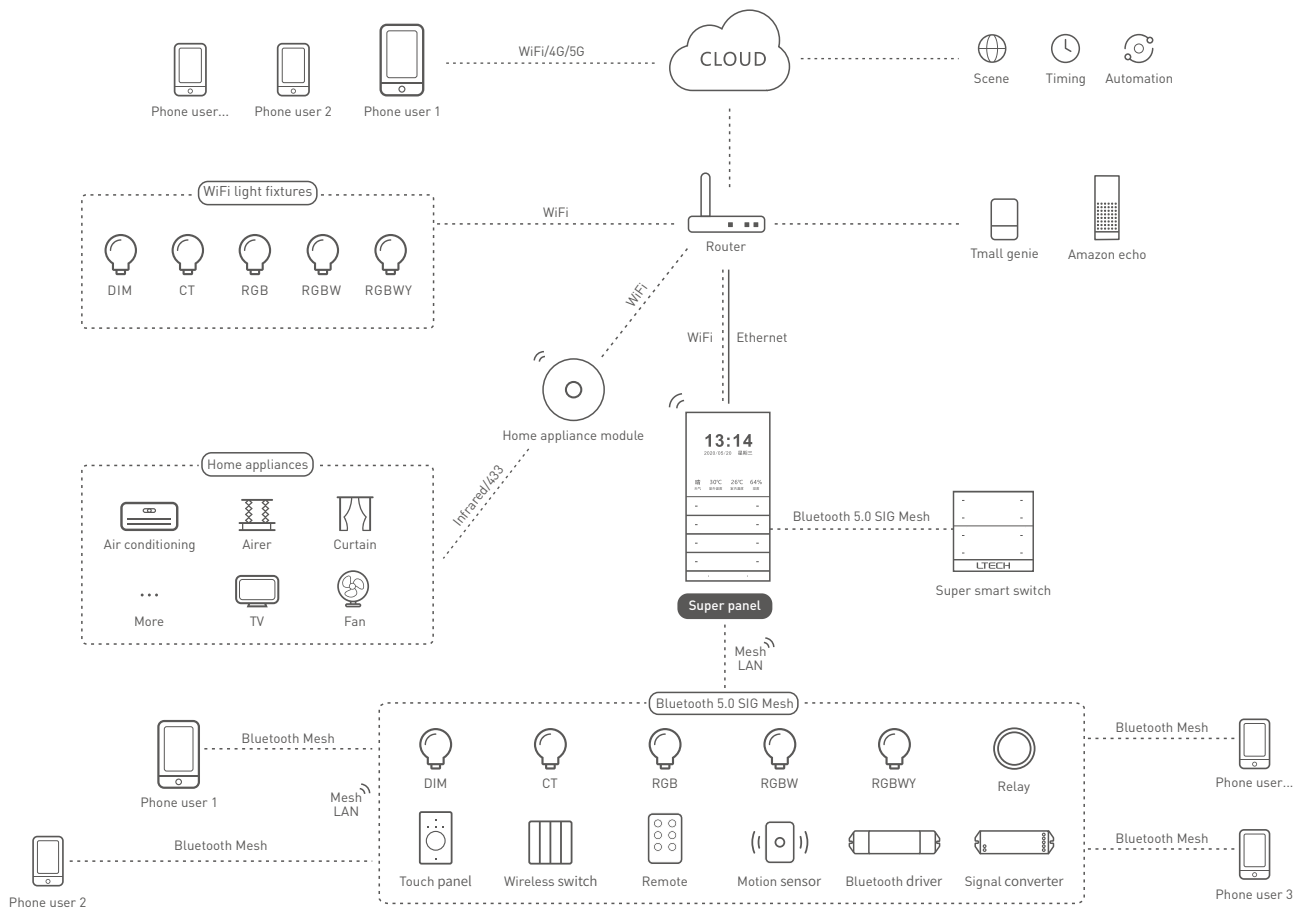| Limit Value of Modulation in No Effect Areas	
Waveform frequency of optical output (f)	Limit value (%)
f ≤ 10Hz	0.1
10Hz < f ≤ 90Hz	0.01 × f
90Hz < f ≤ 3125Hz	(0.08/2.5) × f
f > 3125Hz	Exemption assessment (High frequency exemption)

Brightness

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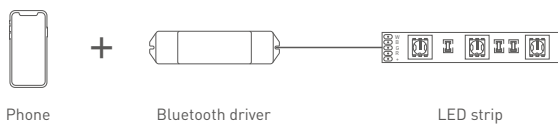- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%

Marks in the right chart are tested results of different current levels
The output frequency is 0Hz in 100% brightness and its corresponding
modulation is 0%, which could not be shown in the right chart.
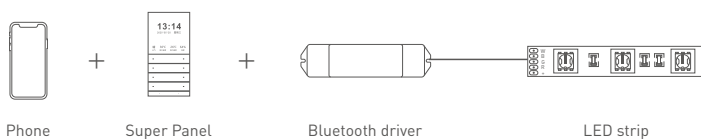
Application Diagram

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

Tmall genie Amazon echo

WiFi WiFi Ethernet

Home appliance module

Home appliances

Air conditioning Airer Curtain

More TV Fan

Infrared/433

13:14
2020/05/20

晴 30°C 26°C 64%

Super panel

Bluetooth 5.0 SIG Mesh

Super smart switch

Mesh LAN

Bluetooth 5.0 SIG Mesh

Bluetooth Mesh

Phone user 1

Mesh LAN

Bluetooth Mesh

Phone user 2

DIM CT RGB RGBW RGBWY Relay

Touch panel Wireless switch Remote Motion sensor Bluetooth driver Signal converter

Bluetooth Mesh

Phone user...

Bluetooth Mesh

Phone user 3

Recommend Applications

1. Achieve fast dimming control.

Phone + Bluetooth driver — LED strip

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

Phone + Remote + wireless switch + Bluetooth driver — LED strip

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.

Phone + Super Panel + Bluetooth driver — LED strip

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.

LTECH

LM-150-24-G4B1 | **Bluetooth 5.0 SIG Mesh**

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.
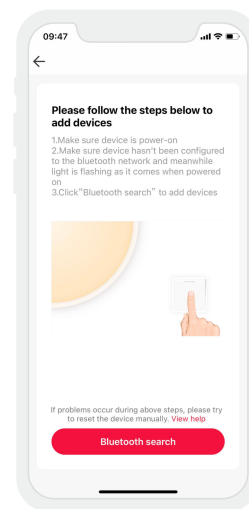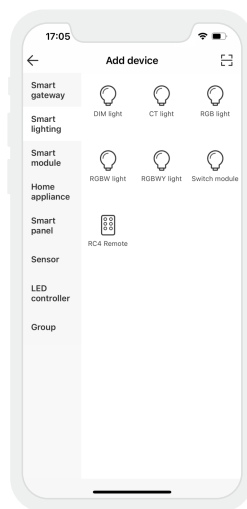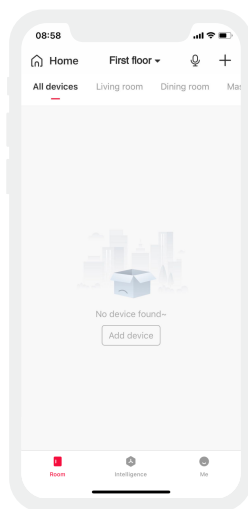
APP support
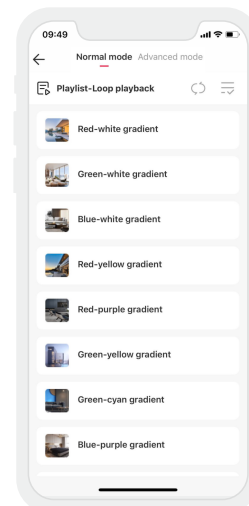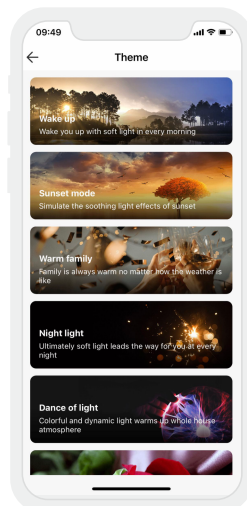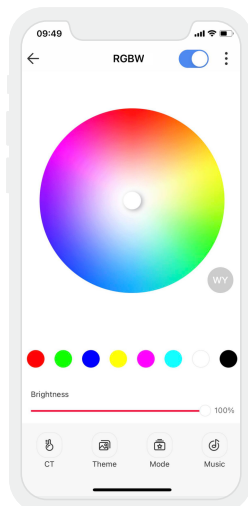
Scan and download the APP

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, Pick "Smart lighting-RGBW 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.
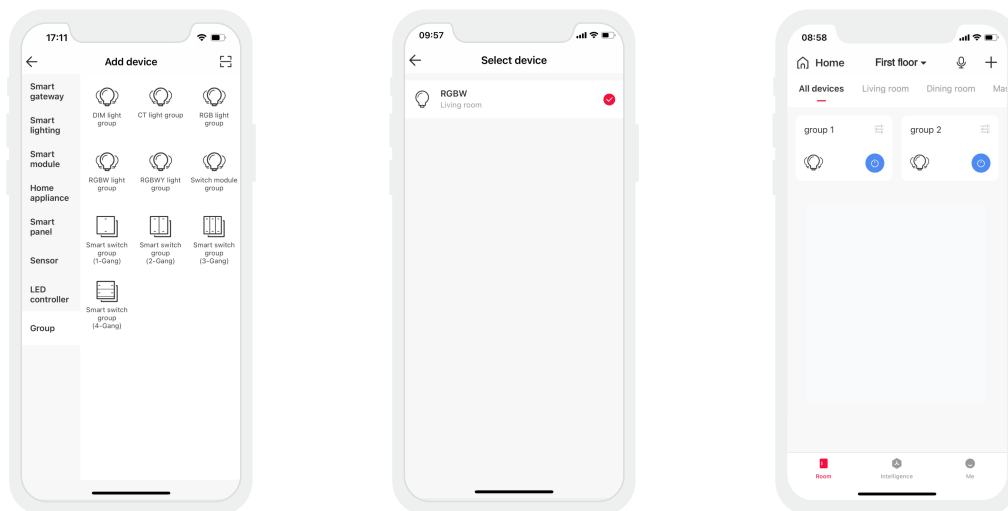
3. Control interface settings

After pairing up your device, go to the control interface. You'll be able to achieve your desired lighting effects by changing brightness and color temperature and colors. 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.
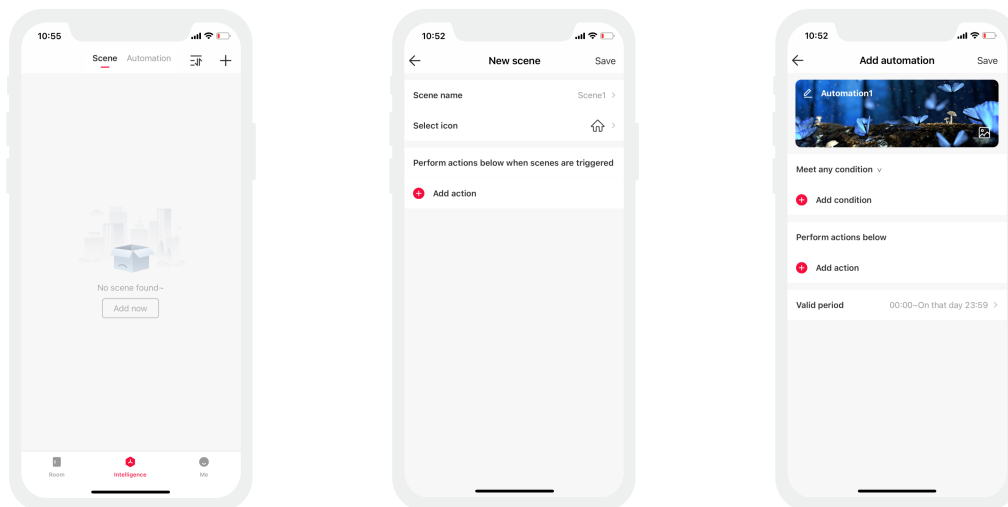
www.ltech-led.com

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 of lights more easily. Pick "Group-RGBW 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".
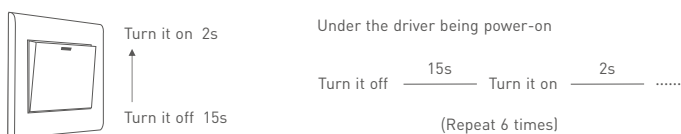
5. Advanced functions

This driver can be linked up with gateway function devices (such as LTECH Super Panel) to achieve the advanced functions such as cloud scenes and 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)

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 normally and the network runs smoothly.

　　2.3 If you control the device remotely, please make sure your phone network runs smoothly.
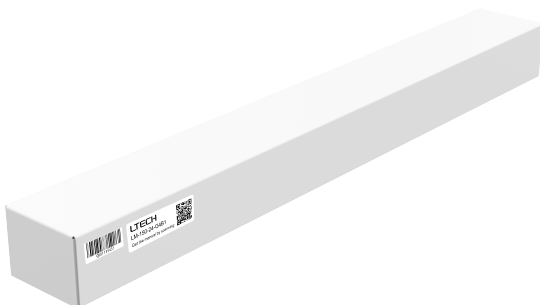
3. How to control remotely and set cloud scenes?

　　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 into your home.

Packaging Specifications

Model	LM-150-24-G4B1
Carton Dimensions	370×340×93mm(L×W×H)
Quantity	10 PCS/Layer；2 Layers/Carton；20 PCS/Carton
Weight	0.43 kg/PC；9.4 kg/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.

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 a 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: 2 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	2021.09.13	Original version	Liu Weili
A1	2022.02.28	Update output terminal wire diameter and stripping length	Liu Weili