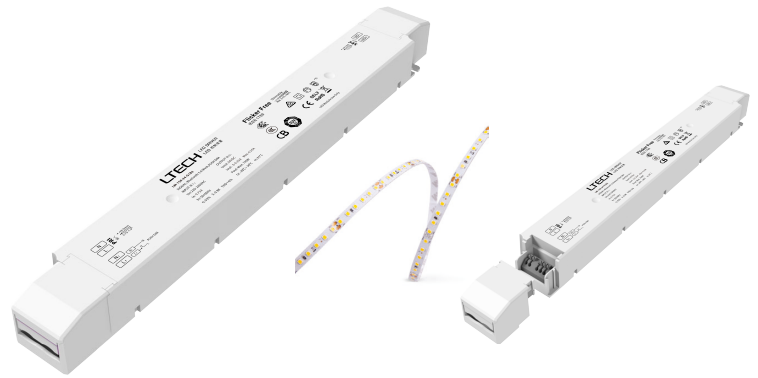## Intelligent LED Driver (Constant Voltage)

- 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.
- Support control iOS or Android devices through Bluetooth connection.
- 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 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).

Flicker-free
IEEE 1789
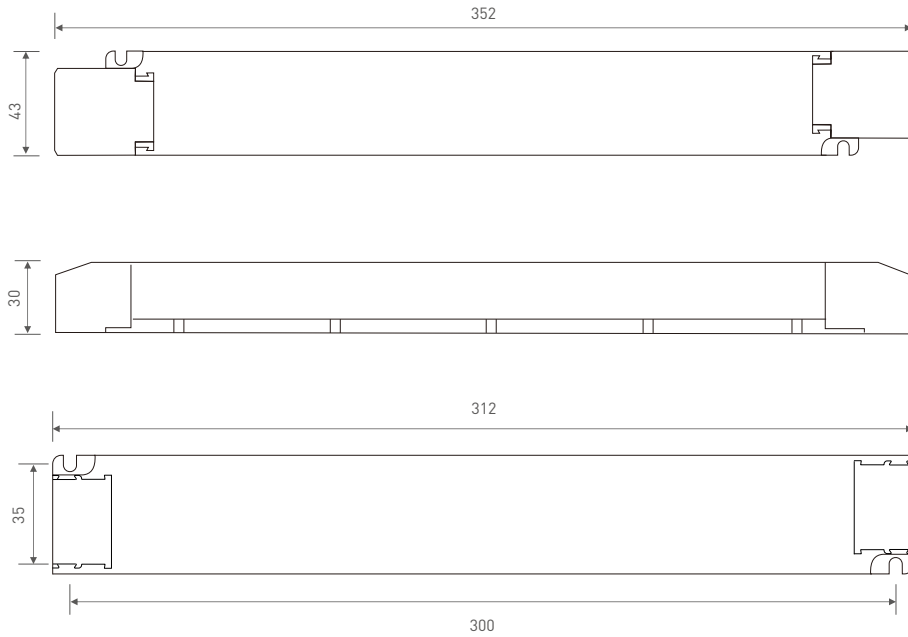
Dimmable:
0.1%-100%

Bluetooth® 5.0 SIG Mesh

CCC   CB   ✓   TÜV SÜD   CE   RoHS   SELV   ▢

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

Technical Specs

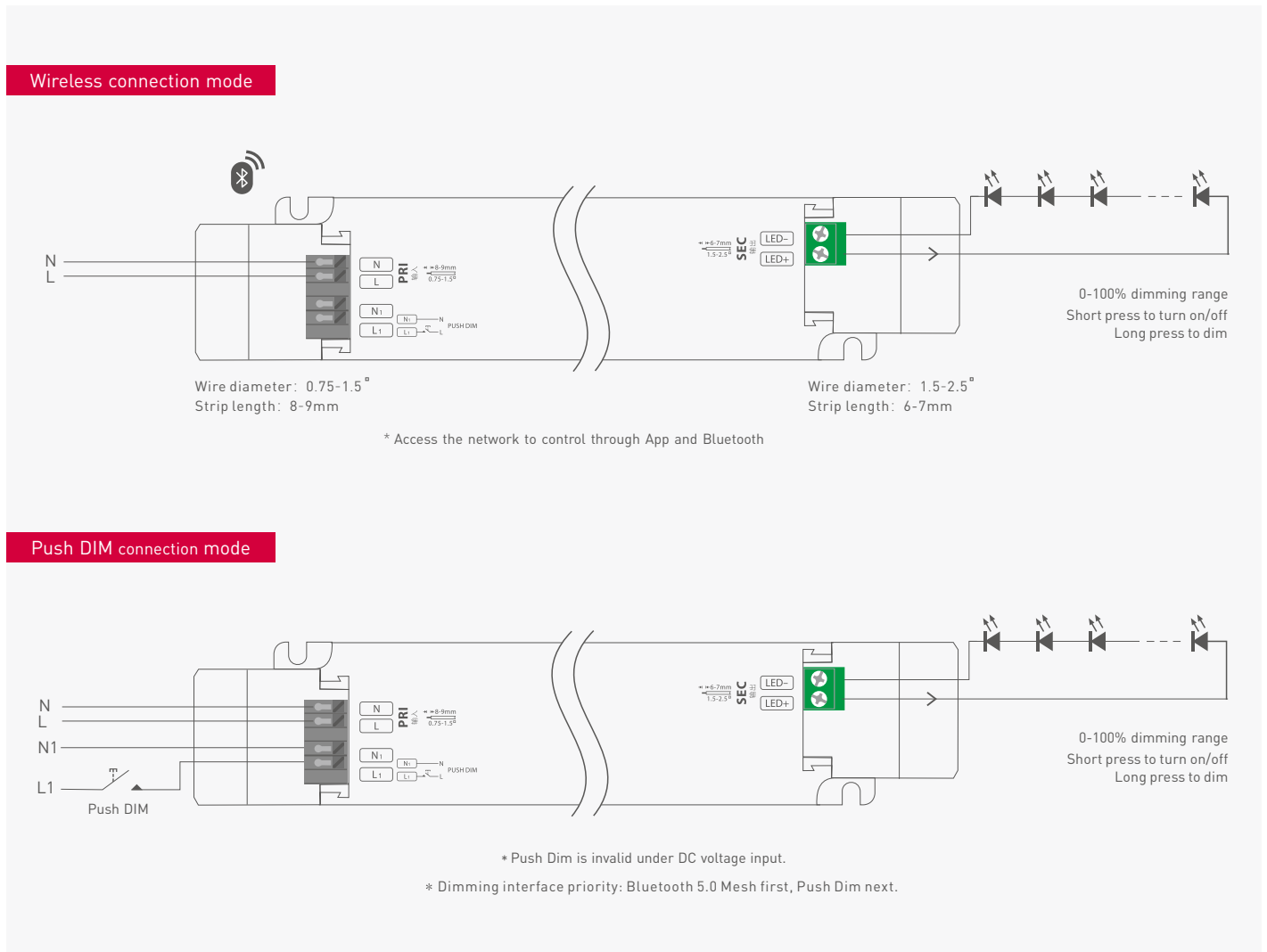| Model		LM-150-12-G1B2	LM-150-24-G1B2
OUTPUT	Output Voltage	12Vdc	24Vdc
	Output Voltage Range	12Vdc±0.5Vdc	24Vdc±0.5Vdc
	Output Current	Max. 12.5A	Max. 6.25A
	Output Power	Max. 150W	
	Output Power Range	0~150W	
	Strobe Level	High frequency exemption level.	
	PWM Frequency	3600Hz	
	Dimming Range	0~100%, 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℃ tc: 85℃	
	Working Humidity	20 ~ 95%RH, non-condensing	
	Storage Temperature, Humidity	-40~80℃, 10~95%RH	
	Temperature Coefficient	±0.03%/℃(0-50℃)	
	Vibration	10~500Hz, 2G 12min./1cycle, 72 min for X, Y and Z axes respectively	
PROTECTION	Overheat Protection	Intelligently adjusting or turning off the output current if the PCB temperature ≥110℃, auto recovers	
	Overvoltage Protection	Shut down the output when non-load voltage≥16V, re-power on to recover after fault condition is removed	Shut down the output when non-load voltage≥28V, re-power on to recover after fault condition is removed
	Overload Protection	Shut down the output when current load≥102%, auto recovers	
	Short Circuit Protection	Enter hiccup mode if short circuit occurs, auto recovers	
SAFETY & EMC	Withstand Voltage	I/P-O/P: 3750Vac	
	Isolation Resistance	I/P-O/P: 100MΩ/500VDC/25℃/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	Weight(G.W.)	430g±10g	
	Dimensions	352×43×30mm(L×W×H)	
	Packing Size	355×44×33mm(L×W×H)	
	Carton Size	▢ 370×340×93mm(L×W×H) 20pcs/ctn 9.4kg±5%/ctn ▢ 370×340×156mm(L×W×H) 30pcs/ctn 13.7kg±5%/ctn	

※ 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

LM-150-12-G1B2
LM-150-24-G1B2

Bluetooth 5.0 Mesh Push DIM

Product Size

Uint: mm

352

43

30

312

35

300

Wiring Diagram

Wireless connection mode

N
L

PRI
N
L
8-9mm
0.75-1.5²

N1
L1
N1
L1
N
L
PUSH DIM

SEC
6-7mm
1.5-2.5²
LED−
LED+

0-100% dimming range
Short press to turn on/off
Long press to dim

Wire diameter: 0.75-1.5²
Strip length: 8-9mm

Wire diameter: 1.5-2.5²
Strip length: 6-7mm

* Access the network to control through App and Bluetooth

Push DIM connection mode

N
L
N1
L1

Push DIM

PRI
N
L
8-9mm
0.75-1.5²

N1
L1
N1
L1
N
L
PUSH DIM

SEC
6-7mm
1.5-2.5²
LED−
LED+

0-100% dimming range
Short press to turn on/off
Long press to dim

* Push Dim is invalid under DC voltage input.

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

www.ltech-led.com

LTECH

Push DIM

Reset switch

- 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.

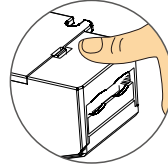## Protective Housing Application Diagram

1. Tension plate
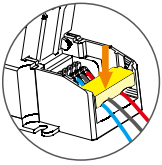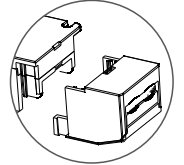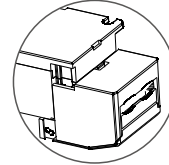

Push the tension plate down to fix the electric wire.
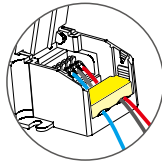
Push the side plate outwards and remove the tension plate by prying it up with a tool at the same time.
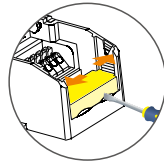
2. Remove the protective housing

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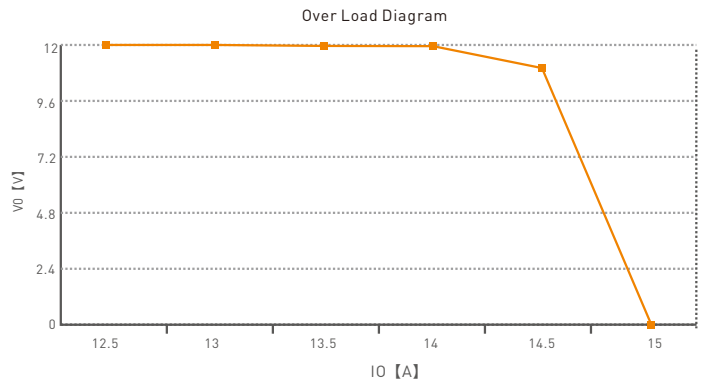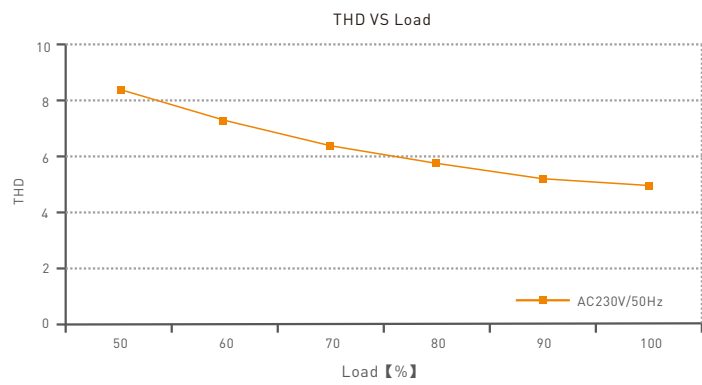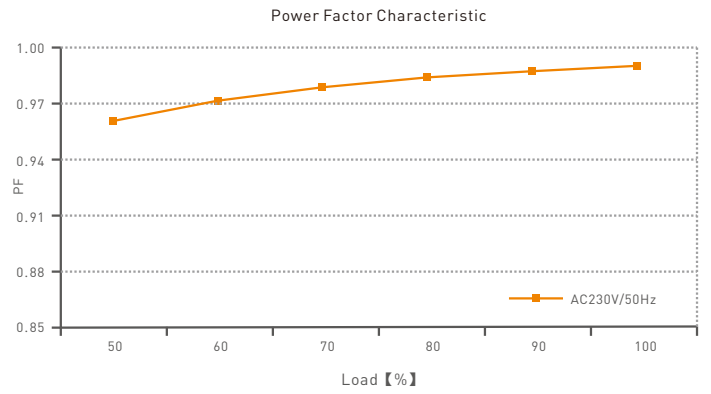
Flicker Test Table

IEEE 1789

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

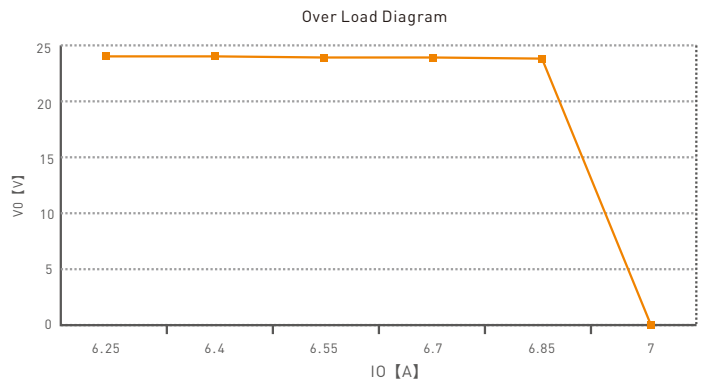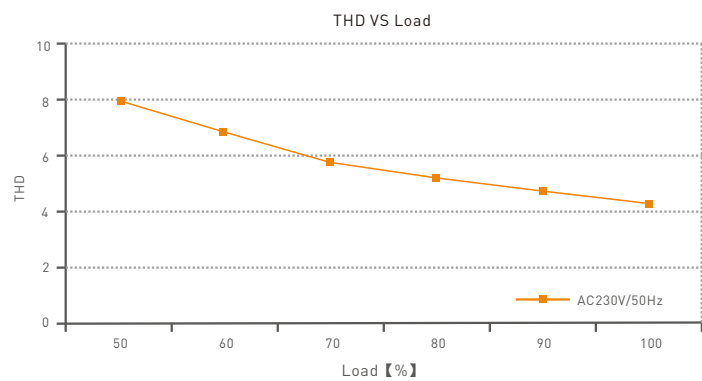| Limit Value of Modulation in No Effect Areas	
Waveform frequency of Optical output	Limit value (%)
$f \leqslant 10Hz$	0.1
$10Hz < f \leqslant 90Hz$	$0.01 \times f$
$90Hz < f \leqslant 3125Hz$	$(0.08/2.5) \times f$
$f > 3125Hz$	Exemption assessment (High frequency exemption)

Brightness
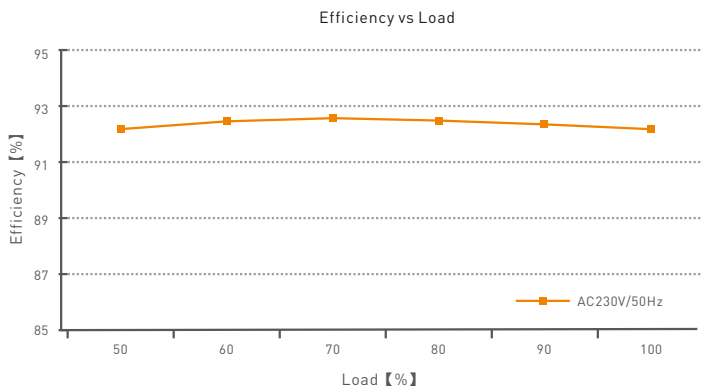- ▲ 0.1 %
- ✦ 1%
- ▲ 5%
- ◆ 10%
- ⬤ 20%
- ▲ 30%
- ⬤ 40%
- ★ 50%
- ⬤ 60%
- ■ 70%
- ⬟ 80%
- ★ 90%
- ◆ 100%

Exemption assessment (High frequency exemption)

IEEE 1789

High Risk

No Effect(green)

Low Risk(yellow)

Modulation(%)

Frequency(Hz)

3600Hz

Relationship Diagrams

Efficiency vs Load

Power Factor Characteristic

THD VS Load

Over Load Diagram

LM-150-12-G1B2

Efficiency vs Load

Power Factor Characteristic

THD VS Load

Over Load Diagram
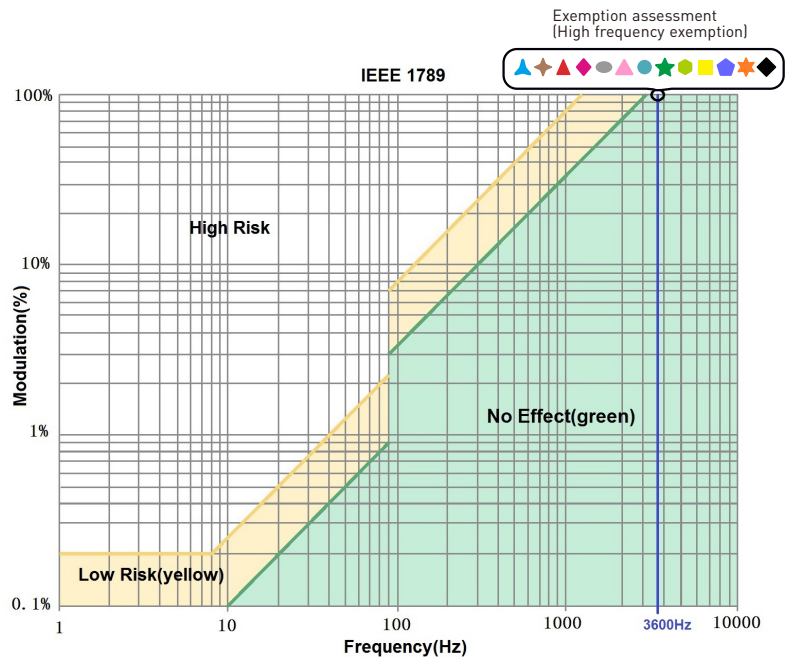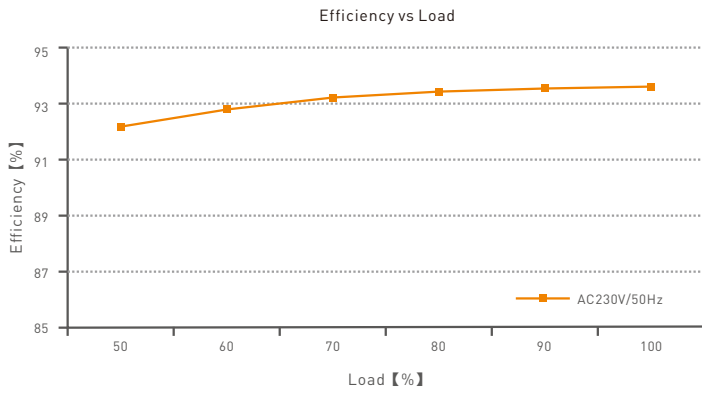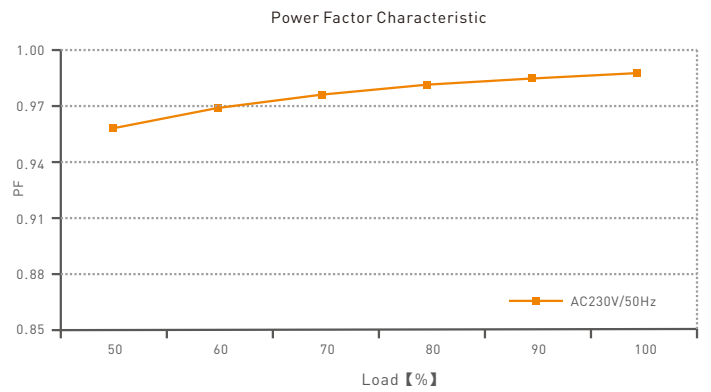
LM-150-24-G1B2

Application Diagram

WiFi/4G/5G

CLOUD

Phone user... Phone user 2 Phone user 1

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 Wednesday
Sunny 30℃ 28℃ 64%

Super panel

Bluetooth 5.0 Mesh

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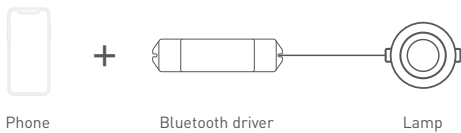
2. Both App and remote can control the driver after connecting the remote to the driver with App.

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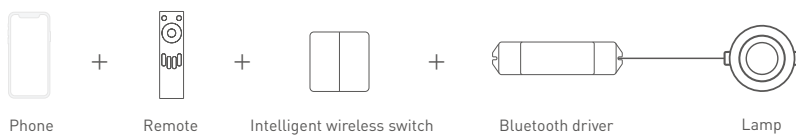
3. Both App and Super Panel can control the driver simultaneously after connecting the Super Panel to the driver with App.
By connecting the Super Panel to network, you are allowed to control the driver, cloud scenes and automation remotely with App.

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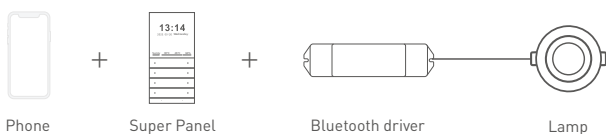
4. ......More applications of intelligent control are waiting for you to set up.

Other Instructions

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

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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, then follow the prompts to add the device. Pick "Smart lighting-DIM 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.
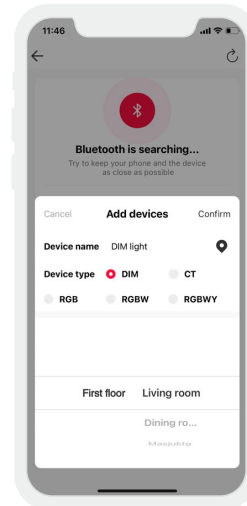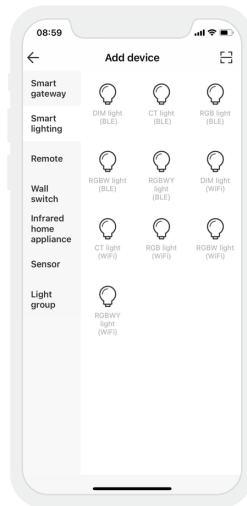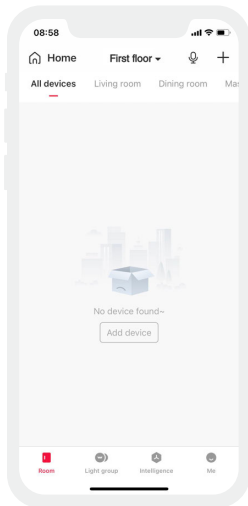
3. Control interface settings

After pairing up your device, go to the control interface. You'll be able to achieve your desired lighting effects by changing brightness. 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.
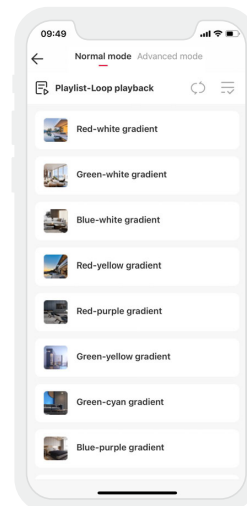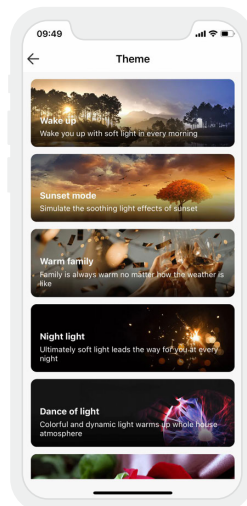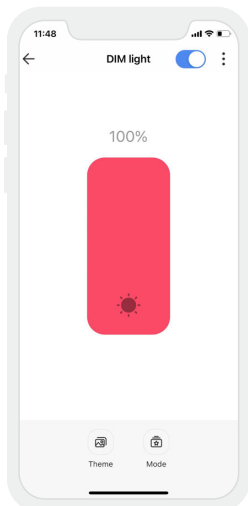
4. Light groups

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. Switch to "Light 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.
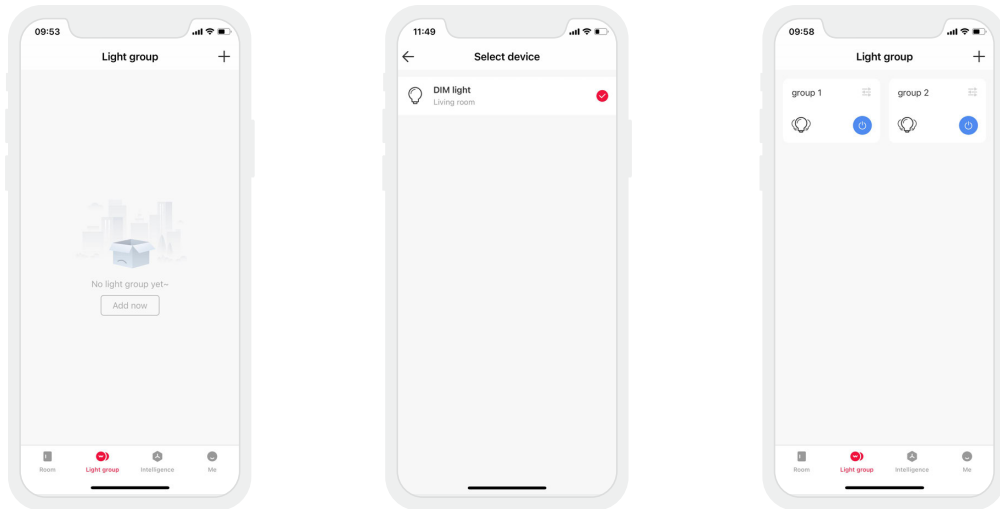
5. Advanced functions

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.
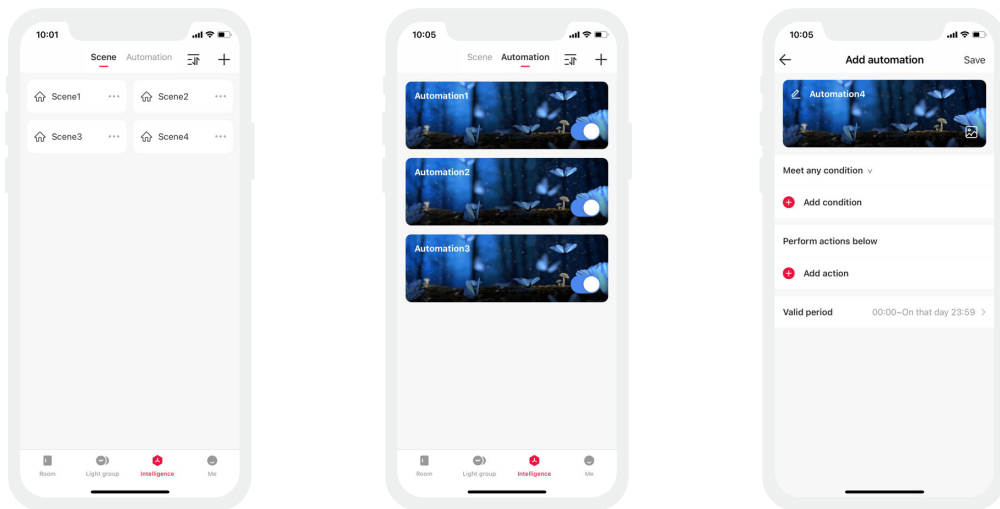
Reset The Device （Reset to factory defaults）

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.
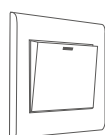
Turn it on 2s

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 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 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.