

## 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.
- Dimming from 0–100%, down to 0.1%.
- Dimming interface: DMX512/RDM, DALI-2 DT8, Push.
- Energy-efficient driver: Efficiency 93%, PF>0.98, THD<6%.
- Comply with the EU's ErP Directive, stand-by 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, overvoltage, overload, short circuit protection and automatic recovery.
- Up to 50,000-hour life time.
- 5-year warranty (Rubycon capacitor).



**Flicker-free**  
IEEE 1789

Activate the high frequency exemption level.



Dimmable:  
0.1%–100%



RoHS

SELV

ErP



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



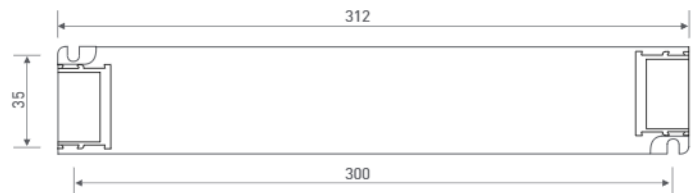
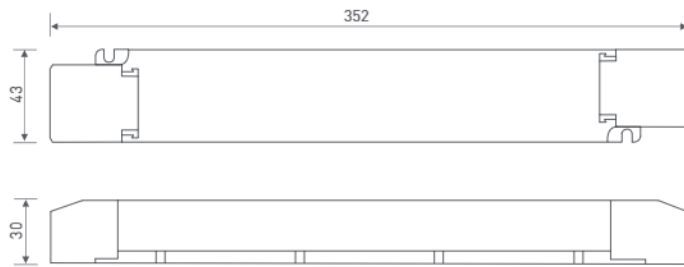
## Technical Specs

| Model        | LM-150-24-G4K3               |                                                                                                                            |                                                           |
|--------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Features     | Output Type                  | Constant Voltage                                                                                                           |                                                           |
|              | Dimming Interface            | DMX512/RDM, DALI-2 DT8, Push                                                                                               |                                                           |
|              | Output Feature               | Isolation                                                                                                                  |                                                           |
|              | Protection Grade             | IP20                                                                                                                       |                                                           |
|              | Insulation Grade             | Class II (Suitable for class I / II / III tight fixtures)                                                                  |                                                           |
| OUTPUT       | Output Voltage               | 24Vdc                                                                                                                      |                                                           |
|              | Output Voltage Range         | 24Vdc $\pm$ 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    | $\geq 102\%$                                                                                                               |                                                           |
|              | Ripple                       | Switch ripple<150mV, noise<300mV                                                                                           |                                                           |
| INPUT        | PWM Frequency                | 3600Hz                                                                                                                     |                                                           |
|              | DC Voltage Range             | 200–280Vdc                                                                                                                 |                                                           |
|              | AC Voltage Range             | 198–264Vac                                                                                                                 |                                                           |
|              | Rated Voltage                | 220–240Vac                                                                                                                 |                                                           |
|              | Frequency                    | 50/60Hz                                                                                                                    |                                                           |
|              | Input Current                | $\leq 0.75A/230Vac$                                                                                                        |                                                           |
|              | Power Factor                 | PF>0.98/230Vac (at full load)                                                                                              |                                                           |
|              | THD                          | THD<6% $\text{\textcircled{230Vac}}$ (at full load)                                                                        |                                                           |
|              | Efficiency (typ.)            | 93%                                                                                                                        |                                                           |
|              | Standby power consumption    | <0.5W                                                                                                                      |                                                           |
|              | Inrush Current               | Cold start 45A $\text{\textcircled{230Vac}}$ (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      | $\pm 0.03\%/^{\circ}C$ (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 $\geq 110^{\circ}C$ , and recover automatically |                                                           |
|              | Overload Protection          | Shut down the output when current load $\geq 102\%$ , 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 $\geq 28V$ , and recover automatically                                          |                                                           |
| SAFETY & EMC | Withstand Voltage            | I/P–O/P: 3750Vac                                                                                                           |                                                           |
|              | Isolation Resistance         | I/P–O/P: 100MQ/500VDC/25°C/70%RH                                                                                           |                                                           |
|              | Safety Standards             | CCC                                                                                                                        | China GB19510.1, GB19510.14                               |
|              |                              | CE                                                                                                                         | European Union EN61347-1, EN61347-2-13, EN62384, EN61547  |
|              | EMC Emission                 | CCC                                                                                                                        | China GB/T17743, GB17625.1                                |
|              |                              | CE                                                                                                                         | European Union EN55015, EN61000-3-2, EN61000-3-3, EN61547 |
|              | EMC Immunity                 | EN61000-4-2,3,4,5,6,8,11, EN61547                                                                                          |                                                           |
| OTHERS       | Strobe Test Standard         | IEEE 1789                                                                                                                  |                                                           |
|              | Gross weight[G.W]            | 430g $\pm$ 10g                                                                                                             |                                                           |
|              | Dimensions                   | 352 $\times$ 43 $\times$ 30mm(L $\times$ W $\times$ 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.

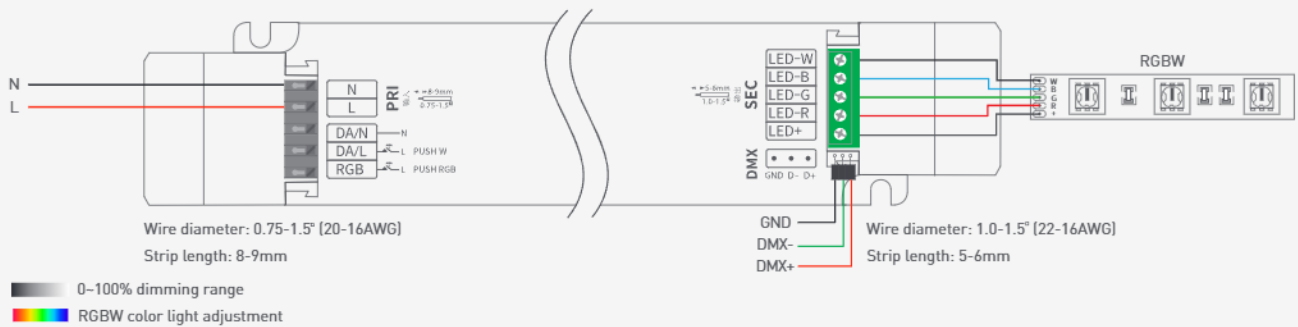
## Product Size

Unit: mm

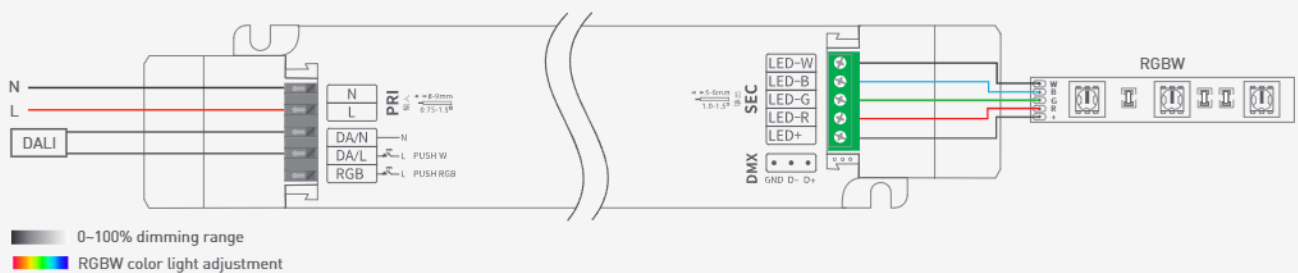


## Wiring Diagram

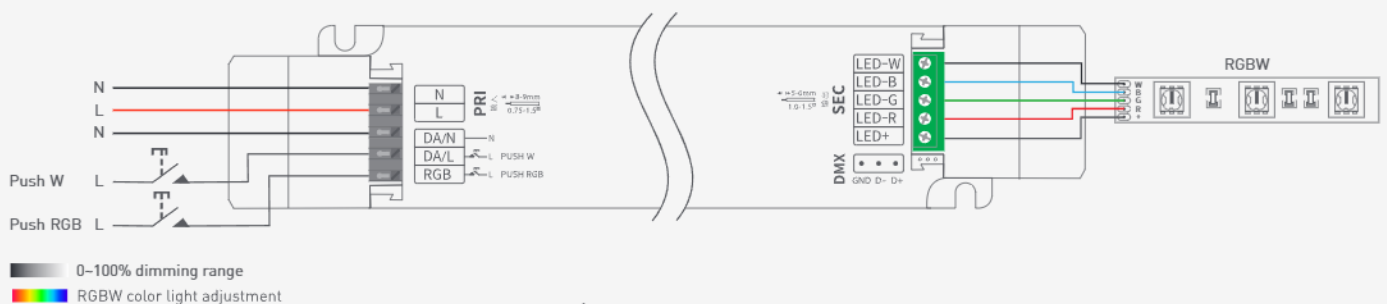
### DMX/RDM Connection



### DALI Connection



### Push W/RGB Connection



\* Push W/RGB is invalid under DC voltage input.

\* Dimming interface priority: DMX512/RDM first, DALI-2 DT8, Push W/RGB next.

## Push W/RGB



Reset switch

### Push W:

By pressing the button, the brightness of W and RGB light can be adjusted. You can adjust either W brightness or RGB brightness only. Toggle between W and RGB brightness adjustment by a double press on the button.

W brightness adjustment: Short press to turn on/off, long press to adjust W brightness (RGB brightness and color remain unchanged at this moment).

RGB brightness adjustment: Short press to turn on/off, long press to adjust RGB brightness (W brightness remains unchanged at this moment).

### Push RGB:

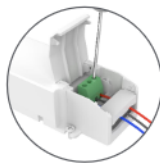
Short press to adjust to the full brightness of RGB color and RGB light, long press to change RGB color.

## Protective Housing Application Diagram

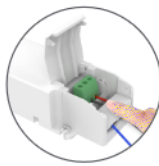
### Tension plate



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.

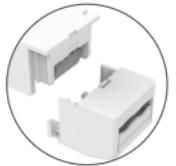
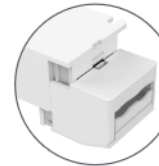


3. Press down the tension plate to fix the the electrical wires, then close the protective housing.

### Remove the protective housing



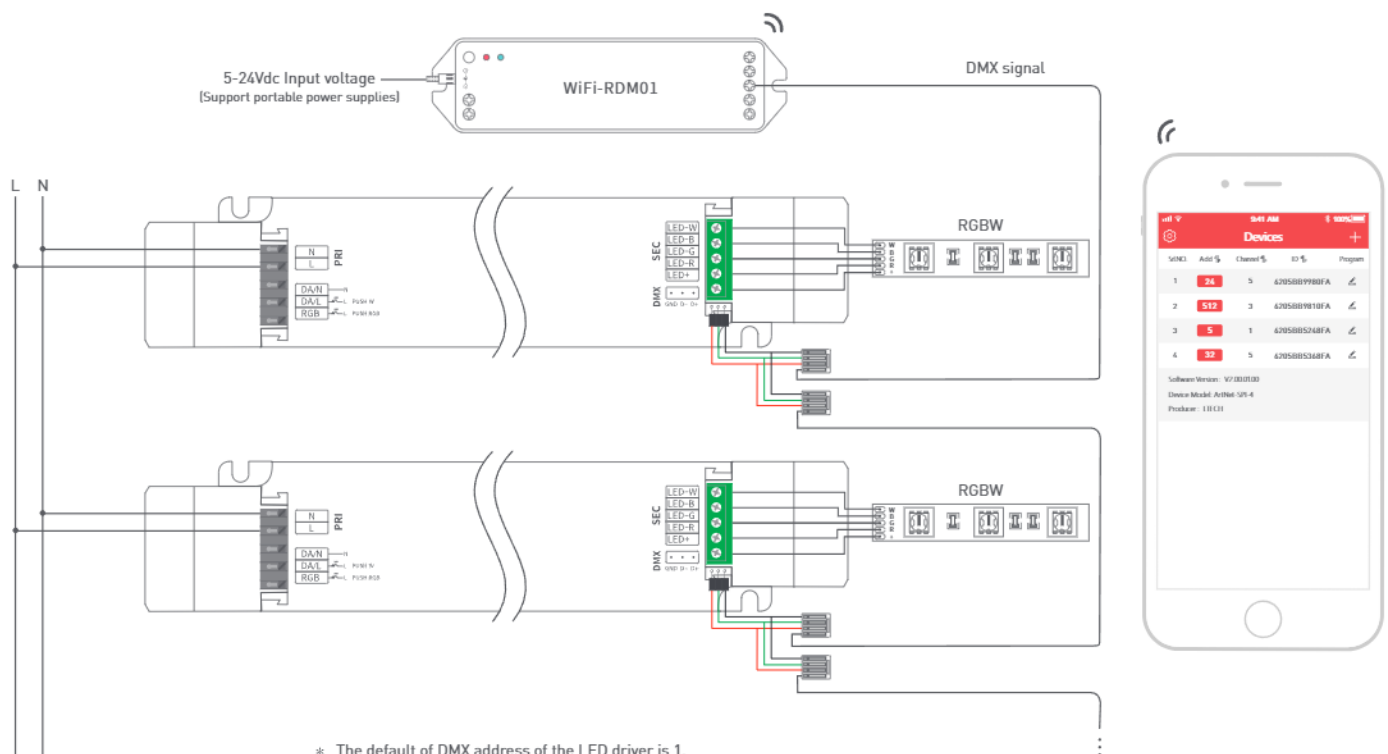
Pull the housing left and right from the bottom to remove it.



## DMX Address Settings

The DMX driver can work with a DMX address programmer that follows the standard RDM protocol.

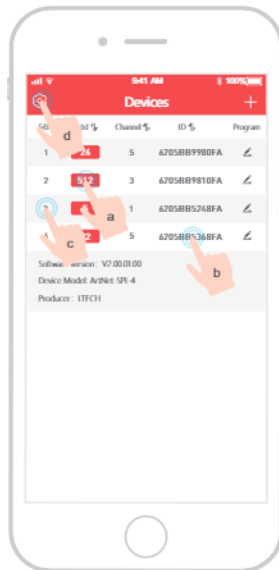
It is recommended to use LTECH RDM Programmer (Model: WiFi-RDM01), which allows remote browsing, parameter setting, checking output power and modifying the current value.



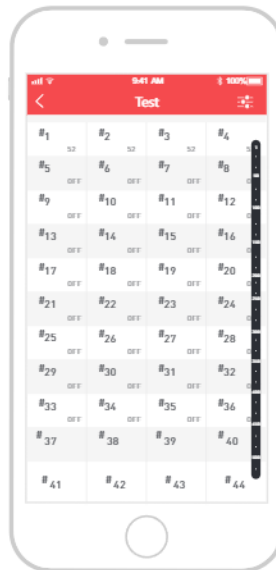
## Mobile App Interface for the RDM Programmer

Download the App with your mobile phone and connect the RDM Programmer successfully, then you are allowed to set parameters through the APP. Please refer to the WiFi-RDM01 manual for more details.

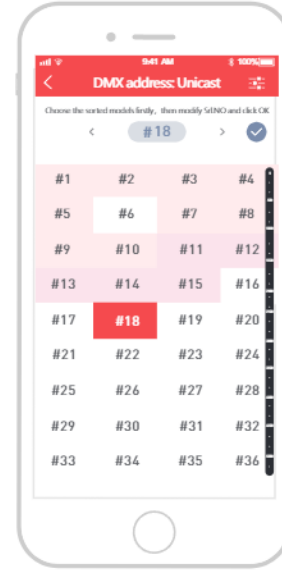
- At the homepage, click "Add" of the device you are going to operate to edit the address, as shown below in the interface.
- Click "ID" to get more details for devices.
- Click "No" to issue an recognizing command.
- Click "⚙️" in the upper left corner to access the settings which allows you to test, edit DMX addresses, set WiFi for devices and upgrade firmware.



Home page



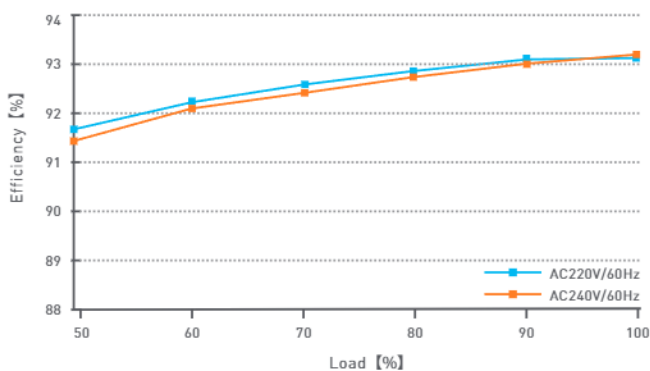
Test



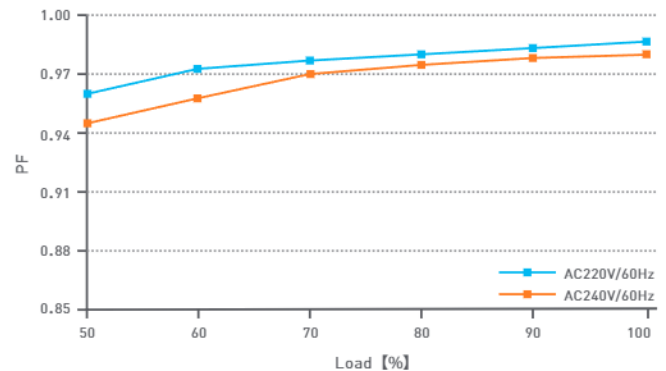
DMX address setting

## Relationship Diagrams

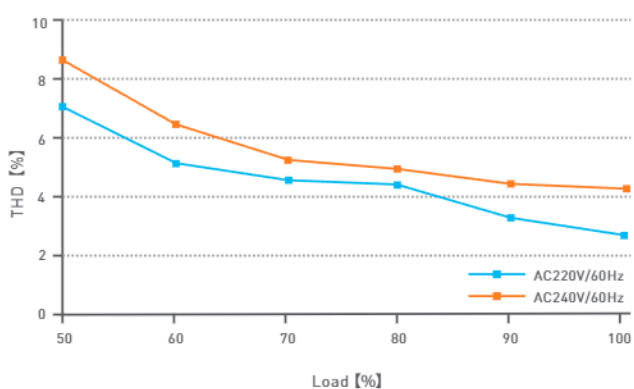
Efficiency vs Load



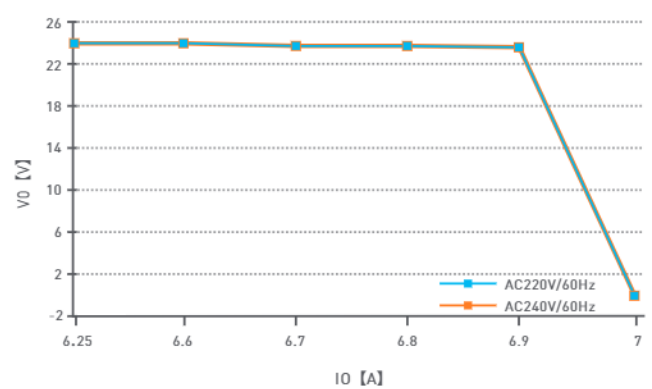
Power Factor Characteristic



THD vs Load



Over Load Diagram

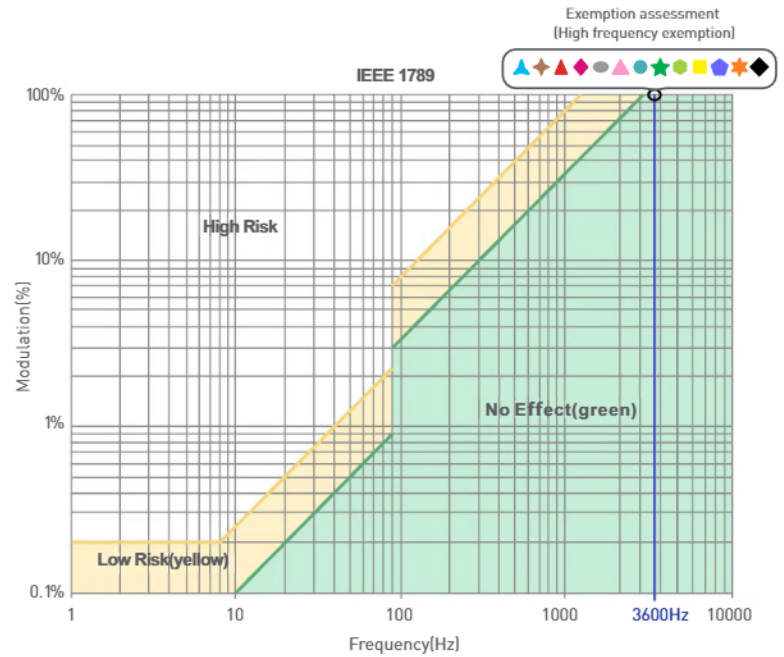


## Flicker Test Table

| IEEE 1789                                    |                                                 |
|----------------------------------------------|-------------------------------------------------|
| Limit value of Modulation in Low Risk Areas  |                                                 |
| Waveform frequency of Optical output (f)     | Limit value (%)                                 |
| $f \leq 8\text{Hz}$                          | 0.2                                             |
| $8\text{Hz} < f \leq 90\text{Hz}$            | $0.025 \times f$                                |
| $90\text{Hz} < f \leq 1250\text{Hz}$         | $0.08 \times f$                                 |
| $f > 1250\text{Hz}$                          | Exemption assessment                            |
| Limit value of Modulation in No Effect Areas |                                                 |
| Waveform frequency of Optical output (f)     | Limit value (%)                                 |
| $f \leq 10\text{Hz}$                         | 0.1                                             |
| $10\text{Hz} < f \leq 90\text{Hz}$           | $0.01 \times f$                                 |
| $90\text{Hz} < f \leq 3125\text{Hz}$         | $(0.08/2.5) \times f$                           |
| $f > 3125\text{Hz}$                          | Exemption assessment (High frequency exemption) |

### Brightness

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

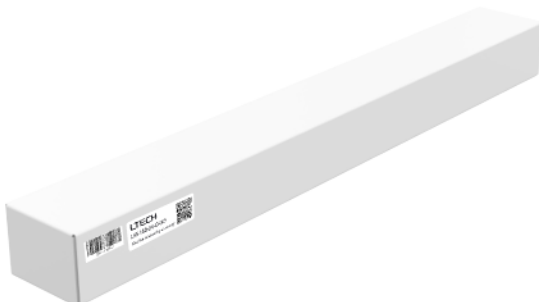


Marks in the right chart are tested results of different current levels. The output frequency is 0Hz in 100% brightness and its corresponding modulation is 0%, which could not be shown in the right chart.

## Packaging Specifications

|                   |                                              |
|-------------------|----------------------------------------------|
| Model             | LM-150-24-G4K3                               |
| 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

- Product installation and commissioning should be done by a qualified professional.
- LTECH products are and not lightningproof non-waterproof (special models excepted). Please avoid the sun and rain. When installed outdoors, please ensure they are mounted in a water proof enclosure or in an area equipped with lightning protection devices.
- Good heat dissipation will prolong 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. The warranty that issues in writing shall prevail.

## Update Log

| Version | Updated Time | Update Content                                                                                                           | Updated by |
|---------|--------------|--------------------------------------------------------------------------------------------------------------------------|------------|
| A0      | 2021.08.05   | Original version                                                                                                         | Liu Weili  |
| A1      | 2022.01.24   | Modify the wiring application diagram                                                                                    | Liu Weili  |
| A2      | 2022.02.28   | Update output terminal wire diameter and stripping length                                                                | Liu Weili  |
| A3      | 2023.12.25   | Updated parameters and silk screen to the latest version, added corresponding certification icons and updated attentions | Li Siyu    |
| A4      | 2024.06.03   | Updated silk screen to the latest version and removed corresponding certification icons                                  | Li Siyu    |