LTECH

LM-240-24-G2D2

**DALI-2 DT6/DT8 PUSH DIM/CCT**

# Intelligent Tunable White LED Driver (Constant Voltage)

- The housing is made from V0 flame retardant PC materials from SAMSUNG/COVESTRO.
- 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.
- Change the DALI address, PWM frequency and other parameters via the APP.
- Set the DALI group and scene in the advanced DALI template via the APP.
- Adopt constant power design that can adjust different color temperature while brightness remains the same.
- With soft-on and fade-in dimming function, enhancing your visual comfort.
- The whole dimming process is flicker-free with high frequency exemption level.
- T-PWM™ super deep dimming technology, 0.01% dimming depth.
- Comply with the EU's ErP Directive, networked standby<0.5W.
- Overheat, over voltage, overload, short circuit protection and automatic recovery.
- Normal service life can reach 100,000 hours.
- 5-year warranty (Rubycon capacitor).



DALI 2

T-PWM™
Dimming Technology

Flicker Free
IEEE 1789

DIM/CCT

Dimmable:
10000 : 1

NFC

UK CA SELV RoHS

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

power program design | Overheat Protection | Overvoltage Protection | Overload Protection | Short Circuit Protection

## Technical Specs

| Model | | LM-240-24-G2D2 | | |
|---|---|---|---|---|
| Features | Output Type | Constant voltage | | |
| | Dimming Interface | DALI-2 DT6/DT8, PUSH DIM/CCT | | |
| | 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. 10A | | |
| | Output Power | Max. 240W | | |
| | Dimming Range | 0–100%, down to 0.01% | | |
| | Ripple(maximum) | 200mVp-p | | |
| | Voltage Accuracy | ±5% | | |
| | PWM Frequency | 3600Hz (Default) / (NFC setting range 300-22000Hz) | | |
| INPUT | DC Voltage Range | 200-250Vdc | | |
| | AC Voltage Range | 220-240Vac | | |
| | EoFv | 99.6% | | |
| | Input Voltage | 220-240Vac | | |
| | Frequency | 50/60Hz | | |
| | Input Current | Max. 1.18A/230Vac | | |
| | Power Factor | PF>0.99/230Vac, at full load | | |
| | THD | THD≤5%@230Vac, at full load | | |
| | Efficiency (Typ.) | 94% | | |
| | Inrush Current | Cold start 55A(Test twidth=1200us tested under 50% Ipeak)/230Vac | | |
| | Anti Surge | L-N: 2KV | | |
| | Leakage Current | Max. 0.5mA | | |
| ENVIRONMENT | Working Temperature | ta: -20 ~ 45°C tc: 86°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 | Overload Protection | Shut down the output when rated power≥102%, auto recovers | | |
| | 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 voltage≥28V, 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 | | |
| | Insulation 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 |
| | | KC | Korea | KC61347-1, KC61347-2-13 |
| | | EAC | Russia | IEC61347-1, IEC61347-2-13 |
| | | RCM | Australia | AS 61347-1, AS 61347-2-13 |
| | | ENEC | Europe | EN61347-1, EN61347-2-13, EN62384 |
| | | UKCA | Britain | BS EN 61347-1, BS EN 61347-2-13, BS EN 62493 |
| | EMC Emission | CCC | China | GB/T17743, GB17625.1 |
| | | CE | European Union | EN55015, EN61000-3-2, EN61000-3-3, EN61547 |
| | | KC | Korea | KSC 9815, KSC 9547 |
| | | EAC | Russia | IEC62493, IEC61547, EH55015 |
| | | RCM | Australia | EN55015, EN61000-3-2, EN61000-3-3, EN61547 |
| | | UKCA | Britain | BS EN IEC 55015, BS EN IEC 61000-3-2, BS EN 61000-3-3, BS EN 61547 |
| | EMC Immunity | EN61000-4-2,3,4,5,6,8,11, EN61547 | | |
| ErP | Power Consumption | Networked standby | | <0.5W (After shutdown by command) |
| | | No-load power consumption | | <0.5W (When the lamp is not connected) |
| | Flicker/Stroboscopic Effect | IEEE 1789 | | Meet IEEE 1789 standard/High frequency exemption level |
| | | CIE SVM | | Pst LM≤1.0, SVM≤0.4 |
| | DF | Phase factor | | DF≥0.9 |
| OTHERS | Weight(N.W.) | 555g±10g | | |
| | Dimensions | 380×49.5×30mm(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

Unit: mm




## Wiring Diagram

### DALI Connection




DIM: 0-100% brightness adjustment.
CCT: 1000-10000K adjustable.

Wire diameter: 0.75-1.5㎟(20-16AWG)
Strip length: 10-11mm

Wire diameter: 1.0-1.5㎟(18-16AWG)
Strip length: 6-7mm

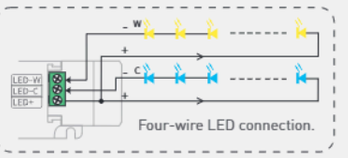
### Push DIM/CCT Connection




DIM: 0-100% brightness adjustment.
CCT: 1000-10000K adjustable.

✻ Dimming is non-effective on the condition of Vdc input.

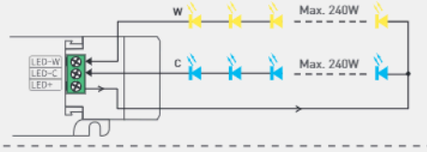
✻ Dimming interface priority: First DALI, next Push DIM/CCT.




Four-wire LED connection.

✻ Adopting constant power program design, it keeps the same brightness in color temperature dimming, twice the rated power load can be connected.

240W driver, 240W X 2CH load can be connected, the total power of the 2 channels will be kept in 240W.



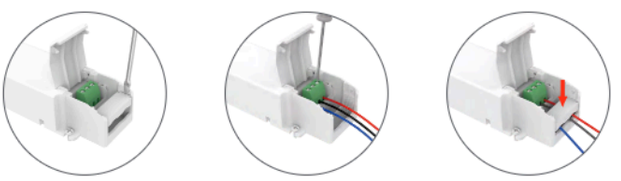
## Push DIM/CCT



Reset switch

- On/off control: Short press.
- Stepless dimming: Long press.
- With every other long press, the brightness goes to the opposite direction.
- Dimming memory: Brightness will be the same as previously adjusted when turning on again.

## Protective Housing Application Diagram

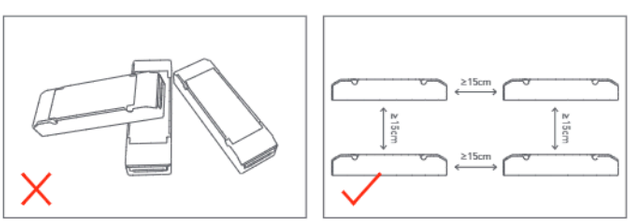


Use a screwdriver to pry up the protective housing at the edge of the wire fixing board. Then connect to the wires as the diagram shows and press down the wire fixing board.

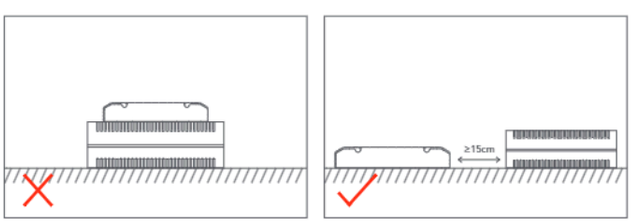


Press down the back side of the protective housing and move it from side to side to remove it.

## 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 not place the products on LED drivers. The distance between the product and the driver should be ≥15cm so as not to affect heat dissipation and shorten the lifespan of the products.

Note: The temperature within the installation area should be within the working temperature range of the products. Please do not install products inside LED fixtures to avoid temperature exceeding the working temperature that may affect the product lifetime.

# Use the NFC Lighting APP

Scan the QR code below with your mobile phone and follow the prompts to complete the APP installation (According to performance requirements, you need to use a NFC-capable Android phone, or an iphone 8 and later that are compatible with iOS 13 or higher).

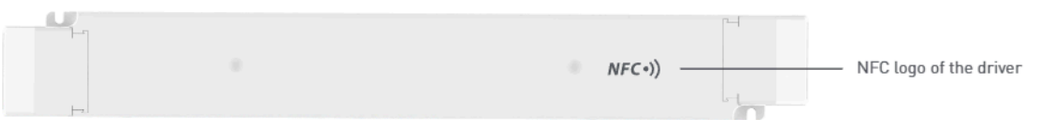
✱ **Before you begin setting the parameters of the driver, please make sure the driver is powered off.**

## Read/Write the LED driver

Use your NFC-capable phone to read LED driver data, then edit the parameters and they can be directly written to the driver.

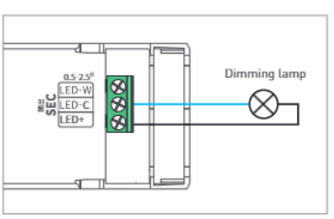
**1. Read the LED driver**

On the APP home page, click【Read/Write LED driver】, then keep the programmer's sensing area close to the NFC logo of the driver to read the driver parameters.

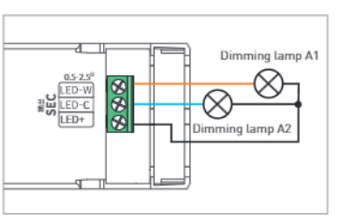



**2. Switch the dimming interface**

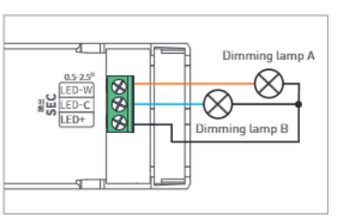
On the page of "Edit parameters", click 【Dimming interfaces】to switch to the needed dimming interface: DT8 CT (DT8 1 channel), DT6 CT (DT6 2 channels), DT6 DIM (1 address for 1 channel / 1 address for 2 channels / 2 addresses for 2 channels).




1 address for 1 channel




1 address for 2 channels




2 addresses for 2 channels

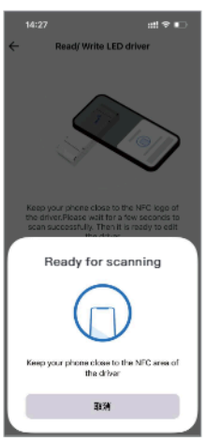
**3. Edit the parameters**

Click【Parameter settings】to edit the advanced parameters, like DALI address, PWM frequency, dimming curve, advanced DALI template, etc.

**4. Write to the driver**

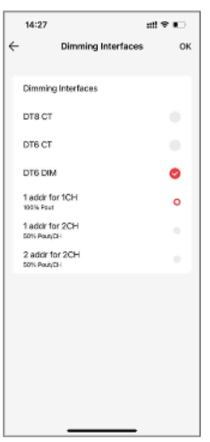
After completing the parameter settings, click 【Write】 in the upper right corner, and keep the programmer's sensing area close to the NFC logo of the driver, so the parameters can be written to the driver.









### Advanced DALI template

Integrate the functions of the DALI lighting system, edit the DALI group and lighting effects for scenes, then save them in the advanced template to achieve lighting programming.

Setup page (for Read/Write LED driver) : Go to App home page — 【⚙】 icon in the top right — 【DALI template on pnone】.

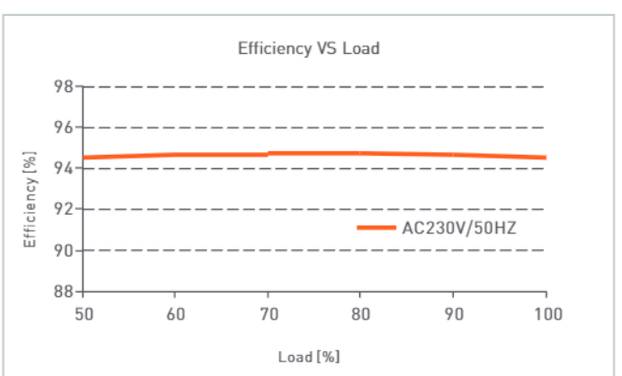


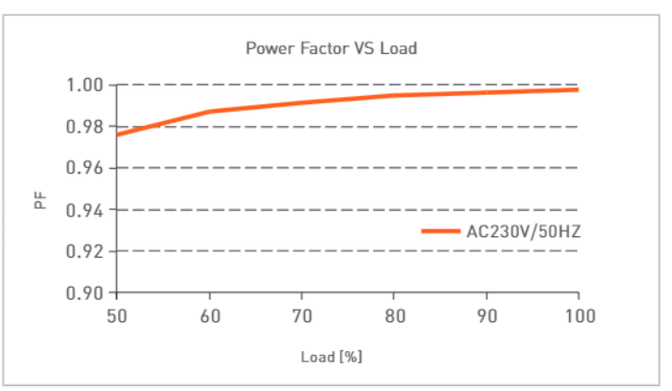


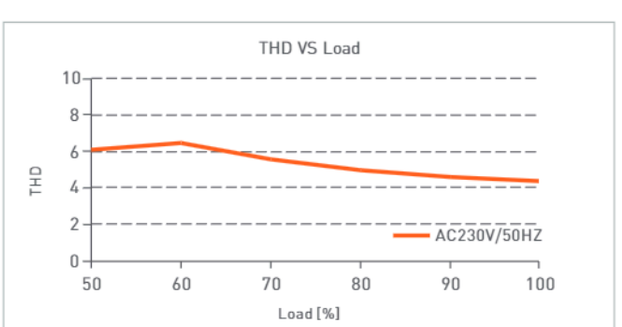


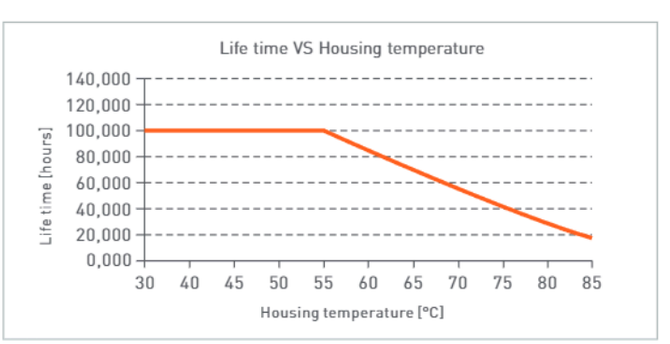



## Relationship Diagrams



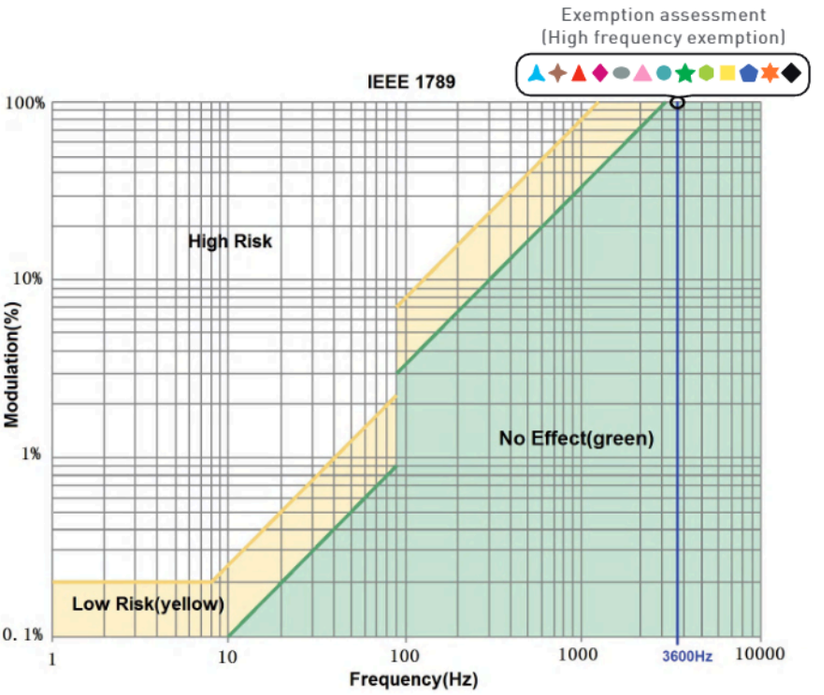
## Flicker Test Form

IEEE 1789

| Limit of Modulation in low risk area | |
|---|---|
| Waveform frequency of optical output | limit [%] |
| $f$ ≤ 8Hz | 0.2 |
| 8Hz < $f$ ≤ 90Hz | 0.025 × $f$ |
| 90Hz < $f$ ≤ 1250Hz | 0.08 × $f$ |
| $f$ > 1250Hz | Exemption assessment |
| Limit of Modulation in no effect area | |
| Waveform frequency of optical output | limit [%] |
| $f$ ≤ 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

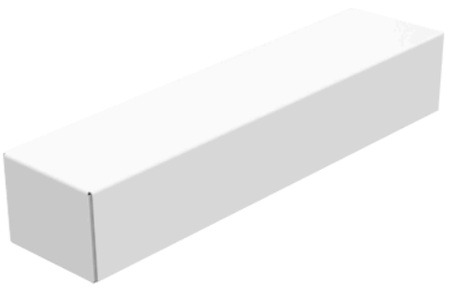
- 0.1 %
- 1%
- 5%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%




## Packaging Specifications

| | |
|---|---|
| Model | LM-240-24-G2D2 |
| Carton Dimensions | 400×350×120mm(L×W×H) |
| Quantity | 10 PCS/Layer; 2 Layers/Carton; 20 PCS/Carton |
| Weight | 0.555 kg/PC; 12 kg±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.

## Attentions

- Products shall be installed by qualified professionals.
- 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, and release in written form shall prevail.

## Update Log

| Version | Updated Time | Update Content | Updated by |
|---|---|---|---|
| A0 | 2023.02.15 | Original version | Liu Weili |
| A1 | 2023.08.14 | Remove the description of the NFC programmer | Liu Weili |
| A2 | 2024.02.19 | Updated color temperature range | Li Siyu |