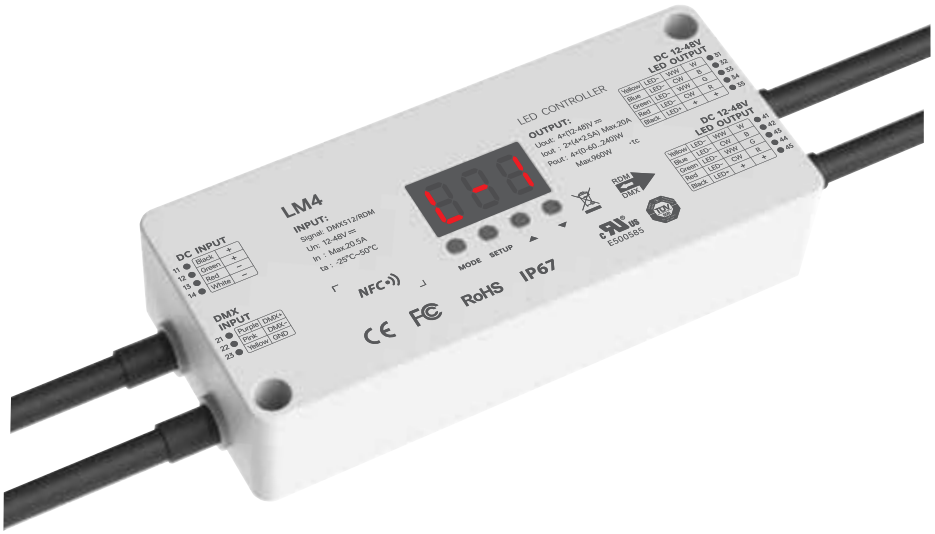
LM4

Waterproof DMX/RDM LED Constant Voltage Decoder



NFC · RDM DMX · CE · RoHS · IP67

The LM4 is a high-performance LED constant-voltage controller with an IP67 waterproof rating, designed for precise control of LED lighting fixtures. It receives standard DMX/RDM protocol signals and features 4 channels with a maximum output current of 20A and maximum output power of 960W, enabling stable operation of various LED constant-voltage lighting fixtures.

The LM4 offers flexible dimming, color temperature adjustment, and RGB and RGBW full-color control to meet diverse lighting needs. It has both DMX decoder mode and DMX master mode. In DMX decoder mode, you can set parameters such as DMX address, resolution, PWM frequency, dimming fade time, and dimming mode.

The DMX master mode can set 33 lighting effects, speed, brightness and other parameters. You can switch modes and configure various parameters within each mode via three methods: the NFC Lighting app, the RDM-WIFI app, or the pushbutton, balancing intuitive operation with deep customization.

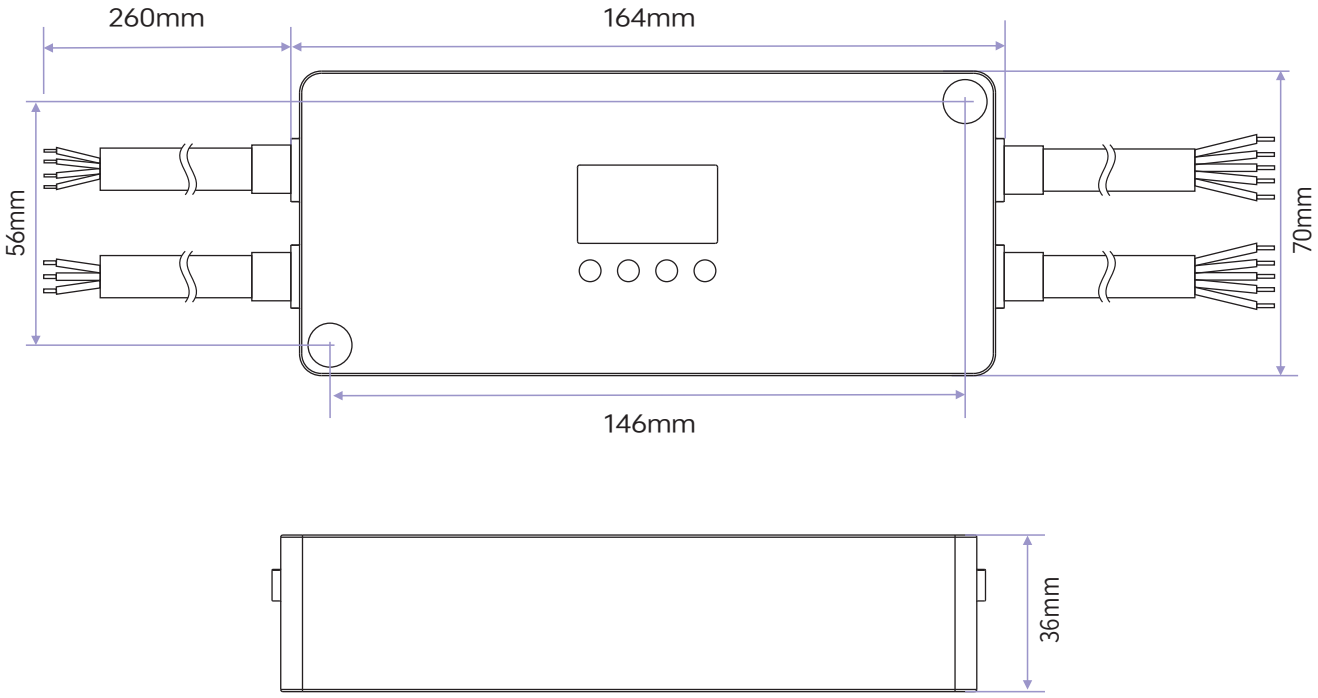
With IP67-level waterproof performance and stable operation, LM4 can be widely used in various indoor and outdoor environments. It can work reliably even in humid scenes, providing efficient and flexible control solutions for lighting systems.

Technical Specifications

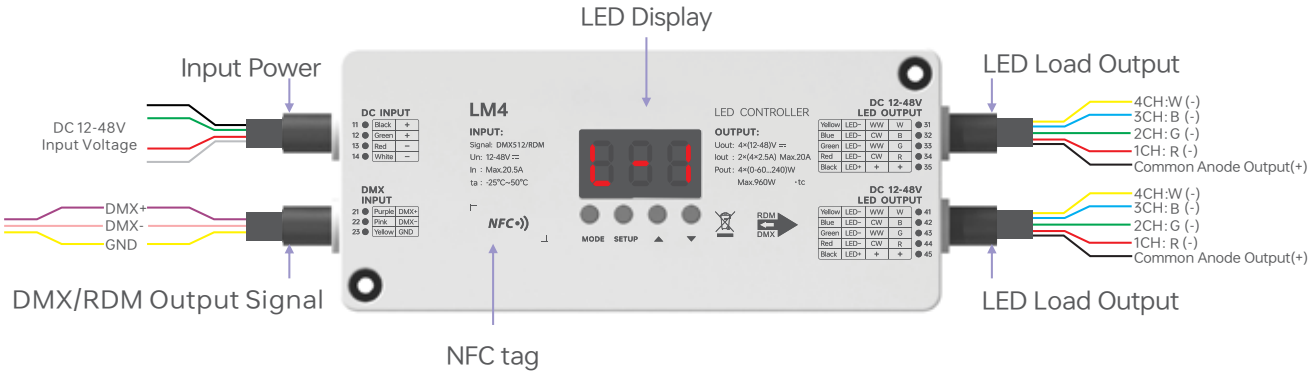
LM4

Input signal:	DMX512, RDM	Operating temperature:	-20℃-50℃
Input Voltage:	12-48V ⎓	Product Weight:	670g
Input current:	Max. 20.5A	Product dimensions:	L164×W70×H36mm
Output Voltage:	4×(12-48)V ⎓	Package dimensions:	L230×W95×H47mm
Output Current:	2×(4CH×2.5A) Max. 20A	Waterproof rating:	IP67
Output Power:	4CH×(0-60...240)W Max. 960W	Protect:	Short-circuit, over-temperature, and over-current protection with automatic reset capability

Product Dimensions



Parts Diagram



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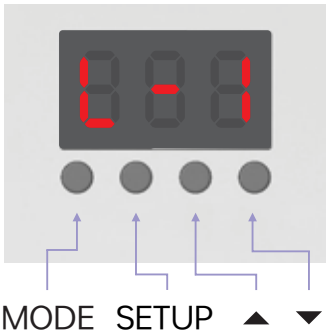
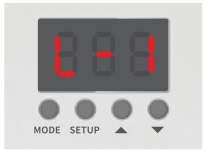
Address Display :



- Enter Configuration: Short press or long press the MODE key for 2 seconds.
- Adjust Values: Short press the ▲ or ▼ key.
- Return to Initial Page: Long press the MODE key again for 2 seconds or no operation for 15 seconds.
- Save Configuration: Long press the SETUP key for over 2 seconds.
- Restore Factory Settings: Simultaneously long press the MODE, ▲ , ▼ keys for 2 seconds.

Digital Display Address Interface Diagram

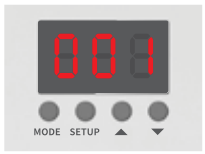
DMX decoder mode



DMX Decoding Mode Interface

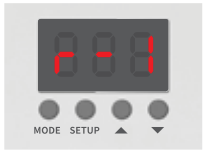
Press and hold both the MODE and ▲ keys simultaneously. When the display shows “L-1,” the device enters DMX decoding mode. Press the MODE key briefly to access the menu (if entering settings after saving or timeout, press and hold the MODE key to enter).
After completing parameter settings, press and hold the SETUP key for over 2 seconds to save the configuration.

1. DMX Address Setup



Press the ▲ or ▼ key to select and configure the DMX address.
Range: 1 to 512

2. Resolution



Press the MODE button briefly to switch the menu to “r”.
Press the ▲ or ▼ button to select; the third digit will display 1 or 2.
Options: r-1 (8bit) / r-2 (16bit)

3. PWM frequency

Press the MODE button briefly to switch the menu to “F”.
Press the ▲ or ▼ button to select. The third digit displays 1 to 9 or A.
Options: F-0 (300Hz) 、F-1 (600Hz) 、F-2 (1200Hz) 、F-3 (1500Hz) 、F-4 (1800Hz) (Default)、F-5 (2400Hz) 、F-6 (3600Hz) 、F-7 (7200Hz) 、F-8 (10800Hz) 、F-9 (14400Hz) 、F-A (18000Hz)

4. Dimming transition time

Press the MODE button briefly to switch the menu to “d”.
Press the ▲ or ▼ button to select; the third digit will display 1 or 2.
Options: d-1 (Smooth) / d-2 (Standard)

5. Dimming Mode

Press the MODE key briefly to switch the menu to “C”.

Press the ▲ or ▼ key to select. The third digit display shows 1 to 6.

Options:

Model	Addr.	Number and type of lamps installed	Instruction
C-1	1	4 DIM lights	All 4-channels output control addresses are set to 001, uniformly controlling the brightness of all 4 lights.
C-2	2	2 CT lights	CH 1 and CH 3 output control addr.001, controlling the brightness of 2 lights; CH 2 and CH 4 output control addr.002, controlling the color temperature of 2 lights.
C-3	3	1 RGB light	CH 1 output control addr.001, controlling the brightness of R; CH 2 output control addr.002, controlling the brightness of G; CH 3 and CH 4 output control addr.003, controlling the brightness of B.
C-4	4	1 RGBW light	CH 1 output control addr.001, controlling the brightness of R; CH 2 output control addr.002, controlling the brightness of G; CH 3 output control addr.003, controlling the brightness of B; CH 4 output control addr.004, controlling the brightness of W.
C-5	5	2 CT lights	CH 1 output control addr.001, controlling the brightness of 1 light; CH 2 output control addr.002, controlling the color temperature of 1 light; CH 3 output control addr.003, controlling the brightness of 2 light; CH 4 output control addr.004, controlling the color temperature of 2 light;
C-6	6	4 DIM lights	CH 1 output control addr.001, controlling the brightness of 1 light; CH 2 output control addr.002, controlling the brightness of 2 light; CH 3 output control addr.003, controlling the brightness of 3 light; CH 4 output control addr.004, controlling the brightness of 4 light;

6. Displayed time

Press the MODE button briefly to switch the menu to “n”.

Press the ▲ or ▼ key to select; the third digit will display 1 or 2.

Options: n-1 (Digital tube stays lit) / n-2 (Will turn off if no operation within 30 seconds)

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DMX control mode

DMX Control Mode Interface

Press and hold the MODE and ▼ key simultaneously.
When the display shows “L-2”, the device enters DMX master control mode.
Press the MODE key briefly to access the menu (if entering settings after saving or timeout, press and hold the MODE key to enter). After completing parameter settings, press and hold the SETUP key for over 2 seconds to save the configuration.

1. Light Effects

Example: E-1 (Black)

Example: E17
(Rainbow Fade-In/Fade-Out)

Press the MODE key briefly to switch the menu to “E”.
Press the ▲ or ▼ key to select. The display will show options 1 to 33.
Options:

E-1 (Black)	E12 (RGB Strobing)	E23 (Blue-Purple Gradient)
E-2 (Red)	E13 (Rainbow Strobing)	E24 (Green-Yellow Gradient)
E-3 (Green)	E14 (RGB Jumping)	E25 (Blue-Cyan Gradient)
E-4 (Blue)	E15 (Rainbow Jumping)	E26 (Red-Purple Gradient)
E-5 (Yellow)	E16 (RGB Fade-in/Fade-out)	E27 (Blue-White Gradient)
E-6 (Purple)	E17 (Rainbow Fade-in/Fade-out)	E28 (Yellow-Purple-Cyan Gradient)
E-7 (Cyan)	E18 (Red-Green Gradient)	E29 (RGB Gradient)
E-8 (White)	E19 (Red-Blue Gradient)	E30 (Rainbow Gradient)
E-9 (Red Strobe)	E20 (Green-Blue Gradient)	E31 (RGB+White Gradient)
E-10 (Green Strobe)	E21 (Red-Yellow Gradient)	E32 (RGBW Gradient)
E-11 (Blue Strobe)	E22 (Green-Cyan Gradient)	E33 (RGBY Gradient)

2. Speed

Press the MODE key briefly to switch the menu to “S”.
Press the ▲ or ▼ key to select. The third digit displays 1 to 8.
Default value: S-5
Options: S-1 / S-2 · · · · · · S-7 / S-8
Speed levels, ascending in order

3. Brightness

Press the MODE key briefly to switch the menu to “b”.
Press the ▲ or ▼ key to select. The second and third digit displays 00 to FF.
Default value: bFF
Options: b00 / b01 · · · · · · bFE / bFF
Brightness levels, in ascending order

4. Displayed time

Press the MODE key briefly to switch the menu to “n”.
Press the ▲ or ▼ key to select. The third digit display shows 1 or 2.
Options: n-1 (Digit display stays on) /
n-2 (Digit display turns off after 30 seconds of inactivity)

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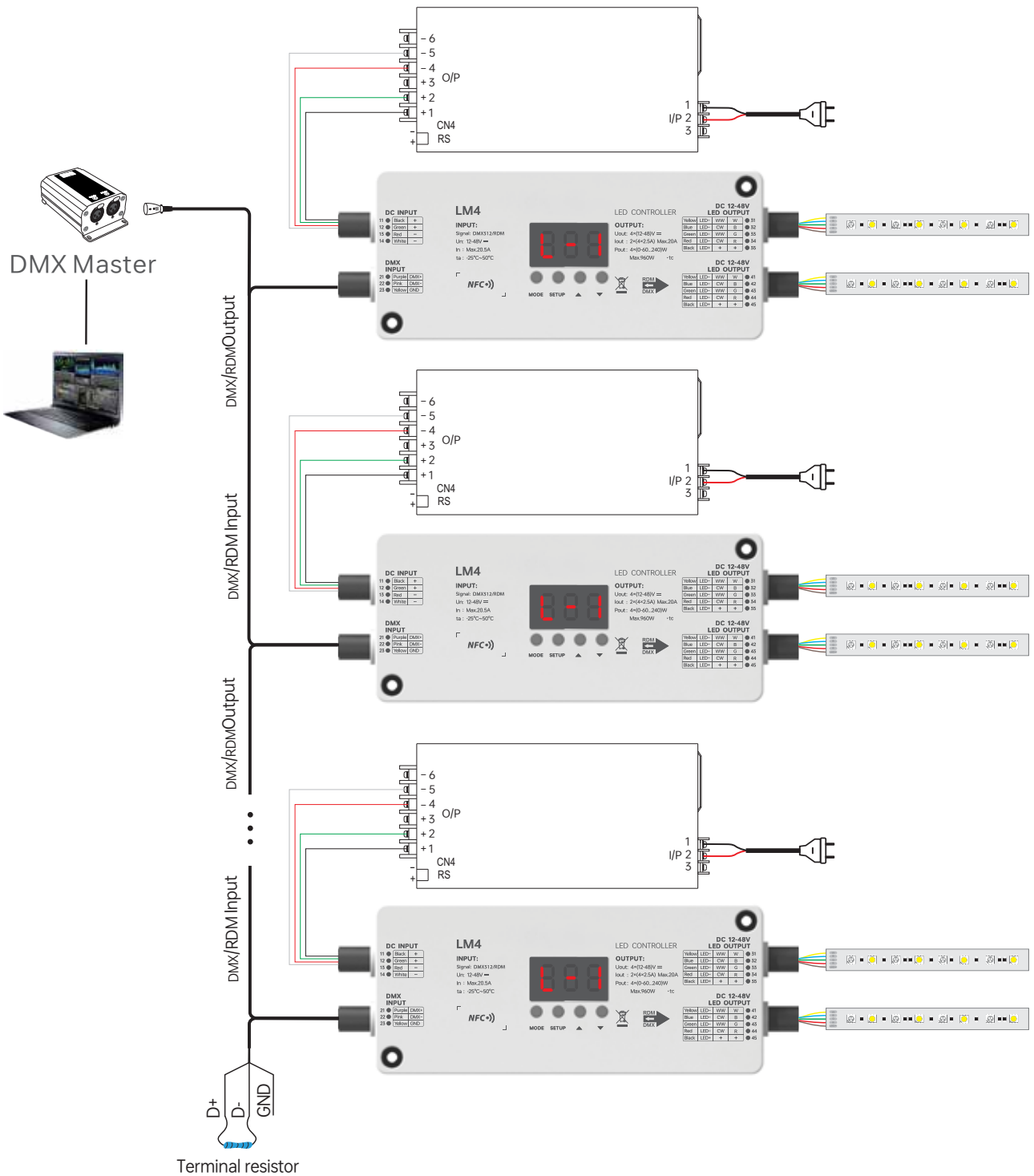
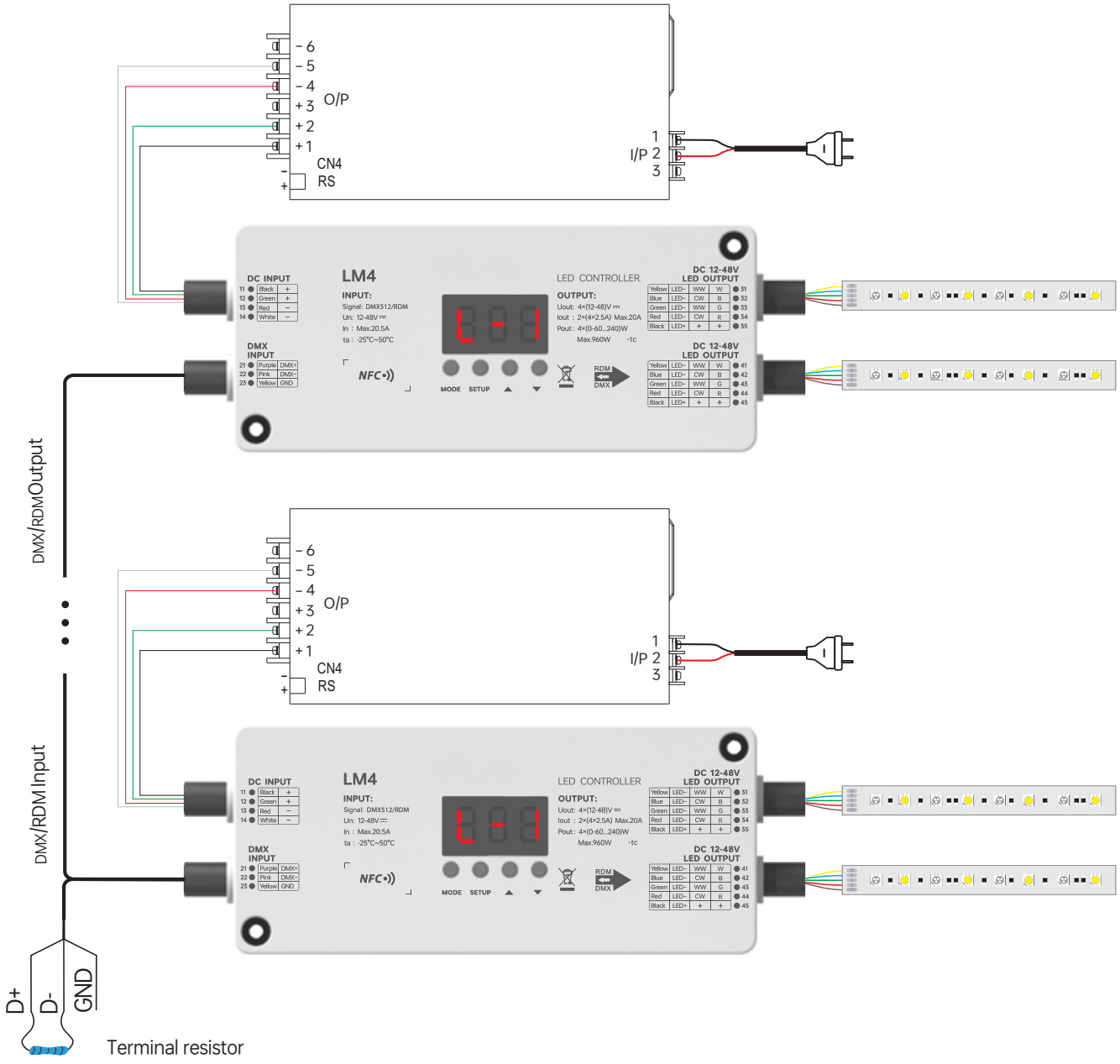
Connection Diagram

DMX Decoder Mode Connection
(The decoder mode can be set to DIM, CT, RGB, or RGBW via the NFC Lighting App or WiFi-RDM App.)



DMX Master Mode Connection (Set one decoder to DMX master mode via the NFC lighting app or WiFi-RDM app, while configuring the others as DMX decoders to form a single DMX control system.)



Address Setting Table

Mode	C-1 (DIM Synchronized Control)	C-2 (CT Synchronized Control)	C-3(RGB)	C-4(RGBW)	C-5 (CT Independent Control)	C-6 (DIM Independent Control)
Channel 1	001	001	001	001	001	001
Channel 2	001	002	002	002	002	002
Channel 3	001	001	003	003	003	003
Channel 4	001	002	003	004	004	004

*C-2 CT mode: The output of CW is constant power; Address 001 is to adjust the brightness; Address 002 is to adjust the color temperature.

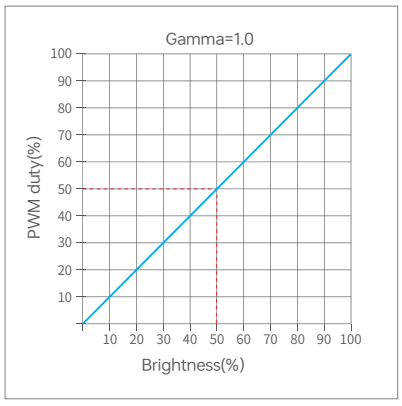
Load Parameters

At different PWM frequencies and different voltages, the max. load current and the total power of each channel vary. Before you do the wiring,please strictly follow the load parameters in the table below to operate.

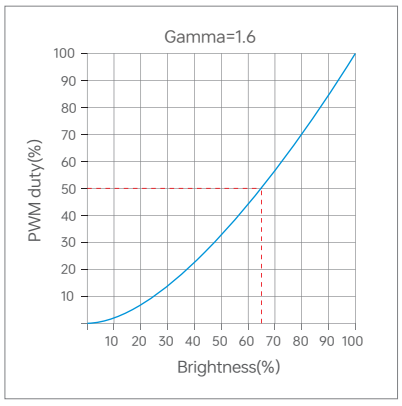
Max. current/ power / Frequency / Voltage	300Hz (F=0)	600Hz (F=1)	1.2kHz (F=2)	1.5kHz (F=3)	1.8kHz (F=4)	2.4kHz (F=5)
12V	5A×4CH/240W	5A×4CH/240W	5A×4CH/240W	5A×4CH/240W	5A×4CH/240W	5A×4CH/240W
24V	5A×4CH/480W	5A×4CH/480W	5A×4CH/480W	5A×4CH/480W	5A×4CH/480W	5A×4CH/480W
36V	5A×4CH/720W	5A×4CH/720W	5A×4CH/720W	5A×4CH/720W	5A×4CH/720W	5A×4CH/720W
48V	5A×4CH/960W	5A×4CH/960W	5A×4CH/960W	5A×4CH/960W	5A×4CH/960W	5A×4CH/960W

Max. current/ power / Frequency / Voltage	3.6kHz (F=6)	7.2kHz (F=7)	10.8kHz (F=8)	14.4kHz (F=9)	18kHz (F=A)	
12V	5A×4CH/240W	5A×4CH/240W	4A×4CH/192W	3A×4CH/144W	2.5A×4CH/120W	
24V	5A×4CH/480W	5A×4CH/480W	4A×4CH/384W	3A×4CH/288W	2.5A×4CH/240W	/
36V	5A×4CH/720W	5A×4CH/720W	3A×4CH/432W	3A×4CH/432W	2A×4CH/288W	
48V	5A×4CH/960W	4A×4CH/768W	3A×4CH/576W	3A×4CH/576W	2A×4CH/384W	

Dimming Curve Setting



Linear dimming curve

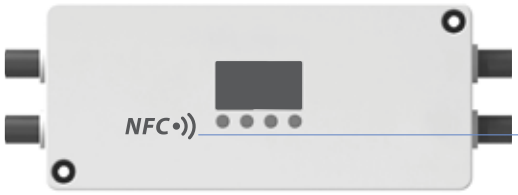


Logarithmic dimming curve

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).

Scan to download A
ios/apk



1.Read the LED driver

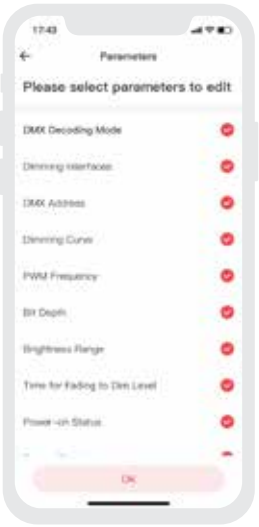
On the APP home page, click【Read/Write LED driver】, then keep the programmer's sensing area close to the NFC logo of the driver to read the driver parameters.

2. Edit parameters

Click [Parameters] to edit parameters such as DMX decoding mode, dimming interface, DMX address, dimming curve, PWM frequency, dimming range, and dimming ramp time.

3. Write to the drive

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.



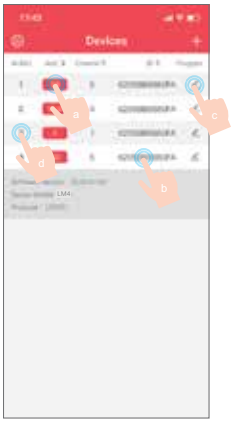
APP Operations

1. LM4 can work with a RDM-compliant address editor.
It is recommended to use the LTECH RDM editor (Model:WiFi-RDM01). Through the APP, set the screen timeout, unicast/multicast, and other parameters for Lm4. For detailed operations, please refer to the WiFi-RDM01 manual.

APP

✻ The WiFi-RDM01 editor and the constant voltage decoder are sold separately.

2. Select the working mode through the APP.
DMX Decoder mode: Set the dimming curve, bit depth, dimming mode, dimming range, etc.
DMX Control mode: Set lighting effects, speed, brightness, etc.



a: Click the box corresponding to "Address" to edit the address.
b: Click"ID", get more product details.
c: Click" ", enter edited interface.
d: Click"No.", issue the recognizing command.

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.

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:
Following conditions are not within the guarantee range of free repairing or replacement services:

- 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 our company.

1. Repair or replacement provided is the only remedy for customers. Our company is not liable for any incidental or consequential damage unless it is within the law.
2. Our company has the right to amend or adjust the terms of this warranty, and release in written form shall prevail.

Attention

- Product installation and commissioning should be done by a qualified professional.
- Our company 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.