LTECH

Constant Voltage 5 Channel DMX/RDM Decoder

- Standard DMX/RDM interfaces; Set addresses via the digital display and buttons.
- RDM protocol; Browse parameters and change DMX addresses via a RDM master or via the mobile APP .
- DMX decoder mode and DMX control mode are switchable, In the control mode, other decoders can be controlled by selecting preset lighting effects output
- PWM frequency options: 300/600/1200/1500/1800/2400/3600/7200/10800/ 14400/18000Hz.
- 16bit (65536 levels)/8bit (256 levels) gray scale optional.
- Linear and logarithmic dimming curve optional.
- DIM/CT/RGB/RGBW/RGBCW mode optional (1/2/3/4/5 DMX channel output).
- Provide 10 lighting effects, 8 speed levels of dynamic modes, and 255 brightness levels.
- Set screen timeout, LCD screen always on, and screen turning off after 30s of inactivity.
- Short-circuit, over-temperature, over-current, and reverse polarity protection, with automatic recovery.
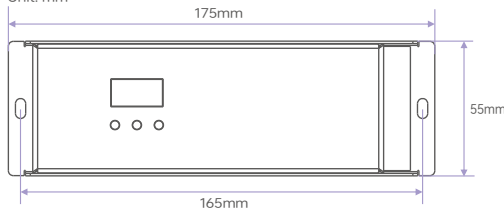- D5A has green terminal DMX interfaces, D5B has RJ45 DMX interfaces.

D5B

D5A

CE FC RDM/DMX 16bit RoHS

Product Parameters

Input Signal	DMX512, RDM		Working Temp.	-25 C-55 C
Input Voltage	12-48V ⎓		Safety regulations and Electromagnetic specifications	CE,EN 55015: 2019/A11: 2020 , EN 61547-1: 2021,FCC Part 15 Class B
Output Type	Constant Voltage			
Output Current	8A×3CH 6A×4CH 5A×5CH Max.25A		Dimensions	L175×W55×H30mm
Output Voltage	5×(12-48V ⎓)		Package Size	L188×W61×H40mm
Output Power	300W@12V 600W@24V 900W@36V 1200W@48V		Weight(G.W.)	370g±5g
Dimming Range	0-100%		Protection	Short-circuit, over-temperature, over-current, and reverse polarity protection, with automatic recovery.

Product Size

Unit: mm

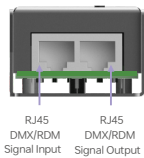175mm

55mm

165mm

30mm
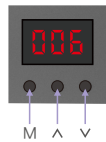
Main Component Description

Digital display

Wire diameter: 1.0-2.5² (18-12AWG)
Strip length: 6-7mm

DMX IN

D+
D-
GND
DMX IN

DMX OUT

D+
D-
GND
DMX OUT

006

D5A

M ∧ ∨

CH5
CH4
CH3
CH2
CH1
V+

LED

INPUT 12-48V

DC+
DC-

Output LED-W
Output LED-C
Output LED-B
Output LED-G
Output LED-R
Output LED+
Power input+
Power input-

Wire diameter: 1.0-2.5² (18-12AWG)
Strip length: 7-8mm

Settings buttons

Wire diameter: 1.5-4.0² (16-10AWG)
Strip length: 8-9mm

Digital display

Wire diameter: 1.0-2.5□(18-12AWG)
Strip length: 6-7mm

DMX IN

DMX OUT

Output LED-W
Output LED-C
Output LED-B
Output LED-G
Output LED-R
Output LED+
Power input+
Power input-

Settings buttons

Wire diameter: 1.5-4.0□(16-10AWG)
Strip length: 8-9mm

RJ45
DMX/RDM
Signal Input

RJ45
DMX/RDM
Signal Output

Digital display:

- Access Configuration: Long press the M button for more than 2s.
- Adjust Value: Short press ∧ or ∨ button.
- Exit Menu: Long press M button for 2s again to save the setting, then exit the menu.
- Long press M, ∧ and ∨ button simultaneously for 2s. When the screen displays RES, it has been reset to factory defaults.
- The display locks automatically after 15 seconds of inactivity.

M ∧ ∨

Button Operations

DMX Decoder Mode

Long press M and ∧ button simultaneously. When the screen displays "L-1", it enters the DMX decoder mode. Long press M button for 2s to enter the menu.

- **DMX address settings:** Press ∧ or ∨ button to set the DMX address. DMX address range: 001~512.

- **Bit Depth:** Short press M button to switch the menu to "r". Press ∧ or ∨ button to select bit depth and the third value on the screen will display 1 or 2. Options: r-1 (8bit), r-2 (16bit).

- **PWM frequency:** Short press M button to switch the menu to "F". Press ∧ or ∨ button to select PWM frequency and the third value on the screen will display 0 or A. Options: F-0 (300Hz), F-1 (600Hz), F-2 (1200Hz), F-3 (1500Hz), F-4 (1800Hz, default option), F-5 (2400Hz), F-6 (3600Hz), F-7 (7200Hz), F-8 (10800Hz), F-9 (14400Hz), F-A (18000Hz).

- **Time for fading to dim level:** Short press M button to switch the menu to "d". Press ∧ or ∨ button to select the fading time and the third value on the screen will display 1 or 2. Options: d-1 (Smooth dimming), d-2 (Standard dimming).

- **Dimming mode:** Press the M button briefly to switch the menu to 'C'. Use the ∧ or ∨ buttons to select. The third digital display will show 1~5. Options are as follows: C-1 (All 5 outputs are Channel 1)、C-2 (Channels 1 and 3 are Channel 1; Channels 2, 4, and 5 are Channel 2)、C-3 (Channel 1 is Channel 1; Channel 2 is Channel 2; Channels 3, 4, and 5 are Channel 3)、C-4 (Channel 1 is Channel 1; Channel 2 is Channel 2; Channel 3 is Channel 3; Channels 4 and 5 are Channel 4)、C-5 (Each of the 5 outputs corresponds to its respective channel) (default).

- **Screen timeout:** Short press M button to switch the menu to "n". Press ∧ or ∨ button to select screen timeout and the third value on the screen will display 1 or 2. Options: n-1 (Always on display), n-2 (After 30 seconds of inactivity).

DMX Control Mode

Long press M and ∨ button simultaneously. When the screen displays "L-2", it enters the control mode. Long press M button for 2s to enter the menu.

Long press M and ∨ button simultaneously. When the screen displays "L-2", it enters the control mode. Long press M button for 2s to enter the menu.

- **Lighting effects:** Short press M button to switch the menu to "E". Press ∧ or ∨ button to select the lighting effect and the third value on the screen will display 1, 2, 3, 4, 5, 6, 7, 8, 9 or A. Options: E-1 (No lighting effect), E-2 (Red), E-3 (Green), E-4 (Blue), E-5 (Yellow), E-6 (Purple), E-7 (Cyan), E-8 (White), E-9 (7-color jumping), E-A (7-color gradient).

- **Speed:** Short press M button to switch the menu to "S". Press ∧ or ∨ button to select speed and the third value on the screen will display 1, 2, 3, 4, 5, 6, 7 or 8. Default: S-5 Options: S-1/ S-2······S-7 / S-8 (Speed levels, speed increases one by one).

- **Brightness:** Short press M button to switch the menu to "B". Press ∧ or ∨ button to select the brightness level and the second and the third value on the screen will display 00-FF, B00-BFF, 255 levels, default maximum level is 256. Options: B00 / B01····· BFF. (Brightness levels, brightness increases one by one).

- **Screen timeout:** Short press M button to switch the menu to "n". Press ∧ or ∨ button to select screen timeout and the third value on the screen will display 1 or 2. Options: n-1 (Always on display), n-2 (After 30 seconds of inactivity).

Fault code: F-0: Over-temperature protection
F-1: Over-temperature warning
F-2: Short circuit/over-current protection

APP Operations

1. D5A and D5B 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 D5A and D5B. For detailed operations, please refer to the WiFi-RDM01 manual.
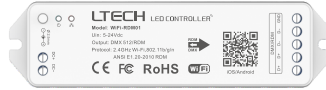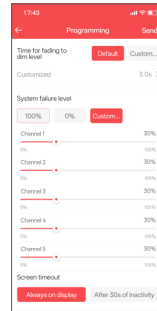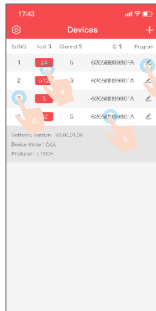
APP   ✳ The WiFi-RDM01 editor and the constant voltage decoder are sold separately.

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

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

Dimming Curve setting

Gamma=1.0

Linear dimming curve

Gamma=1.6

Logarithmic dimming curve
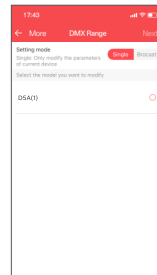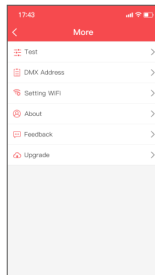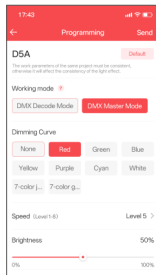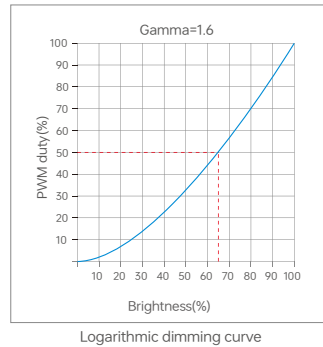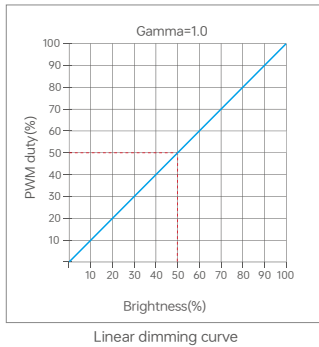
Address Setting Table

Address / Mode Channel	C-1(Dimming)	C-2(CT/CT2)	C-3(RGB)	C-4(RGBW)	C-5(RGBCW)
Channel 1	001	001	001	001	001
Channel 2	001	002	002	002	002
Channel 3	001	001	003	003	003
Channel 4	001	002	003	004	004
Channel 5	001	002	003	004	005

*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.
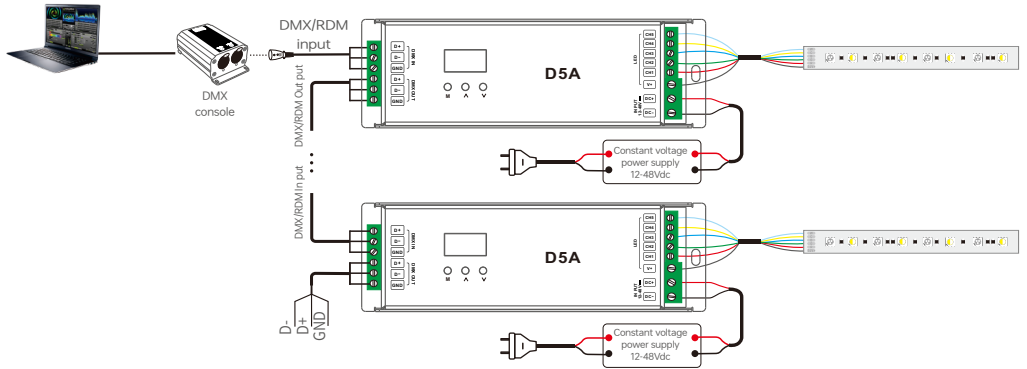
Load Parameters

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.
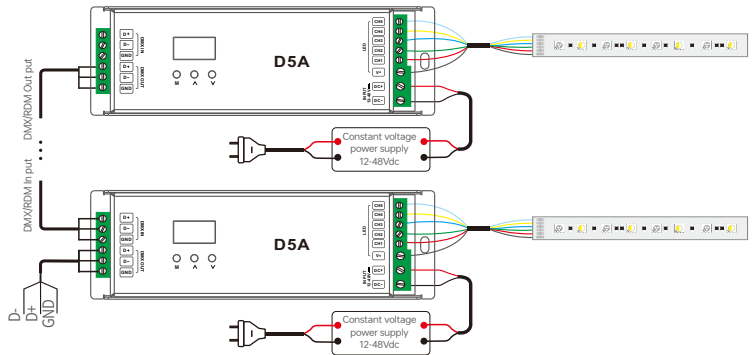
Max. current/power / Frequency Voltage	300Hz (F=0)	600Hz (F=1)	1.2kHz (F=2)	1.5kHz (F=3)	1.8kHz (F=4)	2.4kHz (F=5)
12V	5A×5CH/300W 6A×4CH/288W 8A×3CH/288W	5A×5CH/300W 6A×4CH/288W 8A×3CH/288W	5A×5CH/300W 6A×4CH/288W 8A×3CH/288W	5A×5CH/300W 6A×4CH/288W 8A×3CH/288W	5A×5CH/300W	5A×5CH/300W
24V	5A×5CH/600W 6A×4CH/576W 8A×3CH/576W	5A×5CH/600W 6A×4CH/576W 8A×3CH/576W	5A×5CH/600W 6A×4CH/576W 8A×3CH/576W	5A×5CH/600W 6A×4CH/576W 8A×3CH/576W	5A×5CH/600W	5A×5CH/600W
36V	5A×5CH/900W	5A×5CH/900W	5A×5CH/900W	5A×5CH/900W	5A×5CH/900W	4.5A×5CH/810W
48V	5A×5CH/1200W	5A×5CH/1200W	5A×5CH/1200W	5A×5CH/1200W	5A×5CH/1200W	4A×5CH/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×5CH/300W	5A×5CH/300W	4.5A×5CH/270W	4A×5CH/240W	3A×5CH/180W	
24V	4A×5CH/480W	2.5A×5CH/360W	2.5A×5CH/300W	2A×5CH/240W	1.5A×5CH/180W	/
36V	4A×5CH/720W	3A×5CH/540W	2A×5CH/360W	2A×5CH/360W	1A×5CH/180W	
48V	3A×5CH/720W	2A×5CH/480W	1.5A×5CH/360W	1.5A×5CH/360W	1A×5CH/240W	

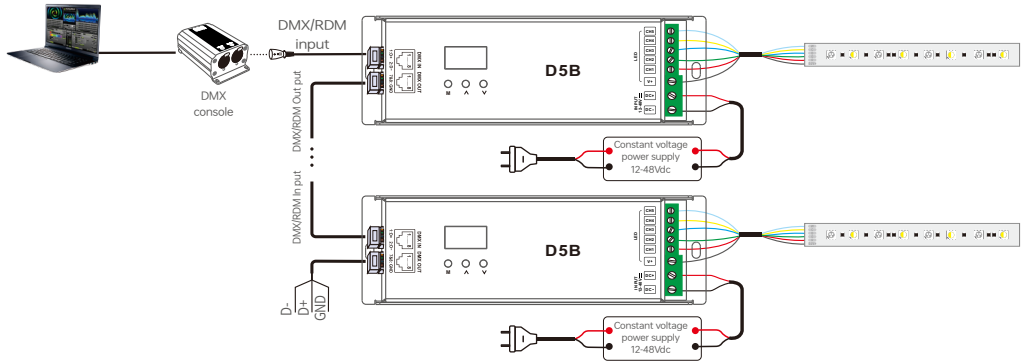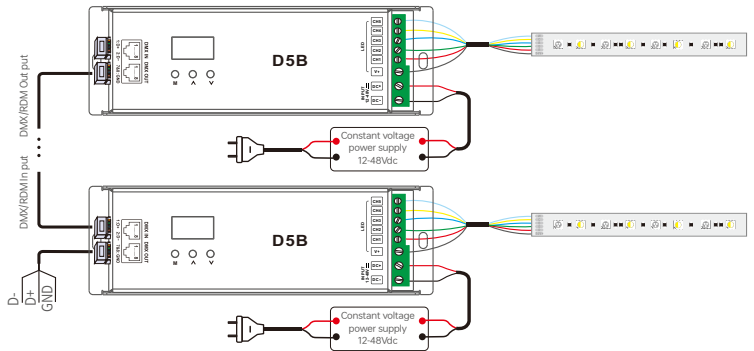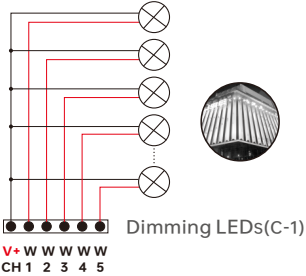# D5A Wiring Diagram

DMX decoder mode

DMX/RDM input

DMX console

DMX/RDM Out put

DMX/RDM In put

D5A

D5A

Constant voltage power supply 12-48Vdc

Constant voltage power supply 12-48Vdc

D-
D+
GND

DMX control mode

DMX/RDM Out put

DMX/RDM In put

D5A

D5A

Constant voltage power supply 12-48Vdc

Constant voltage power supply 12-48Vdc

D-
D+
GND
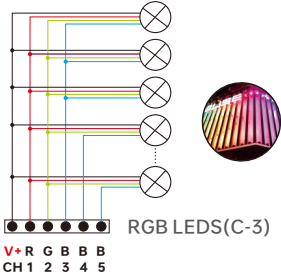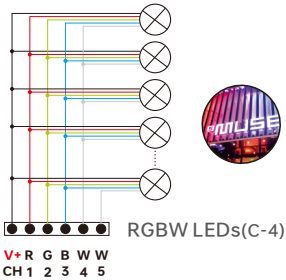
D5B Wiring Diagram

DMX decoder mode

DMX control mode

Dimming mode

Dimming LEDs(C-1)

V+ W W W W W
CH 1 2 3 4 5

CT mode

CT/CT2 LEDS(C-2)

V+ C W C W W
CH 1 2 3 4 5

RGB mode

RGB LEDS(C-3)

V+ R G B B B
CH 1 2 3 4 5

RGBW mode

RGBW LEDs(C-4)

V+ R G B W W
CH 1 2 3 4 5

RGBCW mode

RGBCW LEDs(C-5)
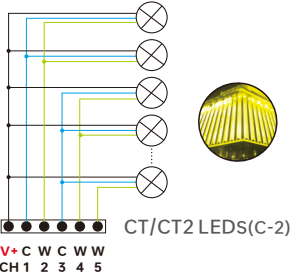
V+ R G B C W
CH 1 2 3 4 5
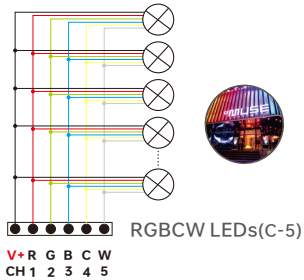
＊ When more than 32 DMX decoders are connected, DMX signal amplifiers are needed and signal amplification should not be more than 5 times continuously. If you need to modify the parameter settings of connected DMX/RDM decoders that exceed 32, you can add 1 RDM signal amplifier. Or you can add 1-5 DMX signal amplifiers after completing the parameter settings.

＊ If the recoil effect occurs because of long signal line or poor quality wires, please try to connect a 0.25W 90-120Ω terminal resistor at the end of each line.

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 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 : 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 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.