DMX512

# D24

## 24 Channel Constant Voltage DMX512 & RDM Decoder



## Feature

- Comply with the DMX512 standard protocols.
- Digital numeric display, set DMX decode start address by buttons.
- RDM function can realize intercommunication between DMX master and decoder. For example, DMX decoder address can be set by DMX master console.
- 16bit (65536 levels) /8bit (256 levels) grey level selectable.
- PWM frequency 500/1000/2000/4000/8000/16000/32000Hz selectable.
- Logarithmic or linear dimming curve selectable.
- Stand-alone 24-channel RGB mode and 24-channel dimmer mode selectable, which be controlled by buttons with built-in programs, instead of DMX signal.

## Technical Parameters

| Input and Output | |
|---|---|
| Input voltage | 12-24VDC |
| Input current | 60.5A |
| Output voltage | 24 x (12-24)VDC |
| Output current | 24CH, 3A/CH<br>Total Max. 60A |
| Output power | 24 x (36-72)W |
| Output type | Constant voltage |

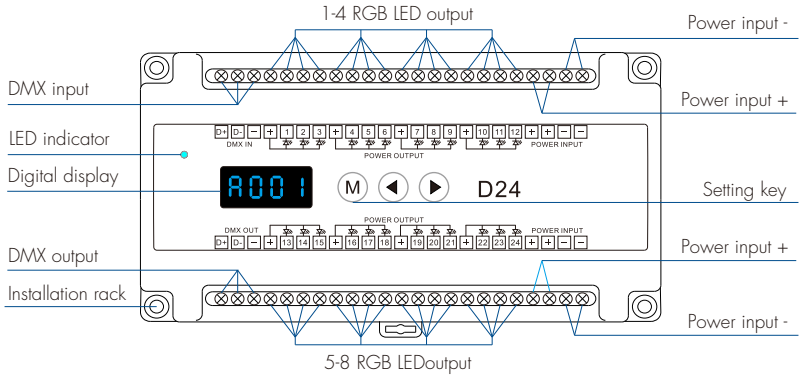
| Environment | |
|---|---|
| Operation temperature | Ta: -30 °C ~ +55 °C |
| Case temperature (Max.) | Tc: +85 °C |

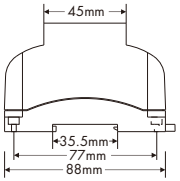
| Warranty and Protection | |
|---|---|
| Warranty | 5 years |
| Protection | Reverse Polarity |

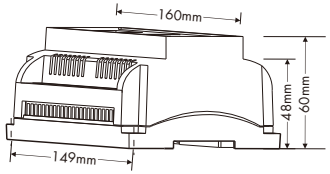
| Safety and EMC | |
|---|---|
| EMC standard | EN IEC 55015/<br>EN IEC 61547 |
| Safety standard | EN 61347-1/-2<br>EN 62493 |
| Certification | CE RoHS FCC |

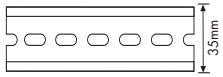
| Package | |
|---|---|
| Size | L165 x W98 x H72mm |
| Gross weight | 0.356kg |

## Mechanical Structures and Installations



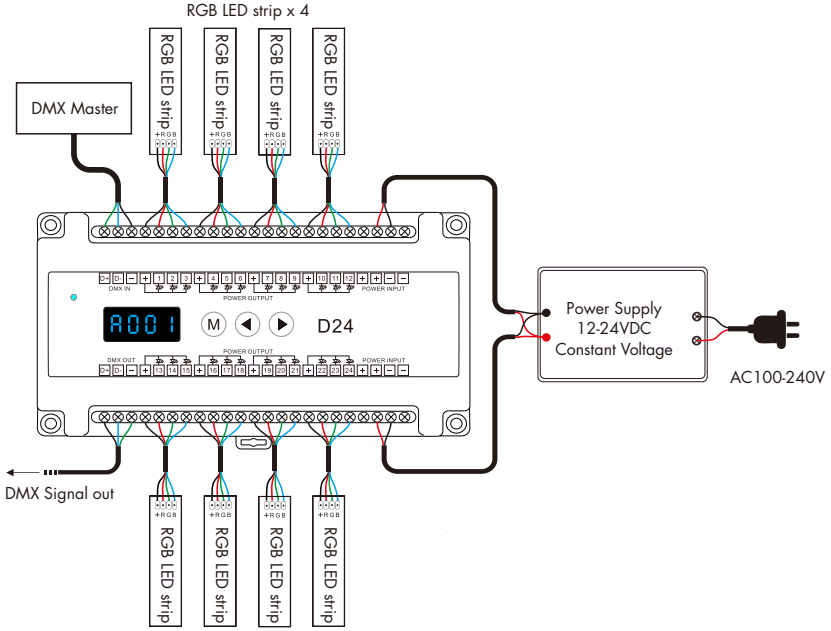




Guide rail mounting dimensions:
TS-35/7.5 or TS-35/15

## Wiring Diagram




Note:

1. An DMX signal amplifier is needed if more than 32 decoders are connected, or use overlong signal line, signal amplification should not be more than 5 times continuously.
2. If the recoil effect occurs because of longer signal line or bad line quality, please try to connect 0.25W 90-120Ω terminal resistor at the end of each line.

## Operation

System parameter setting

- Long press M and ◀ key for 2s, prepare for setup system parameter: decode mode, grey level, output PWM frequence, output brightness curve, default output level, automatic blank screen.short press M key to switch six item.
- Decode mode: short press ◀ key to switch 1-channel decode("d-01"), 3-channeldecode("d-03") , 6-channel decode("d-06") or 24-channel decode("d-24").When set as 1 channel decode, and 24 channel output the same brightness of this DMX address.
- Grey level: short press ◀ or ▶ key to switch 8bit("b-08") or 16 bit("b-16"). choose 16 bit if the DMX master support 16 bit.
- Output PWM frequence: short press ◀ or ▶ key to switch 500Hz("F05"), 1000Hz("F010"), 2000Hz("F020"), 4000Hz("F040"), 8000Hz("F080"), 16000Hz("F160") or 32000Hz("F320"). Higher PWM frequency, will cause lower output current, higher power noise, but more suitable for camera(No flickers for video).
  When setting the PWM frequency > 8000Hz, the output current per channel needs to be reduced (24x2A@12-24V at 16000H or 32000Hz).
- Output brightness curve: short press ◀ or ▶ key to switch linear curve("C-L") or logarithmic curve("C-E").
- Default output level: set output level when no DMX input signal. short press ◀ or ▶ key to switch maintain DMX output("d- -") or output default level ("d00" to "dFF", 0-100%), long press ◀ or ▶ key to change output default level.
- Automatic blank screen: short press ◀ or ▶ key to switch enable ("bon") or disable("boFF")automatic blank screen.
- Long press M key for 2s or timeout 10s, quit system parameter setting.

Note: In addition to manual button settings, the above system parameters can also be configured via the RDM function.

DMX mode

- Short press M key, when display A001~A512, enter DMX mode.
- Press ◀ or ▶ key to change DMX decode start address(001~512), long press for fast adjustment.
- If there is a DMX signal input, will enter DMX mode automatically.
- DMX Dimming: Each D24 DMX decoder occupy 24 DMX address when connecting the DMX console.
  For example, the defaulted start address is 1, their corresponding relationship in the form:

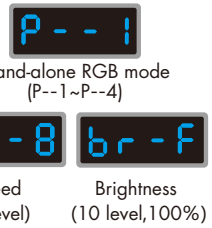


DMX mode
(A001~A512)

| DMX Console | DMX Decoder Output |
|---|---|
| CH1 0-255 | CH1 PWM 0-100% (LED 1#R) |
| CH2 0-255 | CH2 PWM 0-100% (LED 1#G) |
| CH3 0-255 | CH3 PWM 0-100% (LED 1#B) |
| ⋮ | ⋮ |
| CH24 0-255 | CH24 PWM 0-100% (LED 8#B) |

Stand-alone RGB mode

- Short press M key, when display P-1~P-4, enter stand-alone RGB mode.
- Press ◀ or ▶ key to change dynamic mode number(P-1~P-4).
- Each mode can adjust speed and brightness.
  Long press M key for 2s, prepare for setup mode speed, brightness.
  Short press M key to switch two item.
  Press ◀ or ▶ key to setup value of each item.
  Mode speed: 1-10 level speed(SP-1, SP-9, SP-F).
  Mode brightness: 1-10 level brightness(br-1, br-9, br-F).
  Long press M key for 2s, or timeout 10s, quit setting.
- Enter stand-alone RGB mode only when DMX signal is disconnected or lost.



Stand-alone RGB mode
(P--1~P--4)

Speed
(8 level)

Brightness
(10 level,100%)

RGB change mode list

| No. | Name |
|---|---|
| P-1 | White forward jump chase |
| P-2 | White forward smooth float |
| P-3 | Red,yellow, green,cyan,blue,purple forward jump chase |
| P-4 | Red,yellow, green,cyan,blue,purple forward smooth float |

Stand-alone dimmer mode

- Short press M key, when display L-1~L-8, enter stand-alone dimmer mode.
- Press ◀ or ▶ key to change dimmer mode number(L-1~L-8).
- Each dimmer mode can adjust each channel brightness independently.
  Long press M key for 2s, prepare for setup 24 channels brightness.
  Short press M key to switch 24 channels(0100~01FF, 0200~02FF, 0300~03FF, ... , 2400~24FF).
  Press ◀ or ▶ key to setup brightness value of each channel.
  Long press M key for 2s, or timeout 10s, quit setting.
- Enter stand-alone dimmer mode only when DMX signal is disconnected or lost.



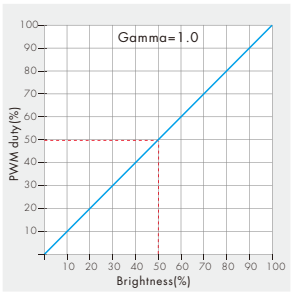
Stand-alone dimmer mode
(L-1~L-8)

Restore factory default parameter

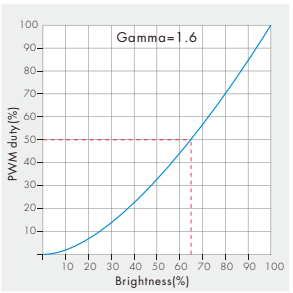
- Long press ◀ and ▶ key for 2s, restore factory default parameter, display"RES".
- Factory default parameter: DMX decode mode, DMX decode start address is 1, 24 channel decode, 8 bit grey level, 2000Hz PWM frequence output, logarithmic brightness curve, output 100% level when no DMX input, RGB mode number is 1, dimmer mode number is 1, disable automatic blank screen.

## Dimming Curve Setting

Linear dimming curve




Logarithmic dimming curve




## Malfunctions Analysis & Troubleshooting

| Malfunctions | Causes | Troubleshooting |
|---|---|---|
| No light | 1. No power.<br>2. Wrong connection or insecure. | 1. Check the power.<br>2. Check the connection. |
| Wrong color | 1. Wrong connection of R/G/B wires.<br>2. DMX decode address error. | 1.Reconnect R/G/B wires.<br>2. Set corrrect decode address. |
| Uneven intensity between front and rear,with voltage drop | 1. Output cable is too long.<br>2. Wire diameter is too small.<br>3. Overload beyond power supply capability.<br>4. Overload beyond controller capability. | 1. Reduce cable or loop supply.<br>2. Change wider wire.<br>3. Replace higher power supply.<br>4. Add power repeater. |