12 Channel Constant Voltage DMX512 & RDM Decoder

Model No.: D12

RDM/Stand-alone function/Two PWM frequency/Linear or logarithmic dimming/Numeric display/Din Rail

Features

- 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.
- PWM frequency 2000/500Hz selectable.
- Logarithmic or linear dimming curve selectable.
- Stand-alone 12ch RGB mode and 12 channel dimmer mode selectable, which be controlled by buttons with built-in programs, instead of DMX signal.

CE RoHS EMC LVD

Technical Parameters

Input and Output	
Input voltage	12-24VDC
Input current	60.5A
Output voltage	12 x (12-24)VDC
Output current	12CH, 5A/CH Total MAX 60A
Output power	12 x (60-120)W
Output type	Constant voltage

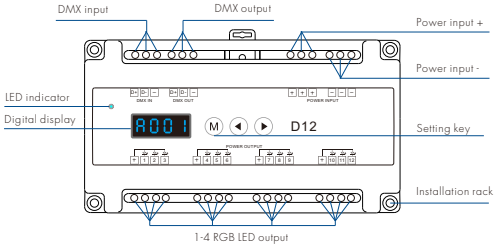
Environment	
Operation temperature	Ta: -30°C ~ +55°C
Case temperature (Max.)	Tc: +85°C
IP rating	IP20

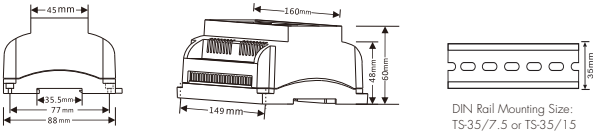
Safety and EMC	
EMC standard (EMC)	EN55032:2015, EN61000-3-2:2014, EN61000-3-2:2013, EN55024 :2010/A1:2015
Safety standard(LVD)	EN 61347-1:2015 EN 61347-2-11:2015
Certification	CE,EMC,LVD

Warranty and Protection	
Warranty	5 years
Protection	Reverse Polarity

Weight	
Net weight	0.249kg
Gross weight	0.300kg

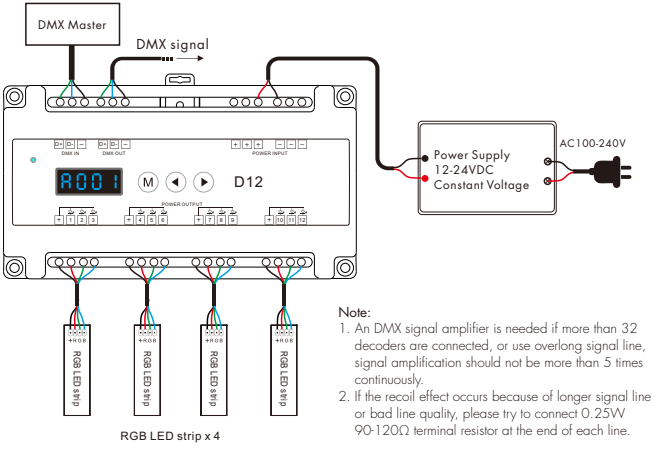
Mechanical Structures and Installations





DIN Rail Mounting Size:
TS-35/7.5 or TS-35/15

Wiring Diagram



RGB LED strip x 4

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, output PWM frequence, output brightness curve, automatic blank screen. short press M key to switch four item.
- Decode mode: short press ◂ or ▸ key to switch 1-channel decode("d-1"), 3-channeldecode("d-3") , 6-channel decode("d-6") or 12-channel decode("d-12"). When set as 1 channel decode, the decoder occupy only 1 DMX address, and 12 channel output the same brightness of this DMX address.
- Output PWM frequence: short press ◂ or ▸ key to switch 500Hz("F-L") or 2KHz("F-H"). Higher PWM frequency, will cause lower output current, higher power noise, but more suitable for camera(No flickers for video).
- Output brightness curve: short press ◂ or ▸ key to switch linear curve("C-L") or logarithmic curve("C-E").
- 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.

DMX mode

DMX mode
(A001~2048)

- Short press M key, when display A001~2048, enter DMX mode.
- Press ◂ or ▸ key to change DMX decode start address(001~2048), long press for fast adjustment.
- If there is a DMX signal input, will enter DMX mode automatically.
- DMX Dimming: Each D12 DMX decoder occupy 12 DMX address when connecting the DMX console.
  For example, the defaulted start address is 1,
  their corresponding relationship in the form:

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)
⋮	⋮
CH12 0-255	CH12 PWM 0-100% (LED 4#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,green,blue,white 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 12 channel brightness.
  Short press M key to switch 12 channel(0100~01FF, 0200~02FF, 0300~03FF, … , 1200~12FF),.
  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.

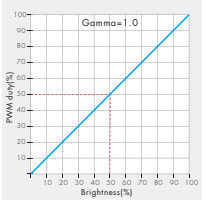
Stand-alone dimmer mode
(L--1~L--8)

Restore factory default parameter

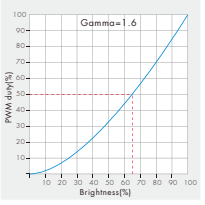
- Long press ◂ and ▸ key for 2s, restore factory default parameter, display"RES".
- Factory default parameter: DMX decode mode, DMX decode start address is 1, 12 channel decode, low PWM frequence output, logarithmic brightness curve, RGB mode number is 1, dimmer mode number is 1, disable automatic blank screen.

Dimming curve setting

Linear dimming curve



Logarithmic dimming curve



Malfunctions analysis & troubleshooting

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