

## D4-P, D4-E

### 4 Channel Constant Voltage DMX512 & RDM Decoder



D4-P



D4-E

FC CE RoHS

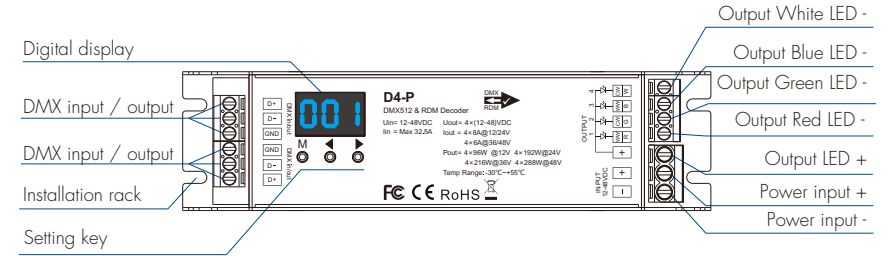
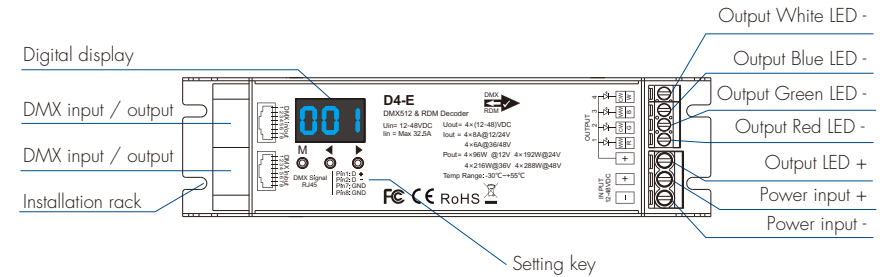
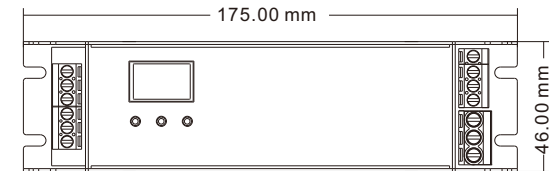
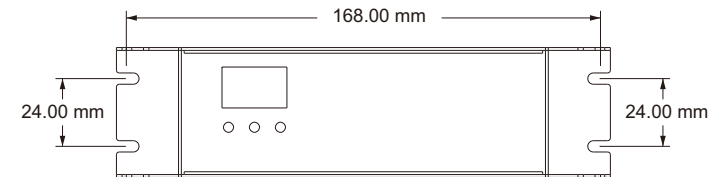
#### Features

- 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.
- 1/2/4 DMX channel output selectable.
- 16bit (65536 levels) /8bit (256 levels) grey level selectable.
- PWM frequency 250/500/1000/2000/4000/8000/16000/32000Hz selectable.
- Logarithmic or linear dimming curve selectable.
- Over-heat / Over-load / Short circuit protection, recover automatically.
- D4-P have Green terminal DMX signal ports, D4-E have RJ-45 DMX signal ports.

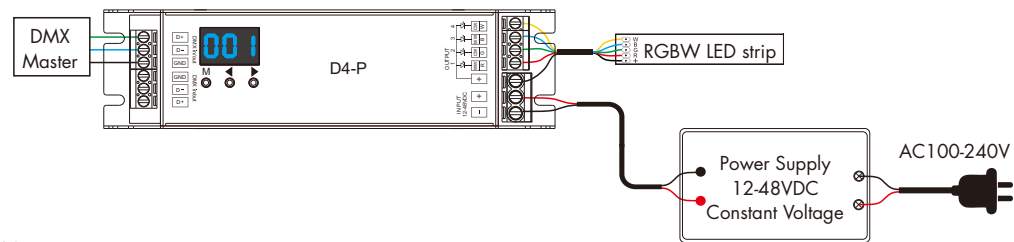
#### Technical Parameters

| Input and Output |                                                | Environment                             | Safety and EMC          |                                                        |
|------------------|------------------------------------------------|-----------------------------------------|-------------------------|--------------------------------------------------------|
| Input voltage    | 12-48VDC                                       | Operation temperature Ta: -30°C ~ +55°C | EMC standard            | EN IEC 55015/<br>EN IEC 61547                          |
| Input current    | 32.5A                                          | Case temperature (Max.): +75°C          | Safety standard         | EN 61347-1/-2<br>EN 62493                              |
| Output voltage   | 4 x (12-48)VDC                                 | IP rating IP20                          | Certification           | CE RoHS FCC                                            |
| Output current   | 4x8A@12/24V<br>4x6A@36/48V                     | Package                                 | Warranty and Protection |                                                        |
| Output power     | 4x96W @12V 4x192W@24V<br>4x216W@36V 4x288W@48V |                                         | Warranty                | 5 years                                                |
| Output type      | Constant voltage                               |                                         | Protection              | Reverse polarity, Over-heat<br>Overload, Short circuit |
|                  |                                                | Size                                    |                         |                                                        |
|                  |                                                | L178 x W50 x H38mm                      |                         |                                                        |
|                  |                                                | Gross weight                            |                         |                                                        |
|                  |                                                | 0.295kg                                 |                         |                                                        |

#### Mechanical Structures and Installations



## 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 DMX signal line.
3. When display OLA, overload alarm. When display OHA, overheat alarm.

## Operation

### System parameter setting

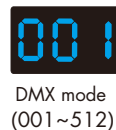
- Long press M and ◀ key in the same time for 2s, prepare for setup system parameter: decode mode, grey level, output PWM frequency, output brightness curve, default output level, automatic blank screen. short press M key to switch six item.
- Decode mode: short press ◀ or ▶ key to switch 1/2/4 channel decode mode("d-1", "d-2" or "d-4"). When set as 1 channel decode, the decoder occupy only 1 DMX address, and four channel output the same brightness of this DMX address.
- Grey level: short press ◀ or ▶ key to switch 8bit("b08") or 16 bit("b16"). choose 16 bit if the DMX master support 16 bit.
- Output PWM frequency: short press ◀ or ▶ key to switch 250Hz("F02"), 500Hz("F05"), 1000Hz("F10"), 2000Hz("F20"), 4000Hz("F40"), 8000Hz("F80"), 16000Hz("F16") or 32000Hz("F32"). Higher PWM frequency, will cause lower output current, higher power noise, but more suitable for camera(No flickers for video). When PWM frequency > 8000Hz, it is necessary to reduce the output current per channel (4x5A@12-24V and 4x4A@36-48V at 16000Hz; 4x4A@12-24V and 4x3A@36-48V at 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("boF") 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 001~512, 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 D4-P/D4-E DMX decoder occupy 4 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 R) |
| CH2 0-255   | CH2 PWM 0-100% (LED G) |
| CH3 0-255   | CH3 PWM 0-100% (LED B) |
| CH4 0-255   | CH4 PWM 0-100% (LED W) |



DMX mode  
(001~512)

### Self-test mode

- Enter self-test mode only when DMX signal is disconnected or lost.
- Short press M key, when display L-1~L-5, enter self-test mode.
- Press ◀ or ▶ key to change mode number (L~1~L~4: Channels 1~4 at full brightness; L~5: All channels at full brightness).



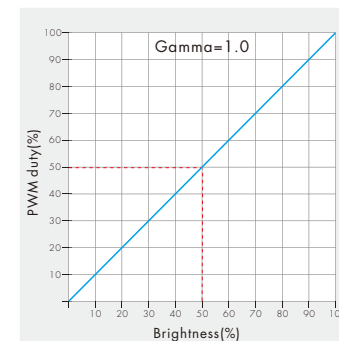
Self-test mode  
(L-1~L-5)

### Restore factory default setting

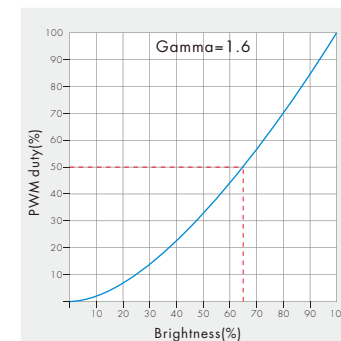
- Long press ◀ and ▶ key for 2s, restore factory default parameter, display "RES".
- Factory default parameter: DMX decode mode, DMX decode start address is 1, 8 bit grey level, 2000Hz PWM frequency output, logarithmic brightness curve, output 100% level when no DMX input, dimmer mode number is 1, disable 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/VV wires.<br>2. DMX decode address error.                                                                                     | 1. Reconnect R/G/B/VV wires.<br>2. Set correct 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. |

### FCC Statement:

This device complies with Part 15 of the FCC Rules. operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

IC Statement: This Class B digital apparatus complies with Canadian ICES-003.

(Cet appareil numérique de la Classe B conforme à la norme NMB-003 du Canada).