

# 16-Bit DMX 512 LED Decoder (Receiver)

4-channel LED receiver for DMX systems

*Commercial Grade*



This 16-bit DMX receiver is a 4-channel decoder that can be linked (through DMX 512 protocol) to any DMX-compatible controller.

With default 16-bit frequency, the decoder offers greater granularity than our other 8-bit DMX receivers – which means smoother PWM dimming. The unit will output either 12v or 24v, and giving up to 4 x 5A (5 amps per channel). The receiver is typically used to control RGB/RGBW products such as RGB LED tape, but can also control single-colour LEDs.

This DMX receiver offers screwless connector terminals, so multiple boxes can be easily daisy-chained using cat-5 cable wired back to a controller. As many DMX receivers as required can be linked together, but bear in mind that you may need a signal-booster to boost the controller signal for larger projects.

## quick spec sheet

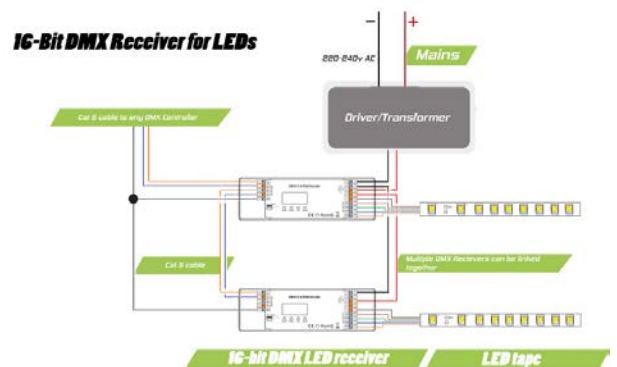
### Physical construction

Colour	White
Materials	Plastic
IP Rating	IP22
Length	170 mm
Width	53.5 mm
Depth	28 mm

### Electrical

Input voltage	240 V
Output voltage	12 V or 24 V (36 V also available)
Output current	4 x 5 amps
Wattage	60 W or 120 W per channel (180 W also available)

## wiring / connections



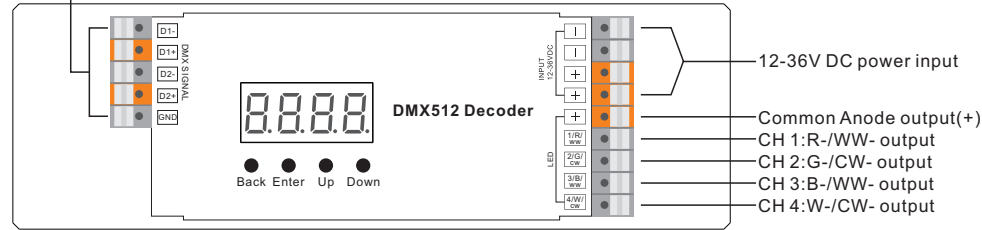
# Ultra-Pro 4CH RDM DMX512 Decoder



**Important:** Read All Instructions Prior to Installation

## Function introduction

2 groups DMX512 signal input & output



## Product Data

No.	Input Voltage	Output Current	Output Power	Remarks	Size(LxWxH)
1	12-36VDC	4x5A	4x(60-180)W	Constant voltage	170x53.4x28mm
2	12-48VDC	4x350mA	4x(4.2-16.8)W	Constant current	170x53.4x28mm
3	12-48VDC	4x700mA	4x(8.4-33.6)W	Constant current	170x53.4x28mm

- DMX512 RDM decoder, RDM function can realize intercommunication between DMX master and decoder. for example, you can set DMX decoder's address by DMX master console.
- Digital display to show data directly, easily to set and show DMX address.
- Total 4 PWM output channels, common anode. DMX channel quantity from 1CH~4CH settable
- PWM output resolution ratio 8bit , 16bit settable.
- Output PWM frequency from 500HZ ~ 30K HZ settable.
- Output dimming curve gamma value from 0.1 ~ 9.9 settable.
- Decoding mode settable.

## Safety & Warnings

- DO NOT install with power applied to device.
- DO NOT expose the device to moisture.

## Operation

### Button introduction

Up, Down button is for menu selection. After power on the decoder, if keep on clicking Up button, you will find below menu on display:

DMX signal indicator ● :: When DMX signal input is detected, the indicator on the display following after **8** turns on red **8.XXX** .

**8.XXX** Means DMX address. factory defaults setting is 001.

**88XX** Means DMX channels quantity.

**88XX** Means Bit (8bit or 16bit). factory defaults setting is 16bit

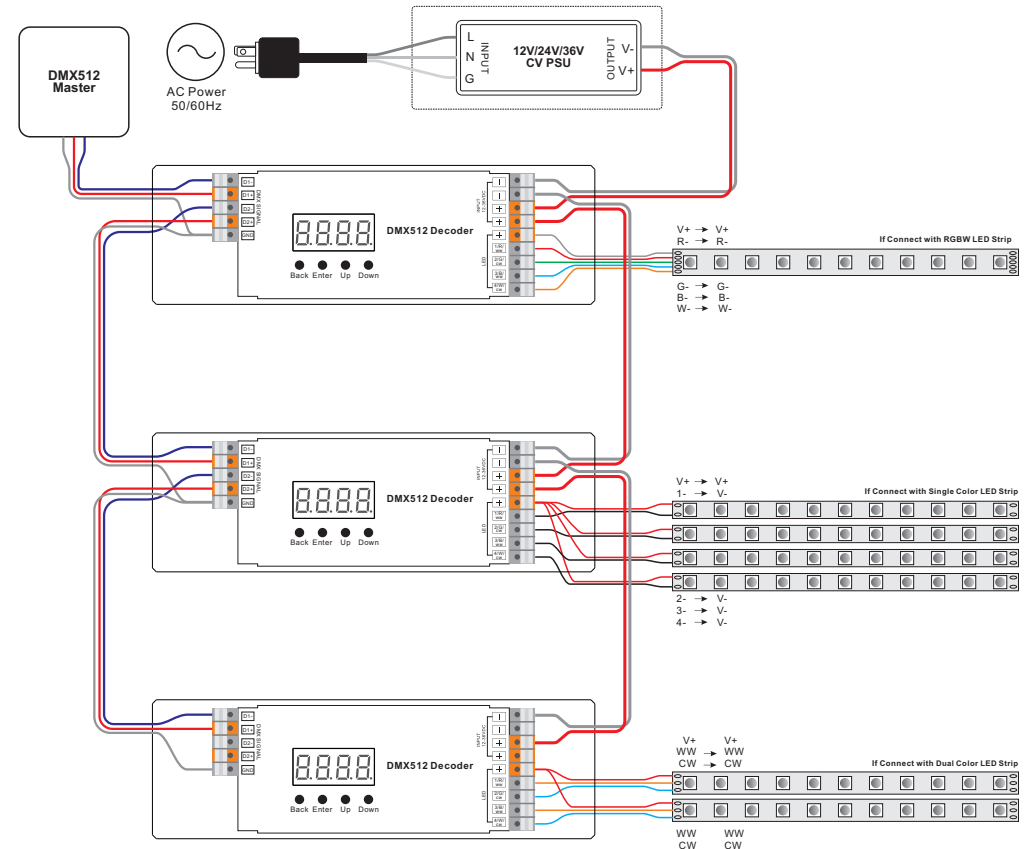
**88XX** Means output PWM frequency. factory defaults setting is 1K HZ

**88XX** Means output dimming curve gamma value, factory defaults setting is ga 1.5

**88XX** Means Decoding mode, factory defaults setting is dp1.1



## Wiring Diagram



By holding button Back + Enter together at the same time over 5 seconds until the display go off, it will restore default settings .

### 1. DMX address setting:

select menu **8.XXX** , click button "Enter", display flashes, then click or hold button "Up" / "Down" to set DMX address (click is slow, hold is fast.), then click button "Back" to confirm.

### 2. DMX channel quantity setting:

Select menu **88XX** , click button "Enter", display flashes, then click button "Up" / "Down" to set DMX channel quantity , then click button "Back" to confirm.

For example the DMX address is already set 001.

CH01=1 DMX address for all the output channels, which are all address 001.

CH02=2 DMX addresses , output 1&3 is address 001, output 2,4 is address 002

CH03=3 DMX addresses, output 1, 2 is address 001,002, output 3,4 is address 003

CH04=4 DMX addresses, output 1,2,3,4 is address 001,002,003,004

### 3. PWM output resolution Bit setting:

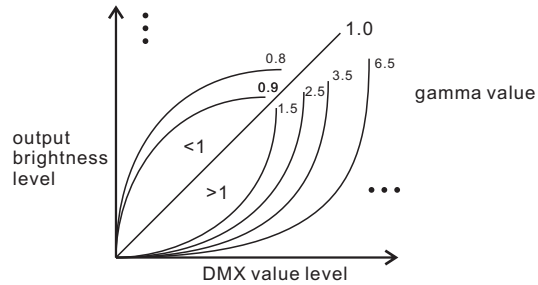
select menu **88XX** , click button "Enter", display flashes, then click button "Up" / "Down" to choose 08 or 16 bit, then click button "Back" to confirm.

### 4. output PWM frequency setting:

select menu **88XX** , click button "Enter", display flashes, then click button "Up" / "Down" to choose 00~30, then click button "Back" to confirm. 00=500HZ, 01=1kHz, 02=2kHz.....30=30kHz.

## 5. output dimming curve gamma value setting:

select menu **88XX**, click button “Enter”, display flashes, then click or hold button “Up” / “Down” to choose 0.1~9.9, then click button “Back” to confirm.



## 6. DMX decoding mode setting:

Select menu **88XX**, click button “Enter”, display flashes, then click or hold button “Up” / “Down” to choose the decoding mode, then click button “Back” to confirm. “dPxx” means the DMX address quantity used for control of corresponding PWM output channel quantity. 1st “x” is DMX address quantity, 2nd “x” is PWM channel quantity.

Micro dimming: the micro dimming effect can only be visible when the dimming curve gamma value is set lower than 1.4, and the lower the value is, the more visible the micro dimming effect will be.

### DMX address is 001, CH01

DMX Console Slider number	dp1.1	dp2.1
DMX channel		
1	for all output dimming	for all output dimming
2	No use	for all output micro dimming

### DMX address is 001, CH02

DMX Console Slider number	dp1.1	dp2.1	dp3.2
DMX channel			
1	for output 1&3 dimming	for output 1&3 dimming	for output 1&3 dimming
2	for output 2,4 dimming	for output 1&3 micro dimming	for output 2,4 dimming
3		for output 2,4 dimming	for all output dimming
4		for output 2,4 micro dimming	

### DMX address is 001, CH03

DMX Console Slider number	dp1.1	dp2.1	dp4.3	dp5.3
DMX channel				
1	for output 1 dimming	for output 1 dimming	for output 1 dimming	for output 1 dimming
2	for output 2 dimming	for output 1 micro dimming	for output 2 dimming	for output 2 dimming
3	for output 3,4 dimming	for output 2 dimming	for output 3,4 dimming	for output 3,4 dimming
4		for output 2 micro dimming	for all output master dimming	for all output master dimming
5		for output 3,4 dimming		strobe effects
6		for output 3,4 micro dimming		

### DMX address is 001, CH04

DMX Console Slider number	dp1.1	dp2.1	dp5.4	dp6.4
DMX channel				
1	for output 1 dimming	for output 1 dimming	for output 1 dimming	for output 1 dimming
2	for output 2 dimming	for output 1 micro dimming	for output 2 dimming	for output 2 dimming
3	for output 3 dimming	for output 2 dimming	for output 3 dimming	for output 3 dimming
4	for output 4 dimming	for output 2 micro dimming	for output 4 dimming	for output 4 dimming
5		for output 3 dimming	for all output master dimming	for all output master dimming
6		for output 3 micro dimming		strobe effects
7		for output 4 dimming		
8		for output 4 micro dimming		

### The data definitions for strobe channel are as follows:

```
{0, 7},//undefined
{8, 65},//slow strobe-->fast strobe
{66, 71},//undefined
{72, 127},//slow push fast close
{128, 133},//undefined
{134, 189},//slow close fast push
{190, 195},//undefined
{196, 250},//random strobe
{251, 255},//undefined
```

### Restore to Factory Default Setting

Press and hold down both “Back” and “Enter” keys until the digital display turns off, then release the keys, system will reset and the digital display will turn on again, all settings will be restored to factory default.

Default settings are as follows:

DMX Address Code: a001

DMX Address Quantity: SW1=0: ch04, SW1=1: ch03

PWM Resolution Mode: bt16

PWM Frequency: pf01

Gamma: ga1.5

Decoding Mode: dp1.1

### The supported RDM PIDs are as follows:

```
DISC_UNIQUE_BRANCH
DISC_MUTE
DISC_UN_MUTE
DEVICE_INFO
DMX_START_ADDRESS
IDENTIFY_DEVICE
SOFTWARE_VERSION_LABEL
DMX_PERSONALITY
DMX_PERSONALITY_DESCRIPTION
SLOT_INFO
SLOT_DESCRIPTION
MANUFACTURER_LABEL
SUPPORTED_PARAMETERS
```