Ultra-Pro 12CH RDM DMX512 Decoder

Important: Read All Instructions Prior to Installation

Function introduction

3/5 Pin male & female XLR terminal:
DMX512 signal input & output

12-24V DC power input

2xRJ45 terminal:
DMX512 signal
input & output

DMX512 & RDM Decoder

Back   Enter   Up   Down

Group 1:
4 channels output

Group 2:
4 channels output

Group 3:
4 channels output
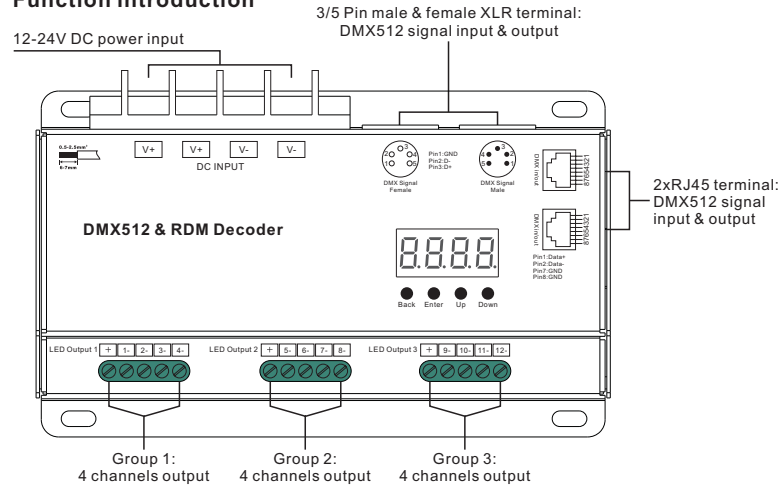
Product Data

No.	Input Voltage	Output Current	Output Power	Remarks	Size(LxWxH)	Protection
1	12-24VDC	12x5A	12x(60-120)W	Constant voltage	165.5x99.7x38mm	Short circuit
2	12-48VDC	12x350mA	12x(4.2-16.8)W	Constant current	165.5x99.7x38mm	Short circuit
3	12-48VDC	12x700mA	12x(8.4-33.6)W	Constant current	165.5x99.7x38mm	Short circuit

• Master & decoder mode, RDM function
• Metal housing, digital display to show data directly, easily to set and show DMX address.
• With multiple kinds of DMX in/out ports: RJ 45, XLR , normal screws.
• Total 12 PWM output channels, common anode. DMX channel quantity 1CH or 12CH 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.
• Galvanic isolation

Safety & Warnings

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

Operation

Before you do other settings, please set the device to be Master or Decoder mode.

`run1` = DMX Decoder mode , `run2` = DMX Master mode(stand alone).

Keep on clicking Down button, to get run1 or run2, then click Enter, then click Down button to choose 1 or 2, then click Back button.
After choose run1 or run2, please power off and power on again the device.

I. For run2 DMX Master mode: After power on the device, if keep on clicking Up button, you will find below menu on display:

Back   Enter   Up   Down

Means brightness for each output PWM channel. First 01 means PWM output channel 1 and it is selectable from 01 to 12 by clicking "UP" or "Down" button. Second 01 means brightness level, click "Enter" button, the display flashes, then click "UP" or "Down" button to select from 00-99-FL, which means 0%-99%-100% brightness, then click "Back" button to confirm.

means chasing effects, total 4 effects selectable from 01-04. Click "Up" or "Down" button to select the menu, then click "Enter" button to enter into the effect, then click "Up" or "Down" button to select from 01-04.

CA01: Fade-up (0%-100%) and fade-down (100%-0%) of output 1, then output 2, output 3, ..., output 12, output 1, ..., cycling chasing

CA02: Fade-up (0%-100%) of output 1, then simultaneous fade-down (100%-0%) of output 1 and fade-up (0%-100%) of output 2, simultaneous down of output 2 and up of output 3, ..., simultaneous down of output 11 and up of output 12, simultaneous down of output 12 and up of output 1, ..., cycling chasing

CA03: Fade-up (0%-100%) of output 1, then output 2, output 3, ..., output 12, output 1, ..., cycling chasing

CA04: Fade-down (100%-0%) of output 1, then output 2, output 3, ..., output 12, output 1, ..., cycling chasing

means chasing speed, it selectable from 01-09, 01 is the slowest, 09 is the fastest.

II. For run1 DMX decoder mode: 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 A turns on red   .

XXX   Means DMX address. fa ctory defaults setting is 001.

XX   Means DMX channels quantity. factory defaults setting is Ch12

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

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

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

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

`run1` Means the device at run1 mode (DMX decoder mode).

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

Wiring diagram

Under Master mode(Stand alone)

Under Decoder mode
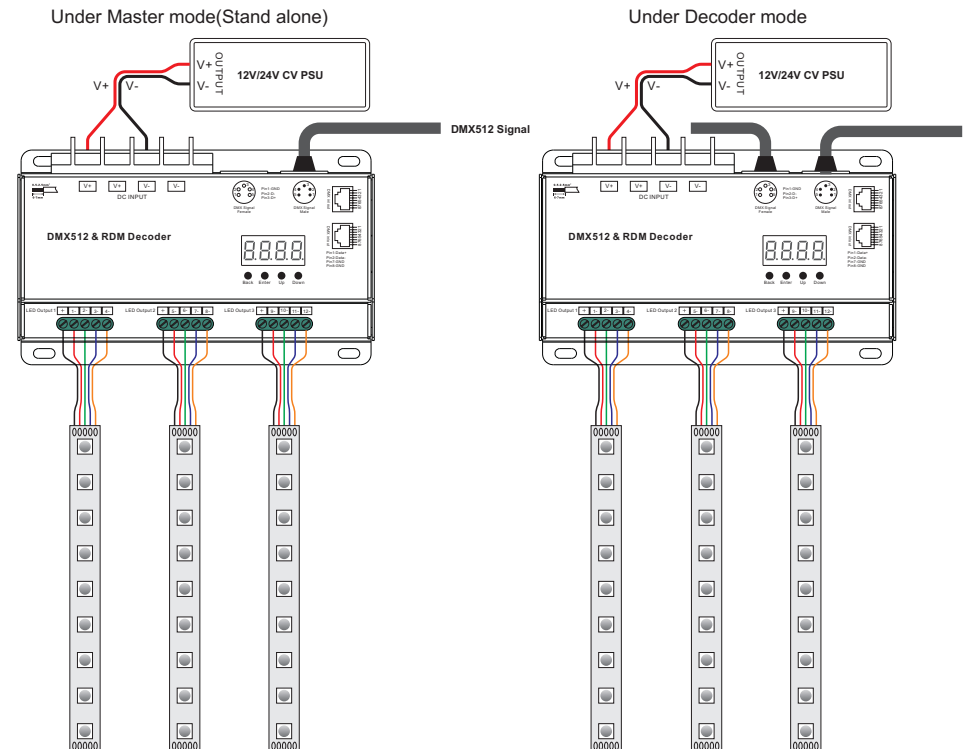
1. DMX address setting:

select menu **A** 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 **CH** XX , 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 as 001.
CH01=1 DMX address for all the output channels, which are all address 001.
CH12=12 DMX addresses, output 1-12 is address 001-012 respectively.
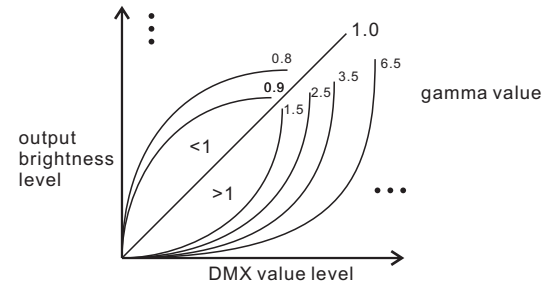
3. PWM output resolution Bit setting:

select menu **bt** XX , 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 **PF** XX , 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 **ga** XX , click button "Enter", display flashes, then click or hold button "Up" / "Down" to choose 0.1~9.9, then click button"Back" to confirm.

gamma value

output brightness level

DMX value level

6. DMX decoding mode setting:

Select menu **dP** XX , click button "Enter", display flashes, then click 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 / DMX channel	dp1.1	dp2.1	dp2.2	dp3.1
1	all output dimming	all output dimming	all output dimming	all output dimming
2		all output micro dimming	all output strobe effects	all output micro dimming
3				all output strobe effects

Short circuit protection

If short circuit of the connected load is detected, the display will flash to alarm and the load will be forced to open circuit status. Once the fault is removed, the decoder will recover after re-powered on.

DMX address is 001, CH12

DMX Console Slider number / DMX channel	dp1.1	dp2.1	dp3.2	dp3.4	dp4.3	dp5.3	dp5.4	dp6.4	dp8.6	dp9.6
1	output 1 dimming	output 1 dimming	output 1&2 dimming	output 1&2 &3&4 dimming	output 1&2 &3 dimming	output 1&2 &3 dimming	output 1&2 &3&4 dimming	output 1&2 &3&4 dimming	output 1&2 &3&4 dimming	output 1&2 &3&4 dimming
2	output 2 dimming	output 1 micro dimming	output 1 dimming	output 1 &3 dimming	output 1 dimming	output 1 dimming	output 1 dimming	output 1 dimming	output 1 dimming	output 1 dimming
3	output 3 dimming	output 2 dimming	output 2 dimming	output 2&4 dimming	output 2 dimming	output 2 dimming	output 2 dimming	output 2 dimming	output 2 dimming	output 2 dimming
4	output 4 dimming	output 2 micro dimming	output 3&4 dimming	output 5&6 &7&8 dimming	output 3 dimming	output 3 dimming	output 3 dimming	output 3 dimming	output 3 dimming	output 3 dimming
5	output 5 dimming	output 3 dimming	output 3 dimming	output 5&7 dimming	output 4&5 &6 dimming	output 1&2 &3 strobe effects	output 4 dimming	output 4 dimming	output 4 dimming	output 4 dimming
6	output 6 dimming	output 3 micro dimming	output 4 dimming	output 6 &8 dimming	output 4 dimming	output 4&5 &6 dimming	output 5&6 &7&8 dimming	output 1&2&3 &4 strobe effects	output 5&6 dimming	output 5&6 dimming
7	output 7 dimming	output 4 dimming	output 5&6 dimming	output 9&10&11 &12 dimming	output 5 dimming	output 4 dimming	output 5 dimming	output 5&6 &7&8 dimming	output 5 dimming	output 5 dimming
8	output 8 dimming	output 4 micro dimming	output 5 dimming	output 9&11 dimming	output 6 dimming	output 5 dimming	output 6 dimming	output 5 dimming	output 6 dimming	output 6 dimming
9	output 9 dimming	output 5 dimming	output 6 dimming	output 10 &12 dimming	output 7&8 &9 dimming	output 6 dimming	output 7 dimming	output 6 dimming	output 7&8&9 &10 dimming	output 1&2&3&4 &5&6 strobe effects
10	output 10 dimming	output 5 micro dimming	output 7&8 dimming		output 7 dimming	output 4&5 &6 strobe effects	output 8 dimming	output 7 dimming	output 7 dimming	output 7&8&9 &10 dimming
11	output 11 dimming	output 6 dimming	output 7 dimming		output 8 dimming	output 7&8 &9 dimming	output 9&10&11 &12 dimming	output 8 dimming	output 8 dimming	output 7 dimming
12	output 12 dimming	output 6 micro dimming	output 8 dimming		output 9 dimming	output 7 dimming	output 9 dimming	output 5&6&7 &8 strobe effects	output 9 dimming	output 8 dimming
13		output 7 dimming	output 9&10 dimming		output 10&11 &12 dimming	output 8 dimming	output 10 dimming	output 9&10 &11&12 dimming	output 10 dimming	output 9 dimming
14		output 7 micro dimming	output 9 dimming		output 10 dimming	output 9 dimming	output 11 dimming	output 9 dimming	for output 11 &12 dimming	output 10 dimming
15		output 8 dimming	output 10 dimming		output 11 dimming	output 7&8&9 strobe effects	output 12 dimming	output 10 dimming	for output 11 dimming	output 11&12 dimming
16		output 8 micro dimming	output 11&12 dimming		output 12 dimming	output 10&11& 12 dimming		output 11 dimming	for output 12 dimming	output 11 dimming
17		output 9 dimming	output 11 dimming			output 10 dimming		output 12 dimming		output 12 dimming
18		output 9 micro dimming	output 12 dimming			output 11 dimming		output 9&10&11 &12 strobe effects		output 7&8&9&10 &11&12 strobe effects
19		output 10 dimming				output 12 dimming				
20		output 10 micro dimming				output 10&11&12 strobe effects				
21		output 11 dimming								
22		output 11 micro dimming								
23		output 12 dimming								
24		output 12 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

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

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: ch12, SW1=1: ch01
PWM Resolution Mode: bt16
PWM Frequency: pf01
Gamma: ga1.5
Decoding Mode: dp1.1