DMX512 DATA Decoder User Manual

CE FC RoHS

（Please read through this manual carefully before use）

1. Brief Introduction

Welcome to use the DMX512 signal decoder, it is developed specially for LED lamps. It adapts the most advantage microchip technology, to convert the universal standard DMX512/1990 signal into various LED driving IC signals, and allows the LED lamps controlled by DMX protocol.

2. Specifications

| Mode	DMX512 DATA Decoder
Input power	DC5V-DC24V
Input signal	DMX512/1990
Output signal	6803/8806/2811/2801/3001/9813/1814/6812 selectable
Driving channel	510(RGB)/512(RGBW)
Control Pixel	170(RGB)/128(RGBW)
Dimension	L176×W46×H30(mm)
Weight (G.W)	180g

3. Basic Features

1. Automatically adapts input voltage DC5V-24V.
2. Input standard DMX512 protocol.
3. Adapts LCD display, user friendly.
4. Support various LED dream color driving ICs.
5. Support DMX master mode or slave mode.
6. Over current fuse protection at output port, Wrong wiring protection at DMX input port.

Setting	LCD Display	Value	Mode
Built-in sequence	MASTER MODE MODE NO ： 2	1-26	Master
Built-in speed	MASTER MODE RUN SPEED ： 1	0-7	Master
DMX Address	DECODER MODE DMX ADDRESS: 1	1-512	Slave
DMX Signal RGB	DECODER MODE DMX RGB SEQ:RGB	"RGB" "BGR"only effective for RGB LED strip	Slave
Pixel	DECODER MODE PIX NUMBER: 170	1-170(RGB)/1-128(RGBW)	Master&Slave
IC type	DECODER MODE IC TYPE: 2811	"2811""2801""6803""3001" "8806""9813""1814""6812"	Master&Slave
RGB Sequence	DECODER MODE LED RGB SEQ: RGB	6 SEQ(RGB)/24 SEQ(RGBW). when select RGB sequence,within 5 seconds the first three pixels are red, green and blue respectively is correct ;when select RGBW sequence,within 5 seconds the first four pixels are red, green, blue and white respectively is correct	Master&Slave
Integral Control	DECODER MODE ALL CONTROL: NO	"YES"," NO"	Master&Slave
Reverse Control	DECODER MODE REV-CONTROL: NO	"YES"," NO"	Master&Slave

Control ICs type:

IC Type	Compatible ICs	Type
2811	TM1803、TM1804、TM1809、TM1812、UCS1903、UCS1909、UCS1912、UCS2903、UCS2909、UCS2912、WS2811、WS2812B etc.	RGB
2801	WS2801、WS2803 etc.	RGB
6803	LPD6803、LPD1101、D705、UCS6909、UCS6912 etc.	RGB
3001	TLS3001, TLS3002 etc.	RGB
8806	LPD8803、LPD8806 etc.	RGB
9813	P9813 etc.	RGB
1814	TM1814 etc.	RGBW
6812	SK6812RGBW、UCS2904、P9412 etc.	RGBW

Built-in sequences list :

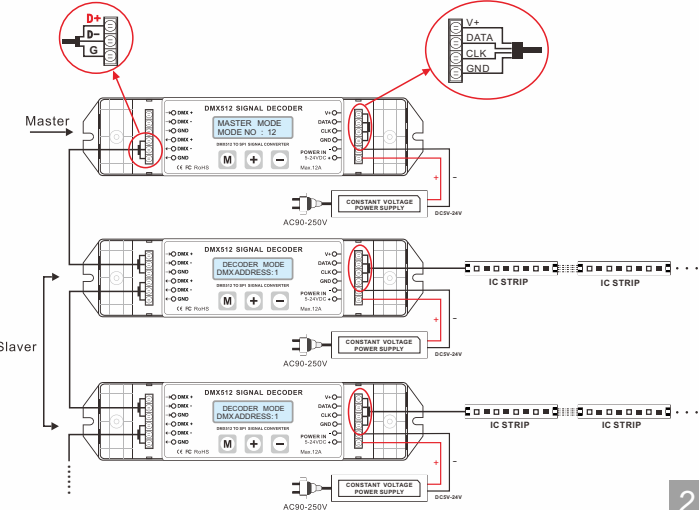| NO.	Built-in sequences	NO.	Built-in sequences
1	Solid color: Black(Off)	14	Green chase with trail
2	Solid color: Red	15	Blue chase with trail
3	Solid color: Green	16	white chase with trail
4	Solid color: Blue	17	RGB chase with trail
5	Solid color: Yellow	18	Rainbow chase with trail
6	Solid color: Purple	19	RGB chasing and fading
7	Solid color: CYAN	20	Red chasing Green, chasing Blue
8	Solid color: White	21	Orange chasing Purple, chasing Cyan
9	RGB CHANGE	22	Rainbow chase - 7 Colors
10	full COLOR CHANGE	23	Random twinkle: White over red background
11	RGB FADING	24	Random twinkle: White over green background
12	FULL COLOR FADING	25	Random twinkle: White over blue background
13	Red chase with trail	26	White fading

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4. Safety warnings

1. To ensure correct operation, please read the user manual carefully before use.
2. Please don't install this controller in lightening, intense magnetic and high-voltage fields.
3. To reduce the risk of component damage and fire caused by short circuit, make sure correct connection.
4. Always be sure to mount this unit in an area that will allow proper ventilation to ensure a fitting temperature.
5. Check if the voltage and power adapter suit the controller. (please select DC5-24V power supply with constant voltage)
6. Don't connect cables with power on; make sure a correct connection and no short circuit checked with instrument before power on.
7. Please don't open controller cover and operate if problems occur. Please contact your controller supplier at first time.
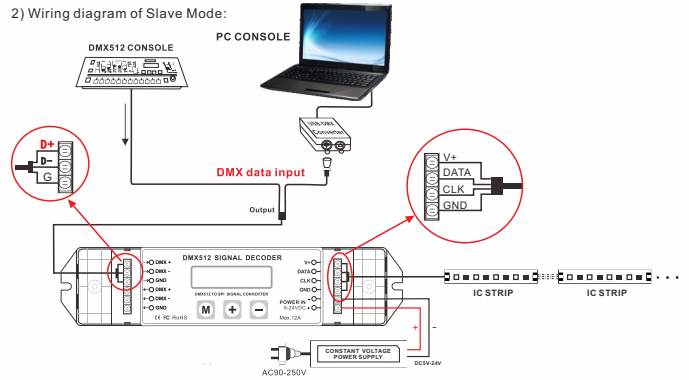
5. Dimensions

176mm

46mm

30mm
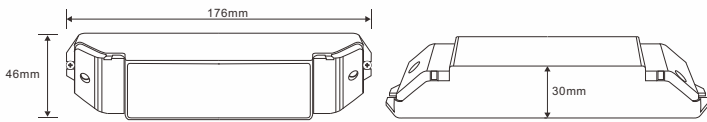
6. Conjunction Diagram

1) Wiring diagram of Master Mode : (Only one decoder is allowed to work as a master)

Master

Slaver

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2) Wiring diagram of Slave Mode:

DMX512 CONSOLE

PC CONSOLE

DMX data input

IC STRIP   IC STRIP

CONSTANT VOLTAGE POWER SUPPLY

Output LPD6803/LPD8806/P9813/WS2801 signal, three lines:

DATA	6803/8806/9813/2801 DATA
CLK	6803/8806/9813 /2801CLK
GND	GND, connect with the chip GND

Output WS2811/TLS3001/TM1814/SK6812 signal,two lines:

DATA	WS2811/TLS3001 DATA-CLK
GND	GND, connect with the chip GND

The input of the power supply can either wire to the output of the decoder V+, or wire seperately. When wire to V+, the inner fuse plays its role, and the max output current is 12A. here is the schematic diagram:

V+

Fuse

DC+

*Note: According to DMX512 protocol, in order to ensure a stable data transmission, you should add a metalster(Metal Thin Film resistor, 90-120Ω 1/4 W)at the end of each layout of DMX data cable(between Foot 2 and Foot 3, Data + and Data -), please also refer to your dmx console manual to select a correct resistor.

7.Operating instructions

There are 3 buttons on the decoder: M (Manu), + (increase),-(decrease)

M	Parameter setting,Long press for 2 seconds to switch between master mode and slave mode
+	Increase value
-	Decrease value

after operation, if no action within 30s, the key locks, backlight of the screen will turn off. Long press "M" for 2s to unlock the keys, and the backlight turns on.
When at master mode, the first line of LCD shows: MASTER MODE
When at slave mode, the first line of LCD shows: DECODER MODE
the second line of the LCD shows the current parameter, such as :