DMX512 - SPI Decoder

ORGANIC LIGHTING®

CE ROHS

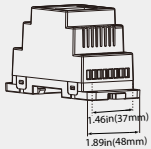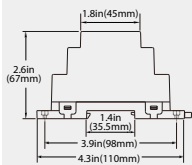## Technical Parameters

- Input voltage: 5-24VDC
- Input: DMX512 signal & RF (customized)
- Output: SPI signal
- Working temperature: -22˚F~131˚F (-30˚C~55˚C)
- Dimension(LxWxH): 4.5x1.89x2.63in(115×48×67mm)
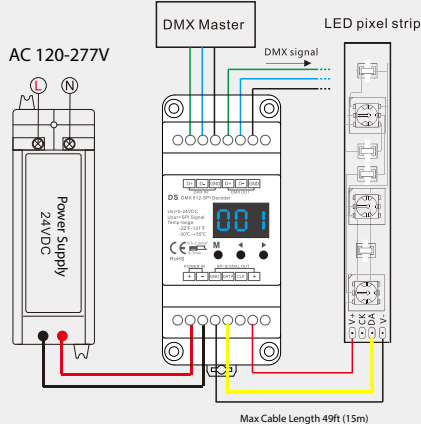- Weight: 0.23lbs (102g)

Summary

- Compatible with kinds of digital IC LED strip.
- Can work under DMX mode, Stand-alone mode, RF mode (customized).
- Under DMX mode, it can work as DMX decoder with standard DMX512 compliant interface, DMX address can be set easily and shown on the digital numeric display.
- Under Stand-alone mode, it can work as SPI controller, have 32 kinds dynamic mode, adjustable speed and brightness.
- Under RF mode, it matches with our RGBW remoter, it also can be controlled by mobile phone through WiFi-Relay controller.

Dimension

1.8in(45mm)
2.6in (67mm)
1.4in (35.5mm)
3.9in(98mm)
4.3in(110mm)
1.46in(37mm)
1.89in(48mm)

Wiring diagram

DMX Master

LED pixel strip

AC 120-277V

L   N

DMX signal

Power Supply 24VDC

DS DMX 512-SPI Decoder

Uin=5-24VDC
Uout=SPI Signal
Temp.range
-22˚F -131˚F
-30˚C +55˚C

001

M

Max Cable Length 49ft (15m)

Key Function

IC type, RGBW order and pixel length length setting

- You must first assure IC type, RGBW order and pixel length of the LED strip is correct.
- Long press M and ◀ key, prepare for setup IC type, RGBW order, pixel length, automatic blank screen, Short press M key to switch four item.
  Press ◀ or ▶ key to setup value of each item.
  Long press M key for 2s, or timeout 10s, quit setting.

C12	O-1	170	boF
IC type	RGBW order	pixel length	disable automatic blank screen

• IC type table:

No.	IC type	output signal
C11	TM1803	DATA
C12*	TM1809,TM1804,TM1812,UCS1903,UCS1909,UCS1912, UCS2903,UCS2909,UCS2912,WS2811,WS2812	DATA
C13	TM1829	DATA
C14	TLS3001,TLS3002	DATA
C15	GW6205	DATA
C16	MBI6120	DATA
C21	LPD6803,LPD1101,D705,UCS6909,UCS6912	DATA,CLK
C22	LPD8803,LPD8806	DATA,CLK
C23	WS2801,WS2803	DATA,CLK
C24	P9813	DATA,CLK

- RGBW order: O-1 - O-6 indicate six order(RGB, RBG, GRB, GBR, BRG, BGR).
- Pixel length: Range is 008-1024, b00-b24 indicate 1000-1024.
- Automatic blank screen: enable ("bon") or disable ("boF") automatic blank screen.

DMX mode

- Short press M key, when display 001-999, enter DMX mode.
- Press ◀ or ▶ key to change DMX decode address(001-999), long press for fast adjustment.
- Long press M key for 2s, prepare for setup decode number and multiple of pixels. DMX mode Short press M key to switch two item.
  Press ◀ or ▶ key to setup value of each item.
  Decode number(display "dno") : DMX decode channel number, range is 003-900.
  Multiple of pixels(display "Pno") : Each 3 DMX channel control length, range is 001-100.
  Long press M key for 2s, or timeout 10s, quit setting.

001

DMX mode

Stand-alone mode

- Short press M key, when display P01-P32, enter stand-alone mode.
- Press ◀ or ▶ key to change dynamic mode number (P01-P32).
- Each mode can adjust speed and brightness.
  Long press M key for 2s, prepare for setup mode speed and brightness.
  Short press M key to switch two item.
  Press ◀ or ▶ key to setup value of each item.
  Mode speed: 1-10 level speed (S-1, S-9, S-F).
  Mode brightness: 1-10 level brightness (b-1, b-9, b-F).
  Long press M key for 2s, or timeout 10s, quit setting.

`P01`
Stand-alone mode

`S-8` `b-F`
Speed   Brightness
(8 level)   (10 level,100%)

Dynamic mode list

No.	Name	No.	Name	No.	Name
P01	Red horse race white ground	P12	Blue White chase	P23	Purple float
P02	Green horse race white ground	P13	Green Cyan chase	P24	RGBW float
P03	Blue horse race white ground	P14	RGB chase	P25	Red Yellow float
P04	Yellow horse race blue ground	P15	7 color chase	P26	Green Cyan float
P05	Cyan horse race blue ground	P16	Blue meteor	P27	Blue Purple float
P06	Purple horse race blue ground	P17	Purple meteor	P28	Blue White float
P07	7 color multi horse race	P18	White meteor	P29	6 color float
P08	7 color horse race close + open	P19	7 color meteor	P30	6 color smooth sectionally
P09	7 color multi horse race close + open	P20	Red float	P31	7 color jump sectionally
P10	7 color scan close + open	P21	Green float	P32	7 color strobe sectionally
P11	7 color multi-scan close + open	P22	Blue float		

RF mode

Match with R9, R10, R14 or other RGB remoter.

Match: Long press M and ▶ key for 2s, display RLS,
   within 5s, press any key of the RGB remoter, display RLO, match is done,
   then use remoter to change mode number, adjust speed and brightness.

Delete: Long press M and ▶ key for 5s, until display RLE, delete all matched remoters
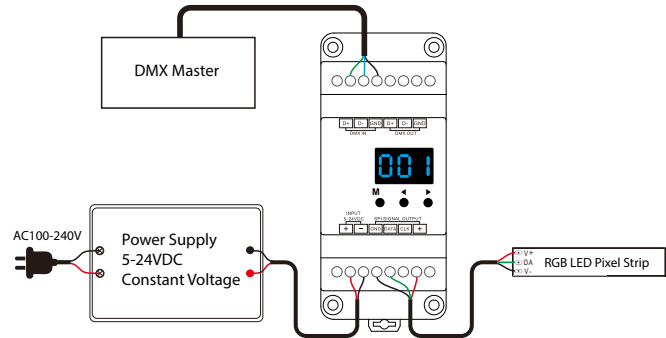
Restore factory default parameter

- Long press ◀ and ▶ key, restore factory default parameter, display "RES".
- Factory default parameter: DMX decode mode, DMX first address is 1, decode number is 510,
multiple of pixels 1, dynamic mode number is 1, chip type is TM1809, RGB order,
pixel length is 170, disable automatic blank screen, without matched remote.

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. Chip type error. 2. RGB order error. 3. DMX decode address error.	1. Set chip type according to strip. 2. Set RGB order according to strip. 3. Set corrrect decode address.

Wiring Diagram

Note:

- If the SPI LED pixel strip is single-wire control, the DATA and CLK output is same, we can connect up to 2 LED strips.

Safety & Warnings

1. The product shall be installed and serviced by a qualified person.
2. This product is non-waterproof. Please avoid the sun and rain.
3. Good heat dissipation will prolong the working life of the controller, please ensure good ventilation.
4. Please check if the output voltage of any power supplies used comply with the working voltage of the product.
5. Ensure all wire connections and polarities are correct and secure before applying power to avoid any damages to the LED lights.
6. If a fault occurs please return the product to your supplier. Do not attempt to fix this product by yourself.

Warranty Agreement

1. 5-year warranty:
   - The warranty is for free repair or replacement and covers manufacturing faults only.
   - Do not include fees of on site maintenance and consumable parts.
2. Limited Warranty
   - Artificial damage caused by improper use, such as use inappropriate power supply, improper accessories, improper installation, did not follow the instructions, error using or negligence.
   - Any damages caused by force majeure, such as natural disaster, abnormal voltage.
   - The normal use of products caused by aging, wear and tear, but it does not affect the normal use.

* Specifications sheets are subject to change without notification.