



Olympia Lighting DS-WP LED Control System User Manual

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DMX512-SPI Decoder and RF Controller

Model No.: DS-WP

Compatible with 45 kinds of IC / Digital display/Stand-alone function/ Wireless remote control

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Features

- DMX512 to SPI decoder and RF controller with digital display.
- Compatible with 45 kinds of digital IC RGB or RGBW LED strip, IC type and R/G/B order can be set.
Compatible ICs: TM1803, TM1804, TM1809, TM1812, UCS1903, UCS1909, UCS1912, SK6813, UCS2903, UCS2909, UCS2912, WS2811, WS2812, WS2813, WS2815, TM1829, TLS3001, TLS3002, GW6205, MBI6120, TM1814B(RGBW), SK6812(RGBW), WS2813(RGBW), WS2814(RGBW), UCS8904B(RGBW), LPD6803, LPD1101, D705, UCS6909, UCS6912, LPD8803, LPD8806, WS2801, WS2803, P9813, SK9822, TM1914A, GS8206, GS8208, UCS2904, SM16804, SM16825, SM16714(RGBW), UCS2603, UCS5603.
- DMX decode mode, stand-alone mode and RF mode selectable.
- Standard DMX512 compliant interface, set DMX decode start address by buttons.
- Under stand-alone mode, change mode, speed or brightness by buttons.
- Under RF mode, match with RF 2.4G RGB/RGBW remote control.
- 32 kinds of dynamic modes, include horse-race, chase, flow, trail or gradual change style.

Technical Parameters

Input and Output

Input voltage	5-24VDC
Power consumption	1W
Input signal	DMX512 + RF 2.4GHz
Output signal	SPI(TTL)
The number of dynamic modes	32
Control dots	170 pixels (RGB 510 CH) Max 900pixels

Warranty and Protection

Warranty	5 years
Protection	Reverse Polarity

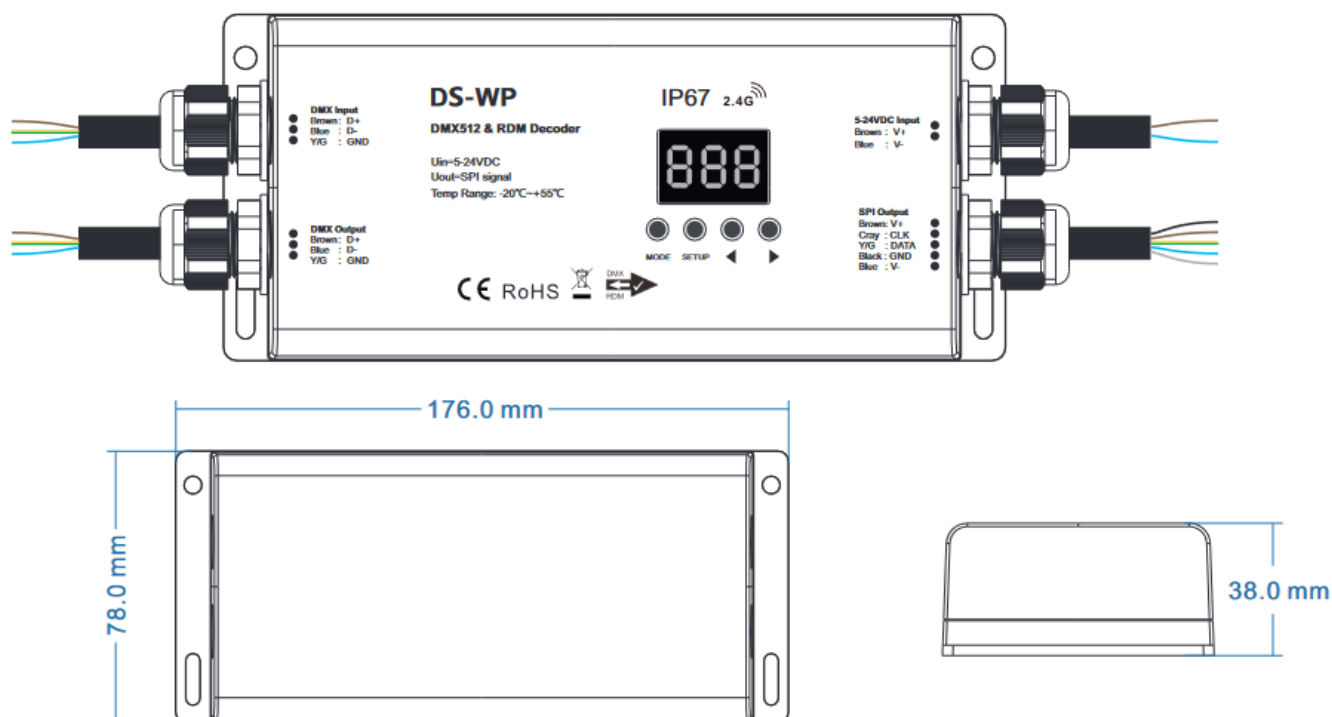
Safety and EMC

EMC standard(EMC)	ETSI EN 301 489-1 V2.2.3 ETSI EN 301 489-17 V3.2.4
Safety standard(LVD)	EN 62368-1:2020+A11:2020
Certification	CE,EMC,LVD,RED

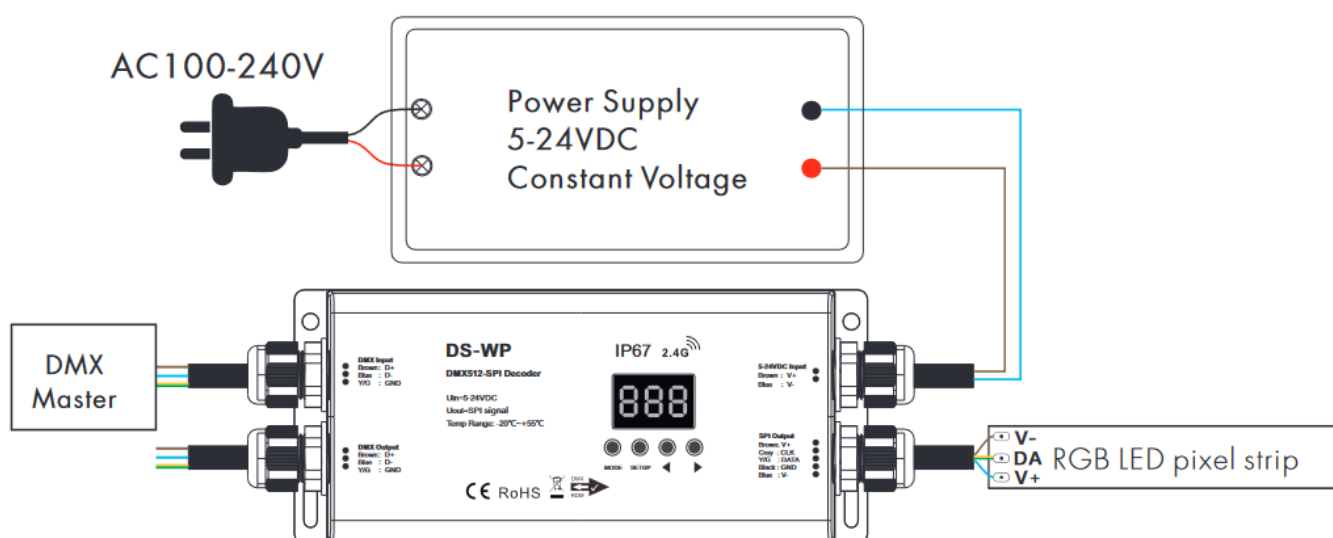
Environment

Operation temperature	Ta: -200 C ~ +550C
Case temperature (Max.)	T c: +650C
IP rating	IP67

Mechanical Structures and Installations



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.
- If the SPI LED pixel strip is two-wire control, we can connect up to 1 LED strips.

Operation

IC type, RGB order and pixel length length setting

- At rst you must rst assure IC type, RGB order and pixel length of the LED strip is correct.
- Long press M and ► key, prepare for IC type setup, RGB order, pixel length, automatic blank screen,
Short press M key to switch four item.
Press ◀ or ► key to setup value of each item.
Short press SETUP key, or timeout 10s, quit setting.



IC type



RGB 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, SK6813 UCS2903, UCS2909, UCS2912, WS2811, WS2812, WS2813, WS2815	DATA
C13	TM1829	DATA
C14	TLS3001, TLS3002	DATA
C15	Gw6205	DATA
C16	MBI6120	DATA
C17	TM1814B(RGBW)	DATA
C18	SK6812(RGBW), WS2813(RGBW), WS2814(RGBW)	DATA
C19	UCS8904B(RGBW)	DATA
C21	LPD6803, LPD1101, D705, UCS6909, UCS6912	DATA, CLK
C22	LPD8803, LPD8806	DATA, CLK
C23	WS2801, WS2803	DATA, CLK
C24	P9813	DATA, CLK
C25	SK9822	DATA, CLK
C31	TM1914A	DATA
C32	GS8206, GS8208	DATA
C33	UCS2904	DATA
C34	SM16804	DATA
C35	SM16825	DATA
C36	SM16714(RGBW)	DATA
C37	UCS5603	DATA
C38	UCS2603	DATA

- RGB order: O-1 – O-6 indicate six order (RGB, RBG, GRB, GBR, BRG, BGR).
- Pixel length: Range is 008-900.
- Automatic blank screen: enable (“bon”) or disable (“boF”) automatic blank screen.

DMX decode mode

There are two DMX decode modes selectable.

DMX decode mode1: change light color by setting DMX decode address ;



DMX decode mode

DMX decode mod 2: switch light dynamic modes, control brightness and dynamic mode speed via 3 different DMX decode addresses.

Long press M and SETUP key at the same time, prepare for setup DMX decode mode

Press ◀ or ▶ key to switch between DMX decode mode (display "d-1") and DMX decode mode (display "d-2").

Short press SETUP key, and then return to DMX address interface.

mode 1:

- Short press M key, when display 001-512, enter DMX decode mode.
- Press ◀ or ▶ key to change DMX decode start address(001-512), long press for fast adjustment.
- Short press SETUP key, prepare for setup decode number and multiple of pixels.

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 003-600(for RGB).

Multiple of pixels(display "Pno") : Each 3 DMX channel control length(for RGB), range is 001- pixel length.

- If there is a DMX signal input, will enter DMX decode mode automatically.

For example, the DMX-SPI decoder connect with RGB strip:

DMX data from DMX512 console:

DMX CH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
DMX Data	255	0	0	0	255	0	0	0	0	255	255	0	0	255	255	255	0	255

DMX-SPI decoder output (start address: 001, decode channel number: 18, each 3 channel control length: 1):



DMX-SPI decoder output (start address: 001, decode channel number: 18, each 3 channel control length: 3):



mode 2:

- Short press M key, when display 001-512, enter DMX decode mode.
- Press ◀ or ▶ key to change DMX decode start address(001-512), long press for fast adjustment.

For example, when the DMX start address is set to 001.

The address 1 of DMX console is for dynamic light type setting (32 modes), address 2 is for brightness setting (10 levels), address 3 is for speed setting (10 levels).

- Address 1 of DMX console : dynamic light mode

1: 0-8 2: 9-16 3: 17-24 4: 25-32	5: 33-40 6: 41-48 7: 49-56 8: 57-64
9: 65-72 10: 73-80 11: 81-88 12: 89-96	13: 97-104 14: 105-112 15: 113-120 16: 121-128
17: 129-136 18: 137-144 19: 145-152 20: 153-160	21: 161-168 22: 169-176 23: 177-184 24: 185-192
25: 193-200 26: 201-208 27: 209-216 28: 217-224	29: 225-232 30: 233-240 31: 241-248 32: 249-255

- Address 2 of DMX console : Brightness (when address 2<5 turn off the light)

1: 5-25 (10%) 2: 26-50 (20%) 3: 51-75(30%) 4: 76-100(40%) 5: 101-125(50%)	6: 126-150(60%) 7: 151-175(70%) 8: 176-200(80%) 9: 201-225(90%) 10: 226-255(100%)
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- Address 3 of DMX console : Speed

1:0-25(10%) 2:26-50(20%) 3:51-75(30%) 4:76-100(40%) 5:101-125(50%)	6:126-150(60%) 7:151-175(70%) 8:176-200(80%) 9:201-225(90%) 10:226-255(100%)
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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.



Stand-alone mode



Speed
(8 level)



Brightness
(10 level, 100%)

Short press SETUP key, 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).

Short press SETUP key , or timeout 10s, quit setting.

- Enter stand-alone mode only when DMX signal is disconnected or lost.

Dynamic mode list

No.	Name
P01	Red horse race white ground
P02	Green horse race white ground
P03	Blue horse race white ground
P04	Yellow horse race blue ground
P05	Cyan horse race blue ground
P06	Purple horse race blue ground
P07	7 color multi horse race
P08	7 color horse raceclose + open
P09	7 color multihorse raceclose + open
P10	7 color scan close + open
P11	7 color multi-scan close + open
P12	Blue White chase
P13	Green Cyan chase
P14	RGB chase

P15	7 color chase
P16	Blue meteor
P17	Purple meteor
P18	White meteor
P19	7 color meteor
P20	Red oat
P21	Green oat
P22	Blue oat
P23	Purple oat
P24	RGBW oat
P25	Red Yellow oat
P26	Green Cyan oat
P27	Blue Purple oat
P28	Blue White oat
P29	6 color smooth sectionally
P30	6 color oat
P31	7 color jump sectionally
P32	7 color strobe sectionally

RF mode

Match: Long press M and ► key for 2s, display “RLS”, within 5s, press on/off key of the RGB remote, display “RLO”, match is successful, then use the RF remote to change mode number, adjust speed or brightness.

Delete: Long press M and ► key for 5s, until display “RLE”, delete all matched RF remote.

Restore factory default parameter

- Long press ◀ and ► key, restore factory default parameter, display “RES”.
- Factory default parameter: DMX decode mode 1, DMX decode start 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 RF remote.



Documents / Resources

	Olympia Lighting DS-WP LED Control System [pdf] User Manual DS-WP LED Control System, DS-WP, LED Control System, Control System
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