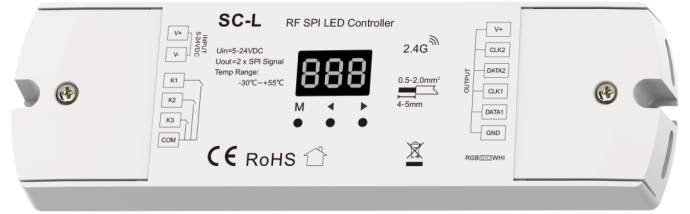


# RF SPI LED Controller

- RF 2.4G Multi-Pixel RGB/RGBW controller, output two group SPI signals, digital display, 3-button operation.
- Compatible with 47kinds of digital IC RGB/RGBW or white light SPI 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, MBI6020, TM1914A, GS8206, GS8208, UCS2904, SM16804, SM16825, SM16714(RGBW), UCS2603, UCS5603, SM16714D.
- Color light or white light mode set by one dip switch.
- 32 kinds color light dynamic mode, 8 kinds white light dynamic mode, include horse-race, chase, flow, trail, meteor or gradual change style.
- Three push switches can be connected for on/off, dynamic change mode and speed selection functions.
- Match with RF 2.4G remote control optional.

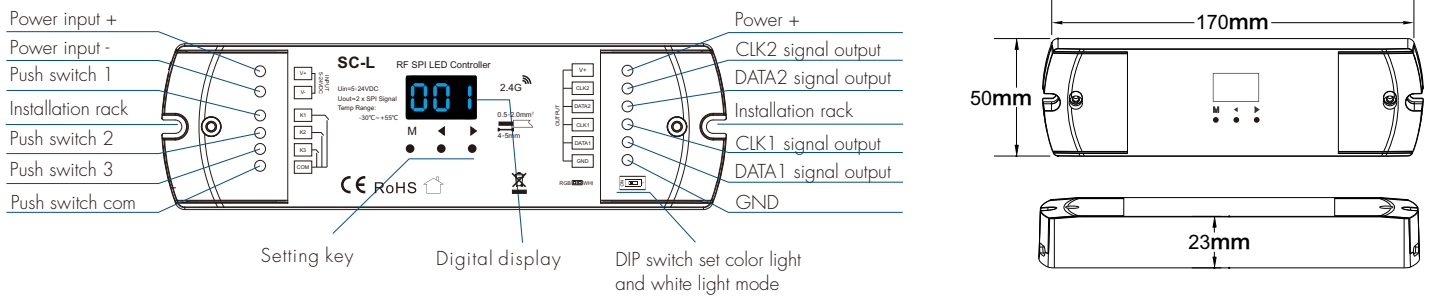


CE RoHS emc RED

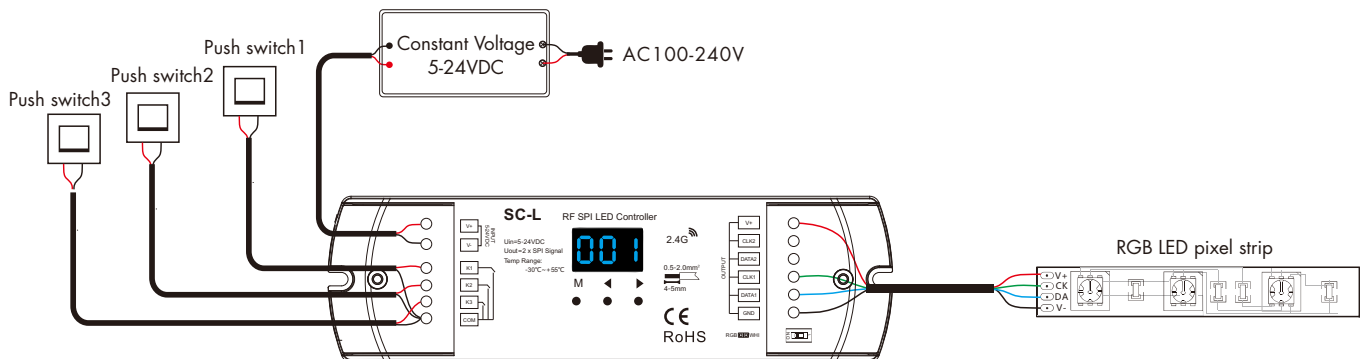
## Technical Parameters

Input and Output	Safety and EMC	Environment
Input voltage: 5-24VDC	EMC standard (EMC): ETSI EN 301 489-1 V2.2.3	Operation temperature: Ta: -30°C ~ +55°C
Input current: 8A	EMC standard (EMC): ETSI EN 301 489-17 V3.2.4	Case temperature (Max.): Tc: +65°C
Power consumption: 1W	Safety standard: EN 62368-1:2020+A11:2020	IP rating: IP20
Input signal: RF 2.4GHz + push switch	Radio Equipment(RED): ETSI EN 300 328 V2.2.2	Package
Output signal: SPI(TTL) x 2	Certification: CE,EMC,RED	Size: 175x 54 x 27mm(LxWxH)
Dynamic mode: 32 kinds color light, 8 kinds white light	Warranty	Gross weight: 0.122kg
Control dots: Max. 900pixels	Warranty: 5 years	

## 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 4 LED strips.
- If the SPI LED pixel strip is two-wire control, we can connect up to 2 LED strips.

## LED strip parameter setting

### IC type, RGB order and pixel length setting

- You must first assure IC type, RGB order and pixel length of the LED strip is correct.
- Long press M and ◀ key for 2s, prepare for setup IC type, RGB 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.



IC type



RGB order



pixel length



disable automatic blank screen

- IC type select 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
C26	MBI6020	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
C39	SM16714D	DATA

- RGB order: 0-0 ~ 0-5 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.

### Restore factory default parameter

- Long press ◀ and ▶ key for 2s, restore factory default parameter, display "RES".
- Factory default parameter: chip number is C12(TM1809), RGB order is 0-0, pixel length is 300, disable automatic blank screen, without matched RF remote.

## Color light and white light dynamic change mode

- When the dip switch is switched to color light mode (RGB   WHI), short press ◀ or ▶ to switch 32 dynamic change modes: P01~P32.
- When the dip switch is switched to white light mode (RGB   WHI), short press ◀ or ▶ to switch 8 dynamic change modes: P01~P08.
- 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.

Dynamic change mode

Speed  
(10 level)

Brightness  
(10 level, 100%)

### Color light dynamic change mode list

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

### White light dynamic change mode list

No.	Name
P01	White horse race
P02	White smooth horse race
P03	White starlight
P04	White smooth starlight
P05	White flow, forward
P06	White flow, forward on +backward off
P07	White flow, forward on +backward on
P08	White float, forward

## RF Remote Operation

You can turn on or off the light, switch the dynamic change mode, set the brightness and speed, memorize or recall the scene, etc. via RF remote control.

- Match: Long press M and ▶ key for 2s, display "RLS", within 5s, press on/off key of the RF remote, display "RLO", match is successful.
- Delete: Long press M and ▶ key for 5s, until display "RLE", delete all matched RF remote.

## Push Switch Operation

### Push Switch 1 (ON/OFF button)

Short press: Turn on or turn off the light.

Long press(1-6s): Adjustment brightness, with every other long press, the light level goes to the opposite direction.

### Push Switch 2 (Mode button)

Short press: Sequential switching of dynamic change modes.

Long press(2s): Run dynamic change modes cycle.

### Push Switch 3 (Speed button)

Short press: Sequential switching of 10 level speed.

Long press(2s): Restore default speed level (8 level).