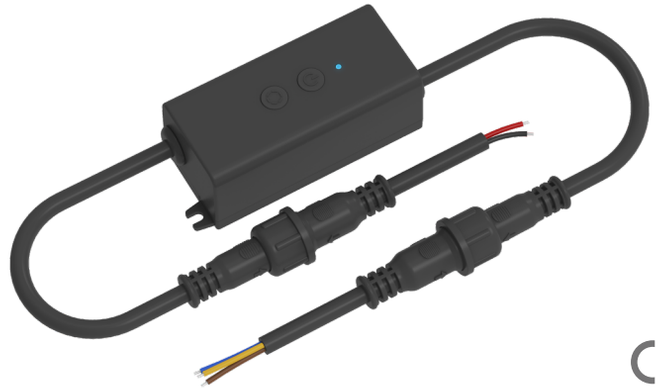
SKYDANCE
MADE FOR PROFESSIONALS

WT-SPI-W

SPI

Waterproof 2 Button RGB/RGBW LED SPI Controller



CE RoHS

Features

- Multi-pixel RGB/RGBW LED strip controller with single SPI signal output, Tuya smart APP cloud control.
- IP67 waterproof rating, with internal gluing, suitable for outdoor and damp environment.
- Two buttons for light on/off, color, brightness adjustment, dynamic mode change and dynamic speed change.
- Voice control, support for Amazon Alexa, Google Assistant, Tmall Genie and Xiaodu voice assistant.
- Compatible with White, RGB, RGBW LED strips with 37 kinds chip.
  The chip type and R/G/B/W color sequence can be configured via the APP.
  Compatible chips: TM1809(default), TM1804, TM1812, UCS1903, UCS1909, UCS1912, UCS2903, UCS2909, UCS2912, SK6813, WS2811, WS2812, WS2813, WS2815, SM16703P ,TM1803, TM1829, TLS3001, TLS3002, GW6205, MBI6120, TM1814B(RGBW), SK6812(RGBW), WS2813(RGBW), WS2814(RGBW), UCS8904B(RGBW), TM1914A, GS8206, GS8208, UCS2904, SM16804, SM16714(RGBW), UCS2603, UCS5603, SM16714D, UCS7604(RGBW), UCS7804(RGBW).
- Painted segment color mixing: full color filling, color pencil segment painting, eraser segment light off.
- Rich dynamic effects: 44 default and 10+ custom dynamic scenarios, 16 variations.
- 3 APP music rhythms.
- Match with RF 2.4G RGB/RGBW control optional.

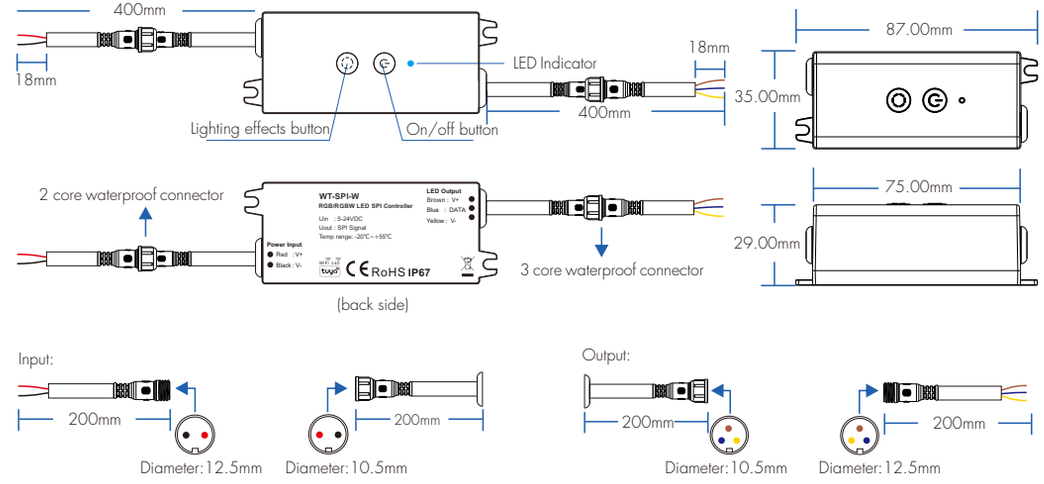
Technical Parameters

Input and Output	
Input voltage	5-24VDC
Input current	5.5A
Input signal	2 buttons + WiFi + RF 2.4GHz
Output signal	SPI(TTL)
Scenario mode	44 default and10+ customizations
Pixel dots	Max. 1000

Environment	
Operation temperature	Ta: -20℃ ~ +55℃
Case temperature	Tc: +67℃
IP rating	IP67
Package	
Size	L112 x W80 x H45mm
Weight	0.134kg
Warranty	
Warranty	5 years

Safety and EMC	
EMC standard	EN IEC 55015/ EN IEC 61547 ETSI EN 301 489-1/-3/-17
Safety standard	EN 61347-1/-2
Radio equipment	ETSI EN 300 440 ETSI EN 300 328
Certification	CE RoHS

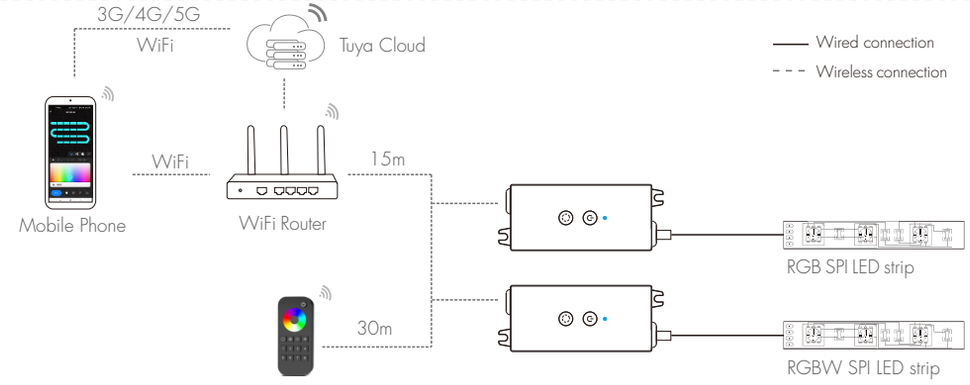
Mechanical Structures and Installations



Wire materials	Specification
Input wire	2 Core: 2x0.5mm² Outside diameter: 5.8mm Length: 400±5mm
Output wire	3 Core: 3x0.4mm² Outside diameter: 5.8mm Length: 400±5mm

Note: When installing, to ensure alignment and tighten the nut securely.

System Wiring

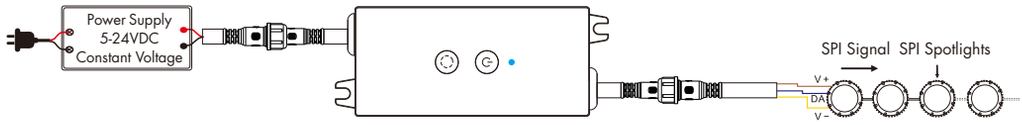


Note:
1. The above distance is measured in spacious(no obstacle) environment, Please refer to the actual test distance before installation.
2. Please check if the WiFi router net in 2.4G band, the 5G band is not available, and do not hide your router network.
3. Please keep the distance between WT-SPI-W devices and router close, and check the WiFi signals.
4. WiFi signal strength detection: open the main interface of social security, click enter the device interface, click "check device network" for testing.

Wiring Diagram

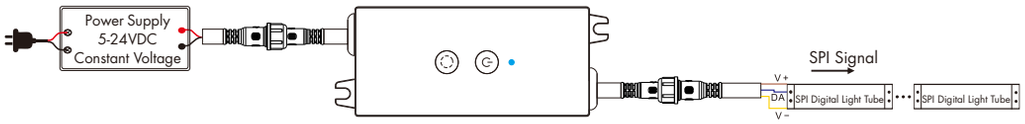
- Connect with SPI spotlight (TM1803)

AC100-240V



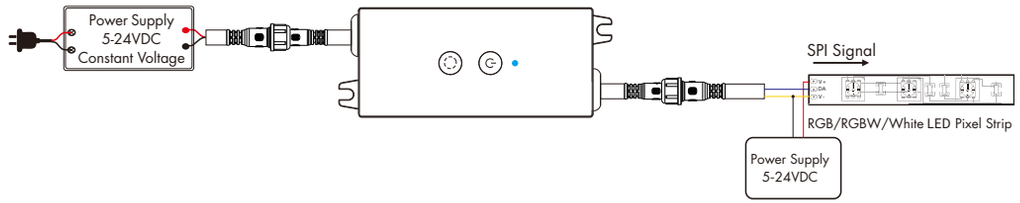
- Connect with SPI digital light tube (TM1809)

AC100-240V



- Connect with pixel strip (Strip load over 5.5A)

AC100-240V



Installation Precautions:

1. When the load of the LED strip exceeds 5.5A, the LED strip needs to be powered by another power supply (the LED strip and the power supply must share the same ground), and only the DATA and GND lines are connected between the controller and the LED strip.
2. The output power of the constant voltage power supply is at least 1.2 times that of the output load (LED strip), otherwise the full power output of the load will easily cause the lights to Kicker or shake automatically.
3. The voltage of the power supply needs to be the same as the voltage of the LED strip to avoid the phenomenon of the LED strip not being lit or slightly lit.
4. When installing, the length of the signal line (DATA) needs to be ≤ 10m, and if it exceeds 10m, it needs to be connected to an SPI signal amplifier (common ground) for signal amplification, to avoid signal interference due to the line being too long.
5. When installing, the SPI signal line (DATA) need to be separated from the strong power (100~240VAC) lines at a distance of ≥15cm to avoid the magnetic field generated by the strong power from interfering with the signal transmission.
6. The DATA signal may only be connected to one set of LED strips.
7. The LED strip is always on without control, it may be that the signal line (DATA) is open or the chip of the LED strip is damaged, it is recommended to replace the signal line or the LED strip.

Button Function

Short press: Turn on or off light.
Long press(2s): Switch 16 color types sequentially (Table1) .
Long press(5-10s): Adjust the light brightness and the indicator light flash continuously, dimming range 10-100%.

Short press: Switch 16 dynamic change types sequentially (Table 2).
Long press(2s): Switch 5 levels change speed sequentially.

Long press (2s): Match RF remote control, immediately press on/off key of the remote, LED indicator fast flash means match is successful.
Long press (10s): LED indicator flash 2 times, light type switch to white lighting.
Long press (15s): LED indicator flash 3 times, restore the factory default parameter settings, and set RGB color light and W white light can be turned on at the same time (When changing the chip type to RGBW lighting).
Long press (20s): LED indicator flash 4 times, restore the factory default parameter settings, and set RGB color light and W white light can not be turned on at the same time (When changing the chip type to RGBW lighting).

Note:
Restore factory default settings to clear remote control match and Tuya network configuration.
Factory default parameters: RGB light type, pixel length 300, TM1809 chip type.

RGB/RGBW Color Types(Table 1):

No.	Name	No.	Name
1	Red	9	R/G/B 3 color
2	Orange	10	7 color
3	Yellow	11	Red+yellow
4	Green	12	Red+purple
5	Cyan	13	Green+yellow
6	Blue	14	Green+cyan
7	Purple	15	Blue+cyan
8	White	16	Blue+purple

Dynamic Change Types(Table 2):

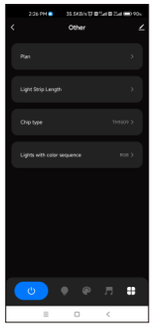
No.	Name	No.	Name
1	Static	9	Bouncing
2	Flow	10	Shuttle
3	Chasing light	11	Jump
4	Chasing	12	Fade
5	Building blocks	13	Breath
6	Fade float	14	Chaotic flashing
7	Trailing	15	Flash
8	Trailing+black segment	16	Flashing

Tuya Smart APP Network Connection

Long press and button 5s to clear previous network connection, enter WiFi config mode, the LED indicator flash rapidly.
If Tuya smart APP network connection succeed, the LED indicator will stop flash, and in Tuya smart APP, you can find WT-SPI-W device.

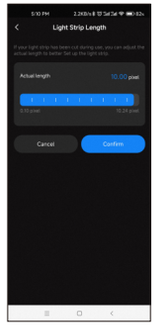
When controlling the light with Tuya Smart/Smart Life APP, if the network connection is poor, you can control the light with Bluetooth connection within the Bluetooth control range.
Note: The light can not be directly controlled by Bluetooth without WiFi configuration.

Tuya Smart APP Setting Interface



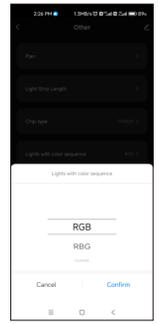
Setting interface

For the first time use, set LED strip length, chip type and color sequence.



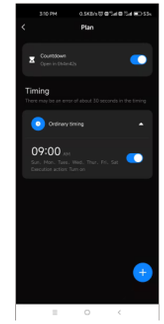
Light strip length interface

Strip length setting:
Select the appropriate number of pixels according to the actual length of the strip, 10 -1000.



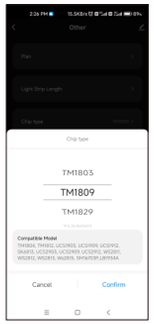
Lights with color sequence interface

Select the corresponding R/G/B/W sequence according to the color sequence of the light strip. (RGB, RBG, GRB, GBR, BRG, BGR, RGBW, RBGW, GRBW, GBRW, BRGW, BGRW, WRGB, WRBG, WGRB, WGBR, WBRG, WBGR)



Plan interface

Countdown:
Customize the countdown time (Max.24 hours) to perform the on/off action.
Timer: Customize multiple times to perform the on/off light action.



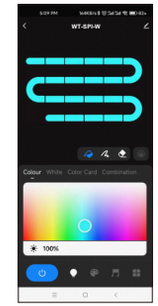
Chip type interface

Select the corresponding chip according to the chip type of the light strip.

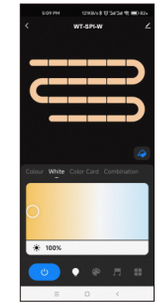
List of Strip Chip Type:

Light Type	IC Type	Compatible IC Type
DIM RGB	TM1809	TM1804, TM1812, UCS1903, UCS1909, UCS1912, SK6813, UCS2903, UCS2909, UCS2912, WS2811, WS2812, WS2813, WS2815, SM16703P
	TM1829	
	TM1914A	
	GW6205	
	GS8206	GS8208
	TM1803	
	TLS3001	TLS3002
	MBI6120	
	UCS5603	
	UCS2603	
	SM16714D	
RGBW	TM1814B	
	SK6812	WS2813, WS2814
	UCS8904B	
	UCS2904	
	SM16804	
	SM16714	
	UCS7604	
	UCS7804	

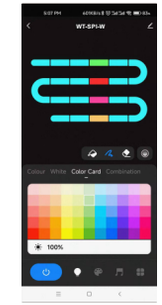
Tuya Smart APP Light Interface



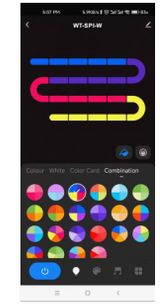
Colour:
Touch the color rectangle to adjust color and saturation. Touch the brightness slide to adjust brightness.



White:
Touch the color rectangle to adjust color temperature. Touch the brightness slide to adjust brightness.



Color Card:
Touch the color card array to select many different colors. Touch the brightness slide to adjust brightness.



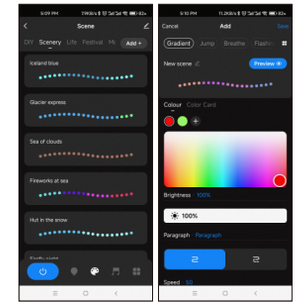
Combination:
Select a proportional distribution of multi-color circle, evenly distribute these colors on the LED strip.

Color Fill: Change the color of the full segment of the LED strip.

Color pen: change the color of a single segment of the LED strip.

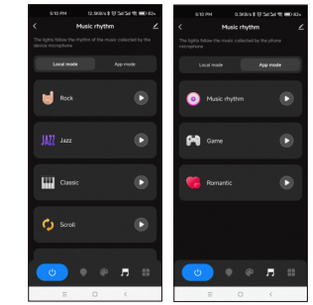
Eraser: Erase the color of a single segment of the LED strip, i.e., turn off the light.

Color transition: When there are multiple colors in the LED strip, you can set to turn on or off the color segment gradient transition.



Scene interface

44 predefined scenarios and 10+ custom dynamic scenarios selectable.The custom scenarios can select 16 types variations (fade, jump, breath, flash, flow, rainbow, shooting star, pile-up, floating down, chasing light, floating, flashing, bouncing, shuttle, chaotic flashing, open and close), the 1-8 colors, full or segment control, forward or reverse motion direction, adjustable brightness and speed.



Music rhythm interface

6 local music modes (rock, jazz, classical, rolling, energy, spectrum) selectable.
3 APP modes (music rhythm, game, romance) selectable.
Adjustable sensitivity of the received sound.
The light follows the rhythm according to the music collected by the phone microphone.
Note: the controller only supports APP mode.

Notes:

1. In APP, a light strip is fixed with 20 segments,
   strip length (total number of pixel points) ÷ 20 segments = number of pixel points per segment.
2. The maximum length of the light strip is 1000 pixels,
   for example, a light strip of 5 meters long with 60 pixels per meter, you can set the length to 300 pixels.
   The whole light strip is divided into 20 segments, each segment has 15 pixels.
3. When the light strip length is less than or equal to 20 pixels,
   for example, 10-20, each pixel sequentially corresponds to each segment from the beginning.
4. When the light strip length is not an integer multiple of 20, the remainder of the strip will display the color of the last segment.
5. When the actual light strip length is not an integer multiple of 20, it is recommended to set the length longer and increase the value to a multiple of 20.
6. When the set of the light strip length is less than the actual length, the back part of the light strip can not be controlled.
7. When the selected dynamic mode cycle running interval is too long, please reset the correct pixel length.
8. When the static or dynamic mode color display is not consistent with the APP interface, please re-select the strip color sequence.