

Teralux S Series SPI LED Controller User manual

Addressable LED Strip Controller



CE RoHS FC

Teralux Office

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Teralux SPI LED Strip Controller

Teralux Addressable LED Strip Controller

The Teralux SPI Smart LED Controller supports up to 47 types of LED driver chips, including TM1803, TM1804, TM1809, TM1812, UCS1903, UCS1909, UCS1912, SK6813, UCS2903, UCS2909, UCS2912, WS2811, WS2812, WS2813, WS2815, TM1829, TLS3001, TLS3002, GW6205, MBI6120, TM1814 (RGBW), SK6812 (RGBW), WS2813 (RGBW), WS2814 (RGBW), UCS8904 (RGBW), LPD6803, LPD1101, D705, UCS6909, UCS6912, LPD8806, WS2801, WS2803, P9813, SK9822, TM1914A, GS8206, GS8208, UCS2904, SMI6804, SMI6825, SMI6714 (RGBW), UCS2603, UCS5603, SMI6714D, and SMI6703R.

Features

Supports SPI signal output with stable performance, controlled via 2.4G RF remote or Teralux Smart App cloud control.

Fully compatible with Amazon Alexa, Google Assistant, Tmall Genie, and Xiaomi smart speakers through the Teralux Smart App.

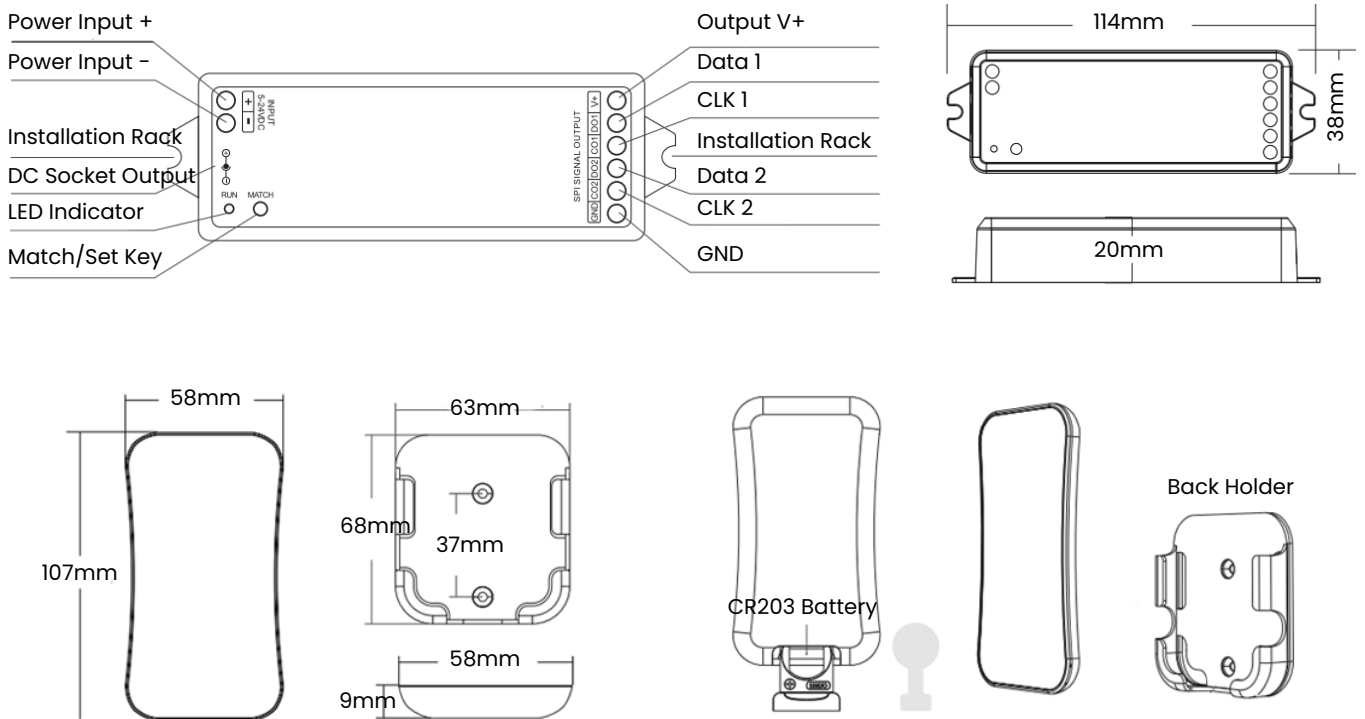
Compatible with 47 types of RGB and RGBW addressable LED strips. Chip type and RGB color order can be easily configured via the RF remote.

Supports full-color filling, segmented color painting, and independent segment on/off control for creative lighting designs.

40 dynamic change modes via RF remote, including jumping, flowing, and smooth gradient effects.

44 preset dynamic effects plus 10 fully customizable scenarios, offering up to 56 lighting variations.

Mechanical Structure



Technical Parameter

Category	Item	Specification
LED Remote	Input Signal	RF(2.4GHz)
	Work Voltage	3VDC(CR2032)
	Work Current	<5mA
	Standby Current	<10μA
	Standby Time	2 years
	Remote Distance	30m(Barrier-free space)
	Size	L107×W58.5×H9mm
LED Controller	Input Voltage	5-24VDC
	Input Current	8A
	Input Signal	Tuya APP + RF 2.4GHz
	Output Signal	SPI(TTL) x 2
	Scenario Mode	44 Default and 10+ Customizations
	Pixel Dots	Max.1000
	Size	L114×W38×H20mm
Environment	Operation Temperature	Ta: -30°C~+55°C
	Case Temperature (Max.)	Tc: +65°C
	IP Rating	IP20
Safety and EMC	EMC Standard	ETSI EN 301 489-1 V2.2.3 ETSI EN 301 489-17 V3.2.4
	Safety Standard	EN 62368-1:2020+A11:2020
	Certication	CE RoHS FC

Key Function

Mode +/- : Short press switch dynamic mode built in controller, long press 2s Mode+ run mode cycle, long press 2s Mode- run the first mode. The remote is default 10 dynamic mode, when match with SPI controller which have 32 dynamic mode, please long press 2s Mode+ key firstly.

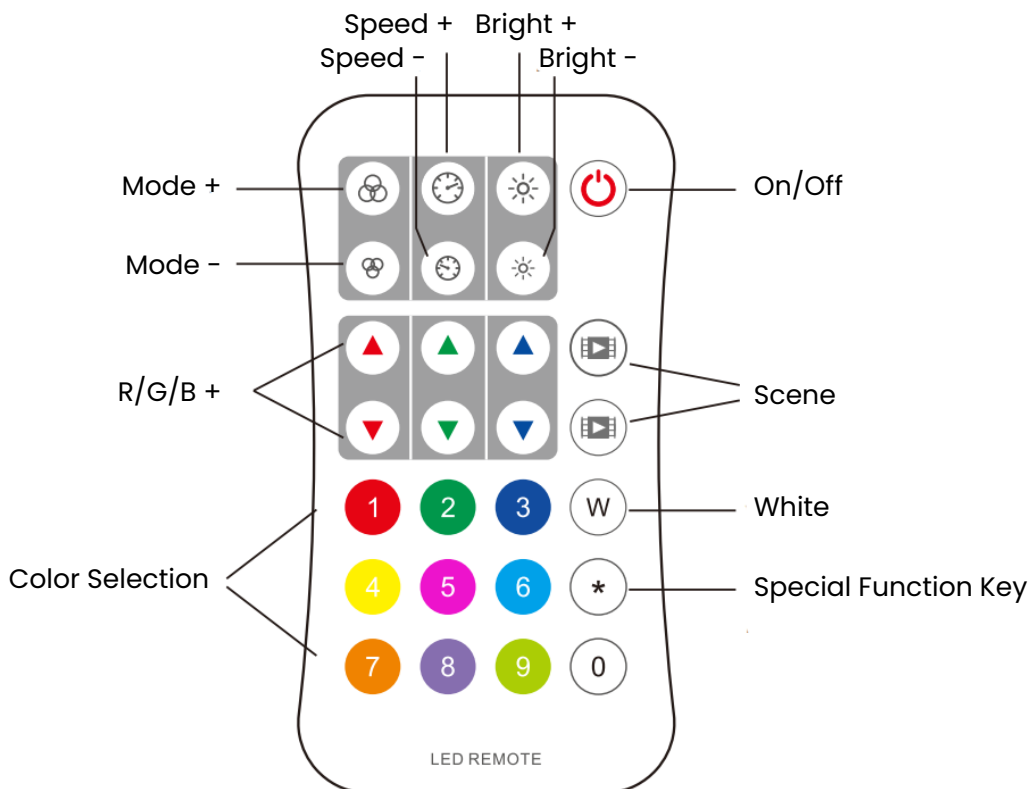
Speed +/- : Adjust dynamic mode speed, short press 10 levels, long press 2s get the fastest / slowest speed.

Bright +/- : Adjust brightness, short press 10 levels, long press 1–6s for continuous 256 levels adjustment.

R/G/B +/- : Adjust R / G / B brightness respectively, short press 10 levels, long press 1–6s for continuous 256 levels adjustment to achieve millions of colors.

White : Adjust white color, for RGB light, short press turn on / off white (RGB mix), long press 1–6s adjust saturation continuously. For RGBW light, press W key will adjust W channel brightness. short press turn on / off W channel, long press 1–6s adjust W channel brightness continuously.

Scene : Short press recall the scene, long press 2s save the current color into the scene. The LED indicator will light up longer when save OK.



Match With R9 Remote Control

Match: Short press on the match key, immediately press on/off key of the remote. The LED indicator fast flash a few times means match is successful.

Delete: Press and hold match key for 10s to delete all match, the LED indicator fast flash a few times means all matched remotes were deleted.

Set the length, chip type and RGB order

Set the LED strip length (number of pixels) (10–1000):

* + 3 digits + *, for example:

032 set the number of pixels 32.

600 set the number of pixels 600.

1000 set the number of pixels 1000.

Set the LED strip chip type:

* + 2 digits + *

11: TM1803

12: TM1809, TM1804, TM1812, UCS1903, UCS1909, UCS1912, SK6813, UCS2903, UCS2909, UCS2912, WS2811, WS2812, WS2813, WS2815, SM16703P

13: TM1829

14: TLS3001, TLS3002

15: GW6205

16: MB16120

17: TM1814B (RGBW)

18: SK6812(RGBW), WS2813 (RGBW), WS2814 (RGBW)

19: UCS8904B (RGBW)

21: LPD6803, LPD1101, D705, UCS6909, UCS6912

22: LPD8803, LPD8806

23: WS2801, WS2803

24: P9813

25: SK9822

31: TM1914A

32: GS8206, GS8208

33: UCS2904

34: SM1604

35: SM16825

36: SM16714 (RGBW)

37: UCS5603

38: UCS2603

39: SM16714D

Set LED strip RGB order:

* + 1 digit + *

1: RGB

2: RBG

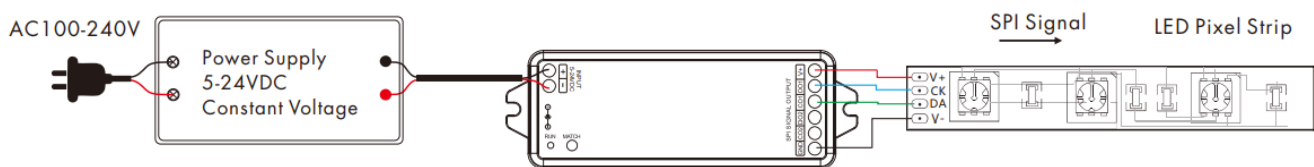
3: GRB

4: GBR

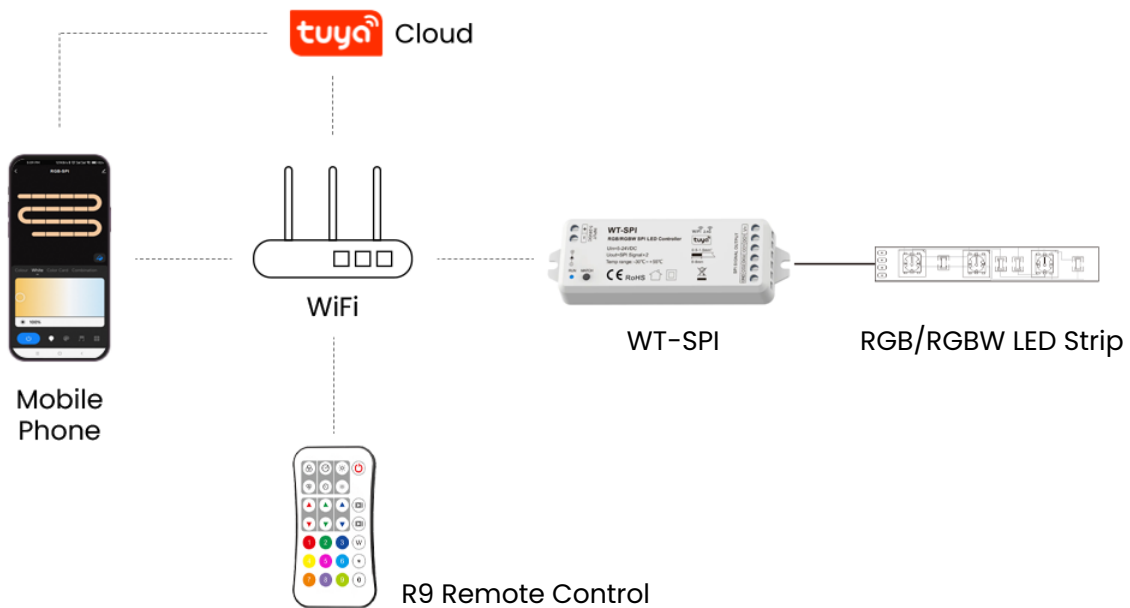
5: BRG

6: BGR

Wiring Diagram



System Diagram



Pairing Instruction

Please download Tuya APP/Smart life APP according to your zone. Push twice Match key fastly, or press and hold Match key for 2s: clear previous network connection, enter Smart config mode, LED indicator flash fastly.

Press and hold Match key for 5s: Clear previous network connection, enter AP config mode, LED indicator flash slowly.

If smart config failed, please try AP config.

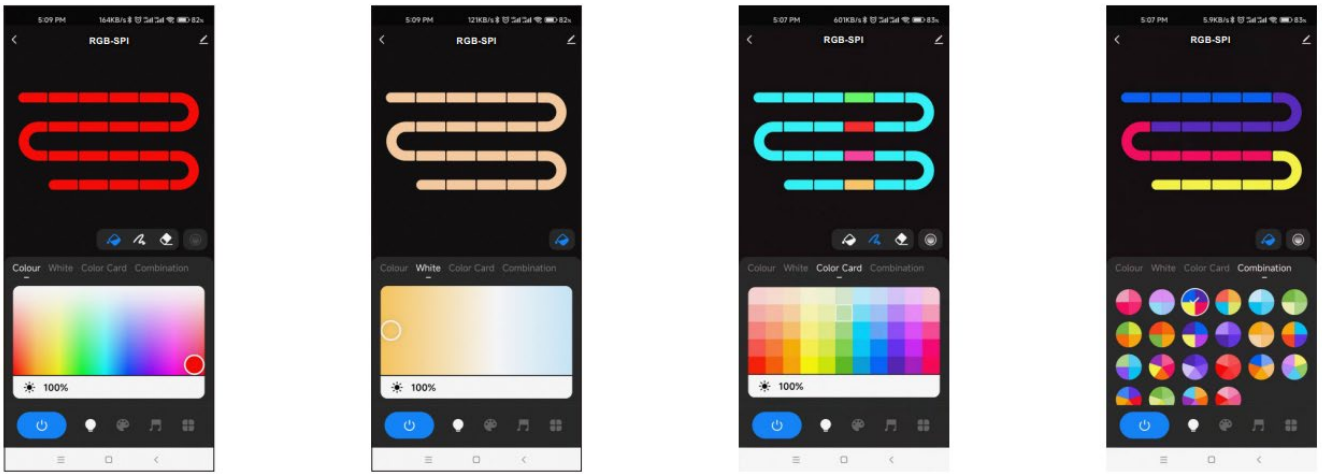
If Tuya APP network connection succeed, the RUN LED indicator will stop flash, and in Tuya APP, you can find RGB-SPI device.

Safety Information

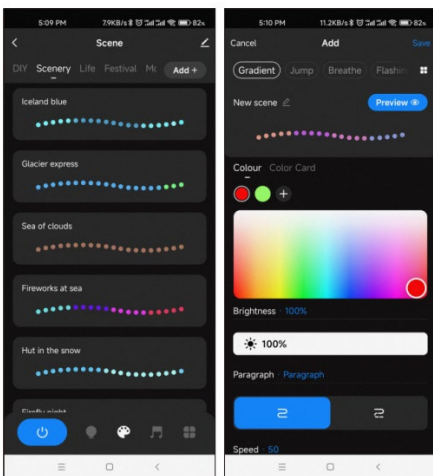
Read all instructions before installation. Install the battery with correct positive and negative polarity. Remove the battery if the remote is not used for a long time. Replace the battery when the control distance becomes shorter or the response is weak. If the receiver does not respond, re-match the remote. Handle the remote carefully and use it indoors in a dry location only.

App Interface

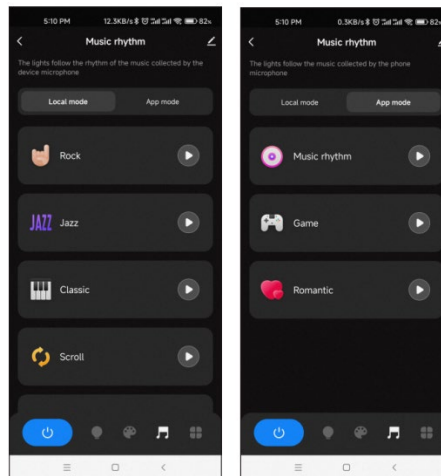
- **Color Interface**



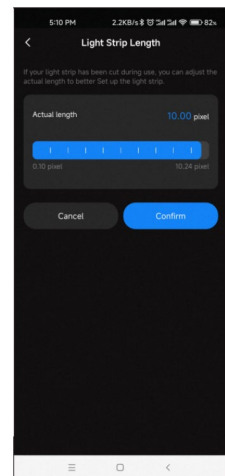
- **Scene Interface**



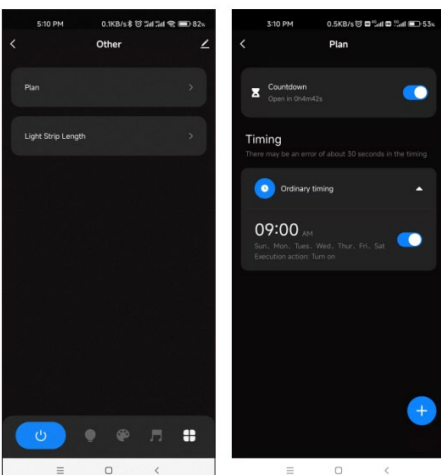
- **Music Rhythm Interface**



- **Strip Length Interface**



- **Plan Interface**





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