Superlightingled Optoelectronics(ASIA) Co.,Ltd
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Product Specification

**Name：WiFi SPI Controller**
Model：WF300

I. Product Summarization

1. Product constitute

1. LED-WiFi Controller	It is the core of product, responsible for receive control signal and control LED equipment.
2. RF remote control	In the condition of not use the mobile phone as remote control, you can choose RF remote control to control LED.
3. A disk	Include IOS operating system and Android operating system mobile soft.

WIFI LED controller
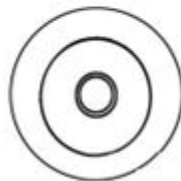
CD
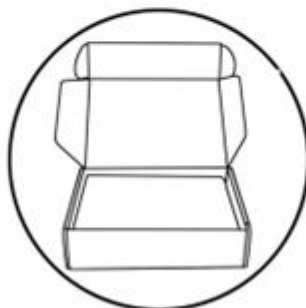
product composition picture

Touch remote control

2. Summarization

     LED-WiFi controller is following the traditional with infrared, RF technology controller foundation, it is birth of market and customer's demand, it is one type controller which integration the newest wifi technical in the market. It makes the LED control more convenience, more hommization. We can use an Android system or IOS system mobile phone to install control software, then it can control LED, this is the wishes of every customer.

     Use WiFi technology can make our control range more wider, can get rid of narrow space constraint, in building can control more than 50m, in outdoor can control more than 100m.

     In the condition of not use the mobile software, also can use the remote control to control, very convenience, bring many choices for you.

II. Technical Parameters

1. Remote control technical parameters

1：Working temperature：-20-60℃
2：Power supply method：AAA*3
3：Supply voltage：1.5V*3
4：Standby power：0.015mW
5：Standby current：3uA
6：Working current：200uA
7：Emission current：10mA
8：Remote control distance：about 30m
9：Standby time：6 month

2. Software technical parameters

1：Name：Magic Color
2：Runtime platform: Android version support Android system(better one can support Samsung, HTC), IOS version support IOS system, equipment must have WiFi function.
3：Language: English
4：Category: communications
5：Free, green, no plug-ins

3. Controller technical parameters

1：Working voltage: DC5--24V
2：Output control: SPI signal output
3：Output current: 4A*3
4：Connect mode: SPI signal wires(DATA, CLK)
5：External dimension: L107*W65*H30（mm）
6：Receiving sensitivity: 802.11b DSSS(-5dBm)，802.11b CCK (-10dBm)，802.11g OFDM(-15dBm)
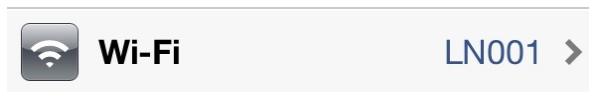
III. Magic Color Instruction

1. WIFI Connect

After power on the controller, open the cellphone set of WIFI, search WIFI network, you will check

WIFI equipment is named LN+number, for example"LN001", "LN003" and so on, as picture:

The number after LN is controller SSID code, same controller can set different code, when in the same network environment have many controllers, it can distinguish. About the SSID setting, will be in details below.

2. Software setting

After connect the WIFI, open the application [Magic Color] enter the following interface:

Begin to control

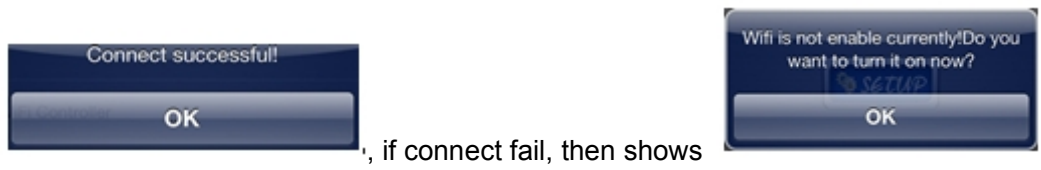Set model parameter

Software instruction
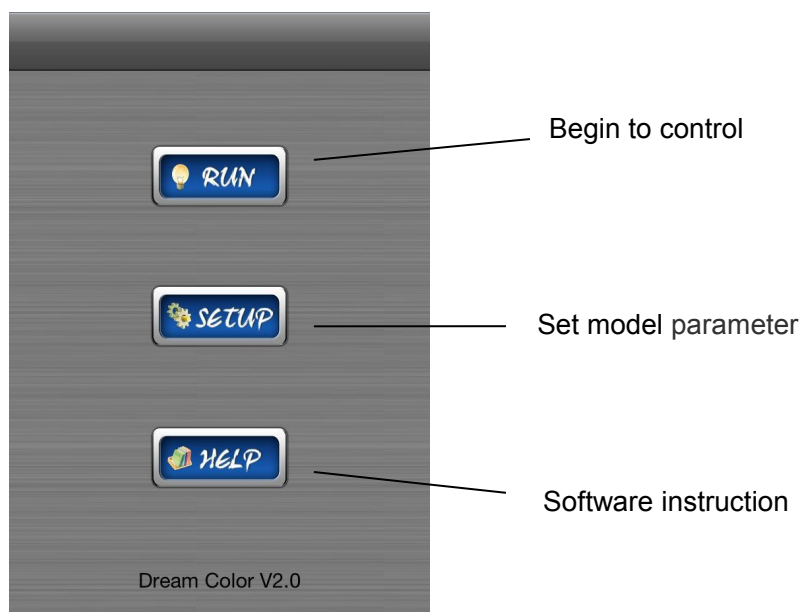
Above picture "RUN" is enter remote control interface, before enter this interface, need to set the software parameter first. Click the "SETUP" in middle to setting.

At this moment it will enter below interface:
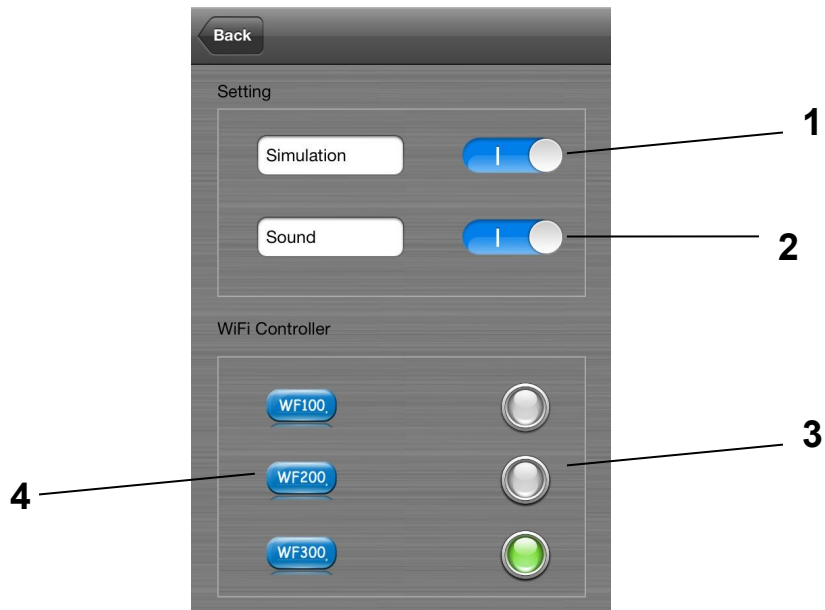
1: Dropped connect again button. When the cellphone use this software, because the lock screen or other reasons result in WIFI can not remote, click this key, if connect successful, then shows

, if connect fail, then shows .

2: Press the key sound.

3: Controller model choose.

4: Controller parameter setting.

This product model is WF300, so choose "WF300", and then it will enter below interface:
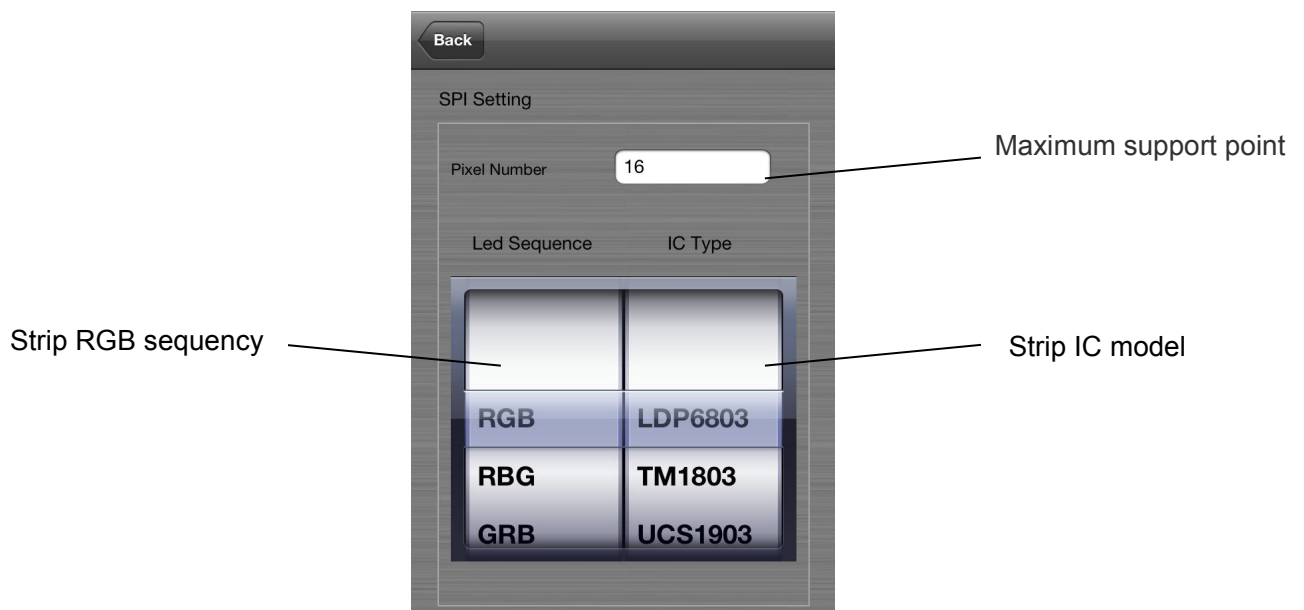
Setting adjustable control strip maximum support point(range 16~1024), strip IC model (10 kinds),

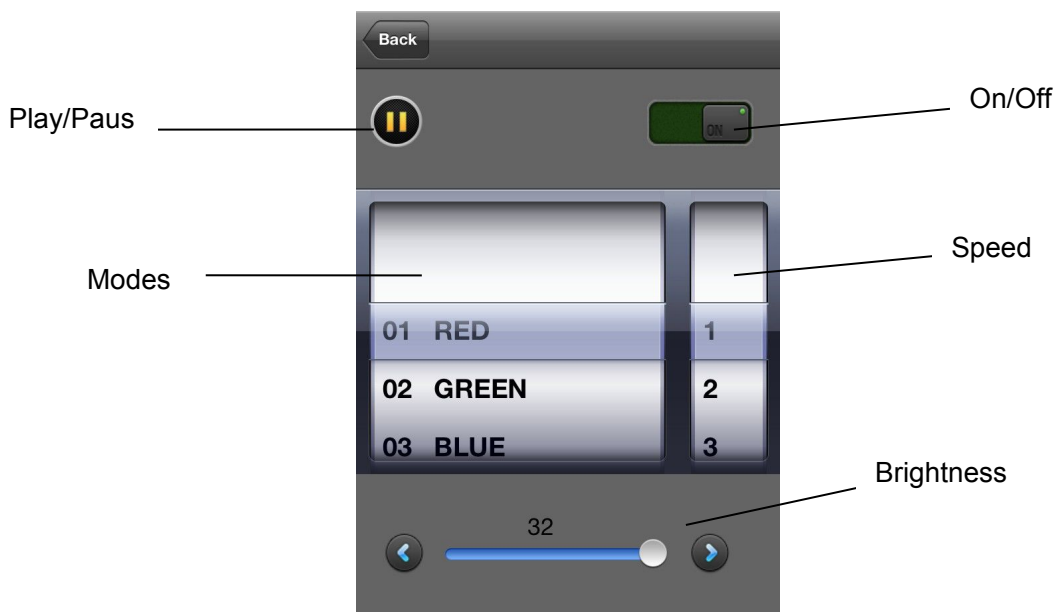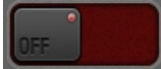strip RGB sequence. Because in the market, many strip the specificate is different, some the sequency is RGB, some is RBG, GRB and so on, so this setting method can suit for all have sequence strip.

3. Remote control

When have set up after the above parameters, click "Back" to return to the main interface, click "RUN" to control the strip, it will enter below interface:

When switch in this state, controller open; When switch in this state, controller off, and at this time it is locked state, unless on/off key, other keys can not use.

In the mode column, in total have 83 kinds of modes, the first 7 modes is static mode, at this time can through nether brightness slider to adjust the brightness of strip, in total 32 levels, other modes can not adjust brightness(remark: LD6803 strip, all modes can not adjust brightness).

Except the first 7 modes, others is all dynamic modes, at this time can through speed slider to adjust speed, in total 99 levels, the value is more big, the speed is more quick.

Play/Pause key can stop the running mode, just suitable for dynamic modes.

IV. LED-WiFi Controller Function Instruction

1. Working state instruction

Indicator light	Function table

Power	Power indicator light, long-time bright shows power supply normally
Wifi	Free time long-time bright, have wifi data enter flicker, configuration wifi Ssid off
Link	Have wifi date enter, then flicker, no wifi data, then off.
RF	Have RF remote data or press key operate, then flicker, free time off.

2. Setting SSID number

The dial code is used for setting LED-WiFi controller Ssid number, corresponding table as below. Form 0 to 15, have 16 code in total, so our Ssid number fasten to LN001 to LN016. That means use our product in same small area can set 16 mutual isolation LAN, once the dial code changed after switch was dialed, Ssid number immediately be modified, so you need to note that it need to search and connect again.

3.

code	SSID
0	LN001
1	LN002
2	LN003
3	LN004
4	
5	
6	
7	
8	
9	
A	LN011
B	LN012
C	LN013
D	LN014
E	LN015
F	LN016

Connect LED, Power supply port

LED Strip according model connect corresponding port.

4. Match Key function

The first time use the controller and remote control, maybe because the controller address and remote control address is not match, it will cause the remote control can not control, at this time, it need to use this button to make this 2 address matched.

Use method: first, press the controller "Match" key, at the same time press any key of the remote control, more than 2s, now the remote control indicator light RF will flicker 3 times, release "Match" key, then finished.
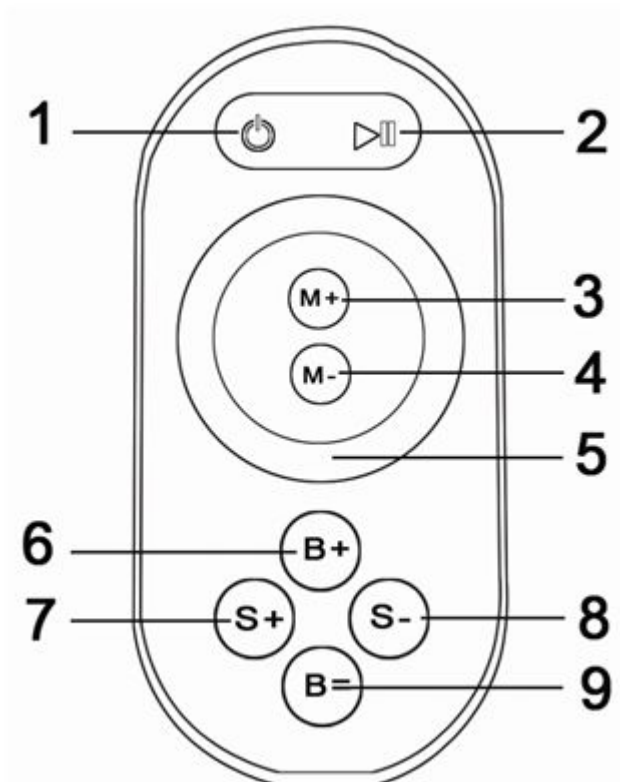
5. Function key function

"Function" key is a composite button, it have switch and mode change function.
Function instruction: long-time(more than 2s): on off;
Short press(less than 1s): mode change.

6. Remote control function instruction

1. Controller panel have 64 touch point, and the function as follow:

    1. ON/OFF，you can turn on/off controller output at any time;

    2. Pause，at dynamic mode, you can stop the controller at the current state;

    3. This button have 2 functions :
        ①Mode + choice key, when current control pattern is pulley pattern (color), if must realize the pattern (color)in the controller, can press this key.
        ②mode switch button, for the current control mode, you can switch M + key which is specified mode (color) in the table.

    4. This button have 2 functions :
        ①Mode - choice key,when current control pattern is pulley pattern (color), if must realize the pattern (color)in the controller, can press this key.
        ②mode switch button，For the current control mode, you can switch M + key which is specified mode (color) in the table.

    5. The output brightness control key，every time you press this button, the brightness series add 1, altogether 32 levels.

    6. The output brightness control key，every time you press this button, the brightness series minus 1, altogether 32 levels.

    7. The output speed control key，every time you press this button, the brightness series add 1, altogether 99 levels.

    8. The output speed control key，every time you press this button, the brightness series minus 1, altogether 99 levels.

    9. Color pulley touch button, static mode choose button, up to 55 touch points.
        this button have 2 functions:
        ①static color choose button, when current control mode is the mode of M key(color), if you want to realize static color ,can press this button.
        ②pulley color choose button, can choose from 55 kinds of static mode (the color from pulley).

2. Power supply management: stop to use the remote more than 20s, the remote will enter the standby state (untouchable state), to extend the battery life; slightly shake once, then the remote will come back to the normal working state (touchable state).

Notice：This remote control only can change the pattern, the brightness, the speed, if you want to change the controller IC model, the IC support point, the RGB sequency, then must connect WIFI through cell phone to change.

7. Controller built-in mode table

Modes	Mode instruction

|	
1	Static red
2	Static green
3	Static blue
4	Static yellow
5	Static purple
6	Static cyan
7	Static white
8	Red horse race to right
9	Red horse race to left
10	Green horse race to right
11	Green horse race to left
12	Blue horse race to right
13	Blue horse race to left
14	Red horse race lower curtain
15	Green horse race draw curtain
16	Three base color horse race brush forward direction
17	Three mixing color horse race brush
18	Three base color horse race brush draw curtain
19	Three mixing color horse race brush lower curtain
20	Seven-color horse race brush forward direction
21	Seven-color horse race brush backward direction
22	Seven-color horse race brush draw curtain
23	Seven-color horse race brush lower curtain
24	Three base color brush forward direction
25	Three base color brush backward direction
26	Three mixing color brush forward direction
27	Three mixing color brush backward direction
28	Seven-color brush forward direction
29	Seven-color brush backward direction
30	Three base color brush draw curtain
31	Three base color brush lower curtain
32	Seven-color brush draw curtain
33	Seven-color brush lower curtain
34	Three base color stroboflash
35	Seven-color stroboflash
36	Three base color jumpy change
37	Three mixing color jumpy change
38	Seven-color jumpy change
39	Green-blue-yellow three color wave by wave running forward direction
40	Blue-yellow-cyan three color wave by wave running backward direction
41	Three mixing color three color wave by wave running forward direction
42	Three mixing color three color wave by wave running backward direction
43	Blue-yellow-cyan three color wave by wave running forward direction

44	Green-blue draw curtain
45	Blue-yellow lower curtain
46	Seven-color wave forward direction
47	Seven-color wave backward direction
48	Blue trail backward direction
49	Red trail forward direction
50	Red trail backward direction
51	Green trail forward direction
52	Green trail backward direction
53	Blue trail forward direction
54	Yellow trail forward direction
55	Cyan trail forward direction
56	Purple trail backward direction
57	White trail forward direction
58	White trail backward direction
59	Seven-color running trail backward direction
60	Seven-color running trail forward direction
61	Change color cyan-red-cyan forward direction
62	Change color purple-red-purple forward direction
63	Change color purple-red-purple backward direction
64	Change color yellow-green-yellow forward direction
65	Change color yellow-green-yellow backward direction
66	Change color cyan-green-cyan forward direction
67	Change color cyan-green-cyan backward direction
68	Change color purple-blue-purple forward direction
69	Change color purple-blue-purple backward direction
70	Change color cyan-blue-cyan forward direction
71	Change color cyan-blue-cyan backward direction
72	Change color white-red-white forward direction
73	Change color white-red-white backward direction
74	Change color green-red-green forward direction
75	Change color blue-red-blue backward direction
76	Change color yellow-red-yellow forward direction
77	Change color yellow-red-yellow backward direction
78	Change color red-yellow-red
79	Change color red-purple-red
80	Change color green-cyan-green
81	Change color green-yellow-green
82	Change color blue-purple-blue
83	Automatically play 8~82

V. Explain installed hardware

1. Install ANT
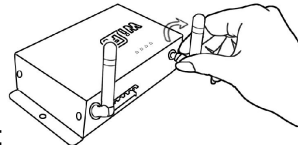
ANT's installation drawing: clockwise install WIFI antenna and

anticlockwise take down the antenna.

2. Install power supply and LED equipment

This connector structure belong to drawer structure, the device interface of power supply and LED is together, four interface one the left side （GND,CLK,DATA, LAT） is connect led equipment, the fifth interface is connect the anode V+ of power supply, the sixth interface is connect the cathode V- of power supply. This controller now can support 10 kinds of SPI strip in market, As follows:

| Number	Model	Signal line
1	LPD6803	DATA、CLK
2	TM1803	DATA
3	UCS1903	DATA
4	WS2811	DATA
5	TM1812	DATA
6	TM1809	DATA
7	WS2801	DATA、CLK
8	TLS3001	DATA
9	TLS3008	DATA
10	P9813	DATA、CLK

Can through cellphone connect WIFI, after setting strip model, maximum support point and RGB sequence, can connect the controller, connect diagram as below:
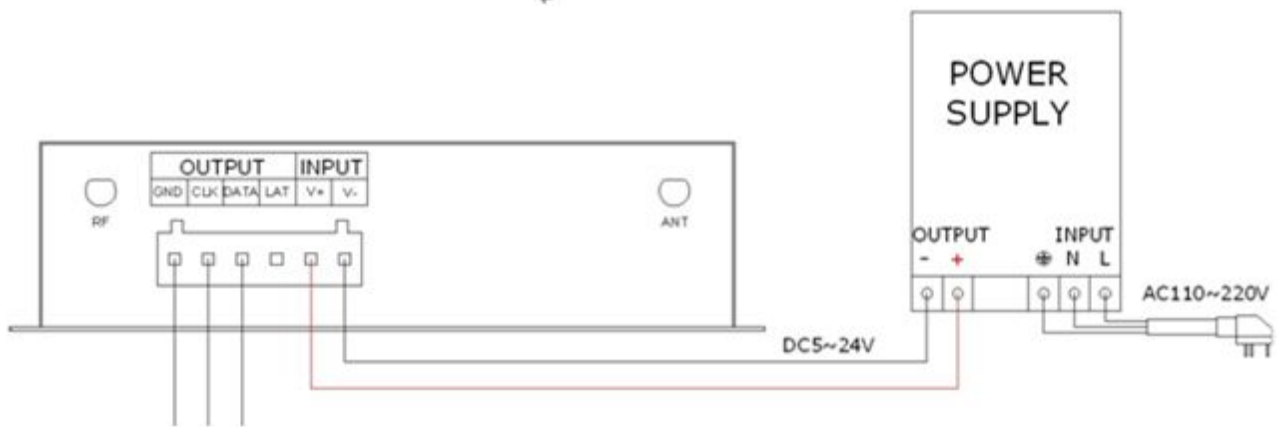
In above picture, if there are 2 signal lines, then you need to connect the ground wire, clockline, data line with GNG、CLK、DATA; if it is 1 signal line, then just need to connect the ground wire, data line with GND、DATA.

Remark: if the VCC voltage of strip is the same with controller input voltage, then it can directly connect with the controller V+; if not, then need to connect another power supply.

3. Connect single signal line strip condition
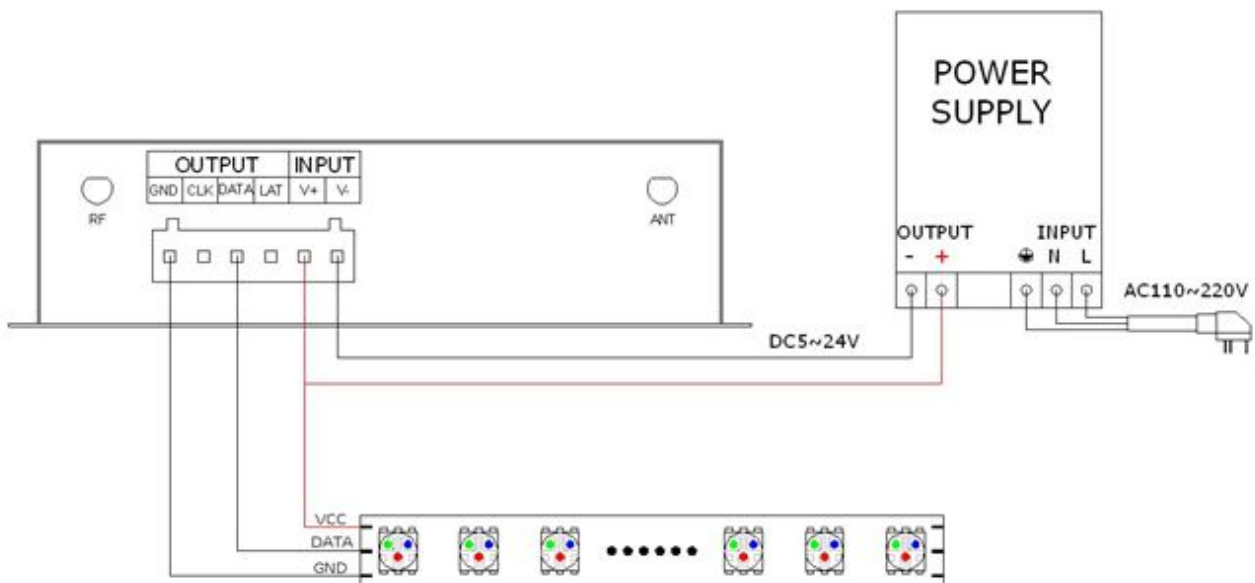
4. Connect double signal line strip condition: