

Product specification

Name: LED WIFI Controller

Model: WF400



I. Product Summarization

1. Product constitution

NO.	Name	Instruction
1	WF400 Controller	It is the core of product, is responsible for receiving control signal and controlling LED equipment.
2	disk	Include mobile software of IOS operating system and Android operating system
3	manual	Detailed instructions of product using methods
4	USB cable	Using when connected with computer

2. Product summarization

WF400 is another wifi controller independently developed by our company, following our WF100, compared with WF100, WF400 is more powerful, and more flexible to use, when using, you do not need to switch wireless networks, it is more convenient to be on internet. You can choose encrypt network, can also open network. It's more convenient for you to choose wireless network with WiFiManager network management software, WF400 network configuration. Combined our independently developed mobile software Touchhome+ with controller, this makes the function of WF400 more better than WF100. Supporting the use of software with WF400, it can achieve single point control and group control, in addition, it includes some features, such as re-name of controller, set the location, timing control and other function. This makes the function of WF400 more powerful.

Trough the use of WIFI technology, it provides more comfortable, safer and more convenient intelligent lighting control than traditional lighting control, optimizes the lighting control methods, which brings a new, comfortable lighting environment to users.

II. Technical Parameters

1. Software technical parameters

1.1 Control software:

1. Name: Touch Home+
2. Runtime platform: iOS system (iphone, ipad), Android (pad) equipment must have WiFi function.
3. Language: English, Chinese (automatic identification system according to language)
4. Category: communications

1.2 Configuration software

1. Name: WiFiManager
2. Runtime platform: Win 7/Windows Vista/Win2003/WinXP/Win2000
3. Language: English
4. Category: communications (USB)

2. Controller technical parameters

1. Working voltage: DC5-24V
2. Working temperature: -20-60°C
3. Working Power consumption: about 1.6W
4. Output: 3 channel common anode, Max. current 4A/each channel, with overcurrent protection
5. Packing dimension: L215 * W165 * H55(mm)
6. External dimension: L107 * W65 * H30 (mm)
7. Controller weight: 340g
8. Remote control weight: 85g
9. Gross weight: 460g
10. Receiving sensitivity: 802.11b/g DSSS(-5dBm), 802.11b CCK (-10dBm), 802.11g OFDM(-15dBm)

3. Remote control technical parameters

1. Working temperature: -20-60°C
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

III. Instruction for use

Proper use of WF400 mainly includes the following steps:

Step1: Recognize and identify the controller interfaces

Understand the function of each interface on the controller, its basic usage and wiring. Refer to the controller interface instructions.

Step 2: Configure the controller

Method One:Through WiFiManager, you can configure various parameters of the controller, including the name, location, network, time, output type and so on, facilitate user to recognize and control. Refer to WiFiManager instructions.

Method Two: through the TouchHome+ config tool to manually configure.

Step 3: Install controller

Understand specific wiring of controller and installation requirements. Refer to hardware installation instructions of controller.

Step 4: Remote control

Describes specific use of touch remote control. Refer to remote control instructions.

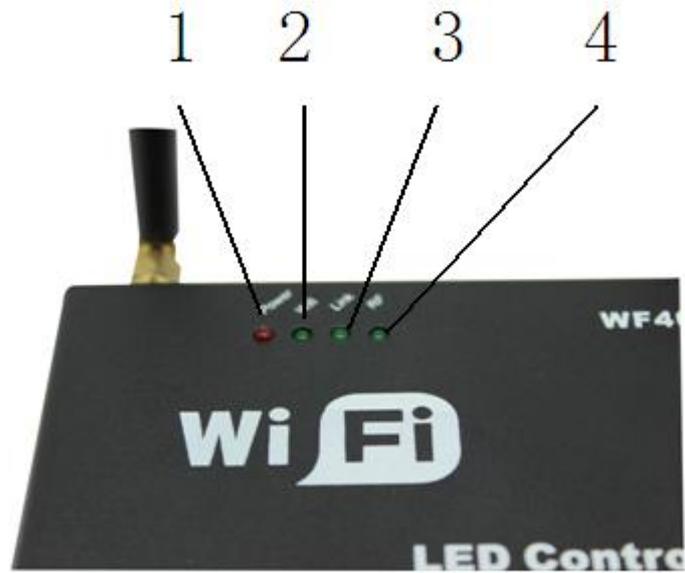
Step 5: Mobile phone control

Brief description control method of mobile phone. Refer to Touchhome+ instructions.

1. Controller Interface Description

1.1 Indicator Status Description

No.	Indicator	Function description
1	Power	Power indicator light, long-time bright shows power supply normally
2	Wifi	WIFI signal indicator
3	Link	Signal indicator of mobile phone control
4	RF	Signal indicator of touch remote control



- Power:** indicator bright for long time shows power supply is normal, otherwise the power supply is not normal;
- WiFi:** when connected with network normally, indicator flashes slowly, when the network is experiencing a problem, indicator flashes fast;
- Link:** If there is no operation, the indicator is off, when control with mobile phone, it flashes;
- RF:** If there is no operation, the indicator is off, when control with remote control, it flashes;

1.2 Interface Description





1. CONFIG

Communication interface that should be connected with computer, works with WIFIManager software, it is used for configuring the controller parameters, including working mode, WIFI network, the name of controller, controller location, output type, read the device serial number, etc.

2. Match

The key is used for matching the controller with remote control. The first time use the remote control or change remote control, you need to use this button to match the remote control with controller, then you can use touch remote to control the controller properly.

3. Function

Mode switch (short press for 1s): switch built-in mode of controller;
ON/OFF (long press for 3s) : turn on/off controller

4. Input/ Output

OUTPUT				INPUT	
CH3	CH2	CH1	V+	V+	V-

Input: V+: positive of power input

V-: negative of power input

Output: V+: positive of output

CH1: output channel 1 (RGB: R; CT: C; DIM: CH1)

CH2: output channel 2 (RGB: G; CT: W; DIM: CH2)

CH3: output channel 3 (RGB: B; CT: -; DIM: CH3)

5. ANT

ANT: WIFI antenna

RF: touch remote control antenna

2. WiFiManager Instruction for use

1. Summarization

WiFiManager setup software is connected with controller through host USB. It mainly used to modify the network configuration of the controller, select wireless network, switch network mode, modify properties, such as the controller's name, location, type and so on. User can flexibly choose the wireless network, modify the information of controller.

2. Instructions for use

2.1 Install WiFiManager

Remove the disc include with the controller into disc drive. Open the disc and find "WiFiManager.exe" to install software.

2.2 Use methods of WiFiManager

Open WiFiManager, it appears interface as shown below (figure 3.1): buttons of window are gray, this is because the controller is not connected. After connecting the controller through USB cable, it will appear the interface as shown in figure 3.2. Then you can operate the controller.

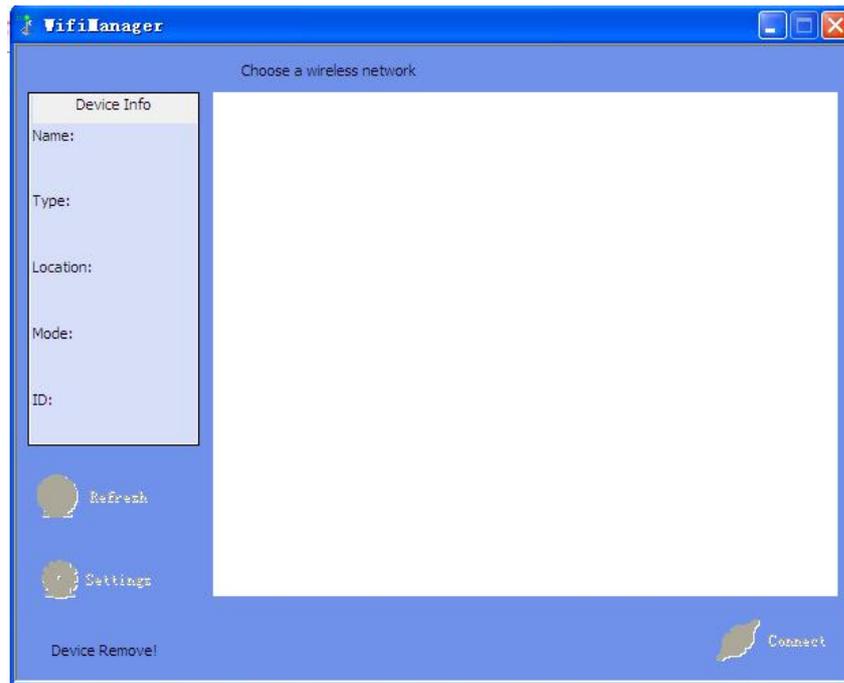


Figure 3.1

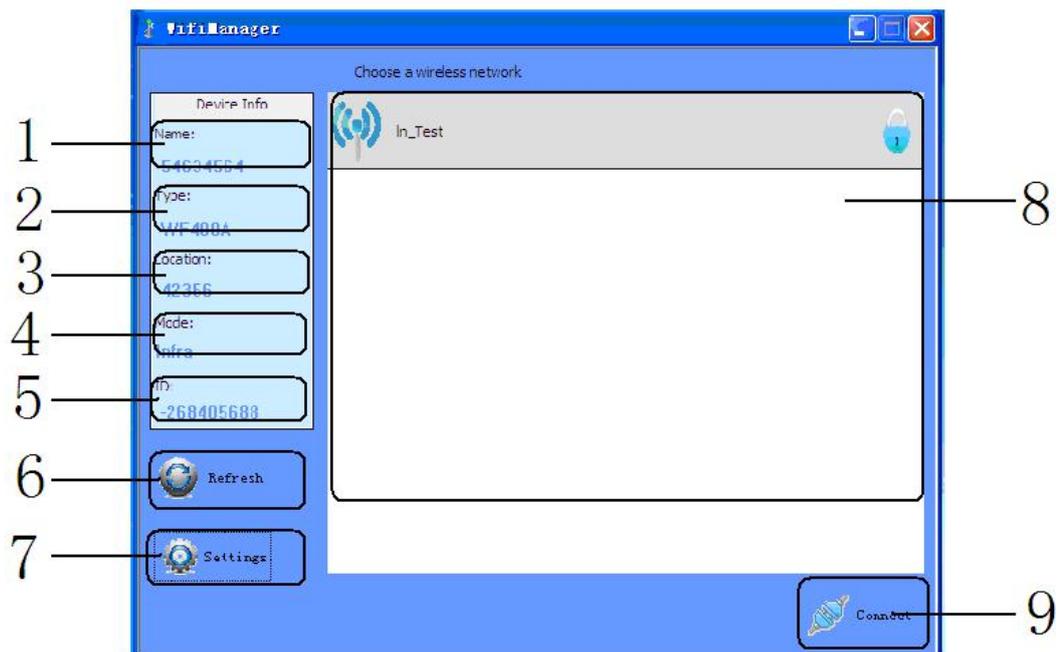


Figure 3.2

1. name of controllers:

the name of current connected controllers, it can be modified in the settings

2. output type of controllers:

output type of current connected controllers, select the appropriate output type according to user's lighting type, it can be set to three output types: three-channel, two-channel, single-channel. It can be modified in the settings.

3. installation location of controllers

This option displays the installation location of controller, it can be modified

4. networking methods

Connection mode of current connected controllers

5. serial number of controllers

Serial number of current connected controller, it can not be modified.

6. searching

Search available wireless networks. The results of searching will display on the area "8", this is all currently available networks.

7. setting

Set the parameters of controllers. (for detailed description, refer to 2.3)

8. current wireless network

Wireless networks list of currently searching

9. connecting

Connected to the currently selected network. Click "connect" to join the current network, if the network is encrypted, it will prompt you to enter your password, if it is not, it will connected to this network directly.

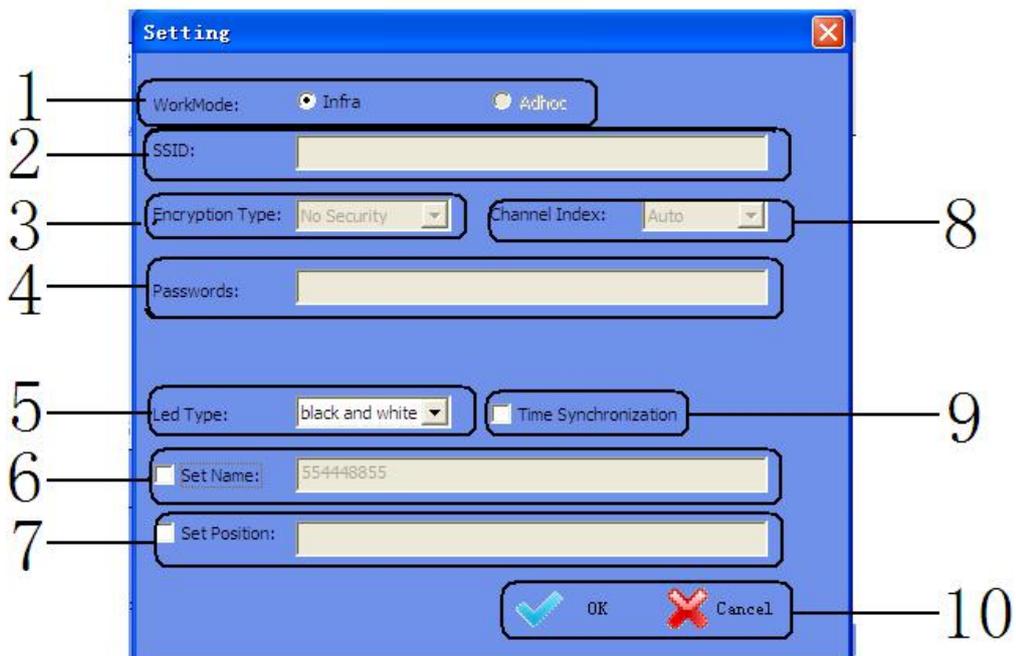


Figure 3.3

2. 3 Descriptions of parameters in setting page (Figure 3.3)

1. WiFi working mode

Infra: Infra network, connect with existing wireless network;

Adhoc: Ad hoc network, you do not need to connect with an external router, use mobile phone to control the controllers directly.

2. SSID (suitable for Adhoc mode)

Under Adhoc mode, you can set SSID, under Infra mode, it is invalid.

3. Encryption (suitable for Adhoc mode)

Open network: No security

Encrypted network: support encryption such as WEP64/WEP128/TKI/AES etc.

4. encryption password (suitable for Adhoc mode)

Set the encryption password (at least 8 characters)

5. output type

User should select corresponding output mode based on the lamps:

WF400A: full color lamps, three-channel (default);

WF400B: color temperature lamps, two-channel;

WF400C: single color lamps; single-channel.

6. set the name of controller

User can set the name of controller according to their needs (up to 32 characters), this makes the controller more humane.

7. set the location of controller

Set the location of controller (up to 32 characters). User can set specific location according to their arrangement, facilitate users to identify the location of lamps.

8. selection of WiFi channel

User can select the appropriate channel according to the needs, generally it can be set to Auto.

9. time synchronization of controller

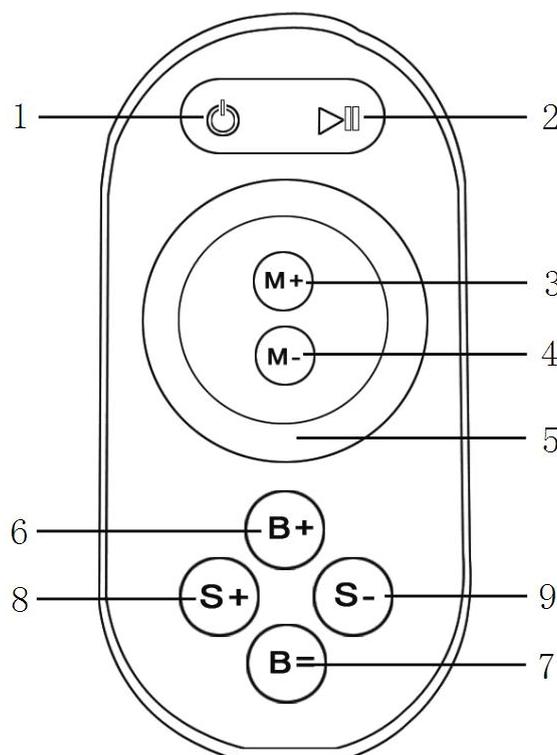
The controller time should synchronize with computer to ensure that the timer works properly.

10. OK/ Cancel

OK: confirm the operation, the setting will take effect;

Cancel: cancel the operation, the setting will be canceled.

3. Instructions for remote control



1. on/off key
2. pause key
3. mode+
4. mode-
5. Color pulley key
6. brightness+
7. brightness-
8. speed+
9. speed-

1. Key description

Touch remote panel have 64 touch button (point), each button function is as below:

1. on/off key, any state, can turn on or turn off controller output;
2. pause key, under dynamic mode, can make the controller stop current state;
3. this key have 2 function:
 - ①mode increase key, so when the current control mode is pulley mode(color), if it need to realize the mode(color) in controller, can press this button.
 - ②mode switch key, so when the current control mode is M key mode, can switch the regulation mode(color) in M+ key mode table.
4. This key have 2 functions:
 - ①mode minus key, so when the current control mode is pulley mode(color), if it need to realize the mode(color) in controller, can press this button.
 - ②mode switch key, so when the current control mode is M key mode, can switch the regulation mode(color) in M- key mode table.
5. Color pulley touch button, static mode choose key, up to 55 touch points.
This key have 2 functions:
 - ①pulley static color choose button, so when the current control mode is M key mode(color), if need to realize the static color on pulley, can press this button.
 - ②pulley color switch key: can switch from 55 static color(pulley shows color).
6. output brightness control key, every time you press this button,the brightness series add 1, altogether 100 levels;
7. output brightness control key, every time you press this button,the brightness series minus 1, altogether 100 levels;
8. output speed control key, every time you press this button,the speed series add 1, altogether 100 levels;
9. output speed control key, every time you press this button,the speed series minus 1, altogether 100 levels.

2. Power management:

Stop using remote control for about 15-20s, remote control will automatically enter into standby mode, to extend the battery life for use. Color pulley touch button can not be used at this time, you must firstly click one button to wake up remote touch control, return to work station.

Note: All function of remote control is applicable to WF400A (factory default), that is RGB mode, in WF400B mode, M+, M-, B+, B- is effective, when in WF400C, only M+, M- is effective.

4. Instruction for Touchhome+

1. Summarization

Touchhome+ is the control software that supports the use of controller, it is applicable to a single controller or multiple controllers at the same time. If has multiple controllers, user can carry out group control. The software applies to a variety of our controllers, it will load different control page depending on different controllers to adapt different controllers, facilitate user to operate. The software has features such as timer control, self-defined colors and so on depending on different controllers, for detailed instructions, please refer to the software manual.

2. Instruction for use

2.1 Install Touchhome+

Firstly make sure that you have already installed iTunes, if you have not installed, please download the latest version of iTunes, after installation is complete, search "Touchhome+" in application, install the software to your mobile phone or ipad.

2.2 Connect WiFi network

Firstly using WiFiManager software, connect all the controllers to user's wireless network, then connect the mobile phone with "Touchhome+" to the wireless network, search equipments, add the equipments into control list, then you can control the controllers. for detailed instructions, please refer to the software manual.

2.3 Summary

WF400A mode:

The mode is suitable for RGB strip, it can carry out mode switch, brightness and speed adjustment, self-defined colors and other functions. When there are multiple controllers, user can also carry out group control.

WF400B mode:

The mode is suitable for color temperature strip, it can carry out mode switch, brightness and color temperature adjustment. When there are multiple controllers, user can carry out group control, as well as timer control.

WF400C mode:

The mode is suitable for single color strip, it can carry out mode switch, brightness adjustment. When there are multiple controllers, user can carry out group control, as well as timer control.

5. Mode description of controller

When you select a different mode, the output mode of controller is different, the working mode should be configured according to the type of strip. When using RGB strip, user should select working mode as WF400A; when using color temperature strip, should select WF400B; when using single color strip, should select WF400C. Specific mode table is as follow:

1. WF400A mode:

WF400A mode: When using RGB strip, user should select this mode. It can control all four-wire loop (common

anode) LED full-color lighting products, extensive control: all limiting resistor LED lighting products such as: LED module of RGB full-color, LED light strip, SMD soft strips etc. In this mode, the controller can achieve dynamic changing such as: overall jumpy changing, gradually changing, stroboflash. With the phone control software, it can carry out self-defined color changes. Under jumpy changing and stroboflash mode, you can adjust brightness and speed, under gradually changing mode, you can only adjust speed, under static mode, you can only adjust brightness. The default mode table of controller is as below:

No.	Function	Remark	No.	Function	Remark
1	Static red	Brightness is adjustable, Speed is unadjustable	12	Red stroboflash	Brightness and speed is adjustable
2	Static blue		13	Blue stroboflash	
3	Static green		14	Purple stroboflash	
4	Static cyan		15	Green stroboflash	
5	Static purple		16	Yellow stroboflash	
6	Static yellow		17	Cyan stroboflash	
7	Static white		18	White stroboflash	
8	Three-color jumpy changing	Brightness and speed is adjustable	19	Red blue gradual changing alternately	Brightness is unadjustable, speed is adjustable
9	Seven color jumpy changing		20	Blue green gradual changing alternately	
10	Three-color gradual changing	Brightness is unadjustable, speed is adjustable	21	Green red gradual changing alternately	
11	Seven-color gradual changing		22	Self-defined color	

2. WF400B mode:

WF400B mode: When using double channel color temperature strip, user should select this mode. In this mode, the controller can achieve overall color temperature and brightness adjustment. With the phone control software, it can carry out self-defined color temperature and brightness changes. The default mode table of controller is as below:

No.	Brightness proportion	Remark	No.	Brightness proportion	Remark
1	C:0% W:100%	Brightness is adjustable	12	C:55% W:45%	Brightness is adjustable
2	C:5% W:95%		13	C:60% W:40%	
3	C:10% W:90%		14	C:65% W:35%	
4	C:15% W:85%		15	C:70% W:30%	
5	C:20% W:80%		16	C:75% W:25%	
6	C:25% W:75%		17	C:80% W:20%	
7	C:30% W:70%		18	C:85% W:15%	
8	C:35% W:65%		19	C:90% W:10%	
9	C:40% W:60%		20	C:95% W:5%	
10	C:45% W:55%		21	C:100% W:0%	
11	C:50% W:50%				

3. WF400C mode:

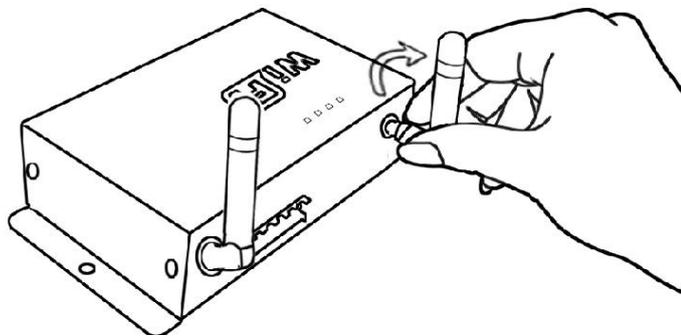
WF400C mode: When using single color strip, user should select this mode. In this mode, the controller can achieve overall brightness adjustment. With the phone control software, it can carry out self-defined brightness changes. The default mode table of controller is as below:

No.	Brightness	Remark	No.	Brightness	Remark
1	1%	Brightness proportion	12	55%	Brightness proportion
2	5%		13	60%	
3	10%		14	65%	
4	15%		15	70%	
5	20%		16	75%	
6	25%		17	80%	
7	30%		18	85%	
8	35%		19	90%	
9	40%		20	95%	
10	45%		21	100%	
11	50%				

6. Hardware installation description

1. Install ANT

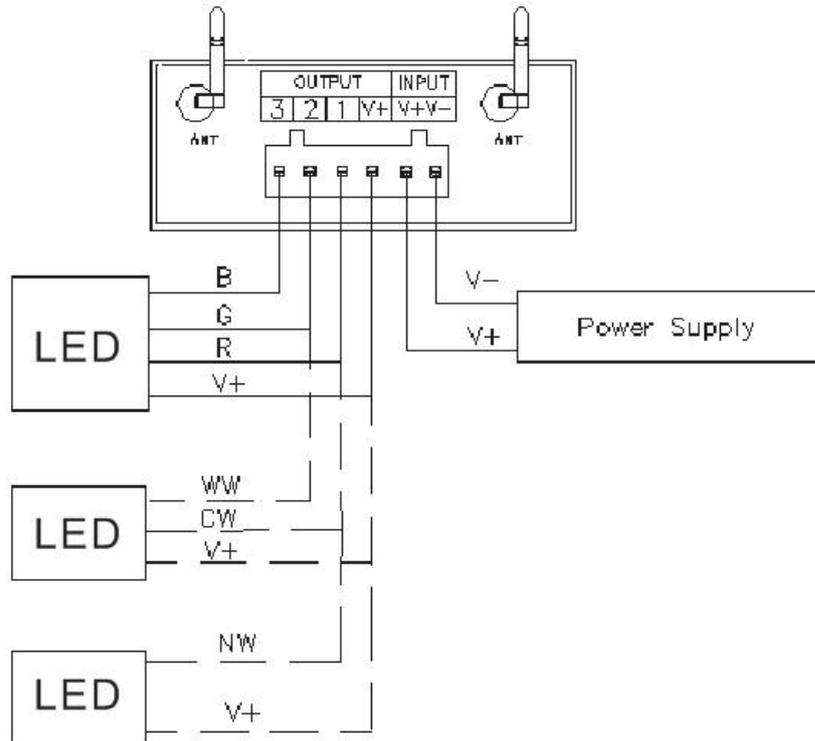
ANT's installation drawing:



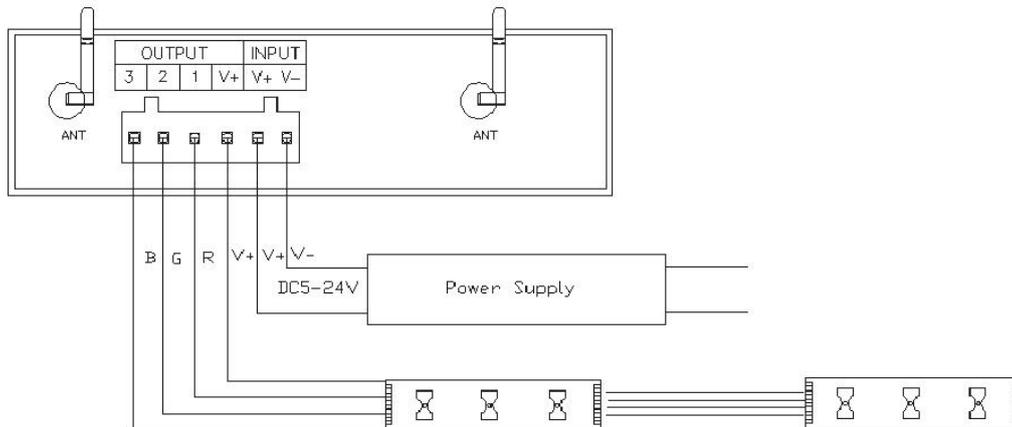
clockwise install WiFi antenna and anticlockwise take down the antenna.

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 (CH3, CH2, CH1, V+) 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. According to the rated voltage of led lamp, we supply power to controller, and the rated voltage of controller is DC5-24V. As follows:

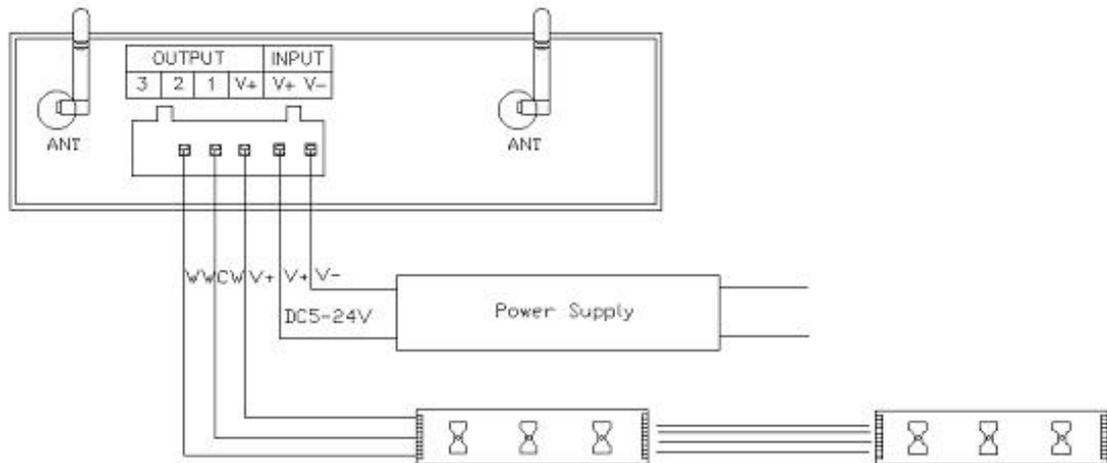


3. RGB lamps connection diagram



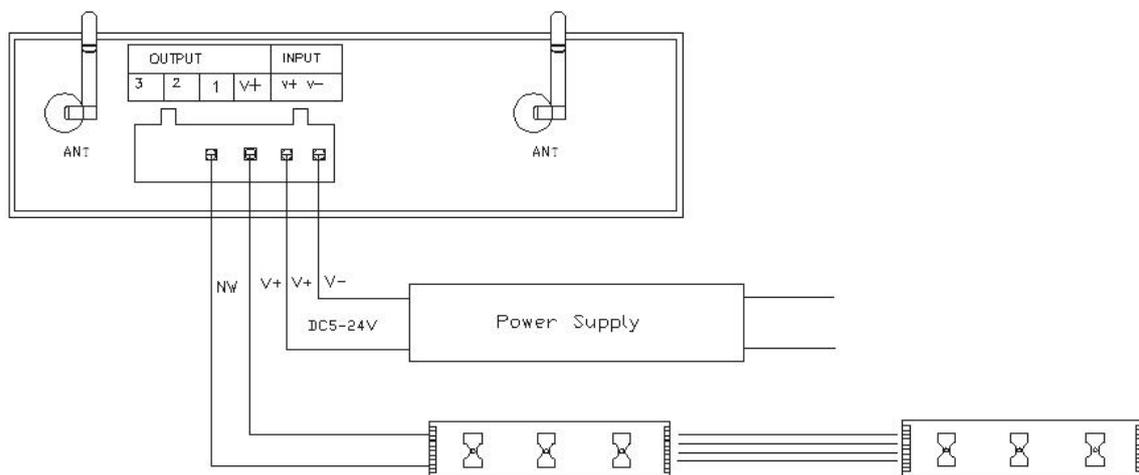
When user's lamp is RGB type, you need to set the controller type to WF400A through PC software, the output type is RGB, connect the lamp according to above diagram, then you can use it.

4. Color temperature lamps connection diagram



When user's lamp is CW type, you need to set the controller type to WF400B through PC software, the output type is CW, connect the lamp according to above diagram, then you can use it. You can select built-in color temperature proportion of controller through the Function button on the controller or M+, M- button on the touch remote control, also can adjust overall brightness through B+, B- on the remote control or control through mobile phone software.

5. Single color lamps connection diagram



When user's lamp is single color type, you need to set the controller type to WF400C through PC software, the output type is DIM, connect the lamp according to above diagram, then you can use it. You can select built-in brightness of controller through the Function button on the controller or M+, M- button on the touch remote control or realize dimming steplessly through mobile phone software.

IV. System Application Diagram

When there are multiple controllers in user's wireless network, the system structure is as shown in figure 8.1. User can control these controllers separately or in group. In a control system, it can accommodate up to more than 250 controllers, about control mode, please refer to "Touchhome+" software instructions.

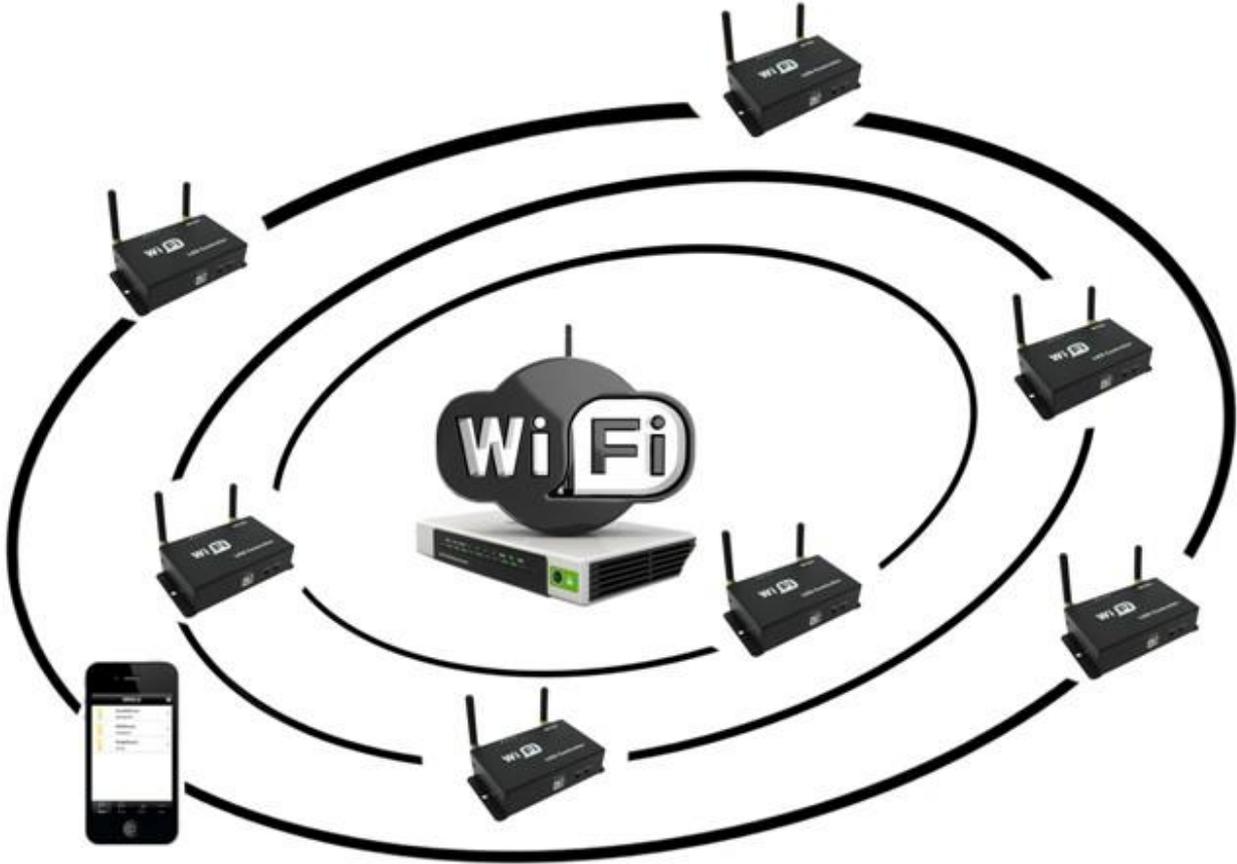


Figure 8.1

V. Notice

1. Please don't install controller in a seal off , high magnetic field or high pressure area;
2. In order to reduce the risk of fire disaster and device damage caused by short circuit , please make sure correct connection;
3. Please do install controller in a well-ventilated area to insure appropriate temperature .
4. Installation position of controller should be as near as possible to the router so as to ensure controller normal working ;
5. Check out whether the supply voltage and power is in the range of controller required or not .
6. Before power on , please inspect the line is correct connection, and test it whether there is a short circuit ;
7. Any problem , please do not open the shell of controller .
8. This manual is only applicable to this model of controller, if there is an update without notice.

VI. Fault Analysis

No.	Phenomenon	Reason	Solutions
1	Load has no output	1. out of power 2. output is overload 3. mistakenly connection	1. check the power 2. increase power amplifier 3. check the connection
2	Color is not correct	Connection of RGB is wrong	Check whether RGB connection is corresponding or not
3	Indicator of remote control flicker	The battery power is not enough	Change battery
4	With the voltage dropping, the voltage is not uneven	1. output cable is too long 2. output cable diameter is too small 3. controller or power supply is overload	1. shorten the length of cable 2. use cable with large diameter 3. increase power amplifier

VII. After-sale services

Within one year that you buy our products, if you operate correctly according to user manual, there is quality problem, we can provide free repair or replacement service, except for the following situations:

1. damage caused by misuse;
2. unauthorized disassembly, repair and modify circuit and incorrect connection;
3. damage caused by transportation, influent; damage caused due to earthquakes, fires, floods and other natural disasters.