W-316C-TTL Instructions

I. INTRODUCTION

W-316C is a 16-port output color lighting controller that can be played online and offline. It supports computer connection, real-time target shooting and 3D layout online, and supports access to DMX console control. It is widely used in KVT, bars, banquet halls, exhibition halls and other color lighting control systems.

II. Specifications and parameters

working temperature ：	-20℃--75℃
working voltage ：	AC110V-220V
maximum power ：	≤3W
weight ：	Weight: 1.1kg Net weight: 0.9kg Weight: 1.1kg Net weight: 0.9kg
size ：	Outer box: 31×24.7×6cm Body: 28.6×13.7×4.5cm

III. PERFORMANCE FEATURES

1. Load lamp: 16 output ports, up to 900×16=14,400 pixels can be controlled, each port can control up to 900 points, support TTL lamps, breakpoint continuation, etc., RGB\RGBW\RGBCW multi-color channel lamps, 16 independent ports can support different channel sequence lamps at the same time.

2. Working mode: computer online, SD card offline, cascaded synchronous control, DMX lighting console.

3. Online dot drawing and 3D layout, wireless network transmission through wireless router, and star structure wiring of switch.

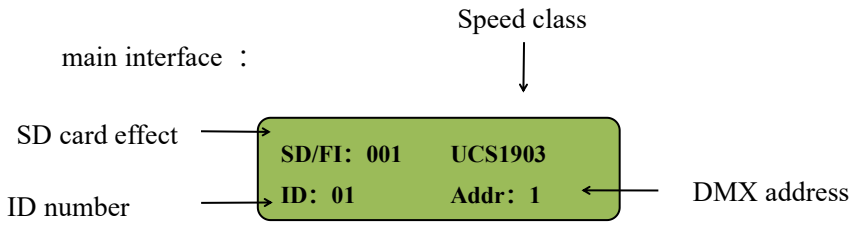
4. Built-in counting points and internal control test functions.

5. It can be inserted into W, and the 3-channel program can be used to carry RGBW four-channel lamps.

6. Support online fixed parameters and firmware upgrade.

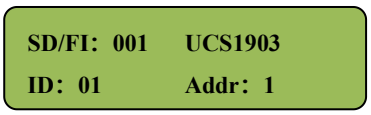
7. Long press OK button to fix the parameters (black dots on the display).

IV. HOW TO USE



V. Controller button operation

1. After power-on, the startup interface is shown in the figure below.

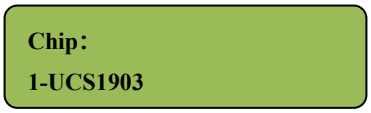


Press the MENU key to switch between directories

2、Press the MENU key once to switch to the ID menu (ID=01), press the up/down key to switch (range of 1-255 numbers); press OK to keep and return to the main interface.

Press the MENU key once to switch to the ID menu (ID=01), press the up/down key to switch (range of 1-255 numbers); press OK to keep and return to the main interface.

3、Press the MENU key twice to switch to the chip menu (CHIP=UCS1903), press the up and down keys to switch the chip model; OK key to keep and return to the main interface.



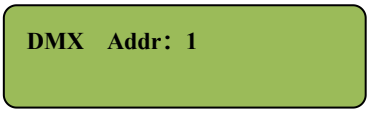
The specific chip model is as follows:

1-UCS1903	2-LB1934A	3-DMX512-800K	4-DMX512-500K	5-DMX512-250K
6-TM1814	7-UCS2904B	8-TM1804	9-TM1914A	10-GS8206
11-P9883S	12-SM16703P	13-Sk6812RGBW	14-SK6812RGB	15-WS2811
16-WS2812B	17-TM1923	18-UCS8903	19-UCS8904	20-HW1603
21-UCS5603	22-UCS8603			

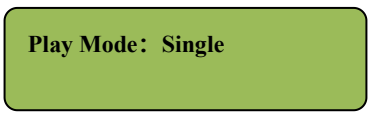
4、Press the MENU key three times to switch to the speed (Speed) menu. Press the up and down keys to switch speed levels (1-16); press OK to keep and return to the main interface. Press the MENU key three times to switch to the speed (Speed) menu. Press up and down keys to switch speed levels (1-16); press OK to keep and return to the main interface.

5、Press the MENU key four times to switch to the Brightness (Bright) menu. Press the up and down keys to switch the brightness level (1%-100%). Press the OK key to keep and return to the main interface. Press the MENU key four times to switch to the Brightness (Bright) menu. Press the up and down keys to switch the brightness level (1%-100%). Press the OK key to keep and return to the main interface.

6、Press the MENU key 5 times to switch to the DMX address menu, press the up and down keys to switch to DMX512 address and so on 1-512; press the OK key to keep and return to the main interface. Press the MENU key 5 times to switch to the DMX address menu, press the up and down keys to switch to DMX512 address and so on 1-512; press the OK key to keep and return to the main interface.

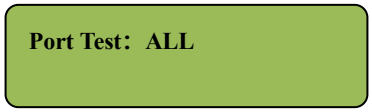


7、Press the MENU key six times to switch to the File Single Loop menu. Press the up/down keys to switch between file modes (Single/LOOP). Press OK to hold and return to the main interface. Press the MENU key six times to switch to the File Single Loop menu. Press the up/down keys to switch between file modes (Single/LOOP). Press the OK key to keep and return to the main interface.



8、Press the MENU key seven times to switch to the channel selection menu. Press the up/down key to switch between 3-RGB/4-RGBW tricolor and four-color selection. Press OK to keep and return to the main interface. Press the MENU key 7 times to switch to the channel selection menu. Press the up/down key to switch between 3-RGB/4-RGBW tricolor and four-color selection. Press the OK key to keep and return to the main interface.

9、Press the MENU key 8 times to switch to the Port Test (port test) menu, press the up and down keys to select port ALL (all ports) 1-16 ports, and press the OK key to enter the test interface;



Use the up/down keys to select port ALL, 1-8

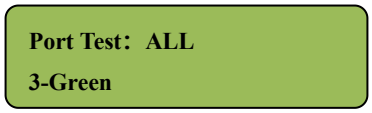
Press OK to enter the test state:

Use the up/down arrow keys to select the number

Press OK to enter the second test:

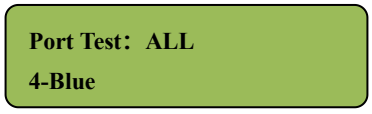
Red Everbright test

Press OK to enter the third test:



Green Everbright test

Press OK to enter the fourth test:



Blue constant light test

Press OK to enter the fifth test:

Port Test: ALL **5-White**	White constant light test

Press OK to enter the sixth test:

Port Test: ALL **6-Gradient**	Color gradient test

Press OK to enter the seventh test:

Port Test: ALL **7-RGB Jump**	Color jump test

Press OK to save and exit.

10、Press the MENU key 9 times to switch to the Gamma (gamma) value menu, press the up and down keys to switch the gamma value size; press the OK key to keep and return to the main interface. Press the MENU key 9 times to switch to the Gamma (gamma) value menu. Press the up and down keys to switch the gamma value size; press the OK key to keep and return to the main interface.

Gamma : 2.2

11、Press the MENU key 10 times to switch to the Menu: RGB (channel mode) menu. Press the up and down keys to select the channel order RGB, RBG, GBR, GRB, BGR, BRG; press OK to save and exit.

RGB Channal **--RGB--**	▲ ▼	Use the up and down keys to select the channel

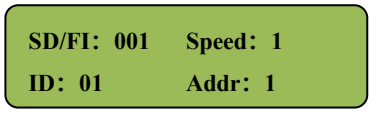
Press OK to save and exit.

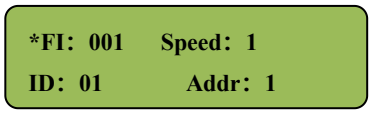
13. Fixed sub-control parameters:(it is particularly important to note that there is a lock parameter function on the controller. Long press the "OK" button, and the left * on the display will be lit to represent the lock)

Method 1: Automatic ID Recognition. The system automatically unlocks all devices with ID W-316C, connects to the main controller W-100C, and assigns sequential ID numbers to sub-controllers while automatically identifying the main controller's model.

Additionally, the main controller allows independent configuration of sub-controller parameters for direct parameter writing. This solution is applicable to most scenarios, as illustrated in Figure 1.

Method 2: Individual Fixed Subcontroller Configuration: First disconnect the main control network cable. Set up a subcontroller by selecting its ID number and chip model. Long-press the "OK" button to lock subcontroller parameters. After completing all subcontroller parameter settings, connect them to the W-100C output terminal of the main controller. At this point, the chip model on the main controller no longer needs to match the subcontroller (this method is only used when subcontrollers cannot be properly connected or require different parameter configurations). As shown in Figure 2.





- Lock the sub-control parameter: Long press the OK button to lock the upper left corner of the display * as shown in Figure 2
- Unlock sub-control parameters: After sub-control is locked, long press OK button to unlock. As shown in Figure 1

Control and lock usage:

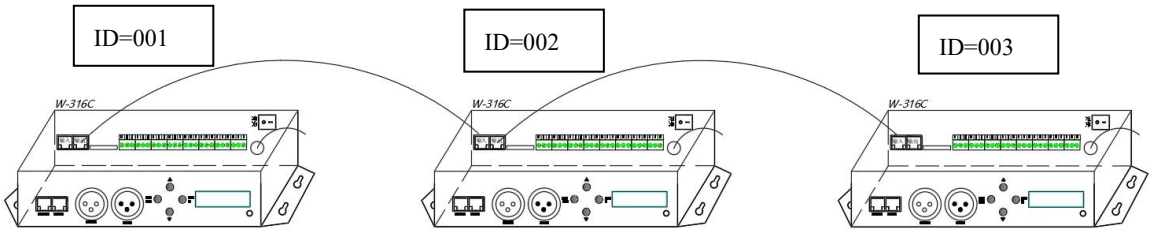
1、The master control sub-control is connected, and the sub-control cannot identify the ID number

2、Different channels or different chip lights are used in the same construction site

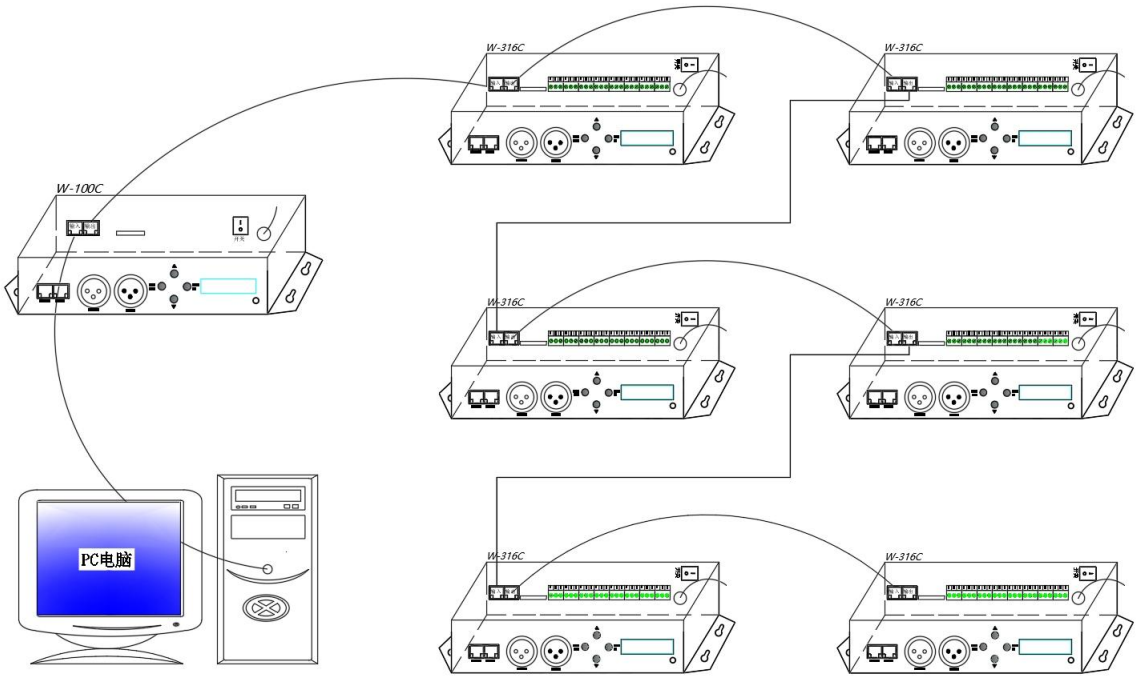
3、The order of sub-control did not follow the hand-in-hand mode and there was confusion in ID numbers

VI. Offline cascading

1. When performing offline cascaded synchronization of multiple W-308C units, configure the first device as "ID=1" while keeping others in automatic mode. Export program files by partitioning them during offline software operation. Select "Partition-by-Device" mode to generate folders matching the number of units on the schematic diagram. Corresponding controllers should then copy the program files from their respective folders.

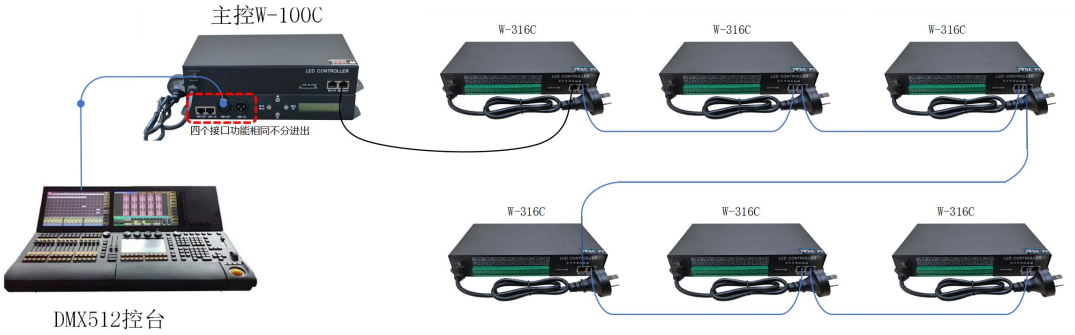


7、Live streaming



8. Console control: There are two solutions. One: cascading into the console

Scheme 2: Add the main control input console



Step 1: Press the menu in sequence until you reach screen 5. The following is displayed: DMX Addr: 1

Step 2: Press t▲ u▼nd down keys to add or subtract the value, which represents the control address; press "OK" to save the address. **Step 2: Press the up and down keys to add or subtract the value, which represents the control address; press "OK" to save the address.**

Step 3: Open the console and connect according to the corresponding address. The connection channels are as follows:

classical pathway ：	Brightness 0-255,4 values per level, total of 63 levels
second channel ：	R Red (0-255)
The third channel:	G Green (0-255)
The fourth channel:	B Blue (0-255)
Fifth channel:	**W White (0-255) only for RGBW lamps**
The sixth channel:	File effect number, 4 values per file, total of 64 files

The seventh channel:	Playback speed (1-16 levels)
The eighth channel:	In reverse, 0-123 is forward, 124-131 is stop, and 132-255 is reverse.
Ninth channel	stroboflash
Tenth channel base color 01	Red 000-255 components
Channel 11 Base Color 02	Green 000-255 component
The 12th Passage Base Color 03	Blue 000-255 component

9. Online dot setting:

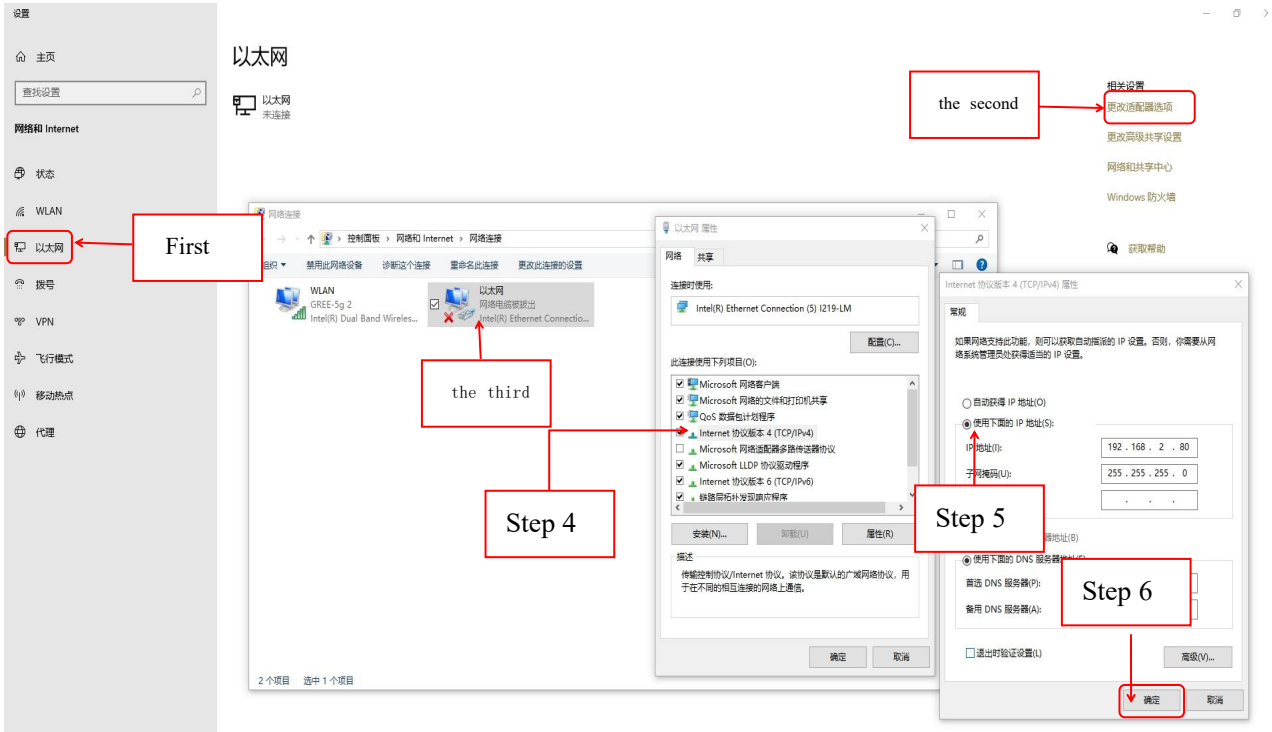
Step 1: Computer Settings

"Network and Internet Settings" --> "Ethernet" --> "Change Adapter Options" --> Double-click "Ethernet"

--> Select Internet Protocol version 4 (TCP/IP) --> Double-click to open--> "Use the following IP address"

--> Enter the corresponding IP address--> Click OK

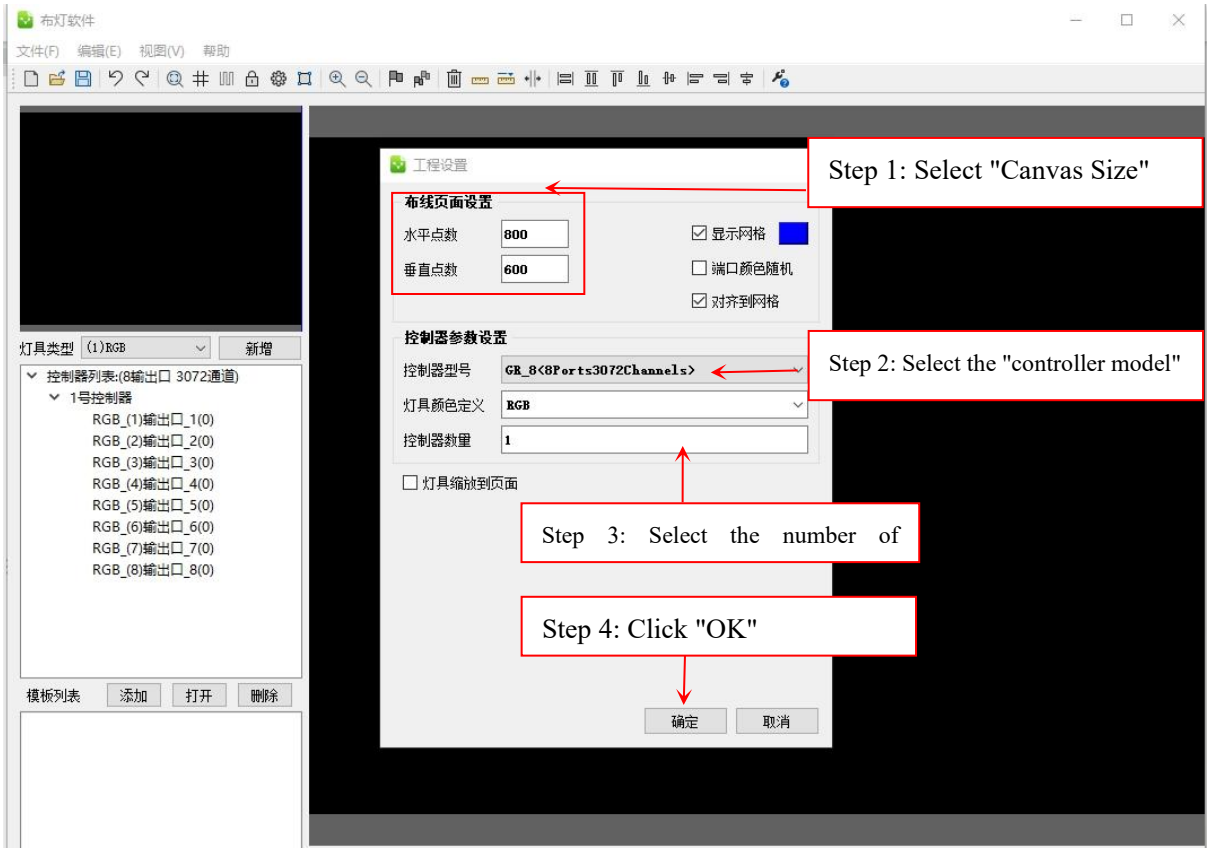
The diagram is as follows:



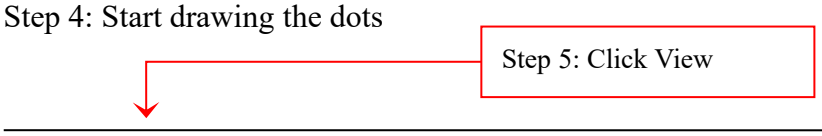
the second step：

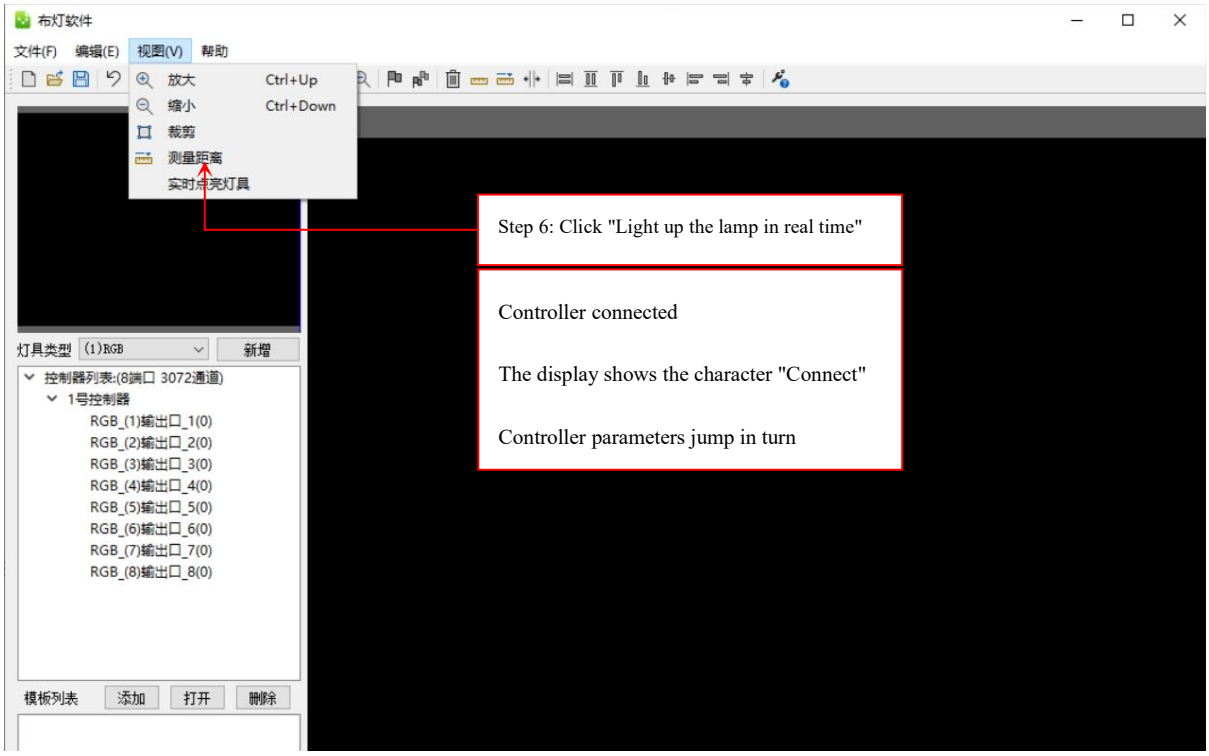
Step 3: Wiring design

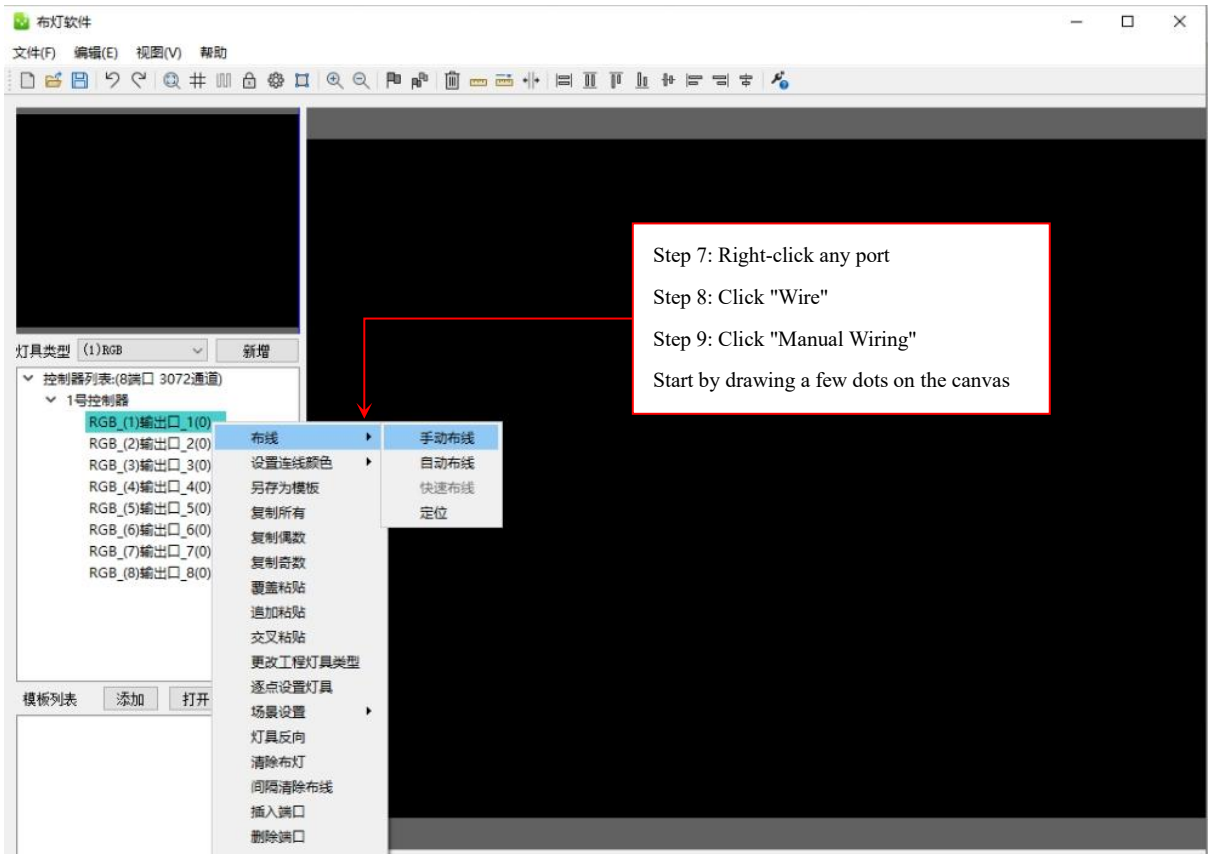
Canvas Settings--> Controller Model--> Number of controllers



Step 4: Start drawing the dots



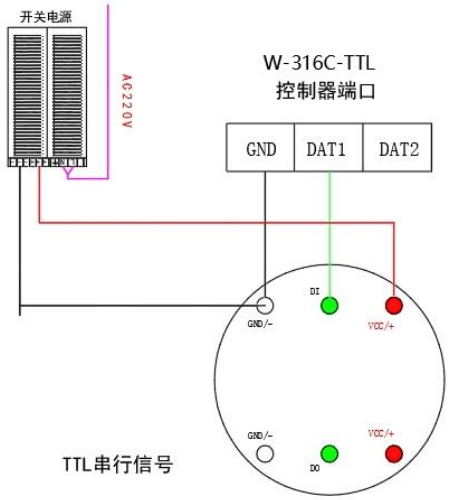


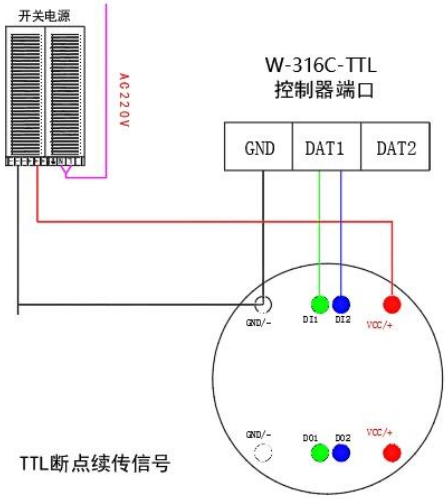


Draw and save the drawing. If you want to generate an offline file, you need to use the offline software.

X. TTI lamp wiring diagram:

Single line TTL lamp, GND DAT two-line interface





pay attention to ：

1. Different lamp models have different wiring methods, so the wiring should be based on the information provided by the manufacturer to operate the power supply lamp.

2. SD card program playback, copy the program must first format the SD card, put the Off001.ARM file into the card.

3. Do not operate SD card and wire with power on.