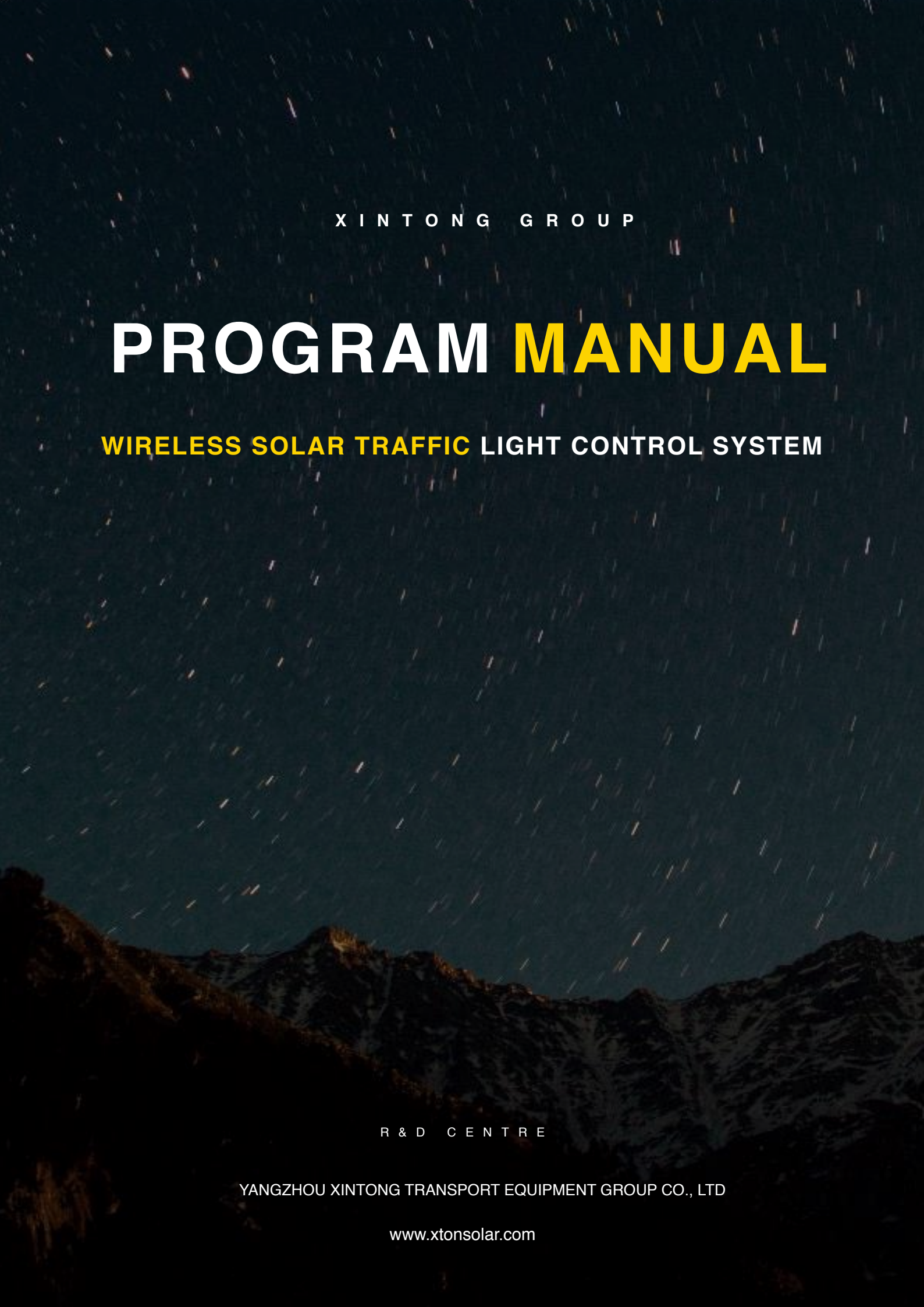


XINTONG GROUP

# PROGRAM MANUAL

## WIRELESS SOLAR TRAFFIC LIGHT CONTROL SYSTEM

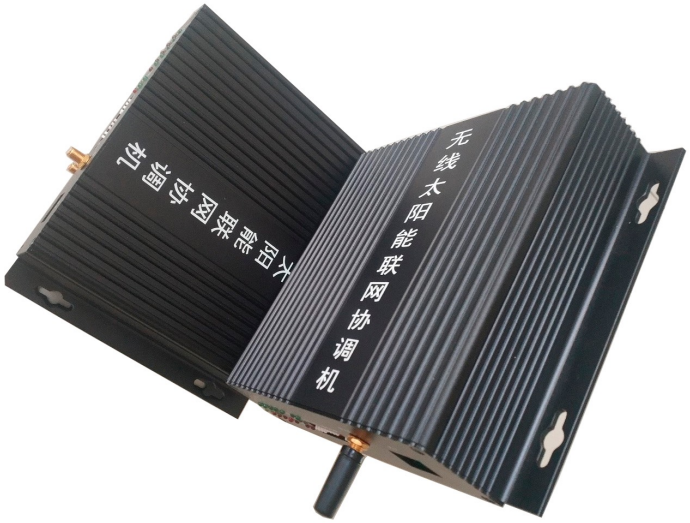
R&D CENTRE

YANGZHOU XINTONG TRANSPORT EQUIPMENT GROUP CO., LTD

www.xtonsolar.com

## 1 Brief Introduction

The wireless solar networking signal controller is designed according to the GB25280-2016 protocol standard. The system uses a high-performance ARM Cortex 32-bit micro control unit. High-performance LoRa spread-spectrum communication is used between the master and slave devices. Each device has overload protection and under-voltage protection function, integrated high-precision real-time clock chip to ensure the correct implementation of the program, integrated GPS / Beidou chip to achieve positioning and timing functions, while supporting car special service and remote platform access, the system abandons the traditional cumbersome button setting method, using simple and efficient PC/mobile APP configuration port.




## 2 Product Specification

| | |
|---|---|
| Stand-alone power consumption | ≤2W |
| Product Size | 18*15 cm |
| Product weight | 1KG /PC |
| Working voltage | DC12-24V |
| Operating temperature | -40 ° C to +70 ° C |
| Clock error | <±5ppm |
| Data interface | 1 *RS232, 1* RS485, 1* RJ45 |
| Parameter saving during power failure | 10 years |
| Effective transmission distance | ≤2W |

# 3 Product Features

★ Support GPS timing and positioning;

★ Support WIFI connection, parameter configuration of signal machine through mobile APP or computer client, intuitive and visual parameter configuration software;

★The system supports up to 16 independent light groups with 52 outputs (single unit supports 5 independent light groups and 13 outputs), and each output light group can be independently configured;

★Signal panel LED indicator, which can display the status of each signal output and signal running status, wireless data transmission status, GPS signal status, etc. in real time.

★Equipped with RJ45 and RS232 hardware interfaces, supporting TCP/IP Ethernet communication protocol;

★ Functional modular design, easy to configure and easy to maintain;

★ Support 20 day programs, 24 time slots per day plan;

★ Support 40 holiday special day configurations;

★ Support independent configuration of green flash, yellow light, full red time;

★ Support remote network control, timing, manual control, special control, phase time adjustment, etc. for the signal;

★ Supports automatic security functions such as green conflict degradation control, low voltage protection degradation control, wireless communication signal loss and degradation control;

★ Master-slave communication uses high-performance LoRa spread spectrum and high-efficiency cyclic interleaving error correction coding to improve anti-interference ability and sensitivity, and the transmission distance and penetration capability are more than doubled compared with traditional single-frequency communication.

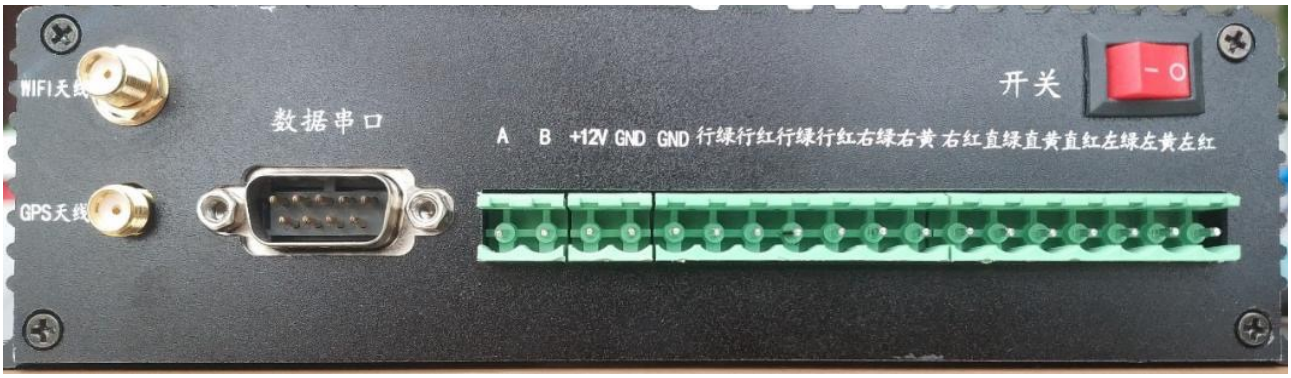
★ Support wireless car / hand held special control function;

★Support multiple control modes such as multi-period fixed cycle, coordinated green wave, induction control, single point optimization control;

# 4 Setting Guidance

## 4.1 Hardware Guidance

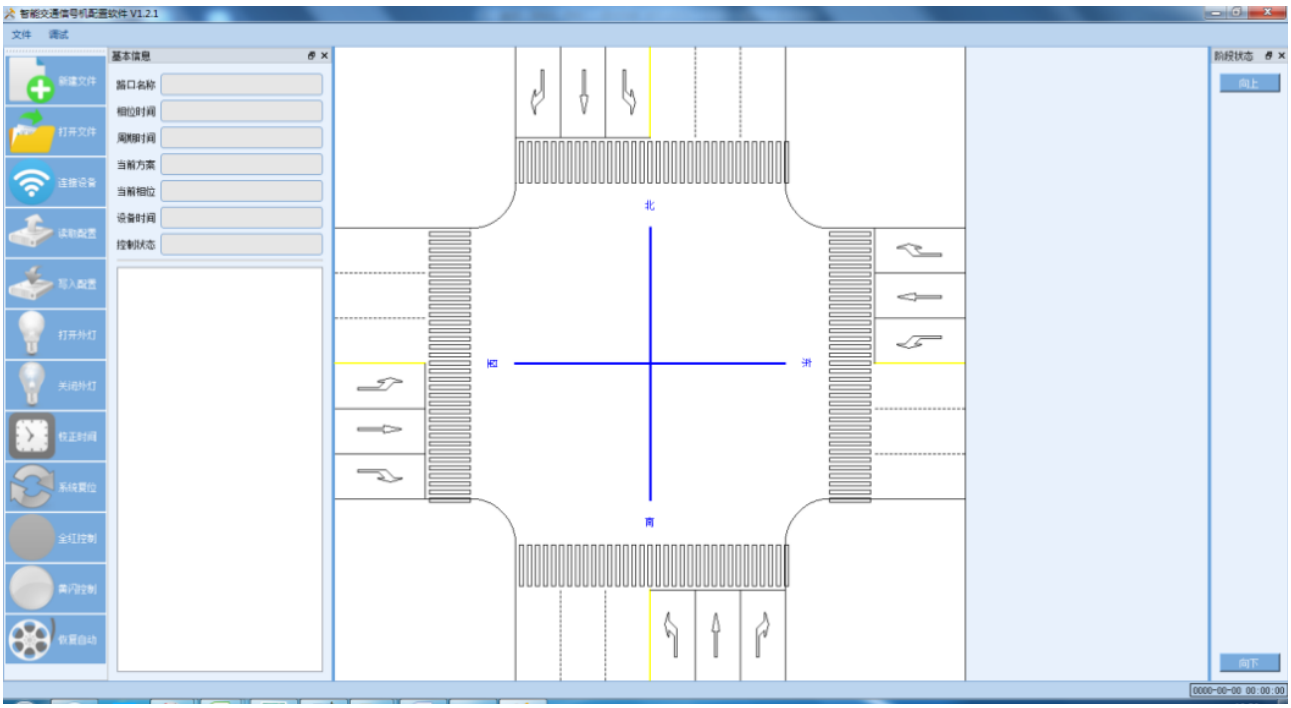

The front wiring of the machine is as follows:
The frequency dial 1-4 dial code selects the system wireless transmission frequency (a total of 16 frequency bands are available from 0 to 15).
The master and slave must be in the same frequency band; the 'sub-machine' dial code selects whether to follow the cluster state, the master is on, and all slaves are dialed;
Device dialing code 1-2 selects the current system master and slave number; binary
The voltage dial code No. 3 selects the current system power supply, and the DC 12V dial code on the top is DC 24V; Address dial 4-5 selects the current device address; binary



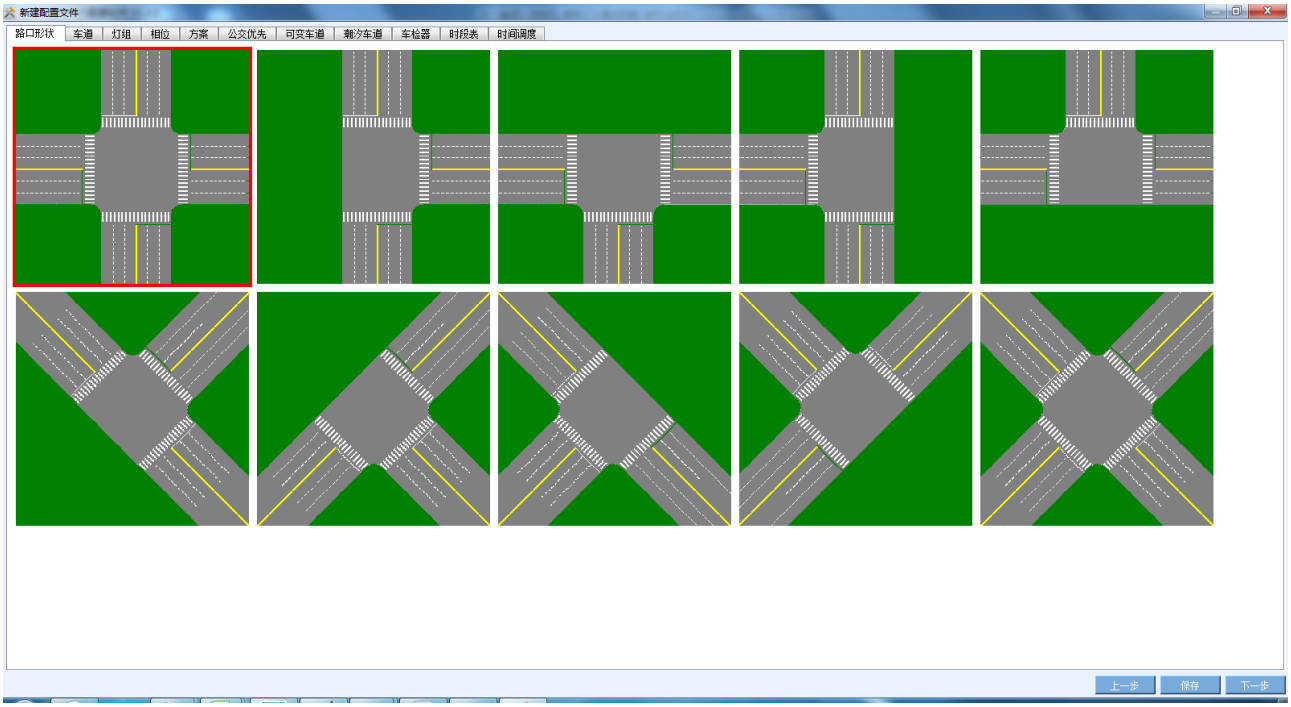

The wiring on the back of the machine is as follows: Red switch is the main power switch of the device

## 4.2 Software Instructions

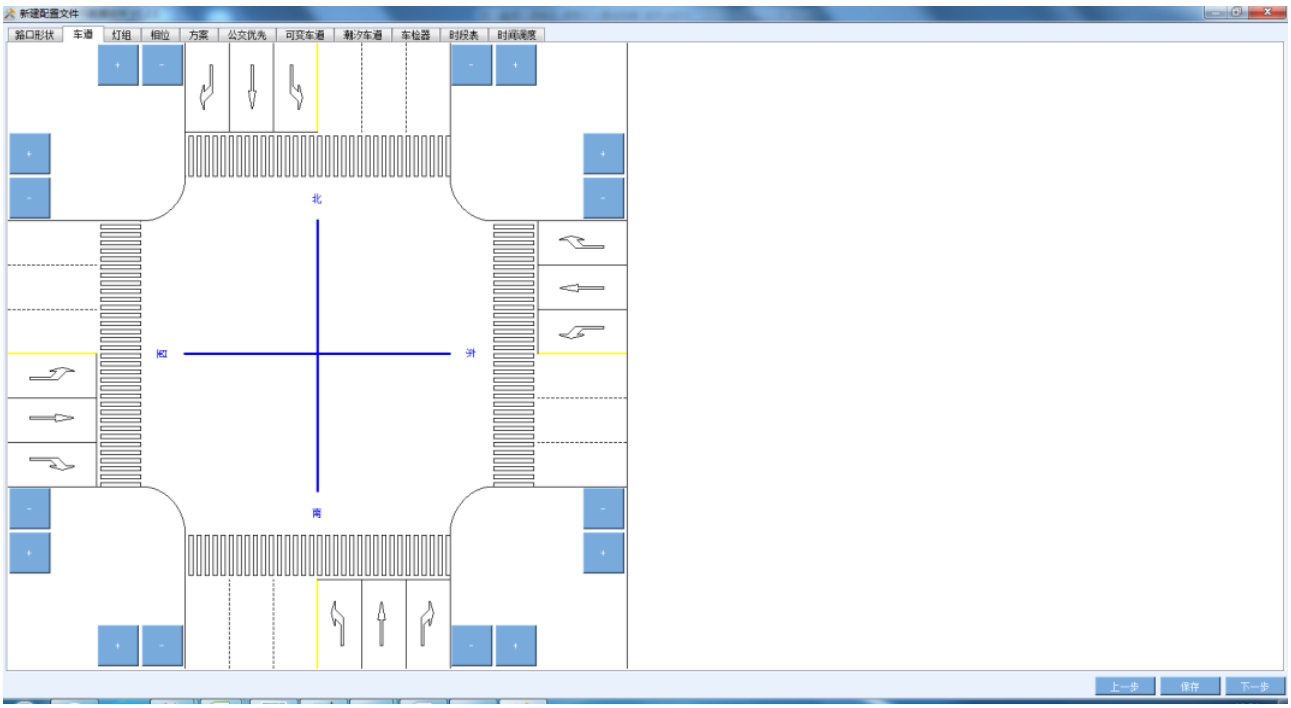
4.2.1. Double-click the application and enter the software port:



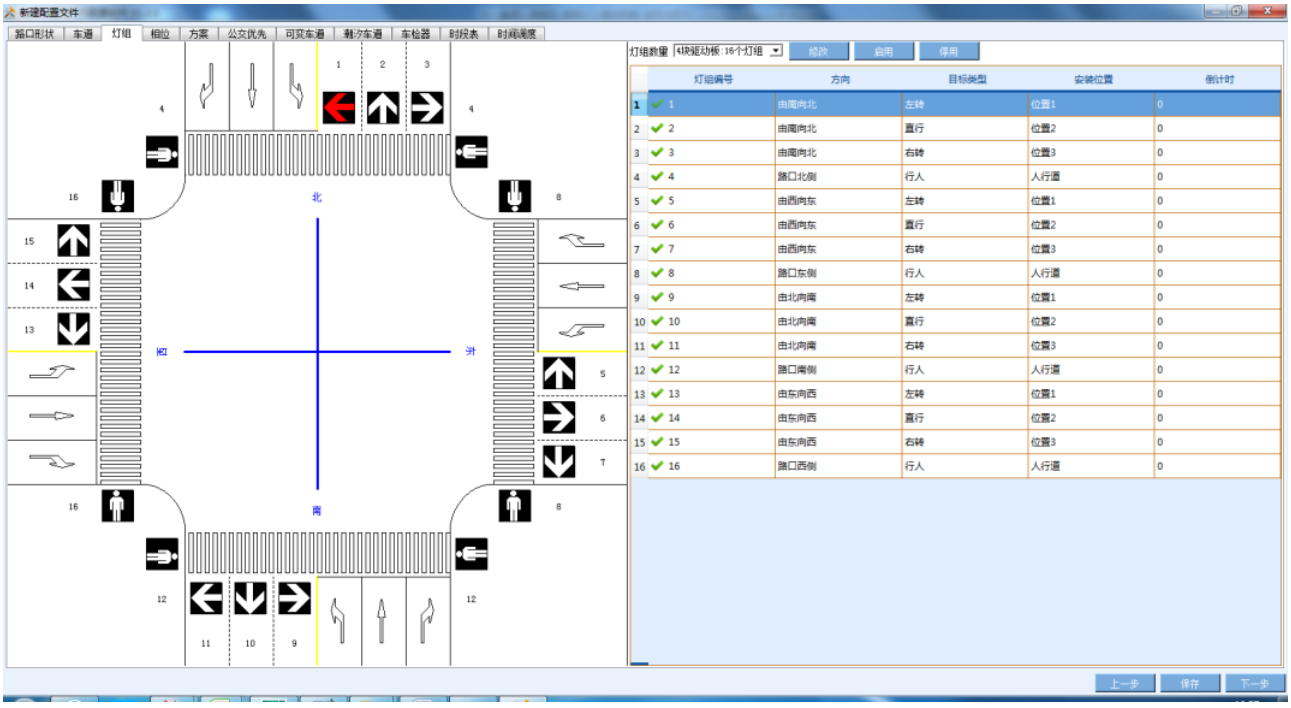
Click on the new file in the upper left to display



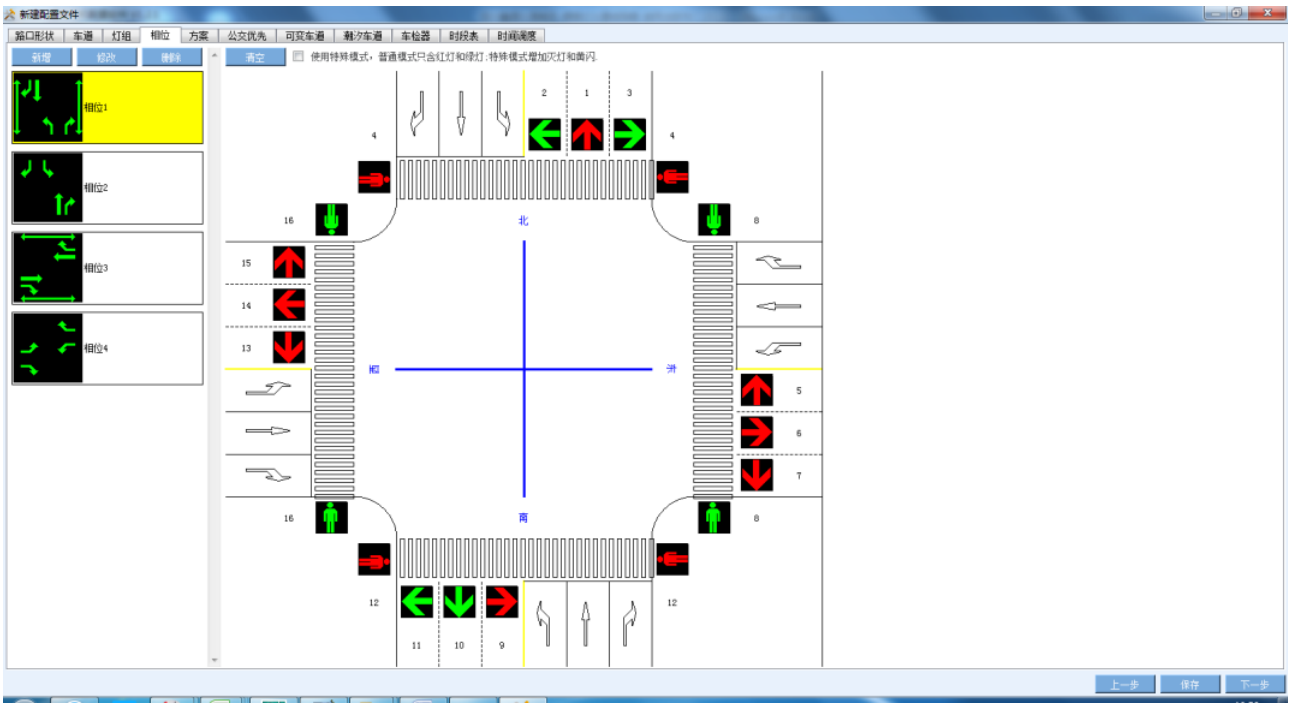
Select the pattern that matches the intersection, click Save, and click Next.



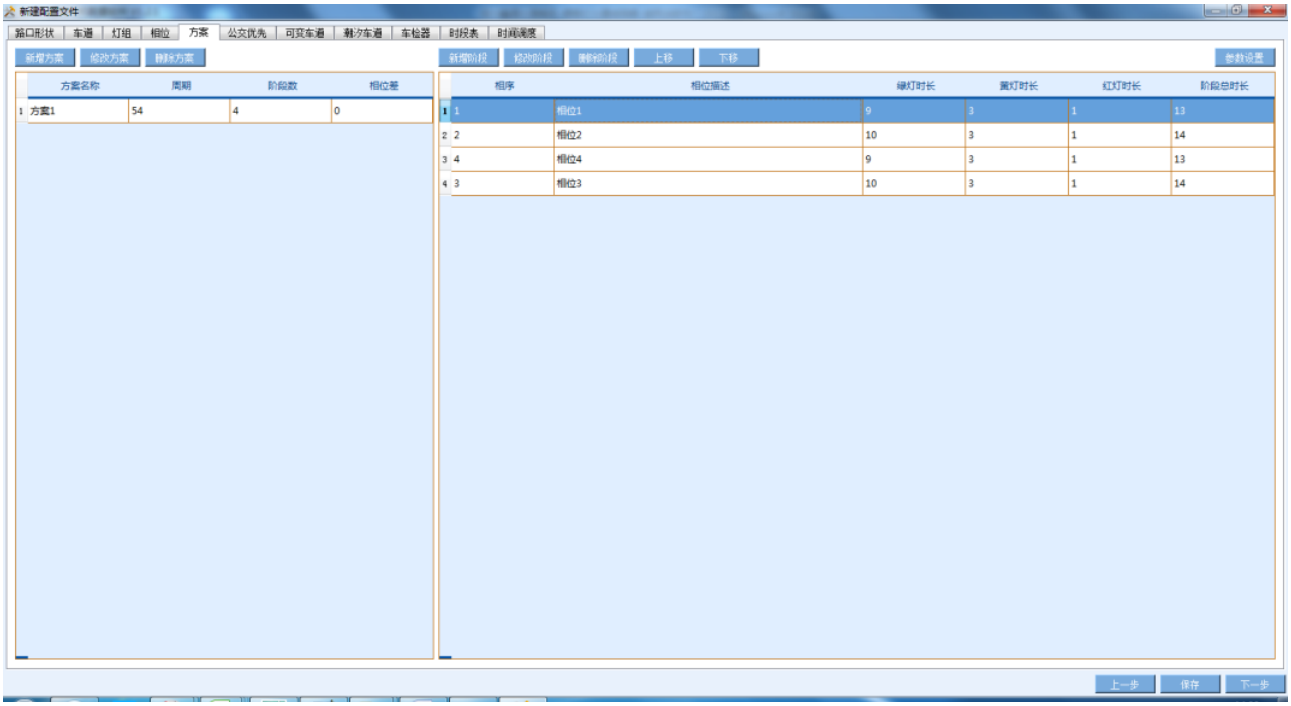
Click on the lane sign to select different lane markers, + - button to increase or decrease the number of lanes, click Save after modification, then next



Click the arrow sign to select a different number, normal default, click next

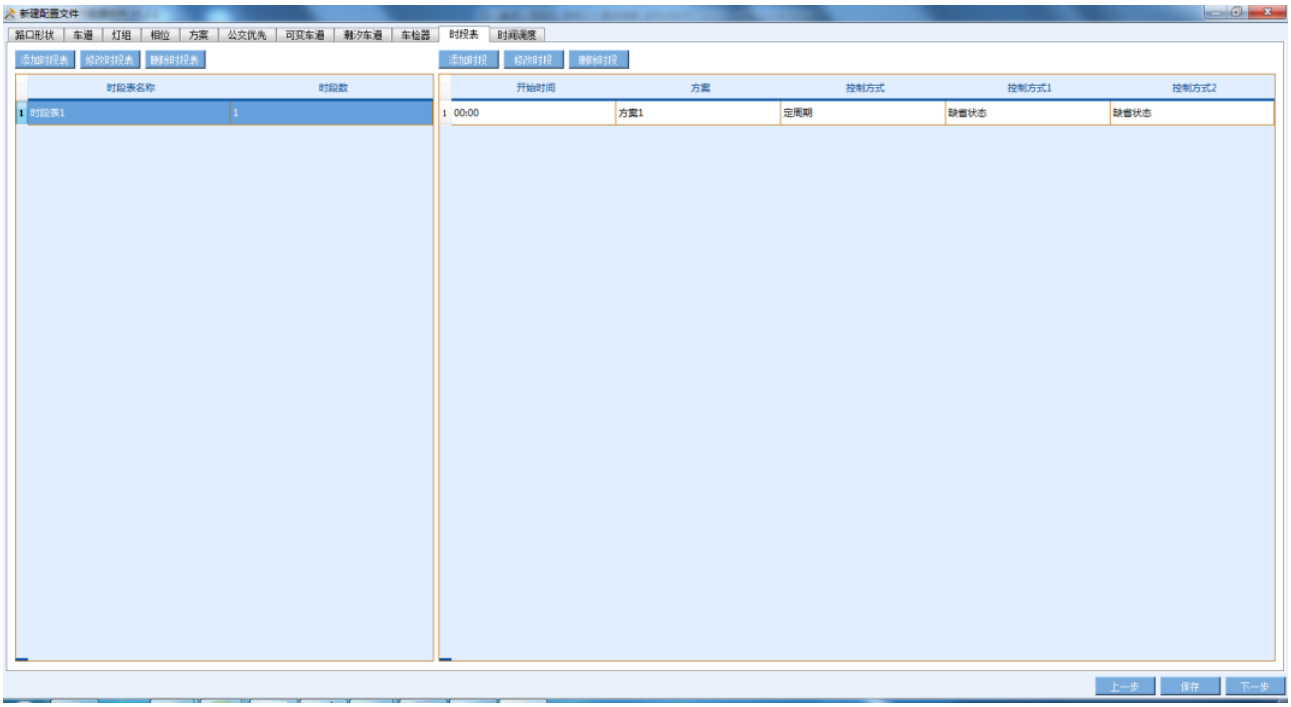



The left side is the four phases of the release, the new addition and deletion on the top can increase or decrease the number of phases, the intersection arrow in the middle, the pedestrian mark can be clicked to modify different colors, corresponding to the left phase, (select here Actual release of data for the intersection). Save after modification and then next

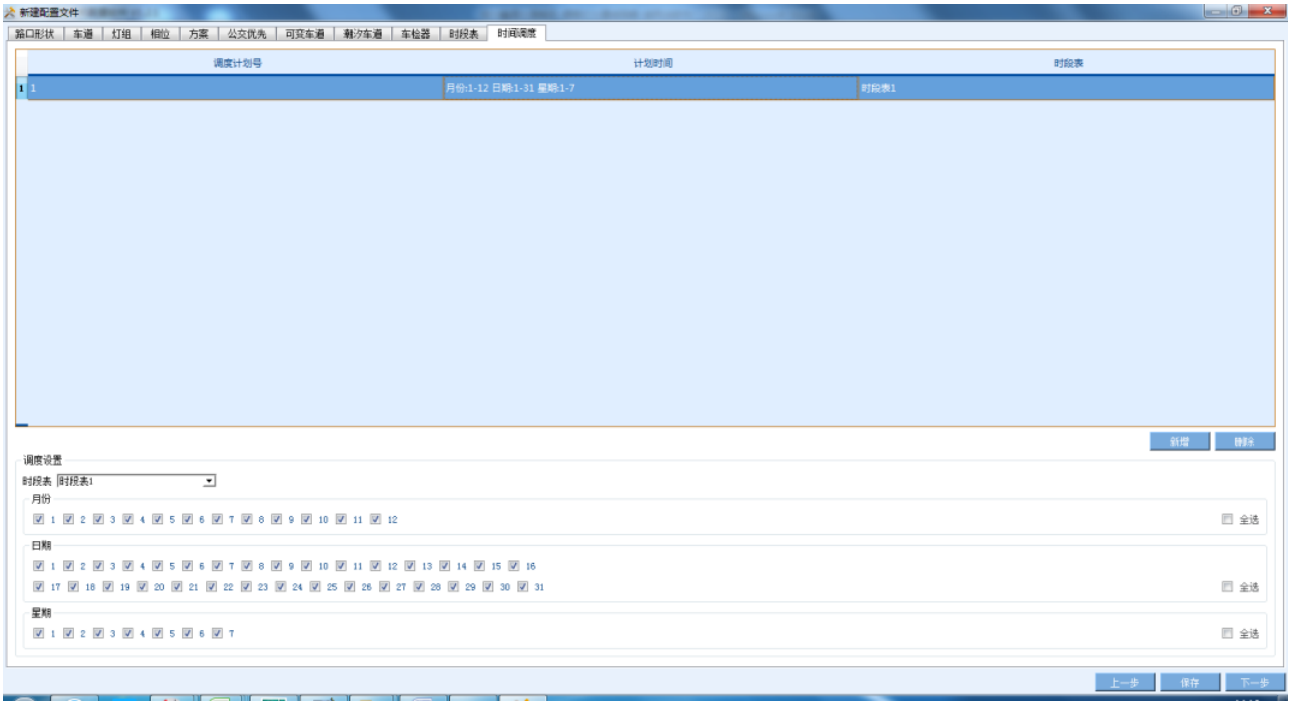



After the double phase is double-clicked, the release time can be modified, and different green flashes, red flashes, and yellow lights can be set independently. After the modification, click Save and Next.

The bus priority, variable lane, tidal lane and vehicle inspection device behind are extended functions, no description is made, and the next step is to the timetable

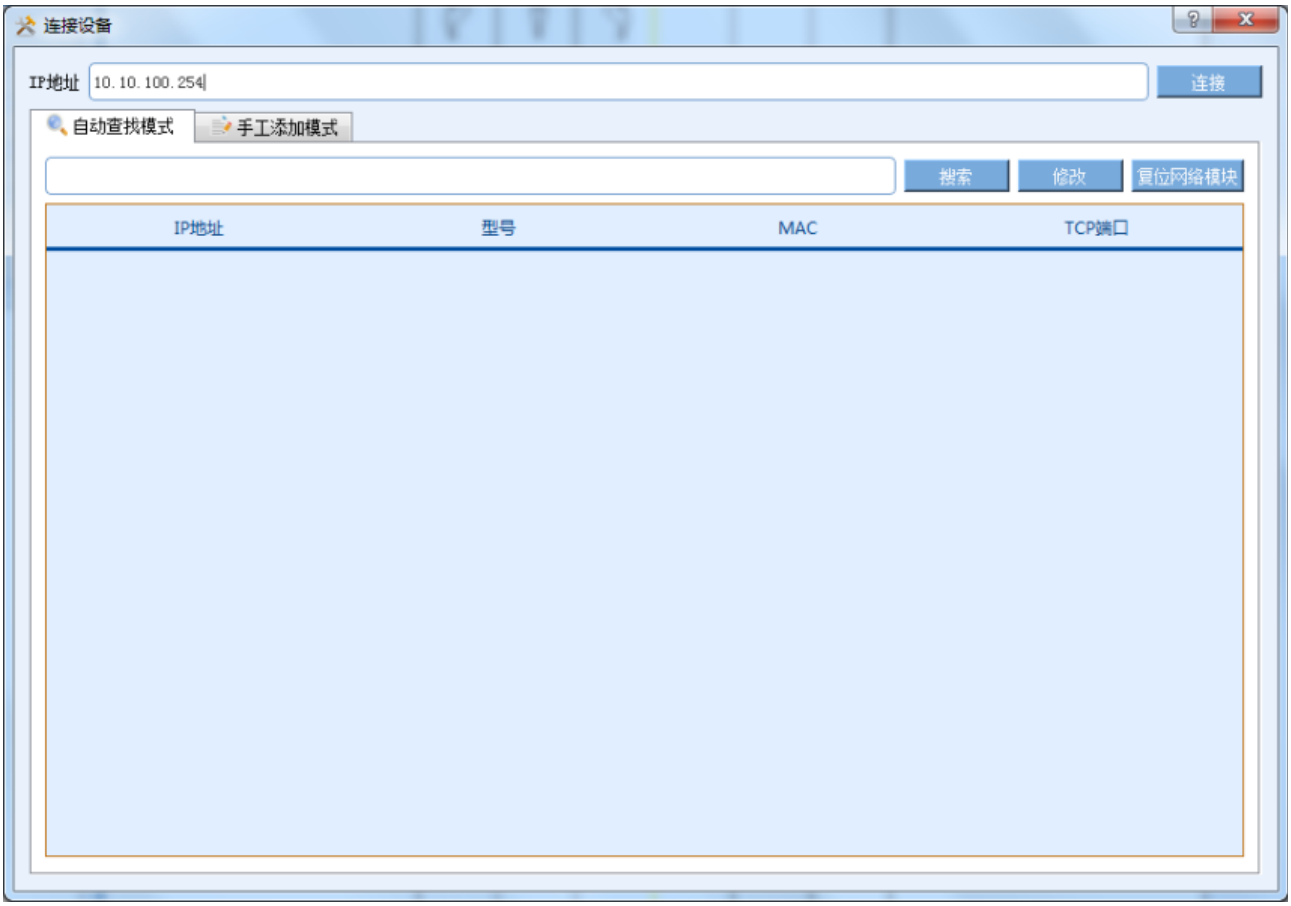



Here you can set different switch time, different release schedules, different control methods. Edit and click Save, Next




Different holiday and special day configurations can be selected here. Click on Save after modification, X on the top right Select the YES option

4.2.2. Connect the laptop to the WIFI of the signal, select the connection device, click on the connection option




4.2.3. Select the write configuration of the main menu to download the newly created or modified configuration file to the signal

4.2.4. The switch external light at the lower left of the main menu, calibration time, system reset, full red control, yellow flash control, and recovery are automatically used for special control.

## 5 Q & A

5.1. The signal light is always on and not controlled

Possible reason: a control board failure, replace the control board

5.2. The signal panel is normal, all the signal lights are not bright

Possible reason: a. Check if the external light is on by the application software; b. Check the fuse inside the machine to see if it bursts.

5.3. There is a signal light is not bright
Check the lamp output voltage corresponding to the terminal, if there is DC12V or 24V voltage
Possible reason: a. signal light failure, replace the signal light. b. line failure, check the line.

5.4. If there is no DC12V or 24V voltage:
Possible reason: a. control board fuse is blown, replace the fuse (generally there will be several lights off); b. the control board is damaged, replace the control board or skip the fault phase.

# Contact Us If You Have Further Problems

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