OpenATC Configuration Software User Manual

OpenATC Dev Group

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Statement

This manual may contain technical inaccuracies, inconsistencies with product functionality and operation, or typographical errors. We will update the contents of this manual based on enhancements in product functionality and will periodically improve or update the products or procedures described in this manual. Updated content will be added to new versions of this manual without notice.

Instructions for accessing via the Internet

The product access to the Internet at your own risk, including but not limited to the product may be subjected to network attacks, hacker attacks, virus infections, etc., the company does not take responsibility for the resulting product work abnormalities, information leakage and other issues, the company will provide you with product-related technical support in a timely manner.

Notes

To improve the security of your product network, it is recommended that you set up a strong password that contains 8-16 characters and is a combination of at least two or more types of numbers, letters, or special characters.

Please change the password of your username regularly, and it is recommended to update it every 3 months. If the device is used in an environment with a high security risk, it is recommended to update it monthly or weekly.

Please keep your username and password safe.

1. General Introduction

1.1 Outline

OpenATC configuration software is a newly developed set of software products, mainly providing configuration, control and monitoring functions for signal machines, installed on a PC for easy use in the field.

OpenATC configuration software communicates with the signal machine through the network port or serial port to realize the functions of signal machine characteristic parameter setting, signal machine operation status monitoring, signal machine intervention control, etc. to realize the configuration and maintenance work in the daily operation of the signal machine.

The main screen of the system client running is as follows:

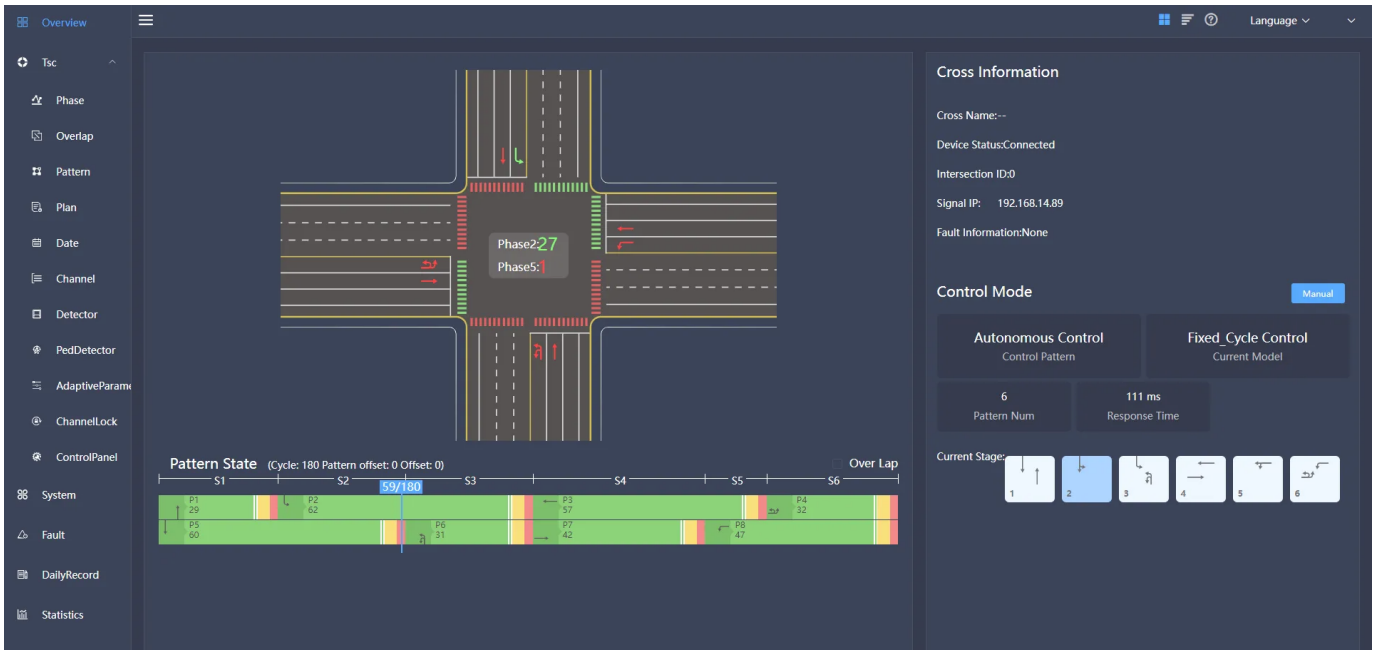

Figure 1-1 Client main interface

1.2 Glossary of Terms

(1) control center

In a traffic signal control system, an upper-end device that can communicate with and control and monitor multiple signal machines.

(2) phase

The signal display status of one or more traffic streams that have been granted the right-of-way at the same time during a signal cycle.

(3) offset

In coordinated control, the difference between the start time of a coordinated intersection and a specified reference intersection phase or cycle, or the time difference between the start time of a coordinated intersection phase or cycle and a specified reference time.

(4) cycle

The signal light color displays the time required for a week in the set phase sequence.

(5) ring

The ring consists of two or more conflicting phases, and the phases are arranged in such a way as to ensure that they appear in a prescribed order.

(6) stage

A state in which one or more phases acquire the right-of-way simultaneously during the signal cycle.

(7) barrier

The barrier is the reference point for the phase sequence selected in a multi-loop controller. At this reference point, all rings end their release simultaneously while crossing the barrier to release the phase and signal time on the other side of the barrier. This barrier ensures that conflicting phases in different rings cannot be released at the same time.

(8) minimum green time

The minimum time for the phase to execute the green light.

(9) maximum green time

Maximum time for phase execution green light.

(10) green coflict

It is specified that the green signal of the signal group that is not allowed to be released at the same time is lit at the same time.

(11) split

The ratio of the effective green time of the signal phase to the cycle duration in one signal cycle.

(12) inter-green time

he time between the end of one phase green light time and the start of the next phase green light time.

(13) yellow time

The duration of the yellow light when the right-of-way is about to change.

(14) all red

The red light time executed at the end of the motor vehicle phase release, before the next phase release.

(15) date schedule

Signaler day plan scheduling rules.

(16) green wave

Through the distance between the intersections on the arterial road, the hourly speed of traffic to calculate the green light start time difference, adjust the timing scheme of each intersection, to achieve the effect of vehicles through these intersections, all the way to the green light, this arterial intersection coordination control, known as the green wave belt, commonly known as line control.

(17) isolated control

Single intersection road traffic signal control machine independent operation, and other intersections independent of the traffic signal control mode.

(18) arterial control

It is a traffic signal control method that coordinates the road traffic signals at two or more intersections to control them.

(19) area-wide control

The method of treating intersections within a certain area as a logical region and optimizing the scheme timing, release time and phase difference of these intersections in order to improve the efficiency of the whole area and alleviate and improve urban traffic problems.

(20) flashing yellow control

All phases of the signal machine immediately go into flashing state. All signals at road junctions are in yellow flashing state.

(21) all-red control

All phases of the signal machine immediately go to all-red status. All signal machines at road junctions are all in full red.

(22) light-off control

The signal machine immediately turns off all phase outputs. All signal lights at the intersection are all off.

(23) step control

The traffic signal control method that makes the intersection signals release in sequence by stage by issuing step-by-step instructions to the traffic signal control machine.

(24) fixed-time control

The phase signal is output at a fixed period according to a preset scheme.

(25) vehicle actuated control

The signal machine enters the inductive control mode. The signal is in induction control mode, when the phase time of the signal will increase in real time with the increase of traffic flow at the intersection.

(26) adaptive control

The road traffic signal control machine adjusts the traffic signal control method of each phase signal duration according to the traffic flow information of different phases measured by the detector, and the time duration optimization is reflected in the next cycle.

(27) cableless linking control

There is no communication link established between each road traffic signal control machine at different intersections, and the traffic signal control method of coordinating traffic signals at different intersections is achieved by setting the phase difference according to the clock for synchronization.

(28) pedestrian crossing control

A traffic signal control method that uses pedestrian crossing buttons or inductive pedestrian crossing signal control systems to control pedestrians crossing the intersection.

2. Main interface

2.1 Log in and log out of the web client

- Log in to the web client

Enter the IP address of the device in the browser address bar to enter the web client login interface. Enter the user name and password to enter the client.

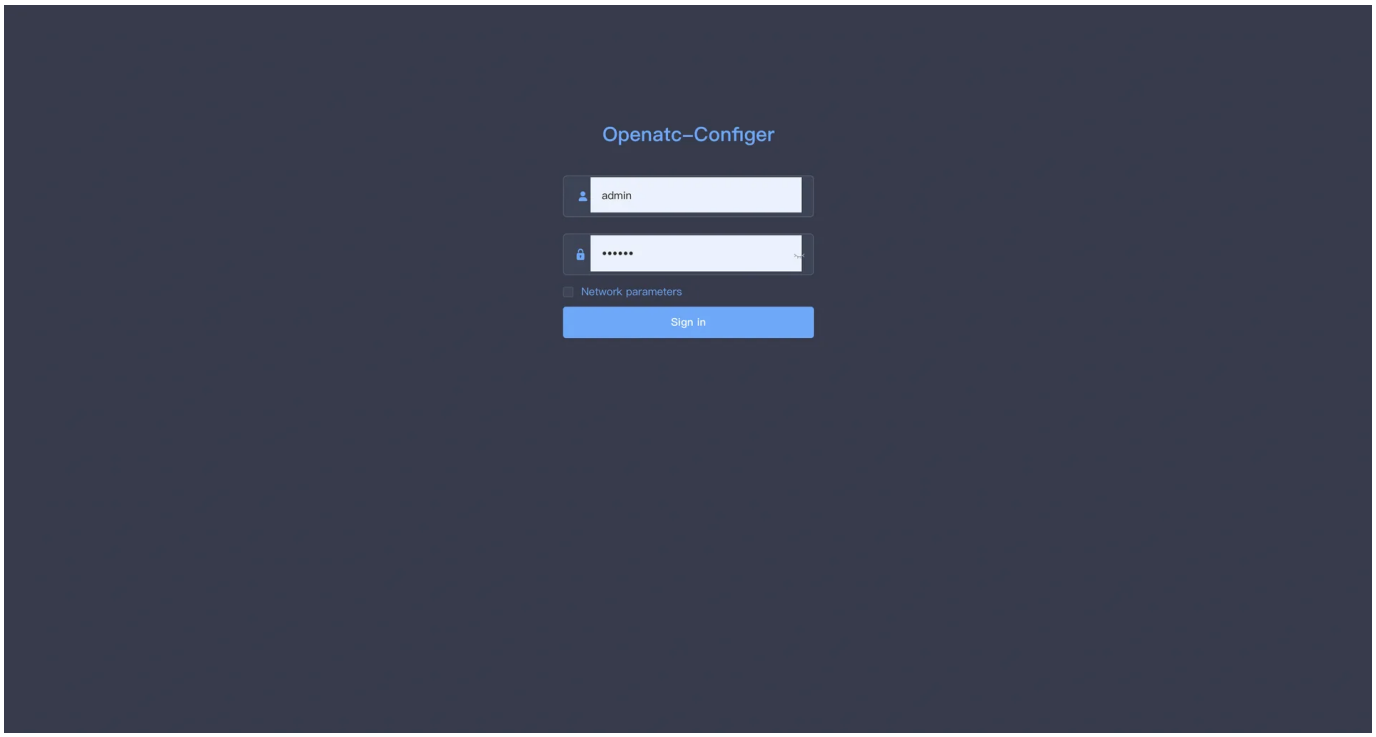

Figure 2-1 Log in to the web client interface

If you check the communication parameters, fill in the IP address, port and protocol (ocp, scp) and click login to enter the main interface.

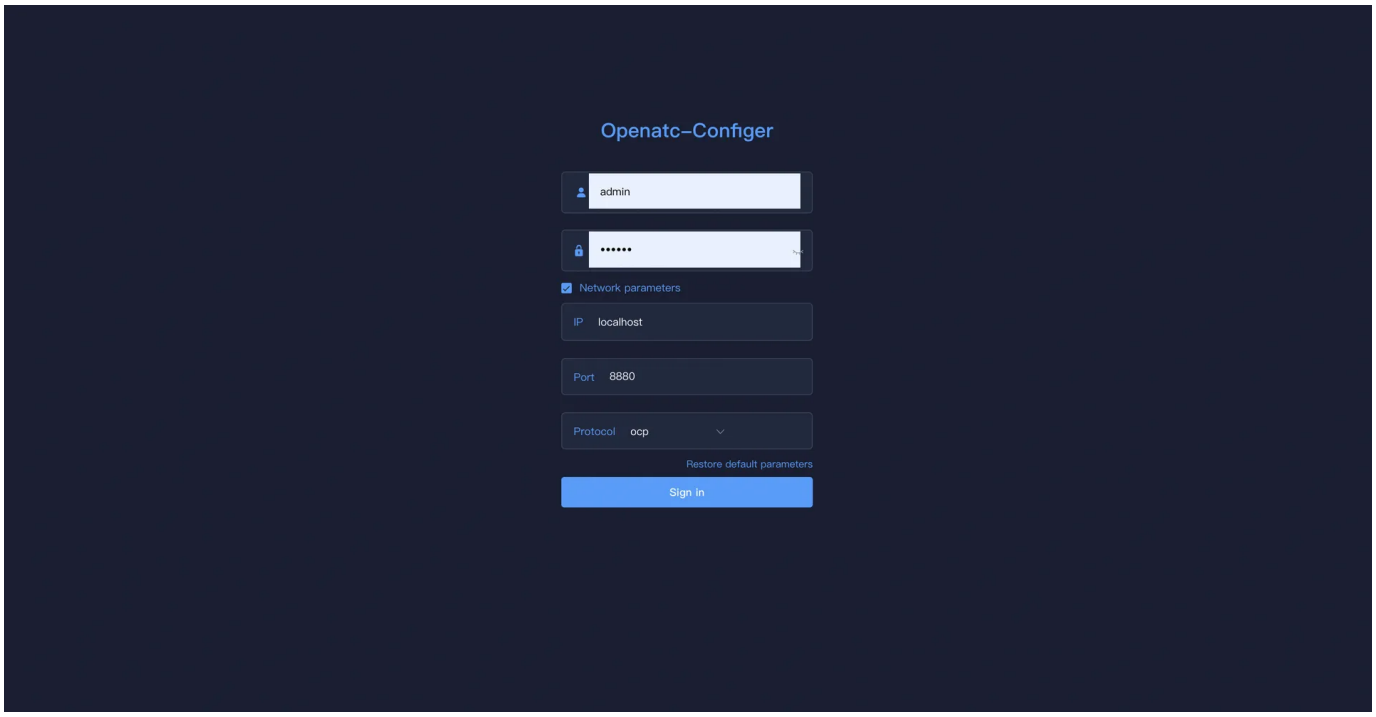

Figure 2-2 Check the communication parameters to log in to the Web client interface

After successfully logging in for the first time, enter the main interface of the system.

- Log out of the web client

Click the triangle icon button under the user account in the upper right corner of the client operation interface to log out safely.

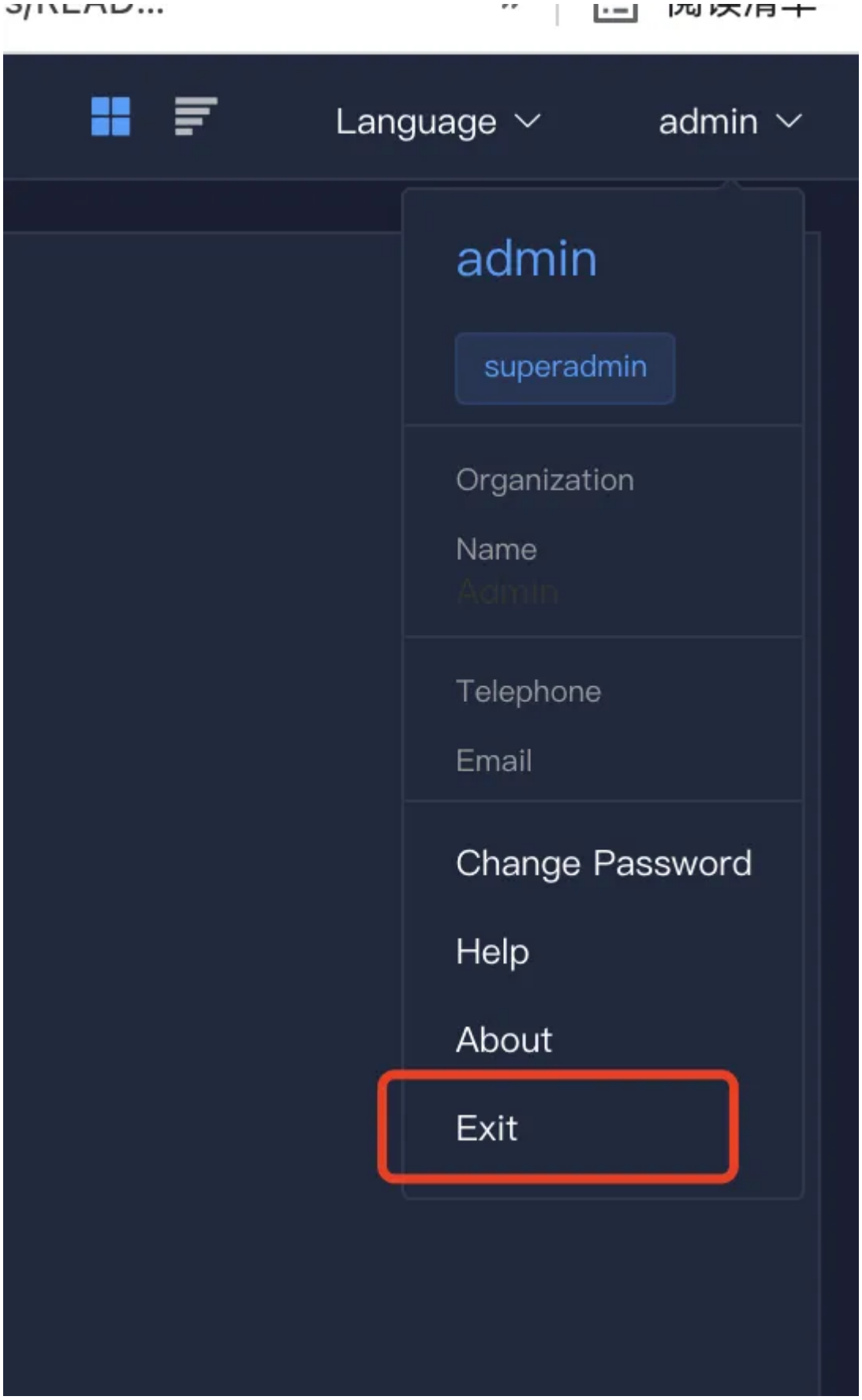

Figure 2-3 Logout web client interface

2.2 Language switch

Click the language triangle icon button in the upper right corner of the client operation interface to switch to the English interface.

Figure 2-4 Language switching interface

2.3 User Info

Click the lower triangle icon button in the upper right corner of the client operation interface to view the user's name, phone number, and email information.

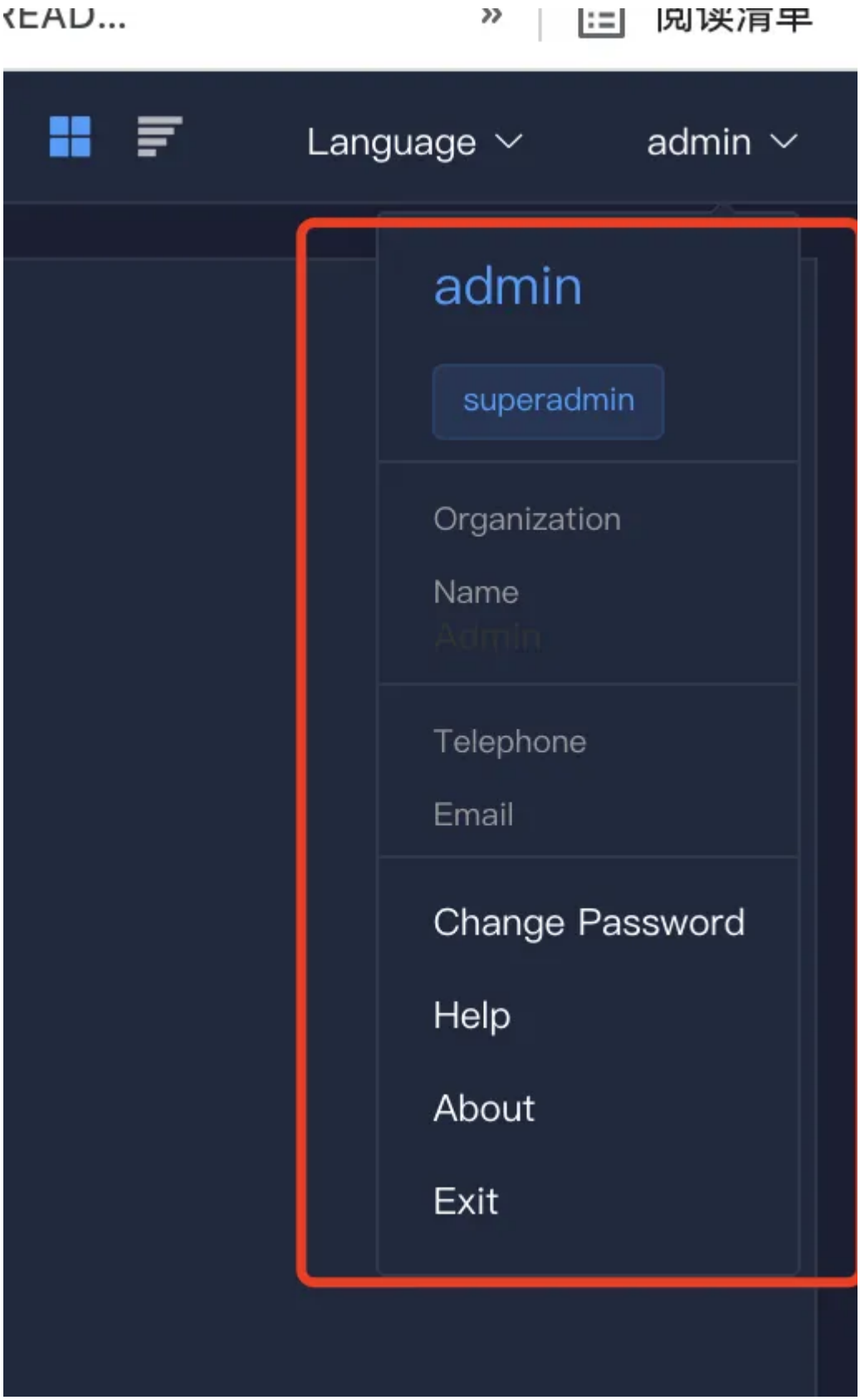

Figure 2-5 User Information Interface

3.Overview

After entering the overview, you can see the intersection information, program status, control mode of the device.

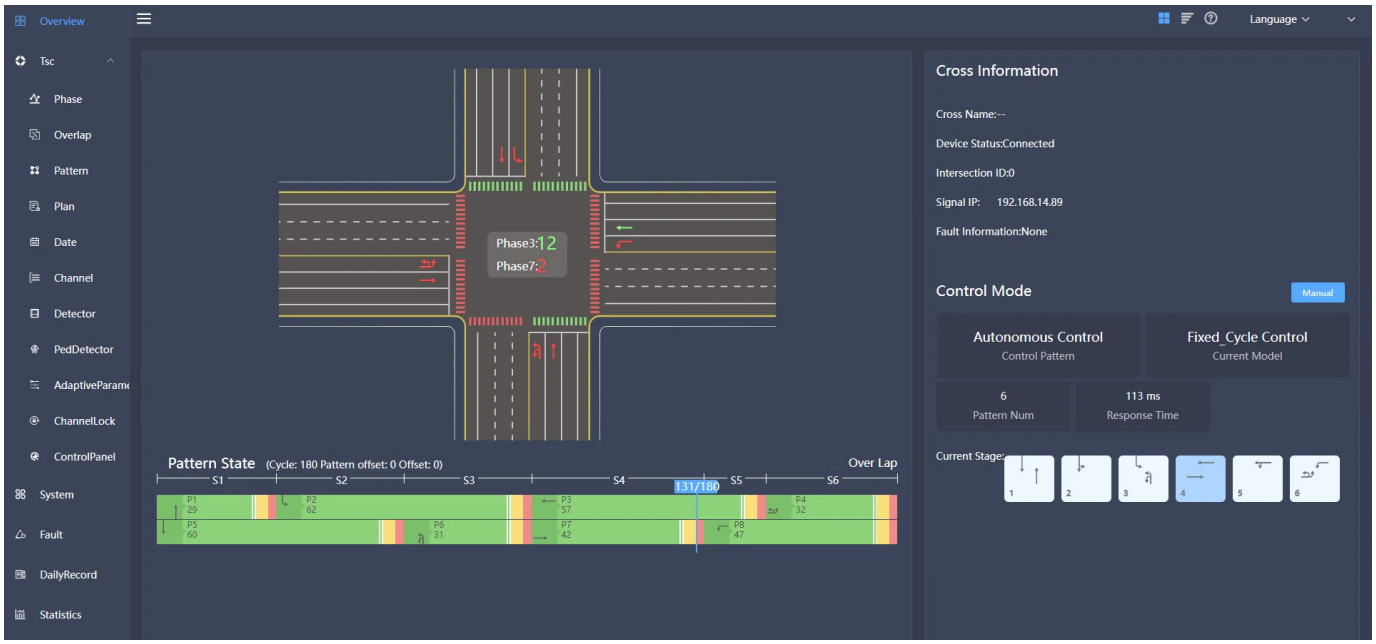

Fig.3-1 overview

3.1 Intersection information

Intersection information includes intersection name, equipment status (connected/online), Intersection ID, signal ID, fault information, etc.

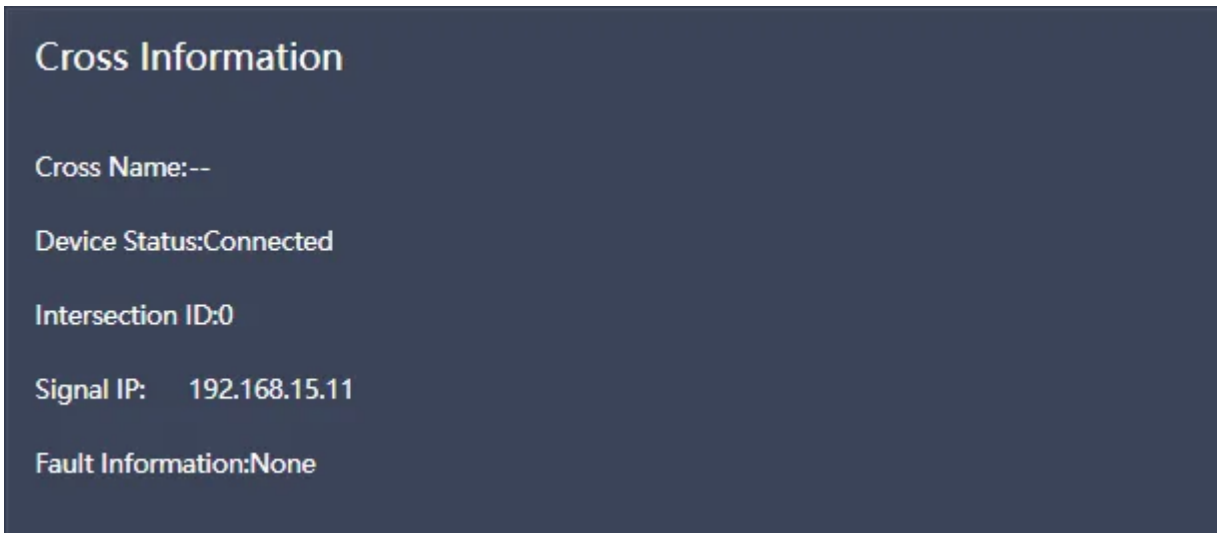

Fig.3-2 Intersection information

Cross name: Intersection name

Device status: online/offline

Intersection ID: ID card of the semaphore

Signal IP: The network segment in which the current signal machine is located

Fault information: Information reported by the current Semaphore

3.2 Program status

The program status mainly displays the green signal ratio of each phase in a cycle and the traffic direction of the current phase.

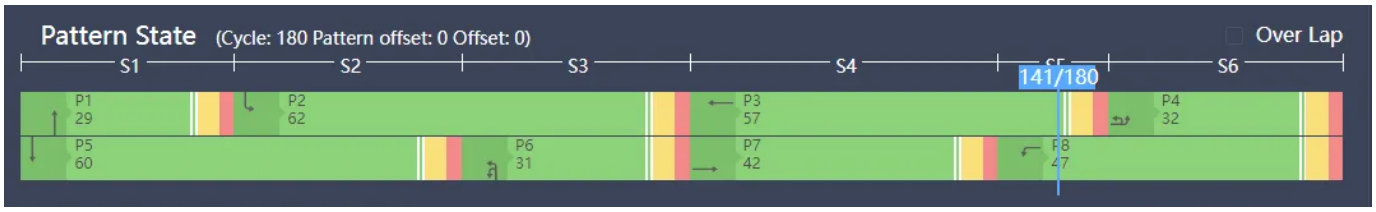

Fig.3-3 program status

Cycle: The time it takes to run a complete solution

Offset: Time difference between two phases

S1-S6: Represents the four stages in a cycle

3.3 Way to control

You can select manual control for the control mode. Click manual control to view the delay time, duration, and control mode and phase (resident) of the current device.

Click the "Manual Control" button, you can see the yellow flashing, all red, light off, stepping, fixed period, induction control, adaptive control, no electric coordination, pedestrian crossing, induction pedestrian crossing and Autonomous control mode.

You can select the corresponding control method to control the equipment according to the needs and for each stage.

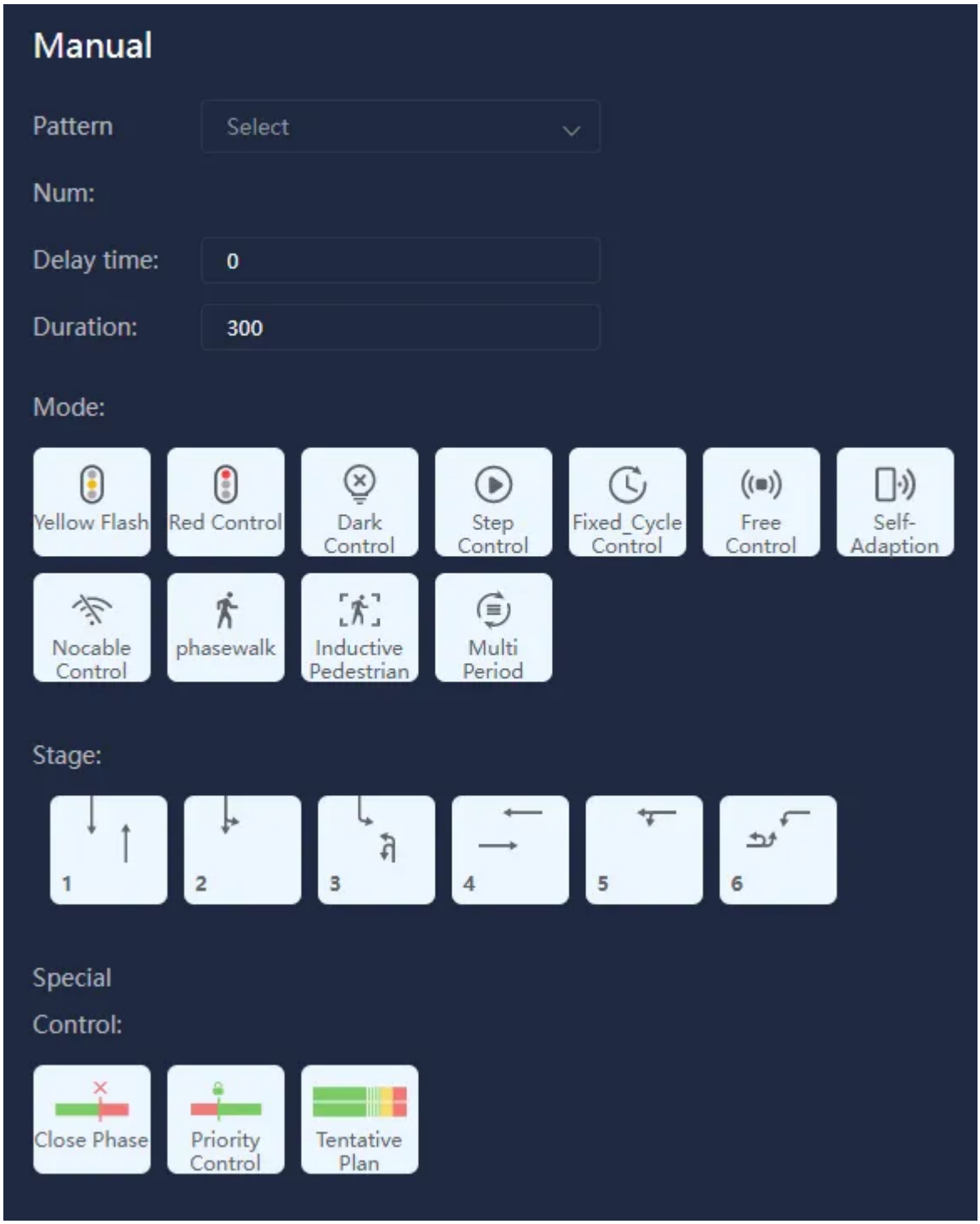

Fig.3-4 Manual control

There are two styles of the detail interface, one is based on graphics and text, and the other is a simple interface based on text.

Click the interface replacement button in the lower right corner  ,Can be directly replaced with a simple style interface based on text,As shown in Figure 3-5：

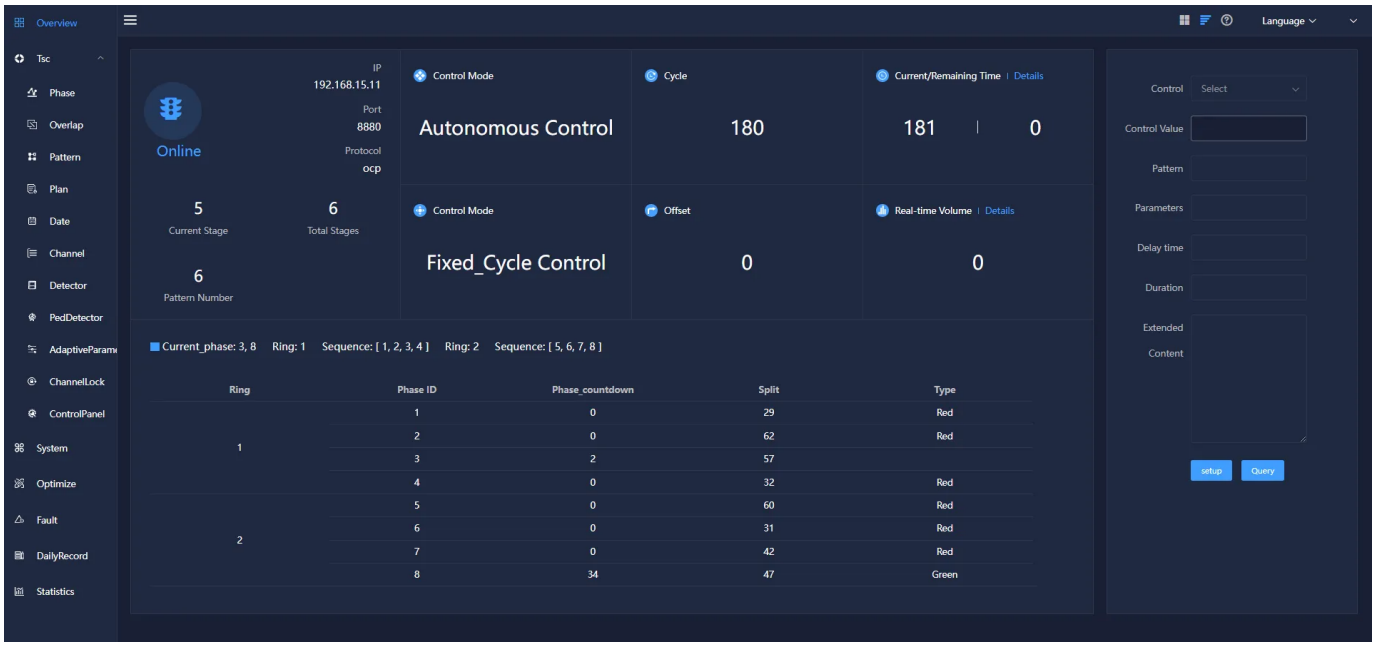

Fig.3-5 interface

Delay time: Delay a certain time and then perform the task

Duration: Time of pattern execution

Way to control:

- Yellow flash
- Red control
- Dark control
- Step control
- Fixed_cycle control
- Free control
- Self-adaption control
- Nocable control
- Phasewalk
- Inductive pedestrian
- Multi period

Click Execute to set the corresponding operation mode.

4. Tsc

The plan parameters include: Phase, Overlap, Pattern, Plan, Date, Channel, Detector, PedDetector, adaptiveParameter, channelLock. The plan can be uploaded and downloaded, and the plan parameter and plan can be copied. Import and export operations.

Click the second parameter icon in the left column of the page to select the parameter configuration that needs to be added or modified.

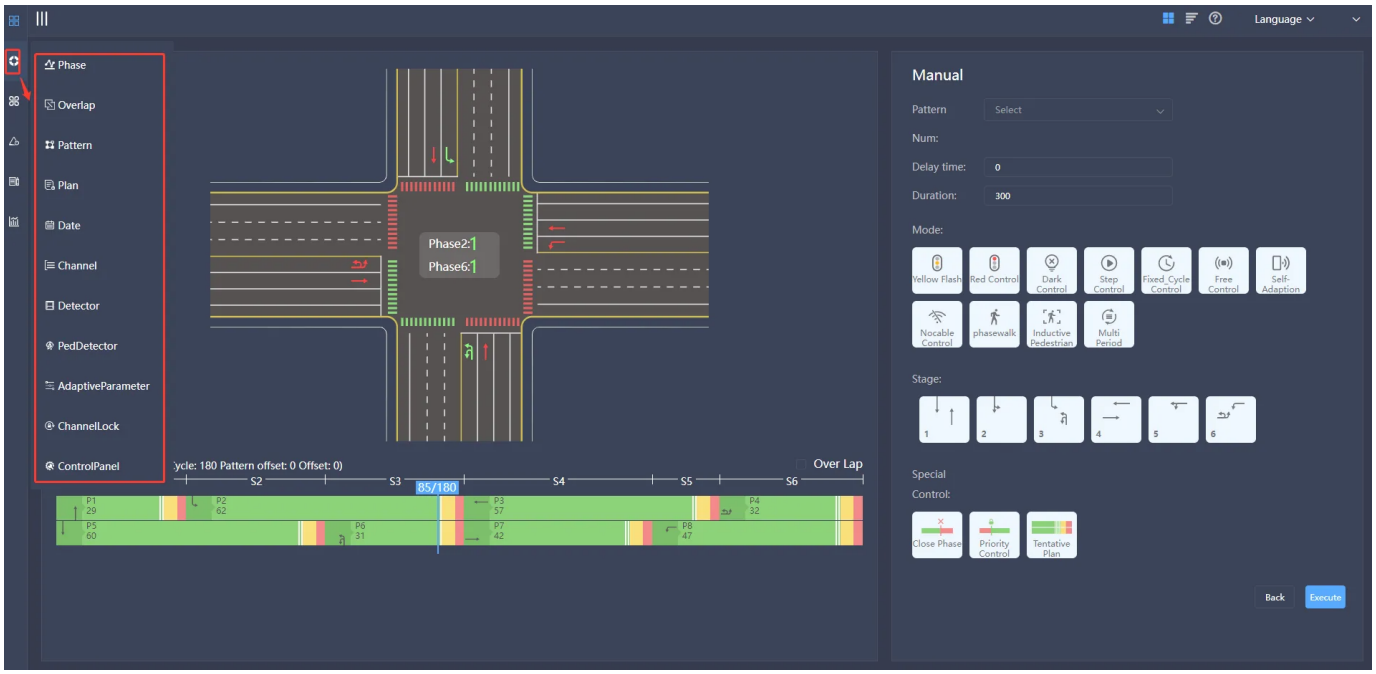

Figure 4-1 Phase parameter column

Enter the parameter configuration page, the upper right corner is the parameter operation bar, which is divided into parameter selection, parameter upload, download, import and export from template, copy parameter, read parameter, you can upload and download the plan, copy the plan parameter and import the plan And export operations.

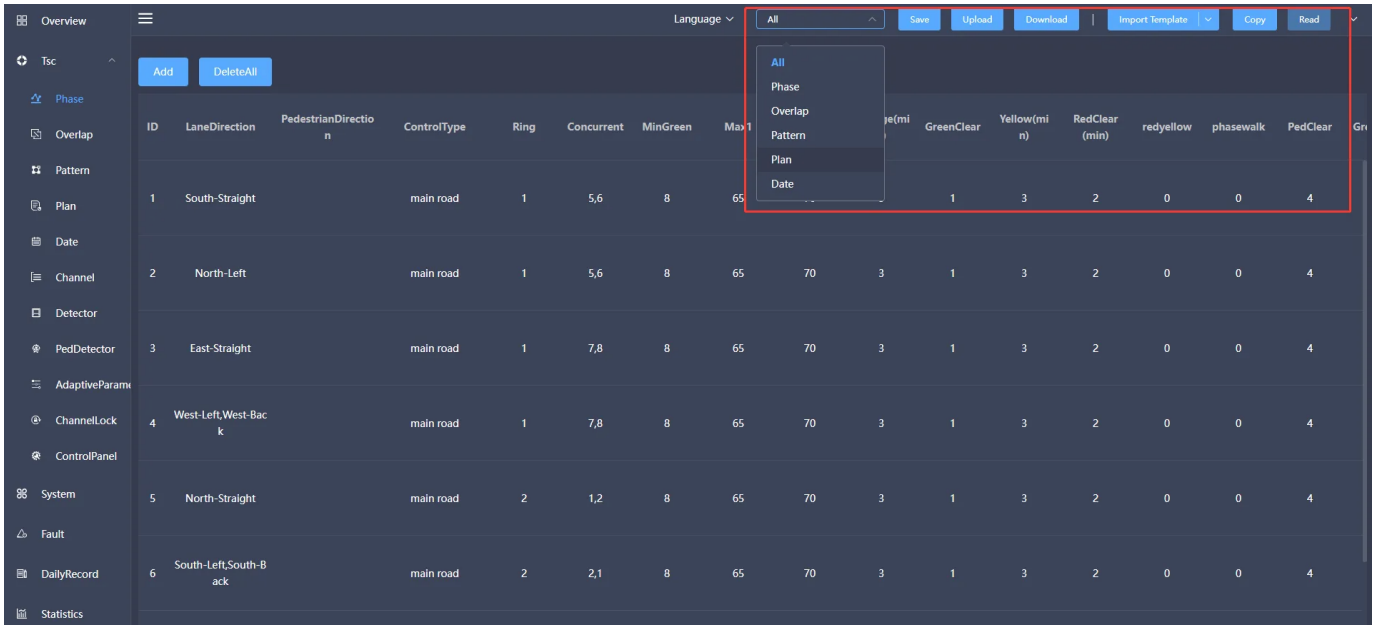

Figure 4-2 Parameter operation bar

Parameter selection: The specified parameters of the selected equipment can be extracted and viewed. The selection basis mainly includes several selection methods of phase, follow phase, plan, plan, date and all the above parameters.

Parameter upload: below the historical data of the specified parameters of the selected device, click the "upload" button, you can view the current signal timing related parameter data.

Parameter download: Add, modify and delete the corresponding signal timing parameters of the specified device and save and send it to the device, so that the signal timing plan of the current device runs according to the modified data.

Import template : The template import function is divided into two options: file import and file export. Click "File Import" to import external files into the device, so that the device can quickly import the signal timing plan in the file, which is convenient and quick. Click "File Export" to export the signal timing plan of the device into a file mode.

Copy parameters: You can copy the corresponding parameters of the signal timing scheme.

Read parameters: the copied signal timing scheme can be loaded into the device。

4.1 Phase

Phase refers to the signal state of one or more traffic flows that obtain the right of way at the same time within a signal cycle. Usually a signal sequence is composed of red, yellow, and green changes (the pedestrian light group does not have a yellow light).

The phase information mainly includes: phase ID, lane direction, pedestrian direction, control type, ring, concurrent phase, minimum green, maximum green 1, maximum green 2, extended green, green flashing, yellow light, red light clear, red and yellow time, Pedestrian crossing, pedestrian clearing, green pulse countdown, red pulse countdown, vehicle queue threshold, pedestrian waiting threshold, pulse barrier and other information. It can be added, modified, copied and deleted.

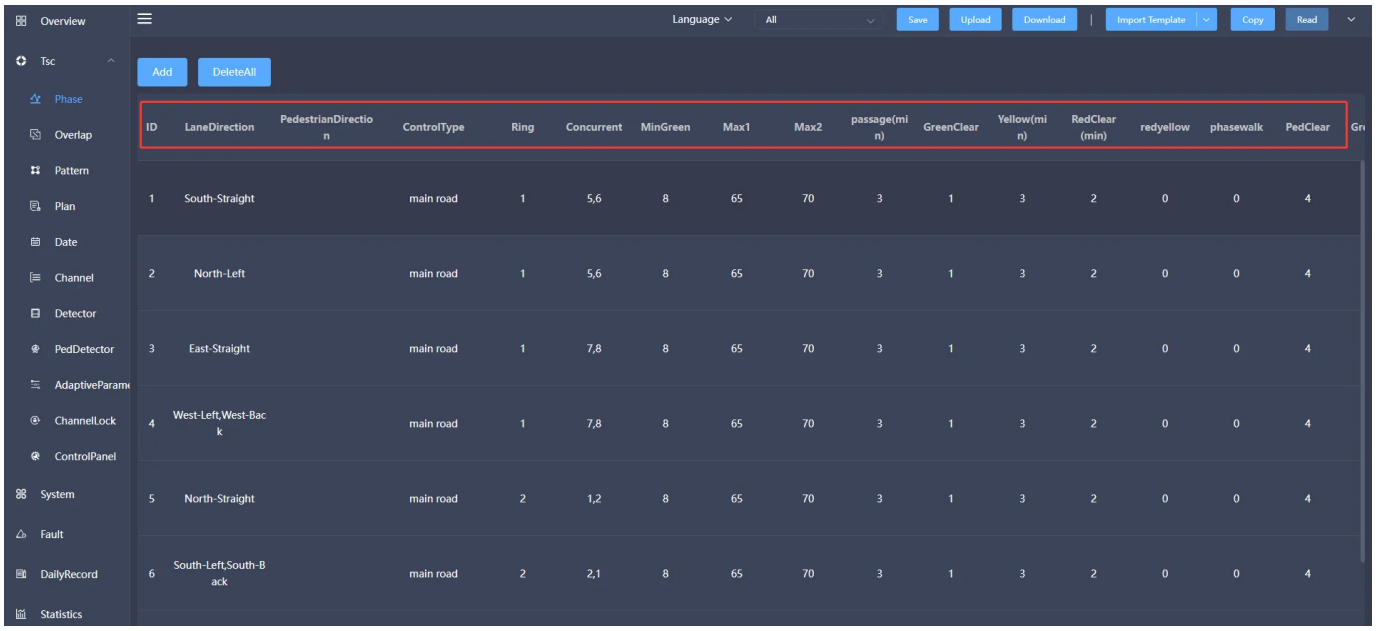

Figure 4-3 Phase

Phase ID: A description of this phase, which is convenient for users to distinguish the phase.

Ring: It is a combination of multiple phases (two or more) release sequences. The phases in the same ring are cyclically released according to the order in which they are arranged in the ring.

Concurrent: The phase allowed to be released at the same time as this bit to judge the conflict phase.

MinGreen: In the induction control mode, the shortest time for the phase to execute the green light.

Max 1: Under the induction control, the longest time that the phase execution green light can be maintained.

Max 2: Under sensor control, when the phase executes the green light to break through the maximum green 1, the maximum green time 2 can be reached.

Passage(min): Under the induction control, the time for each phase to extend the green light.

GreenClear: The flashing time of the green light before the phase execution green light ends and turns to the yellow light.

Yellow(min): the duration for the phase to execute yellow light after the green light ends.

RedClear(min): also known as full red time, which refers to the time for the phase to execute the green light and yellow light before the next phase turns to the green light before the red light is executed.

Redyellow: the phase is executed at the end of the red light and before the green light, the red light and the yellow light are executed at the same time.

phasewalk: green time for pedestrian phase.

PedClear: the flashing time of the green light of the pedestrian phase, the sum of the pedestrian crossing and the pedestrian clearing cannot be greater than the green letter time of the phases.

Greenpulse: when the phase is green, the countdown time displayed in pulse mode.

Redpulse: when the phase is red, the pulse mode countdown shows the time.

Vehicle Queuing Threshold: the critical value of vehicle queue length.

Pedestrian waiting Threshold: the critical value of pedestrian waiting time.

PulseType: You can choose to send pedestrian and motor vehicle pulses, motor vehicle pulses, pedestrian pulses, and turn off pedestrian and motor vehicle pulses in four forms.

The lane direction can be set according to the plan requirements, and one or more lane directions can be selected.

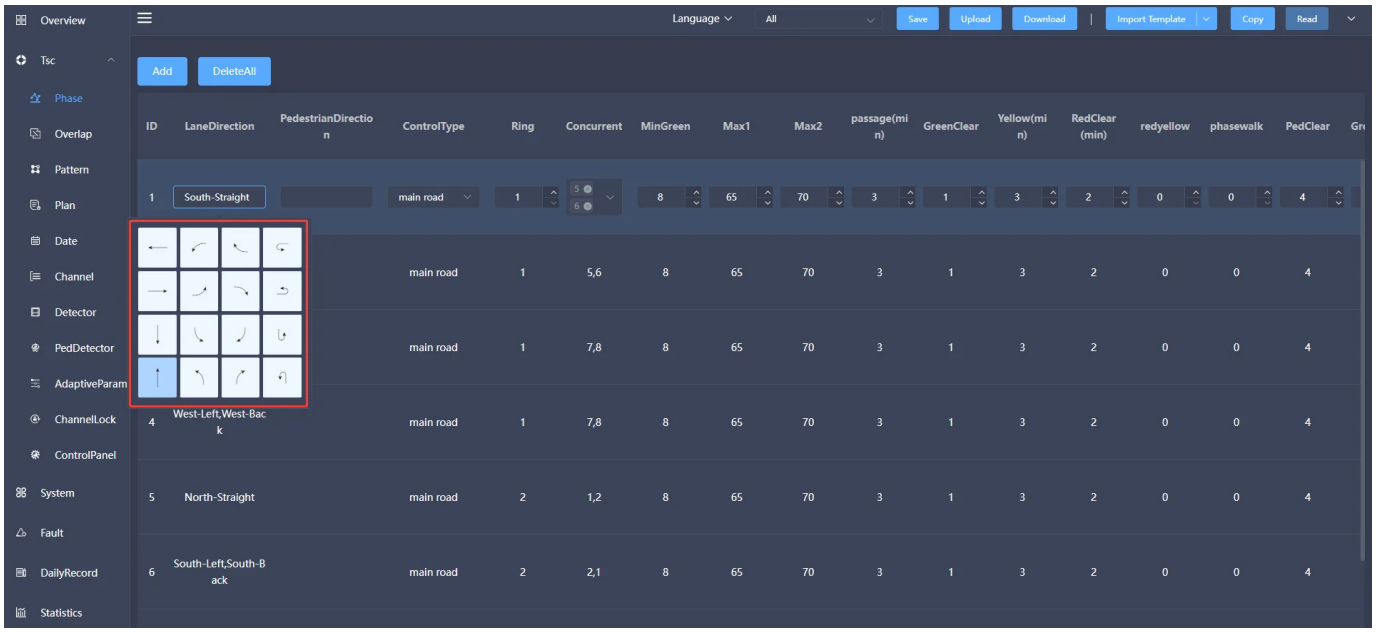

Figure 4-4 Lane direction selection

Pedestrian direction can be set according to the requirements of the plan, and four types of pedestrian crossing, pedestrian crossing, oblique pedestrian crossing and pedestrian crossing can be selected.

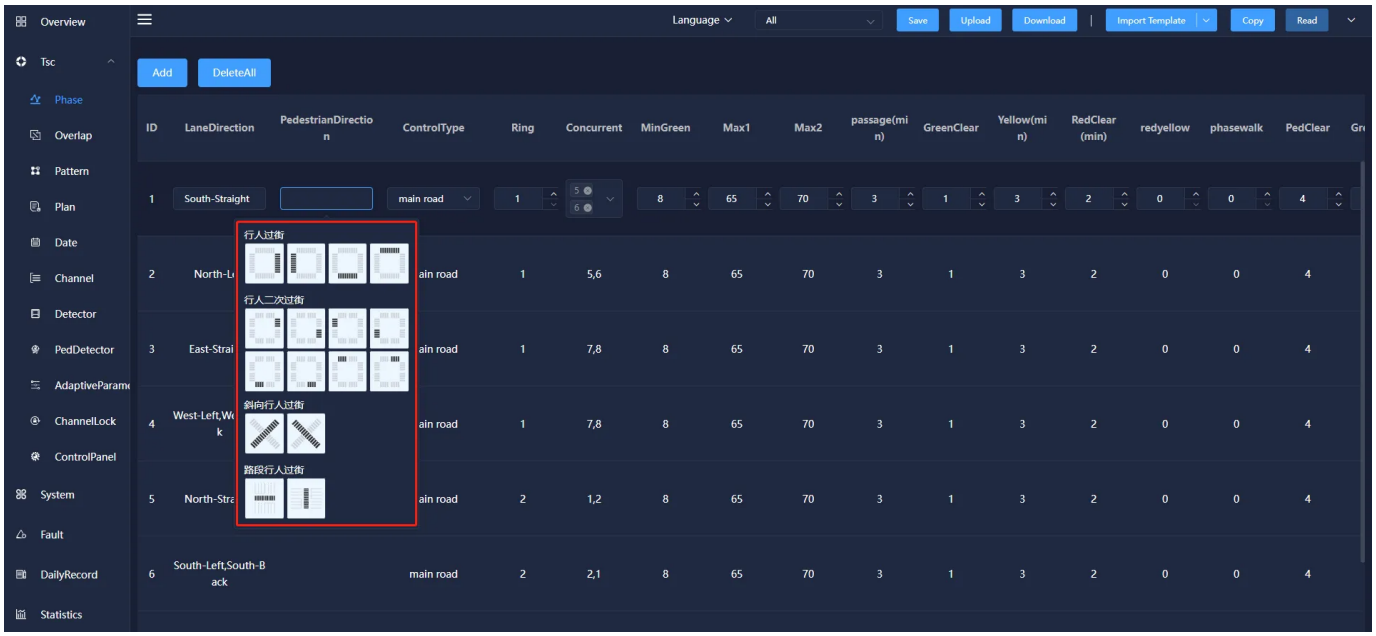

Figure 4-5 Pedestrian direction

The control type can be selected from main road, by-pass, pedestrian only, bus only, BRT only, tram only.

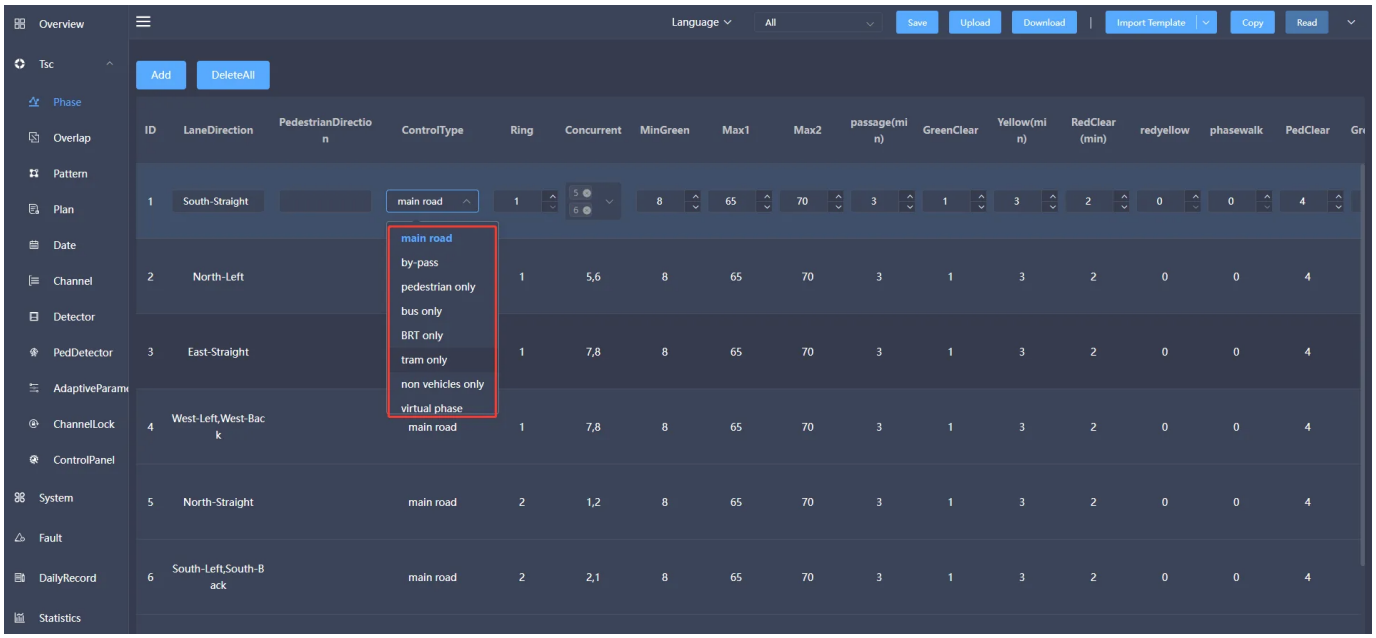

Figure 4-6 Control type

4.2 Overlap

Overlap is a special traffic signal. It determines the signal output according to the signal state of its parent phase, that is, when the parent phase is released, the follow phase also releases, and the parent phase stops releasing. The following phase also stops releasing.

Overlap mainly includes: phase ID, lane direction, pedestrian direction, description, mother phase, pulse shielding and other information. You can add, modify, copy, and delete information.

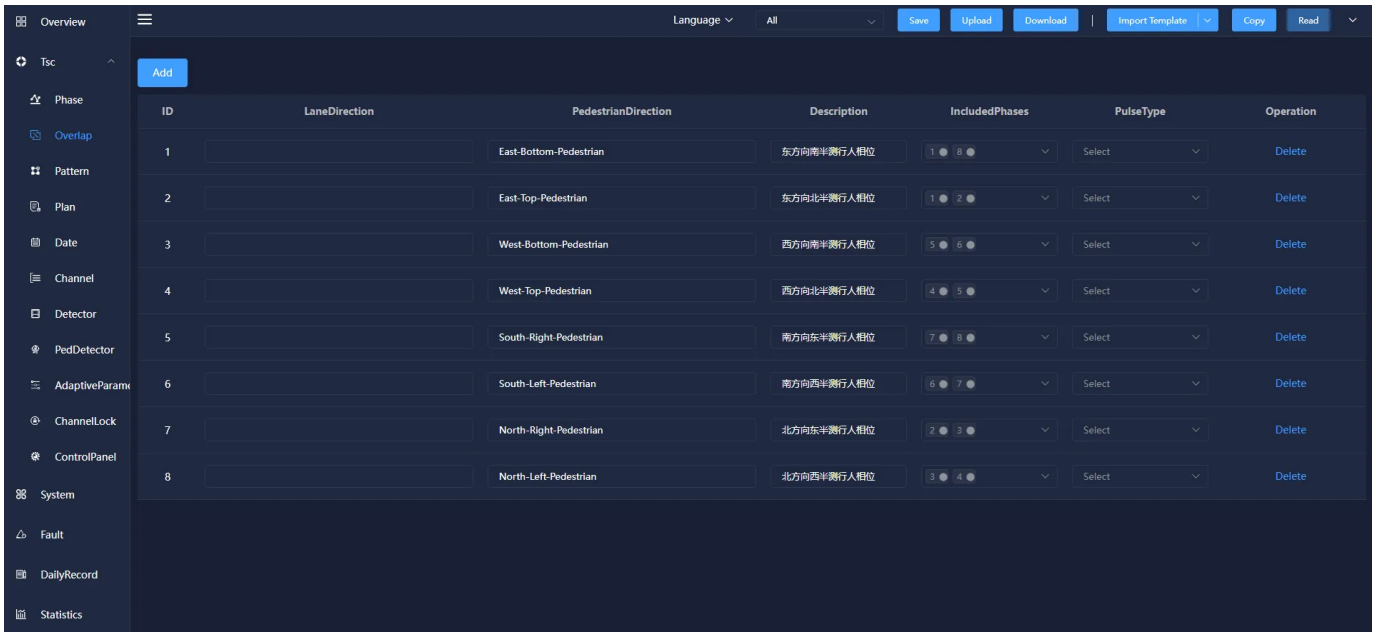

Figure 4-7 Overlap

Included Phase: the motor vehicle phase followed by the following phase.

Pulse Type: You can choose to send pedestrian and motor vehicle pulses, motor vehicle pulses, pedestrian pulses and turn off pedestrian and motor vehicle pulses in four forms.

4.3 Patten

The patten is used to configure the intersection by selecting different main phases, and to configure the release time and the release order of each phase.

The patten information mainly includes: ID, description, phase difference, period, phase phase phase-forbidden, phase phase-shielded, phase-coordinated phase phase phase phase phase phase and so on. You can add, modify, and delete them.

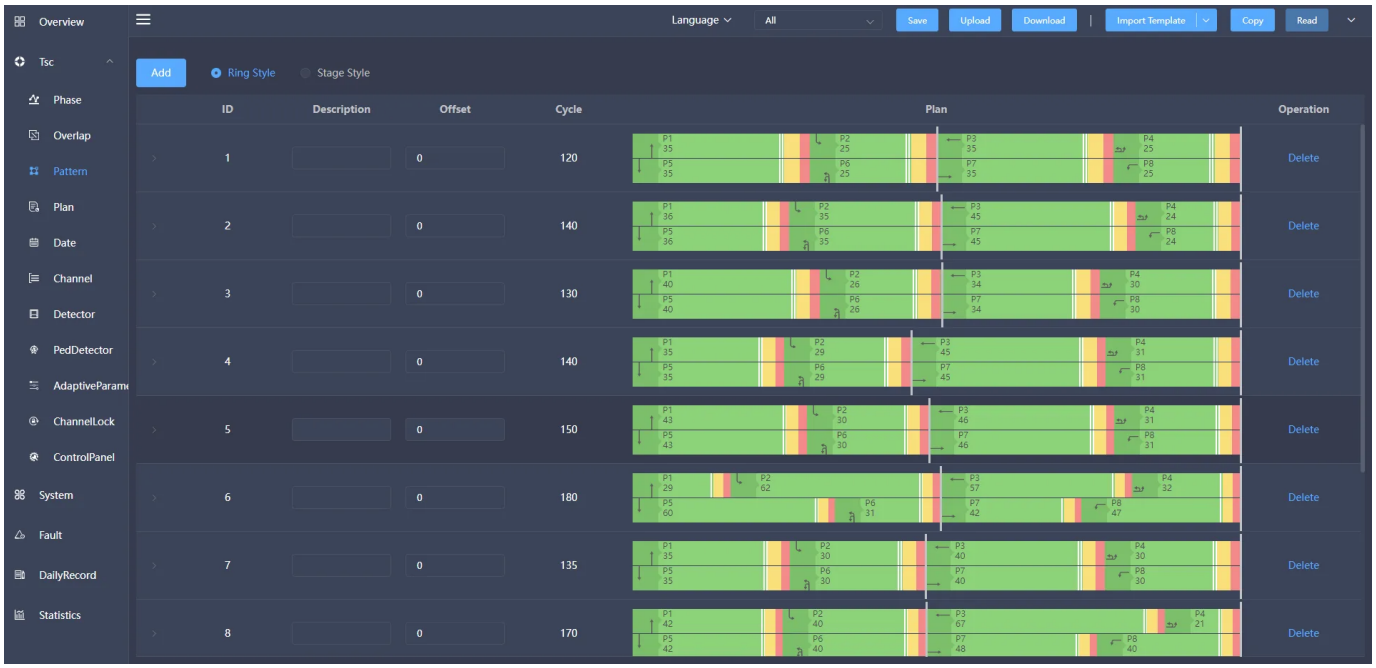

Figure 4-8 Patten

offset: In Wireless Coordinated Control, the difference between the start time and the end time of a designated reference intersection phase.

Cycle: The time required to run all phases. The semaphore displays the time needed for a round according to the set phase sequence, and generates the periodic chart automatically according to the configured main phase green signal ratio time.

Figure 4-9 Cycle

4.4 Plan

The plan is used to configure the control mode and control scheme of a natural day Semaphore, and defines the corresponding operation of the semaphore at different time of day. The control mode includes yellow Flash, all red, turn off, fixed cycle control, single point induction control, no cable control, pedestrian crossing control.

The plan information mainly includes: ID, Plan Time, control method and scheme, etc. You can add, modify, and delete them.

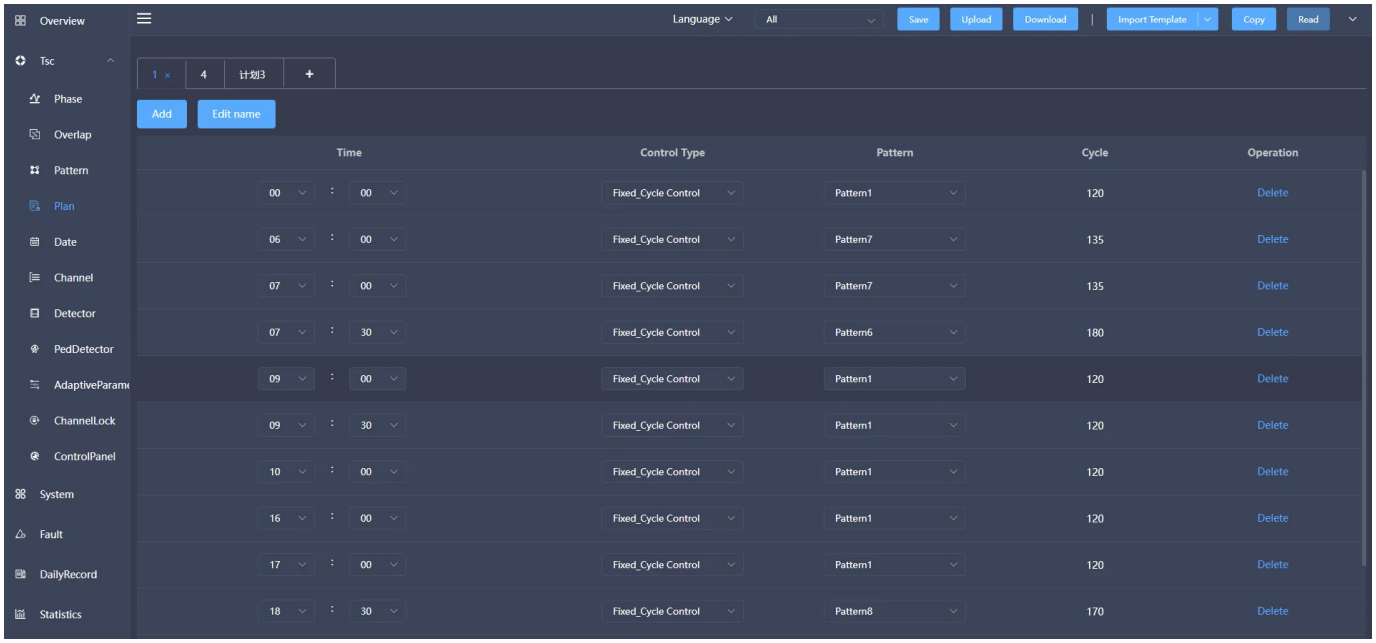

Figure 4-10 Plan

The control methods include: Yellow Clear, Red Control, Dark Control, fixed cycle control, Free Control,Self-adaptive control, Nocable control.

Yellow Clear: All phases of the signal machine change to yellow Clear state.

Red Control: All phases of the signal machine become all red.

Dark Control: the signal machine turns off the output of all phases.

Fixed cycle control: the way that the signal machine implements the signal timing plan to control the flow of traffic.

Self-Adaption : The central control computer collects the traffic flow data of the intersection detector in real time, and generates the corresponding signal timing plan through the timing optimization software, which is a control method for real-time control.

Nocable Control： There is no signal control line connection between the control machines, and the related coordinated control is realized by adopting a common time base synchronization.

The choice of the plan can choose the corresponding plan number according to the design requirements.

4.5 Date

Date refers to the execution of different daily plans on different dates on the signal machine.

Date information mainly includes: ID, description, month, week, date and schedule number. It can be added, modified and deleted.

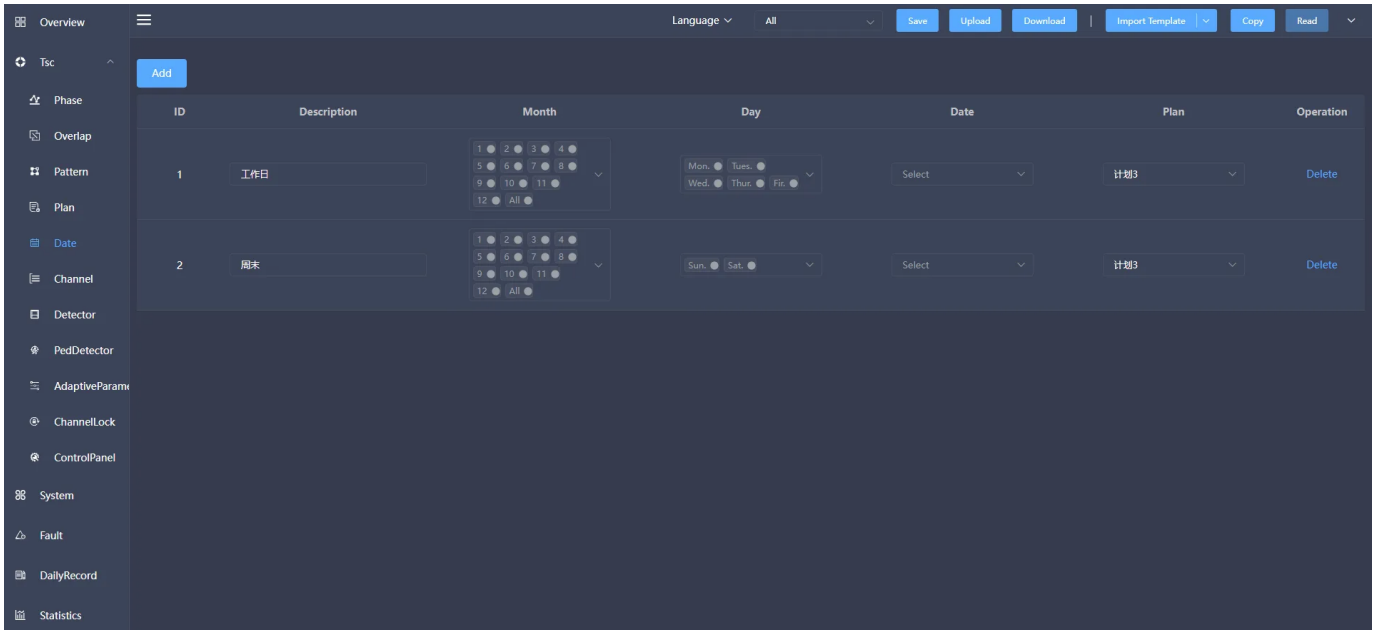

Figure 4-11 Date

Date information mainly includes: ID, description, month, week, date and schedule number. It can be added, modified and deleted.

Week: Indicates that the corresponding schedule will be executed on the selected day of the week, which is included in all weeks.

Date: Indicates that the corresponding schedule will be executed on the selected date, which is included in all months.

4.6 Channel

Channel configuration is to associate the channel and phase of the signal light group on the light control board.

Channel information mainly includes: ID, Description, control type/source, Connection, Voltthresh, Pacthresh, Peakhthresh, Peaklthresh, etc. It can also be added, modified, copied, and deleted.

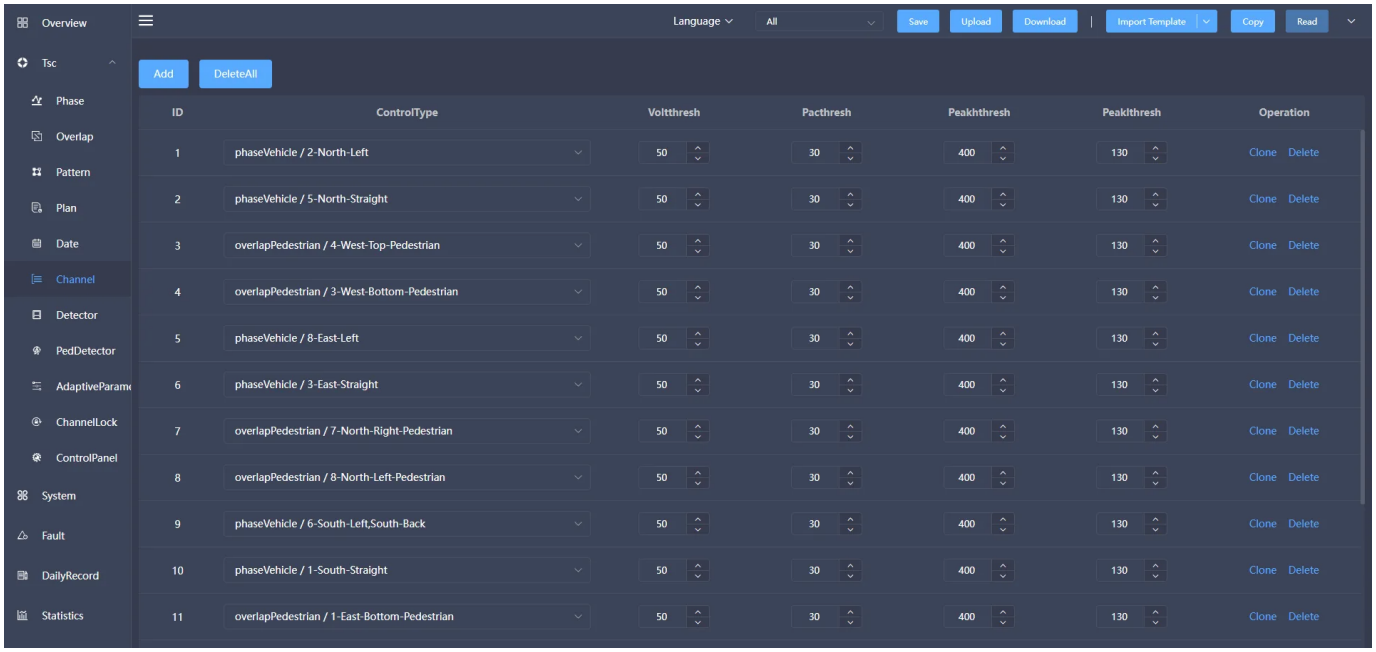

Figure 4-12 Channel

ID：Channel information mainly includes: ID, signal lamp location, control type/source, Connection, Voltthresh, Pacthresh, Peakhthresh, Peaklthresh, etc. It can also be added, modified, copied, and deleted.

Description: According to requirements, the signal lamp position corresponding to each phase can be set.

Control type: The output type selection of the channel control source is divided into motor vehicle phase, pedestrian phase, and follow phase.

Control source: the phase corresponding to the channel light color change.

Connection: A physical line from a node to an adjacent node without any other switching nodes in the middle.

Voltthresh: The Voltthresh the voltage value of the lamp. Generally set to 50v.

Pacthresh: The pacthresh the power value of the lamp. Generally set to 30w.

Peakhthresh: the peakhthresh value judged by the threshold, generally set to 400W.

Peaklthresh: the peaklthresh value judged by the threshold, generally set to 130W.

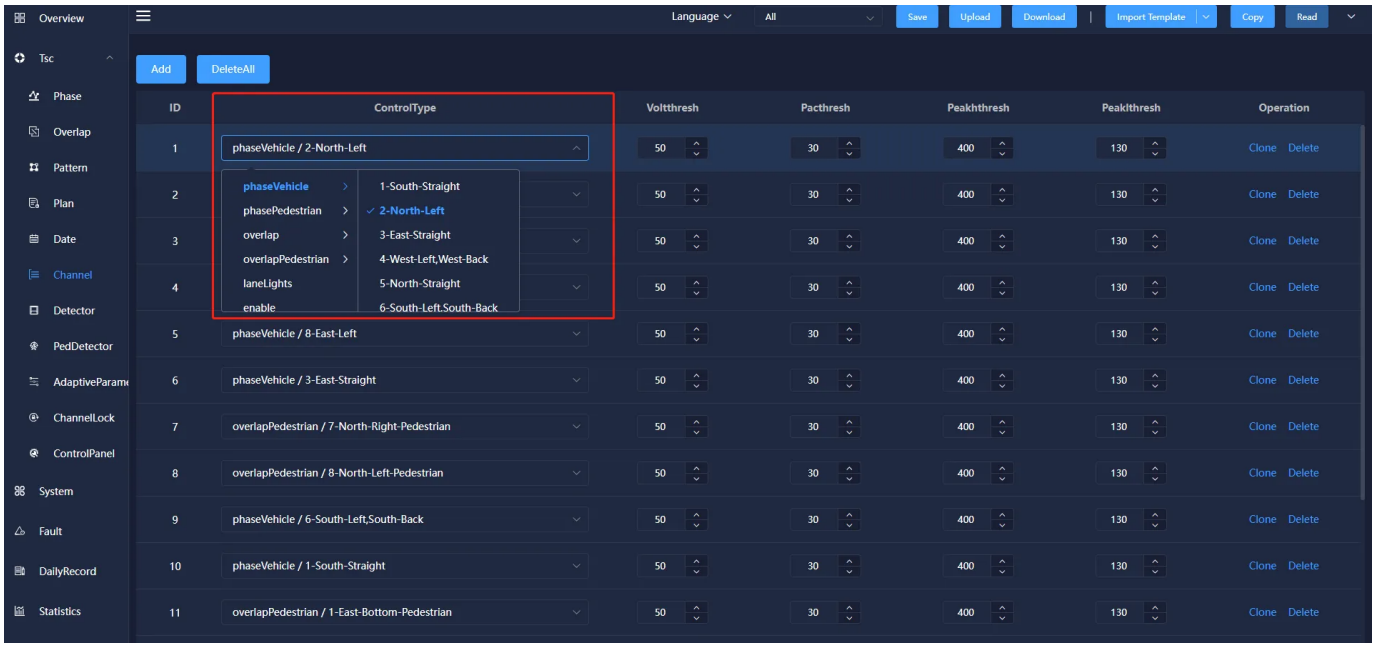

Figure 4-13 Control type/source

Phase Pedestrian: Pedestrian's right to exercise. Phase Pedestrian generally includes at least two light groups, and can also include multiple light groups.

Overlap: the phase that needs to be coordinated when running in coordination mode.

4.7 Detector

Detector configuration, used to associate front-end traffic detection equipment, configuration of each direction of traffic data and the corresponding relationship between the scheme main phase.

Detector information includes: ID, Description, Type, Request phase, No Activity, MaxPresence, Erratic counts,Fail Time, enable, mode, existence time, sensitivity, sampling time, threshold, departure threshold, departure filter, departure filter and saturation flow. You can also add, modify, copy, and delete them.

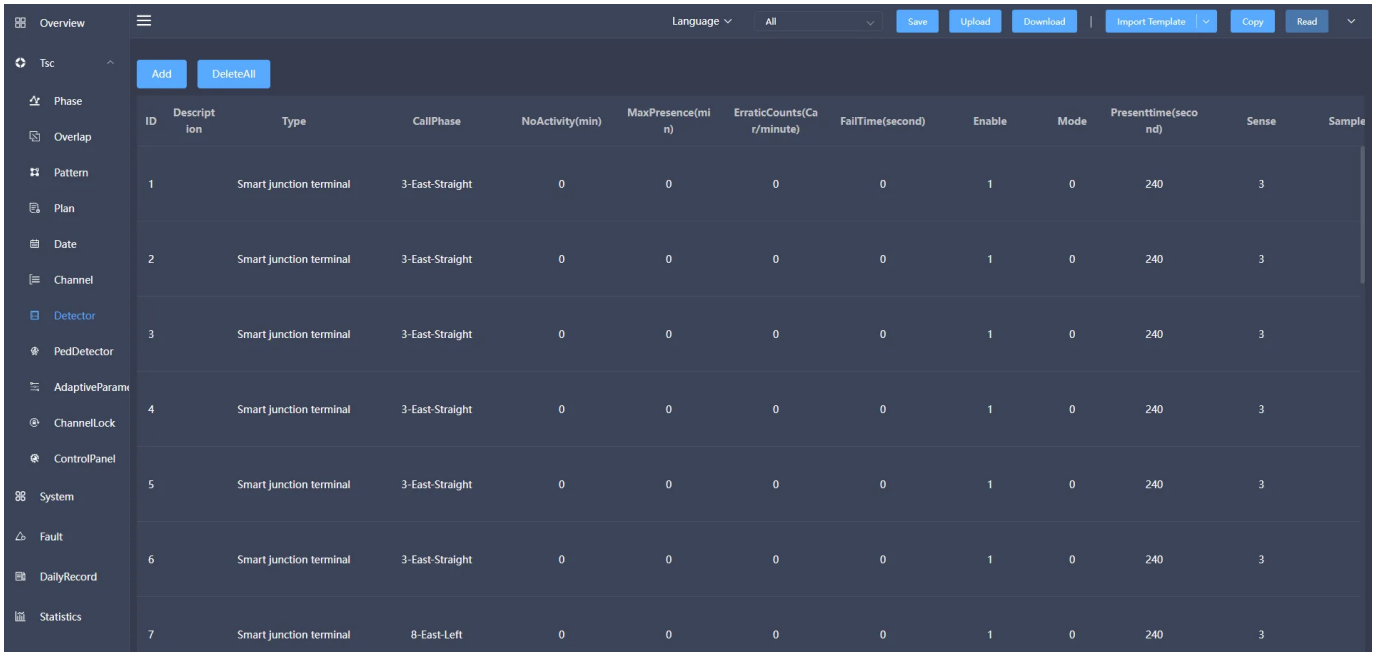

Figure 4-14 Detector

Callphase: The vehicle detector corresponding to the motor vehicle phase, when the detector detected a signal through the vehicle, the corresponding request phase will respond.

No Activity(min): The detector does not detect the passing of the vehicle during this time, which means that the detector is out of order and the function is not enabled when the value is zero. Unit: minutes.

MaxPresence(min): The detector has been detected during this period of time through the vehicle, indicating that the detector failure. When the value is zero, the function is not enabled. Unit: minutes.

Erratic counts(car/minute): Detector Uncertainty Count Diagnostic parameter. If an active detector is over-responsive, the diagnostic device is considered to be faulty and the detector is considered to be failed. Setting this object value to zero turns off the diagnostic for the detector, in seconds per minute.

Fail Time(second): The request for the detector is cancelled if there is no record during the failure time before the request is answered. The detector type can be either coil or smart junction terminal.

4.8 PedDetector

Pedestrian detector is to detect the presence of pedestrians in the detection area or through the situation.

Pedestrian detector information mainly includes: ID, description, detector type, detector area, request source, no response time, maximum duration, maximum number of requests, etc.

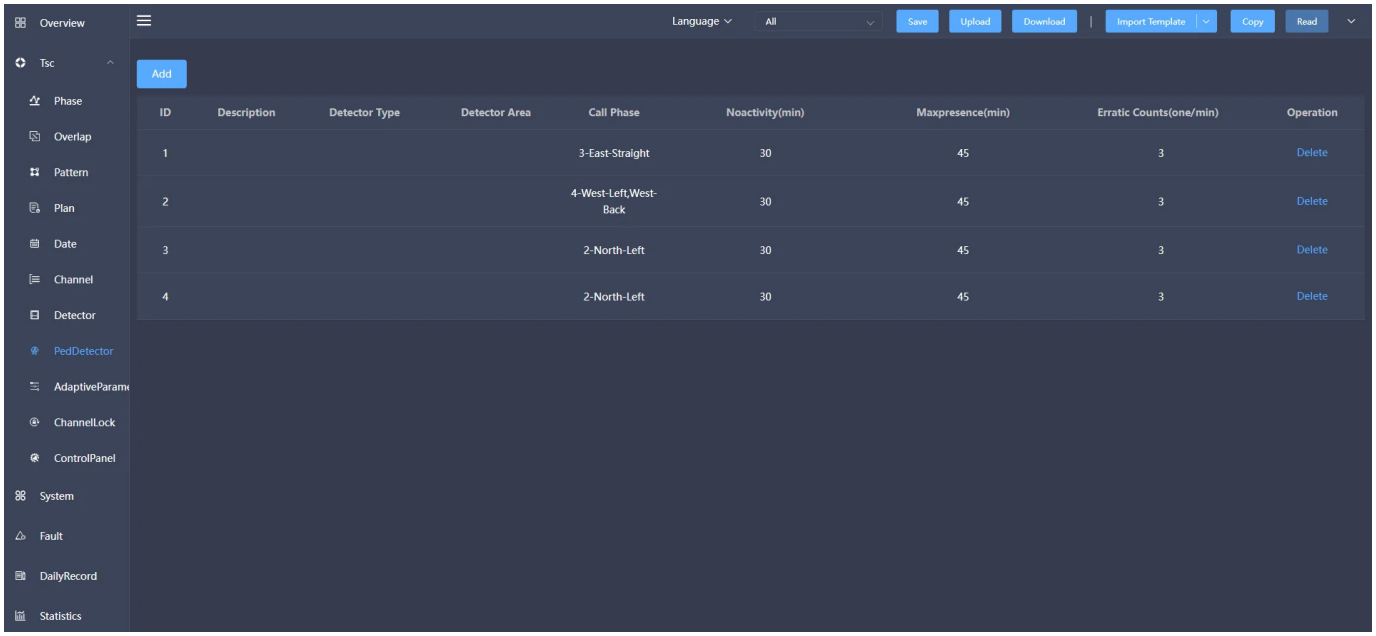

Figure 4-15 PedDetector

Call phase: the motor vehicle phase corresponding to the pedestrian detector. When the detector detects the signal of vehicle passing, the corresponding request phase will respond.

Noactivity: The detector does not detect a vehicle passing within that period of time, indicating that the detector is malfunctioning and that the function is not enabled when the value is zero. Unit: minutes.

Maxpresence: The detector has been detecting the passage of vehicles within this period of time, indicating that the detector has failed. When the value is zero, the function is not enabled. Unit: minutes.

Erratic Counts: The detector does not determine the number of diagnostic parameters. If an activity detector is too sensitive, the diagnostic equipment considers it to be faulty and the detector is considered to be a failure. If the value of this object is set to zero, the diagnosis of the detector will be turned off, unit: times/minute.

Failure time: Before the request of the detector is responded, if there is no record within the failure time, the recording request will be cancelled.

There are three types of detectors: coil, radar and video.

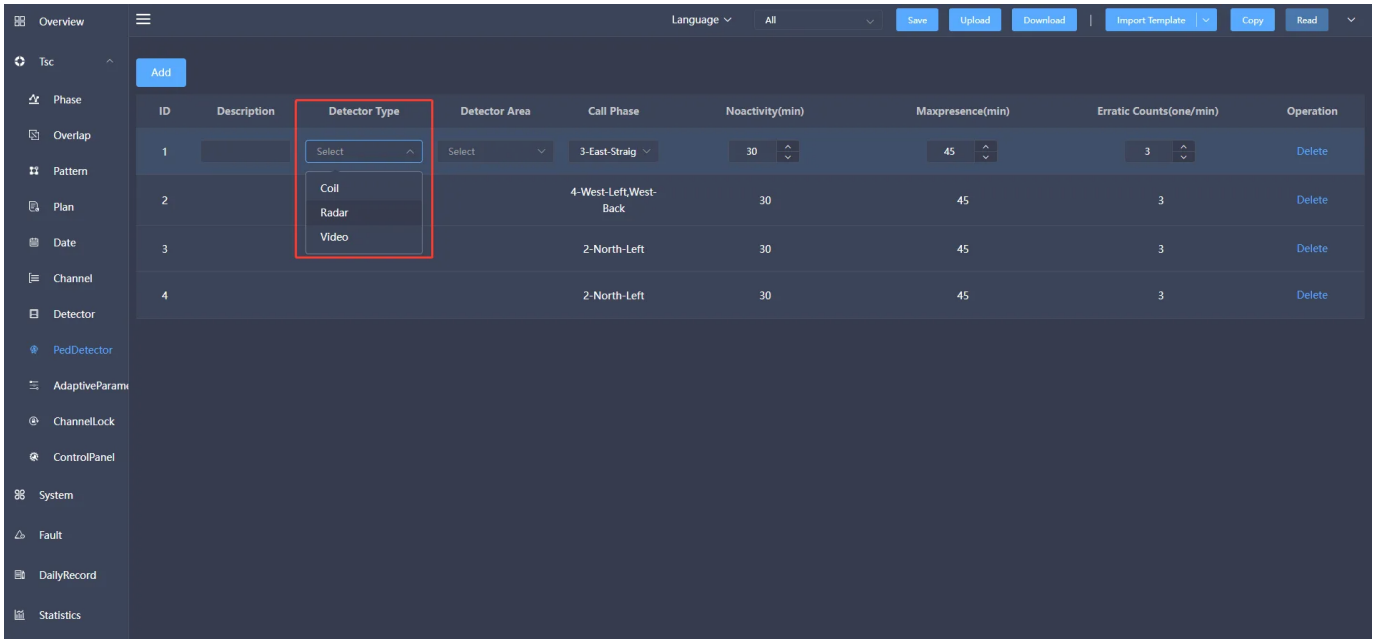

Figure 4-16 Detector type

The detector area has three types: default, waiting area and cross street area.

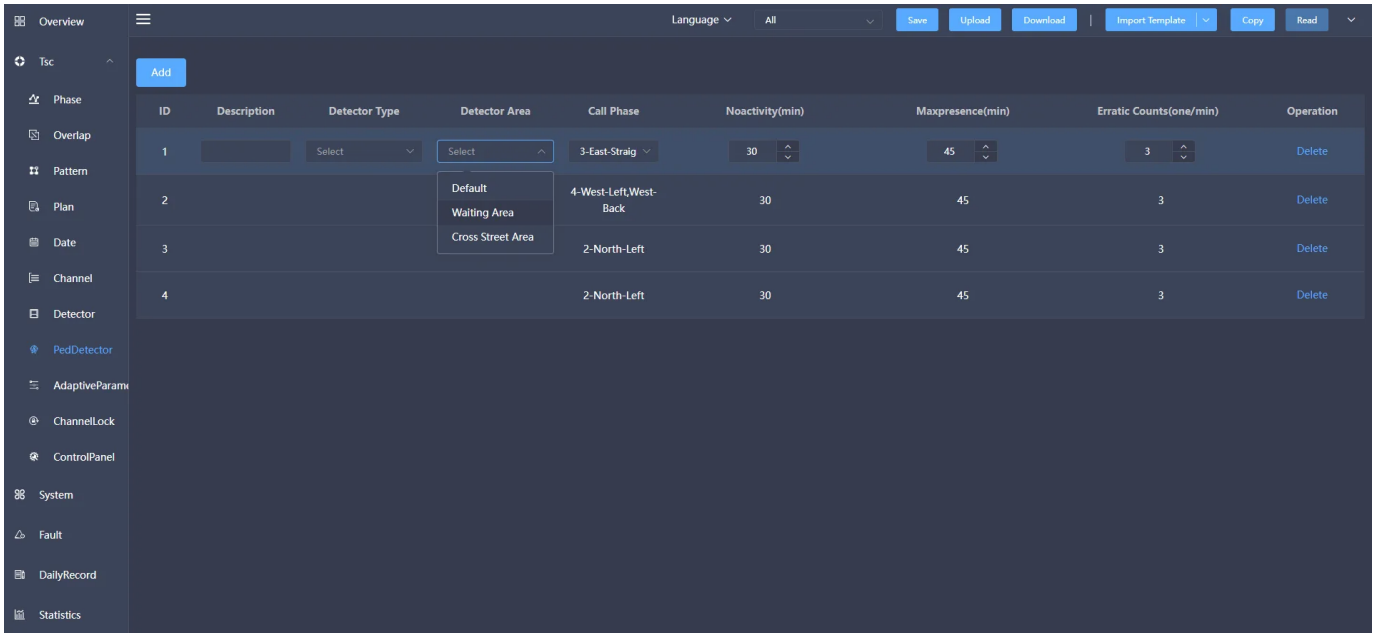

图4-17 detector area

4.9 Adaptive Parameters

Adaptive parameters refer to setting the corresponding parameters in the plan according to the operating plan.

The adaptive parameter information mainly includes: Pattern, LossTime of the Green Beginning, LossTime of the Yellow Ending, Saturation Flow,Self Learning Mode, static weight, cycle adjustment factor and other operations. It can be added, modified and deleted.

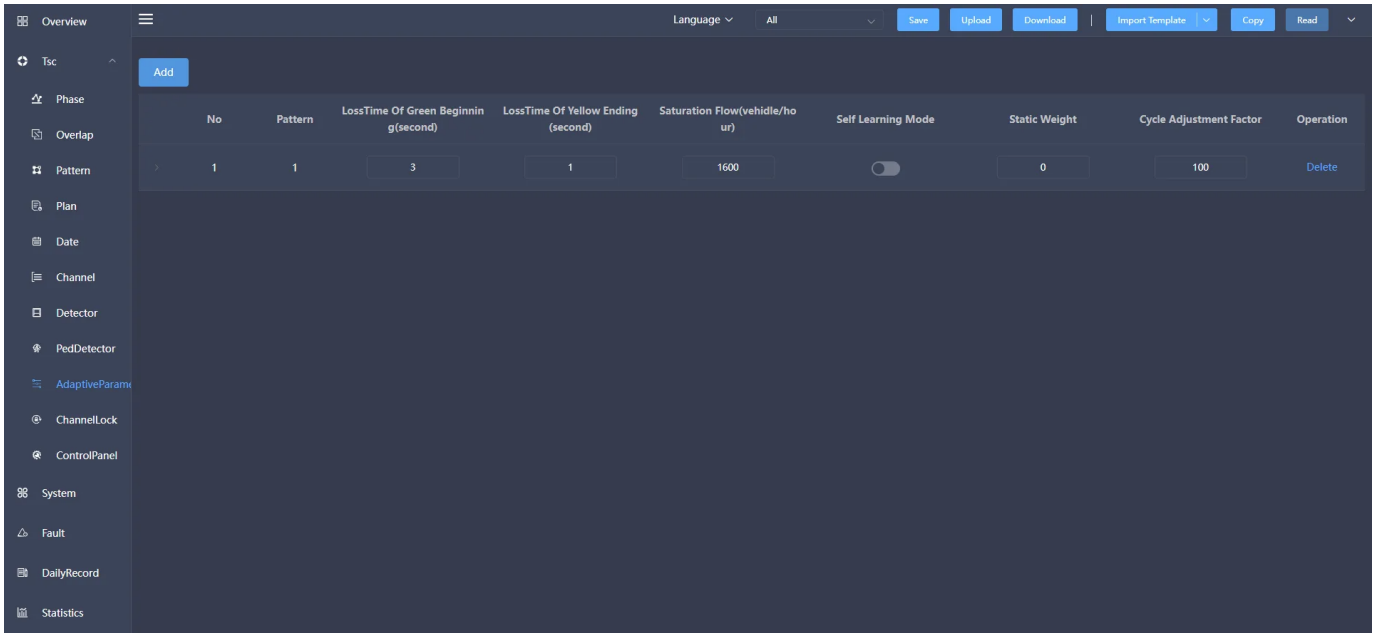

Figure 4-18 Adaptive Parameters

Pattern: The scheme refers to the scheme used by selecting different main phases to configure the intersection.

LossTime of the Green Beginning: At the beginning of the green light, it is difficult for the traffic flow to enter at a saturated flow rate. Therefore, the lost transit time is called the loss time at the beginning of the green period.

LossTime of the Yellow Ending: At the end of the end of the yellow light, the traffic flow that crosses the stop line has an unsaturated flow rate, so the lost transit time is called the yellow end loss time.

Self Learning Mode: the maximum flow of vehicles passing through the parking line at an intersection in a unit time, that is, the steady flow of vehicles passing through the parking line in a unit time when the queued vehicles accelerate to the normal speed, in pcu/h.

Click the ">" button to view and modify the ring information of the current scheme.

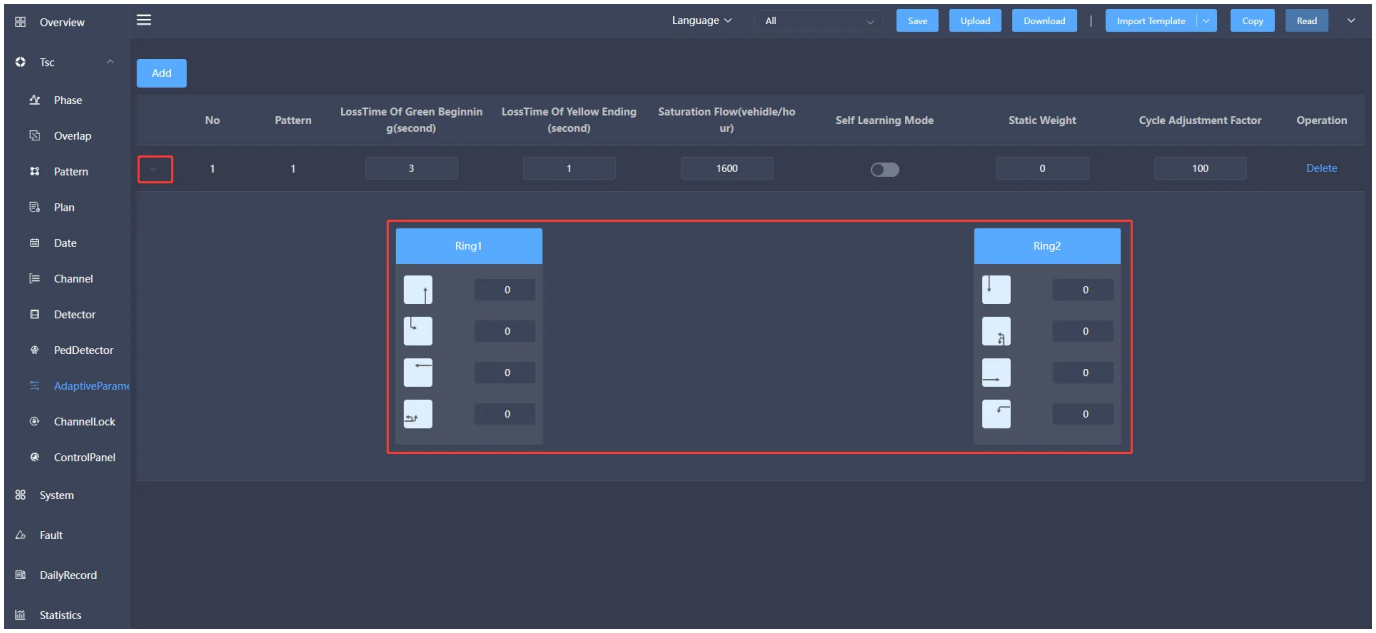

Figure 4-19 Ring information

4.10 Channel lock

Channel lock means that the set channel is locked in the corresponding time period.

Channel lock information mainly includes: start time, end time, green flashing time, yellow time and other operations. It can be added, modified and deleted.

Start time：The time when the channel lock is turned on.

End time：Turn off the channel lock time.

Green flashing time：A period of time before the green light turns to yellow light, the green light flashes, prompting the motor vehicle signal light to switch to yellow light.

Yellow time：Some time before the yellow light turns to red, the yellow light flashes, prompting the motor vehicle signal light to switch to red light.

Channel status:channel, channel information and status. The status information bar includes: default, red light, yellow light, green light, green flashing, off light and red flashing status. The corresponding channel status can be selected according to the channel information.

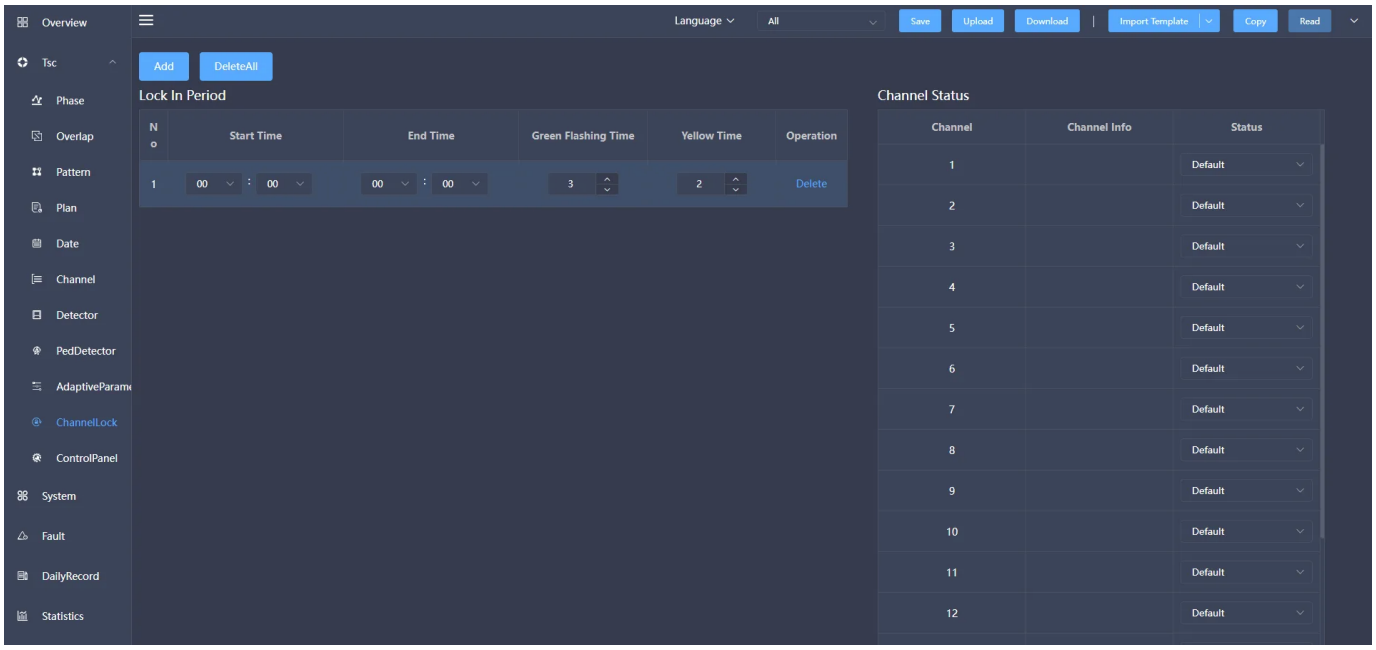

Figure 4-20 Channel lock

4.11 Channel Panel

Channel panel means that the signal phase parameter configuration of the signal machine can be manually adjusted in this interface.

In the channel panel, you can configure parameters such as "Duration", "Green flashing time", "Yellow time", "All red time" during manual control. You can also select the buttons in the figure, configure the corresponding relationship between each button and channel, and issue the device to take effect.

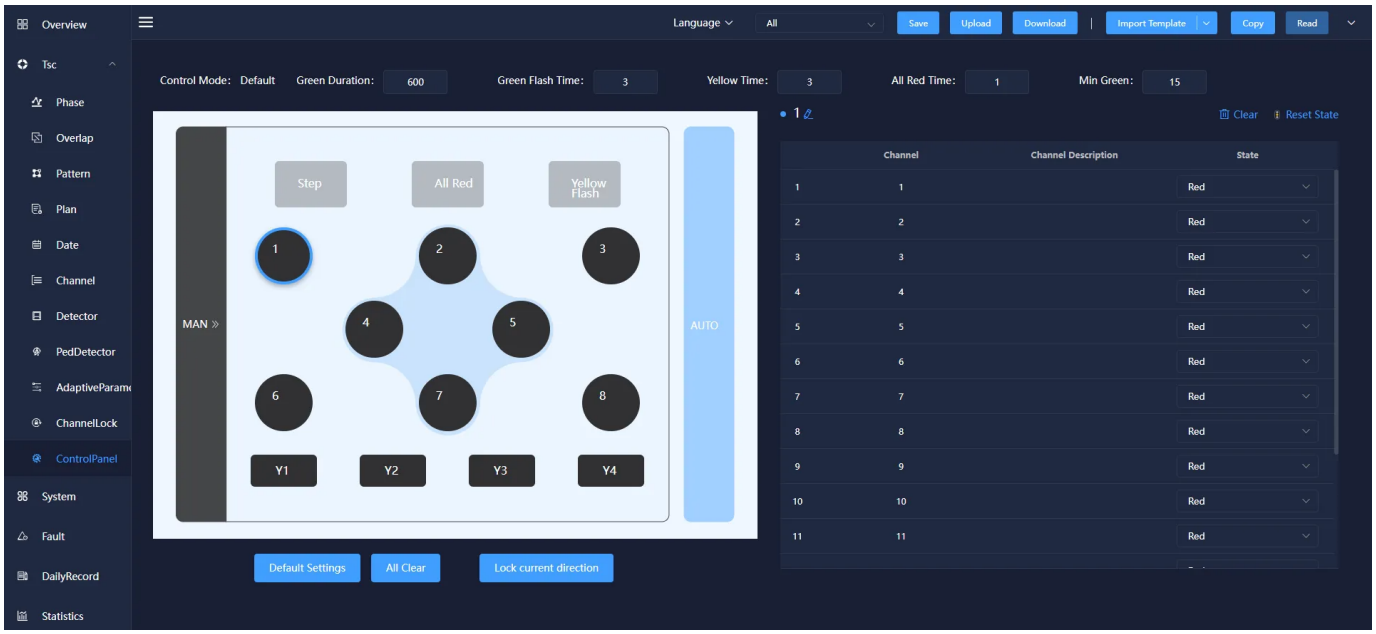

Figure 4-21 Channel Panel

5. system

The system can view information, remote control, channel detection, real-time channel and device information and other configuration functions.

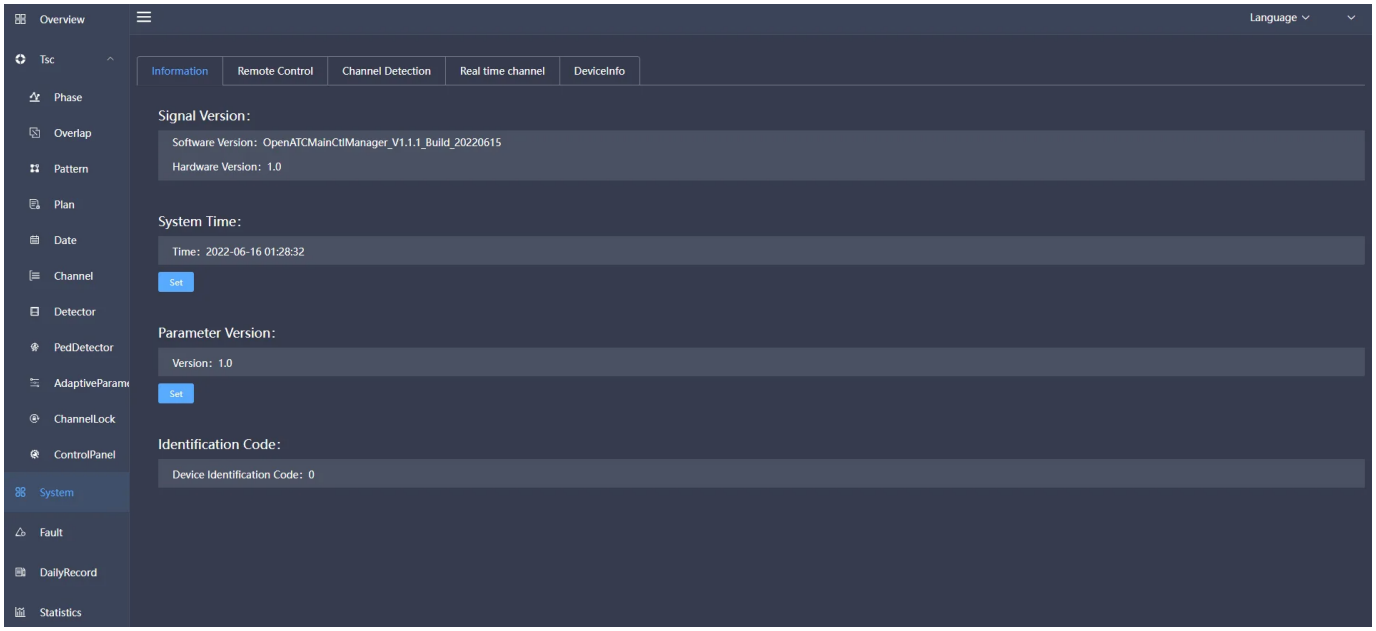

Figure 5-1 System interface

5.1 information

It mainly includes: the management and viewing of information such as signal machine version, current system time, characteristic parameter version, identification code (equipment identification code) and remote debugging.

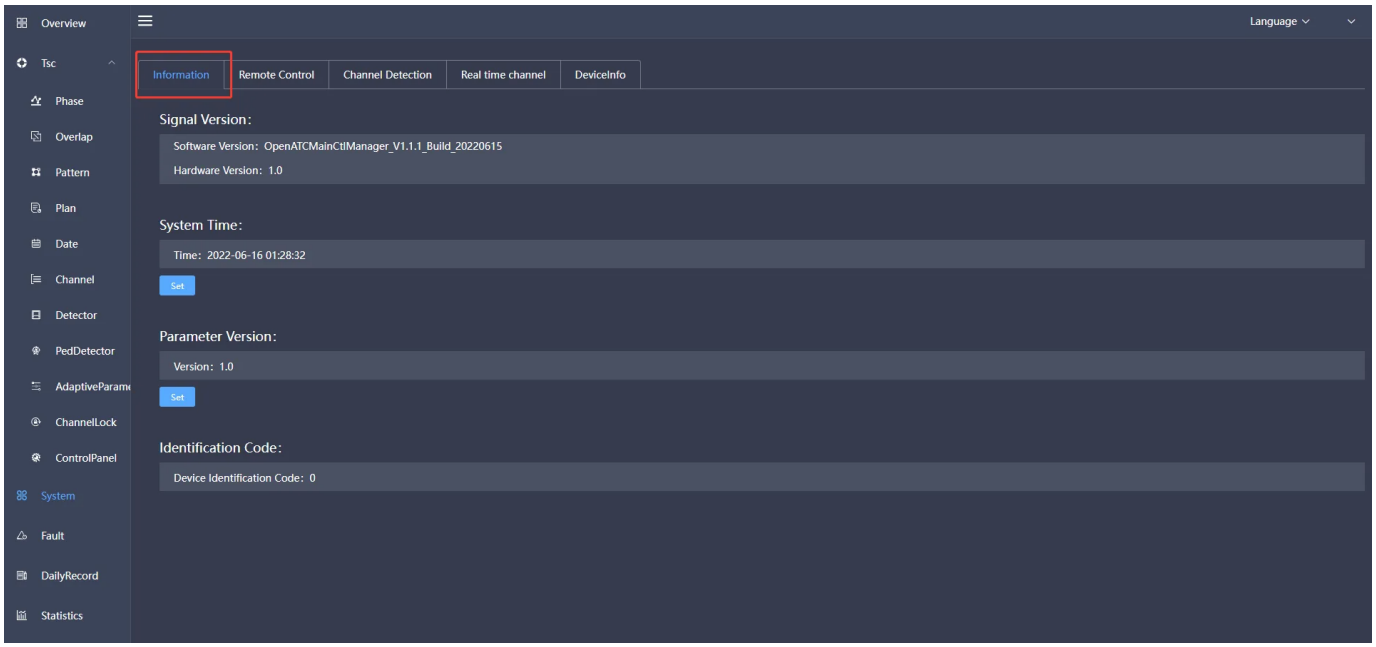

Figure 5-2 System Information Interface

Click the setting under the current system time, a pop-up box for modifying system time will pop up, you can set the current system time, click OK, and the time will be updated to the latest set time.

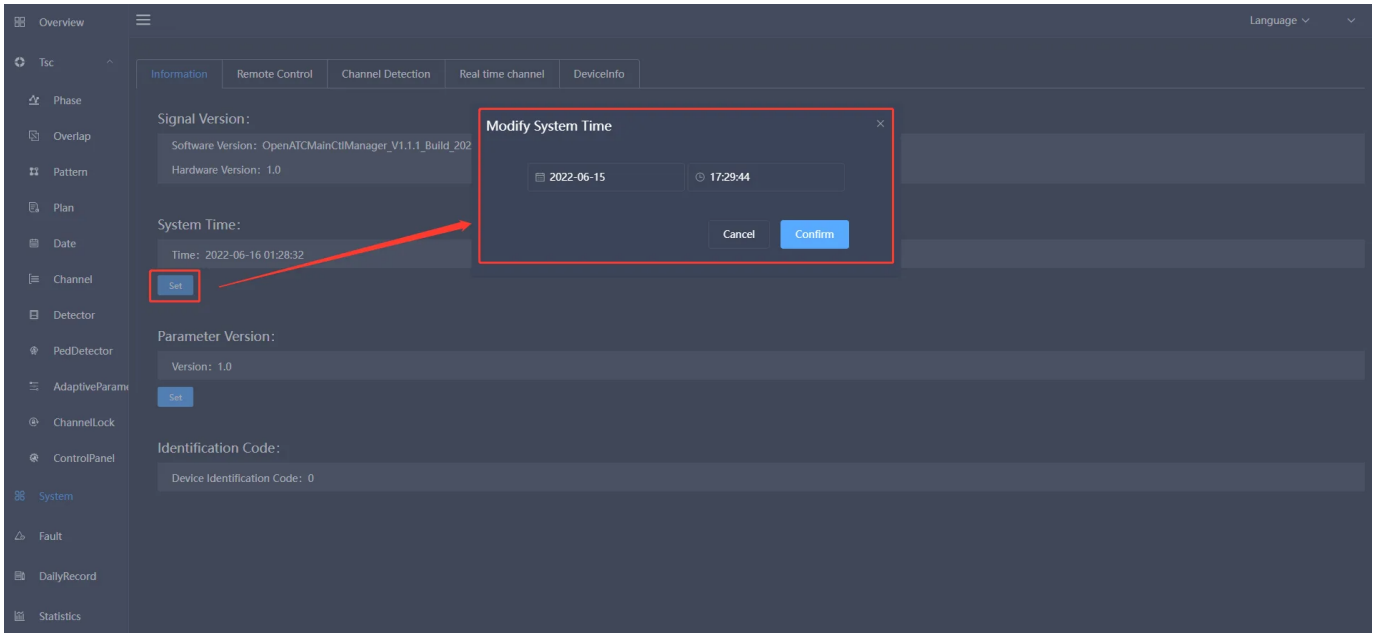

Figure 5-3 Set system time interface

Click the setting under the feature parameter version, the feature parameter version setting pop-up box will pop up, you can set the version number of the current feature parameter version, and click to confirm the version number to update to the latest version number.

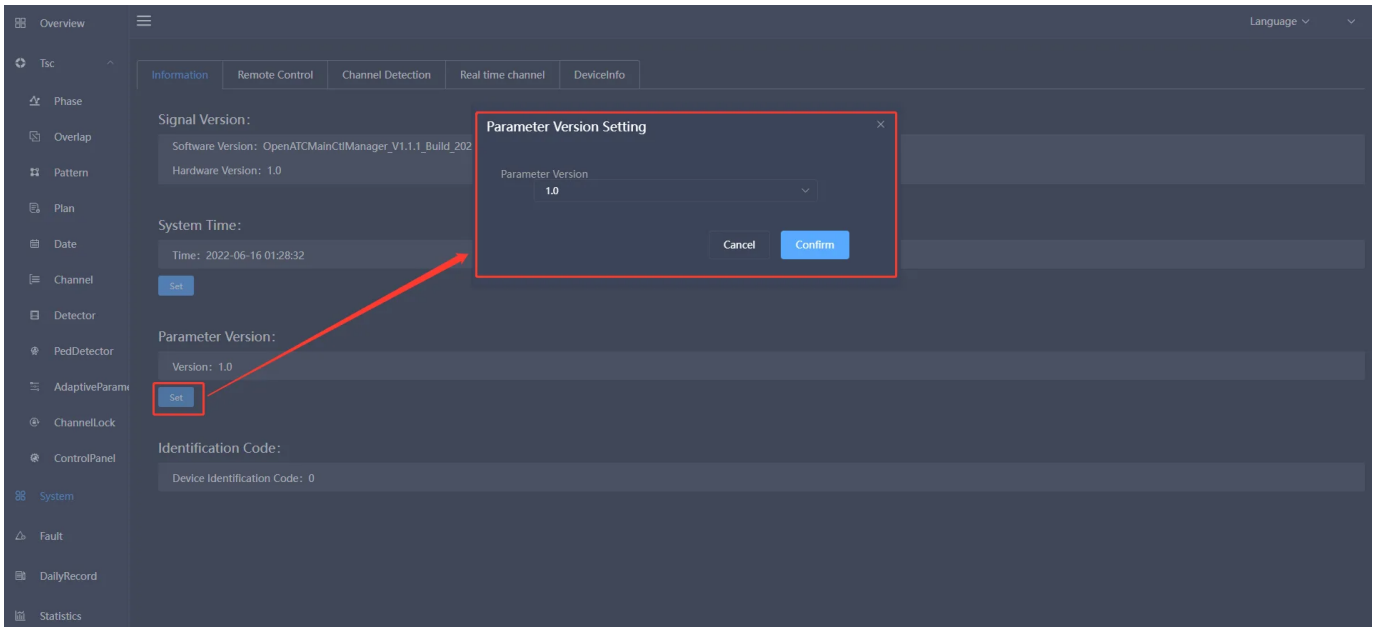

Figure 5-4 Set system feature parameter version interface

5.2 remote control

Mainly include: remote control operation (restart, authorization, custom) settings, system update and data update operations.

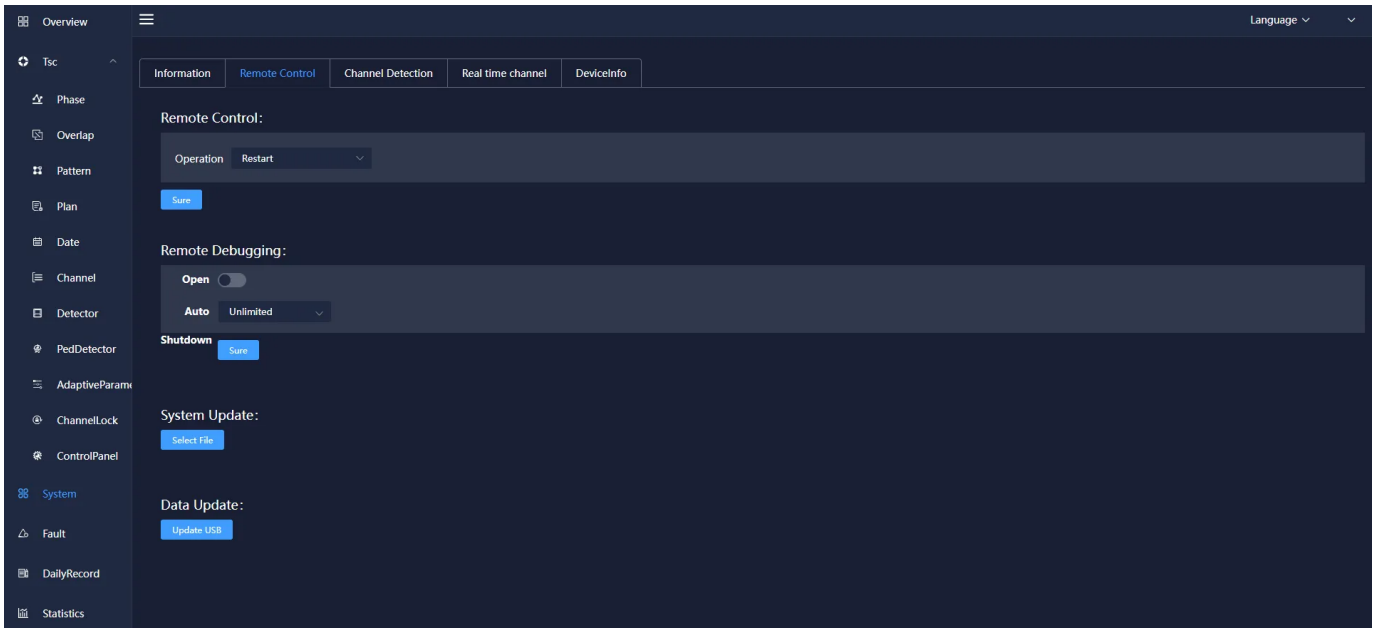

Figure 5-5 Remote control interface

Choose to enable remote debugging, you can choose the time to start (unlimited, 5 minutes, 60 minutes), select the corresponding configuration and click confirm to prompt that the setting is successful.

Click Select File under System Update, a pop-up box for selecting a file will pop up, select the file to be uploaded, and click Update.

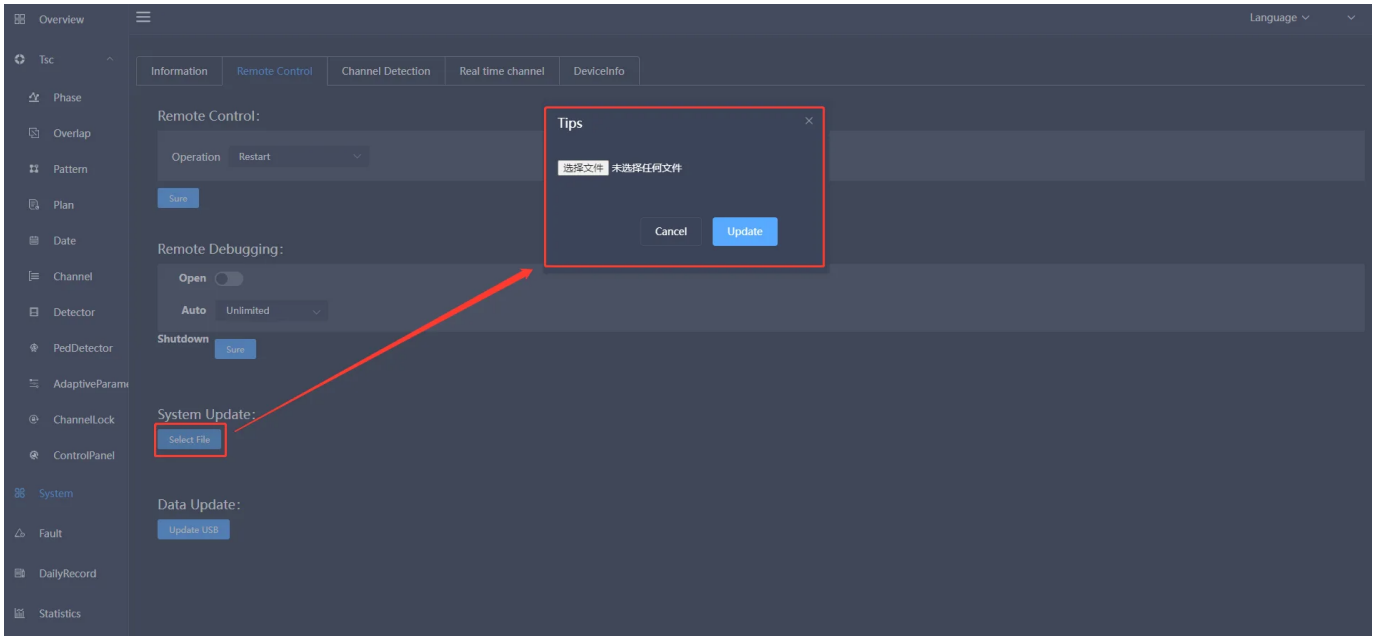

Figure 5-6 System update selection file interface

Click Update U Disk Data under Data Update to prompt that the update is successful.

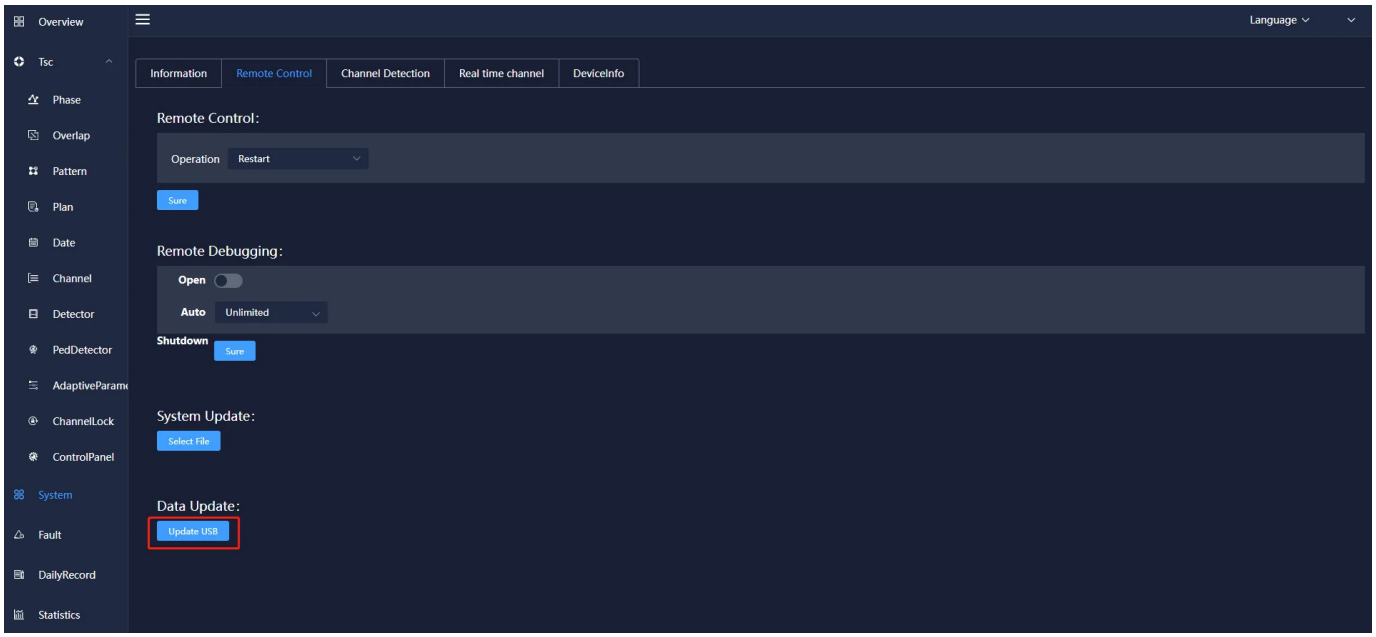

Figure 5-7 Update U Disk Data Interface

5.3 Channel detection

Click to select the display lamp on the light control board, click the "Detect" button, and the channel information will be displayed, mainly including: channel, channel input voltage, red light residual voltage, red light output voltage, red light off residual power, red light on Information about the output power of the lamp, the residual voltage of the yellow lamp, and the output voltage of the yellow lamp. Click the "Restore" button to restore it.

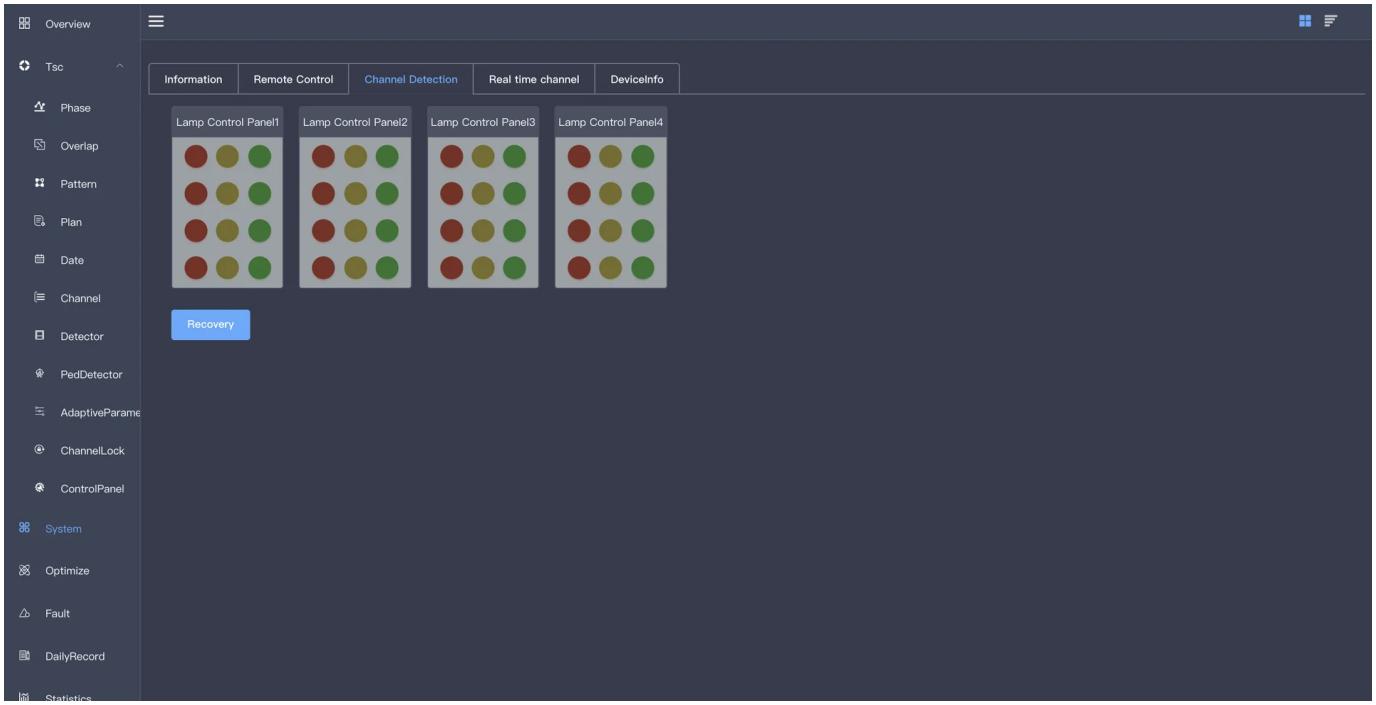

Figure 5-8 Channel detection interface

Click Restore to restore the original state of the light control version and prompt the successful restoration.

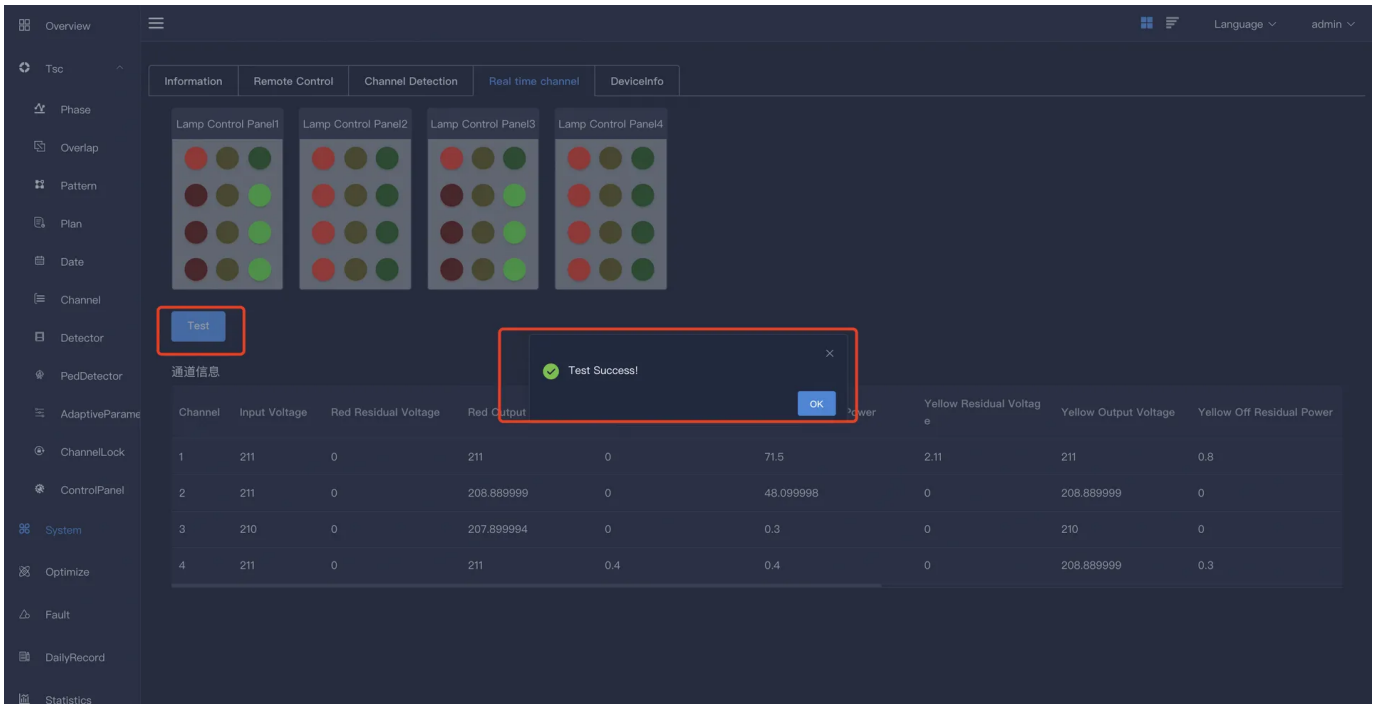

Figure 5-9 Successful channel recovery interface

5.4 Real-time channel

Display the status of the lights implemented by each channel in the configuration plan, which is related to the phase.

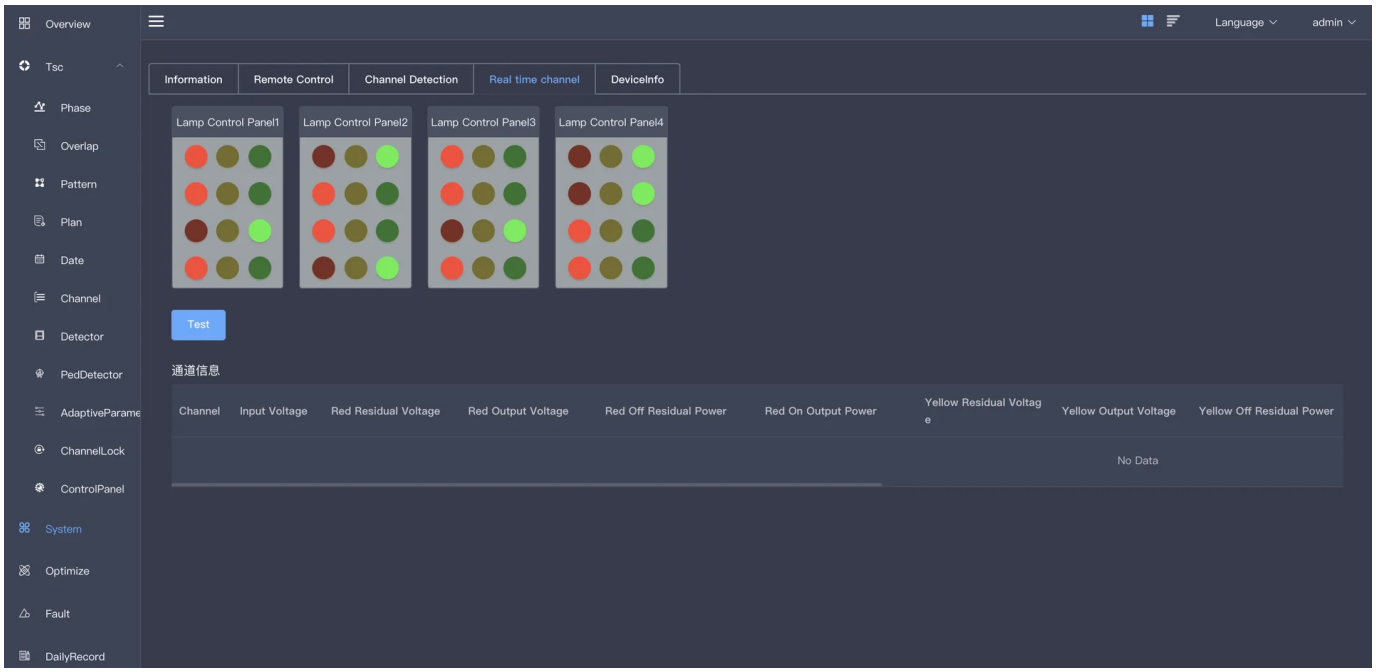

Figure 5-10 Real-time channel interface

Click the "Detect" button, the channel information will be displayed, and a pop-up box will prompt that the detection is successful.

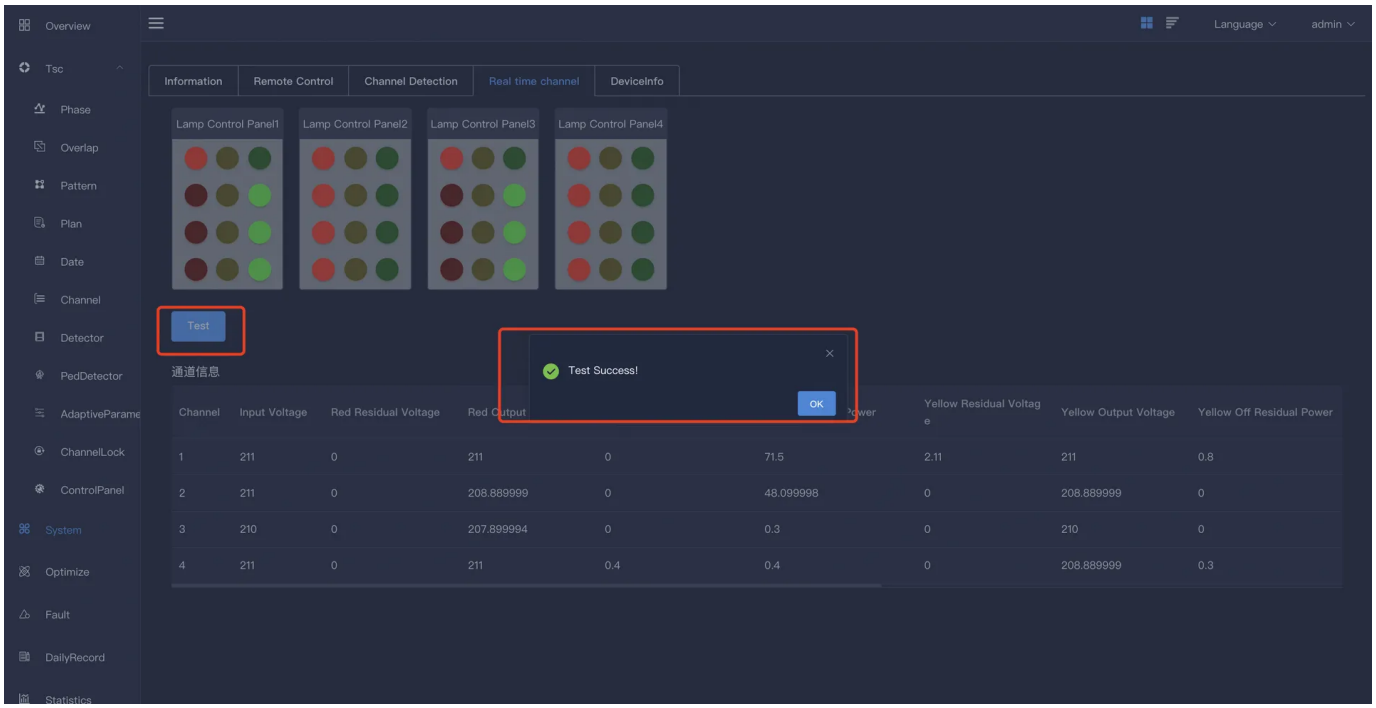

Figure 5-11 Successful channel detection interface

5.5 Device Information

Mainly include: equipment parameters and network card and other information. It can be modified and other operations, after the modification is completed, the "upload" or "download" operation can be performed.

Equipment information includes: address code, area ID, intersection ID, intersection name, port, type (TCP UDP), step type (stage, color cloth)

Equipment parameters include: startup sequence parameters, fault detection parameters and cascade. The start sequence parameters include: start yellow flash time, start full red time and green wave transition period. The fault detection parameters include: red and green simultaneous detection time interval, no red light detection time interval, and green light conflict detection time interval. You can click the "red and green simultaneous detection" button and the "no red light detection" button. The cascade includes information such as the number of master light control boards, the number of master vehicle inspection boards, the number of master IO boards, and the offset of slave cascading.

Network card information includes: IP1, IP2 and central communication IP. IP1 is the local IP information, including: IP, subnet mask and default gateway. IP2 is the alternate IP, which also includes: IP, subnet mask and default gateway. The central communication IP includes: IP and port.

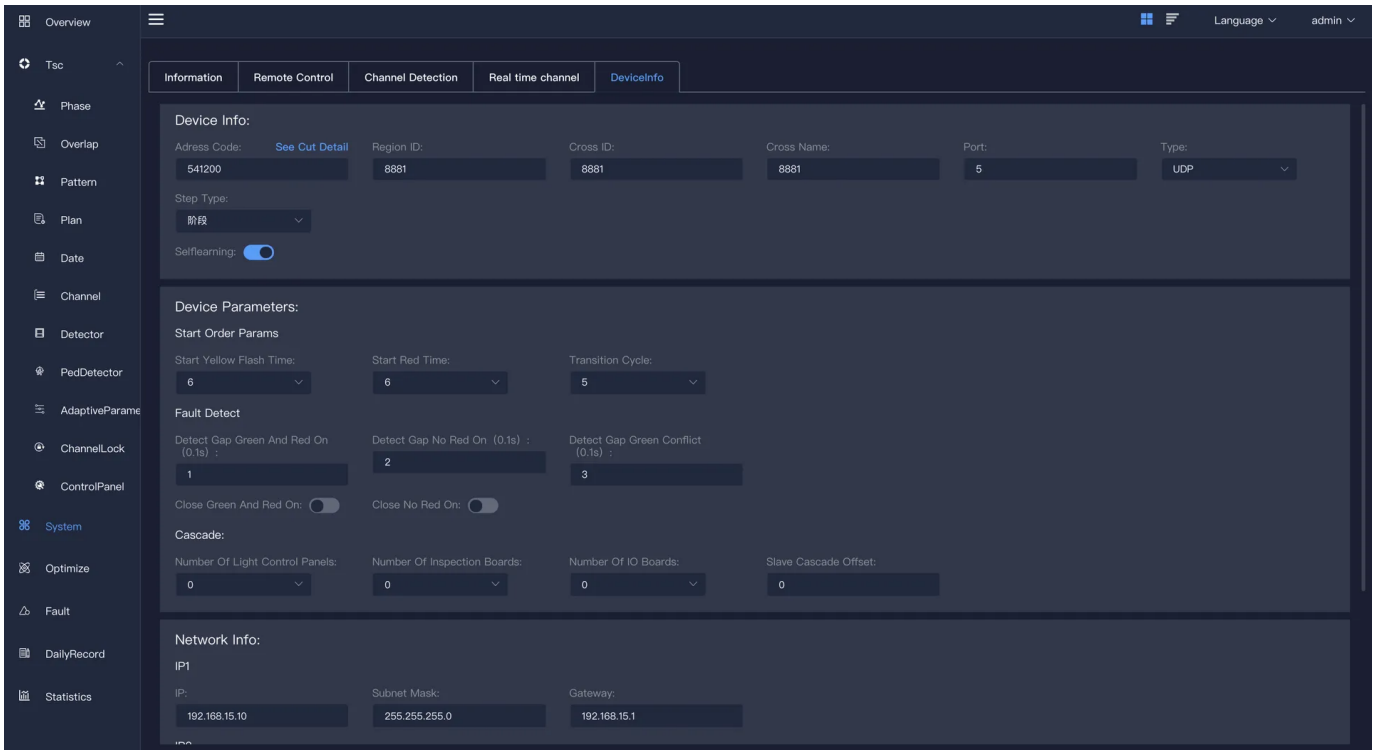

Figure 5-12 Device Information Interface

Click upload (transmit the signal operation control plan from the lower computer to the upper computer), and the parameter upload success dialog box will pop up. At this time, the device information, network information, device parameters and other information of this device will be uploaded to this page.

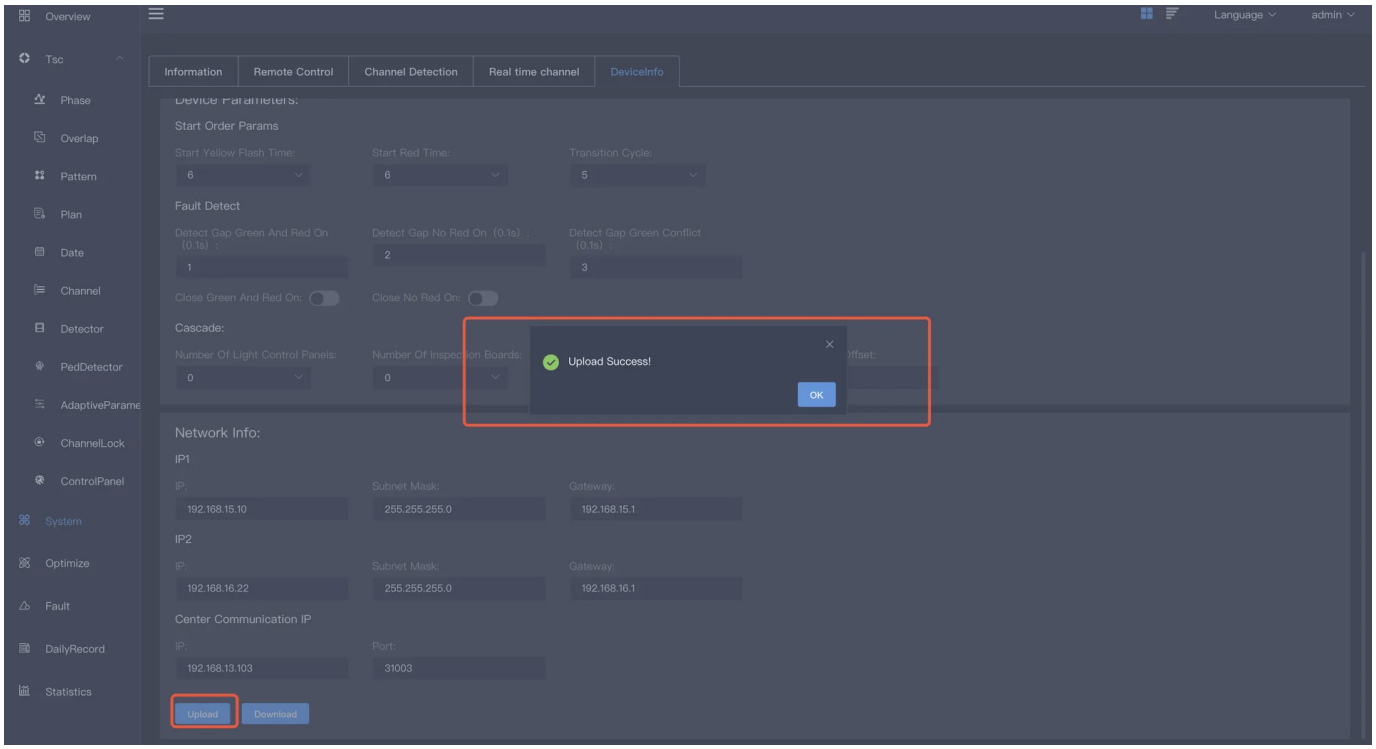

Figure 5-13 Device upload interface

Click to download (transmit the signal operation control plan from the upper computer to the lower computer), and the parameter issuance successful dialog box will pop up.

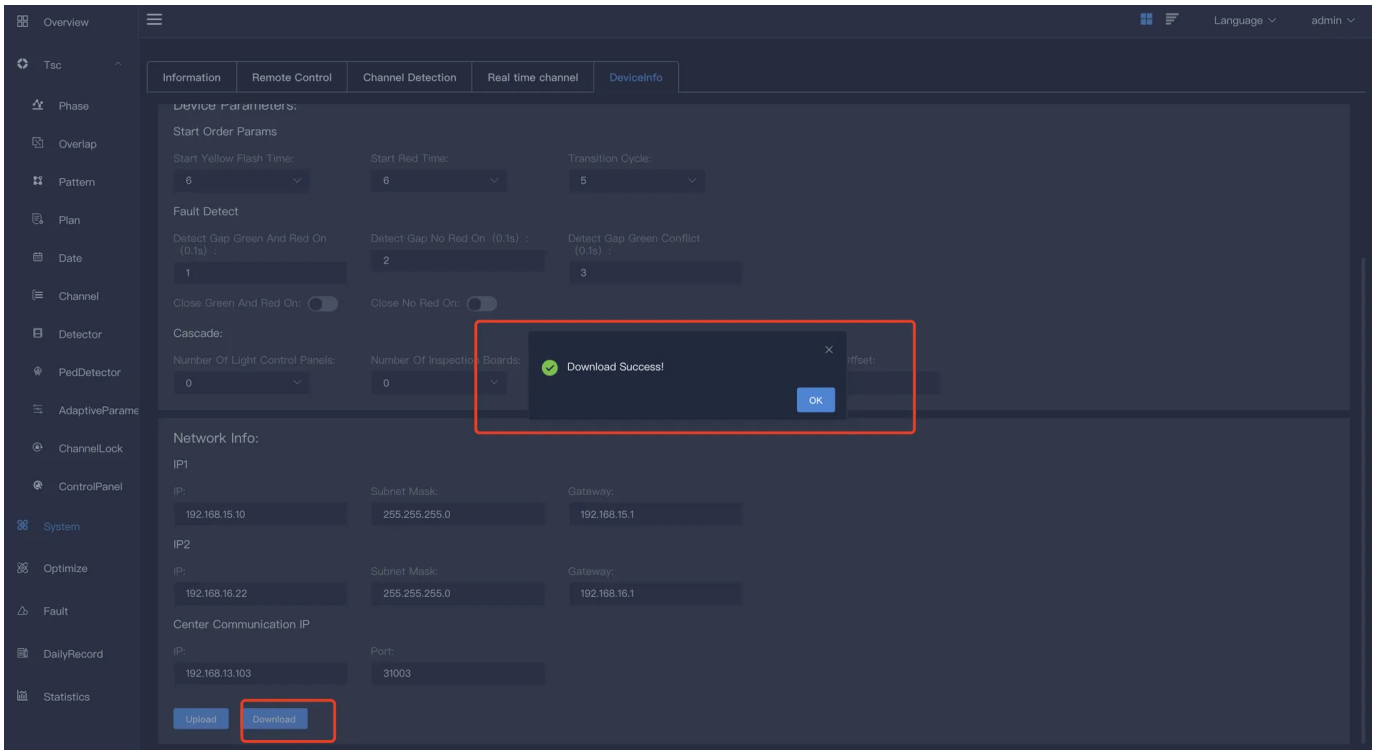

Figure 5-14 Device download interface

6 Fault

The fault template is mainly to record a series of problems of the current signal machine.

6.1 Fault file export

Fault file export

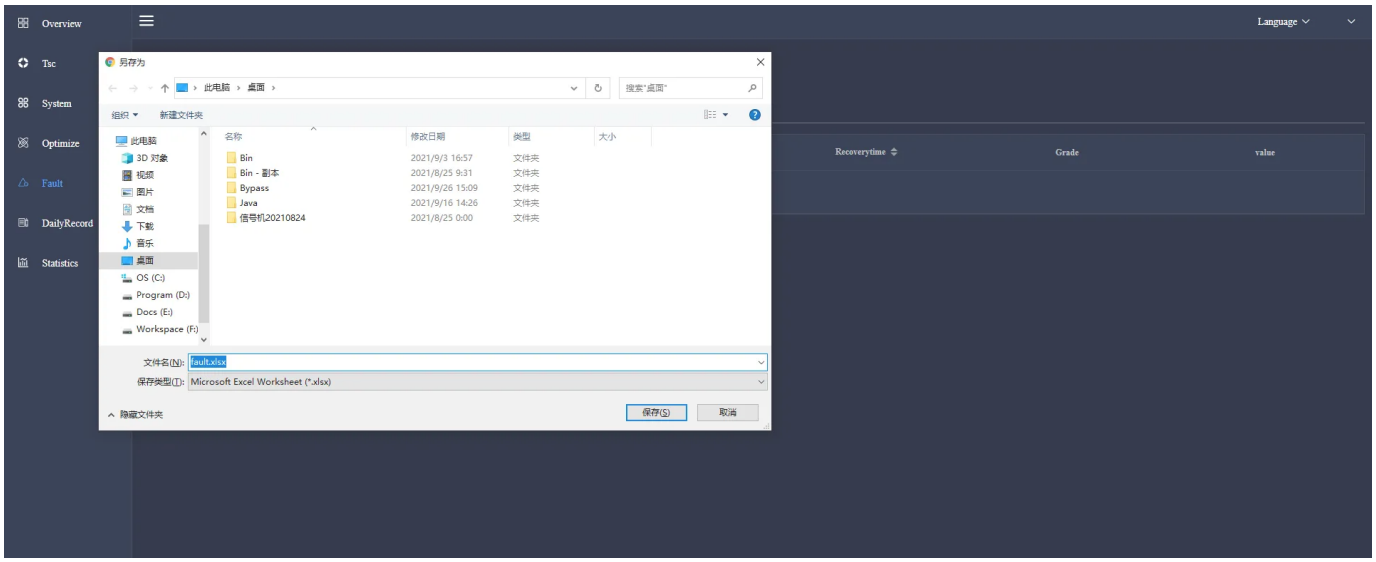

Fig.6-1 export file

6.2 Fault type

All fault information of the equipment is recorded in the overview, including event type, occurrence, continuous event, recovery time, etc.

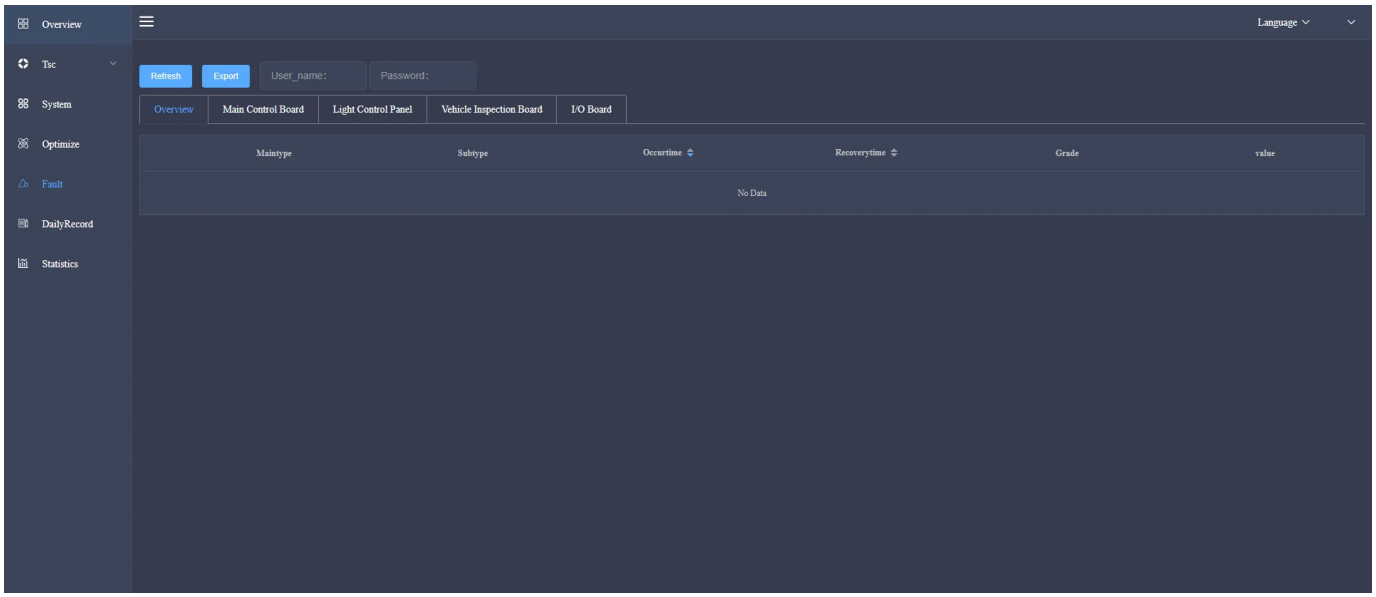

Fig.6-2 Fault overview

Main type: The main event type of the fault record

Subtype: Event subtype of this fault record

Time of occurrence:

Recovery Time: Time to recover from fault

degree: Fault level

value: A measure of fault

6.2.1 Main control board

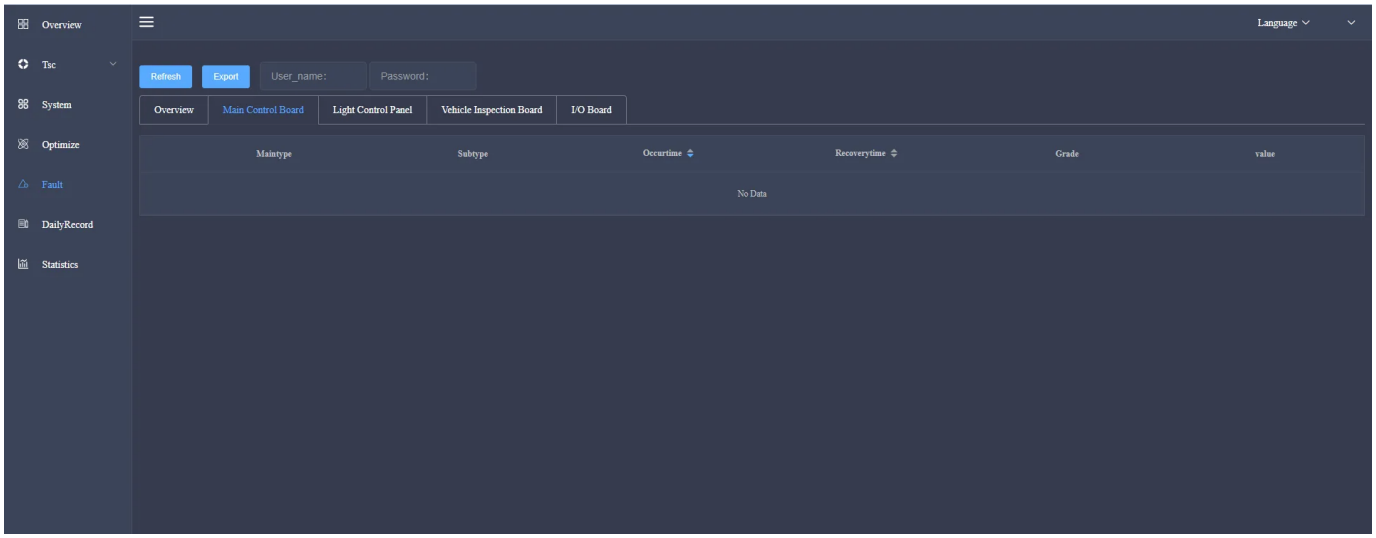

Fig.6-3 Main control board failure

Main type: The main event type of the fault record

Subtype: Event subtype of this fault record

Time of occurrence:

Recovery Time: Time to recover from fault

degree: Fault level

value: A measure of fault

6.2.2 Light control board

Click on the light control board to display the light control board fault information list.

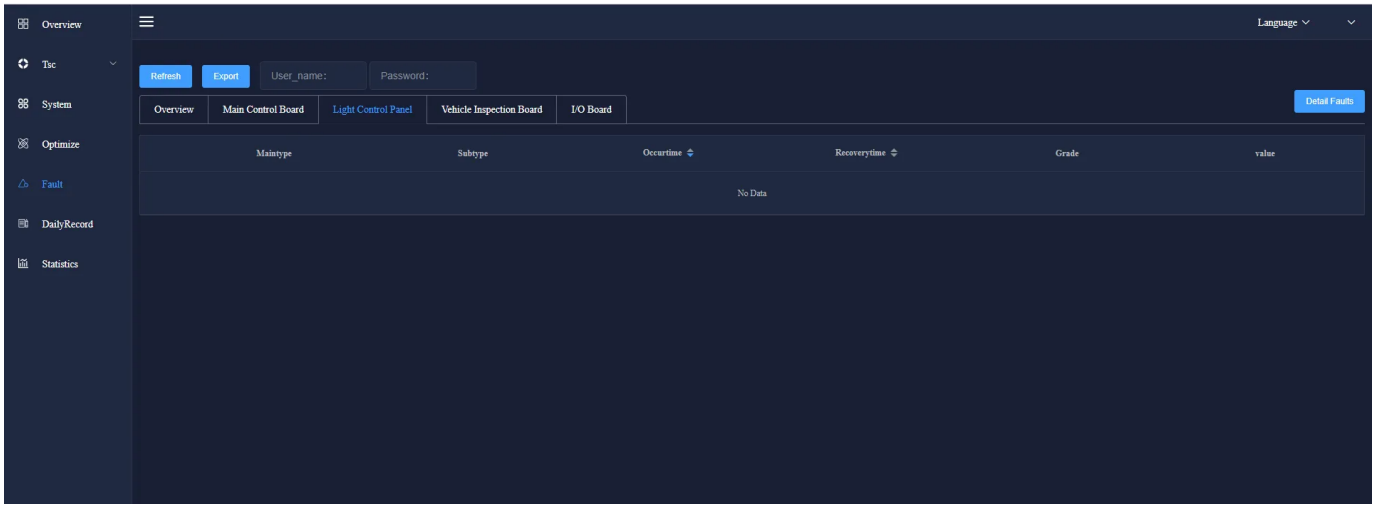

Fig.6-4 Lamp control board failure

Main type: The main event type of the fault record

Subtype: Event subtype of this fault record

Time of occurrence:

Recovery Time: Time to recover from fault

degree: Fault level

value: A measure of fault

6.2.3 Car inspection board

Click on the car inspection board to display a detailed list of failure information of the car inspection board.

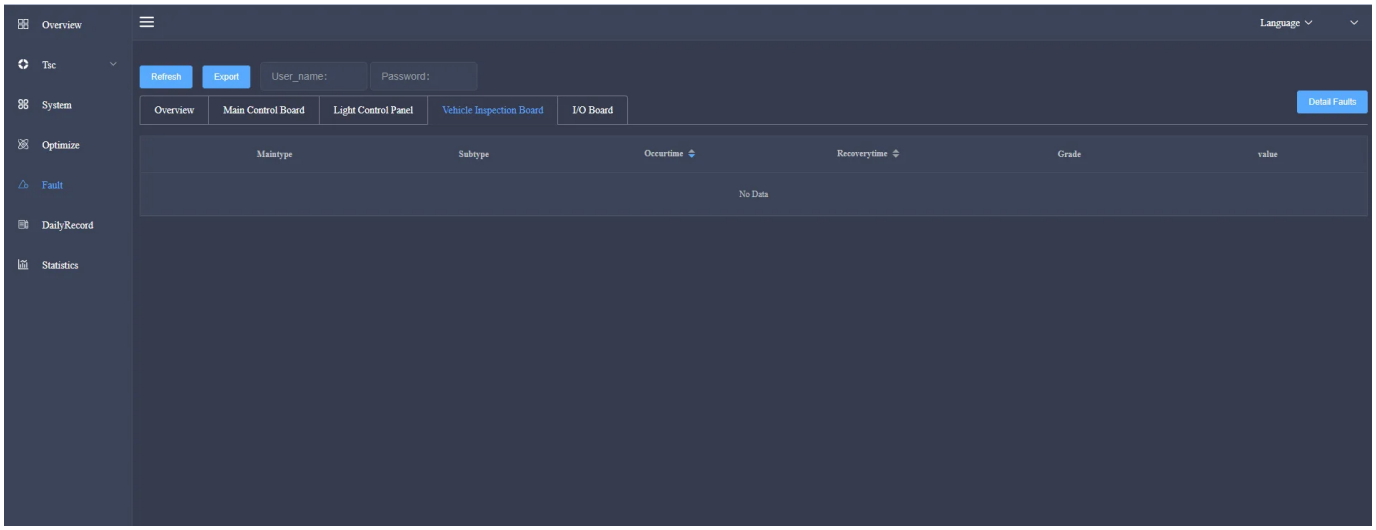

Fig.6-5 Vehicle inspection board failure

Main type: The main event type of the fault record

Subtype: Event subtype of this fault record

Time of occurrence:

Recovery Time: Time to recover from fault

degree: Fault level

value: A measure of fault

6.2.4 I/O

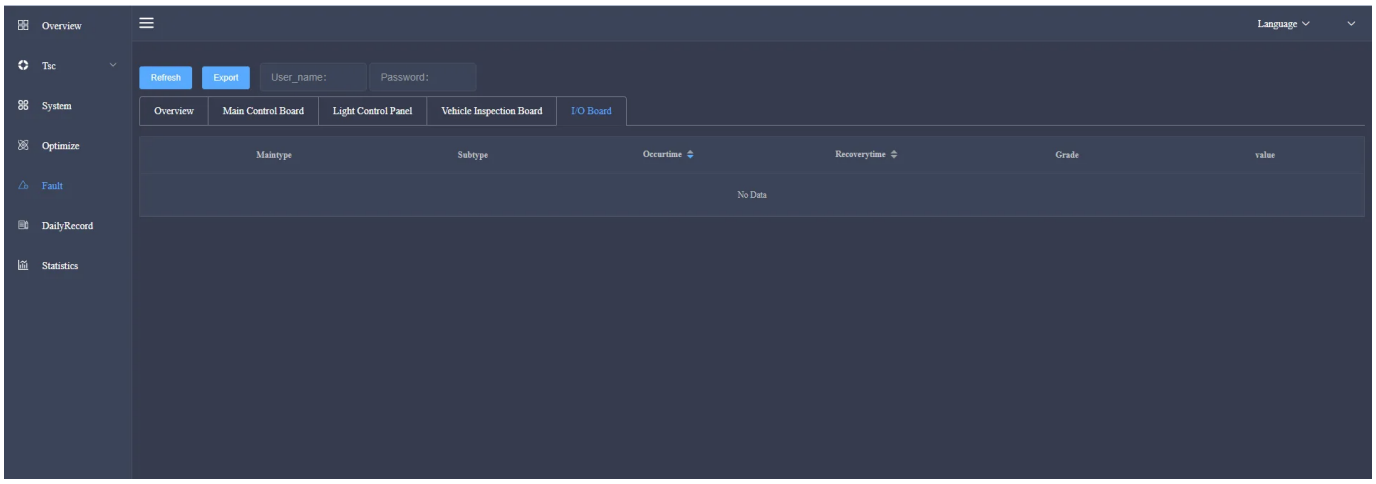

Fig.6-6 I/O Fault

Main type: The main event type of the fault record

Subtype: Event subtype of this fault record

Time of occurrence:

Recovery Time: Time to recover from fault

degree: Fault level

value: A measure of fault

7. Log

Mainly include: date, event type (), subject mark time (operator), object mark time () and operation results and other information management and viewing.

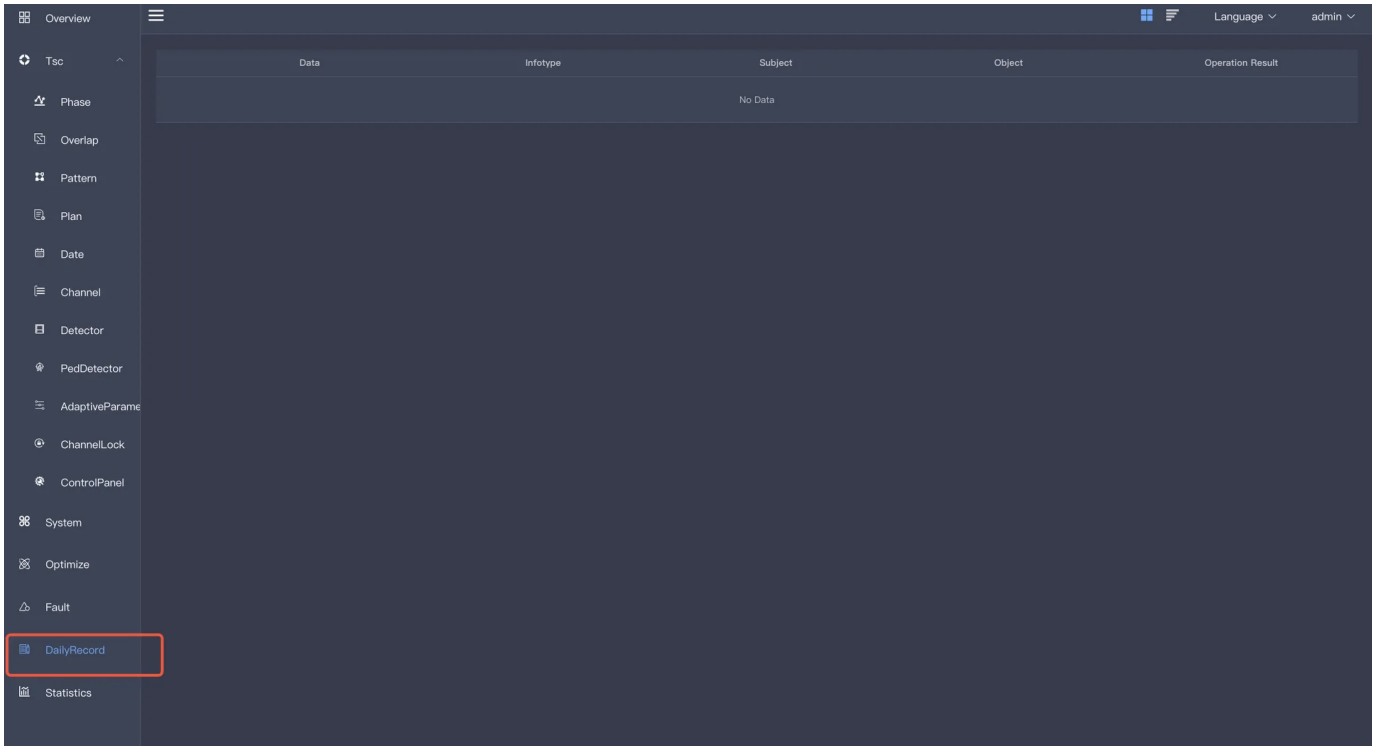

Figure 7-1 Log interface

8. statistics

Click to enter the "Statistics" interface, enter the user name and corresponding password, and click the "Get Device Flow Data" button to obtain relevant data, including: time, flow, occupancy rate, and occupancy time.

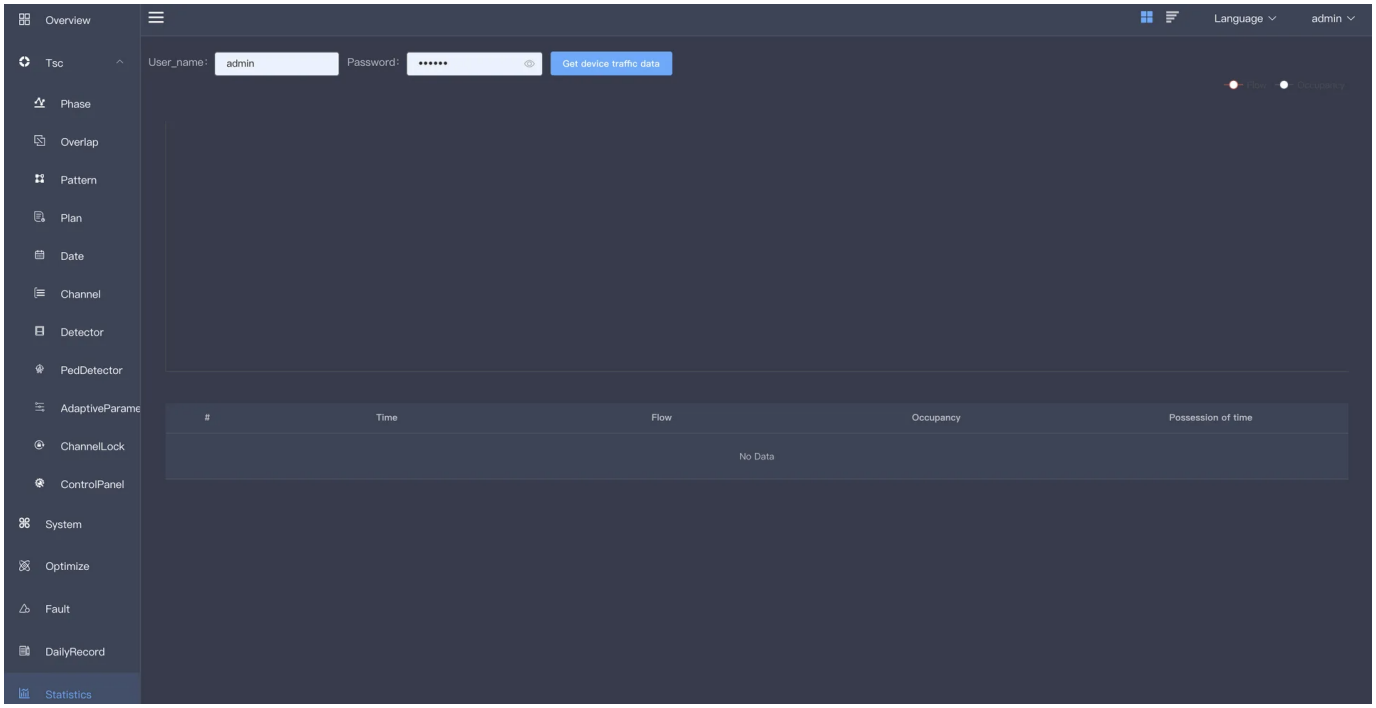

Figure 8-1 Statistics interface