

User's Guide for 22 Outputs Fixed-time LED Traffic Light Controller



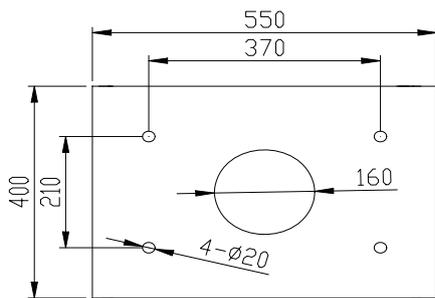
The traffic signal controller can control traffic signals in one independent intersection and meet your various demands to ensure easy and convenient traffic management.

II Product Advantages	III Functional Features
<ul style="list-style-type: none"> ★ Various control modes for your choice Such as multi-periods, projects, yellow flashing. ★ Perfect pre-sales and after-sales service for your satisfaction ★ The simulation intersection matches with real intersections, which is easy for users to set parameters. ★ Wires are placed on a high position to ensure electrical safety in case of heavy rain ★ Easy to set the parameters ★ Simple wiring methods classified according to East, South, West and South directions. ★ Different protection functions including electric leakage protection, lightning protection, output short-circuit protection, high current shock protection. ★ Operation instruction Video for helping understanding ★ Automatic detection of green conflict during setting process in case of real-time green conflict 	<ul style="list-style-type: none"> ★ Built-in central control system to ensure work stability ★ Weather-proof out-door cabinet with lightning-protection and power supply filter devices. ★ Easy for maintenance and function extension by adopting modular design ★ 22 outputs and 8 light groups with work current of 10A ★ Able to adjust, check and set while working ★ 2*99 work periods for workday and holiday setting ★ 32 working menus used for any period ★ Each menu can include 99 steps and 1~255s each step ★ The flashing state, frequency and time of each signal light can be set or adjusted. ★ Flashing time and frequency can be adjusted according to needs. ★ Able to enter yellow flashing state at any time in case of emergency ★ Manual control can be achieved by specific menu or while under working.

IV、 Technical Parameters	
Item	Technical Parameters
Executive Standard	GA47-2002
Drive Capacity of Each Output	1300W

Working Voltage	AC85V~265V
Working Frequency	50Hz~60Hz
Operational Temperature Range	-40℃~+75℃
Relative Humidity	5%~95%
Insulation Value	≥100MΩ
Data-saving Time after Blackout	180 Days
Setting Project Saving Time	10 Years
Time Error	±1S
Inner Cabinet Dimension	Length 425mm Width 220mm Height 250mm
Outer Cabinet Dimension	Length 550mm Width 400mm Height 950mm

V Dimension Drawing of the Bottom of Outer Cabinet Unit: mm	VI About Groundwork of the Controller's Outer Cabinet
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- ★ Better to choose a high place to avoid water overflow from heavy rain.
- ★ Better to choose shady places to avoid too much sunshine
- ★ The outer cabinet must be 1.5 meters away from vehicle path in case of collision of vehicles.
- ★ Make sure that there is enough space around for easily opening the outer cabinet and wiring.
- ★ After setting all the parameters and connecting all the wires, be sure to seal the bottom of the cabinet by foam glue to avoid moisture and small animals entering the cabinet
- ★ **Be sure to keep the cabinet reliably connected to the earth.**

VII Parameter Setting

In order to help users operate the controller, we made this manual with detailed illustrated operation instruction and examples. Following the steps in the below, users are able to understand the basic working mode of the controller.

Step1:

Date Setting

The correct date needs to be set in the controller.

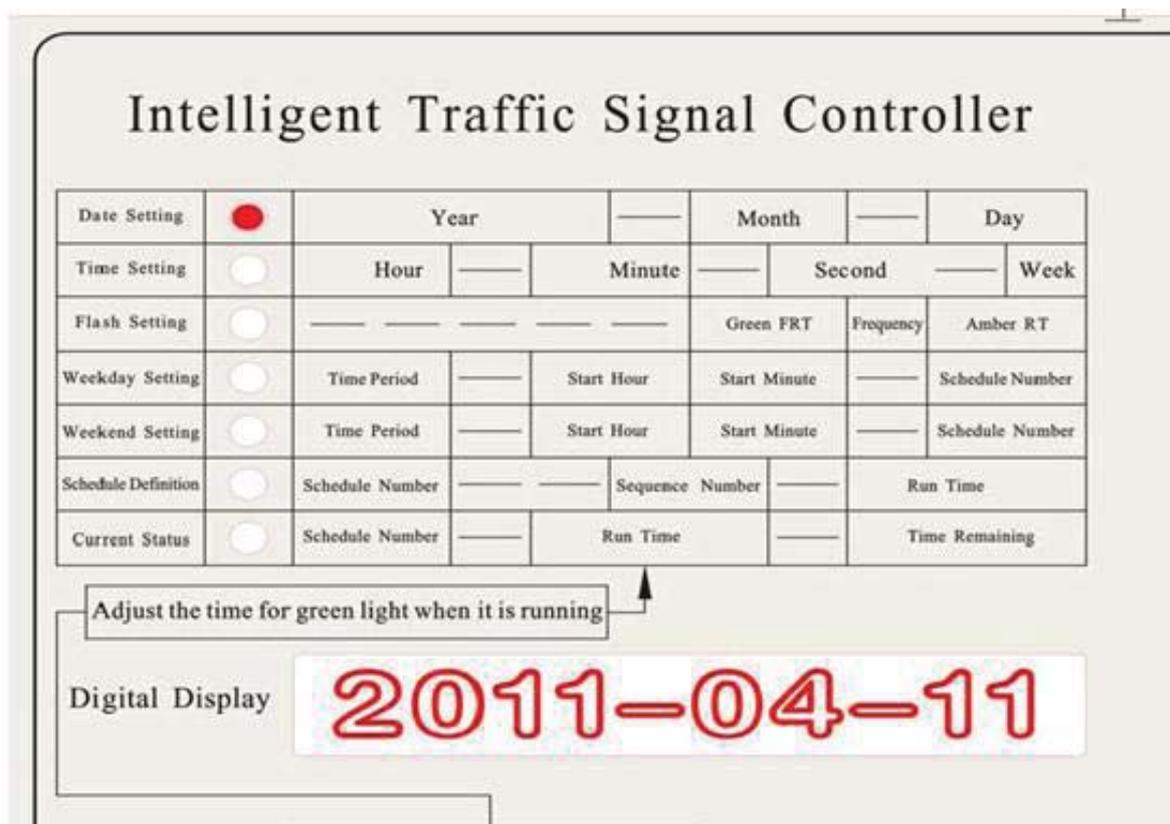
Use the `function` key to switch the indicator light to Date setting.

Digit 1-4 represents the year, Digit 5-6 represents the month and Digit 7-8 represents the day

Use the `left` and `right` keys to select the digit to be changed and use `plus` and `minus` keys to change the number.

After setting the correct date, use `save` key to store setting then it will switch to the current status state then it will switch to the current status state.

In the example above, the date set is 11th of April 2011.



Step 2

Time Setting

To set the current time in the controller, use the `function` key to switch the indicator light to Time setting.

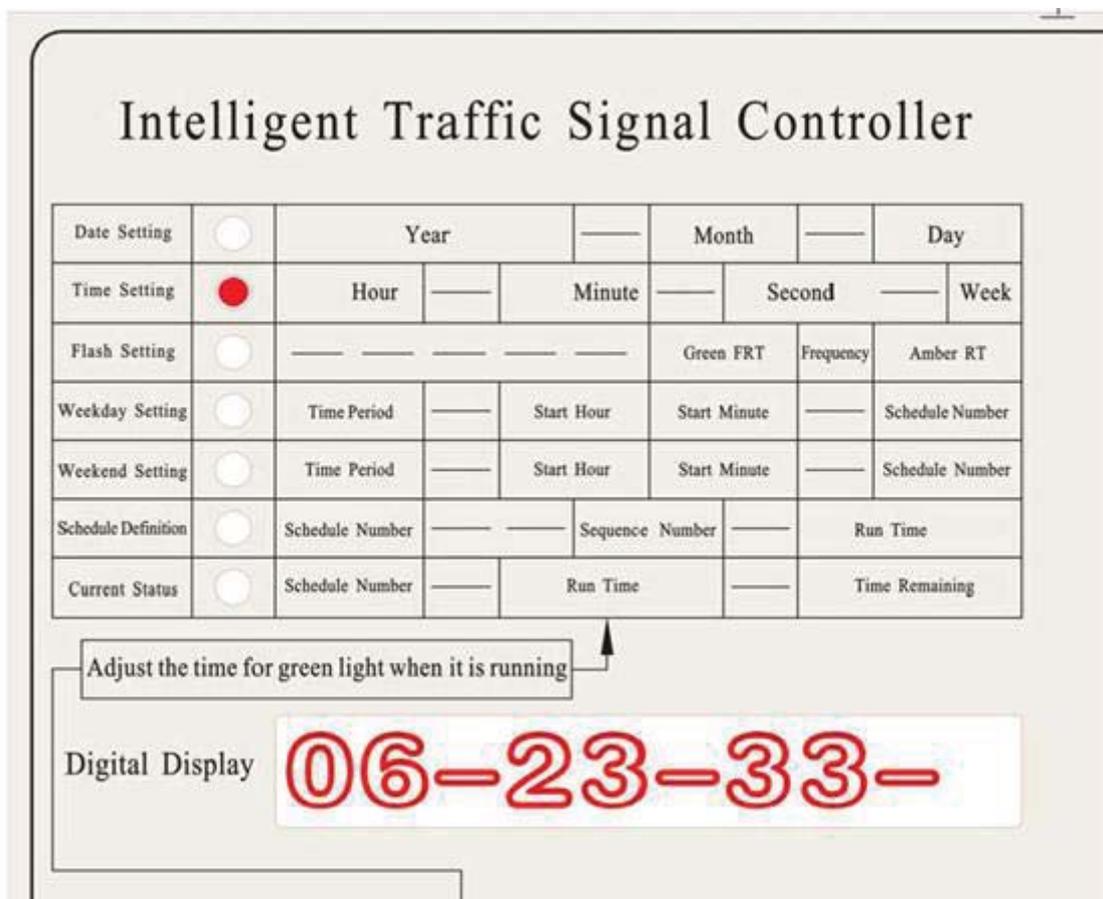
Digit 1-2 represents the Hour, Digit 3-4 represents the minutes and Digit 5-6 represents the seconds and Digit 7 represents the day of the week; 0-6 for Sunday to Saturday.

Use the `left` and `right` keys to select the digit to be changed and use `plus` and `minus` keys to change the

number.

After setting the current time, use `save` key to store setting then it will switch to the current status state.

In the example above, the time set is 06:23:33 Saturday.



Step 3

Flash Setting

Use the `function` key to switch the indicator light to flash setting.

Digit 1-2 represents the Green FRT (Flash Run Time), Digit 3 represents the frequency and Digit 4-5 represent s the Amber RT (Run Time).

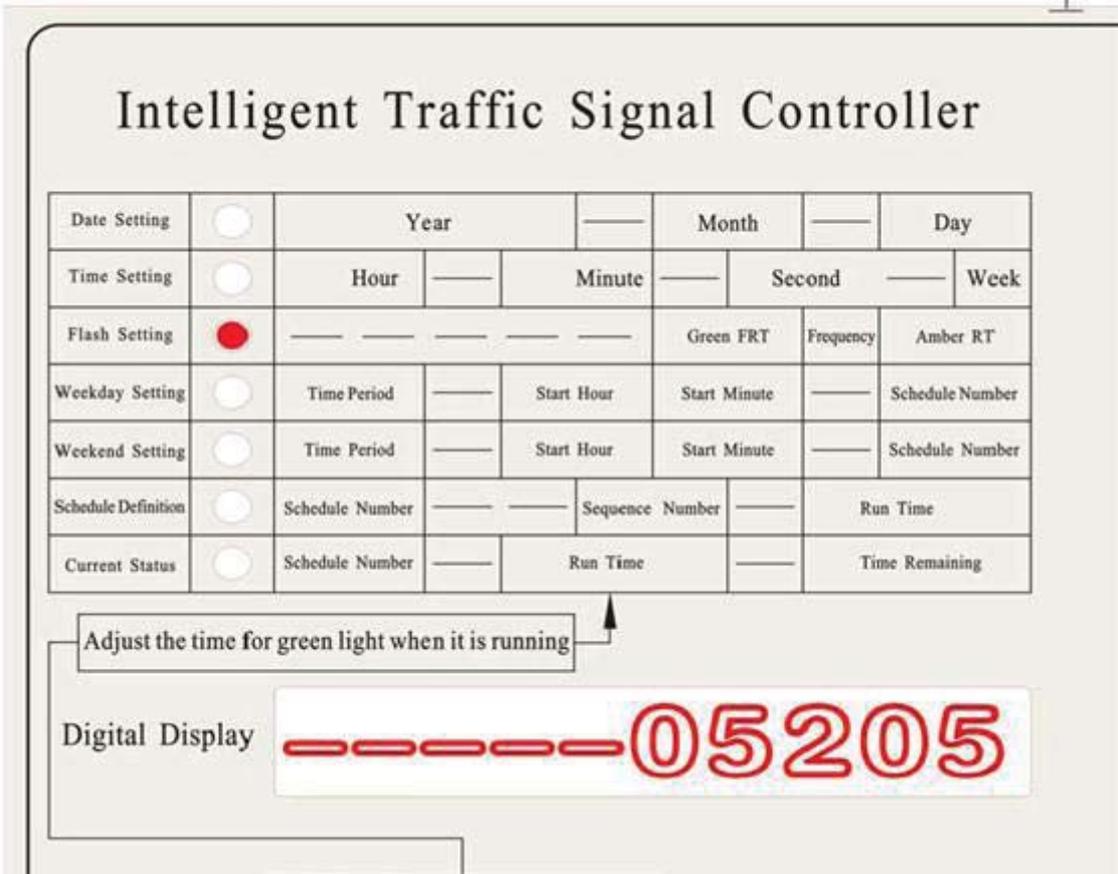
The Green FRT is the duration of time the green light will flash before it turns to red. For instance, if the green light is to run for 30 seconds and the Green FRT has been set to 05, once 25 seconds has elapsed, the green light begins to flash for the remainder 5 seconds. This feature is optional and if it is not required, the Green FRT should be set to 00.

The frequency is for the Green FRT and ranges from 1 – 6. 1 represents the highest frequency while 6 is the lowest frequency.

The Amber RT is the duration of time the amber light will be on before the green light comes on.

The default setting that comes with the controller is ----05205.

This means Green FRT 05, frequency grade is 2 and Amber RT is 05.



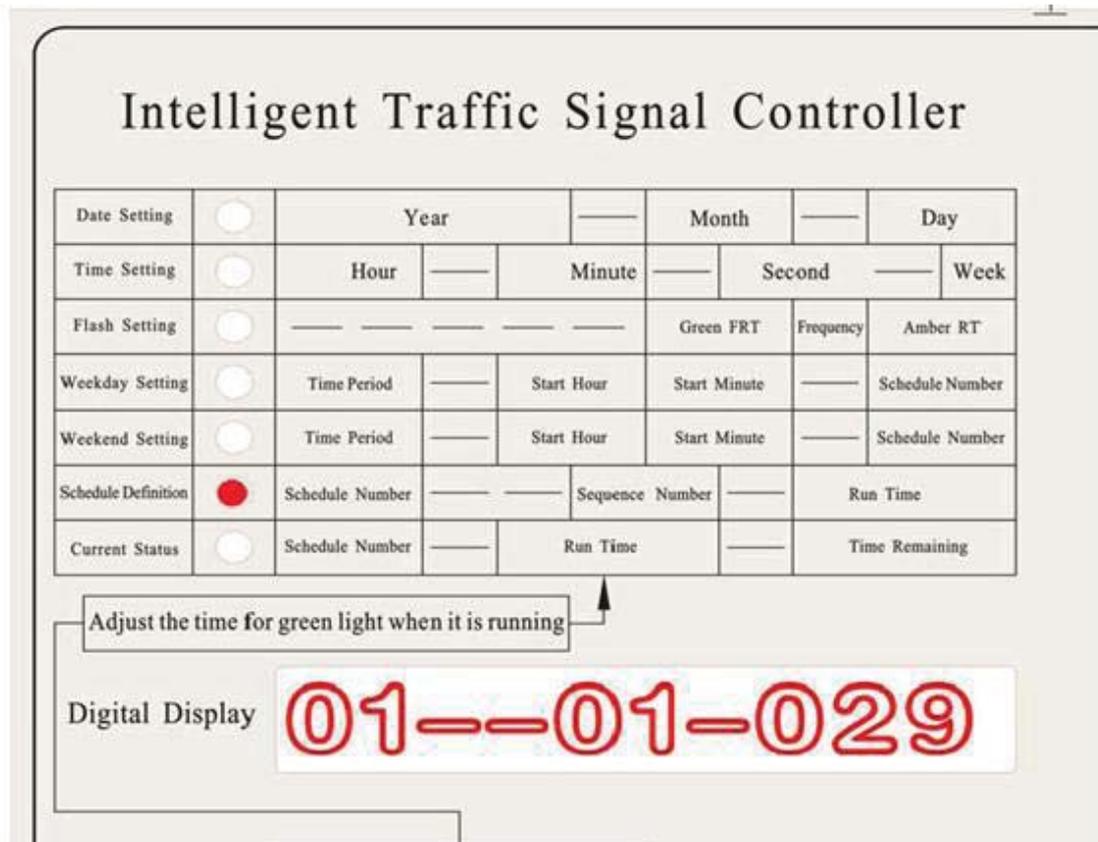
Step 4

Schedule definition

Use the `function` key to switch the indicator light to Schedule definition.

This setting is used to define the operation sequences of the controller. These schedules defined are later implemented in the Weekday and Weekend setting.

Digits 1-2 represent the Schedule number, Digits 3-4 represent the Sequence number and Digits 5-8 represent the Run time.



Each Schedule number will have two or more sequences attached to it and every sequence will run for a defined amount of time (Run time).

Schedule number can be selected from No.1 – 32. 1 – 30 can be defined as desired but 31 and 32 are pre-programmed in the controller.

- No.31 - All Amber Flashing
- No.32 – All lights power off.

Schedule Numbers can be selected randomly as long as it is within No. 1 – 30.

For the selected Schedule numbers, sequences need to be defined. A Schedule number can have up to 99 different sequences. A sequence is defined by setting the light units at the intersection to either red or green and will only run for the defined Run time.

To define the sequence, the following keys are required `Direction`, `Left`, `Right`, `Yes`, `Cancel`.

`Direction` is used to select the direction of the intersection you want to alter. Press it until you get to the required direction.

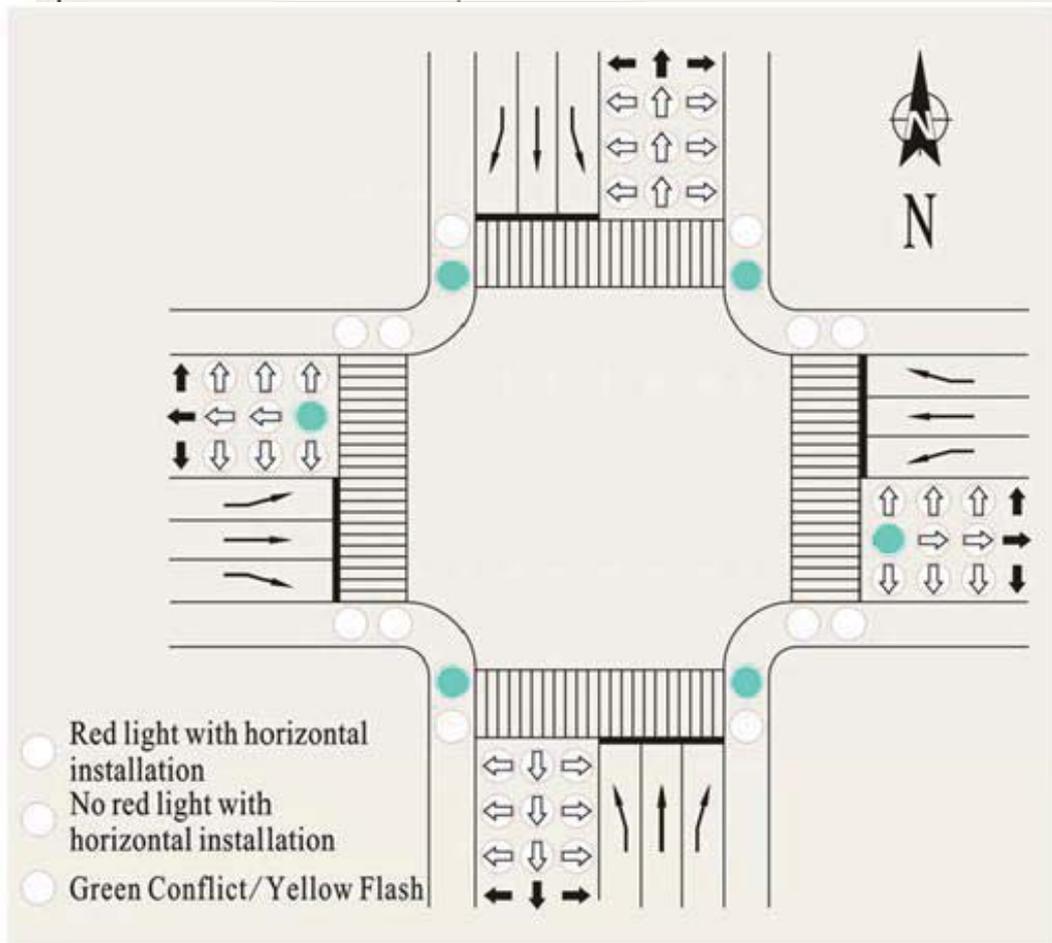
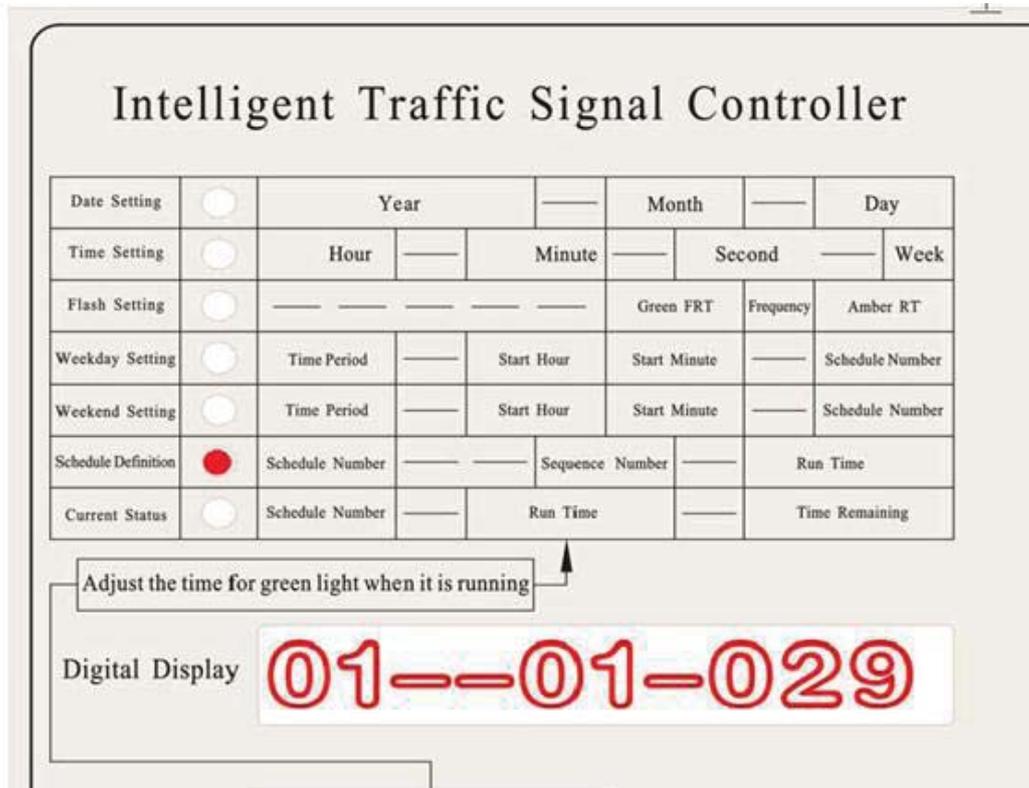
`Left` and `right` keys are used to navigate through the traffic lights at the selected direction. Once you get to the required traffic light, you can make the desired adjustment.

`Yes` is used to set a traffic light to green

`Cancel` is used to cancel a traffic light from green to red

In the example below, we will create Schedule 01 with two sequences, Sequence 01 and Sequence 02.

Sequence 01 will give road access to vehicles in the east and west direction and also pedestrians in the east and west directions. This sequence will run for 29 seconds.



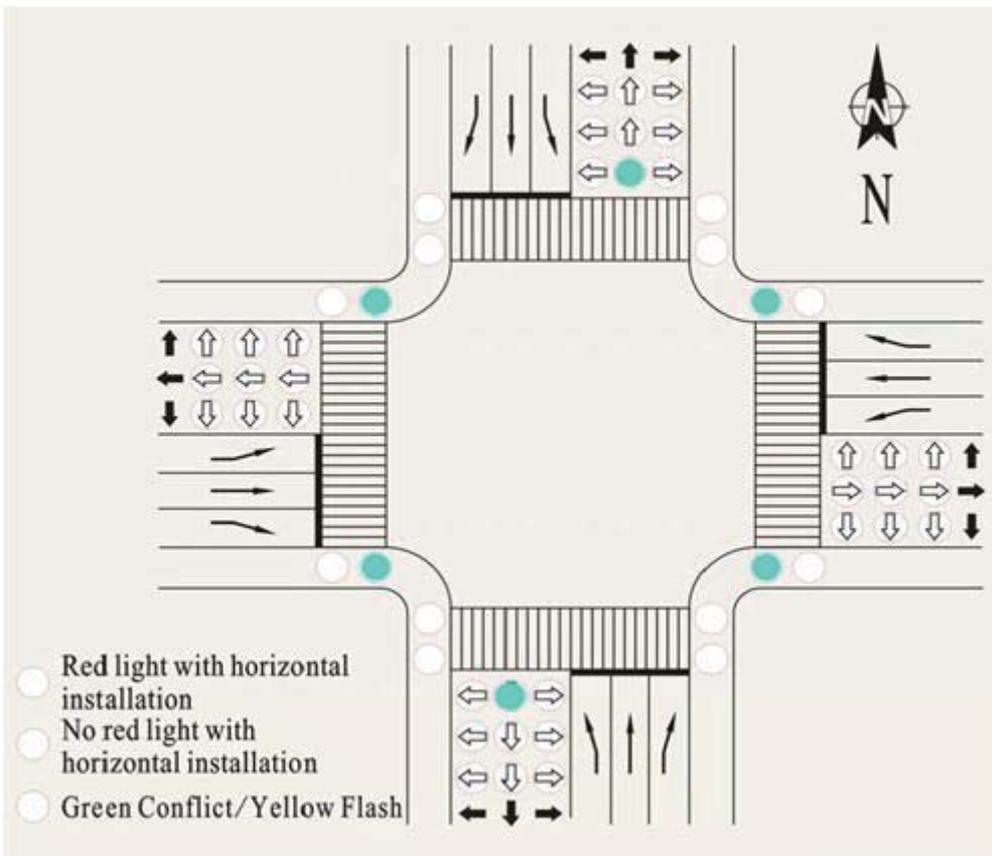
Sequence 02 will give road access to vehicles in the north and south and also pedestrians in the north and south directions. This sequence will run for 20 seconds.

Intelligent Traffic Signal Controller

Date Setting	<input type="radio"/>	Year		—	Month	—	Day
Time Setting	<input type="radio"/>	Hour	—	Minute	—	Second	Week
Flash Setting	<input type="radio"/>	— — — — —			Green FRT	Frequency	Amber RT
Weekday Setting	<input type="radio"/>	Time Period	—	Start Hour	Start Minute	—	Schedule Number
Weekend Setting	<input type="radio"/>	Time Period	—	Start Hour	Start Minute	—	Schedule Number
Schedule Definition	<input checked="" type="radio"/>	Schedule Number	—	Sequence Number	—	Run Time	
Current Status	<input type="radio"/>	Schedule Number	—	Run Time	—	Time Remaining	

Adjust the time for green light when it is running

Digital Display 01--02-020



Steps taken in example

- Input 01 as the Schedule Number
- Set the Sequence number as 01
- Set the Run time as 029
- Use intersection simulation to define sequence
- Press `save` to store first sequence setting. This will take Sequence number to 02
- Set the Run time as 020
- Use intersection simulation to define sequence
- Press `save` to store second sequence setting. This will take Sequence number to 03
- Set the Run time as 000 if no need for Sequence 03.
- Press `save`. This will return you to the current status state.

Step 5

Weekday Setting

Use the `function` key to switch the indicator light to Weekday setting.

Digit 1-2 represents the Time Period No. , Digit 3-6 represents the Start time and Digit 7-8 represents the Schedule number.

A day can be divided into several time periods and different Schedules can be applied to these different time periods. The reason for this function is to enable us change the schedule that will be run according to the time requirement of a particular intersection.

In the example below, we have set two time periods; Time period 01 and Time period 02. Time period 01 will start at 00:00 hrs and will run the schedule we defined earlier; Schedule 01.

Intelligent Traffic Signal Controller

Date Setting	<input type="radio"/>	Year		—	Month	—	Day
Time Setting	<input type="radio"/>	Hour	—	Minute	—	Second	Week
Flash Setting	<input type="radio"/>	— — — — —			Green FRT	Frequency	Amber RT
Weekday Setting	<input checked="" type="radio"/>	Time Period	—	Start Hour	Start Minute	—	Schedule Number
Weekend Setting	<input type="radio"/>	Time Period	—	Start Hour	Start Minute	—	Schedule Number
Schedule Definition	<input type="radio"/>	Schedule Number	— —	Sequence Number	—	Run Time	
Current Status	<input type="radio"/>	Schedule Number	—	Run Time	—	Time Remaining	

Adjust the time for green light when it is running

Digital Display

01-0000-01

Time period 02 will start at 22:00 hrs and will run schedule 31, which is All Amber Flashing.

Intelligent Traffic Signal Controller

Date Setting	<input type="radio"/>	Year		—	Month	—	Day
Time Setting	<input type="radio"/>	Hour	—	Minute	—	Second	Week
Flash Setting	<input type="radio"/>	— — — — —			Green FRT	Frequency	Amber RT
Weekday Setting	<input checked="" type="radio"/>	Time Period	—	Start Hour	Start Minute	—	Schedule Number
Weekend Setting	<input type="radio"/>	Time Period	—	Start Hour	Start Minute	—	Schedule Number
Schedule Definition	<input type="radio"/>	Schedule Number	— —	Sequence Number	—	Run Time	
Current Status	<input type="radio"/>	Schedule Number	—	Run Time	—	Time Remaining	

Adjust the time for green light when it is running

Digital Display

02-2200-31

Steps taken in example

01 comes up as the Time Period No.

- Set the Start time as 00:00

- Set the Schedule Number as 01

- Press `save` to store first setting. This will take Time Period No to 02

- Set the Start time as 22:00

- Set the Schedule Number as 31

- Press `save` to store second setting. This will take Time Period No to 03

-Set the Start time as 24:00. This is used to end the definition. It doesn't matter what the Schedule number is set to here.

- Press `save`. This will return you to the current status state.

Intelligent Traffic Signal Controller

Date Setting	<input type="radio"/>	Year		—	Month	—	Day	
Time Setting	<input type="radio"/>	Hour	—	Minute	—	Second	—	Week
Flash Setting	<input type="radio"/>	— — — —			Green FRT	Frequency	Amber RT	
Weekday Setting	<input checked="" type="radio"/>	Time Period	—	Start Hour	Start Minute	—	Schedule Number	
Weekend Setting	<input type="radio"/>	Time Period	—	Start Hour	Start Minute	—	Schedule Number	
Schedule Definition	<input type="radio"/>	Schedule Number	—	—	Sequence Number	—	Run Time	
Current Status	<input type="radio"/>	Schedule Number	—	—	Run Time	—	Time Remaining	

Adjust the time for green light when it is running

Digital Display **03-2400-01**

Step 6

Weekend Settings

This is the same process with defining the Weekday settings.

If you want to have the same working operations as the Weekday,

Time period: 01 Start time 24:00

This is default setting of the controller.

Current Status

This shows the current operating condition of the controller.

Digit 1 - 2 represent the Schedule number, Digit 3 - 5 represent the Run time for the current sequence and Digit 6 - 8 represent the time remaining for the sequence to be completed.

The run time can be changed while the controller is operating but the change will take effect only after a cycle has been completed.

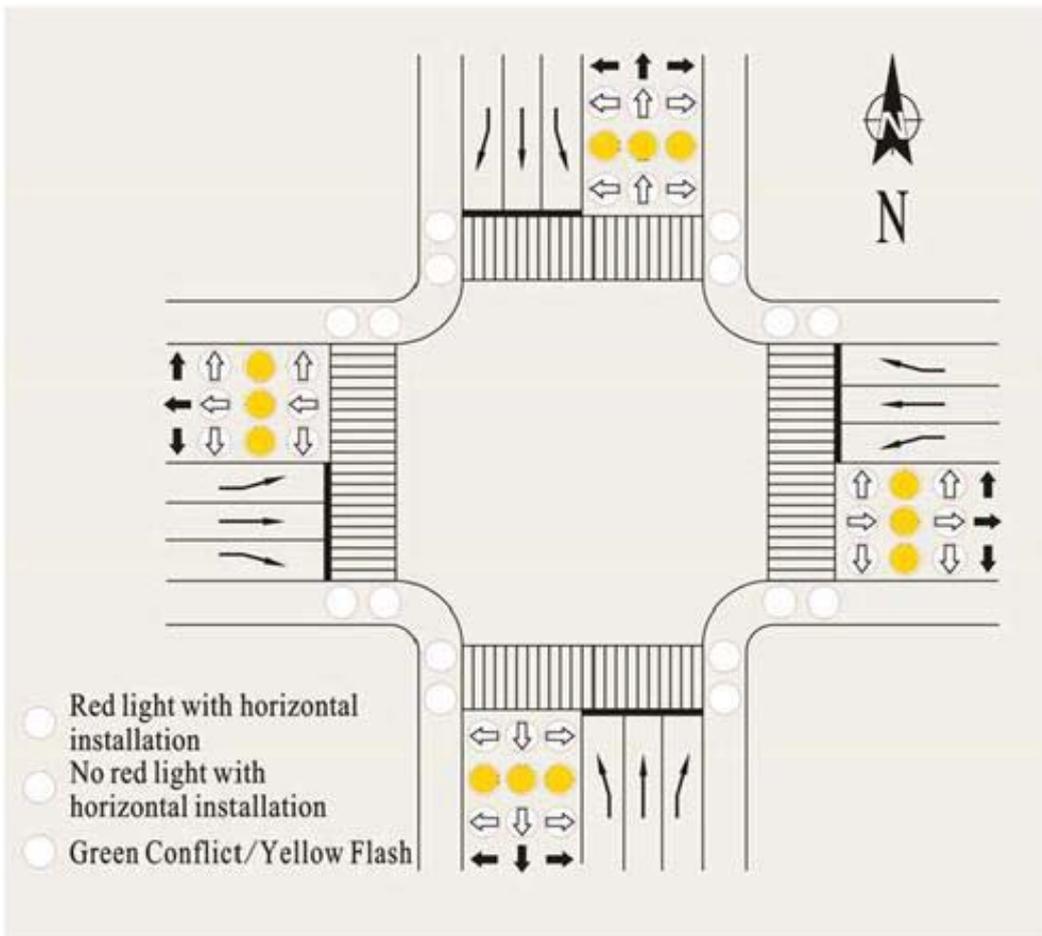
The screenshot displays the 'Intelligent Traffic Signal Controller' interface. It features a settings table and a digital display. The 'Current Status' row in the table is highlighted with a red dot, and an arrow points from a text box 'Adjust the time for green light when it is running' to the 'Run Time' field in this row. The digital display shows the number '30-018-015' in red.

Intelligent Traffic Signal Controller							
Date Setting	<input type="radio"/>	Year		—	Month	—	Day
Time Setting	<input type="radio"/>	Hour	—	Minute	—	Second	—
Flash Setting	<input type="radio"/>	—	—	—	—	Green FRT	Amber RT
Weekday Setting	<input type="radio"/>	Time Period	—	Start Hour	Start Minute	—	Schedule Number
Weekend Setting	<input type="radio"/>	Time Period	—	Start Hour	Start Minute	—	Schedule Number
Schedule Definition	<input type="radio"/>	Schedule Number	—	Sequence Number	—	Run Time	
Current Status	<input checked="" type="radio"/>	Schedule Number	—	Run Time	—	Time Remaining	

Adjust the time for green light when it is running

Digital Display **30-018-015**

Yellow



All traffic lights can be made to flash amber by pressing the `yellow` key. This is usually used in cases of emergency or when a light has failed or maintenance work needs to be carried out.

VIII Notes about Special Working Period

- (1) If only one schedule runs for a day, you only need to set the start time as 00:00 and use the Schedule you would like to run. Then, set the start time of the next time period to 24:00 and use any Schedule number. Be sure to save the setting under "Weekday Setting".
- (2) Schedule 31 is pre-programmed to "All Amber Flashing".
- (3) Schedule 32 is pre-programmed to "All lights Power-off".
- (4) "Weekend Setting" can be set according to "Weekday Setting" procedures.
- (5) About installation: 22、44 outputs controllers are pre-set to be in vertical installation; 14、32 outputs controllers are pre-set to be in horizontal installation without red light.

IX Factory Default Setting

From 00:00 to 24:00 gives road access to Schedule 30.

Schedule 30 will release vehicles indicated by the following lights:

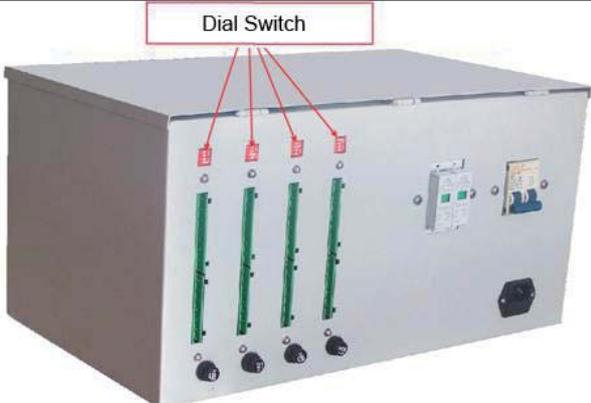
- (1)、Left green light in East、Right green light in East、Left green light in West、Right green light in West/
Run time 9 seconds
- (2)、Straight green light in East、Straight green light in West、Green Pedestrian in South、Green Pedestrian

in North/ Run time 9 seconds

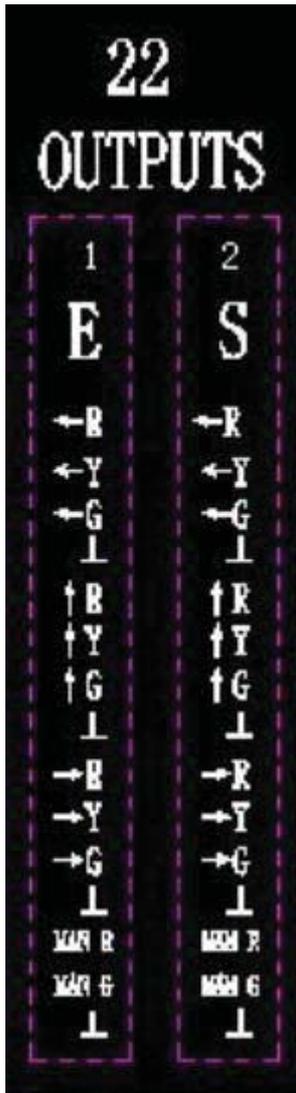
(3)、Left green light in South、Right green light in South、Left green light in North、Right green light in North / Run time 9 seconds

(4)、Straight green light in South、Straight green light in North、Green pedestrian in East、Green pedestrian in West/ Run time 9 seconds

XI Common Failures of the Controller and Corresponding Solutions

No.	Failure	Solutions
1	The controller doesn't work and has no power.	<div style="text-align: center;">  </div> <p>The fuse may be cut off. Users need to use a fuse of 5A or main fuse of 10A to change it. Main fuse is in the power socket.</p>
2	The signal lights in the road intersection keep flashing amber and it is because of setting.	<p>(1) The lights switched to green may give road access to vehicles in conflict directions. That's to say, there is Green Conflict. The indicator light of "Green Conflict" will be on. Users need to reset the green lights.</p> <p>(2) Something wrong may happen to the output dial switch</p>
3	Lights in the road intersection are not working the same as that of the simulated intersection of the controller.	<div style="text-align: center;">  </div> <p>Check the dial switch of the output drive board: East----1:ON 2:OFF 3:OFF 4:OFF South----1:OFF 2:ON 3:OFF 4:OFF West----1:OFF 2:OFF 3:ON 4:OFF North----1:OFF 2:OFF 3:OFF 4:ON</p>

XII Cable Connection of the Controller with Lights



←Terminals of the Two Drive Boards

Instructions: E-East direction S-South Direction

←R connected to “Red vehicle (ball or arrow) lamps indicating the left direction”

←Y connected to “Yellow vehicle (ball or arrow) lamps indicating the left direction”

←G connected to “Green vehicle (ball or arrow) lamps indicating the left direction”

⊥ connected to “Grounding Cable”.

↑ R connected to “Red vehicle (ball or arrow) lamps indicating the straight direction”

↑ Y connected to “Yellow vehicle (ball or arrow) lamps indicating the straight direction”

↑ G connected to “Green vehicle (ball or arrow) lamps indicating the straight direction”

→R connected to “Red vehicle (ball or arrow) lamps indicating the right direction”

→Y connected to “Yellow vehicle (ball or arrow) lamps indicating the right direction”

→G connected to “Green vehicle (ball or arrow) lamps indicating the right direction”

Man R connected to “Red Pedestrian Lamps”

Man G connected to “Green Pedestrian Lamps”

XIII Checklist of the Controller

Check Items:

No.:

No.	Check Item	Result	Remark
1	Appearance		
2	Date and time setting by keys		
3	Green and Amber flash setting by keys		
4	Peacetime Project and Holiday Project setting by keys		
5	Menu setting by keys		
6	Change the time under current operating status		
7	About installation Setting		
8	Yellow flashing		
9	Manual control		
10	Green conflict		
11	Factory default setting		
12	Light group drive		

13	Lightning-protection device		
14	Switch-on and Cut-off		
15	Aging for 72 hours		
16	Instruction and Certificate		
17	Output wire-connection terminal		
Inspection Result before Delivery			