

HLK-SW2 User Manual

Serial to Ethernet



Shenzhen Hi-Link electronic Co., LTD





1 Summary

HLK-SW2 is a new professional remote control terminal launched by Hi-Link electronic , is a realization of TCP through the gateway and establishes communication connection with the remote device, it can be based on without modifying the original protocol, to realize the connection of network client and equipment directly, save the development cycle, enhance the user experience.

Compared with the traditional dynamic domain name plus router port mapping mode,has the incomparable superiority, for the user saving the application of dynamic domain name, the router port mapping and frequent operation, make equipment to achieve the plug-in effect.

1.1 Technical Specifications:

Table1 HLK-SW2 Technical Specifications

Basic Parameters	
Network standard	wireless: IEEE 802.11n、IEEE 802.11g、IEEE 802.11b
	wired: IEEE 802.3、IEEE 802.3u
Wireless transmission rate	11n:maximum up to 150Mbps
	11g:maximum up to 54Mbps
	11b:maximum up to 11Mbps
Tracks number	1-14
Frequency range	2.4-2.4835G
Emission power	12-15DBM
Interface	1 Ethernet,1 5V power interface
Antenna	
Antenna type	External Antenna(5DBi or 2DBi circular smart antenna)
Functional Parameters	
WIFI Work Mode	Client/AP/Router
WDS Function	Support WDS wireless bridge connection
Wireless security	Wireless MAC address filtering
	Wireless security function switch
	64/128/152 bit WEP encryption
	WPA -PSK/WPA2-PSK、WPA/WPA2 security mechanism

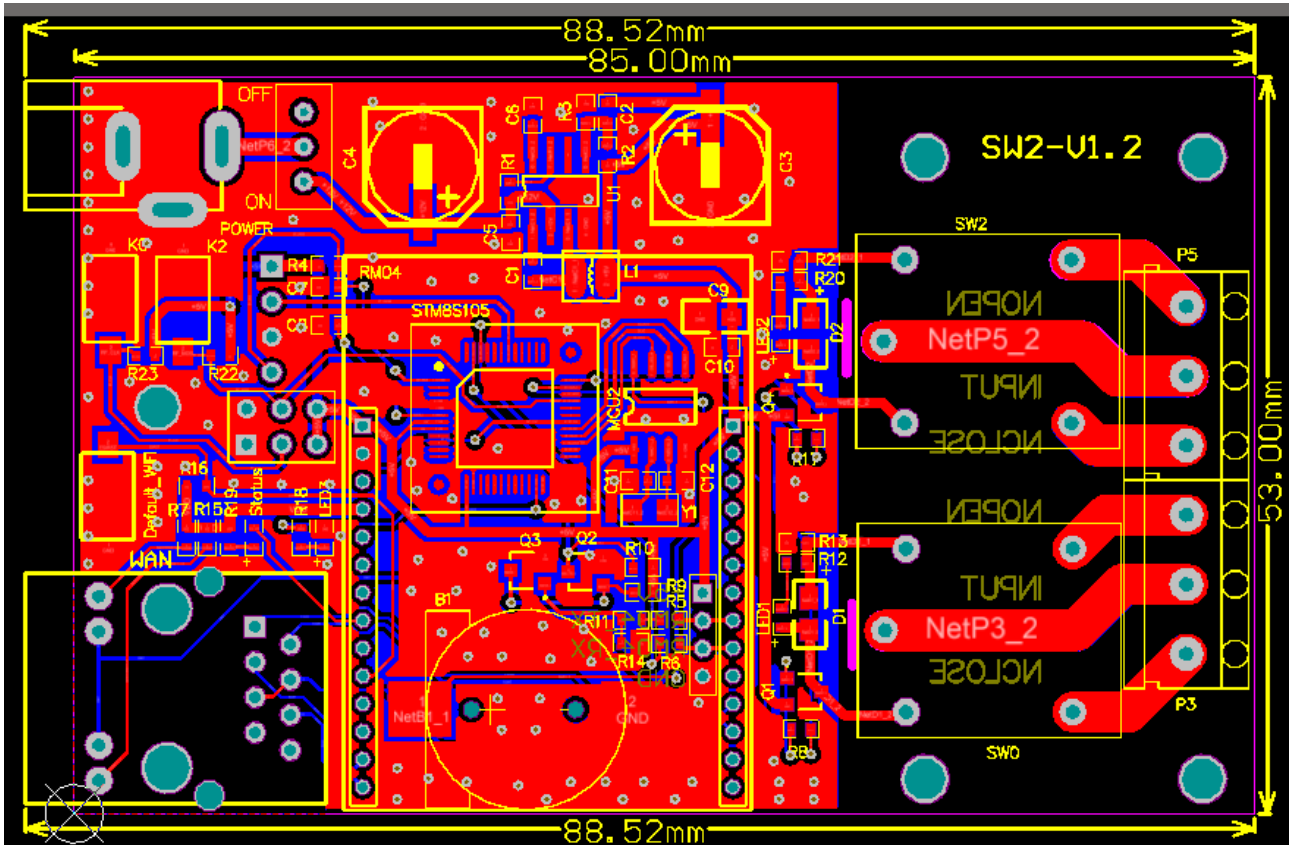


Network management	Remote Web management
	Configuration file import and export
	WEB software upgrade
Other Parameters	
Status indicator	Status indicator
Environmental standard	Operating temperature: -20-70℃
	Operating humidity: 10%-90%RH (unfrozen)
	Storage temperature: -40-80℃
	Storage humidity: 5%-90%RH (unfrozen)
Additional properties	Frequency bandwidth optional: 20MHz、40MHz, Automatic

1.2 Electrical Characteristics

- Input Power: 5V~12V
- Input Current: 1A
- Relay Maximum input voltage: 220V
- Relay Maximum Input Current: 10A
- Input and output: 2 outputs 2 inputs
- Default IP: 192.168.16.254
- The default port number: 8080

1.3 Dimensions

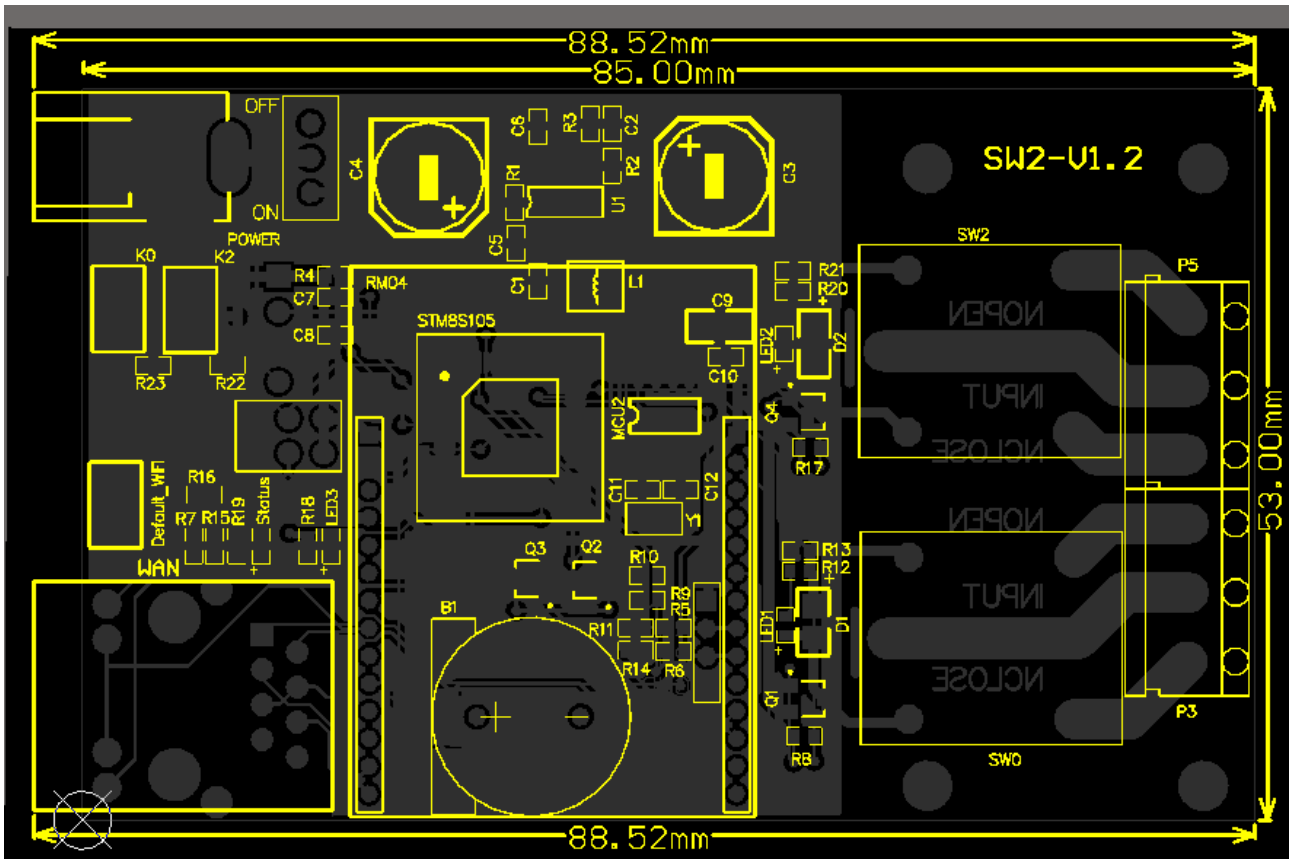


HLK-SW2 Dimension (TOP view)

Note: 85×53×19mm

1.4 Hardware instruction

Some features of based board are shown below :



HLK-SW2 General development start kit

Interface introduction




Function	Name	Tag No.	Description
Outside interface	DC power	Power	DC input, voltage range:5~12V
	Status Light	LED3	Micro controller running status lights, 1 second flash once
	Network port	WAN	Connected to the LAN port of router
	Binding Post	P1-P8	2 way 220v, 10A relay
LED	Status	STA	Indicates the connection status of the client and the server:



			ON: client and server has been connected Off: client and server is not connected Flashing: The client and server is going on data communication
	WIFI	WIFI	WIFI indicator, when WIFI working, WIFI light starts blinking, if it has data transmission , accelerate flashes
	LED1~ 2	LED1~ 2	Indicates the Work status of relay ON: relay works OFF: relay break
Button	RST_MCU	RST	MCU reset
	Default_WIFI	Default	Long press (more than 6 seconds):restore factory default settings
	Button K0	K0	Control relay SW0
	Button K2	K2	Control relay SW2

1.5 Typical Application

- ◆ Handheld device
- ◆ Remote control
- ◆ Consumer Electronics
- ◆ IOT application
- ◆ Industial control
- ◆ Medical device
- ◆ LED control
- ◆ Sensor network application

Note:To ensure the normal operation, please ensure that you have bought our HLK-SW16 development kit. As shown below

 <p>A small blue PCB module with a white label. The label contains the text: "Hi-Link", "UART WIFI MODULE", "MAC: 44334CB70634", "MAC: 44334CB70635", "FCC CE RoHS", and "FCC ID: Z10VRLK-RM04".</p>	HLK-RM04 module
 <p>A blue PCB board with various components. It features a black power jack, a silver capacitor, a blue integrated circuit, and two blue modules labeled "SRD-05VDC-SL-C". A silver battery is attached to the bottom left.</p>	HLK-SW2 based board
 <p>A thin, black, flexible antenna with a small metal tip at one end and a black plastic base at the other.</p>	2.4G flexible antenna

	5V 2000mA power supply
	Network Cable (optional)

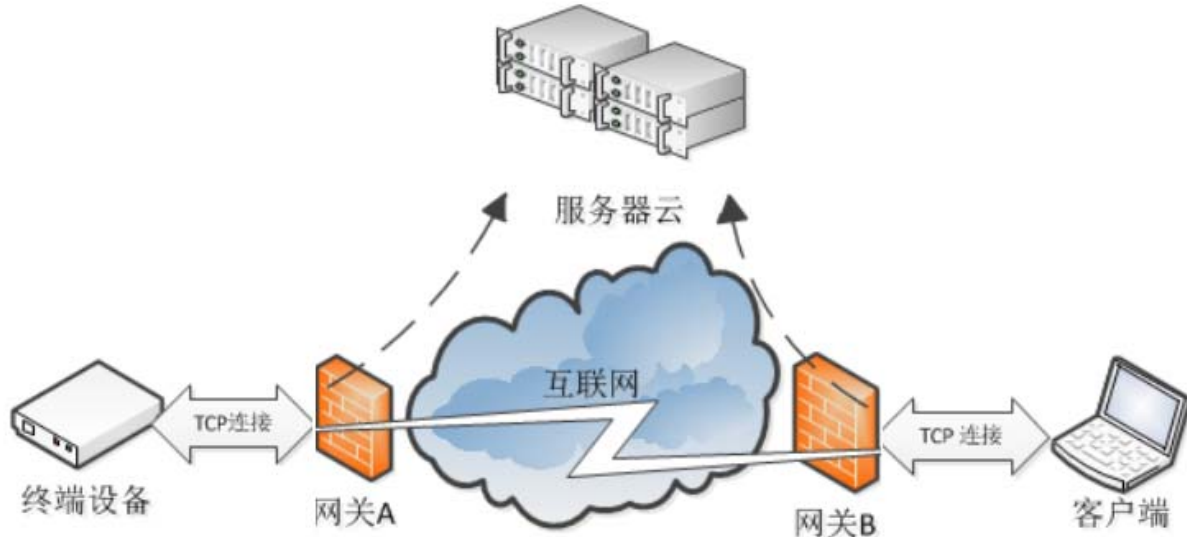
Please connect the module well as the way shown in the followed picture:



Please note the direction that the HLK-RM04 module plug in the carrier board!

2.12.1 System principle.

The whole system consists of server, terminal program and client components, as shown in fig:



1) server

Receiving device and client registration, to assist the client to find equipment and establish the connection

2) device

Automatically connect to the server after the device is started

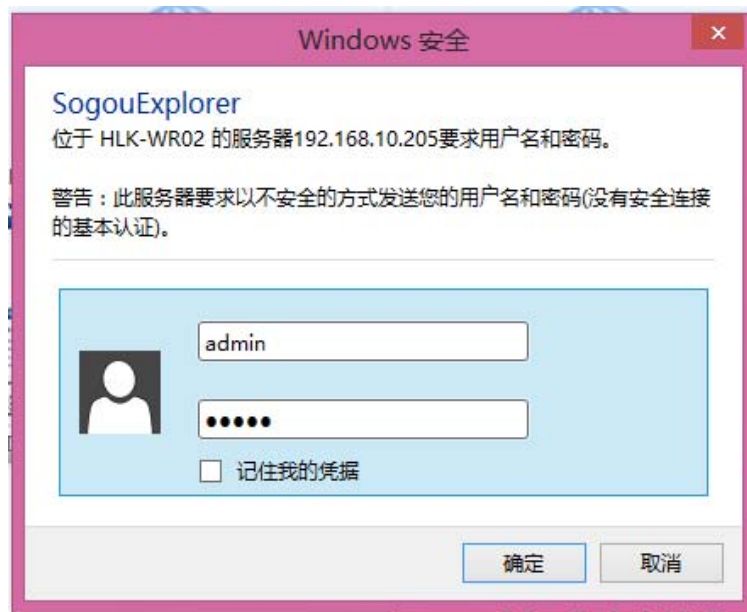
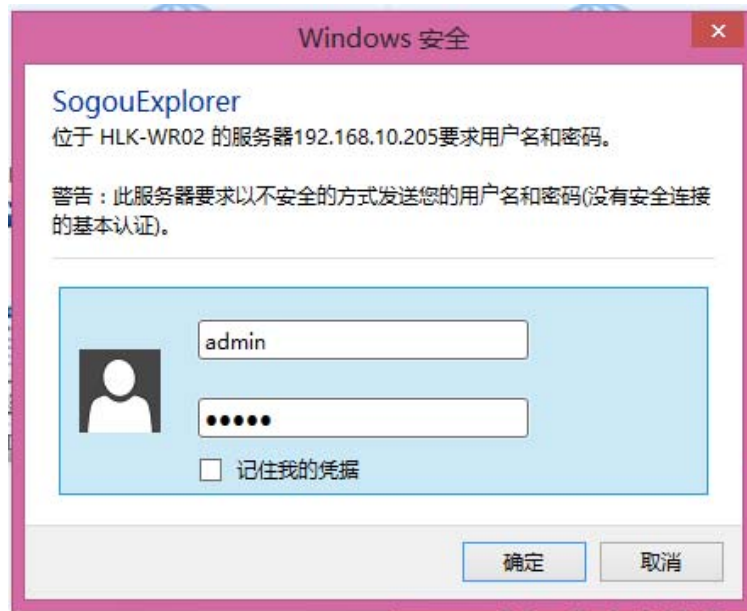
3) the client

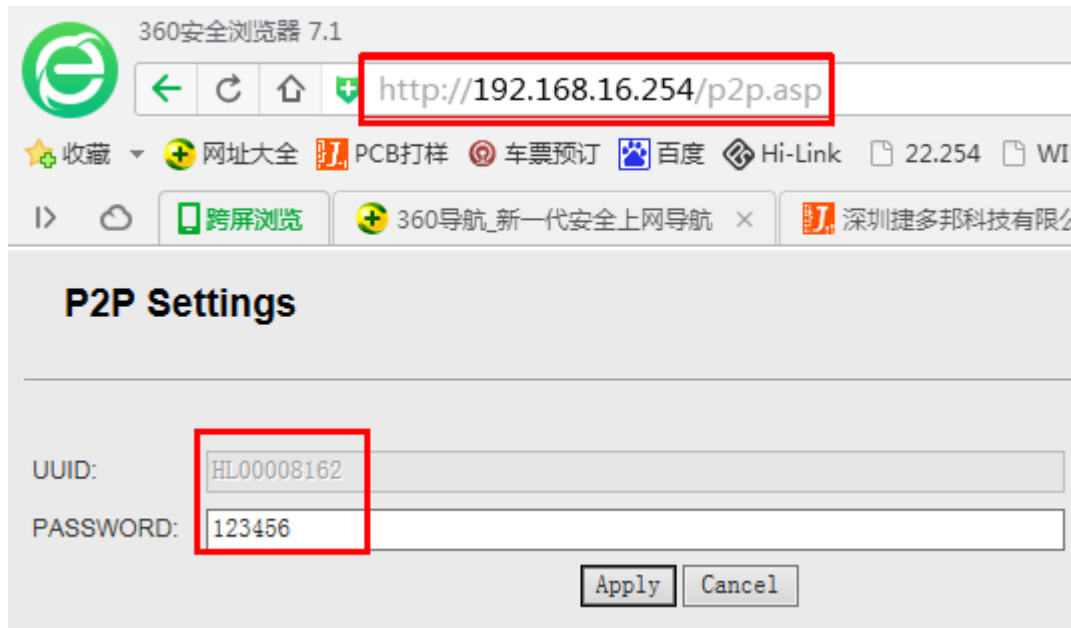
Run the client will automatically connect to the server, to establish a connection to terminal equipment with the aid of a server.

2.2 Look over the module P2P account and password

1. To ensure that the RM04 module is in the factory default settings. Method for Restore factory settings: to power on the module , wait for about 35 seconds. Then press the **Exit/Default** button on the based board more than 6 seconds, then the module will restart automatically.
2. Power on the module again, waiting for 35S, the LEDs on the module flashing .
3. Computer connected the WIFI on the module, SSID: Hi-Link_XXXX, password: 12345678.

4. Enter the 192.168.16.254/p2p.asp in your computer's web browser,enter the user name admin,password admin, click OK. To view account and password; at the same time, can change the password on this interface (account can not be modified). Shown as the following diagram:





(Note: the account and passwords are case sensitive! ! !)

2.5 Open P2P software, enter the account number and password, and click Connect, as shown in the picture below:

1.Connection

If SW16 module in the LAN, then the software will automatically connect to the module through LAN,otherwise,the software will automatically connect to the module through remote way .

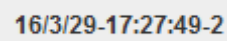


Note: This picture shows is the PC side, If you use mobile client,just as same way.

2.Connection Status Displays



The lowermost interface  displays the connection status.

3.Time Displays

The bottom screen display items  shows the current time

4.On And Off

Click the button  Can control the opening and closing of the relay 0, click the all open

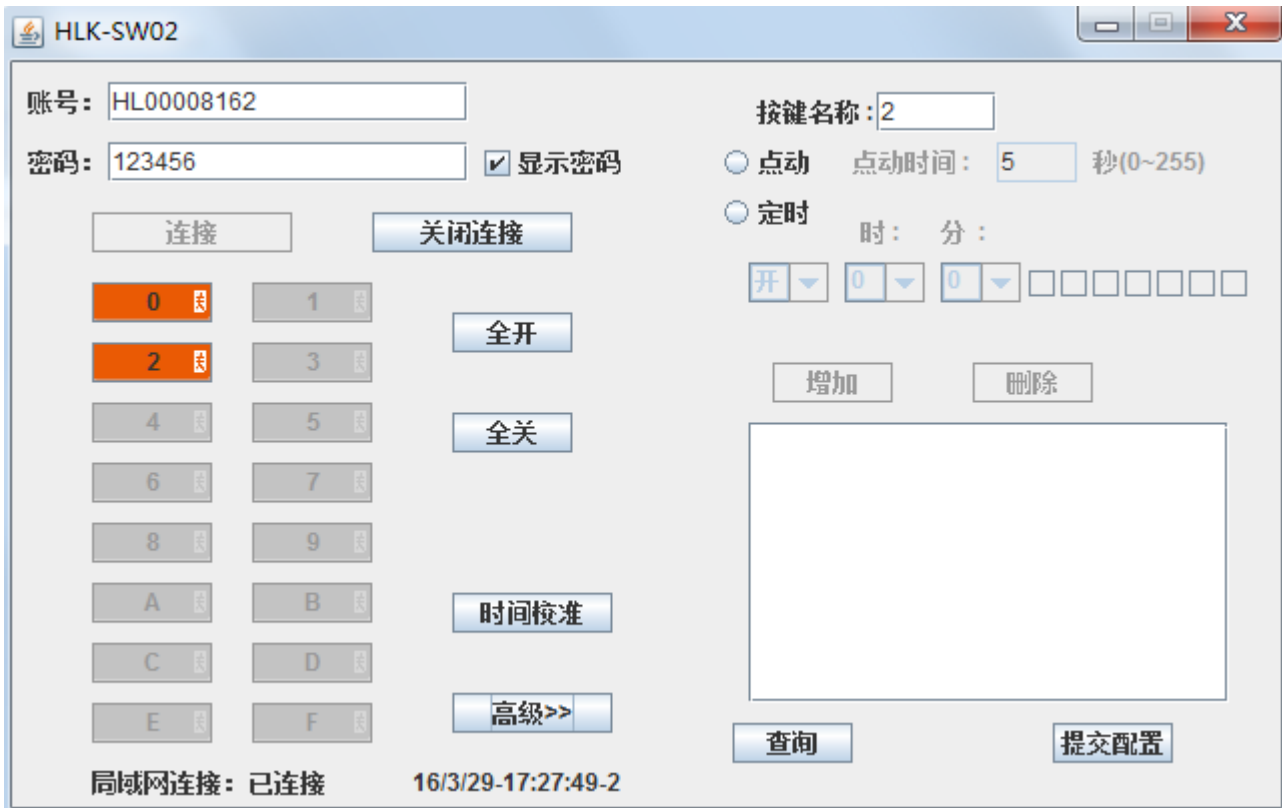
 all closed ,the 16 groups can be fully open and fully closed.

5.Time calibration

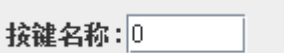


SW2 comes with clock chip, you can click  button to upgrade the time.

6.Advanced


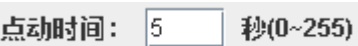

Click the Advanced button to expand the interface,from where you can control corresponding properties through the button.Shown as below:




7.Modify button' s name

Firstly,you need to click on the button 0,in the place here  will show the name of this button,, modify the 0 to TV ,Then click the  button,after that you will find the button 0 become to TV  already.

8.Set inching function

Firstly choose one button you want to set for, click on the button ,in the inching time item  input the time you want to set,like 5,then click the button commit 

If the pop-up prompt window reads:  it means you already set the inching function successfully.

When you open the button,it will close automatically after 5 second.

9.Set the timer function

First choose the button you want,like 0,select timer 定时 ,then you can set timer function now., if you want to set the time to 8am On Monday,set it firstly

开 ▼ 8 ▼ 0 ▼
周一,

,then click the add button ,Then you will get the clue:

添加定时成功

,at this time,the time you add will show in the time list: ,click

the submit button: ,when you get the pop-up window: ,it shows the timer function for 0 have finished.On Monday 8AM,the relay for button 0 will open auto.If you want delete

it,just choose the time in the list: ,then click delete button ,you will get

clue window : ,it means the time have been deleted.

10.Remove the inching and timer function

First,click the button like 0,then choose the button 点动 or 定时 , then click the submit button,if you see the window ,which shows you have remove it succesfully.

11.Inquiry

Fist click the button like 0,hen click on the inquiry button: ,ou can see the parameters of button 0.