



**SHENZHEN HI-LINK ELECTRONIC CO.,LTD**

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# **HLK-SW04 User Manual**

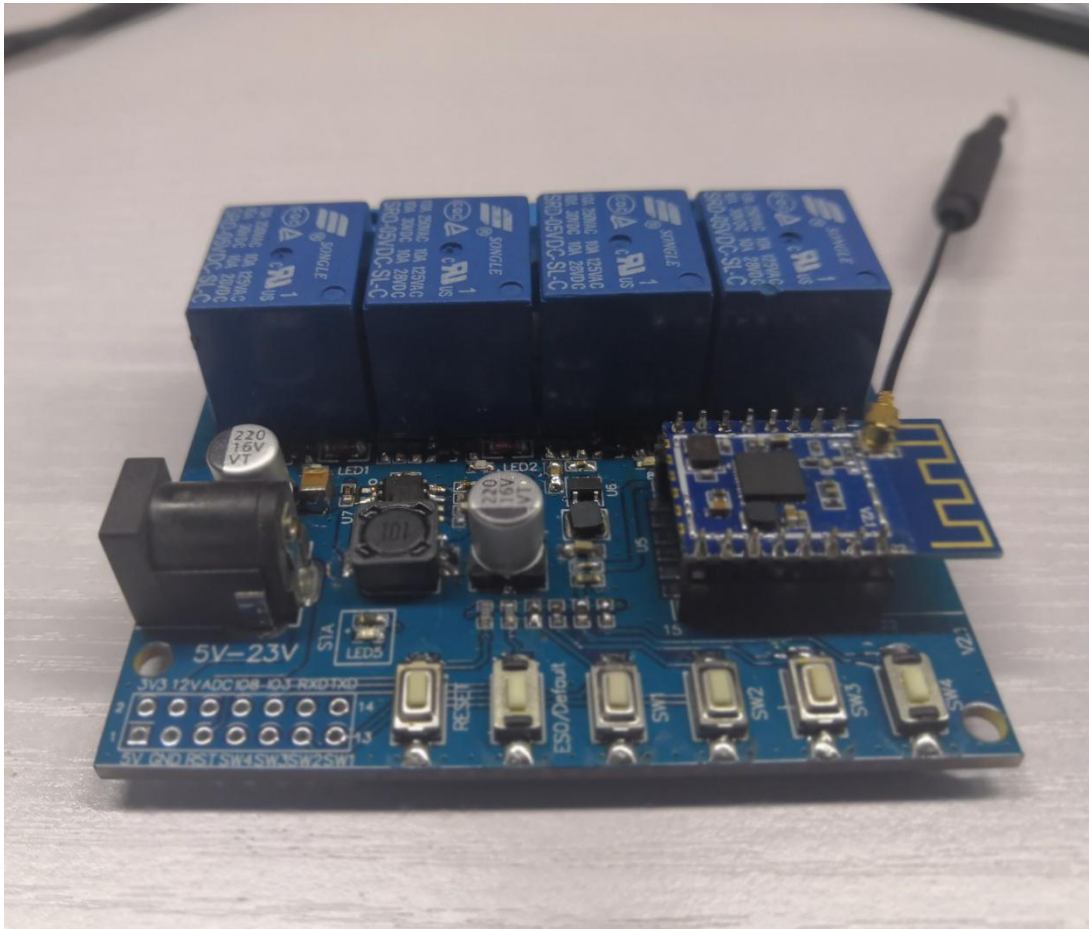
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## 1. Summary

HLK-SW04 is a 4-way relay controller.

The controller is docked with the Alibaba Cloud Living Object-Union Platform, The relay support Android、 iOS, Can realize remote or local area network control relay switch, timing and countdown operation,support intelligent speaker control the switch of relay,such as Tmall elves.



Pic 1. HLK-SW04 real object diagram

### Product characteristics:

- service voltage DC5-24V input wide voltage;
- Relay output contacts are isolated.;
- Each relay has a separate keystroke switch;
- The main controller is HLK-M50,High performance-price ratio embedded Serial Port-WiFi Transmission Module;
- Support Android、 iOS;
- Rich connection mode and distribution network mode, support local area network and remote control, support AP distribution network and one-key configuration;

## 2. Hardware description

### 2.1 network characteristic

The relay controller is based on HLK-M50 module. HLK-M50 is a cost-effective embedded serial port-WiFi transmission module developed by HI-LINK Electronics. The module has built-in TCP/IP protocol stack, which can realize the conversion between user serial port and wireless network (WIFI) interface, and can transmit data between serial port and network TCP/UDP connection.

**The following table is the parameter specification table for the WiFi module:**

Network Parameter	
Network standard	Wireless standard: IEEE 802.11n、IEEE 802.11g、IEEE 802.11b
Wireless transmission rate	11n:Up to 150Mbps 11g:Up to 54Mbps 11b:Up to 11Mbps
Channel Number	1~11
Frequency range	2.4~2.4835G
Transmitting power	15~20 dBm
Connect Port	1 USB、1 usb port (host)、GPIO
Antenna	
Antenna type	Plate-borne antenna/External antenna
Functional parameter	
WIFI work pattern	STA/AP
Wireless security	64/128/152 位WEP encryption
	WEP、WPA、WPA2 (CCMP、TKIP) security mechanism (Only support WPA2-CCMP in AP mode)
Configuration mode	Serial AT command
Serial Port to Network	
Network Connection Type	TCP Server/TCP Client/ UDP Server/ UDP Client
Maximum number of connections under the TCP Server	5
Serial port baud rate	1200~3000000bps
Other parameters	
Status indicator	A state indicates the output.
	Working temp: -20~70℃
	Working humidity: 10%~90%RH (non condensing )

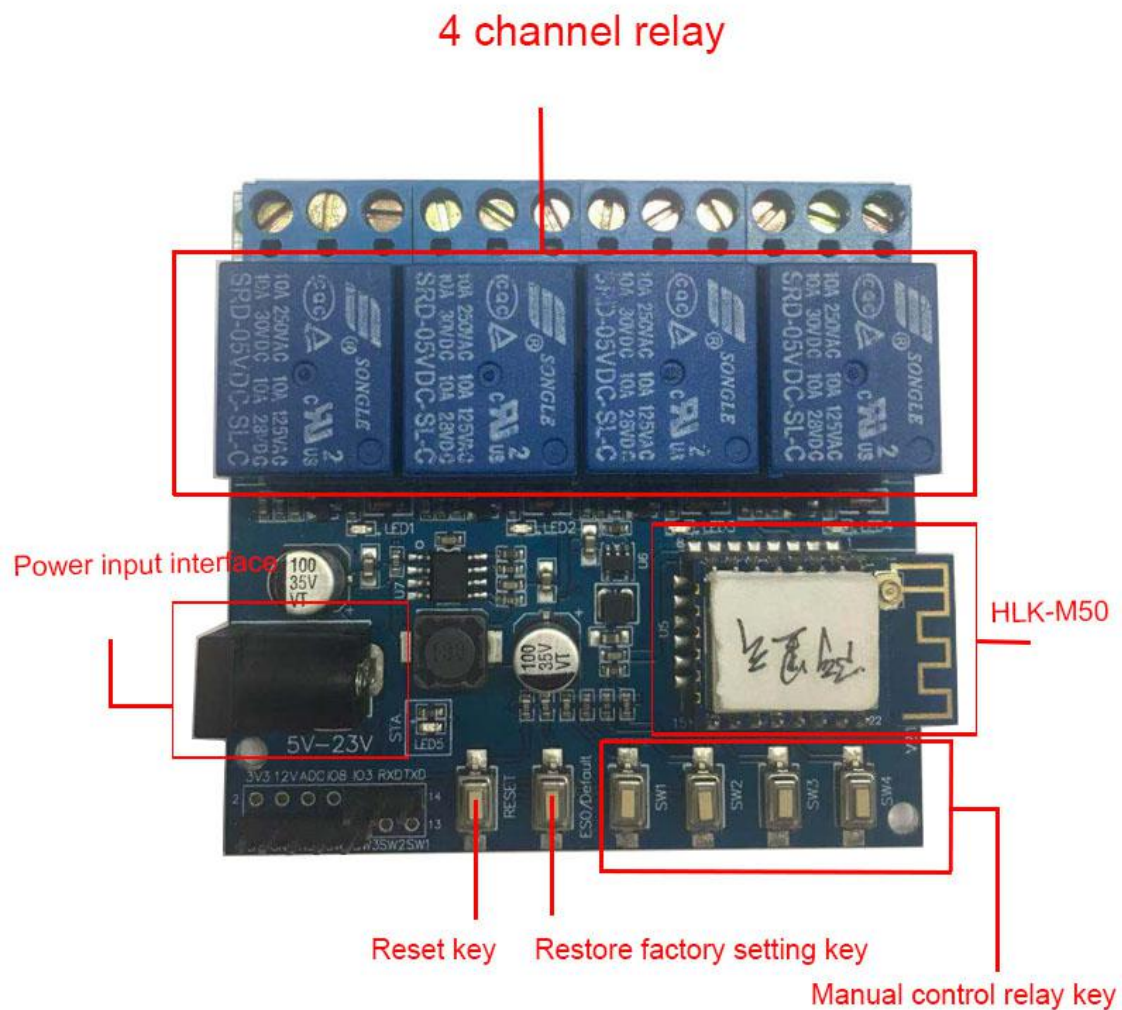
Environmental criteria	Storage temp: -40~80℃
	Storage humidity: 5%~90%RH (non condensing )
Other performance	Band bandwidth: 20MHz、40MHz, automatic

**Form 1. WiFi module parameter specification table**

## 2.2 Hardware parameters

- Input power supply: 5-23V
- Input current: 2A
- Maximum input voltage: 220v
- Maximum input current: 10A
- Input and output: 4 channel output

Some functions of the hardware are shown in the below.:



**Form 2. HLK-SW04 Hardware function diagram**

## 2.3 Indicator light and keystroke function

### Indicator light:

Indicator effect	Status Description
Periodically, quickly shine three times.	Invalid module activation code
Periodically, quickly shine twice.	The distribution network mode can be distributed and bound by the APP as the module distribution network
Continuous slow flash (bright 1s close 1s)	The module is trying to connect to WiFi hotspots
Continuous flash	The module normally attempts to connect to Ali-cloud
Still light	Modules are connected to Ali-cloud

### Key:

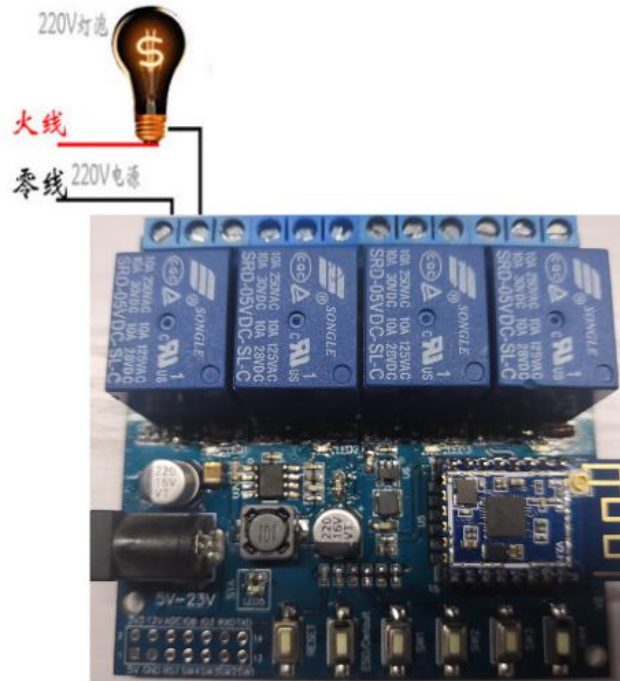
Name	Functional description
RST	Short press, Controller hardware reset
ES0/Default	Long press 6-10s, Clear distribution network information, redistribute network

## 3. Application area

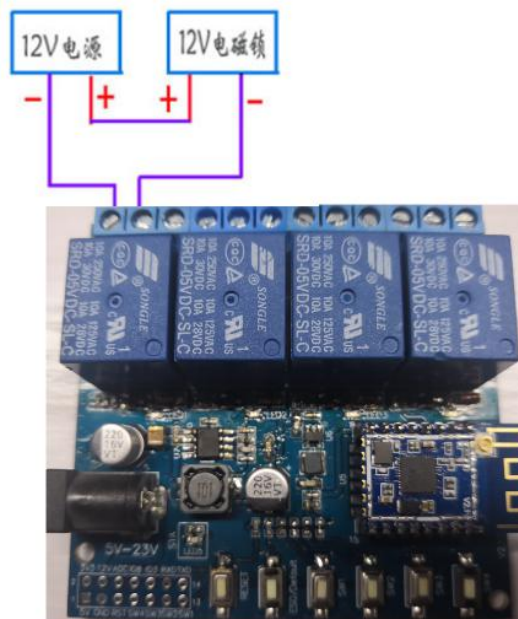
The relay is a widely-used product, and the relay can be used in communication equipment, automatic device, household electric appliance, automobile electronic device and other places where the circuit conversion function is required. It is widely used in household appliance products, such as air conditioner, color TV, refrigerator, washing machine, etc. it is also applied to industrial automation control and instrument.

The relay controller with a contact capacity of 250VAC 10A/30VDC 10A can directly control DC equipment below DC30V, such as: solenoid valve, access control switch, dry contact switch equipment, also can control household 220V equipment, such as: electric light, air conditioning, socket, water heater, etc.

### 1、Schematic diagram of connection between controller and light bulb:



2、 Schematic diagram of connection between controller and electromagnetic lock:



#### 4. APP using instructions

Download and install the cloud smart app and login in(Download the QR code as follows):



扫二维码  
下载手机客户端  
(国内用户版)

#### 4.1 .One-key configuration networking

Use app to carry on the one-key distribution network operation, confirm that the equipment is in the distribution network state (through the indicator light) before the distribution network, if the device is not in the distribution network state, first carry on the equipment recovery default operation to make the device enter the distribution network state.。

Restore the default operation method: long press ES0 key to 6s-10s.

Distribution network interface, to scan the QR code of the equipment distribution network in the adding device interface.

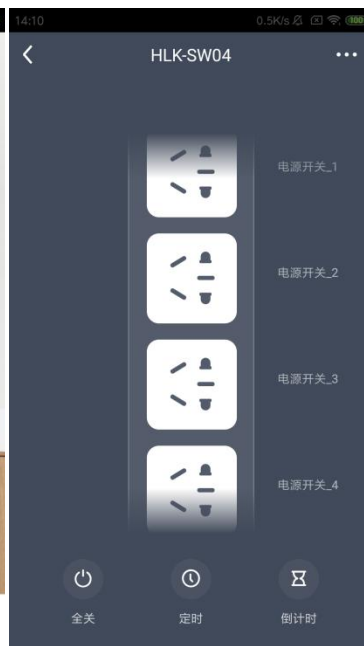
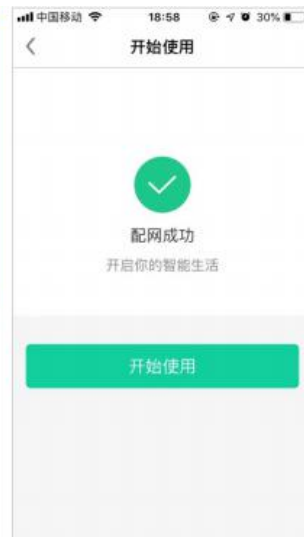
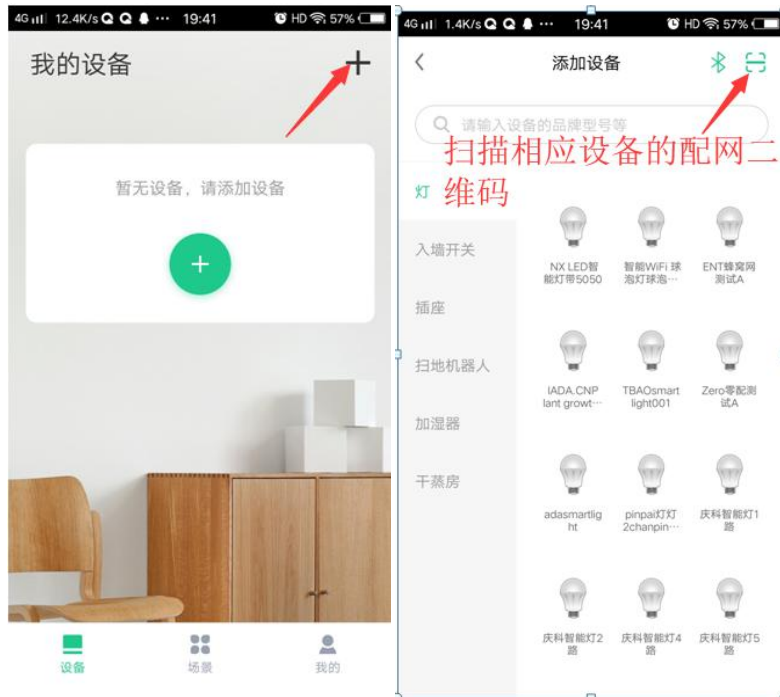
**The two-dimension code of the distribution network of the scanning equipment enters the distribution:**

国际版配网二维码

可将二维码印在产品包装上，便于用户使用公版  
App 扫码配网

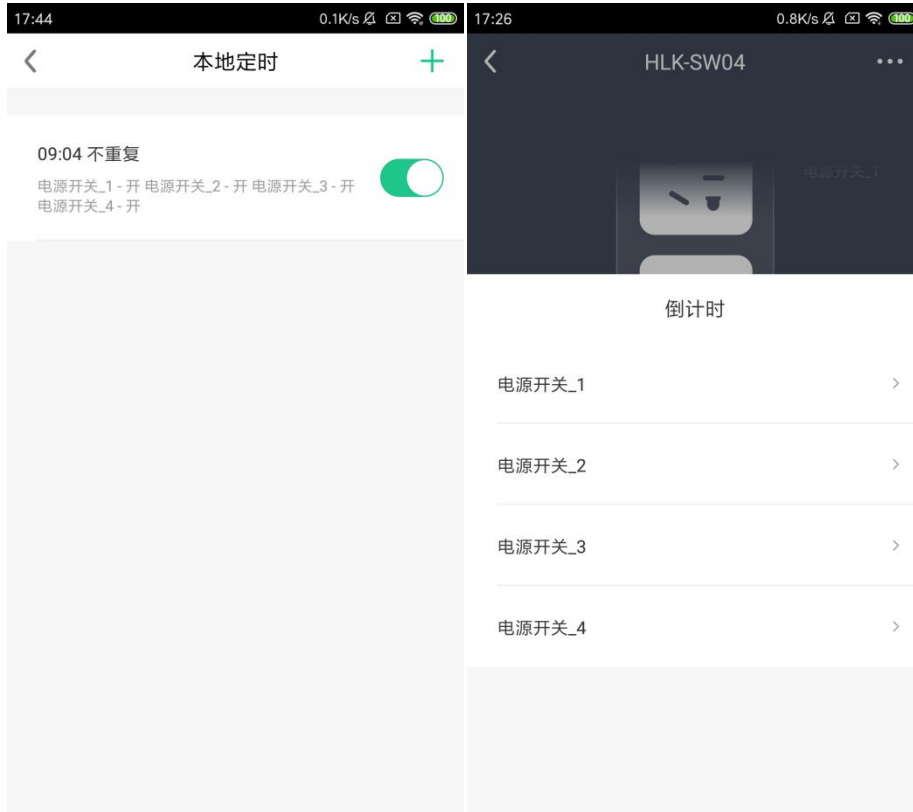






## 4.2 Set relay countdown and timing

After the APP display device is online, the timing and countdown can be set, the countdown setting can be set up separately, the timing setting can be set up separately, and the timing setting can be set up separately, or multiple relays can be set up.



## 4.3. Third party platform access

At present, firmware uses ICA standard data format for device control by default. Smart home applications also provide connectivity for users with third-party control centers. At present, they have supported the access of multiple platforms of Tmall Elf, Amazon Echo, Google Home, IFTTT to achieve unified control.

Device sharing function: Select a share at the "my device" interface, after entering the share, select the device that needs to be shared, enter the account number of the cloud smart app of the other party, and select submit.

Using demo video links:

[https://v.youku.com/v\\_show/id\\_XNDE3NTY1NzM2NA==.html?spm=a2h3j.8428770.3416059.1](https://v.youku.com/v_show/id_XNDE3NTY1NzM2NA==.html?spm=a2h3j.8428770.3416059.1)

[https://v.youku.com/v\\_show/id\\_XNDE3NTYyMDQwNA==.html?spm=a2h3j.8428770.3416059.1](https://v.youku.com/v_show/id_XNDE3NTYyMDQwNA==.html?spm=a2h3j.8428770.3416059.1)

## **International Release Notes:**

HLK-SW04 international version, When you select different country areas or international registration accounts according to different regions, pay attention to the selection of overseas areas (Overseas accounts connect to Ali-cloud International Station by default)

### **5. Revised record**

<b>Date</b>	<b>Version</b>	<b>Modify content</b>
2018-8-10	1.0	Initial version
2019-5-10	1.4	Update the distribution network two-dimension code and increase the presentation video link
2019-5-22	1.5	To update the steps to enter the distribution network interface
2019-5-25	1.6	Update the QR code and description of the international version of the distribution network

## 6. Technical support and contact information



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