

# IOT Relay User Manual

## V1.8

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# 1 Product Overview

## 1.1 Overview

Support multiple channel relay, On/OFF/Jogging/Delay.

Support multiple interface RJ45/RS485/CAN/WIFI

Support HTTP GET CGI/UDP/TCP Server/TCP Client

10/100Mbps ethernet, Auto-MDIX,DHCP ip,Static IP

Local Button control(SelfLock/Jogging/Delay)

PC config and control

WEB config and control

Support password.

Support Modbus-RTU/ASCII/TCP/UDP

Support Modbus-RTU Over TCP/UDP

Support Modbus-ASCII Over TCP/UDP

Support MQTT(Only Ethernet)

Support CoAP

Home Automation System Support:

Name	How to
Domoticz	<a href="#">Appendix II How to use Domoticz</a> <a href="https://github.com/dtlzp/Domoticz-Dingtian-Relay-Plugin">https://github.com/dtlzp/Domoticz-Dingtian-Relay-Plugin</a>

SDK download address:

[ftp://ftp.dingtian-tech.com/relay\\_sdk.zip](ftp://ftp.dingtian-tech.com/relay_sdk.zip)

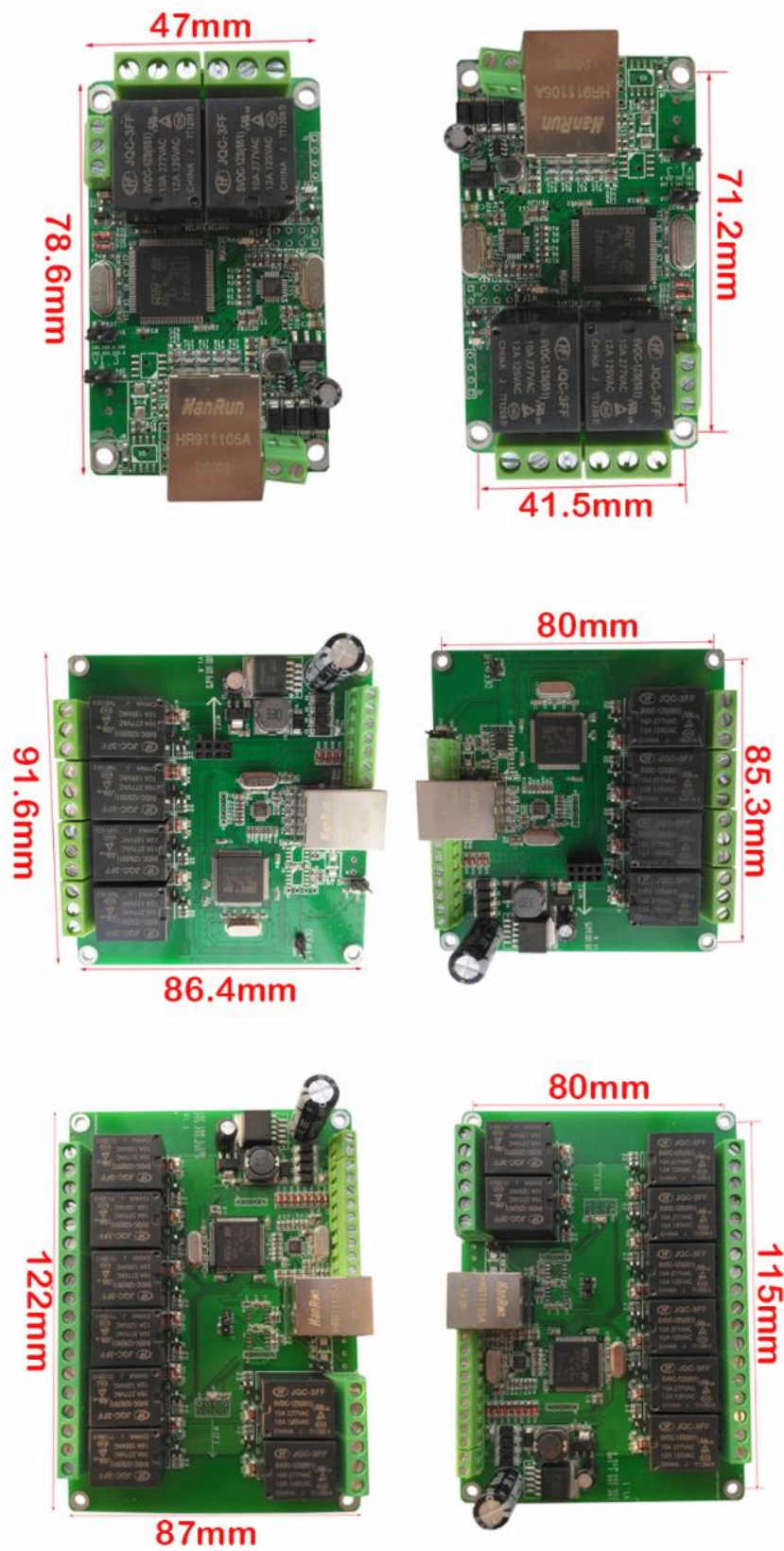
## 1.2 Technical Parameters

Network	Interface	RJ45/ RS485/CAN/WIFI
	Baudrate	100M/115200bps/125kbps/150Mbps
	Protocol	TCP server/client, UDP HTTP GET CGI, Modbus-RTU/ASCII/TCP/UDP Modbus-RTU Over TCP/UDP Modbus-ASCII Over TCP/UDP MQTT(only Ethernet) CoAP
Output	Relay Power	AC 250V/10A,DC 30V/10A
	Contacts	Normally Close Normally Open

	Delay	1~65535 seconds
	Momentary	Pull in 0.5 seconds, automatically release
Working environment	Operating temperature	0~+85°C
Power	Power Specifications	12V DC
	Current	500mA@12V DC At least 1A/12V adapter fill Voltage and current(Please satisfy)
	Power consumption	5W

## 2 Image and Size

Hole size: 3.5mm



## 3 Interface Description

### 3.1 LED

wifi led	on: Connect WiFi success off: Not Connect Wifi
CH1-CH8 led	on: relay on off: relay off

### 3.2 Relay Contact

Each set of relay outputs has three terminals: normally open contact, common terminal and normally closed contact. The contact capacity is AC 250V10A, DC 30V10A, and the output of controlling higher power requires external contactor.

- Normally open contact:

When the relay is released (or the module is powered off), the common terminal is disconnected from the normally open contact. After the suction is closed, the two contacts are closed.

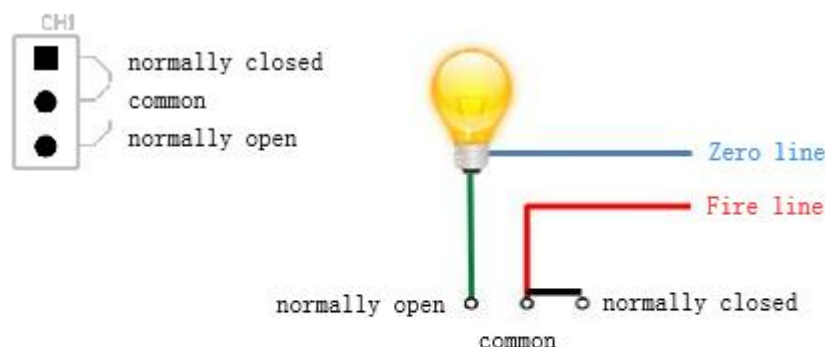
- Common:

Controlled power input

- Normally closed contact:

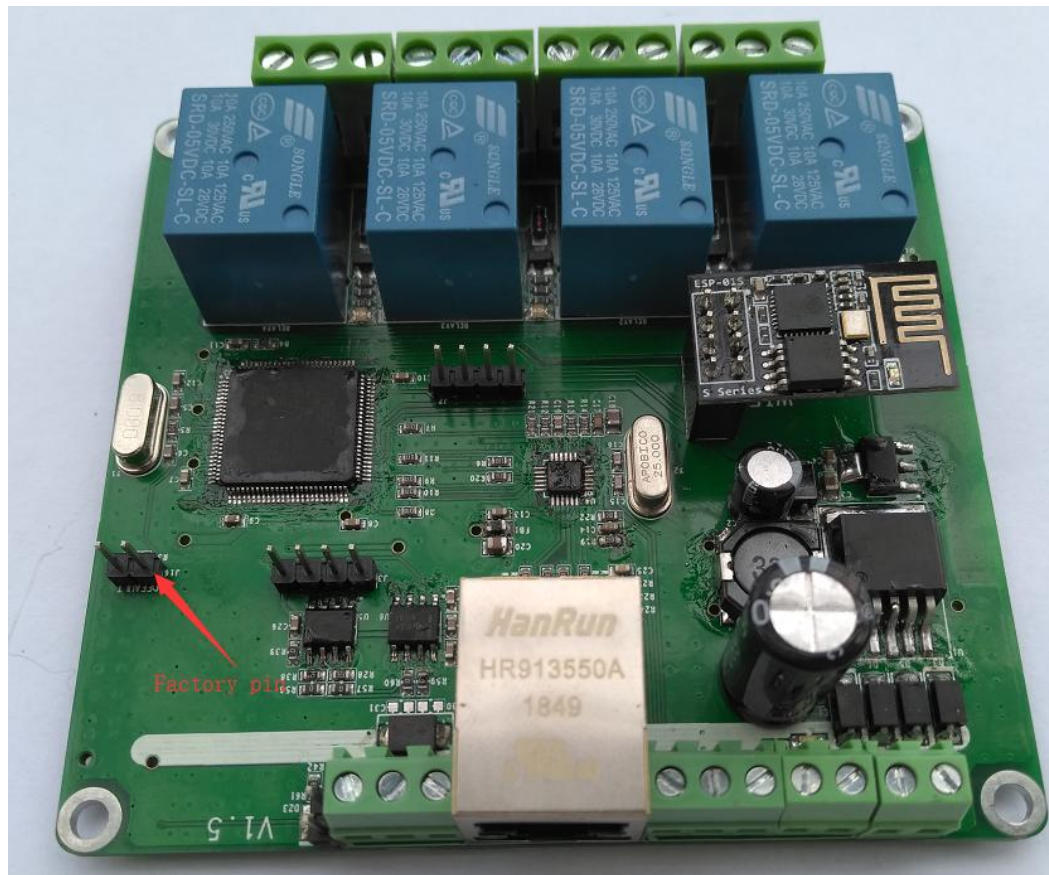
When the relay is released (or the module is powered down), the common and normally closed contacts are closed. After the pull-in, the two contacts are disconnected.

Connection example



### 3.3 Reset To Factory

1 Short the 2 pin headers under the Default assembly with a jumper cap



2 Turn off the power of the network module, and then power on the module again.

3 Pull out the Default jumper cap

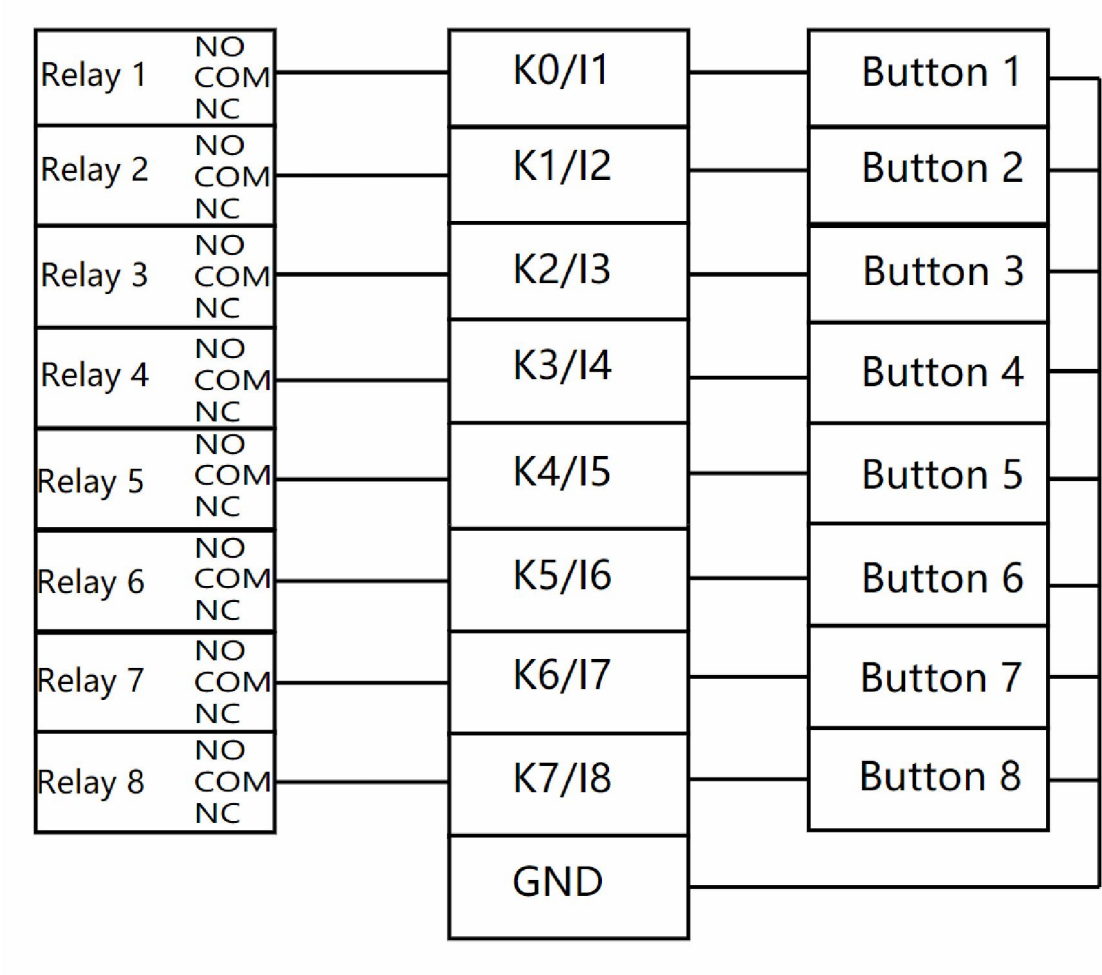
### 3.4 External input/Button control

K0~K7 Control Relay1~8

0V Relay On

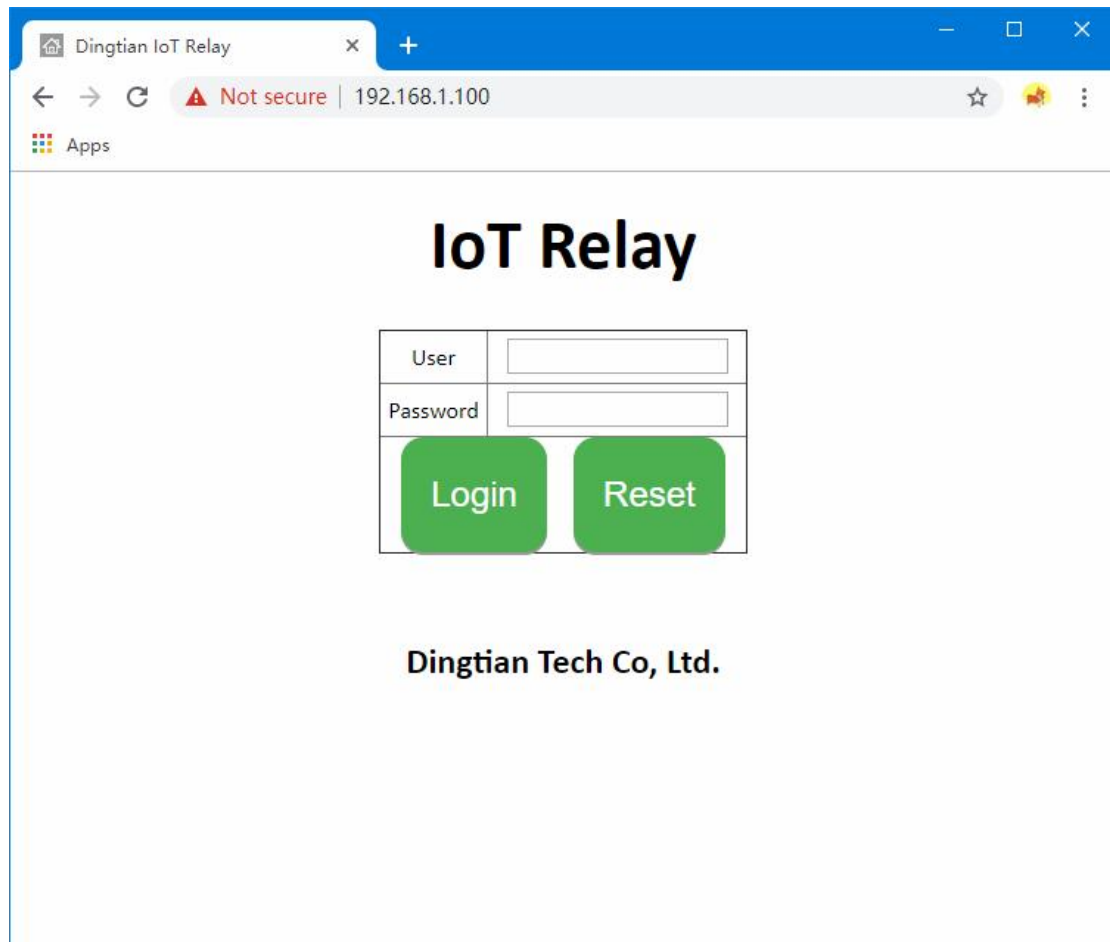
3.3V Relay Off(Hardware Version < V1.8)

3.3V/5V/12V/24V Relay Off(Hardware Version >= V1.8)





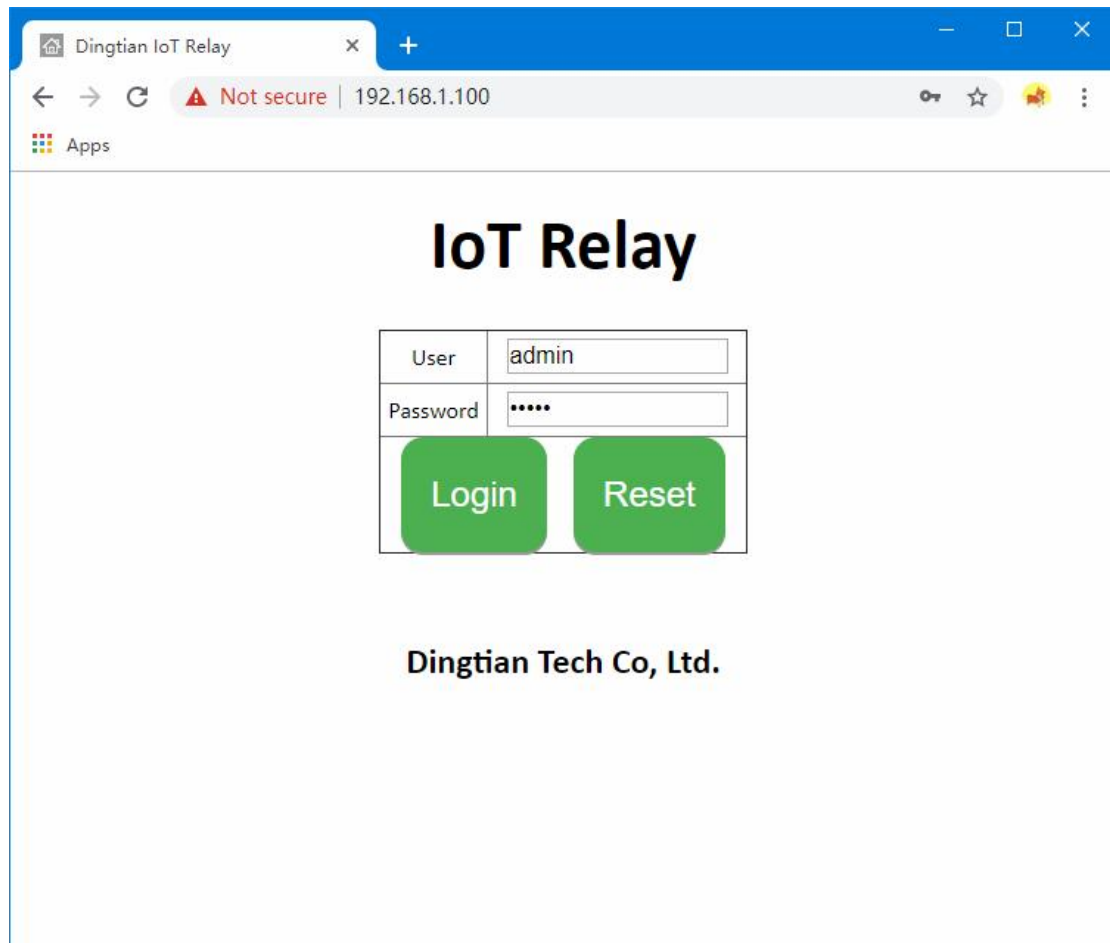
## 4 web



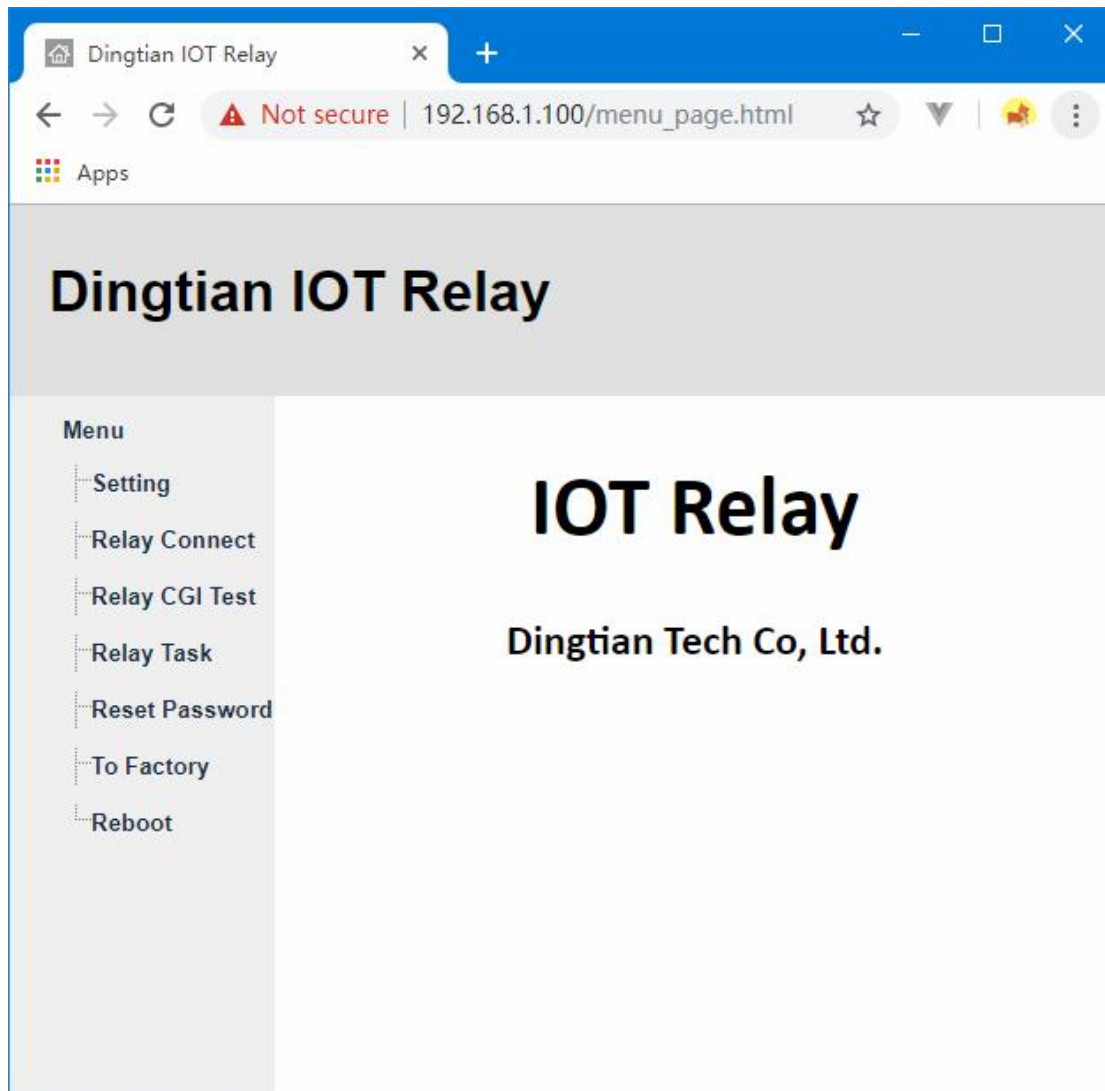
### 4.1 Login

user:admin

password:admin



webcome page



## 4.2 Setting Network and WIFI

setting page set network info,NTP Server and WIFI  
after click "Save" button,device will reboot

### Parameter:

**Software Version:** Relay board firmware version

### Model:

2CH is Dingtian IOT RELAY-2

4CH is Dingtian IOT RELAY-4

8CH is Dingtian IOT RELAY-8

**Serial Number:** Relay board Serial Number

**Date Time:** current date and time(Need internet because of NTP)

**NTP Server:** NTP server get time from, suggest use pool.ntp.org

**DHCP:** Ethernet IP DHCP or Static

**IP:** Ethernet current IP Address

**Netmask:** Ethernet current Netmask

**Gateway:** Ethernet current Gateway

**DNS:** Ethernet current DNS Server

**MAC:** Ethernet current MAC address

**WiFi Name:** Your Router WiFi Name, Relay board will access to your router

**WiFi Password:** Your Router WiFi Password, Relay board will access to your router

**WiFi DHCP IP:** Relay board get IP from your Router

we can use this IP to control relay board via wireless

**Dingtian IOT Relay**

# Setting

Hardware Version	V1.8
Software Version	V2.15.753
Model	Dingtian IOT RELAY-4
Serial Number	600
Date Time	7/6/2020, 23:59:28
NTP Server	pool.ntp.org
DHCP	No
IP	192.168.1.100
Netmask	255.255.255.0
Gateway	192.168.1.1
DNS	192.168.1.1
MAC	bc:34:88:00:01:ac
WiFi Name	wifiname support char 0~9,a~z,A~Z,-
WiFi Password	wifipassword support char 0~9,a~z,A~Z,-
WiFi DHCP IP	192.168.1.162

**Save**

## 4.3 Setting Relay Connect

relay page set relay control interface param, and test relay

after click "Save" button, device will reboot

protocol reference [programing manual\\_en.pdf](#)

#### Channel Parameter:

**RS485:** RS485 protocol, addr, baudrate, databits, stopbits, parity config

Protocol:

Dingtian String

Dingtian Binary

Modbus-RTU

Modbus-ASCII

Baudrate:

1200bps,2400bps,4800bps,9600bps,19200bps,38400bps,57600bps,115200bps

**CAN:** CAN protocol, ID, Speed config

Protocol:

Dingtian String

Dingtian Binary

Modbus-RTU(0x03,0x06),only support Read/Write single register once time

Speed:

5Kbps,10Kbps,20Kbps,25Kbps,50Kbps,100Kbps,125Kbps,200Kbps,250Kbps,500Kbps,800Kbps,888Kbps,1Mbps

**ETH-UDP1:** Ethernet UDP1 protocol, Remote Server Address,Remote Server Port,Local Port config

Protocol:

Dingtian String

Dingtian Binary

Modbus-RTU Over UDP

Modbus-ASCII Over UDP

Modbus-UDP

CoAP

**ETH-UDP2:** Ethernet UDP2 protocol, Remote Server Address,Remote Server Port,Local Port config

Protocol:

Dingtian String

Dingtian Binary

Modbus-RTU Over UDP(use RS485 addr)

Modbus-ASCII Over UDP(use RS485 addr)

Modbus-UDP

CoAP

**ETH-TCP Server:** Ethernet TCP Server protocol, Local Port config

Protocol:

Dingtian String

Dingtian Binary

Modbus-RTU Over TCP(use RS485 addr)

Modbus-ASCII Over TCP(use RS485 addr)

Modbus-TCP

**ETH-TCP Client:** Ethernet TCP Client protocol, Remote Server Address,Remote Server Port config

Protocol:

Dingtian String

Dingtian Binary

Modbus-RTU Over TCP(use RS485 addr)

Modbus-ASCII Over TCP(use RS485 addr)

Modbus-TCP

**ETH-MQTT:** Ethernet MQTT protocol, Breaker Address, Breaker Port, Breaker Username, Breaker Password config

Protocol:

MQTT(without tls)

**WIFI-UDP1:** WIFI UDP1 protocol, Remote Server Address, Remote Server Port, Local Port config

Protocol:

Dingtian String

Dingtian Binary

Modbus-RTU Over UDP(use RS485 addr)

Modbus-ASCII Over UDP(use RS485 addr)

Modbus-UDP

CoAP

**WIFI-UDP2:** WIFI UDP2 protocol, Remote Server Address, Remote Server Port, Local Port config

Protocol:

Dingtian String

Dingtian Binary

Modbus-RTU Over UDP(use RS485 addr)

Modbus-ASCII Over UDP(use RS485 addr)

Modbus-UDP

CoAP

**WIFI-TCP:** WIFI UDP2 protocol, Remote Server Address, Remote Server Port, Local Port, Type config

Protocol:

Dingtian String

Dingtian Binary

Modbus-RTU Over TCP(use RS485 addr)

Modbus-ASCII Over TCP(use RS485 addr)

Modbus-TCP

HTTP(only support firefox)

#### Other Parameter:

**Relay Password:** use for check control is valid, control relay only password is right

**Keep Alive Second:** send relay status to server with every "Keep Alive Second", only protocol

Dingtian String and Dingtian binary have Keep Alive Second

**Jogging Time:** Jogging time, default is 500ms, 1=100ms

what is Jogging: ON and delay 500ms OFF, or OFF and delay 500ms ON,

**Power Failure Recovery Relay:** relay status will restore after re-power

#### Button Type Parameter:

**Selflock:** Connect Selflock Button,

press button relay ON,release button relay OFF

**Jogging:** Connect **Momentary Button**,

press and release button relay Jogging(ON and delay 500ms OFF)

**Momentary:** Connect **Momentary Button**,

press and release button relay ON,press and release button relay OFF

How to Connect button please move to **3.4 External input/Button control**

Dingtian IOT Relay

← → ↻ ⚠ Not secure | 192.168.1.100/menu\_page.html ☆ ▼ 📶 ⋮

Apps

# Dingtian IOT Relay

Menu

- Setting
- Relay Connect**
- Relay CGI Test
- Relay Task
- Reset Password
- To Factory
- Reboot

## Relay

Channel	Protocol	Addr	Baud	Databits	Stopbits	Parity
RS485	Modbus-RTU ▼	1	115200bps ▼	8bit ▼	1bit ▼	None ▼
CAN	Dingtian String ▼	ID	Speed			
		1	125Kbps ▼			
ETH-UDP1	Dingtian Binary ▼	Remote Address	Remote Port	Local Port		
		192.168.1.9	60000	60000		
ETH-UDP2	CoAP ▼	Remote Address	Remote Port	Local Port		
		192.168.1.9	5683	5683		
ETH-TCP Server	Modbus-TCP ▼			Local Port		
				502		
ETH-TCP Client	Modbus-RTU Over TCP ▼	Remote Address	Remote Port			
		192.168.1.9	502			
ETH-MQTT	MQTT ▼	Breaker Address	Breaker Port	Breaker Username	Breaker Password	
		192.168.1.9	1883	mqtt	123	
WIFI-UDP1	Dingtian String ▼	Remote Address	Remote Port	Local Port		
		192.168.1.9	60000	60000		
WIFI-UDP2	Modbus-ASCII Over UDP ▼	Remote Address	Remote Port	Local Port		
		192.168.1.9	502	502		
WIFI-TCP	Modbus-TCP ▼	Remote Address	Remote Port	Local Port	Type	
		192.168.1.9	502	502	TCP Server ▼	

### Other

Relay Password	0	0~9999(0 no password)
Keep Alive Second	30	1~120 second(0 close)
Jogging Time	5	1~255 (1=100ms)
Power Failure Recovery Relay	No ▼	

### Button Type

Momentary ▼ Momentary ▼ Momentary ▼ Momentary ▼

Save

### Relay Test

Relay1:Off Relay2:Off Relay3:Off Relay4:Off

# 4.4 Relay CGI Test

relay CGI test

Dingtian IOT Relay

← → ↻ ⚠ Not secure | 192.168.1.100/menu\_page.html

Apps

Dingtian IOT Relay

Menu

- Setting
- Relay Connect
- Relay CGI Test
- Reset Password
- To Factory
- Reboot

Relay CGI Test

Relay Password 0 (0~9999)

Relay	Status	Jogging(1~255 100ms)	Delay(1~65535 Second)	On/Off	Jogging	Delay
1	Off	On ▾ 5 500ms	On ▾ 5 second	Do On	Do Jogging	Do Delay
2	Off	On ▾ 5 500ms	On ▾ 5 second	Do On	Do Jogging	Do Delay
3	Off	On ▾ 5 500ms	On ▾ 5 second	Do On	Do Jogging	Do Delay
4	Off	On ▾ 5 500ms	On ▾ 5 second	Do On	Do Jogging	Do Delay

Relay CGI load success!



## 4.5 Reset Password

Dingtian IoT Relay

← → ↻ ⚠ Not secure | 192.168.1.100/menu\_page.html

Apps

### Dingtian IoT Relay

Menu

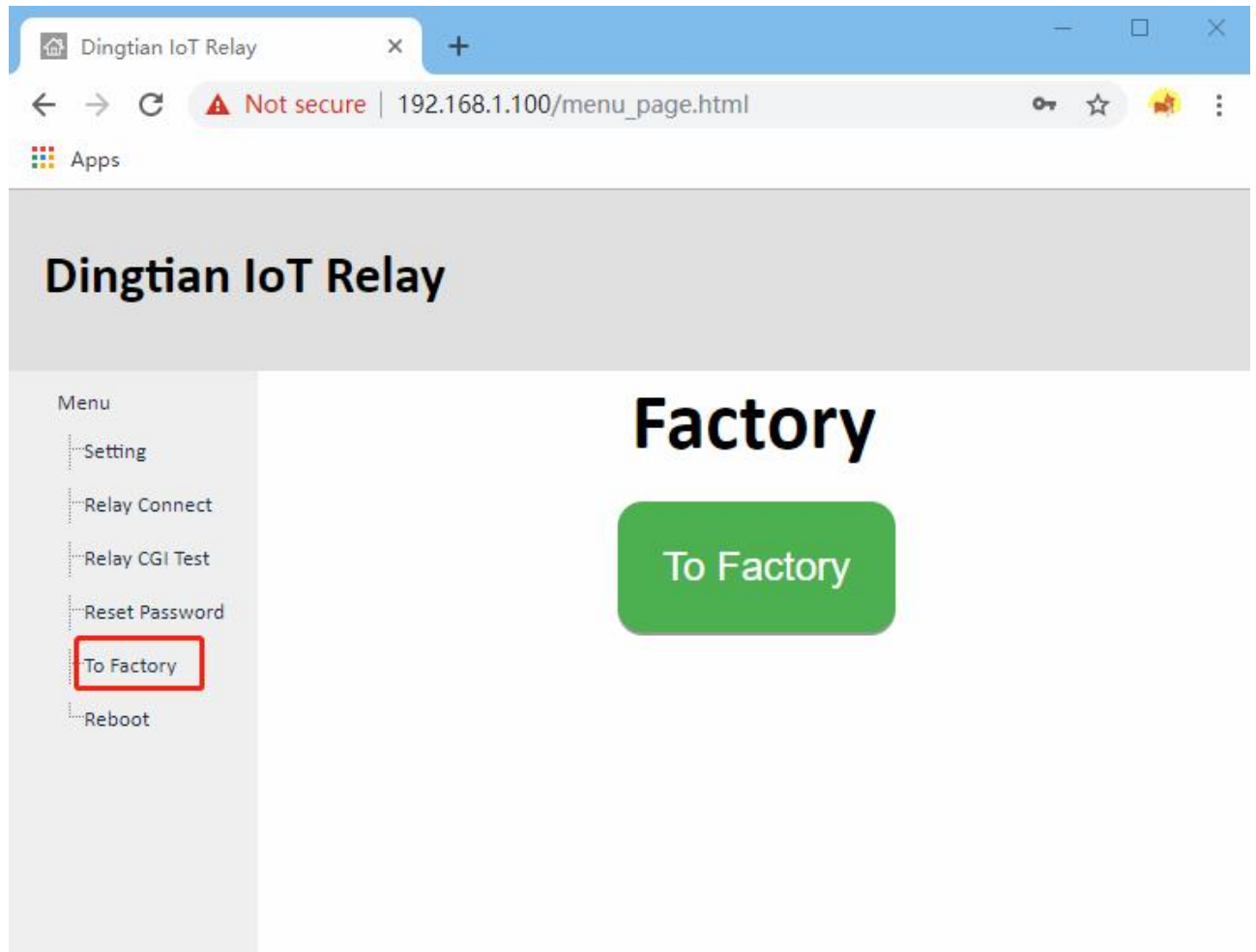
- Setting
- Relay Connect
- Relay CGI Test
- Reset Password**
- To Factory
- Reboot

## Reset Password

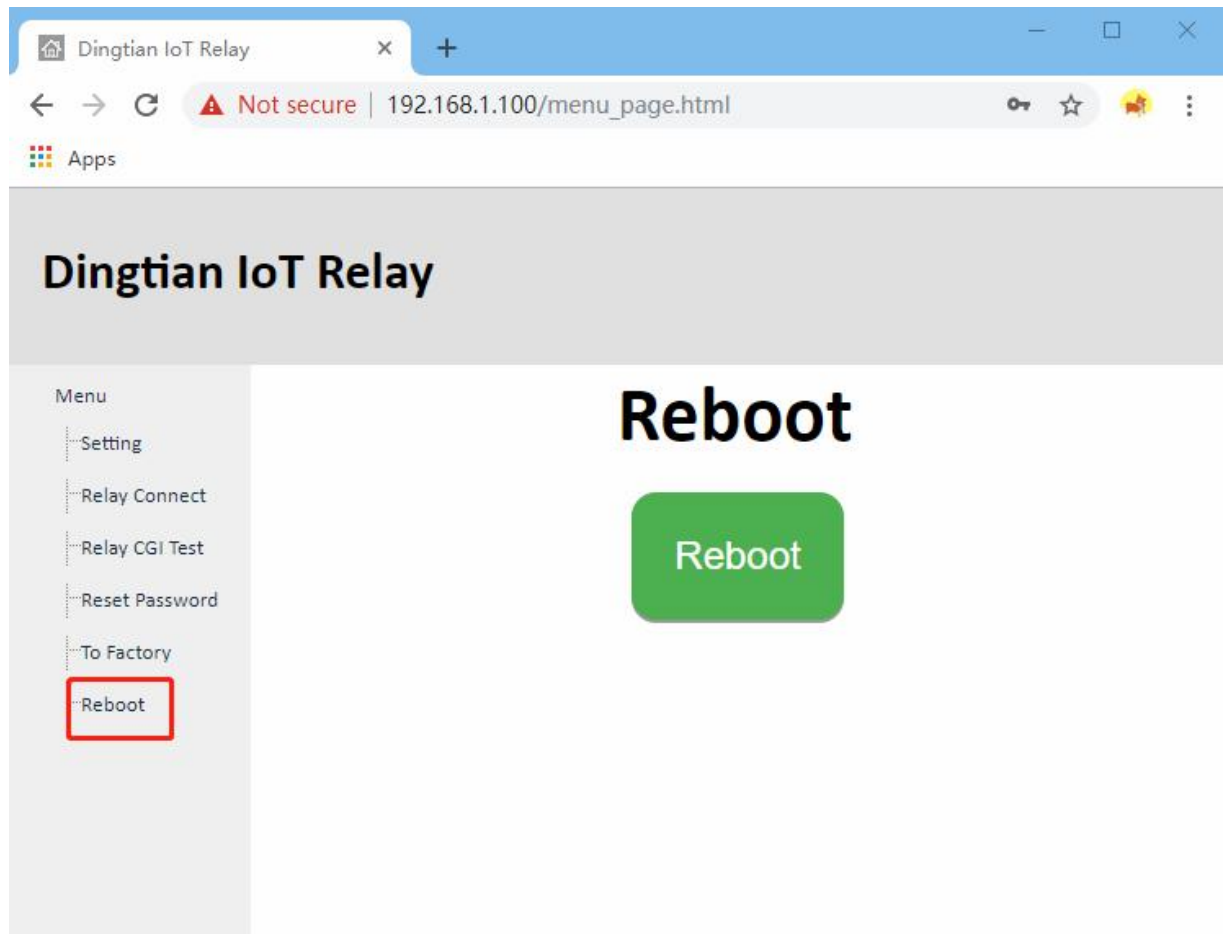
User	admin
Old password	
New password	

Reset

## 4.6 To Factory



## 4.7 Reboot



## 4.8 WIFI web Page

### 4.8.1 Set wifi TCP as HTTP protocol

File Edit View History Bookmarks Tools Help

Dingtian IOT Relay x +

192.168.1.100/menu\_page.html

# Dingtian IOT Relay

Menu

- Setting
- Relay Connect**
- Relay CGI Test
- Relay Task
- Reset Password
- To Factory
- Reboot

## Relay

Channel	Protocol	Addr	Baud	Databits	Stopbits	Parity
RS485	Modbus-RTU	1	115200bps	8bit	1bit	None
CAN	Dingtian String	1	125Kbps			
ETH-UDP1	Dingtian Binary	Remote Address 192.168.1.9		Remote Port 60000	Local Port 60000	
ETH-UDP2	CoAP	Remote Address 192.168.1.9		Remote Port 5683	Local Port 5683	
ETH-TCP Server	Modbus-TCP				Local Port 502	
ETH-TCP Client	Modbus-RTU Over TCP	Remote Address 192.168.1.9		Remote Port 502		
ETH-MQTT	MQTT	Breaker Address 192.168.1.9		Breaker Port 1883	Breaker Username mqtt	Breaker Password 123
WIFI-UDP1	Dingtian String	Remote Address 192.168.1.9		Remote Port 60000	Local Port 60000	
WIFI-UDP2	Modbus-ASCII Over UDP	Remote Address 192.168.1.9		Remote Port 502	Local Port 502	
WIFI-TCP	HTTP	Remote Address 192.168.1.9		Remote Port 80	Local Port 80	Type TCP Server

### Other

Relay Password	0	0~9999(0 no password)
Keep Alive Second	30	1~120 second(0 close)
Jogging Time	5	1~255 (1=100ms)
Power Failure Recovery Relay	No	

### Button Type

Momentary	Momentary	Momentary	Momentary
-----------	-----------	-----------	-----------

Save

### Relay Test

Relay1:Off Relay2:Off Relay3:Off Relay4:Off

## 4.8.2 check wifi get DHCP IP

below image,the relay board get DHCP IP is 192.168.1.162

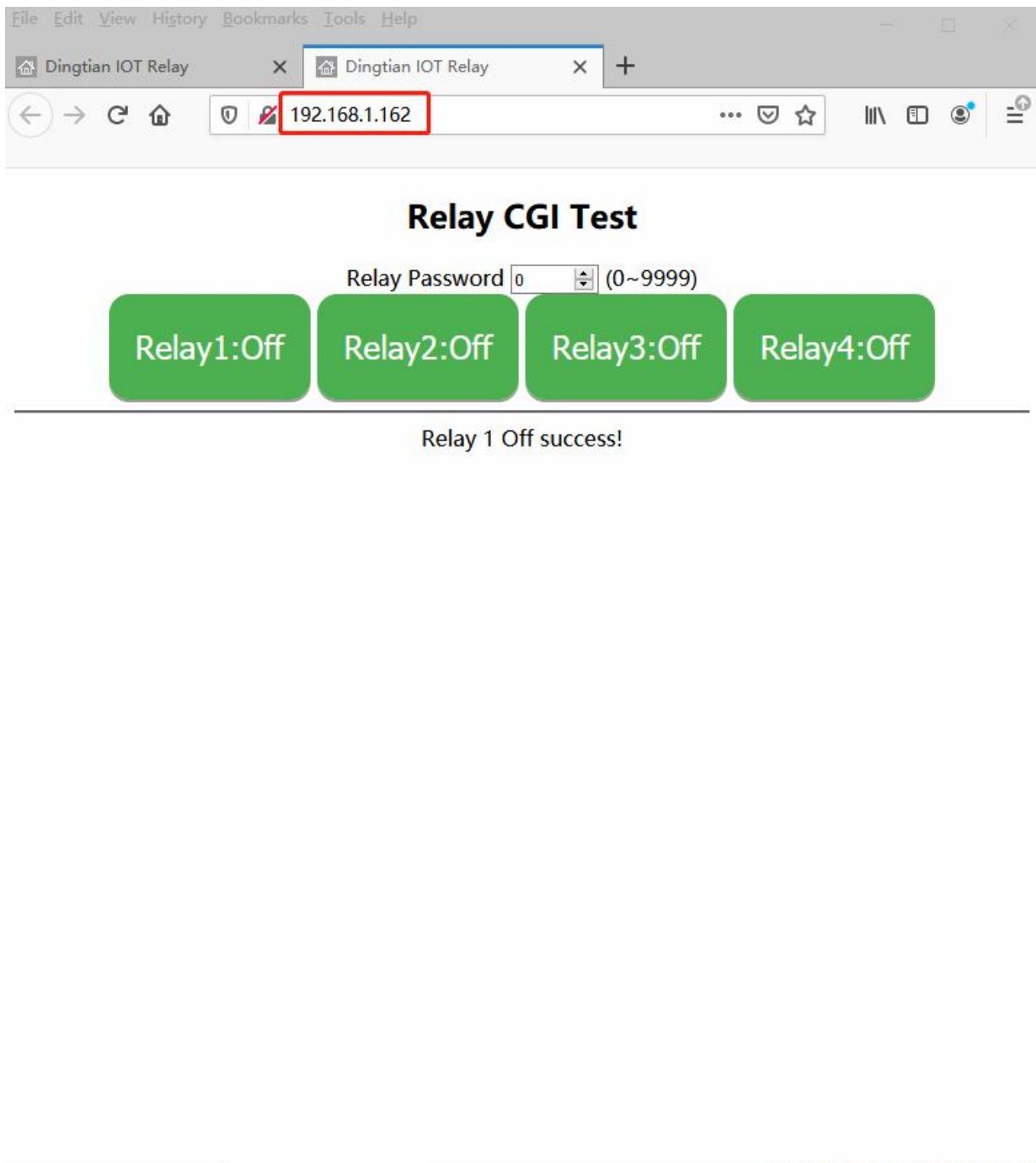
The screenshot shows a web browser window with the address bar displaying `192.168.1.100/menu_page.html`. The page title is "Dingtian IOT Relay". The main heading is "Setting". On the left, there is a "Menu" sidebar with the following items: Setting, Relay Connect, Relay CGI Test, Relay Task, Reset Password, To Factory, and Reboot. The main content area displays a table of system settings:

Hardware Version	V1.8
Software Version	V2.15.753
Model	Dingtian IOT RELAY-4
Serial Number	600
Date Time	7/8/2020, 00:27:34
NTP Server	pool.ntp.org
DHCP	No
IP	192.168.1.100
Netmask	255.255.255.0
Gateway	192.168.1.1
DNS	192.168.1.1
MAC	bc:34:88:00:01:ac
WiFi Name	wifiname support char 0~9,a~z,A~Z,-_
WiFi Password	wifipassword support char 0~9,a~z,A~Z,-_
WIFI DHCP IP	192.168.1.162

Below the table is a green "Save" button.

### 4.8.3 use **firefox** browser wifi web page

maybe load web page fail, please wait one minute and try again.



## 5 PC app

Notic: When the computer has multiple network cards, only one can be reserved.  
Most of time this tool is use to find the ip of relay board

Dingtian-Tech Relay

LanguageEnglish

When multiple devices,  
device ip and computer ip  
must be on the same network segment

COM1

Search Device

Version V1.3

Support: stephen@dingtian-tech.com

TestConfig

Commandread relay status

Relay password0 (4digital)

Relay1

Delay(Second)5 (max: 65535)

StatusOff

Run

All OnAll Off

☐ Relay1☐ Relay2☐ Relay3☐ Relay4☐ Relay5☐ Relay6☐ Relay7☐ Relay8

# 5.1 Search Device

Dingtian-Tech Relay

LanguageEnglish

Version V2.0

Support: stephen@dingtian-tech.com

When the computer has multiple network cards, you need to select the correct network card.

TestConfig

192.168.1.9

1 select ip connect with relay board

Search Device

2 search device(use multicast)

Commandread relay status

Relay password0(4digital)

Relay1

Delay(Second)5(max:65535)

StatusOff

Run

All OnAll Off

Relay1

Relay2

Relay3

Relay4

Relay5

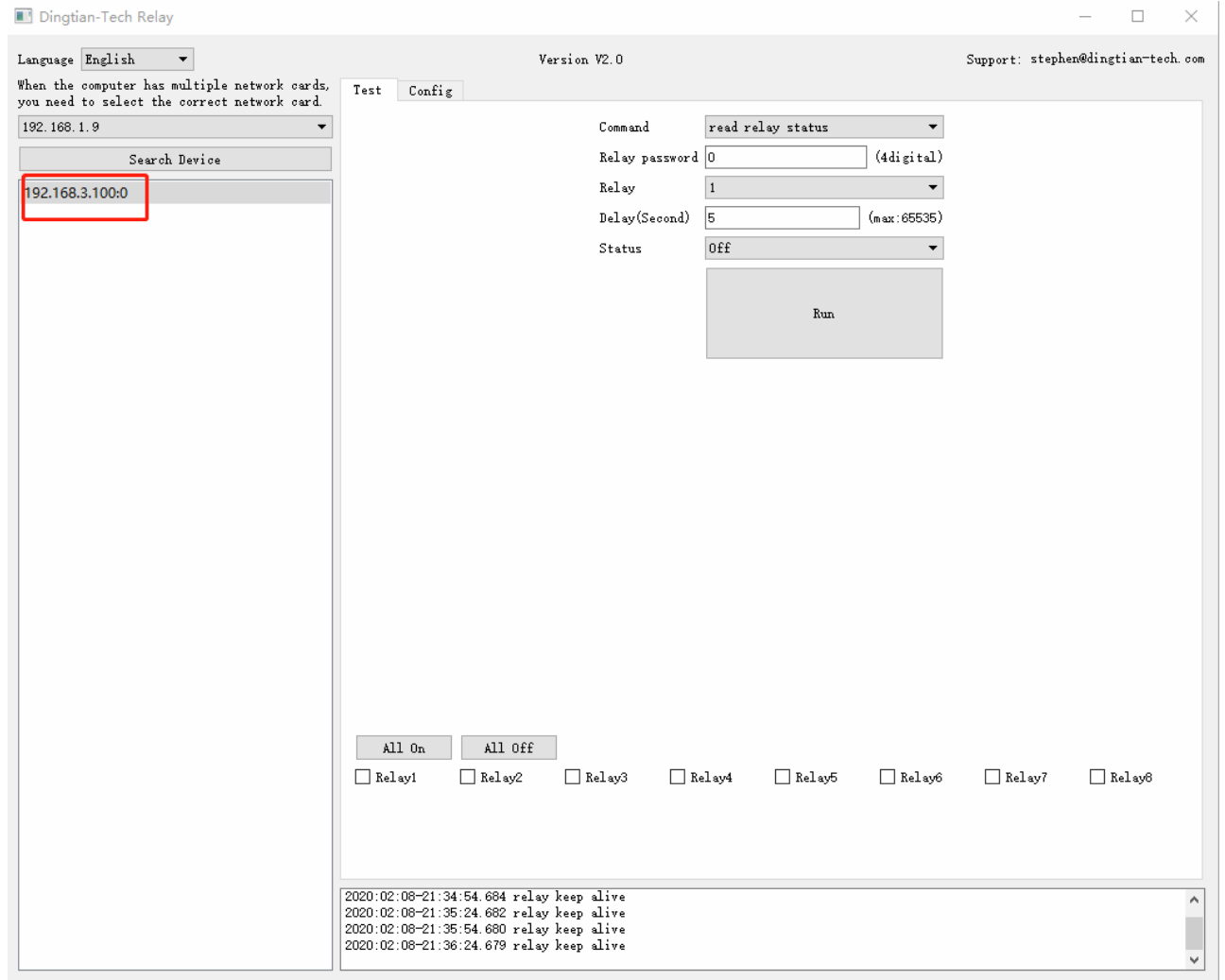
Relay6

Relay7

Relay8

web can search a device ip is 192.168.3.100,but computer ip is 192.168.1.9





next, web can test relay,and config device

## 5.2 Test Relay

Dingtian-Tech Relay

Version V2.0

Support: [stephen@dingtian-tech.com](mailto:stephen@dingtian-tech.com)

Language English

When the computer has multiple network cards, you need to select the correct network card.

192.168.1.9

Search Device

192.168.3.100:0

Test

Config

Command read relay status

Relay password  (4digital)

Relay 1

Delay(Second)  (max: 65535)

Status Off

Run

All On

All Off

☐ Relay1

☐ Relay2

☐ Relay3

☐ Relay4

☐ Relay5

☐ Relay6

☐ Relay7

☐ Relay8

2020:02:08-21:35:24.682 relay keep alive

2020:02:08-21:35:54.680 relay keep alive

2020:02:08-21:36:24.679 relay keep alive

2020:02:08-21:36:54.678 relay keep alive

## 5.3 Config Device

Dingtian-Tech Relay

Language: English

Version V2.0

Support: stephen@dingtian-tech.com

Test **Config**

When the computer has multiple network cards, you need to select the correct network card.

192.168.1.9

Search Device

192.168.3.100:0

Info

model: ETH RELAY-4 V2 hw\_ver: V1.6

sn: 0 sw\_ver: V2.12

Ethernet

DHCP: No

IP: 192.168.3.100 Netmask: 255.255.255.0

Gateway: 192.168.3.1 DNS: 192.168.3.1

MAC: bc:34:88:00:00:00

Router SSID: Router Password:

Web Password

admin

RS485

Baudrate: 115200bps Databits: 8bit

Stopbits: 1bit Parity: None

CAN

Baudrate: 125Kbps

ID: 1

Server

UDP Server: 192.168.1.9 TCP Server: 192.168.1.9 WIFI UDP Server: 192.168.1.9

UDP Port: 60001 TCP Port: 60001 WIFI UDP Port: 1883

Relay

Relay Password: 0 0~9999 Power Failure Recovery: No

Keep Alive: 30 1~120 second(0 close) Momentary Time: 5 1~255(1=100ms)

Key Type

Key1: Self-Lock Key2: Self-Lock Key3: Self-Lock Key4: Self-Lock Key5: Follow Key6: Follow Key7: Follow Key8: Follow

Read Config Write Config

2020:02:08-21:36:54.678 relay keep alive

2020:02:08-21:37:24.676 relay keep alive

2020:02:08-21:37:50.007 interface:以太网 multicast r param success

2020:02:08-21:37:50.814 interface:以太网 multicast r param success

## Appendix I How to Test Command

### step 1: download SDK










we can find network tool in SDK

[ftp://ftp.dingtian-tech.com/relay\\_sdk.zip](ftp://ftp.dingtian-tech.com/relay_sdk.zip)



unzip relay\_sdk.zip

network tool name is net\_test

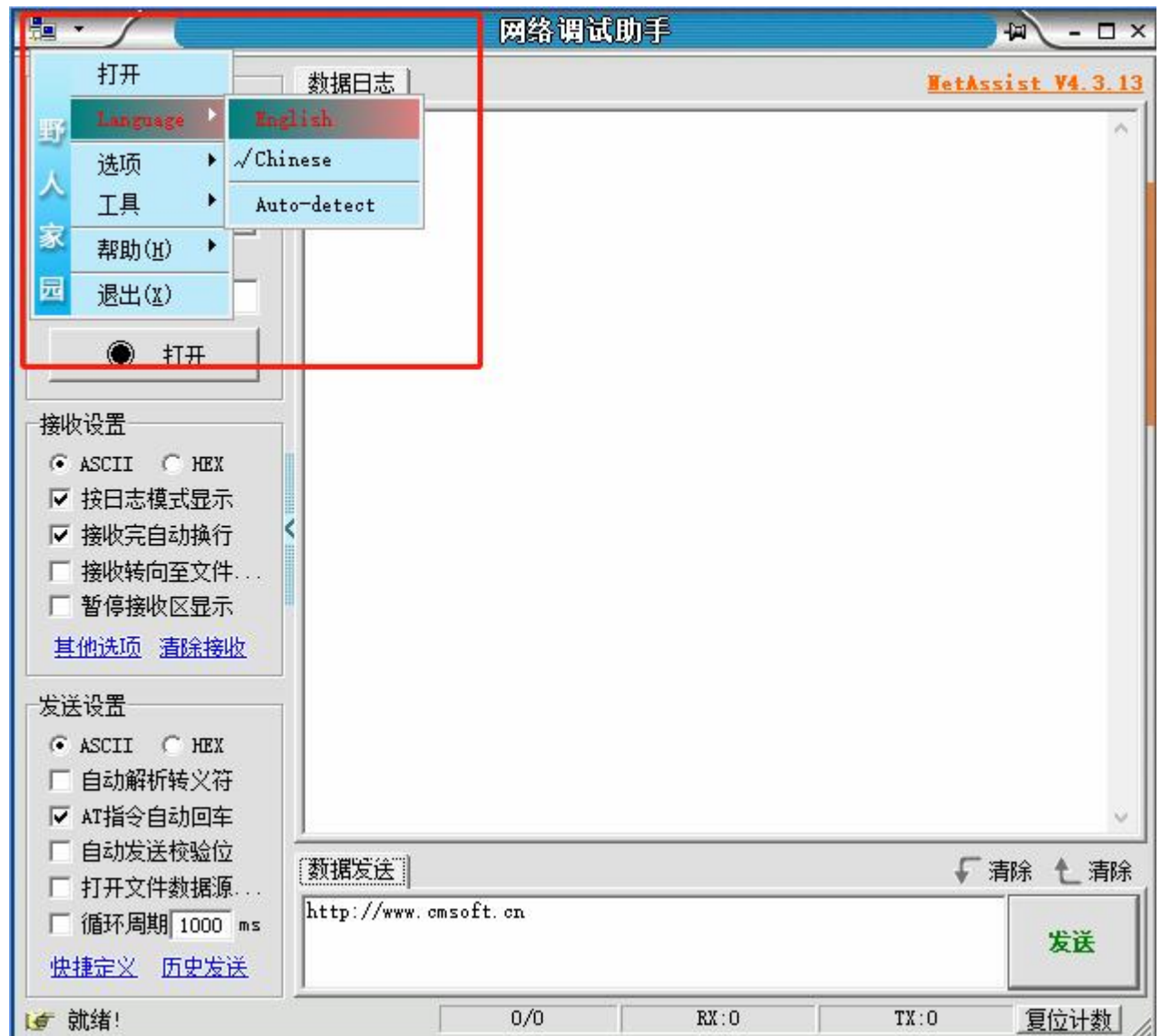
rs485 tool name is rs485\_test

名称	修改日期	类型
 net_test	2020/2/10 10:17	文件
 rs485_test	2020/2/10 10:17	文件
 cgitest_v1_1.exe	2020/2/10 10:12	应用
 programing manual_en.pdf	2020/2/8 21:13	PDF
 readme.txt	2020/2/10 10:18	文本
 relay.sh	2019/9/25 23:48	Shell
 relay.sh_how_to.txt	2019/9/25 23:59	文本
 relaytool_v2_0.exe	2020/2/8 23:32	应用
 user_manual_en.pdf	2020/2/8 21:41	PDF

enter directory "net\_test"

名称
 NetAssist.cfg
 NetAssist.exe

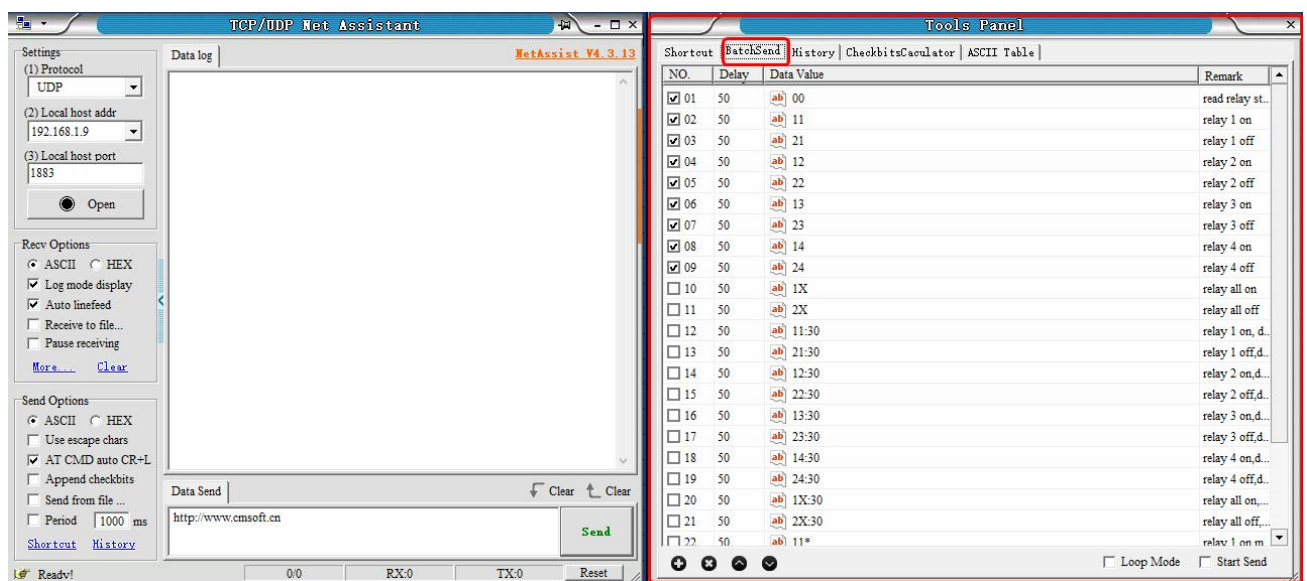
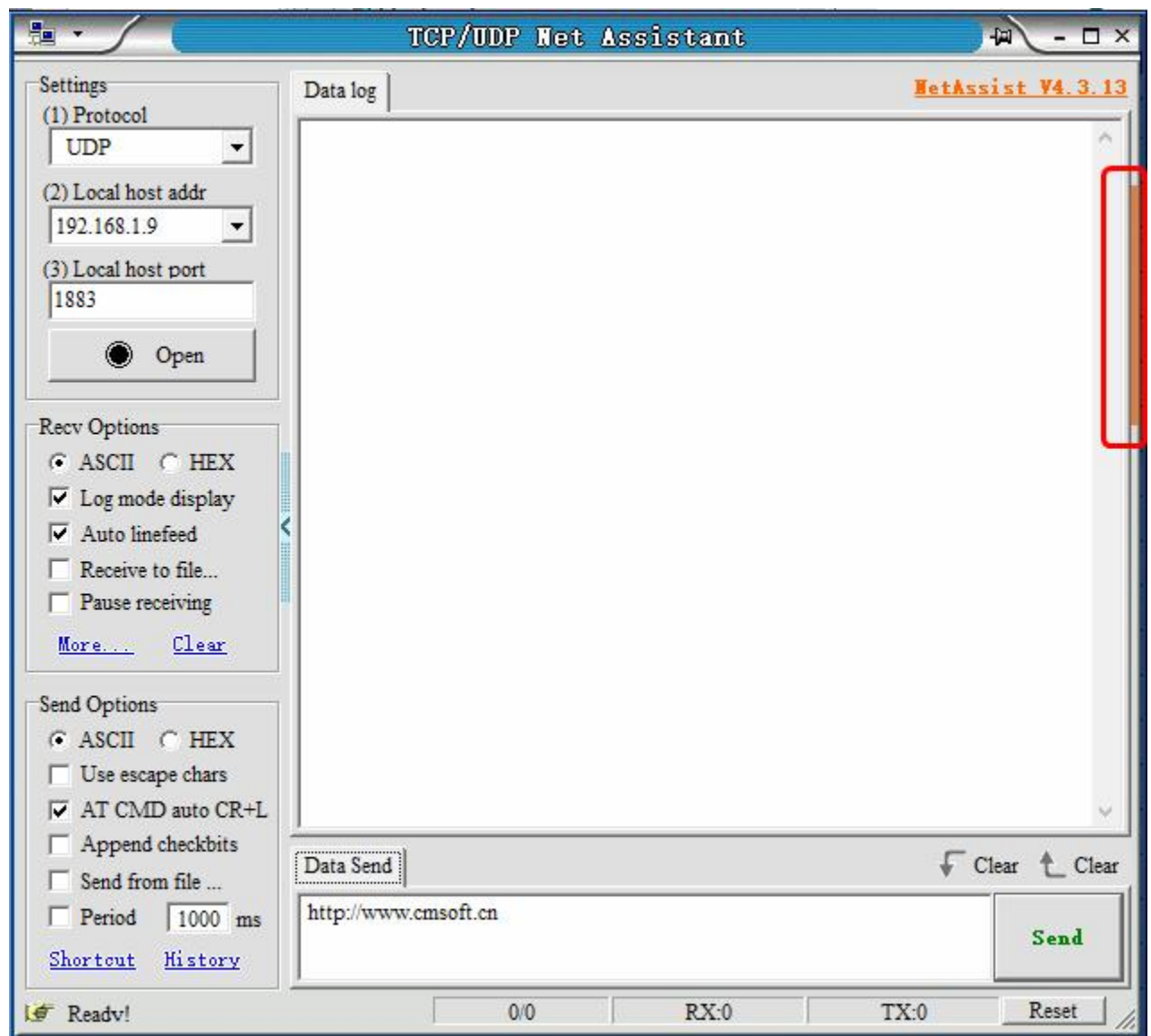
## step 2: Change NetAssist language



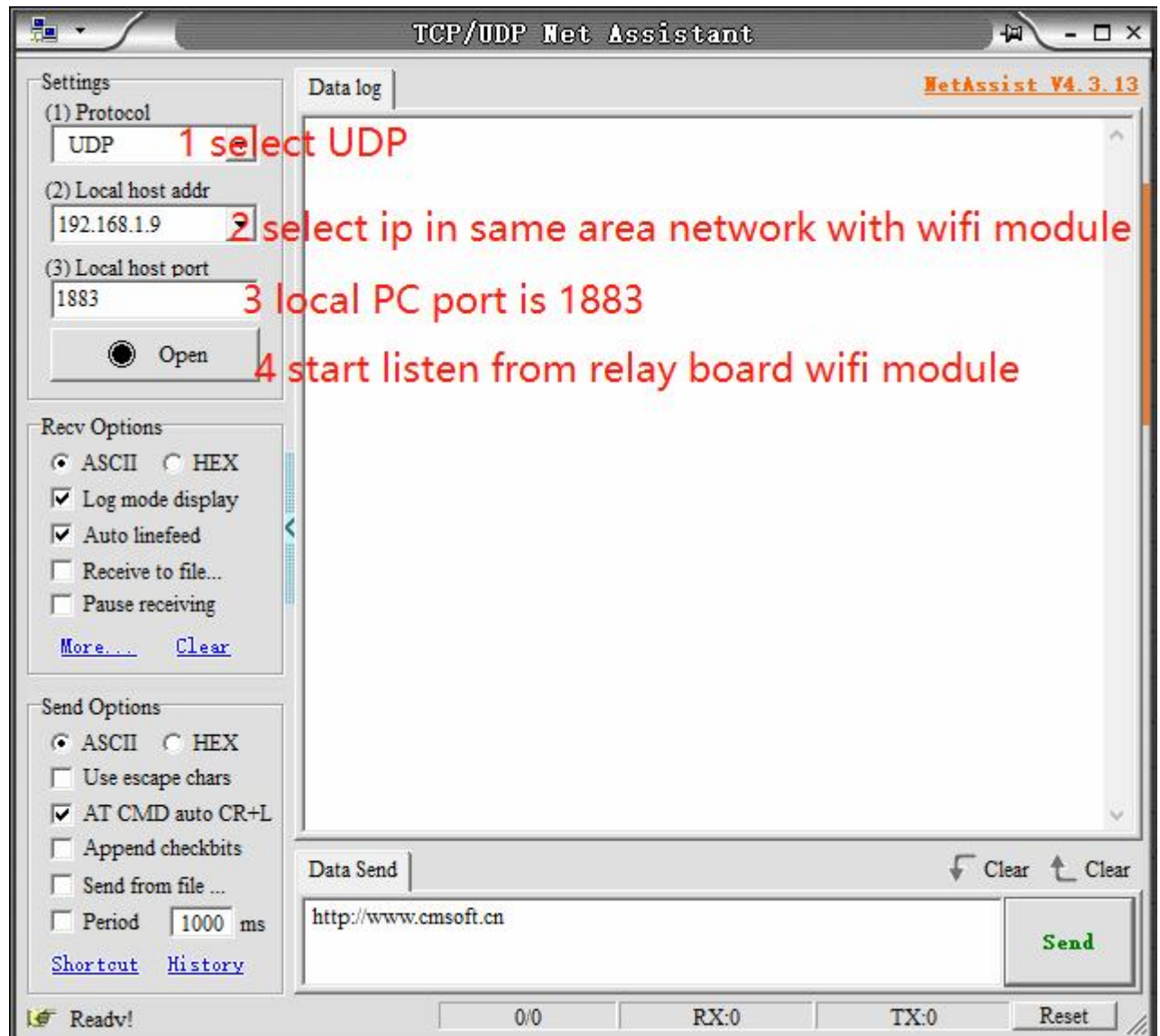
## step 3: Control relay via NetAssist network tool by wifi module

open NetAssist.exe

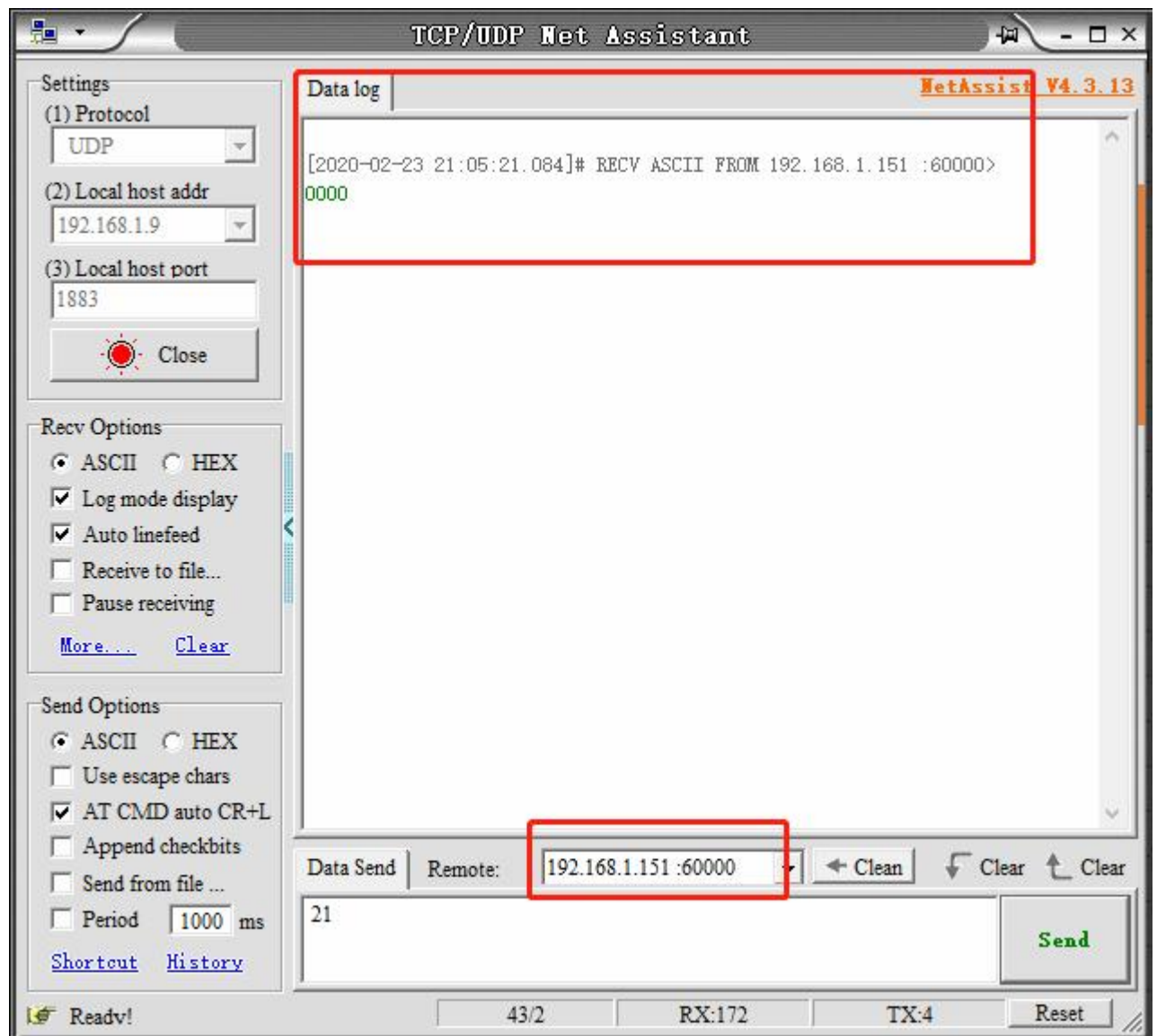
Shown in red box, open expansion panel



step 4: open UDP listen.



now relay board will send relay status to pc via wifi module



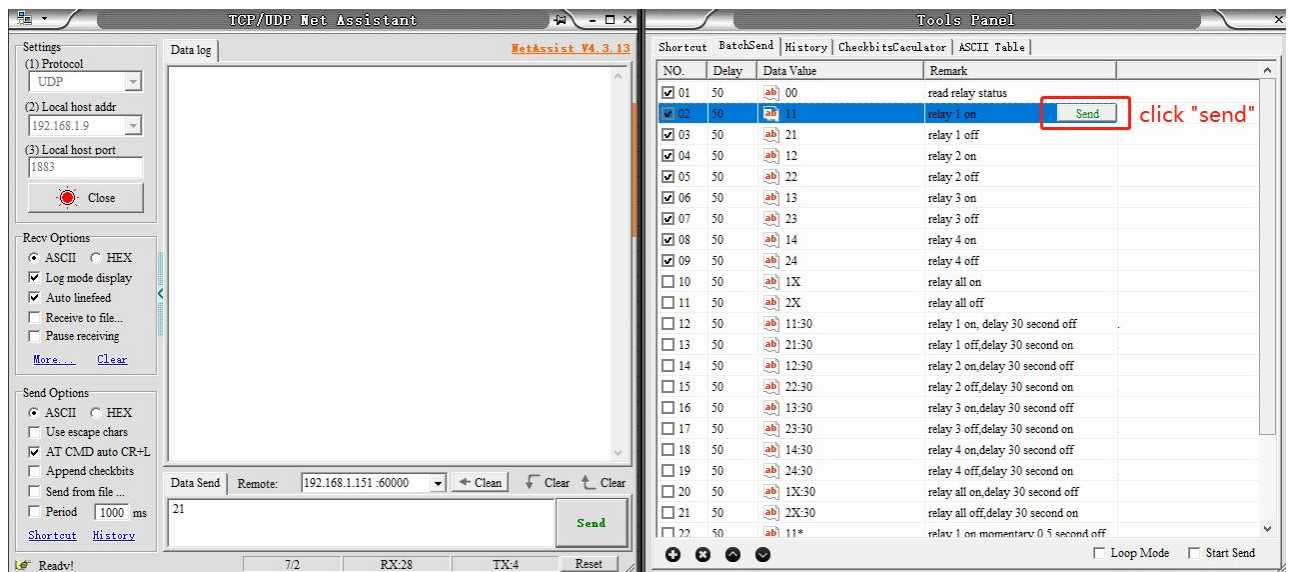
## step 5: control relay via wifi module

NetAssist tool saved preset command

we only need send to relay board via netAssist

like below set relay 1 on





## Appendix II How to use Domoticz

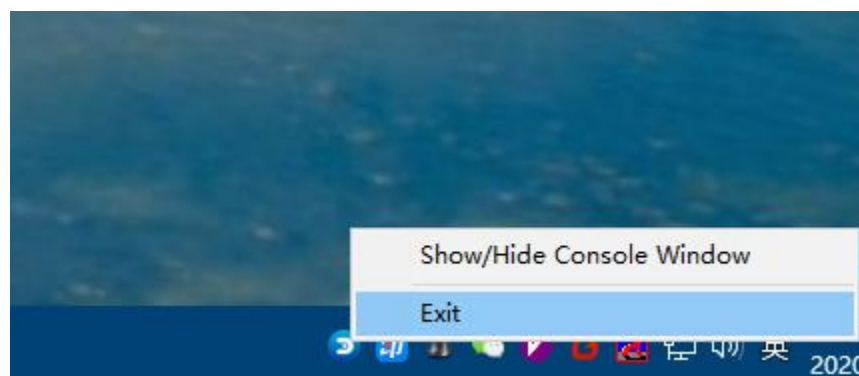
### step 1: install Dingtian plugin to Domoticz

Dingtian plugin find in SDK or github

[ftp://ftp.dingtian-tech.com/relay\\_sdk.zip](ftp://ftp.dingtian-tech.com/relay_sdk.zip)

<https://github.com/dtlzp/Domoticz-Dingtian-Relay-Plugin>

### 1 Stop Domoticz



## 2 Copy Domoticz\_plugins\dingtian to Domoticz plugin dir



名称	修改日期	类型
dingtian	2020/4/29 23:44	文件夹

to Domoticz install dir



名称	修改日期	类型	大
dingtian	2020/4/30 9:49	文件夹	

now Dingtian Relay plugin success install to Domoticz.

## step 2: config Dingtian Relay board

1 config relay board **UDP Server,Keep Alive Second and Relay Password**

If use Ethernet

Dingtian IOT Relay

← → ↻ Not secure 192.168.1.100/menu\_page.html ☆ ▼ 📶 ⋮

Apps

Dingtian IOT Relay

Menu

Setting

Relay Connect

Relay CGI Test

Relay Task

Reset Password

To Factory

Reboot

Relay

Channel	Protocol	Addr	Baud	Databits	Stopbits	Parity
RS485	Modbus-RTU	1	115200bps	8bit	1bit	None
CAN	Dingtian String	1	Speed			
			125Kbps			
ETH-UDP1	Dingtian Binary	Remote Address	Remote Port	Local Port		
		192.168.1.9	60000	60000		
ETH-UDP2	Dingtian String	Remote Address	Remote Port	Local Port		
		192.168.1.9	60001	60001		
ETH-TCP Server	Modbus-TCP			Local Port		
				502		
ETH-TCP Client	Modbus-RTU Over TCP	Remote Address	Remote Port			
		192.168.1.9	502			
ETH-MQTT	MQTT	Breaker Address	Breaker Port	Breaker Username	Breaker Password	
		192.168.1.9	1883	mqtt	123	
WIFI-UDP1	Dingtian String	Remote Address	Remote Port	Local Port		
		192.168.1.9	60000	60000		
WIFI-UDP2	Modbus-ASCII Over UDP	Remote Address	Remote Port	Local Port		
		192.168.1.9	502	502		
WIFI-TCP	HTTP	Remote Address	Remote Port	Local Port	Type	
		192.168.1.9	80	80	TCP Server	

Other

Relay Password	4660	0~9999(0 no password)
Keep Alive Second	1	1~120 second(0 close)
Jogging Time	5	1~255 (1=100ms)
Power Failure Recovery Relay	No	

Button Type

Momentary Momentary Momentary Momentary

Save

Relay Test

Relay1:Off Relay2:Off Relay3:Off Relay4:Off

## If use WIFI

Dingtian IOT Relay

192.168.1.100/menu\_page.html

Apps

### Dingtian IOT Relay

Menu

- Setting
- Relay Connect**
- Relay CGI Test
- Relay Task
- Reset Password
- To Factory
- Reboot

## Relay

Channel	Protocol	Addr	Baud	Databits	Stopbits	Parity
RS485	Modbus-RTU	1	115200bps	8bit	1bit	None
CAN	Dingtian String	ID	Speed			
		1	125Kbps			
ETH-UDP1	Dingtian Binary	Remote Address	Remote Port	Local Port		
		192.168.1.9	60000	60000		
ETH-UDP2	CoAP	Remote Address	Remote Port	Local Port		
		192.168.1.9	5683	5683		
ETH-TCP Server	Modbus-TCP			Local Port		
				502		
ETH-TCP Client	Modbus-RTU Over TCP	Remote Address	Remote Port			
		192.168.1.9	502			
ETH-MQTT	MQTT	Breaker Address	Breaker Port	Breaker Username	Breaker Password	
		192.168.1.9	1883	mqtt	123	
WIFI-UDP1	Dingtian Binary	Remote Address	Remote Port	Local Port		
		192.168.1.9	60000	60000		
WIFI-UDP2	Dingtian String	Remote Address	Remote Port	Local Port		
		192.168.1.9	60001	60001		
WIFI-TCP	HTTP	Remote Address	Remote Port	Local Port	Type	
		192.168.1.9	80	80	TCP Server	

### Other

Relay Password	4660	0~9999(0 no password)
Keep Alive Second	1	1~120 second(0 close)
Jogging Time	5	1~255 (1=100ms)
Power Failure Recovery Relay	No	

### Button Type

Momentary	Momentary	Momentary	Momentary
-----------	-----------	-----------	-----------

Save

### Relay Test

Relay1:Off Relay2:Off Relay3:Off Relay4:Off

Dingtian Relay board web page **Relay Connect**  
set **UDP Server**, **Relay Password** and **Keep Alive Second**  
Notice: **UDP Server** set to **Domoticz Server IP**  
**Save** config

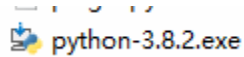
## step 3: Add Dingtian Relay to Domoticz

### 1 Install Python 3.8.2

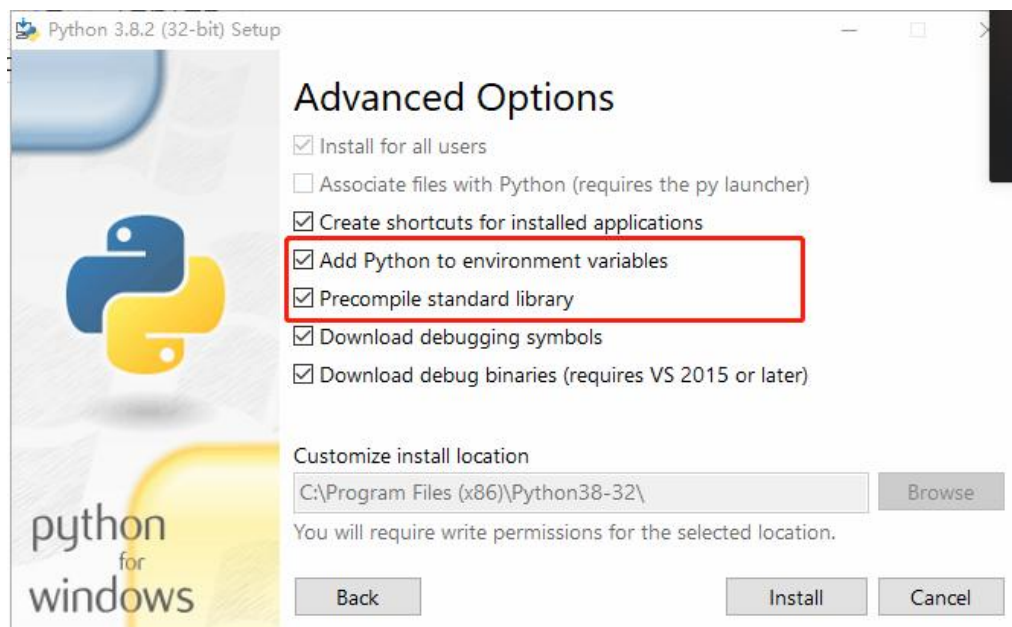
download address:

<https://www.python.org/ftp/python/3.8.2/python-3.8.2.exe>

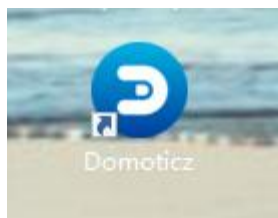
after download,install it



Add Python to environment

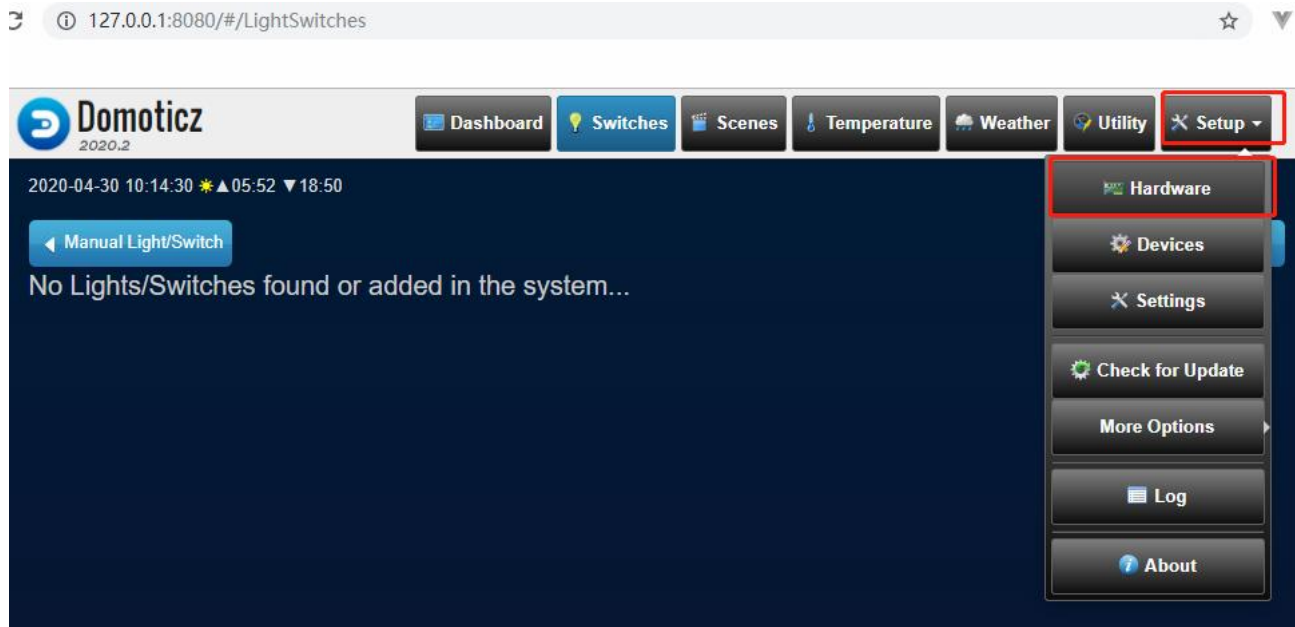


### 2 Start Domoticz



### 3 Add Dingtian Relay to Domoticz

#### 1 Find Hardware Menu



## 2 Input Dingtian Relay config

127.0.0.1:8080/#/Hardware

**Domoticz** 2020.2

Dashboard Switches Scenes Temperature Weather Utility Setup

Show 25 entries Search :

Idx	Name	Enabled	Type	Address	Port	Data Timeout
No data available in table						

Showing 0 to 0 of 0 entries First Previous Next Last

Update Delete

Enabled: ☒

Name: dingtian-relay 1

Type: Dingtian Relay 2

Data Timeout: Disabled

Specifying a Data Timeout will restart the hardware device if no data is received for the specified time.  
Do not enable this option for devices that do not receive data!

Wiki URL: [stephen@dingtian-tech](mailto:stephen@dingtian-tech)

Product URL: [https://www.dingtian-tech/en\\_us/product.html?tab=relay](https://www.dingtian-tech/en_us/product.html?tab=relay)  
Dingtian-tech Relay Domoticz Plugin.

IP Address: 192.168.1.100 3

Port: 60001 4

Channel Count: 8 5

Password: 4660 6

Debug: False 7

Add 8

Type,IP Address,Port,Channel Count,Password must right,  
Password is 1 config relay board UDP Server,Keep Alive Second and Relay Password

now check parameters is ok,  
click "Add" to save

your can find Now Hardware and Relay



127.0.0.1:8080/#/Hardware

**Domoticz 2020.2**

Dashboard Switches Scenes Temperature Weather Utility Setup

Show 25 entries Search:

Idx	Name	Enabled	Type	Address	Port	Data Timeout
2	dingtian-relay	Yes	Dingtian Relay	192.168.1.100		Disabled

Showing 1 to 1 of 1 entries

Update Delete

Enabled: ☒

Name: dingtian-relay

Type: Dingtian Relay

Data Timeout: Disabled

Specifying a Data Timeout will restart the hardware device if no data is received for the specified time.  
Do not enable this option for devices that do not receive data!

Wiki URL: [stephen@dingtian-tech](mailto:stephen@dingtian-tech)

Product URL: [https://www.dingtian-tech/en\\_us/product.html?tab=relay](https://www.dingtian-tech/en_us/product.html?tab=relay)  
Dingtian-tech Relay Domoticz Plugin.

IP Address: 192.168.1.100

Port: 60001

Channel Count: 8

Password: 4660

Debug: False

Add

### 3 Add Relay to Switchs Page

127.0.0.1:8080/#/Devices

**Domoticz 2020.2**

Dashboard Switches Scenes Temperature Weather Utility Setup

ed All Devices Not Used

Show 25 entries

Idx	Hardware	ID	Unit	Name	Type	SubType	Data	Seen
7	dingtian-relay	00020007	7	dingtian-relay - RELAY7	Light/Switch	Switch	Off	-
8	dingtian-relay	00020008	8	dingtian-relay - RELAY8	Light/Switch	Switch	Off	-
2	dingtian-relay	00020002	2	dingtian-relay - RELAY2	Light/Switch	Switch	Off	-
3	dingtian-relay	00020003	3	dingtian-relay - RELAY3	Light/Switch	Switch	Off	-
4	dingtian-relay	00020004	4	dingtian-relay - RELAY4	Light/Switch	Switch	Off	-
5	dingtian-relay	00020005	5	dingtian-relay - RELAY5	Light/Switch	Switch	Off	-
6	dingtian-relay	00020006	6	dingtian-relay - RELAY6	Light/Switch	Switch	Off	-
1	dingtian-relay	00020001	1	dingtian-relay - RELAY1	Light/Switch	Switch	Off	-

Showing 1 to 8 of 8 entries

Hardware Devices Settings Check for Update More Options Log About



Click Add Device to use Relay

→ 127.0.0.1:8080/#/Devices

























应用

**Domoticz** 2020.2

Dashboard Switches Scenes Temperature Weather Utility Setup

sed All Devices Not Used Refresh

Show 25 entries Search:

<input type="checkbox"/>	Idx	Hardware	ID	Unit	Name	Type	SubType	Data	Signal	Battery	Actions	Last Seen
<input type="checkbox"/>	7	dingtian-relay	00020007	7	dingtian-relay - RELAY7	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:14
<input type="checkbox"/>	8	dingtian-relay	00020008	8	dingtian-relay - RELAY8	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:14
<input type="checkbox"/>	2	dingtian-relay	00020002	2	dingtian-relay - RELAY2	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:13
<input type="checkbox"/>	3	dingtian-relay	00020003	3	dingtian-relay - RELAY3	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:13
<input type="checkbox"/>	4	dingtian-relay	00020004	4	dingtian-relay - RELAY4	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:13
<input type="checkbox"/>	5	dingtian-relay	00020005	5	dingtian-relay - RELAY5	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:13
<input type="checkbox"/>	6	dingtian-relay	00020006	6	dingtian-relay - RELAY6	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:13
<input type="checkbox"/>	1	dingtian-relay	00020001	1	dingtian-relay - RELAY1	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:12

Showing 1 to 8 of 8 entries First Previous 1 Next Last

Click Add Device confirm

→ 127.0.0.1:8080/#/Devices

应用

**Domoticz** 2020.2

Dashboard Switches Scenes Temperature Weather Utility Setup

sed All Devices Not Used Refresh

























Show 25 entries Search:

**Add Device**

Name: dingtian-relay - RELAY7

As: ☒ Main Device ☐ Sub/Slave Device

**Add Device** Cancel

<input type="checkbox"/>	Idx	Hardware	ID	Unit	Name	Type	SubType	Data	Signal	Battery	Actions	Last Seen
<input type="checkbox"/>	7	dingtian-relay	00020007	7	dingtian-relay - RELAY7	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:14
<input type="checkbox"/>	8	dingtian-relay	00020008	8	dingtian-relay - RELAY8	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:14
<input type="checkbox"/>	2	dingtian-relay	00020002	2	dingtian-relay - RELAY2	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:13
<input type="checkbox"/>	3	dingtian-relay	00020003	3	dingtian-relay - RELAY3	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:13
<input type="checkbox"/>	4	dingtian-relay	00020004	4	dingtian-relay - RELAY4	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:13
<input type="checkbox"/>	5	dingtian-relay	00020005	5	dingtian-relay - RELAY5	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:13
<input type="checkbox"/>	6	dingtian-relay	00020006	6	dingtian-relay - RELAY6	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:13
<input type="checkbox"/>	1	dingtian-relay	00020001	1	dingtian-relay - RELAY1	Light/Switch	Switch	Off	-	-	  	2020-04-30 10:26:12

Showing 1 to 8 of 8 entries First Previous 1 Next Last

result

→ 127.0.0.1:8080/#/Devices

应用

Domoticz 2020.2

Dashboard Switches Scenes Temperature Weather Utility Setup

Used All Devices Not Used Refresh

Show 25 entries Search:

<input checked="" type="checkbox"/>	Idx	Hardware	ID	Unit	Name	Type	SubType	Data	Signal	Power	Last Seen
<input type="checkbox"/>	7	dingtian-relay	00020007	7	dingtian-relay - RELAY7	Light/Switch	Switch	Off	-	-	2020-04-30 10:26:14
<input type="checkbox"/>	8	dingtian-relay	00020008	8	dingtian-relay - RELAY8	Light/Switch	Switch	Off	-	-	2020-04-30 10:26:14
<input type="checkbox"/>	2	dingtian-relay	00020002	2	dingtian-relay - RELAY2	Light/Switch	Switch	Off	-	-	2020-04-30 10:26:13
<input type="checkbox"/>	3	dingtian-relay	00020003	3	dingtian-relay - RELAY3	Light/Switch	Switch	Off	-	-	2020-04-30 10:26:13
<input type="checkbox"/>	4	dingtian-relay	00020004	4	dingtian-relay - RELAY4	Light/Switch	Switch	Off	-	-	2020-04-30 10:26:13
<input type="checkbox"/>	5	dingtian-relay	00020005	5	dingtian-relay - RELAY5	Light/Switch	Switch	Off	-	-	2020-04-30 10:26:13
<input type="checkbox"/>	6	dingtian-relay	00020006	6	dingtian-relay - RELAY6	Light/Switch	Switch	Off	-	-	2020-04-30 10:26:13
<input type="checkbox"/>	1	dingtian-relay	00020001	1	dingtian-relay - RELAY1	Light/Switch	Switch	Off	-	-	2020-04-30 10:26:12

Showing 1 to 8 of entries First Previous 1 Next Last

## 4 Control Dingtian Relay with Domoticz

Switch “Switches” page

127.0.0.1:8080/#/LightSwitches

Domoticz 2020.2

Dashboard Switches Scenes Temperature Weather Utility Setup

2020-04-30 10:35:20 🌞 05:52 ▼ 18:50

Manual Light/Switch Learn Light/Switch

dingtian-relay - RELAY1 Off

Last Seen: 2020-04-30 10:26:12  
Type: Light/Switch, Switch, On/Off

★ Log Edit Timers Notifications

dingtian-relay - RELAY2 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

★ Log Edit Timers Notifications

dingtian-relay - RELAY3 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

★ Log Edit Timers Notifications

dingtian-relay - RELAY4 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

★ Log Edit Timers Notifications

dingtian-relay - RELAY5 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

★ Log Edit Timers Notifications

dingtian-relay - RELAY6 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

★ Log Edit Timers Notifications

dingtian-relay - RELAY7 Off

Last Seen: 2020-04-30 10:26:14  
Type: Light/Switch, Switch, On/Off

★ Log Edit Timers Notifications

dingtian-relay - RELAY8 Off

Last Seen: 2020-04-30 10:26:14  
Type: Light/Switch, Switch, On/Off

★ Log Edit Timers Notifications

Click light icon to control relay

127.0.0.1:8080/#/LightSwitches

Domoticz 2020.2

Dashboard Switches Scenes Temperature Weather Utility Setup

2020-04-30 10:36:10 05:52 18:50

Manual Light/Switch Learn Light/Switch

dingtian-relay - RELAY1 Off

Last Seen: 2020-04-30 10:26:12  
Type: Light/Switch, Switch, On/Off

Turn On Log Edit Timers Notifications

dingtian-relay - RELAY2 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY3 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY4 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY5 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY6 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY7 Off

Last Seen: 2020-04-30 10:26:14  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY8 Off

Last Seen: 2020-04-30 10:26:14  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

127.0.0.1:8080/#/LightSwitches

Domoticz 2020.2

Dashboard Switches Scenes Temperature Weather Utility Setup

2020-04-30 10:37:40 05:52 18:50

Manual Light/Switch Learn Light/Switch

dingtian-relay - RELAY1 On

Last Seen: 2020-04-30 10:37:36  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY2 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY3 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY4 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY5 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY6 Off

Last Seen: 2020-04-30 10:26:13  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY7 Off

Last Seen: 2020-04-30 10:26:14  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY8 Off

Last Seen: 2020-04-30 10:37:28  
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications



## Appendix III How to MQTT

Relay board MQTT Client Id

dingtian-relay+SN

example:

below relay board "Serial Number" is 600

so MQTT client id is:dingtian-relay600

The screenshot shows a web browser window with the address bar displaying '192.168.1.100/menu\_page.html'. The page title is 'Dingtian IOT Relay'. On the left is a 'Menu' sidebar with options: Setting, Relay Connect, Relay CGI Test, Relay Task, Reset Password, To Factory, and Reboot. The main content area is titled 'Setting' and contains a table of configuration parameters. The 'Serial Number' field is highlighted with a red box and contains the value '600'. Below the table is a green 'Save' button.

Hardware Version	V1.8
Software Version	V2.15.753
Model	Dingtian IOT RELAY-4
Serial Number	600
Date Time	7/7/2020, 23:07:37
NTP Server	pool.ntp.org
DHCP	No
IP	192.168.1.100
Netmask	255.255.255.0
Gateway	192.168.1.1
DNS	192.168.1.1
MAC	bc:34:88:00:01:ac
WiFi Name	wifiname support char 0~9,a~z,A~Z,-_
WiFi Password	wifipassword support char 0~9,a~z,A~Z,-_
WIFI DHCP IP	192.168.1.162

Save

Relay board MQTT Topic to subscribe:

/dingtian/relay/in/control  
type:ON/OFF,DELAY,JOGGING  
idx:1~8  
status:ON,OFF  
time: (ON/OFF)0,(DELAY)1~65535second,(JOGGING)1~255\*100ms  
pass:0~9999

example:

```
{"type":"ON/OFF","idx":'1',"status':"ON',"time':"0',"pass':"0"}  
{"type":"DELAY","idx":'2',"status':"ON',"time':"5',"pass':"0"}  
{"type":"JOGGING","idx":'3',"status':"ON',"time':"5',"pass':"0"}  
{"type":"ON/OFF","idx":'4',"status':"OFF',"time':"0',"pass':"0"}
```

#### Relay board MQTT Topic to publish:


/dingtian/relay/out/relay1  
/dingtian/relay/out/relay2  
/dingtian/relay/out/relay3  
/dingtian/relay/out/relay4  
/dingtian/relay/out/relay5  
/dingtian/relay/out/relay6  
/dingtian/relay/out/relay7  
/dingtian/relay/out/relay8

idx:1~8  
status:ON,OFF

example:

```
{"idx":'1',"status':"OFF"}
```

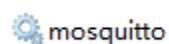
## step 1: Install and config Broker

 [mosquitto-1.6.9-install-windows-x64.exe](#)

1、 config “mosquitto.conf”

bind\_address 0.0.0.0  
port 1883

2、 start windows Service “mosquitto”



Mosquitto Broker

## step 2: Install MQTT PC client

client\_MQTTBox-win.exe

## step 3: MQTTBox Add Client



Protocol:mqtt/tcp

Host:192.168.1.9:1883(Broker server ip and port)

Username:mqtt

Password:123

Broker MQTT V3.1.1 compliant

<b>MQTT Client Name</b> <input type="text" value="relay_watch"/>	<b>MQTT Client Id</b> <input type="text" value="aa01c78c-1a28-48d4-8c13-"/>	<b>Append timestamp to MQTT client id?</b> <input checked="" type="checkbox"/> Yes	<b>Broker is MQTT v3.1.1 compliant?</b> <input checked="" type="checkbox"/> Yes
<b>Protocol</b> <input type="text" value="mqtt / tcp"/>	<b>Host</b> <input type="text" value="192.168.1.9:1883"/>	<b>Clean Session?</b> <input checked="" type="checkbox"/> Yes	<b>Auto connect on app launch?</b> <input checked="" type="checkbox"/> Yes
<b>Username</b> <input type="text" value="mqtt"/>	<b>Password</b> <input type="text" value="..."/>	<b>Reschedule Pings?</b> <input checked="" type="checkbox"/> Yes	<b>Queue outgoing QoS zero messages?</b> <input checked="" type="checkbox"/> Yes
<b>Reconnect Period (milliseconds)</b> <input type="text" value="1000"/>	<b>Connect Timeout (milliseconds)</b> <input type="text" value="30000"/>	<b>KeepAlive (seconds)</b> <input type="text" value="10"/>	
<b>Will - Topic</b> <input type="text" value="watch"/>	<b>Will - QoS</b> <input type="text" value="1 - Atleast Once"/>	<b>Will - Retain</b> <input checked="" type="checkbox"/> Yes	<b>Will - Payload</b> <input type="text" value="abc"/>
<input type="button" value="Save"/>		<input type="button" value="Delete"/>	

Dingtian IOT Relay

- Menu
- Setting

Relay Connect

Relay CGI Test

Relay Task

Reset Password

To Factory

Reboot

Relay

Channel	Protocol	Addr	Baud	Databits	Stopbits	Parity
RS485	Modbus-RTU	1	115200bps	8bit	1bit	None
CAN	Dingtian String	ID	Speed			
		1	125Kbps			
ETH-UDP1	Dingtian Binary	Remote Address	Remote Port	Local Port		
		192.168.1.9	60000	60000		
ETH-UDP2	CoAP	Remote Address	Remote Port	Local Port		
		192.168.1.9	5683	5683		
ETH-TCP Server	Modbus-TCP			Local Port		
				502		
ETH-TCP Client	Modbus-RTU Over TCP	Remote Address	Remote Port			
		192.168.1.9	502			
ETH-MQTT	MQTT	Breaker Address	Breaker Port	Breaker Username	Breaker Password	
		192.168.1.9	1883	mqtt	123	
WIFI-UDP1	Dingtian String	Remote Address	Remote Port	Local Port		
		192.168.1.9	60000	60000		
WIFI-UDP2	Modbus-ASCII Over UDP	Remote Address	Remote Port	Local Port		
		192.168.1.9	502	502		
WIFI-TCP	HTTP	Remote Address	Remote Port	Local Port	Type	
		192.168.1.9	80	80	TCP Server	

Other

Relay Password

0

0~9999(0 no password)

Keep Alive Second

30

1~120 second(0 close)

Jogging Time

5

1~255 (1=100ms)

Power Failure Recovery Relay

No

Button Type

Momentary

Momentary

Momentary

Momentary

Save

Relay Test

Relay1:Off

Relay2:Off

Relay3:Off

Relay4:Off

## step 4: MQTTBox Publish topic to relay board and subscribe topic

The screenshot displays the MQTTBox web interface. On the left is the 'Publish' configuration panel, and on the right are four 'Subscribe' panels for different relay topics.

**Publish Configuration:**

- MQTT Address: `mqtt://192.168.1.9:1883`
- Topic to publish: `/dingtian/relay/in/control`
- QoS: 2 - Exactly Once
- Retain: ☐
- Payload Type: Strings / JSON / XML / Characters
- e.g: `{'hello':'world'}`
- Payload (JSON array):

```
[{"type":"ON/OFF","idx":"1","status":"ON","time":"0","pass":"0"}, {"type":"DELAY","idx":"2","status":"ON","time":"5","pass":"0"}, {"type":"JOGGING","idx":"3","status":"ON","time":"5","pass":"0"}, {"type":"ON/OFF","idx":"4","status":"OFF","time":"0","pass":"0"}]
```
- Buttons: Publish, Clear

**Subscribe Panels:**

- Topic: `/dingtian/relay/out/relay1`**  
Payload: `{"idx":"1","status":"OFF"}`  
Metadata: `qos : 1, retain : false, cmd : publish, dup : false, topic : /dingtian/relay/out/relay1, message_id : 5, length : 56, Raw payload : 12334105100120345834493444341151169711611711534583479707034125`
- Topic: `/dingtian/relay/out/relay2`**  
Payload: `{"idx":"2","status":"ON"}`  
Metadata: `qos : 1, retain : false, cmd : publish, dup : false, topic : /dingtian/relay/out/relay2, message_id : 2, length : 55, Raw payload : 123341051001203458345034443411511697116117115345834797834125`
- Topic: `/dingtian/relay/out/relay3`**  
Payload: `{"idx":"3","status":"ON"}`  
Metadata: `qos : 1, retain : false, cmd : publish, dup : false, topic : /dingtian/relay/out/relay3, message_id : 3, length : 55, Raw payload : 123341051001203458345134443411511697116117115345834797834125`
- Topic: `/dingtian/relay/out/relay4`**  
Payload: `{"idx":"4","status":"ON"}`  
Metadata: `qos : 1, retain : false, cmd : publish, dup : false, topic : /dingtian/relay/out/relay4, message_id : 4, length : 55, Raw payload : 123341051001203458345234443411511697116117115345834797834125`

## Appendix IV How to CoAP

you need linux system



## step 1: compile libcoap

```
git clone --recurse-submodules https://github.com/obgm/libcoap
./autogen.sh
./configure --disable-manpages --enable-examples --enable-tests
make
```

## step 2: CoAP Get relay status

```
./coap-client -m get coap://192.168.1.100/dingtian-relay?r1
./coap-client -m get coap://192.168.1.100/dingtian-relay?r2
./coap-client -m get coap://192.168.1.100/dingtian-relay?r3
./coap-client -m get coap://192.168.1.100/dingtian-relay?r4
./coap-client -m get coap://192.168.1.100/dingtian-relay?r5
./coap-client -m get coap://192.168.1.100/dingtian-relay?r6
./coap-client -m get coap://192.168.1.100/dingtian-relay?r7
./coap-client -m get coap://192.168.1.100/dingtian-relay?r8
```

## step 3: CoAP Control relay(simple)

```
./coap-client -e "1" -m put coap://192.168.1.100/dingtian/r1 # relay1 ON
./coap-client -e "0" -m put coap://192.168.1.100/dingtian/r1 # relay1 OFF
./coap-client -e "1" -m put coap://192.168.1.100/dingtian/r2 # relay2 ON
./coap-client -e "0" -m put coap://192.168.1.100/dingtian/r2 # relay2 OFF
./coap-client -e "1" -m put coap://192.168.1.100/dingtian/r3 # relay3 ON
./coap-client -e "0" -m put coap://192.168.1.100/dingtian/r3 # relay3 OFF
./coap-client -e "1" -m put coap://192.168.1.100/dingtian/r4 # relay4 ON
./coap-client -e "0" -m put coap://192.168.1.100/dingtian/r4 # relay4 OFF
./coap-client -e "1" -m put coap://192.168.1.100/dingtian/r5 # relay5 ON
./coap-client -e "0" -m put coap://192.168.1.100/dingtian/r5 # relay5 OFF
./coap-client -e "1" -m put coap://192.168.1.100/dingtian/r6 # relay6 ON
./coap-client -e "0" -m put coap://192.168.1.100/dingtian/r6 # relay6 OFF
./coap-client -e "1" -m put coap://192.168.1.100/dingtian/r7 # relay7 ON
./coap-client -e "0" -m put coap://192.168.1.100/dingtian/r7 # relay7 OFF
./coap-client -e "1" -m put coap://192.168.1.100/dingtian/r8 # relay8 ON
./coap-client -e "0" -m put coap://192.168.1.100/dingtian/r8 # relay8 OFF
```

## step 3: CoAP Control relay

```
format:
status:type:time:password
status:0,1
```

type:ON/OFF,DELAY,JOGGING

time:(ON/OFF)0,(DELAY)1~65535second,(JOGGING)1~255\*100ms

password:0~9999

example:

1:ON/OFF:0:4660

status:1

type:ON/OFF

time:0

password:4660

ON/OFF example:

./coap-client -e "1:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r1

./coap-client -e "1:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r2

./coap-client -e "1:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r3

./coap-client -e "1:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r4

./coap-client -e "1:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r5

./coap-client -e "1:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r6

./coap-client -e "1:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r7

./coap-client -e "1:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r8

./coap-client -e "0:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r1

./coap-client -e "0:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r2

./coap-client -e "0:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r3

./coap-client -e "0:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r4

./coap-client -e "0:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r5

./coap-client -e "0:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r6

./coap-client -e "0:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r7

./coap-client -e "0:ON/OFF:0:4660" -m put coap://192.168.1.100/dingtian/r8

DELAY example:

./coap-client -e "1:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r1

./coap-client -e "1:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r2

./coap-client -e "1:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r3

./coap-client -e "1:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r4

./coap-client -e "1:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r5

./coap-client -e "1:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r6

./coap-client -e "1:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r7

./coap-client -e "1:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r8

./coap-client -e "0:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r1

./coap-client -e "0:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r2

./coap-client -e "0:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r3

./coap-client -e "0:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r4

./coap-client -e "0:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r5

./coap-client -e "0:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r6

```
./coap-client -e "0:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r7  
./coap-client -e "0:DELAY:5:4660" -m put coap://192.168.1.100/dingtian/r8
```

JOGGING example:

```
./coap-client -e "1:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r1  
./coap-client -e "1:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r2  
./coap-client -e "1:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r3  
./coap-client -e "1:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r4  
./coap-client -e "1:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r5  
./coap-client -e "1:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r6  
./coap-client -e "1:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r7  
./coap-client -e "1:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r8  
./coap-client -e "0:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r1  
./coap-client -e "0:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r2  
./coap-client -e "0:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r3  
./coap-client -e "0:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r4  
./coap-client -e "0:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r5  
./coap-client -e "0:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r6  
./coap-client -e "0:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r7  
./coap-client -e "0:JOGGING:5:4660" -m put coap://192.168.1.100/dingtian/r8
```