

IOT Relay User Manual

V1.9.4

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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)

WEB config and control

Support password.

Support Modbus-RTU/ASCII/TCP/UDP/WIFI

Support Modbus-RTU Over TCP/UDP/WIFI

Support Modbus-ASCII Over TCP/UDP/WIFI

Support MQTT(Ethernet and WIFI)

Support CoAP

Support Domoticz

Home Automation System Support:

Name	How to
Domoticz	Appendix II How to use Domoticz https://github.com/dtlzp/Domoticz-Dingtian-Relay-Plugin (Software version <=V2.16.xx, please use V1.1 for github; software version V2.17.xx or more, please use V1.2 for github)

Noted: when using Domoticz, please close your firewall or let your firewall allow the domoticz server port

SDK download address:

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/WIFI Modbus-RTU Over TCP/UDP/WIFI Modbus-ASCII Over TCP/UDP/WIFI MQTT(Ethernet and WIFI) CoAP
Output	Relay Power	AC 250V/10A,DC 30V/10A
	Contacts	Normally Close(NC) Normally Open(NO)
	Delay	1~65535 seconds
	Momentary	Pull in 0.5 seconds, automatically release
Working environment	Operating temperature	0~+85°C
Power	Power Specifications	12/24VDC 12/24VAC
	Current	2 channel: 0.15A/12V(recommend 1A/12V) 4 channel: 0.25A/12V(recommend 1A/12V) 8 channel: 0.5A/12V(recommend 2A/12V)
	Power consumption	2 channel: 2W 4 channel: 3W 8 channel: 5W

2 Image and Size

Hole size: 3.5mm



3 Interface Description

3.1 LED

wifi led	on: Connect WIFI successfully off: Disconnect 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.

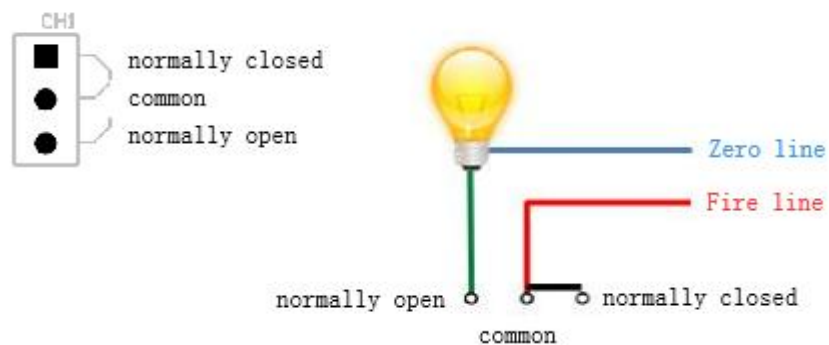
- Common:

Controlled power input

- Normally closed contact:

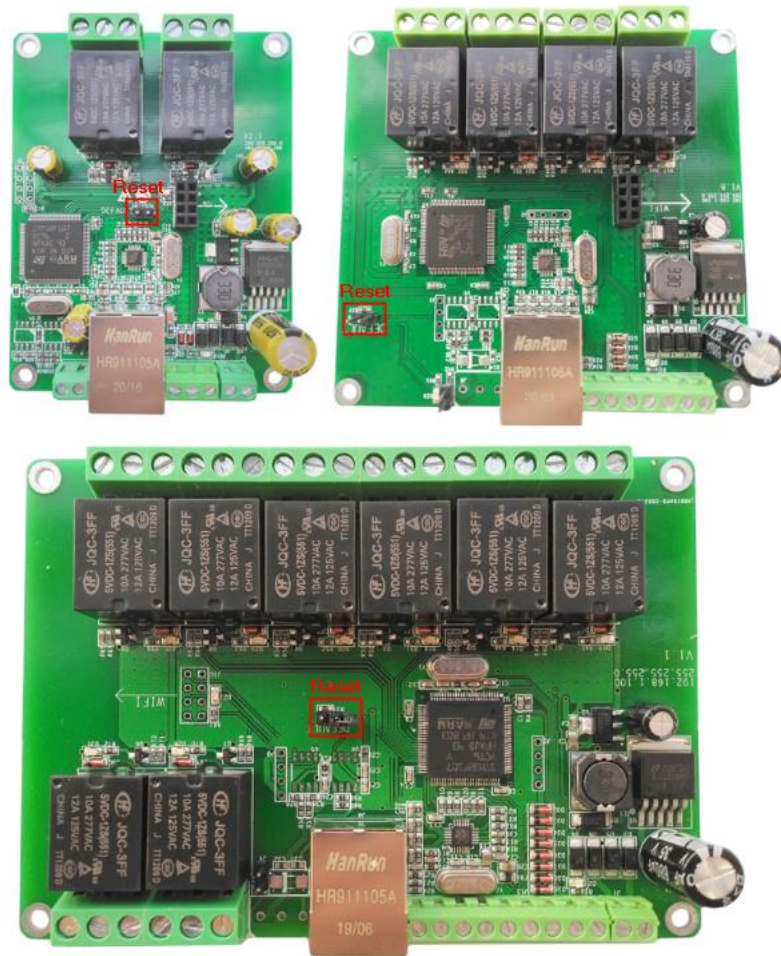
When the relay is released (or the module is powered down), the common and normally closed contacts are closed. After the pull-in, the two contacts are disconnected.

Connection example



3.3 Reset To Factory

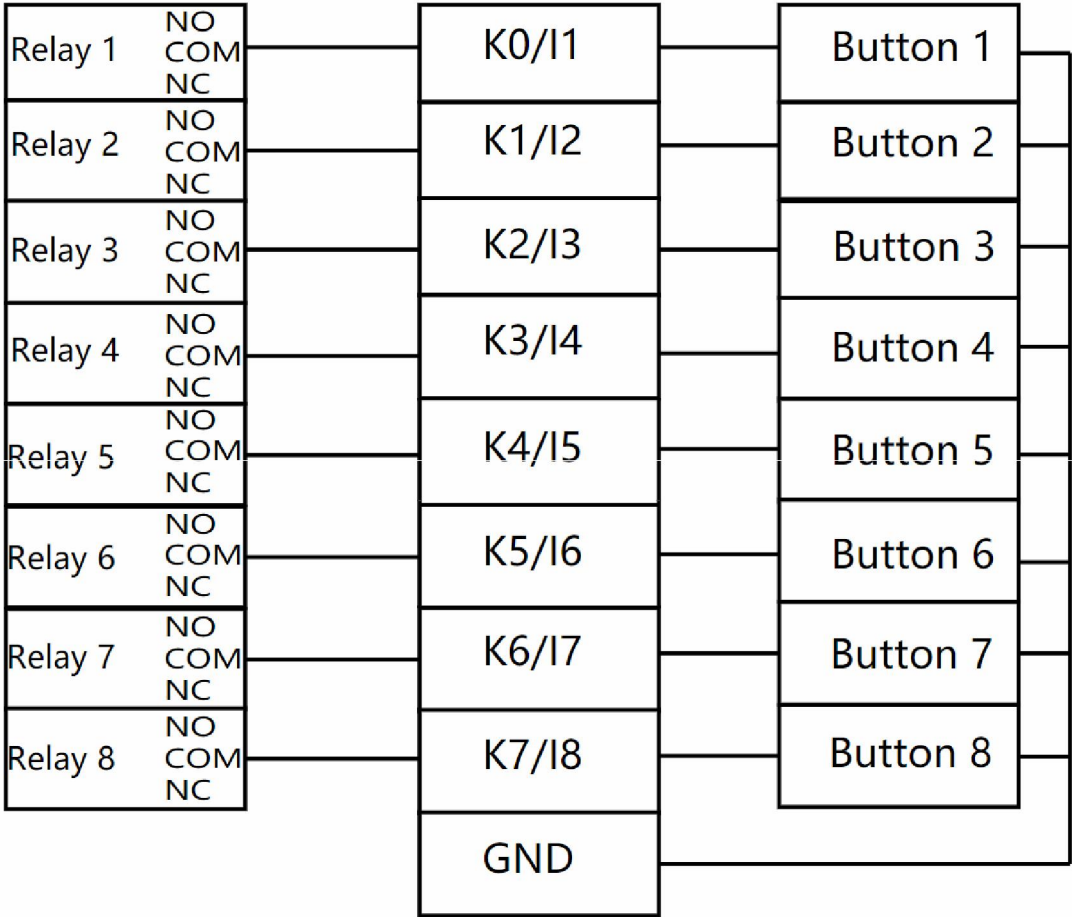
1. Short-circuit the 2 pin headers under the Default assembly with a jumper cap



- 2 Power off the relay board
- 3 Power on the relay board
- 4 Pull out the Default jumper cap

3.4 External input/Button control

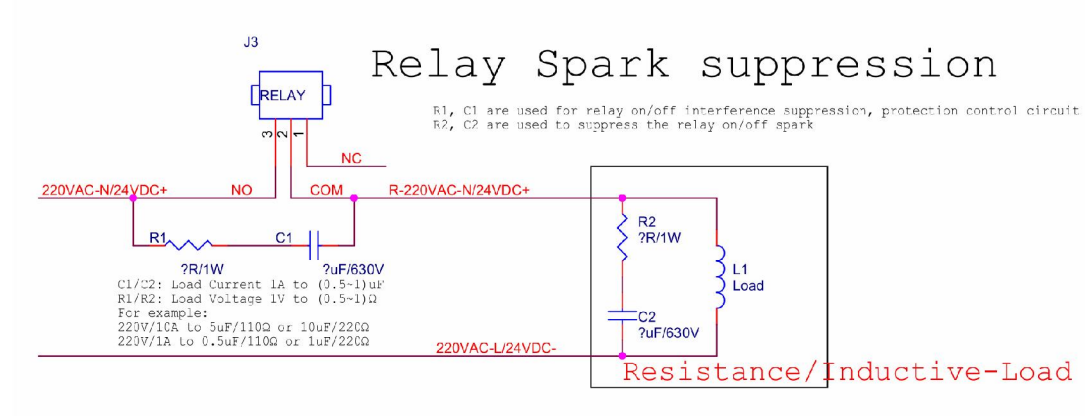
K0~K7 Control Relay1~8
0V Relay On
3.3V Relay Off (Hardware Version < V1.8)
3.3V/5V/12V/24V Relay Off (Hardware Version >= V1.8)



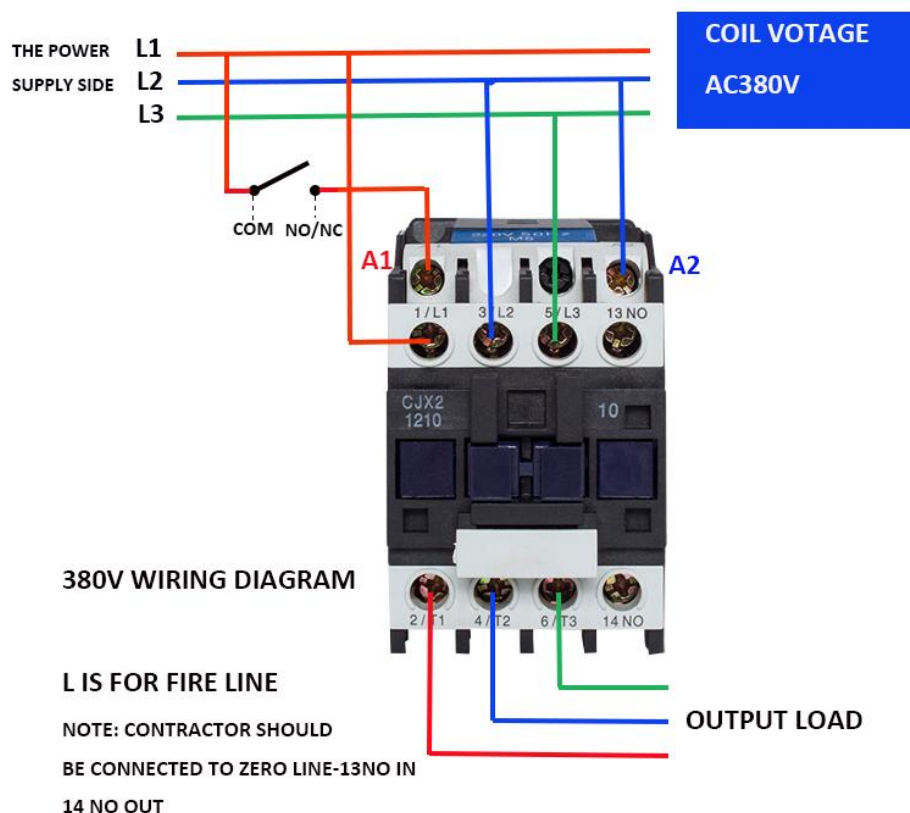
3.5 Add Spark killer and contractor

R1,C1 are used for relay on/off interference suppression, protection control circuit

R2,C2 are used to suppress the relay on/off spark

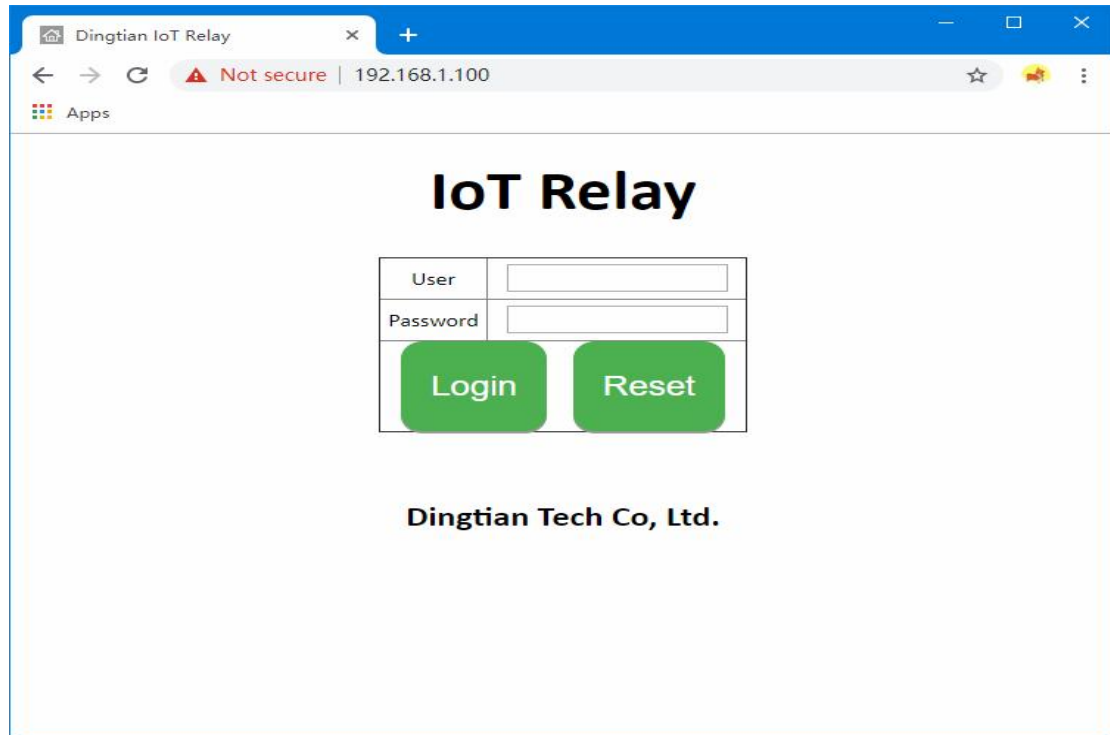


Our max current is 10A, if the current of your device is too big, suggest add a contractor



4 Ethernet Web Page

IE is not support, please use firefox and chrome

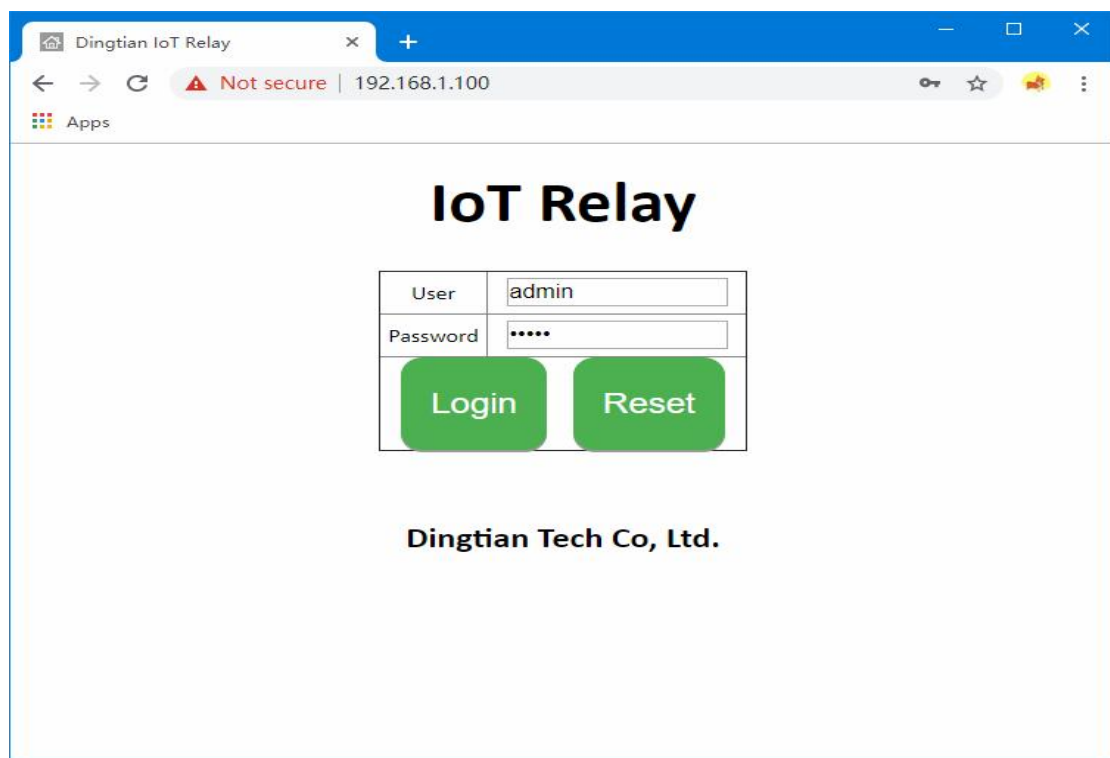


4.1 Login

Default IP: 192.168.1.100

user: admin

password: admin



4.2 Setting Network

Set network information, NTP Server on Relay setting page
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

Hardware Version	V1.4
Software Version	V2.17.28
Build Date	2021-01-21 21:23:13
Model	Dingtian IOT RELAY-8
Serial Number	1868
Date Time	1/28/2021, 23:31:43
NTP Server	pool.ntp.org
Hostname	Dingtian-Relay1868
Hostname+Suffix	Dingtian-Relay + SN
HTTP Server Port	80
DHCP	No
IP	192.168.1.100
Netmask	255.255.255.0
Gateway	192.168.1.1
DNS	192.168.1.1
MAC	bc:34:88:00:06:9d
WiFi AP IP	192.168.7.1
WiFi STA IP	192.168.1.97

Save

4.3 Relay Connect

Set control interface parameter of relay board on the Relay connect page and test relay

After click "Save" button, device will reboot

Protocol refers to [programming 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(need change port to 5683)

Input Mutual Control

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(we suggest enable CoAP at ETH/WiFi-UDP2)

Input Mutual Control

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, Broker Address, Broker Port, Broker Username, Broker
Password config

Protocol:

MQTT(without tls)

Other Parameter:

Relay Password: use for checking control is valid, only correct password control relay board

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 then delay 500ms OFF, or OFF then delay 500ms ON,

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

Input Control Relay: Input link relay output

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

Dingtian IOT WiFi Relay

Not secure | 192.168.1.100

Dingtian IOT Relay

Menu

- Setting
- Relay Connect
- Relay CGI Test
- Relay Task
- Input
- Input Link Relay
- IP WatchDog
- Reset User
- To Factory
- Reboot

Relay

Channel	Protocol	Addr	Baud	Databits	Stopbits	Parity
RS485	Modbus-RTU	1	115200bps	8bit	1bit	None
CAN	Dinglian String	ID	Speed			
		1	125Kbps			
ETH-UDP1	Dinglian Binary	Remote Address	Remote Port	Local Port		
		192.168.1.9	60000	60000		
ETH-UDP2	Dinglian 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	Broker Address	Broker Port	Broker Username	Broker Password	
		192.168.1.9	1883	mqtt	123	

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	
Input Control Relay	Yes	

Button Type

Momentary	Momentary	Momentary	Momentary
Momentary	Momentary	Momentary	Momentary

Save

Relay Test

Relay1:On

Relay2:On

Relay3:On

Relay4:On

Relay5:On

Relay6:On

Relay7:On

Relay8:On

4.4 Relay CGI Test

relay CGI test

Dingtian IOT Relay

Dingtian IOT WiFi Relay

Not secure | 192.168.1.100

Dingtian IOT Relay

Menu

- Setting
- Relay Connect
- Relay CGI Test
- Relay Task
- Input
- Input Link Relay
- IP WatchDog
- Reset User
- 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	On	On 5 500ms	On 5 second	Do Off	Do Jogging	Do Delay
2	On	On 5 500ms	On 5 second	Do Off	Do Jogging	Do Delay
3	On	On 5 500ms	On 5 second	Do Off	Do Jogging	Do Delay
4	On	On 5 500ms	On 5 second	Do Off	Do Jogging	Do Delay
5	On	On 5 500ms	On 5 second	Do Off	Do Jogging	Do Delay
6	On	On 5 500ms	On 5 second	Do Off	Do Jogging	Do Delay
7	On	On 5 500ms	On 5 second	Do Off	Do Jogging	Do Delay
8	On	On 5 500ms	On 5 second	Do Off	Do Jogging	Do Delay

Relay CGI load success!

4.5 Relay Task

Choose "Repeat", you can ask repeat by second/minute/hour/day/week/month

Dingtian IOT Relay

Menu

- Setting
- Relay Connect
- Relay CGI Test
- Relay Task**
- Input
- Input Link Relay
- IP WatchDog
- Reset User
- To Factory
- Reboot

Relay Task

Relay task begin time

Task	Enable	Relay Mode	On/Off	Delay/Jogging	Repeat	Week	Month	Day	Hour	Minute	Second	Interval	
1	Yes	1	On/Off	On	0	No	SUN MON	2	6	17	32	31	0
					No	TUE WED							
					Second	THU FRI							
					Minute	SAT							
					Hour	SUN MON							
2	No	1	On/Off	On	0	TUE WED	1	1	0	0	0	0	
					Day	THU FRI							
					Week	SAT							
					Month	SUN MON							
3	No	1	On/Off	On	0	TUE WED	1	1	0	0	0	0	
					No	THU FRI							
						SAT							
						SUN MON							
4	No	1	On/Off	On	0	TUE WED	1	1	0	0	0	0	
					No	THU FRI							
						SAT							
						SUN MON							
5	No	1	On/Off	On	0	TUE WED	1	1	0	0	0	0	
					No	THU FRI							
						SAT							

4.6 Input

[illegible]

4.7 Input Link Relay

Select R1~R8, means you add the relay to link with Input, Click the green button R1~R8 means delete relay

Dingtian IOT Relay

Menu

- Setting
- Relay Connect
- Relay CGI Test
- Relay Task
- Input
- Input Link Relay**
- IP WatchDog
- Reset User
- To Factory
- Reboot

Input Link Relay

	Input ON (Action ON)	ON (Action OFF)	OFF (Action ON)	OFF (Action OFF)
1	R1	R1	R1	R1
2	R1	R2	R1	R2
3	R1	R3	R1	R3
4	R1	R4	R1	R4
5	R1	R5	R1	R5
6	R1	R6	R1	R6
7	R1	R7	R1	R7
8	R1	R8	R1	R8

How to: Select Add/Click Delete

Save

load success!

4.8 IP WatchDog

When Enable IP WatchDog function, all relay ON, when the "Watch IP" offline, relay OFF, after seconds, the relay ON automatically, "Ping Interval" must be bigger than "Ping Timeout"

Dingtian IOT Relay

Menu

- Setting
- Relay Connect
- Relay CGI Test
- Relay Task
- Input
- Input Link Relay
- IP WatchDog**
- Reset User
- To Factory
- Reboot

IP WatchDog

☐ Enable IP WatchDog

WatchDog	Enable	Off Relay	Watch IP	Relay Off	Ping Interval	Ping Timeout	Ping Retry Times	Offline Action Time
1 offline	Yes	R1	8.8.8.8	10	S	2	S	60
2 offline	Yes	R1	192.168.1.1	10	S	2	S	30
3 offline	Yes	R1	192.168.1.2	10	S	2	S	30
4 offline	Yes	R1	192.168.1.3	10	S	2	S	30
5 offline	Yes	R1	192.168.1.4	10	S	2	S	30
6 offline	Yes	R1	192.168.1.5	10	S	2	S	30
7 offline	Yes	R1	192.168.1.6	10	S	2	S	30
8 offline	Yes	R1	192.168.1.7	10	S	2	S	30
9 offline	Yes	R1	192.168.1.8	10	S	2	S	30

Off Relay: Select Add/Click Delete
"Ping Interval" Must Greater than "Ping Timeout"

Save

load success!

4.9 Reset User

The screenshot shows a web browser window with two tabs: 'Dingtian IOT Relay' and 'Dingtian IOT WiFi Relay'. The address bar shows '192.168.1.100' and a 'Not secure' warning. The page title is 'Dingtian IOT Relay'. On the left is a 'Menu' sidebar with options: Setting, Relay Connect, Relay CGI Test, Relay Task, Input, Input Link Relay, IP WatchDog, **Reset User** (highlighted with a red box), To Factory, and Reboot. The main content area is titled 'Reset User' and contains a form with the following fields:

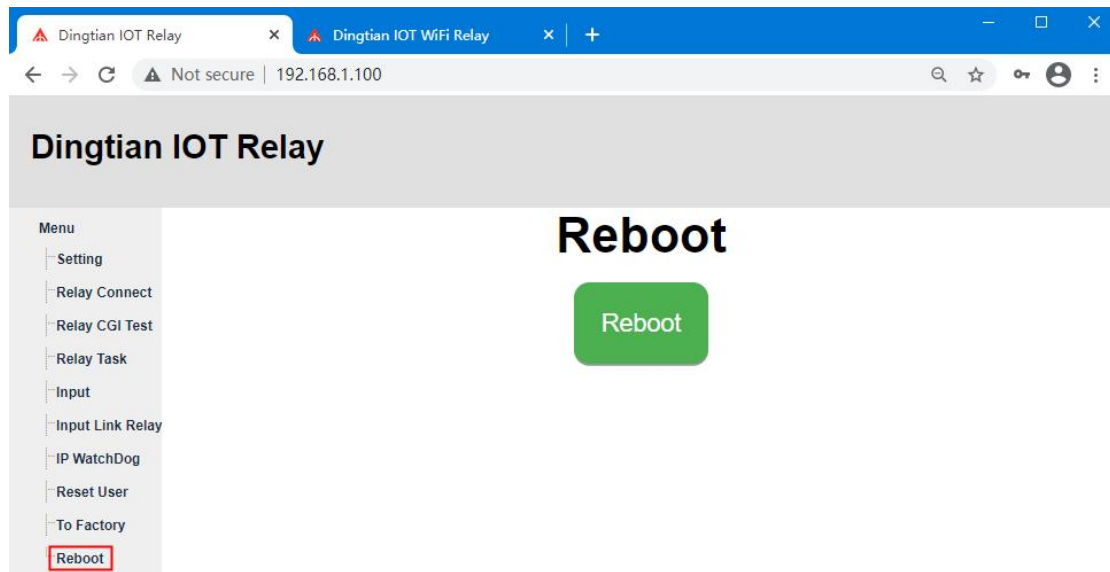
Old User	admin
Old password	
New User	
New password	

Below the form is a green 'Reset' button.

4.10 To Factory

The screenshot shows the same web browser window as above. The 'Menu' sidebar is visible, with 'To Factory' highlighted by a red box. The main content area is titled 'Factory' and contains a single green button labeled 'To Factory'.

4.11 Reboot



5 WIFI web Page

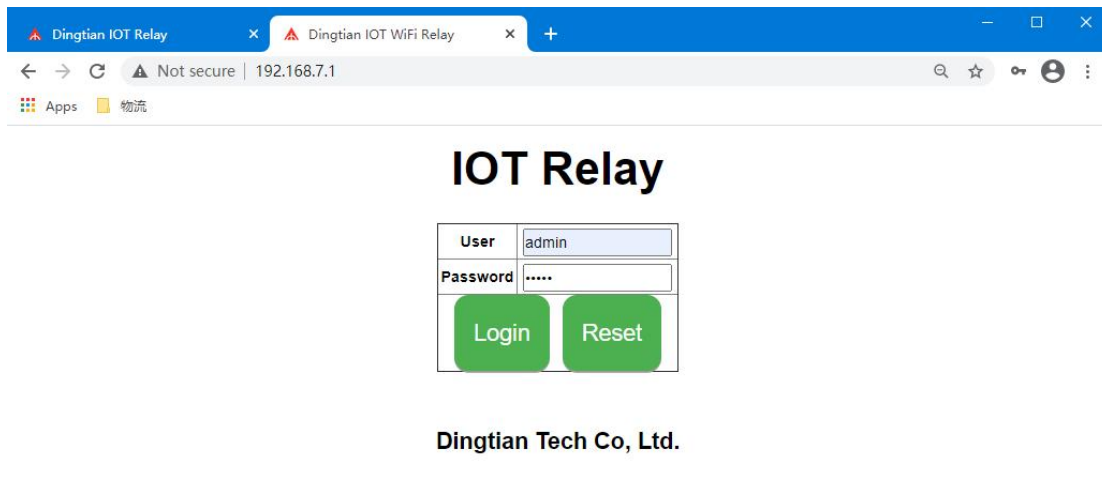
IE is not support, please use firefox and chrome

5.1 Login

Default IP: 192.168.7.1

user:admin

password:admin



5.2 Setting WIFI

Set WIFI information, NTP Server and STA WIFI SSID and password on WIFI Relay setting page
After click "Save" button, device will reboot

Parameter:

Software Version: Relay board firmware version

Model:

2CH is Dingtian IOT WRELAY-2

4CH is Dingtian IOT WRELAY-4

8CH is Dingtian IOT WRELAY-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

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

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

STA IP: Relay board get IP from your Router

Netmask: WIFI Netmask

Gateway: WIFI Gateway

DNS: WIFI DNS Server

MAC: WIFI MAC address

AP IP: WIFI default address

AP SSID: WIFI default name, as a router, we need to connect the WIFI with your computer firstly and access the wifi web

AP Password: WIFI default Password

we can use STA IP or AP IP to control relay board via WIFI, only accept to use one browser(Firefox or Chrome) to access.

The screenshot shows a web browser window with two tabs: 'Dingtian IOT Relay' and 'Dingtian IOT WiFi Relay'. The address bar shows '192.168.7.1'. The page title is 'Dingtian IOT WiFi Relay'. On the left is a 'Menu' sidebar with options: 'Setting' (highlighted with a red box), 'Relay Connect', 'Relay CGI Test', 'Relay Task', 'Input', 'Input Link Relay', 'IP WatchDog', 'Reset User', and 'To Factory'. The main content area is titled 'Setting' and contains a table of configuration parameters. At the bottom right of the table is a green 'Save' button.

Hardware Version	V1.0
Software Version	V1.0.289
Build Date	2021/01/21 21:28:24
Model	Dingtian IOT WRELAY-8
Serial Number	1868
Date Time	1/28/2021, 23:23:02
NTP Server	pool.ntp.org
Hostname	Dingtian-WRelay1868
Hostname+Suffix	Dingtian-WRelay + SN
HTTP Server Port	80
STA DHCP	No
STA IP	192.168.1.97
STA Netmask	255.255.255.0
STA Gateway	192.168.1.1
STA DNS	192.168.1.1
STA MAC	be:34:88:00:06:9d
STA WiFi SSID	lzproute
STA WiFi Password	lzplzj13723464709
AP IP	192.168.7.1
AP Netmask	255.255.255.0
AP Gateway	192.168.7.1
AP DNS	192.168.7.1
AP MAC	ba:34:88:00:06:9d
AP SSID	dtrelay1868
AP Password	dtpassword

Save

5.3 Setting Relay Connect

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(need change port to 5683)

Input Mutual Control

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(we suggest enable CoAP at ETH/WiFi-UDP2)

Input Mutual Control

WIFI-TCP Server: WIFI 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

WIFI-TCP Client: WIFI 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

WIFI-MQTT: WIFI MQTT protocol, Broker Address, Broker Port, Broker Username, Broker Password config

Protocol:

MQTT(without tls)

Other Parameter:

Relay Password: use for checking control is valid, only correct password control relay board

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 then delay 500ms OFF,or OFF then delay 500ms ON

Dingtian IOT Relay

Dingtian IOT WiFi Relay

← → ↻ ⚠ Not secure | 192.168.7.1

🔍 ☆ 🔒 👤 ⋮

Dingtian IOT WiFi Relay

Menu

Setting

Relay Connect

Relay CGI Test

Relay Task

Input

Input Link Relay

IP WatchDog

Reset User

To Factory

Relay

Channel	Protocol	Remote Address	Remote Port	Local Port
WIFI-UDP1	Dingtian Binary	192.168.1.9	60000	60000
WIFI-UDP2	Dingtian String	192.168.1.9	60001	60001
WIFI-TCP Server	Modbus-TCP			502
WIFI-TCP Client	Modbus-RTU Over TCP		502	
WIFI-MQTT	MQTT	Broker Address	Broker Port	Broker Username
			1883	mqtt
				123

Other

Relay Password00~9999(0 no password)

Keep Alive Second301~120 second(0 close)

Jogging Time51~255 (1=100ms)

Save

Relay Test

Relay1:OffRelay2:OffRelay3:OffRelay4:Off

Relay5:OffRelay6:OffRelay7:OffRelay8:Off

5.4 Relay CGI Test

Dingtian IOT Relay

Dingtian IOT WiFi Relay

← → ↻ ⚠ Not secure | 192.168.7.1

🔍 ☆ 🔒 👤 ⋮

Dingtian IOT WiFi Relay

Menu

Setting

Relay Connect

Relay CGI Test

Relay Task

Input

Input Link Relay

IP WatchDog

Reset User

To Factory

Relay CGI Test

Relay Password00~9999

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
2	Off	On ▾ 5 500ms	On ▾ 5 second		Do On	Do Jogging
3	Off	On ▾ 5 500ms	On ▾ 5 second		Do On	Do Jogging
4	Off	On ▾ 5 500ms	On ▾ 5 second		Do On	Do Jogging
5	Off	On ▾ 5 500ms	On ▾ 5 second		Do On	Do Jogging
6	Off	On ▾ 5 500ms	On ▾ 5 second		Do On	Do Jogging
7	Off	On ▾ 5 500ms	On ▾ 5 second		Do On	Do Jogging
8	Off	On ▾ 5 500ms	On ▾ 5 second		Do On	Do Jogging

Relay CGI load success!

5.5 Relay Task

Choose "Repeat", you can ask repeat by second/minute/hour/day/week/month

The screenshot shows a web browser window at the address 192.168.7.1/menu_page.html. The page title is "Dingtian IOT WiFi Relay". On the left is a sidebar menu with options: Setting, Relay Connect, Relay CGI Test, Relay Task (highlighted), Input, Input Link Relay, IP WatchDog, Reset User, and To Factory.

Relay Task

Task	Enable	Relay Mode	On/Off	Delay/Jogging	Repeat	Week	Month	Day	Hour	Minute	Second	Interval
1	<input type="button" value="Yes"/>	<input type="button" value="1"/>	<input type="button" value="On/Off"/>	<input type="button" value="0"/>	<input type="button" value="No"/> <input type="button" value="Second"/> Minute <input type="button" value="Hour"/> Hour <input type="button" value="Day"/> Day <input type="button" value="Week"/> Week <input type="button" value="Month"/> Month	SUN MON TUE WED THU FRI SAT	<input type="text" value="2"/>	<input type="text" value="6"/>	<input type="text" value="18"/>	<input type="text" value="51"/>	<input type="text" value="51"/>	<input type="text" value="0"/>
2	<input type="button" value="No"/>	<input type="button" value="1"/>	<input type="button" value="On/Off"/>	<input type="button" value="0"/>		SUN MON TUE WED THU FRI SAT	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
3	<input type="button" value="No"/>	<input type="button" value="1"/>	<input type="button" value="On/Off"/>	<input type="button" value="0"/>	<input type="button" value="No"/>	SUN MON TUE WED THU FRI SAT	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
4	<input type="button" value="No"/>	<input type="button" value="1"/>	<input type="button" value="On/Off"/>	<input type="button" value="0"/>	<input type="button" value="No"/>	SUN MON TUE WED THU FRI SAT	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
5	<input type="button" value="No"/>	<input type="button" value="1"/>	<input type="button" value="On/Off"/>	<input type="button" value="0"/>	<input type="button" value="No"/>	SUN MON TUE WED THU FRI SAT	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
6	<input type="button" value="No"/>	<input type="button" value="1"/>	<input type="button" value="On/Off"/>	<input type="button" value="0"/>	<input type="button" value="No"/>	SUN MON TUE WED THU FRI SAT	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

5.6 Input

The screenshot shows a web browser with two tabs: "Dingtian IOT Relay" and "Dingtian IOT WiFi Relay". The address bar shows "Not secure | 192.168.7.1". The page title is "Dingtian IOT WiFi Relay". On the left is a "Menu" sidebar with options: Setting, Relay Connect, Relay CGI Test, Relay Task, **Input** (highlighted with a red box), Input Link Relay, IP WatchDog, Reset User, and To Factory. The main content area displays "Input Test" above a table with 8 columns. The table contains the text "0HighHighHighHighHighHighHighHighHigh". Below the table, it says "success!".

1	2	3	4	5	6	7	8
0	H	H	H	H	H	H	H

5.7 Input Link Relay

Select R1~R8, means you add the relay to link with Input, Click the green button R1~R8 means delete relay

Dingtian IOT WiFi Relay

Menu

- Setting
- Relay Connect
- Relay CGI Test
- Relay Task
- Input
 - Input Link Relay**
 - IP WatchDog
 - Reset User
 - To Factory

Input Link Relay

	InputON (Action ON)	ON (Action OFF)	OFF (Action ON)	OFF (Action OFF)
11	R1	R1	R1	R1
12	R1	R2	R1	R1
13	R1	R3	R1	R1
14	R1	R4	R1	R1
15	R1	R5	R1	R1
16	R1	R6	R1	R1
17	R1	R7	R1	R1
18	R1	R8	R1	R1

How to: Select Add/Click Delete

Save

load success!

5.8 IP WatchDog

When Enable IP WatchDog function, all relay ON, when the "Watch IP" offline, relay OFF, after seconds, the relay ON automatically, "Ping Interval" must be bigger than "Ping Timeout"

Dingtian IOT WiFi Relay

Menu

- Setting
- Relay Connect
- Relay CGI Test
- Relay Task
- Input
 - Input Link Relay
 - IP WatchDog**
 - Reset User
 - To Factory

IP WatchDog

☐ Enable IP WatchDog

WatchDog	Enable	Off Relay	Watch IP	Relay Off	Ping Interval	Ping Timeout	Ping Retry	Times	Offline Action Time		
1 offline	Yes	R1	8.8.8.8	10	S	2	S	1	S	60	00:02:00
2 offline	Yes	R1	192.168.1.1	10	S	2	S	1	S	30	00:01:00
3 offline	Yes	R1	192.168.1.2	10	S	2	S	1	S	30	00:01:00
4 offline	Yes	R1	192.168.1.3	10	S	2	S	1	S	30	00:01:00
5 offline	Yes	R1	192.168.1.4	10	S	2	S	1	S	30	00:01:00
6 offline	Yes	R1	192.168.1.5	10	S	2	S	1	S	30	00:01:00
7 offline	Yes	R1	192.168.1.6	10	S	2	S	1	S	30	00:01:00
8 offline	Yes	R1	192.168.1.7	10	S	2	S	1	S	30	00:01:00
9 offline	Yes	R1	192.168.1.8	10	S	2	S	1	S	30	00:01:00

Off Relay: Select Add/Click Delete
"Ping Interval" Must Greater than "Ping Timeout"

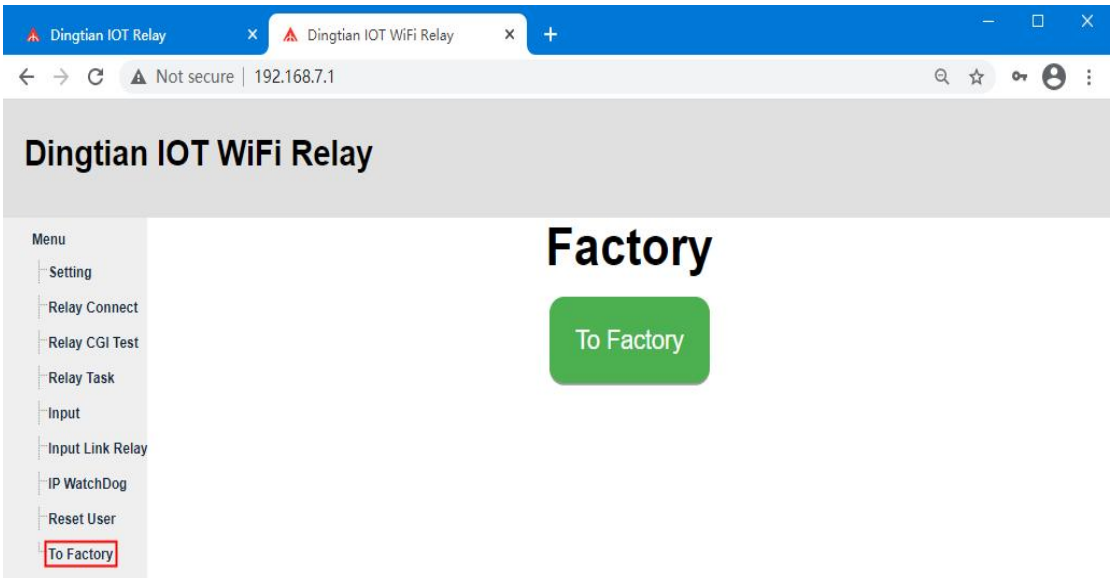
Save

load success!

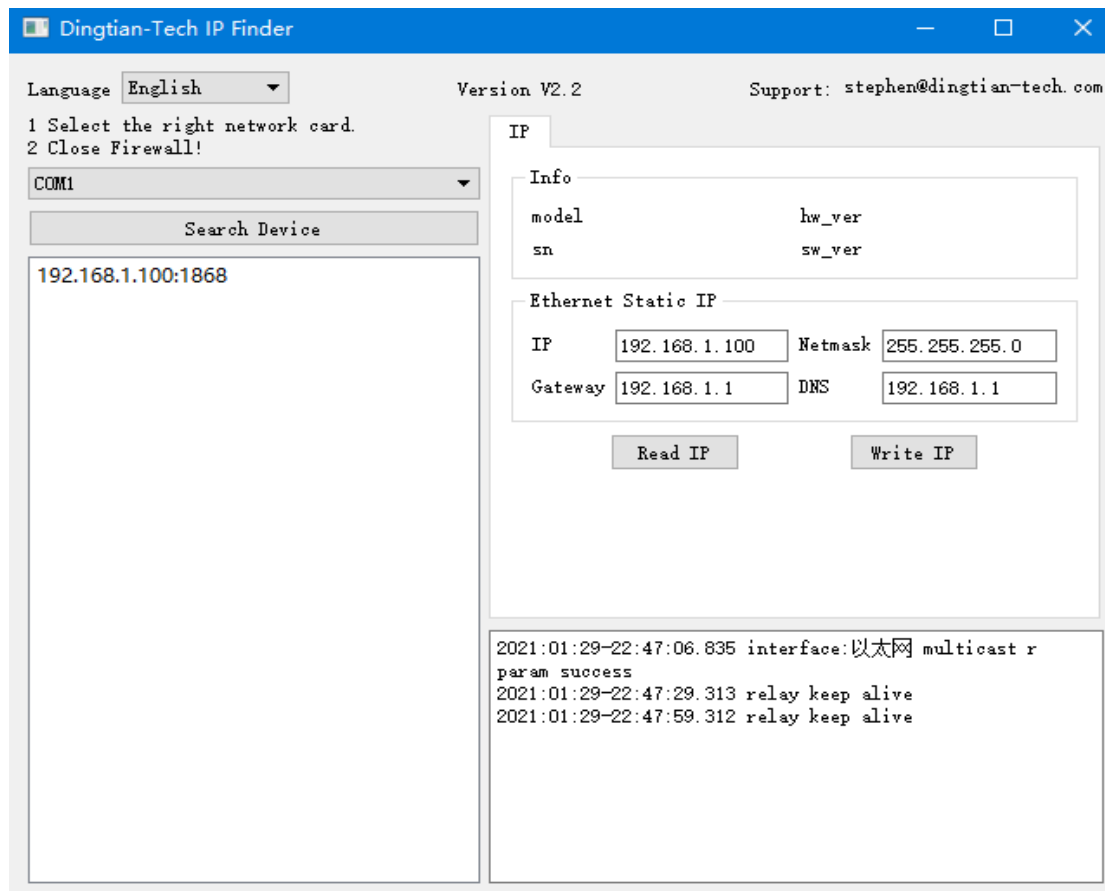
5.9 Reset User



5.10 To Factory

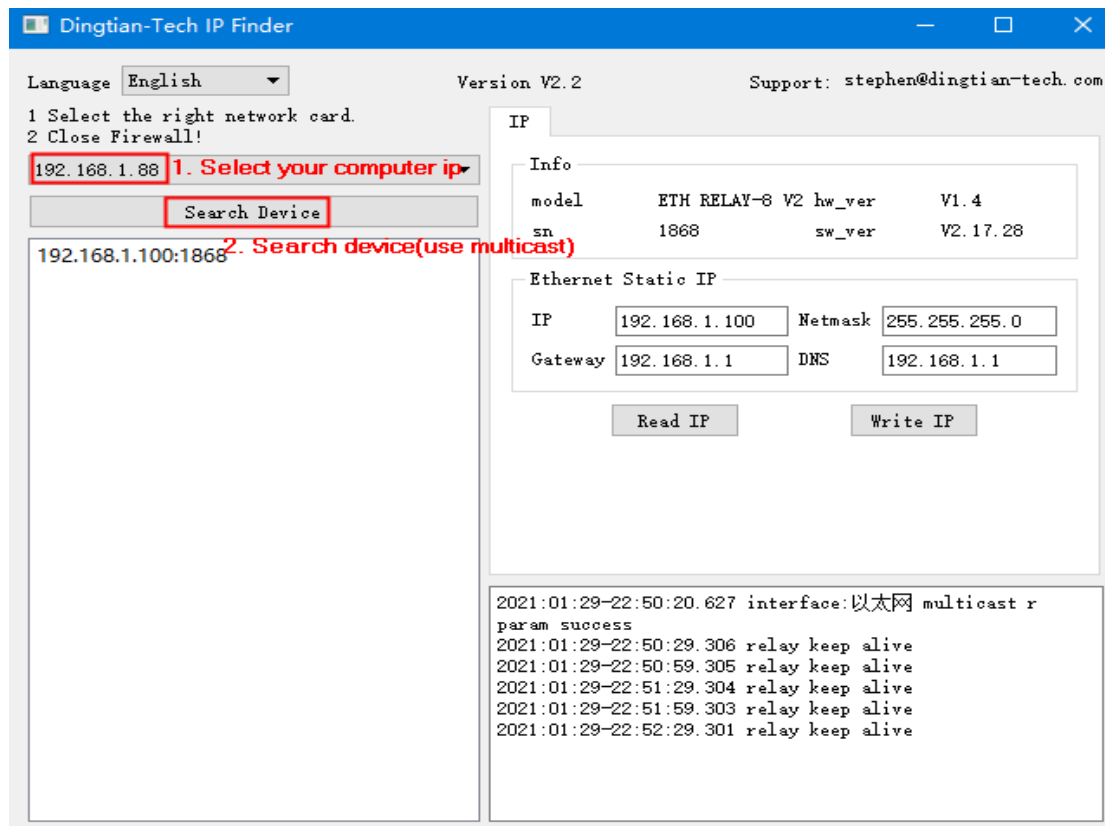


6 IP Finder



6.1 Search Device

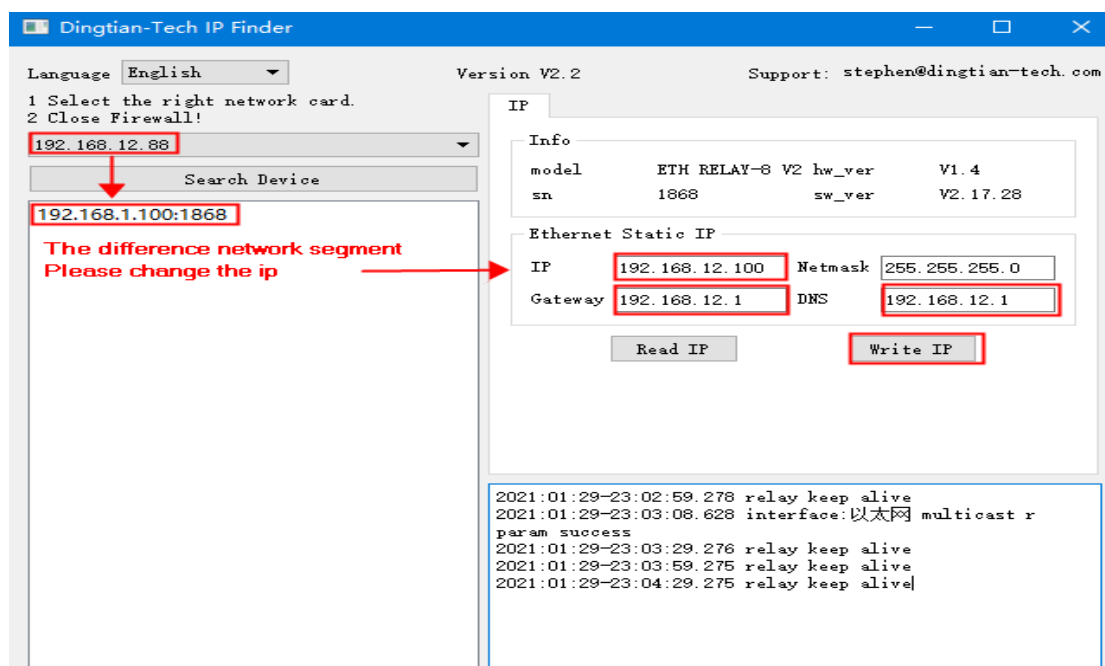
Note: When you use IP Finder to check your relay board ip, please keep your computer just connect with one relay board and the communication of relay board just has one(only Ethernet or WIFI)



Then we can find computer ip is 192.168.1.88, relay board ip is 192.168.1.100

If your computer ip is not the same network segment as relay board, you can change the IP in Ethernet Static IP

6.2 Change Static IP



Change Static IP and Click "Write IP", then your relay board ip is 192.168.12.100

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



unzip relay_sdk.zip

network tool name is net_test

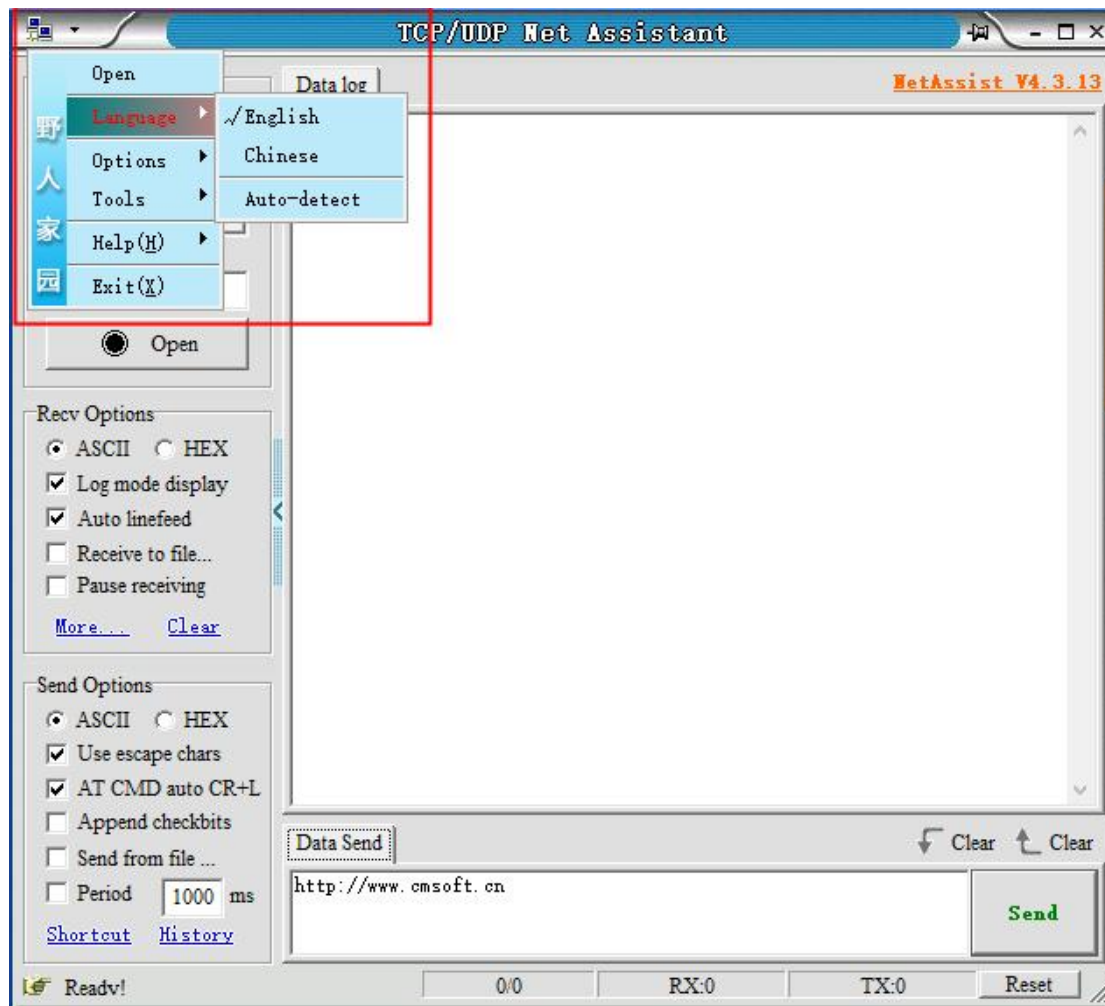
rs485 tool name is rs485_test

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

Access directory "net_test"

名称
 NetAssist.cfg
 NetAssist.exe

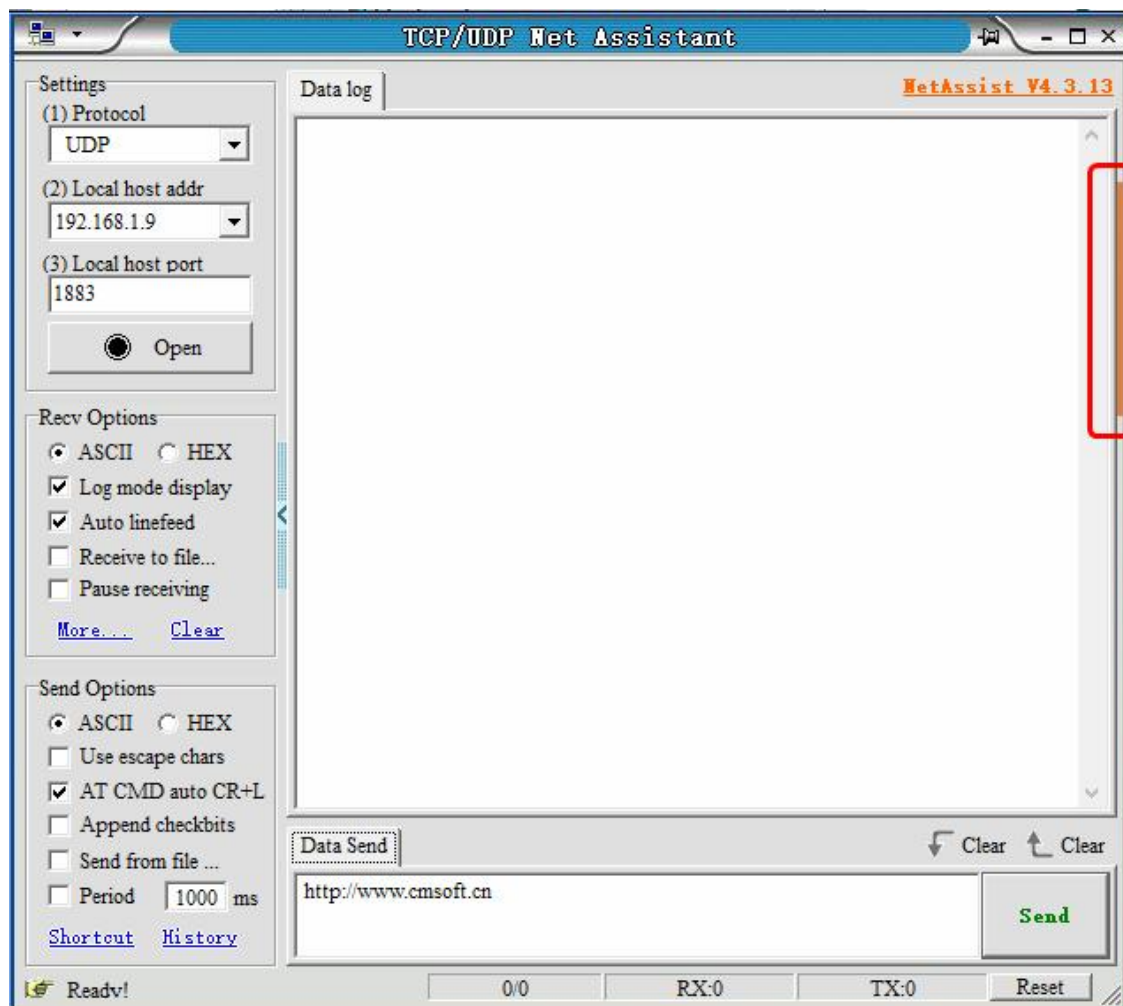
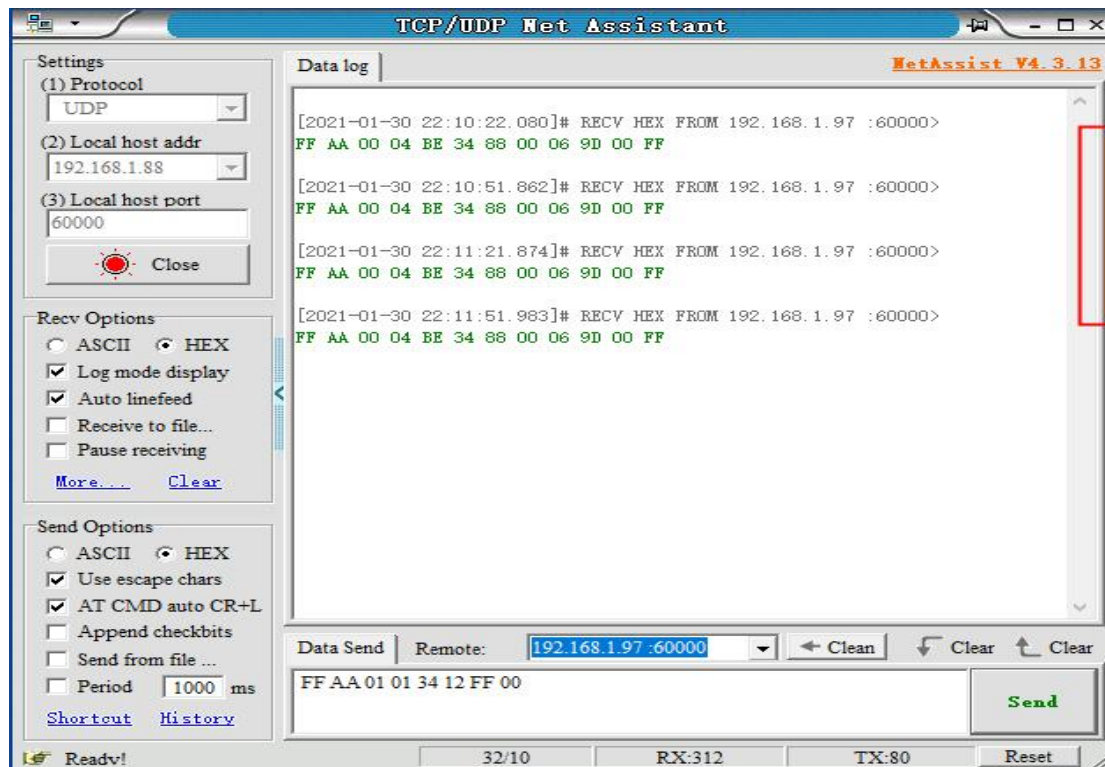
step 2: Change NetAssist language

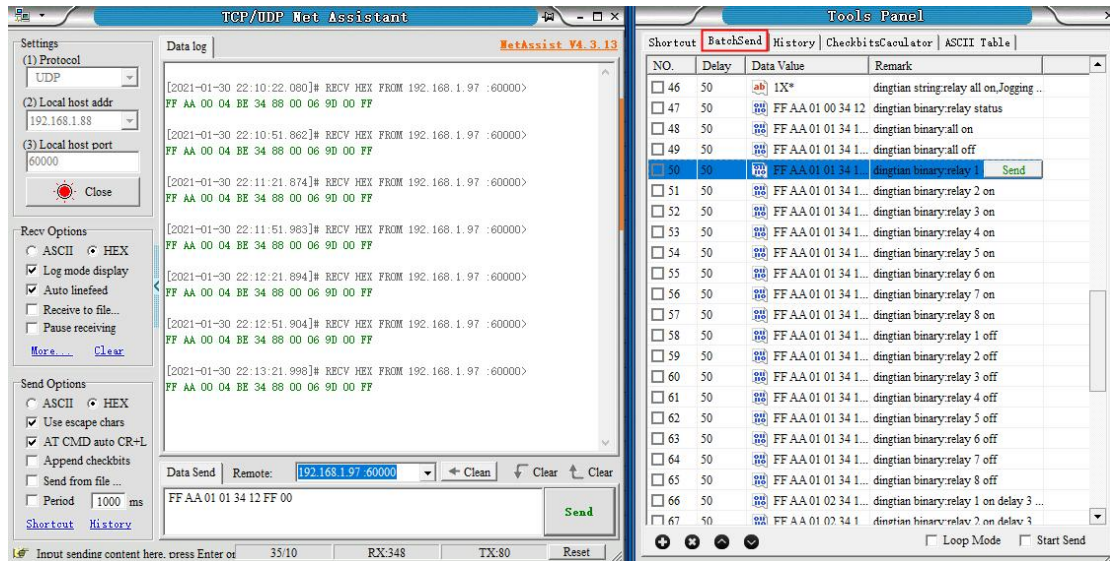


step 3: Control relay via NetAssist network tool by wifi module

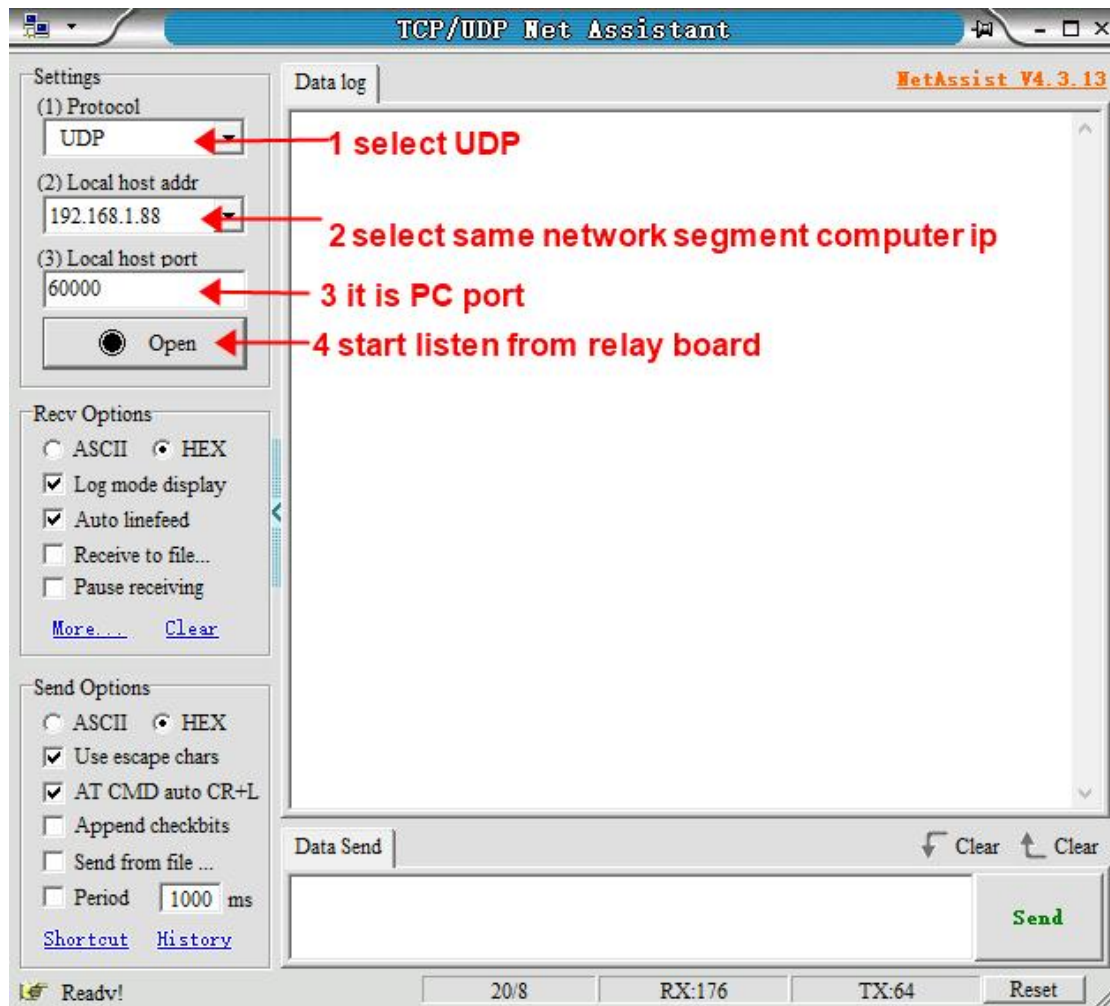
open NetAssist.exe

Shown in red box, open expansion panel

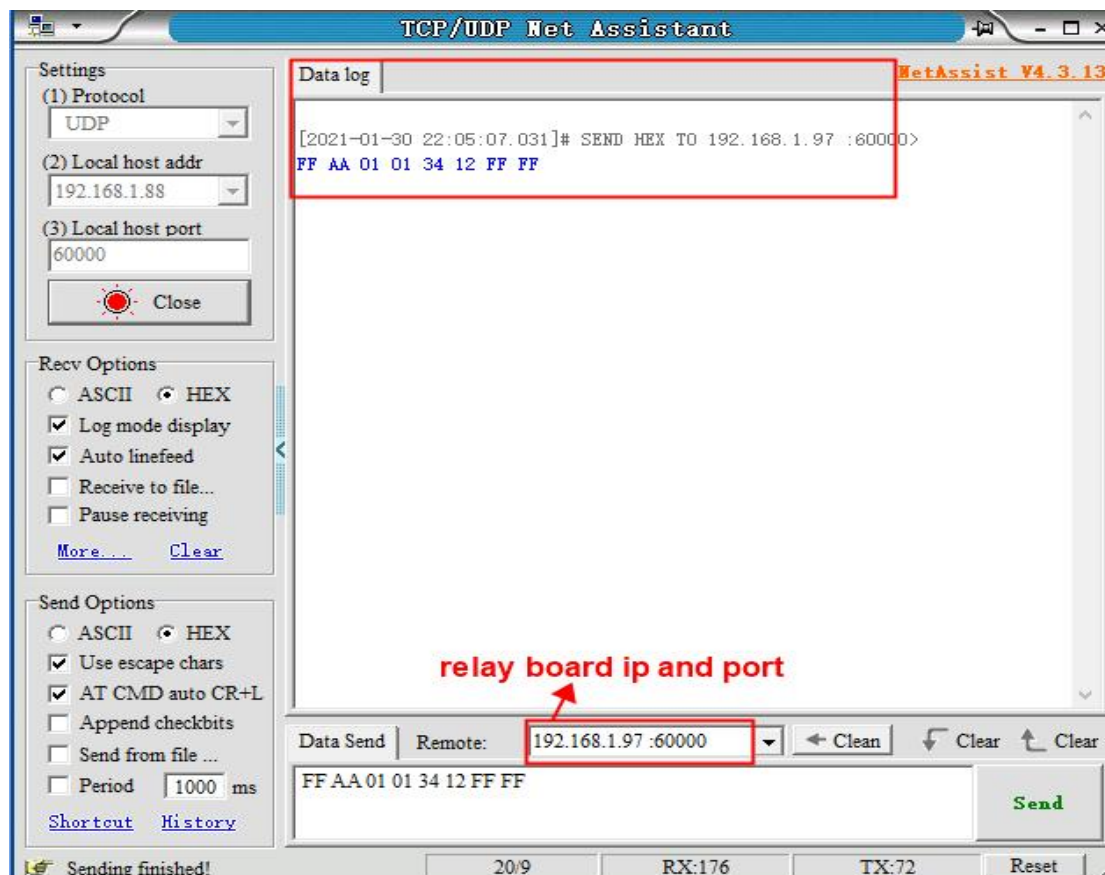




step 4: open UDP listen.



now relay board send relay status to pc via wifi module

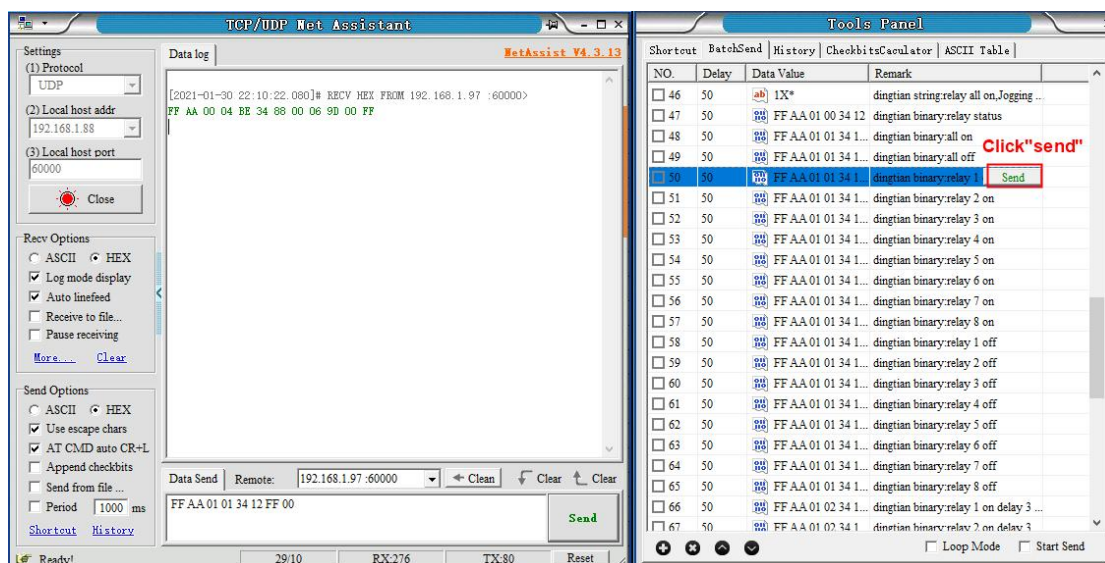


step 5: control relay via wifi module

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

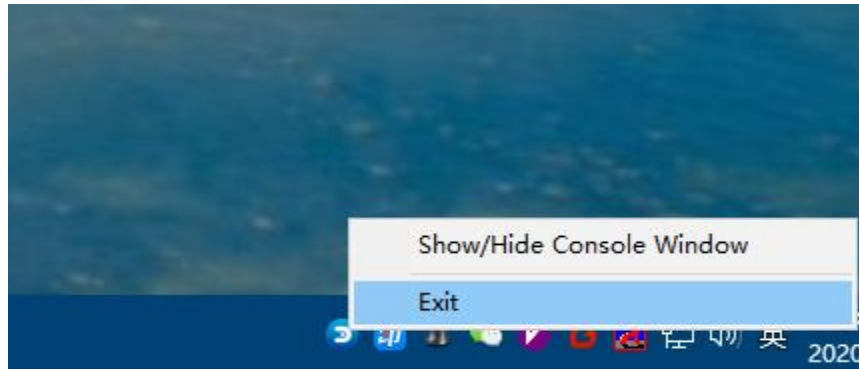
step 1: install Dingtian plugin to Domoticz

Dingtian plugin find in SDK or github

ftp://ftp.dingtian-tech.com/relay_sdk.zip

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

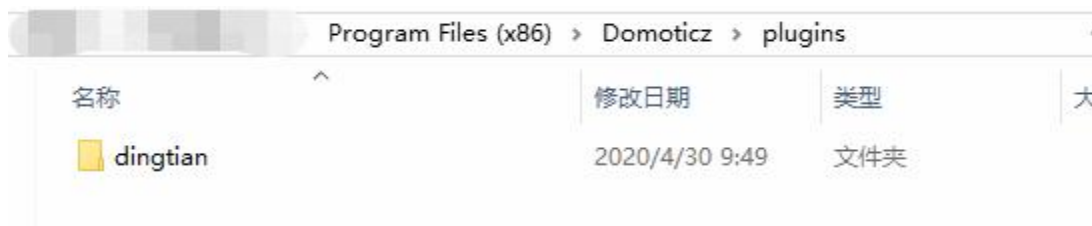
1 Stop Domoticz



2 Copy Domoticz_plugins\dingtian to Domoticz plugin dir



to Domoticz install dir



now Dingtian Relay plugin install to Domoticz successfully.

step 2: config Dingtian Relay board

1 config relay board UDP Server,Remote Port,Local Port,Keep Alive Second and Relay Password (firmware version <= 2.16.xx)

2 config relay board UDP Server, Remote Port,Local Port and Relay Password (firmware version is 2.17.xx)

Domoticz Ethernet

Dingtian IOT Relay

Menu

- Setting
- Relay Connect** 1
- Relay CGI Test
- Relay Task
- Input
- Input Link Relay
- IP WatchDog
- Reset User
- To Factory
- Reboot

Relay

Channel	Protocol	Addr	Baud	Databits	Stopbits	Parity
RS485	Modbus-RTU	1	115200bps	8bit	1bit	None
CAN	Dingian String	ID	Speed			
		1	125Kbps			
ETH-UDP1	Dingian Binary	Remote Address	Remote Port	Local Port		
		192.168.1.9	60000	60000		
ETH-UDP2	Dingian String	Remote Address	Remote Port	Local Port		
		192.168.1.9	60001	60001		
ETH-TCP Server	Modbus-TCP	Domoticz server address	Remote Port	Local Port		
			502	502		
ETH-TCP Client	Modbus-RTU Over TCP	Remote Address	Remote Port			
		192.168.1.9	502			
ETH-MQTT	MQTT	Broker Address	Broker Port	Broker Username	Broker Password	
		192.168.1.9	1883	mqtt	123	

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	
Input Control Relay	Yes	

Button Type

Momentary	Momentary	Momentary	Momentary
Momentary	Momentary	Momentary	Momentary

Save

Relay Test

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

Relay5:Off Relay6:Off Relay7:Off Relay8:Off

Domoticz WIFI

Dingtian IOT WiFi Relay

Menu

- Setting
- Relay Connect** 1
- Relay CGI Test
- Relay Task
- Input
- Input Link Relay
- IP WatchDog
- Reset User
- To Factory

Relay

Channel	Protocol	Remote Address	Remote Port	Local Port	
WIFI-UDP1	Dingian Binary	192.168.1.9	60000	60000	
WIFI-UDP2	Dingian String	Remote Address	Remote Port	Local Port	
		192.168.1.9	60001	60001	
WIFI-TCP Server	Modbus-TCP	Domoticz server address	Remote Port	Local Port	
			502	502	
WIFI-TCP Client	Modbus-RTU Over TCP	Remote Address	Remote Port		
			502		
WIFI-MQTT	MQTT	Broker Address	Broker Port	Broker Username	Broker Password
			1883	mqtt	123

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)

Save

Relay Test

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

Relay5:Off Relay6:Off Relay7:Off Relay8:Off

Dingtian Relay board web page **Relay Connect**

set **UDP Server, Remote Port, Local Port, Relay Password** and **Keep Alive Second**(donot need to set for firmware 2.17.xx)

Notice: **UDP Server** set to **Domoticz Server IP**

Save config

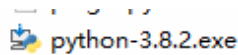
step 3: Add Dingtian Relay to Domoticz

1 Install Python 3.8.2

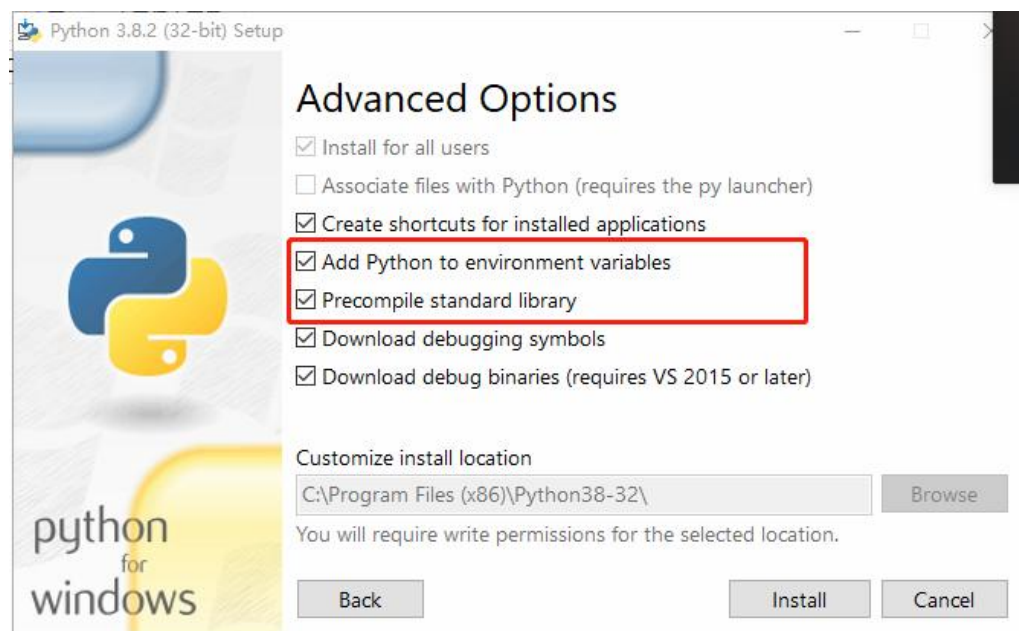
download address:

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

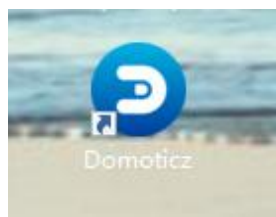
after download,install it



Add Python to environment

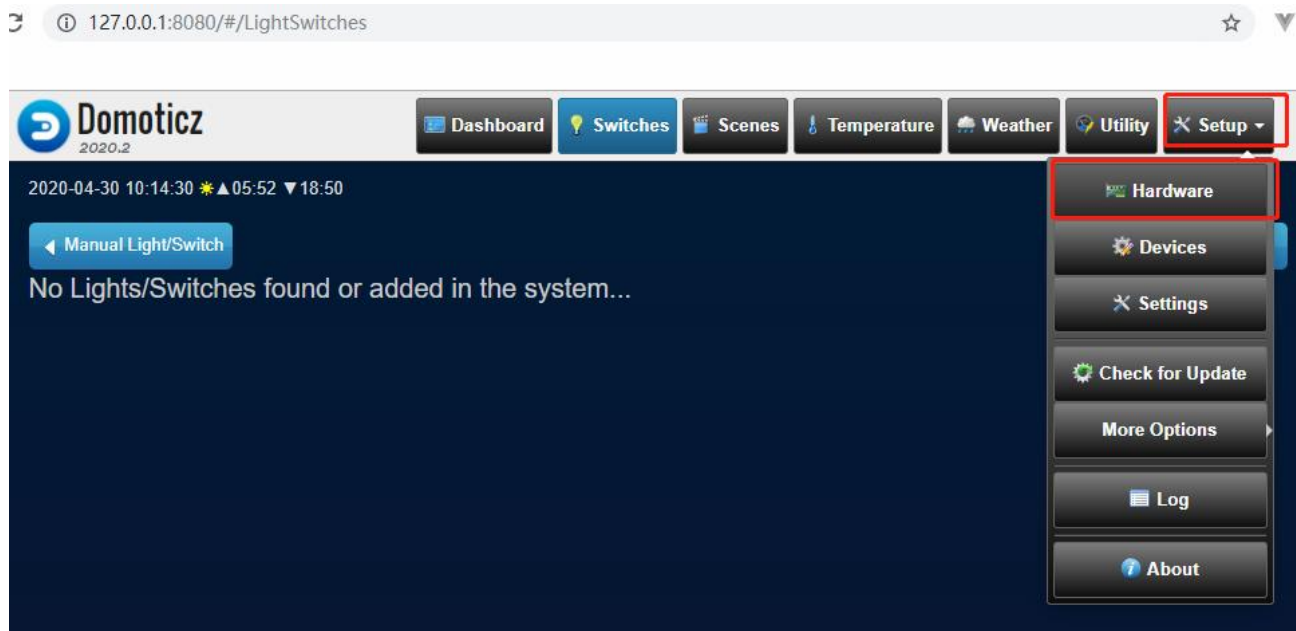


2 Run to Domoticz

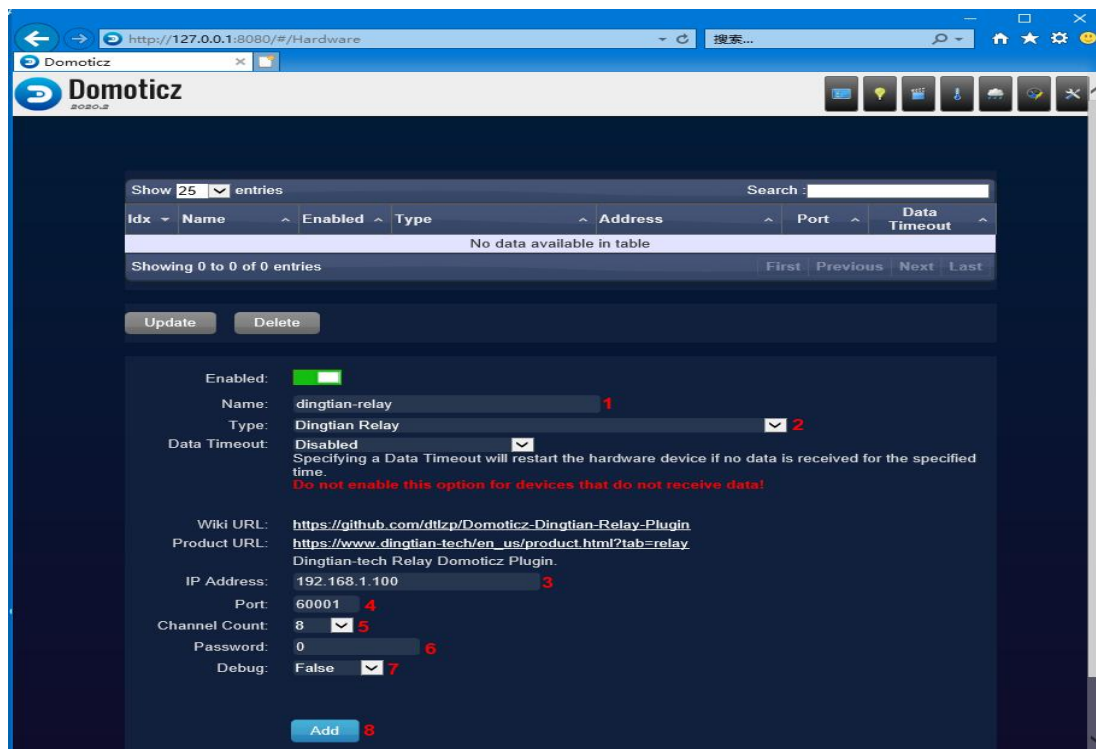


3 Add Dingtian Relay to Domoticz

1 Find Hardware Menu



2 Input Dingtian Relay config(Ethernet)



3.Input Dingtian Relay config(WIFI)

Domoticz 2.0.20.2

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

Product URL: https://www.dingtian-tech/en_us/product.html?tab=relay
Dingtian-tech Relay Domoticz Plugin.

IP Address: 192.168.1.97 3

Port: 60001 4

Channel Count: 8 5

Password: 0 6

Debug: False 7

Add 8

© 2012-2021 Domoticz | WWW: [Domoticz.com](http://www.domoticz.com)

Type,IP Address,Port,Channel Count,Password must correct,

Password is 1 config relay board UDP Server,Remote Port,Local Port,Keep Alive Second and Relay Password

now check parameters is ok,

click "Add" to save

Now your can find Hardware and Relay

Domoticz 2.0.20.2

Dashboard Switches Scenes Temperature Weather Utility Setup

Show 25 entries Search

Idx	Name	Enabled	Type	Address	Port	Data Timeout
3	dingtian-relay	Yes	Dingtian Relay	192.168.1.100 Ethernet		Disabled
2	dingtian-relay	Yes	Dingtian Relay	192.168.1.97 WIFI		Disabled

Showing 1 to 2 of 2 entries First Previous 1 Next Last

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

Product URL: 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: 0

Debug: False

Add

4 Multiple Relay board Add to Domoticz

Domoticz Need 2 UDP port for each Relay board

default is: 60000 and 60001

you can add mutiple with difference UDP port like:

60002 and 60003

60004 and 60005

60006 and 60007

below is example 60002 and 60003

Enabled: ☒

Name: eth2-r8

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

Product URL: https://www.dingtian-tech/en_us/product.html?tab=relay
Dingtian-tech Relay Domoticz Plugin.

IP Address: 192.168.1.100

Port: 60003

Channel Count: 8

Password: 0

Debug: False

Add

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	
		192.168.1.88		60002	60002	
ETH-UDP2	Dingtian String	Remote Address		Remote Port	Local Port	
		192.168.1.88		60003	60003	
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	Broker Address		Broker Port	Broker Username	Broker Password
		192.168.1.88		1883	mqtt	123

5 Add Relay to Switches 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	...
<input type="checkbox"/>	7	dingtian-relay	00020007	7	dingtian-relay - RELAY7	Light/Switch	Switch	Off	-
<input type="checkbox"/>	8	dingtian-relay	00020008	8	dingtian-relay - RELAY8	Light/Switch	Switch	Off	-
<input type="checkbox"/>	2	dingtian-relay	00020002	2	dingtian-relay - RELAY2	Light/Switch	Switch	Off	-
<input type="checkbox"/>	3	dingtian-relay	00020003	3	dingtian-relay - RELAY3	Light/Switch	Switch	Off	-
<input type="checkbox"/>	4	dingtian-relay	00020004	4	dingtian-relay - RELAY4	Light/Switch	Switch	Off	-
<input type="checkbox"/>	5	dingtian-relay	00020005	5	dingtian-relay - RELAY5	Light/Switch	Switch	Off	-
<input type="checkbox"/>	6	dingtian-relay	00020006	6	dingtian-relay - RELAY6	Light/Switch	Switch	Off	-
<input type="checkbox"/>	1	dingtian-relay	00020001	1	dingtian-relay - RELAY1	Light/Switch	Switch	Off	-

Showing 1 to 8 of 8 entries

First Previous 1 Next Last

Hardware
Devices
Settings
Check for Update
More Options
Log
About

Click Add Device to use Relay

→ 127.0.0.1:8080/#/Devices

Domoticz 2020.2

Dashboard Switches Scenes Temperature Weather Utility Setup

ed All Devices Not Used

Show 25 entries

Search:

	Idx	Hardware	ID	Unit	Name	Type	SubType	Data	...	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 to confirm

→ 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

Add Device

Name: dingtian-relay - RELAY7

As: ☒ Main Device ☐ Sub/Slave Device

Add Device Cancel

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

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

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

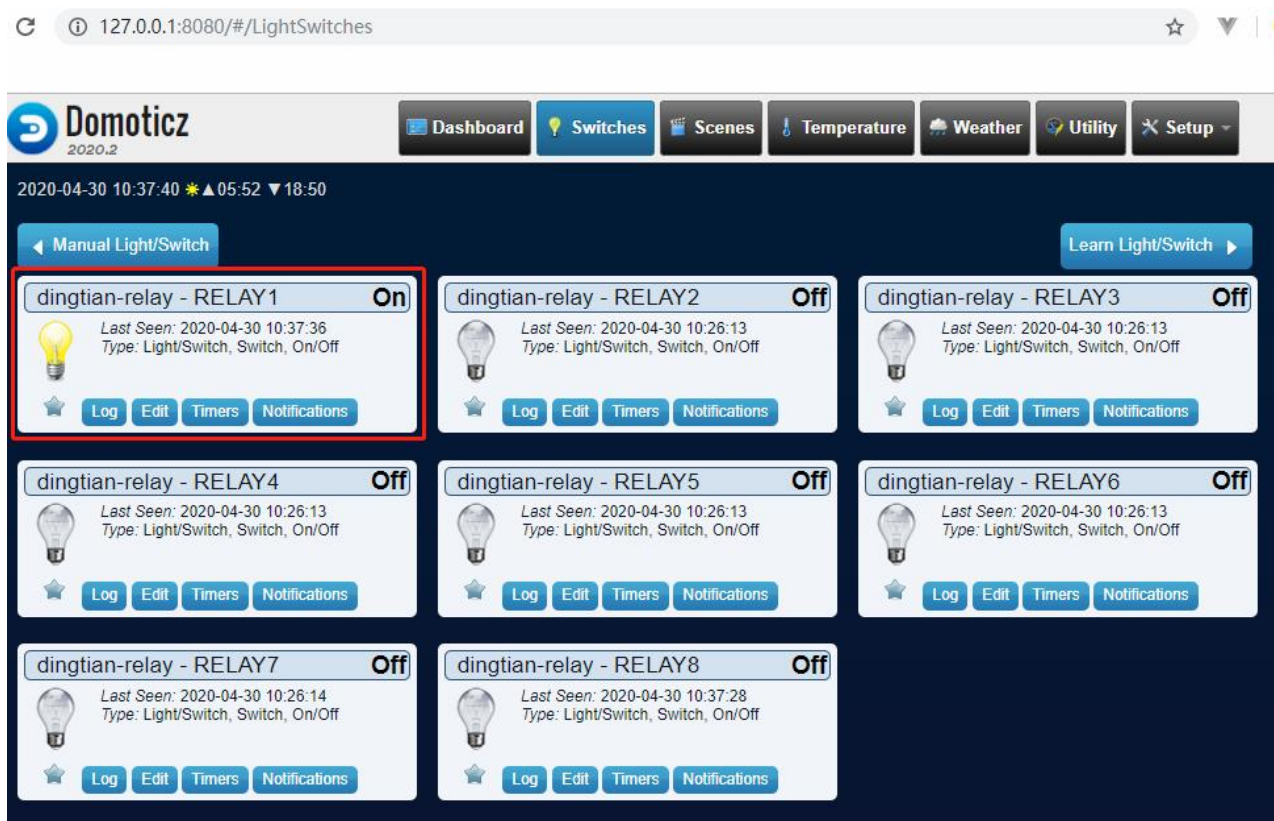
Last Seen: 2020-04-30 10:26:14
Type: Light/Switch, Switch, On/Off

Log Edit Timers Notifications

dingtian-relay - RELAY8 Off

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

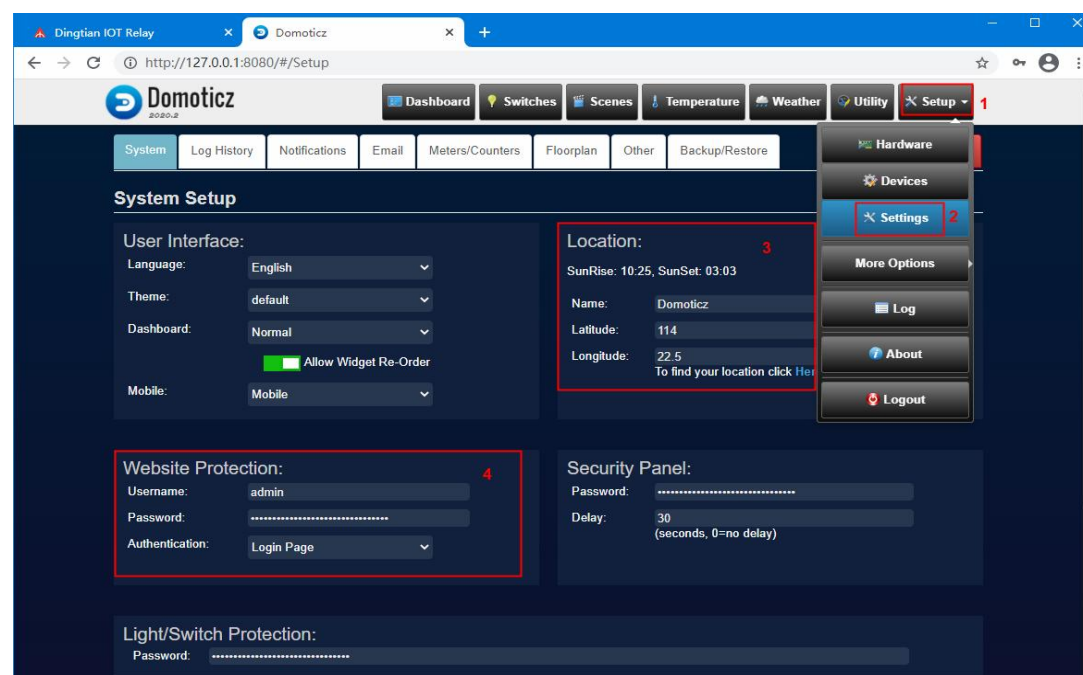
Log Edit Timers Notifications



step 4: Domoticz mobile application

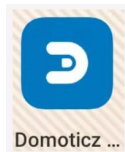
Please follow up step 1/2/3 firstly to confirm PC Domoticz connect

1 Set the Location, User name and password on PC Domoticz



2 Install Domoticz

Android google play “Domoticz Home Automation Lite”, which is free of charge and cannot refresh automatically. So please refresh by manual after do it



3 Set Domoticz Server parameter

Server Name

domoticz server

Server address

192.168.1.88

HTTP

Port

8080

Username

admin

Password

.....

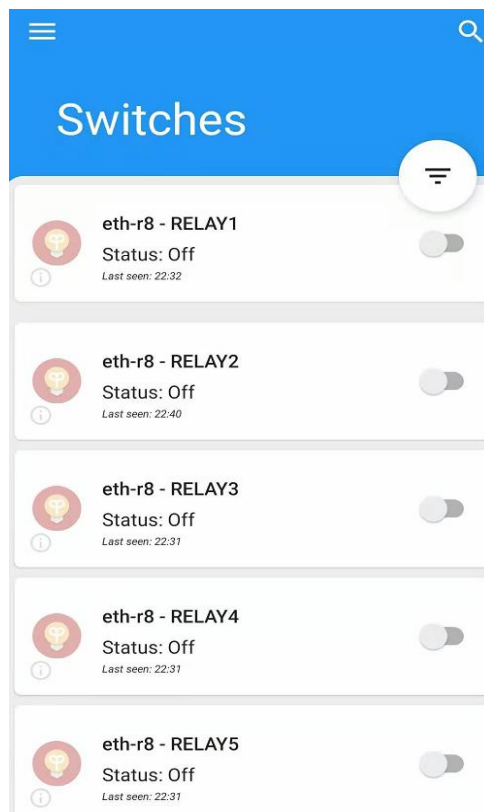
☐ Show password

Directory

Different server address

Use different address for local connection

☐



Domoticz mobile connect successfully, then you can control the switch by mobile phone

Appendix III How to MQTT

MQTT Ethernet

Dingtian IOT Relay x Dingtian IOT WiFi Relay x +

Not secure | 192.168.1.100/menu_page.html

Dingtian IOT Relay

Menu

- Setting
- Relay Connect
- Relay CGI Test
- Relay Task
- Input
- Input Link Relay
- IP WatchDog
- Reset User
- To Factory
- Reboot

Setting

Hardware Version	V1.4
Software Version	V2.17.28
Build Date	2021-01-21 21:23:13
Model	Dingtian IOT RELAY-8
Serial Number	1868
Date Time	1/30/2021, 22:47:00
NTP Server	pool.ntp.org
Hostname	Dingtian-Relay1868
Hostname+Suffix	Dingtian-Relay + SN
HTTP Server Port	80
DHCP	No
IP	192.168.1.100
Netmask	255.255.255.0
Gateway	192.168.1.1
DNS	192.168.1.1
MAC	bc:34:88:00:06:9d
WiFi AP IP	192.168.7.1
WiFi STA IP	192.168.1.97

Save

MQTT WIFI

Dingtian IOT Relay x Dingtian IOT WiFi Relay x +

Not secure | 192.168.7.1/menu_page.html

Dingtian IOT WiFi Relay

Menu

- Setting
- Relay Connect
- Relay CGI Test
- Relay Task
- Input
- Input Link Relay
- IP WatchDog
- Reset User
- To Factory

Setting

Hardware Version	V1.0
Software Version	V1.0.289
Build Date	2021/01/21 21:28:24
Model	Dingtian IOT WRELAY-8
Serial Number	1868
Date Time	1/30/2021, 22:48:02
NTP Server	pool.ntp.org
Hostname	Dingtian-WRelay1868
Hostname+Suffix	Dingtian-WRelay + SN
HTTP Server Port	80
STA DHCP	No
STA IP	192.168.1.97
STA Netmask	255.255.255.0
STA Gateway	192.168.1.1
STA DNS	192.168.1.1
STA MAC	be:34:88:00:06:9d
STA WiFi SSID	lzproute
STA WiFi Password	lzplzj13723464709
AP IP	192.168.7.1
AP Netmask	255.255.255.0
AP Gateway	192.168.7.1
AP DNS	192.168.7.1
AP MAC	ba:34:88:00:06:9d
AP SSID	dtrelay1868
AP Password	dtpassword

Save

Relay board Ethernet MQTT Client Id

dingtian-relay+SN

Relay board WiFi MQTT Client Id

dingtian-wrelay+SN

example:

below relay board "Serial Number" is 1868

so ETH MQTT client id is:dingtian-relay1868

so WiFi MQTT client id is:dingtian-wrelay1868

Relay board MQTT Topic and Publish format:

below V2.15.869

/dingtian/relay/in/control

/dingtian/relay/out/relayX

above V2.15.869

/dingtian/relaySN/in/control

/dingtian/relaySN/out/relayX

above V2.17.xx

ETH

/dingtian/relaySN/in/control

/dingtian/relaySN/in/rX

/dingtian/relaySN/out/rX

/dingtian/relaySN/out/iX

/dingtian/relaySN/out/relayX

/dingtian/relaySN/out/inputX

/dingtian/relaySN/out/ip

/dingtian/relaySN/out/sn

/dingtian/relaySN/out/mac

/dingtian/relaySN/out/input_cnt

/dingtian/relaySN/out/relay_cnt

WiFi

/dingtian/wrelaySN/in/control

/dingtian/wrelaySN/in/rX

/dingtian/wrelaySN/out/rX

/dingtian/wrelaySN/out/iX

/dingtian/wrelaySN/out/relayX

/dingtian/wrelaySN/out/inputX

/dingtian/wrelaySN/out/ip

/dingtian/wrelaySN/out/sn

/dingtian/wrelaySN/out/mac

/dingtian/wrelaySN/out/input_cnt

/dingtian/wrelaySN/out/relay_cnt

example:

below V2.15.869

/dingtian/relay/in/control
/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

above V2.15.869

/dingtian/relay1868/in/control
/dingtian/relay1868/out/relay1
/dingtian/relay1868/out/relay2
/dingtian/relay1868/out/relay3
/dingtian/relay1868/out/relay4
/dingtian/relay1868/out/relay5
/dingtian/relay1868/out/relay6
/dingtian/relay1868/out/relay7
/dingtian/relay1868/out/relay8

above V2.17.xx

ETH

/dingtian/relay1868/in/control
/dingtian/relay1868/in/r1~8
/dingtian/relay1868/out/r1~8
/dingtian/relay1868/out/i1~8
/dingtian/relay1868/out/relay1~8
/dingtian/relay1868/out/input1~8
/dingtian/relay1868/out/ip
/dingtian/relay1868/out/sn
/dingtian/relay1868/out/mac
/dingtian/relay1868/out/input_cnt
/dingtian/relay1868/out/relay_cnt

WIFI

/dingtian/wrelay1868/in/control
/dingtian/wrelay1868/in/r1~8
/dingtian/wrelay1868/out/r1~8
/dingtian/wrelay1868/out/i1~8
/dingtian/wrelay1868/out/relay1~8

/dingtian/wrelay1868/out/input1~8
/dingtian/wrelay1868/out/ip
/dingtian/wrelay1868/out/sn
/dingtian/wrelay1868/out/mac
/dingtian/wrelay1868/out/input_cnt
/dingtian/wrelay1868/out/relay_cnt

Relay board MQTT Topic to subscribe:

/dingtian/relay/in/control
or
/dingtian/relay1868/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
or
/dingtian/relay1868/out/relay1
/dingtian/relay1868/out/relay2
/dingtian/relay1868/out/relay3
/dingtian/relay1868/out/relay4
/dingtian/relay1868/out/relay5
/dingtian/relay1868/out/relay6
/dingtian/relay1868/out/relay7
/dingtian/relay1868/out/relay8
or
/dingtian/relay1868/out/r1~8

/dingtian/relay1868/out/i1~8
/dingtian/relay1868/out/relay1~8
/dingtian/relay1868/out/input1~8
/dingtian/relay1868/out/ip
/dingtian/relay1868/out/sn
/dingtian/relay1868/out/mac
/dingtian/relay1868/out/input_cnt
/dingtian/relay1868/out/relay_cnt

idx:1~8
status:ON,OFF

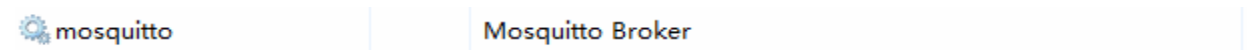
example:
{“idx”:”1”,”status”:”OFF”}

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

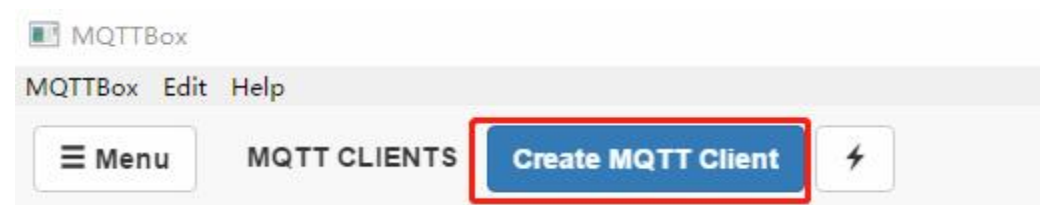
2 start windows Service “mosquitto”




step 2: Install MQTT PC client

 client_MQTTBox-win.exe

step 3: MQTTBox Add Client



Protocol:mqtt/tcp
Host:192.168.1.88:1883(Broker server ip and port)
Username:mqtt
Password:123
Broker MQTT V3.1.1 compliant

MQTT Client Name <input type="text" value="relay_board"/>	MQTT Client Id <input type="text" value="c27e3dba-456d-47d3-9209-1bt"/> 	Append timestamp to MQTT client id? <input checked="" type="checkbox"/> Yes	Broker is MQTT v3.1.1 compliant? <input checked="" type="checkbox"/> Yes
Protocol <input type="text" value="mqtt / tcp"/>	Host <input type="text" value="192.168.1.88:1883"/>	Clean Session? <input checked="" type="checkbox"/> Yes	Auto connect on app launch? <input checked="" type="checkbox"/> Yes
Username <input type="text" value="mqtt"/>	Password <input type="text" value="..."/>	Reschedule Pings? <input checked="" type="checkbox"/> Yes	Queue outgoing QoS zero messages? <input checked="" type="checkbox"/> Yes
Reconnect Period (milliseconds) <input type="text" value="1000"/>	Connect Timeout (milliseconds) <input type="text" value="30000"/>	KeepAlive (seconds) <input type="text" value="10"/>	
Will - Topic <input type="text" value="Will - Topic"/>	Will - QoS <input type="text" value="1 - Atleast Once"/>	Will - Retain <input checked="" type="checkbox"/> Yes	Will - Payload <div></div>
<div>Save</div>		<div>Delete</div>	

Dingtian IOT Relay

Menu

- Setting
- Relay Connect
- Relay CGI Test
- Relay Task
- Input
- Input Link Relay
- IP WatchDog
- Reset User
- 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		
		192.168.1.88	60000	60000		
ETH-UDP2	Dingtian String	Remote Address	Remote Port	Local Port		
		192.168.1.88	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	Broker Address	Broker Port	Broker Username	Broker Password	
		192.168.1.88	1883	mqtt	123	

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	
Input Control Relay	Yes	

Button Type

Momentary	Momentary	Momentary	Momentary
Momentary	Momentary	Momentary	Momentary

Save

Relay Test

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

Relay5:Off Relay6:Off Relay7:Off Relay8:Off

Dingtian IOT WiFi Relay

Menu

- Setting
- Relay Connect
- Relay CGI Test
- Relay Task
- Input
- Input Link Relay
- IP WatchDog
- Reset User
- To Factory

Relay

Channel	Protocol	Remote Address	Remote Port	Local Port
WIFI-UDP1	Dingtian Binary	192.168.1.9	60000	60000
WIFI-UDP2	Dingtian String	192.168.1.9	60001	60001
WIFI-TCP Server	Modbus-TCP			Local Port
				502
WIFI-TCP Client	Modbus-RTU Over TCP	Remote Address	Remote Port	
			502	
WIFI-MQTT	MQTT	Broker Address	Broker Port	Broker Username
		192.168.1.88	1883	mqtt

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)

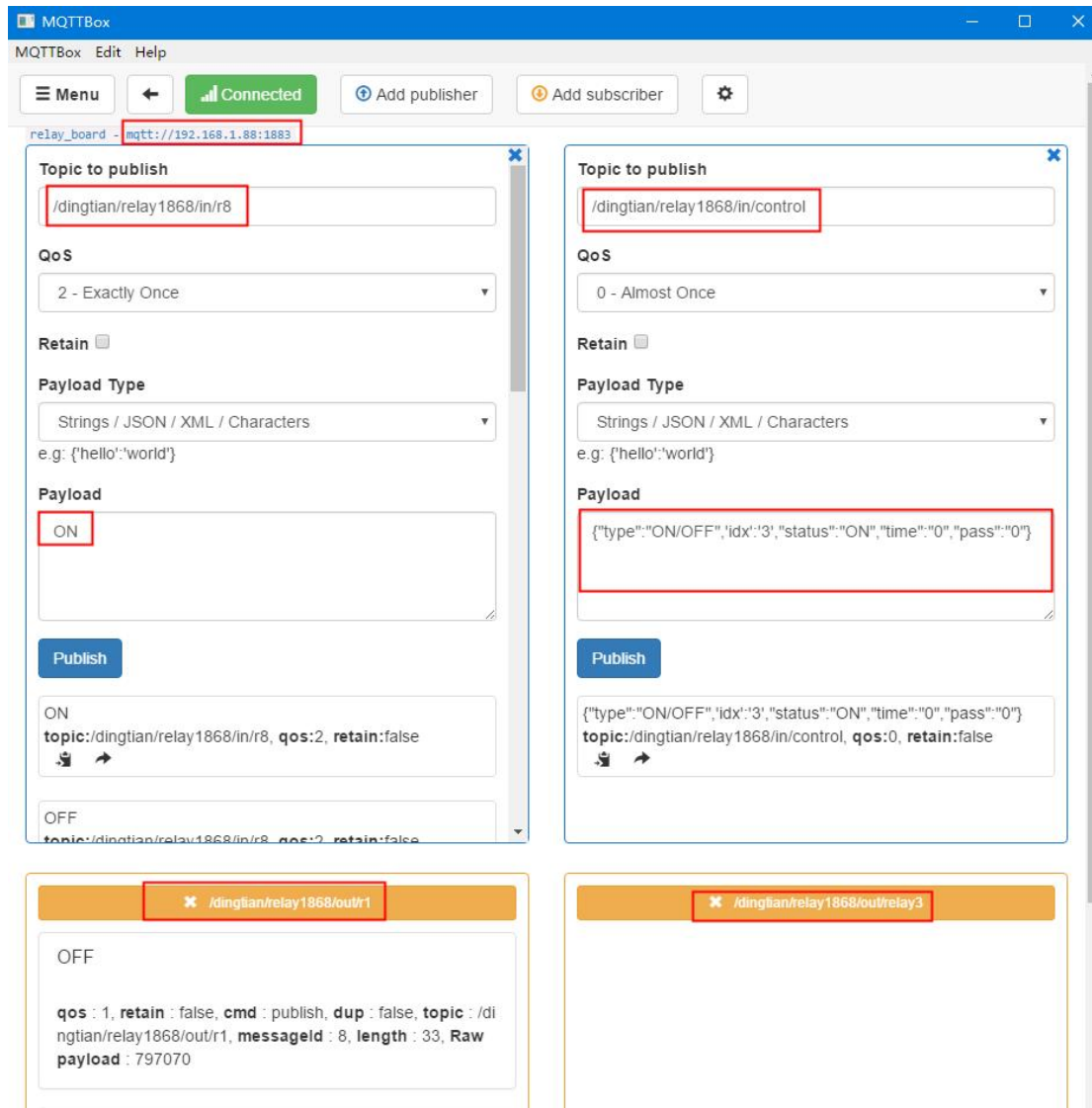
Save

Relay Test

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

Relay5:Off Relay6:Off Relay7:Off Relay8:Off

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



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

Relay Status(1:ON, 0:OFF)

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

Input Status(1:High, 0:Low)

```
./coap-client -m get coap://192.168.1.100/dingtian/i1
./coap-client -m get coap://192.168.1.100/dingtian/i2
./coap-client -m get coap://192.168.1.100/dingtian/i3
./coap-client -m get coap://192.168.1.100/dingtian/i4
./coap-client -m get coap://192.168.1.100/dingtian/i5
./coap-client -m get coap://192.168.1.100/dingtian/i6
./coap-client -m get coap://192.168.1.100/dingtian/i7
./coap-client -m get coap://192.168.1.100/dingtian/i8
```

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 4: 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
```