

KC868-A series board “KCS” user guide v1.0

Note: This document use for KinCony smart controller:

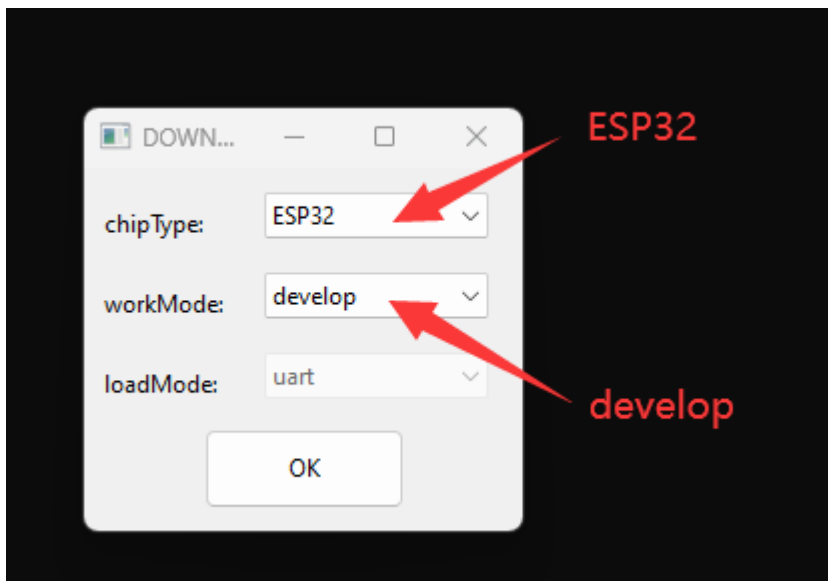
KC868-A4 A6 A8 A8S A16 E16S A32 A64 A128

1. Download “KCS” firmware to KinCony KC868-A series board.

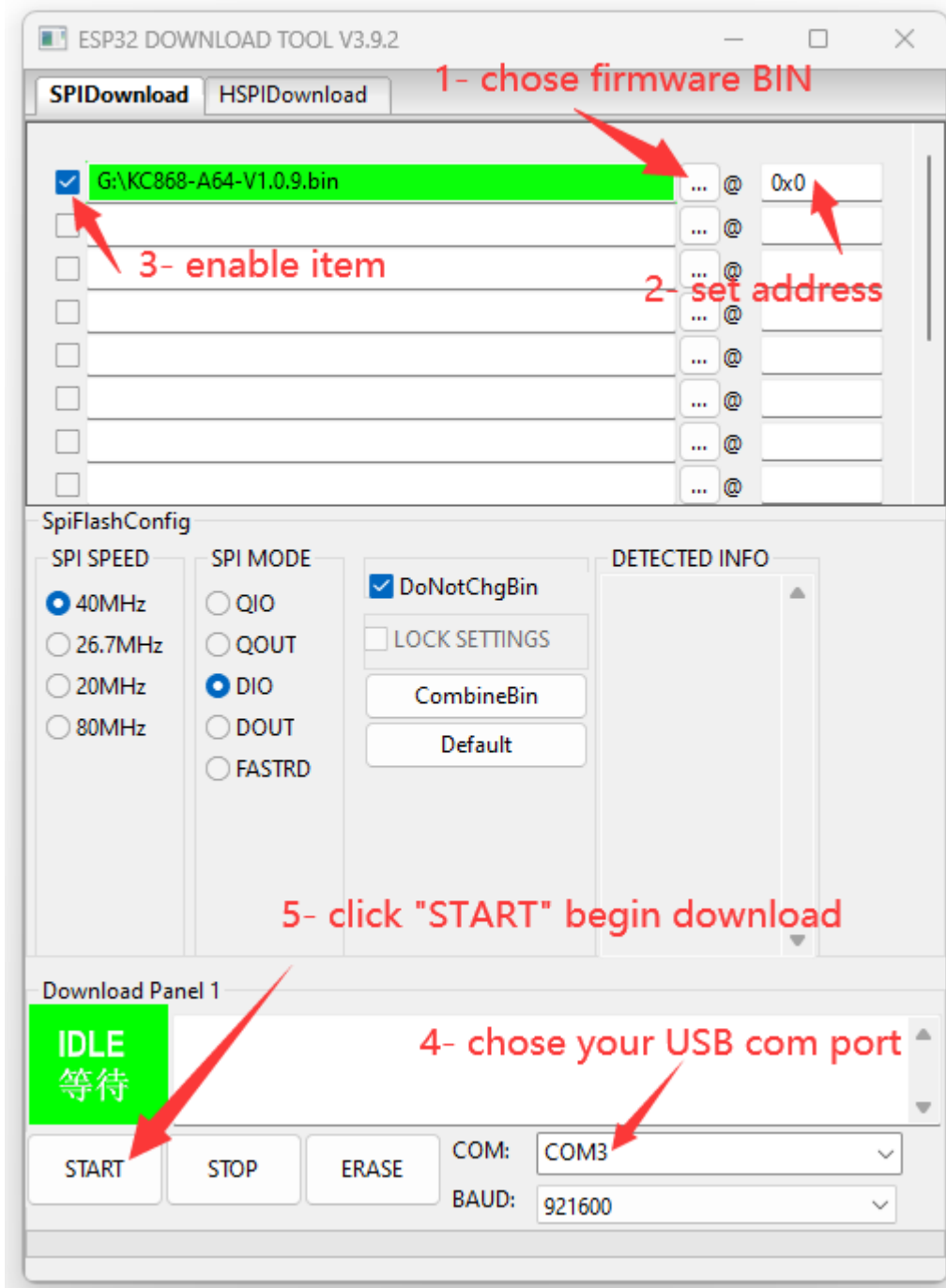
a. Download “ESP32 download tool” from

https://www.kincony.com/wp-content/uploads/2022/08/flash_download_tool_3.9.2.zip

b. Open “flash_download_tool_3.9.2.exe”, chose “ESP32” and “develop” item.



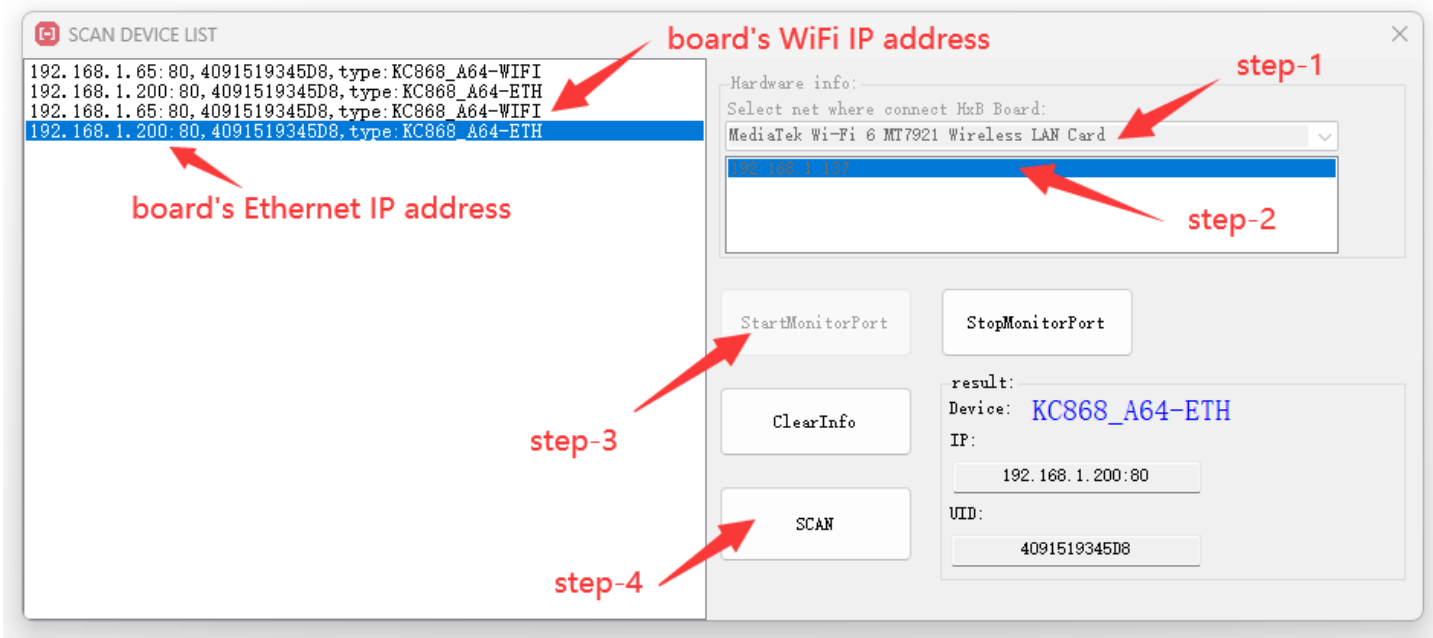
c. Chose firmware BIN file and COM port then begin download. Total 5 steps.



2. Use ethernet cable or WiFi config setting.

- use ethernet cable connect board to your router, make sure your computer also connect with same router, just all in one local network.
- Power on of your board, you can use KinCony scan device tool to find output board IP address.

https://www.kincony.com/download/KinCony-SCAN_Device.zip



Total 5 steps to find out IP address.

Step-1: chose your computer network adapter when you are using.

Step-2: chose your computer IP address item.

Step-3: click "StartMonitorPort" button.

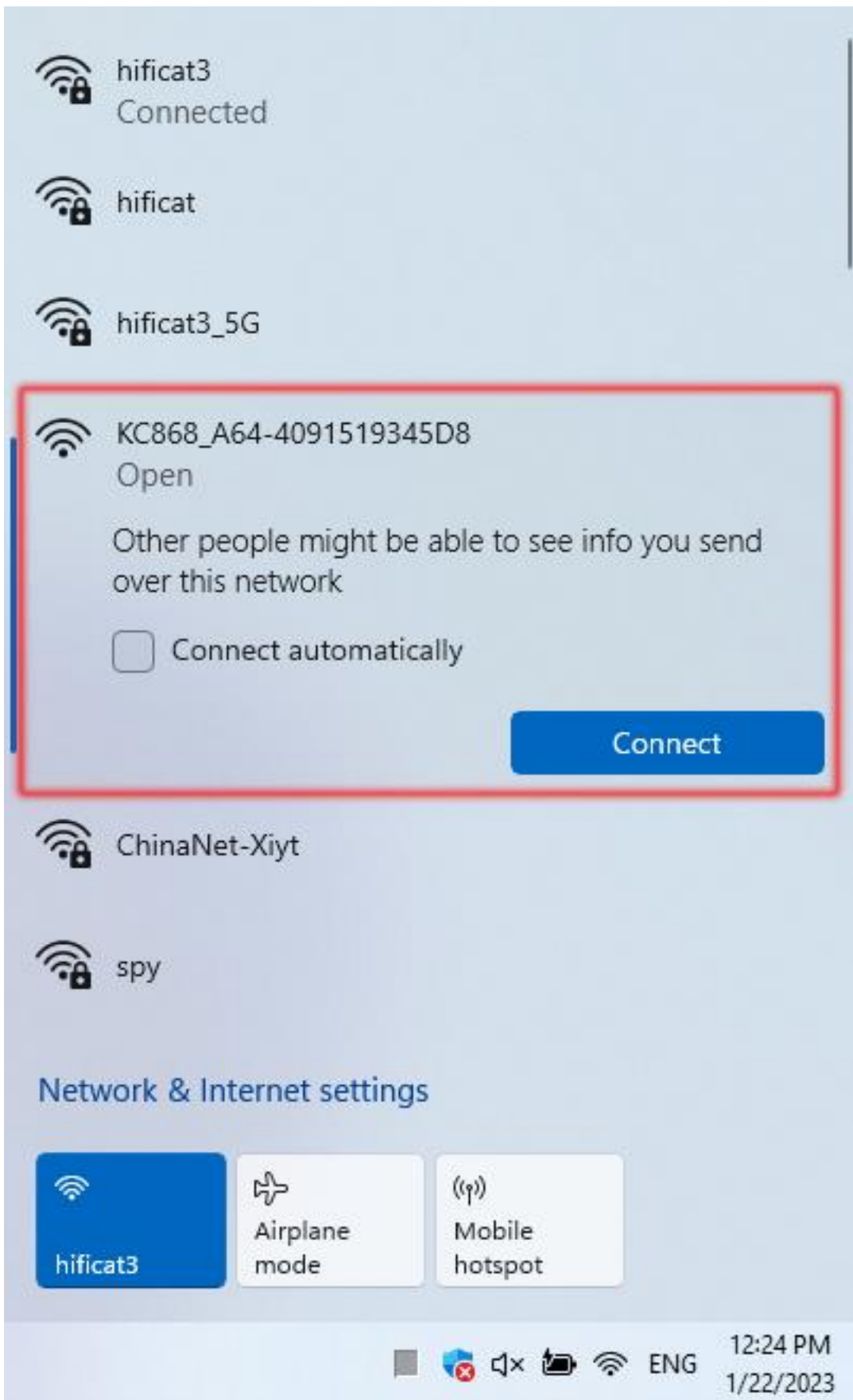
Step-4: click "SCAN" button.

Step-5: board's ethernet or WiFi IP address , ID and type name will be listed.

If you first time power on , you board will be found by ethernet IP address. Because your WiFi is work as "AP" mode as default. After you config your WiFi as "STA" mode, you will find out the WiFi IP address by KinCony scan device tool.

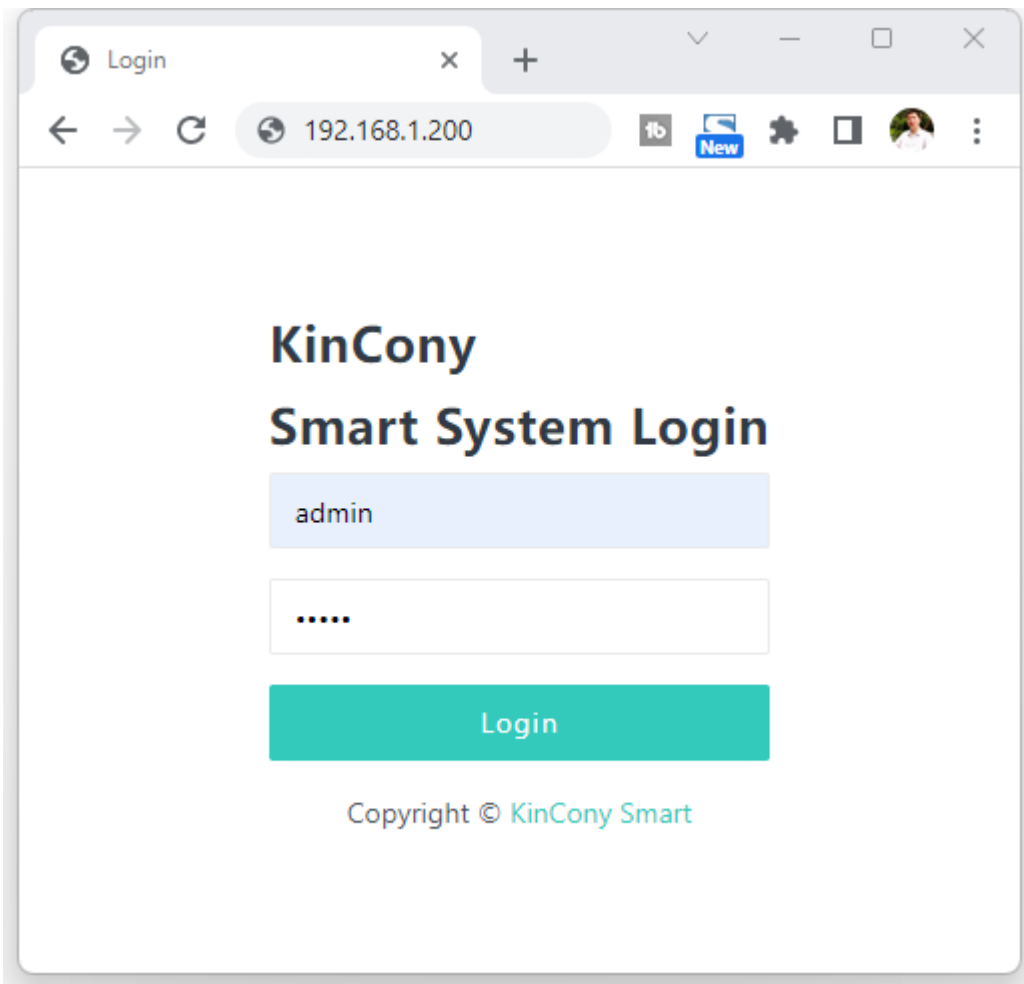
You can use ethernet IP address login by web browser to config board setting.

Note: if you want config only by WiFi, when power on, your computer will find the "AP" hotspot, WiFi signal named "board name" + "ID".



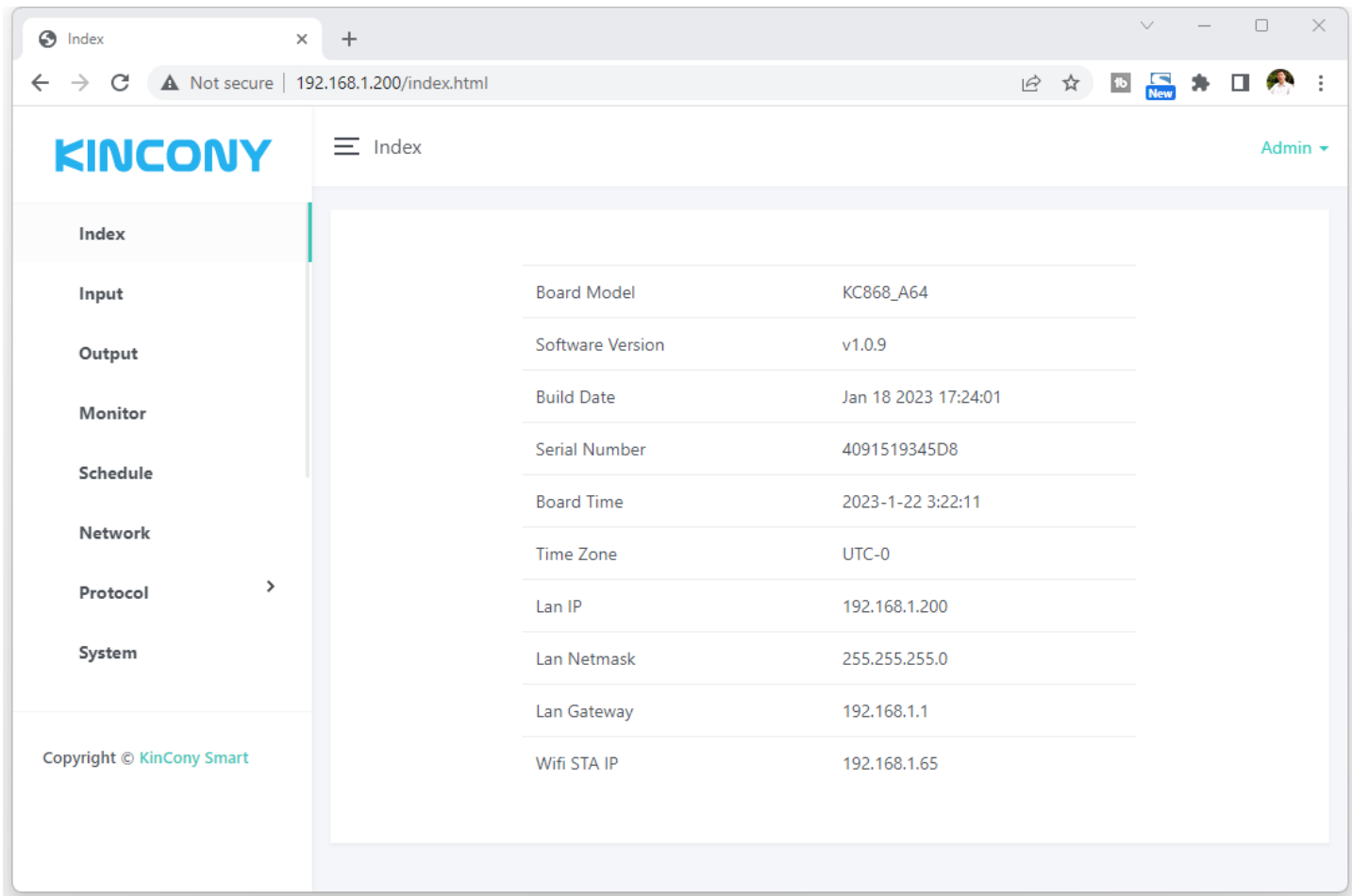
Let your computer connect to the “AP”, it’s without password, after you connected, just use <http://192.168.4.1> to login by webpage.

If you can’t see the “AP”, you can “hold on” board’s function button (ESP32 GPIO0) >10 seconds, then board will be set to factory, default state is “AP”.



You can login webpage by ethernet IP or WiFi IP. Here is sample login by ethernet IP address 192.168.1.200

Login user name and password default are “admin” “admin”



You can see this home page. Some parameters are shown.

Index

Input

Output

Monitor

Schedule

Network

Protocol

System

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Input ID	Reverse Level	Bind Output	Function	On	Off	Toggle
1	<input type="checkbox"/>	<input type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
9	<input type="checkbox"/>	<input type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
10	<input type="checkbox"/>	<input type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>

Showing 1 to 10 of 64 rows

10

rows per page

Save above setting

Here is INPUT webpage. Set every digital input port how to work with OUTPUT ports.

"Reverse Level": if checked, the effective level at the digital input port becomes inverted. Just digital input use by "HIGH" or "LOW" level. Usually digital input port short with GND = trigger.

"Bind Output": if checked option, it's let digital input control digital output (relay) directly. What action will do by digital input ports, it set by last 3 items.

Each input has 3 trigger methods: "single click", "double click", "hold on". Each option can be filled with digital output number (range:1--MAX digital output number). you can set and separated by a "space". You can enter "1 2 3 4 5" or "1-5" in the

corresponding option to do something of digital output No.1-5

Input ID	Reverse Level	Bind Output	Function	On	Off	Toggle
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> 1-64	<input type="text"/> 1-64 <input type="text"/>	<input type="text"/> 1 <input type="text"/>
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> 5 6 7 8 9 10	<input type="text"/> 5 7-10 <input type="text"/>	<input type="text"/> 2 <input type="text"/>
3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> 3 <input type="text"/>
4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	single click double click hold on	4 <input type="text"/> <input type="text"/>	<input type="text"/> 4 <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	single click double click hold on	<input type="text"/> 1-64 <input type="text"/>	<input type="text"/> 1-64 <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	single click double click hold on	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>

Fox example:

The config photo that means:

Input-1: when “single click” will TOGGLE digital output 1

when “double click” will turn OFF digital output 1-64

when “hold on” will turn ON digital output 1-64

Input-2: when “single click” will TOGGLE digital output 2

when “double click” will turn OFF digital output 5,output 7-10

when “hold on” will turn ON digital output 5-10

Input-3: when “single click” will TOGGLE digital output 3

Input-4: when “single click” will turn ON digital output 4

when “double click” will turn OFF digital output 4

Input-5: when “single click” will turn OFF digital output 1-64

when “double click” will turn ON digital output 1-64

"Bind Output": if unchecked option, INPUT will not control OUTPUT directly, that will auto feedback MQTT message or TCP message and monitor state on monitor webpage when INPUT triggered.

The screenshot shows the KINCONY web interface. On the left is a navigation menu with options: Index, Input, Output (highlighted), Monitor, Schedule, Network, Protocol, and System. The main area displays a table with 10 rows, each representing an output configuration. The columns are: Output ID, Type, Reverse, Delay Time, and Interlock Group. Each row has a 'hold on' dropdown for Type, an unchecked checkbox for Reverse, a '0 x 100ms' input for Delay Time, and a '0' dropdown for Interlock Group.

Output ID	Type	Reverse	Delay Time (1-255)x100ms	Interlock Group (0 is null, effective 1-max)
1	hold on	<input type="checkbox"/>	0 x 100ms	0
2	hold on	<input type="checkbox"/>	0 x 100ms	0
3	hold on	<input type="checkbox"/>	0 x 100ms	0
4	hold on	<input type="checkbox"/>	0 x 100ms	0
5	hold on	<input type="checkbox"/>	0 x 100ms	0
6	hold on	<input type="checkbox"/>	0 x 100ms	0
7	hold on	<input type="checkbox"/>	0 x 100ms	0
8	hold on	<input type="checkbox"/>	0 x 100ms	0
9	hold on	<input type="checkbox"/>	0 x 100ms	0
10	hold on	<input type="checkbox"/>	0 x 100ms	0

Here is OUTPUT webpage.

This close-up shows the 'Type' dropdown menu for Output ID 2. The menu is open, showing three options: 'hold on' (highlighted in blue), 'delay', and 'jogging'. A red arrow points to the dropdown arrow of the 'hold on' option.

Output ID	Type	Reverse
1	hold on	<input type="checkbox"/>
2	hold on	<input type="checkbox"/>
3	hold on	<input type="checkbox"/>
4	hold on	<input type="checkbox"/>
5	hold on	<input type="checkbox"/>
6	hold on	<input type="checkbox"/>

“hold on”: keep the state after turn ON/OFF

“delay”: after you turn ON digital output, will auto turn OFF after a “delay time” you have preset.

“jogging”: when hold on the INPUT with GND, digital output is ON, release INPUT with GND, digital output will be OFF right now. when use “jogging”, INPUT webpage only set in “ON” command, “OFF” and “TOGGLE” option should be blank.

Output ID	Type	Reverse	Delay Time (1-255)x100ms	Interlock Group 0 is null ,effective 1-max
1	jogging	<input type="checkbox"/>	0 x 100ms	0
2	hold on	<input type="checkbox"/>	0 x 100ms	0

Input ID	Reverse Level	Bind Output	Function	On	Off	Toggle
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	single click double click hold on	1		

Here is sample INPUT1 jogging mode with OUTPUT1.

Output ID	Type	Reverse	Delay Time (1-255)x100ms	Interlock Group 0 is null ,effective 1-max
1	hold on	<input type="checkbox"/>	0 x 100ms	0
2	hold on	<input type="checkbox"/>	0 x 100ms	0
3	hold on	<input type="checkbox"/>	0 x 100ms	0
4	hold on	<input type="checkbox"/>	0 x 100ms	0
5	hold on	<input type="checkbox"/>	0 x 100ms	0
6	hold on	<input type="checkbox"/>	0 x 100ms	0
7	hold on	<input type="checkbox"/>	0 x 100ms	0
8	hold on	<input type="checkbox"/>	0 x 100ms	0
9	hold on	<input type="checkbox"/>	0 x 100ms	0

“Interlock group”: set interlock group for digital output. If set to “0” , disable interlock function. If “Output1” set to “1” and “Output2” set to “1” = Output1 and Output2 work with interlock. If “Output3” set to “2” and “Output4” set to “2” = Output3 and Output4 work with interlock. For example , KC868-A64 have 64 channel digital output, so total will have $64/2=32$ interlock groups.

- Index
- Input
- Output
- Monitor
- Schedule
- Network
- Protocol
- System

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Status

Auto refresh

Tcp Server: 0 client
Http Server: enable

Tcp Client: disable
Mqtt: connected

Udp Server: disable
Tuya: disable

Udp Client: disable

ADC

channel 1	channel 2	channel 3	channel 4
0	0	0	0

Input

IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8	IN9	IN10	IN11	IN12	IN13	IN14
IN15	IN16	IN17	IN18	IN19	IN20	IN21	IN22	IN23	IN24	IN25	IN26	IN27	IN28
IN29	IN30	IN31	IN32	IN33	IN34	IN35	IN36	IN37	IN38	IN39	IN40	IN41	IN42
IN43	IN44	IN45	IN46	IN47	IN48	IN49	IN50	IN51	IN52	IN53	IN54	IN55	IN56
IN57	IN58	IN59	IN60	IN61	IN62	IN63	IN64						

Output

ALL ON ALL OFF

OUT1	OUT2	OUT3	OUT4	OUT5	OUT6	OUT7	OUT8	OUT9	OUT10	OUT11	OUT12	OUT13	OUT14
OUT15	OUT16	OUT17	OUT18	OUT19	OUT20	OUT21	OUT22	OUT23	OUT24	OUT25	OUT26	OUT27	OUT28
OUT29	OUT30	OUT31	OUT32	OUT33	OUT34	OUT35	OUT36	OUT37	OUT38	OUT39	OUT40	OUT41	OUT42
OUT43	OUT44	OUT45	OUT46	OUT47	OUT48	OUT49	OUT50	OUT51	OUT52	OUT53	OUT54	OUT55	OUT56
OUT57	OUT58	OUT59	OUT60	OUT61	OUT62	OUT63	OUT64						

Here is monitor webpage.

Status

Auto refresh

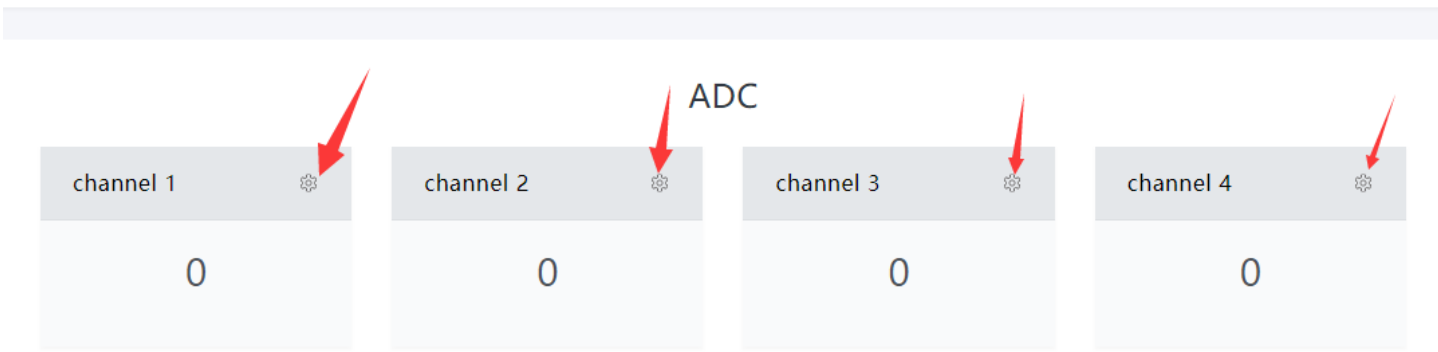
Tcp Server: 0 client
Http Server: enable

Tcp Client: disable
Mqtt: connected

Udp Server: disable
Tuya: disable

Udp Client: disable

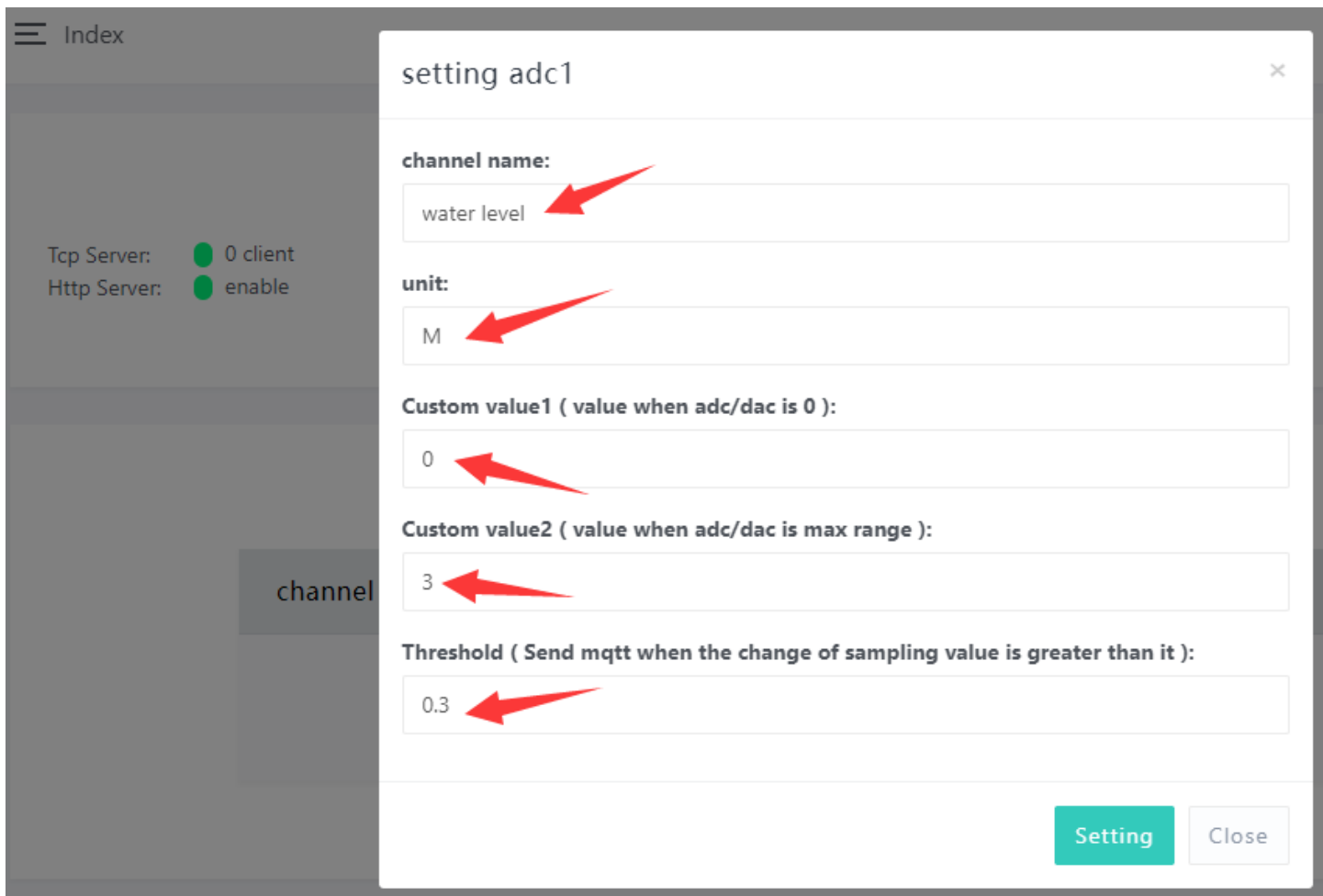
Monitor all protocol work state, whether have connect to server or have a client have connected.



Monitor ADC value.

In order to easily view the values of each sensor, we can set a separate sensor channel name, range, display unit, and automatically reported threshold for each sensor.

Just click “gear” image, will show the config page.



For example, we set a water level analog sensor, name is “water level”, unit is M (meter), Custom value1 and value2 means: if you are using DC 0-5v analog sensor, when sensor voltage is 0v, what’s “Custom value1” corresponding value. when sensor

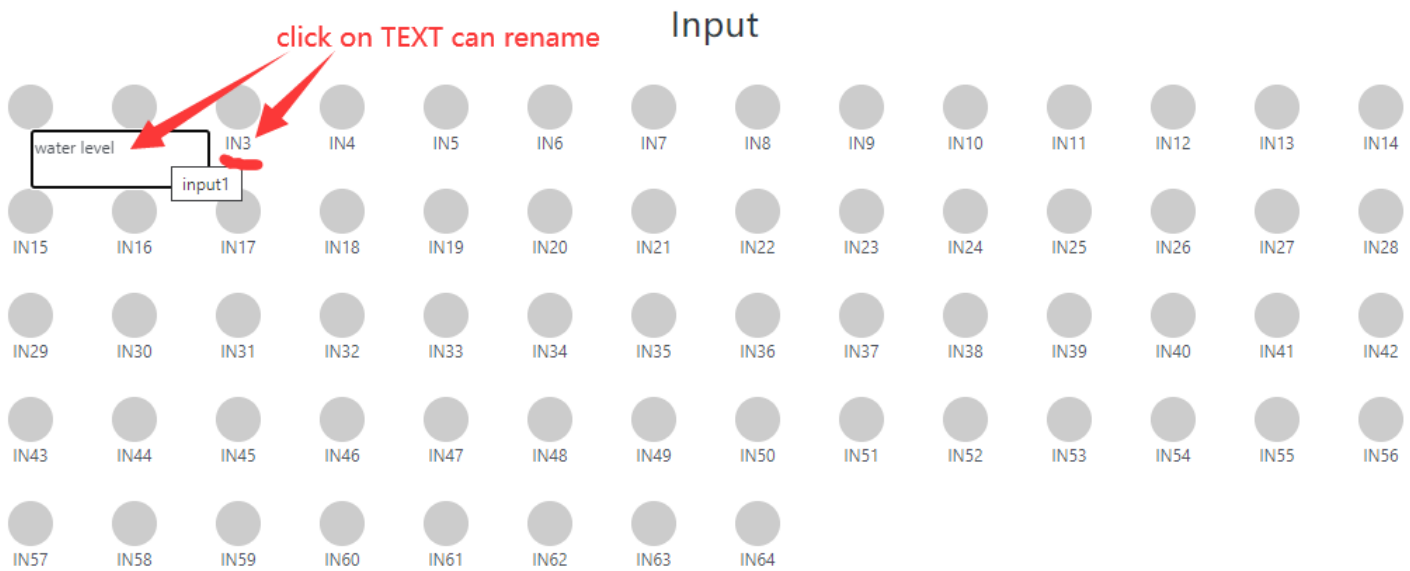
voltage is 5v, what's "Custom value2" corresponding value.

So sensor dc 0-5v -- convert → 0-3 meter

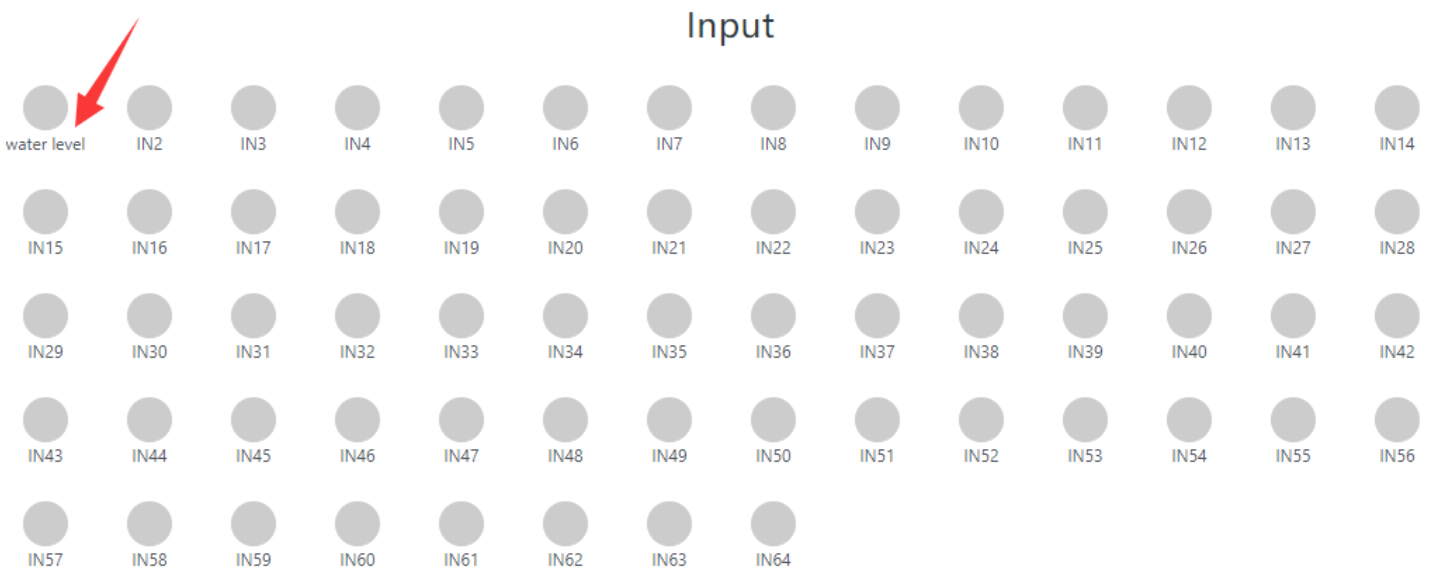
If you are using sensor 4-20mA, so 4-20mA 4mA=Custom value1, 20mA is Custom value2.



Then you will see the actually sensor name , value and unit on the monitor webpage.



Double click on the input name's TEXT can be rename by yourself.



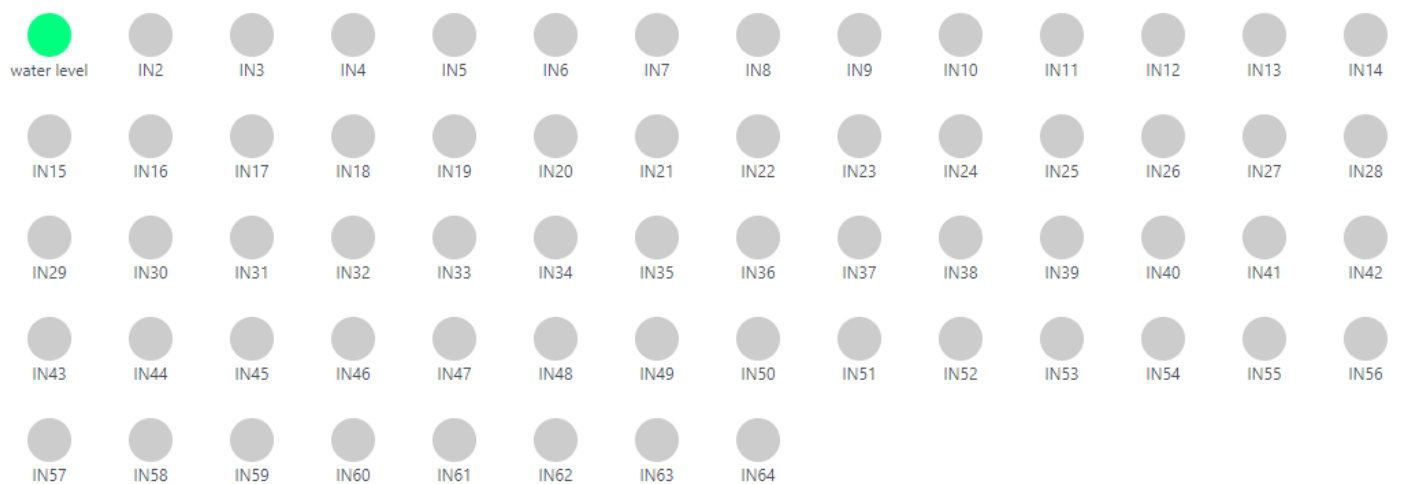
After renamed.

Output

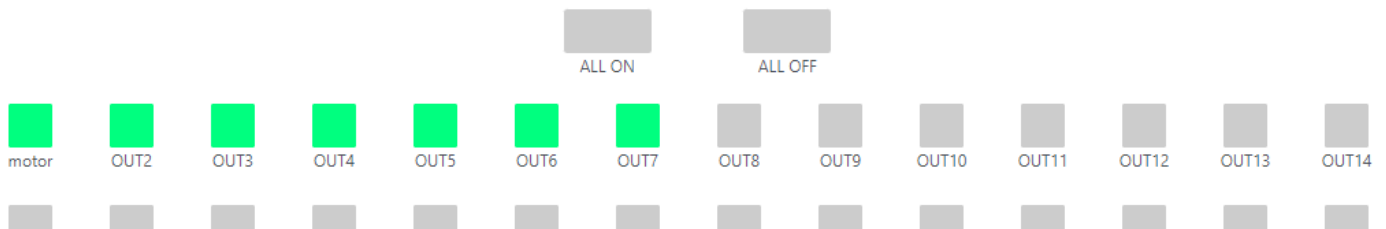


Use the same way (double click TEXT) can rename of the output ports.

Input



Output



Green ico for INPUT means triggered.

Green ico for OUTPUT means output is ON state.

Task ID	Enable	On	Off	Toggle	Repeat	Time (M-D hh:mm:ss)
1	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
2	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
3	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
4	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
5	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
6	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
7	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
8	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
9	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
10	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0

Showing 1 to 10 of 30 rows rows per page

< 1 2 3 >

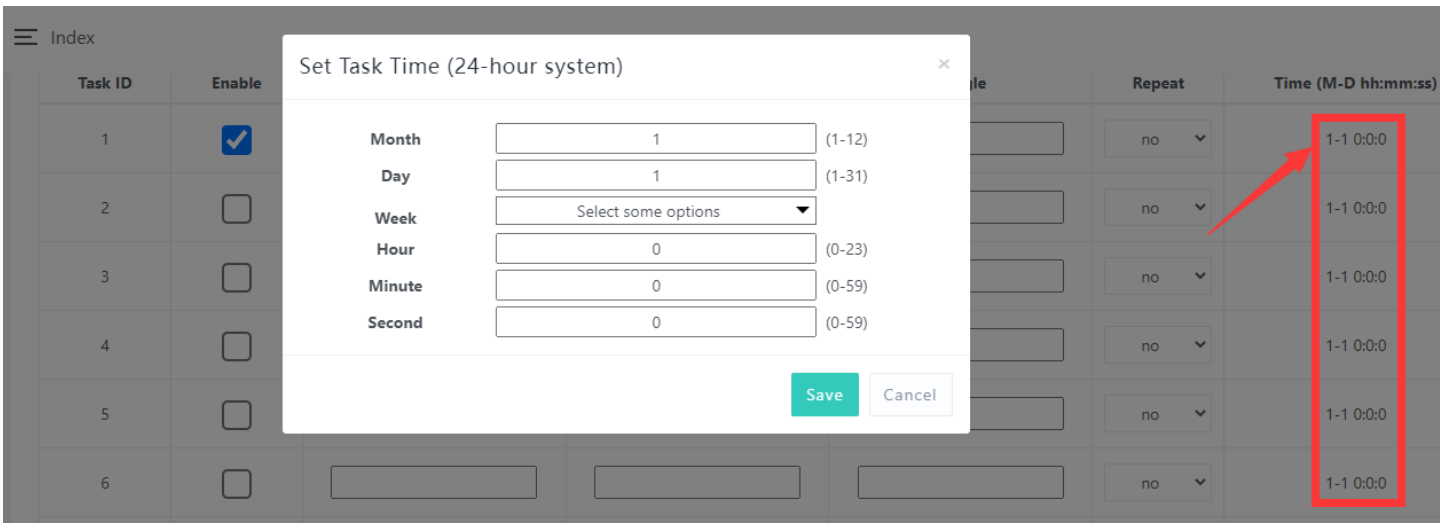
Save above setting

Here is schedule webpage.

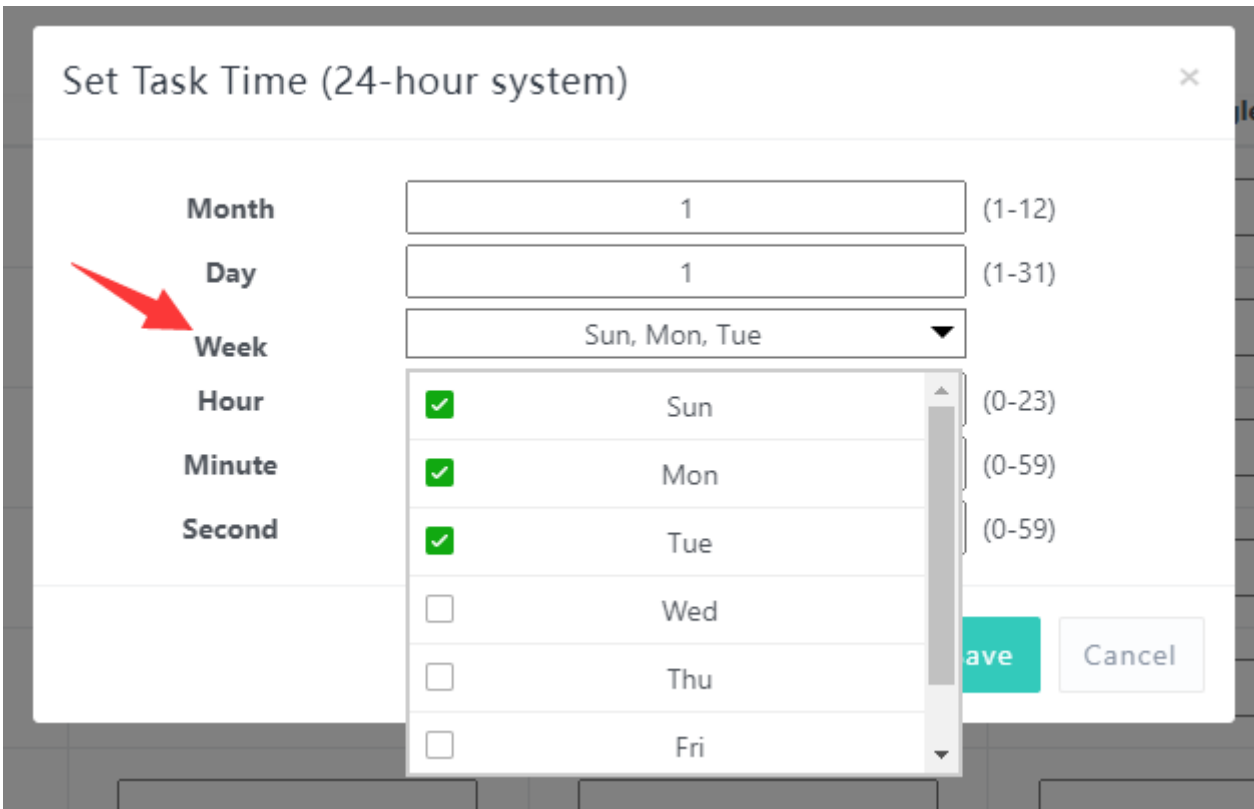
You can create task turn ON/OFF/TOGGLE output by preset. Option "On" ,"Off" ,"Toggle" set way as same as INPUT webpage.

Task ID	Enable	On	Off	Toggle	Repeat	Time (M-D hh:mm:ss)
1	<input checked="" type="checkbox"/>	<input type="text" value="1-64"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
2	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
3	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
4	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0
5	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no ▾	1-1 0:0:0

"Repeat" option can by every minute, hour, day, week, month, year.



Set every task time.



Week for "repeat" option.

Task ID	Enable	On	Off	Toggle	Repeat	Time (M-D hh:mm:ss)
1	<input checked="" type="checkbox"/>	<input type="text" value="1-64"/>	<input type="text"/>	<input type="text"/>	day <input type="text"/>	1-1 8:30:10 [Sun Mon Tue Wed Thu Fri]
2	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text" value="1-64"/>	<input type="text"/>	day <input type="text"/>	1-1 18:30:15 [Sun Mon Tue Wed Thu]
3	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no <input type="text"/>	1-1 0:0:0
4	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no <input type="text"/>	1-1 0:0:0
5	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	no <input type="text"/>	1-1 0:0:0

For example, here have:

Task-1: every work day (Sun--Fri) 08:30:10 turn ON digital output 1-64

Task-1: every work day (Sun--Fri) 18:30:10 turn OFF digital output 1-64

The screenshot shows the KinCony network configuration page. The browser address bar indicates the URL is 192.168.1.200/network_setting.html. The left sidebar contains navigation links: Index, Input, Output, Monitor, Schedule, Network (selected), Protocol, and System. The main content area is titled 'Index' and is divided into two sections: LAN and WIFI.

LAN Settings:

- mode: static (dropdown menu is open, showing 'static' and 'dhcp' options, with 'dhcp' selected)
- ip: [empty text box]
- netmask: 255.255.255.0
- gateway: 192.168.1.1
- dns1: 8.8.8.8
- dns2: 8.8.4.4

WIFI Settings:

- enable:
- mode: STA (dropdown menu)
- wifi ssid: KinCony
- wifi password: 12345678

A 'Save' button is located at the bottom of the settings area.

Network setting for ethernet and WiFi.

You if set WiFi by AP mode. device such as mobile phone or tablet can connect to board by wifi directly without wifi router.

WIFI

enable



mode

STA

wifi ssid

AP

STA

wifi password

12345678

Save

If you set WiFi to STA mode, also you have connect to router by ethernet cable. Board will use ethernet firstly, if ethernet cable disconnected, then will auto switch to WiFi connect to your wifi router, so that make sure let board always connect to your router.

Index

Input

Output

Monitor

Schedule

Network

Protocol

General

Tuya

System

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MQTT

enable

broker address broker port

broker username broker password

HTTP Server

enable

protocol request secret

TCP Server

enable

protocol local port

TCP Client

enable

protocol

remote address remote port

UDP Server

enable

protocol local port

UDP Client

enable

protocol

remote address remote port

RS485

enable

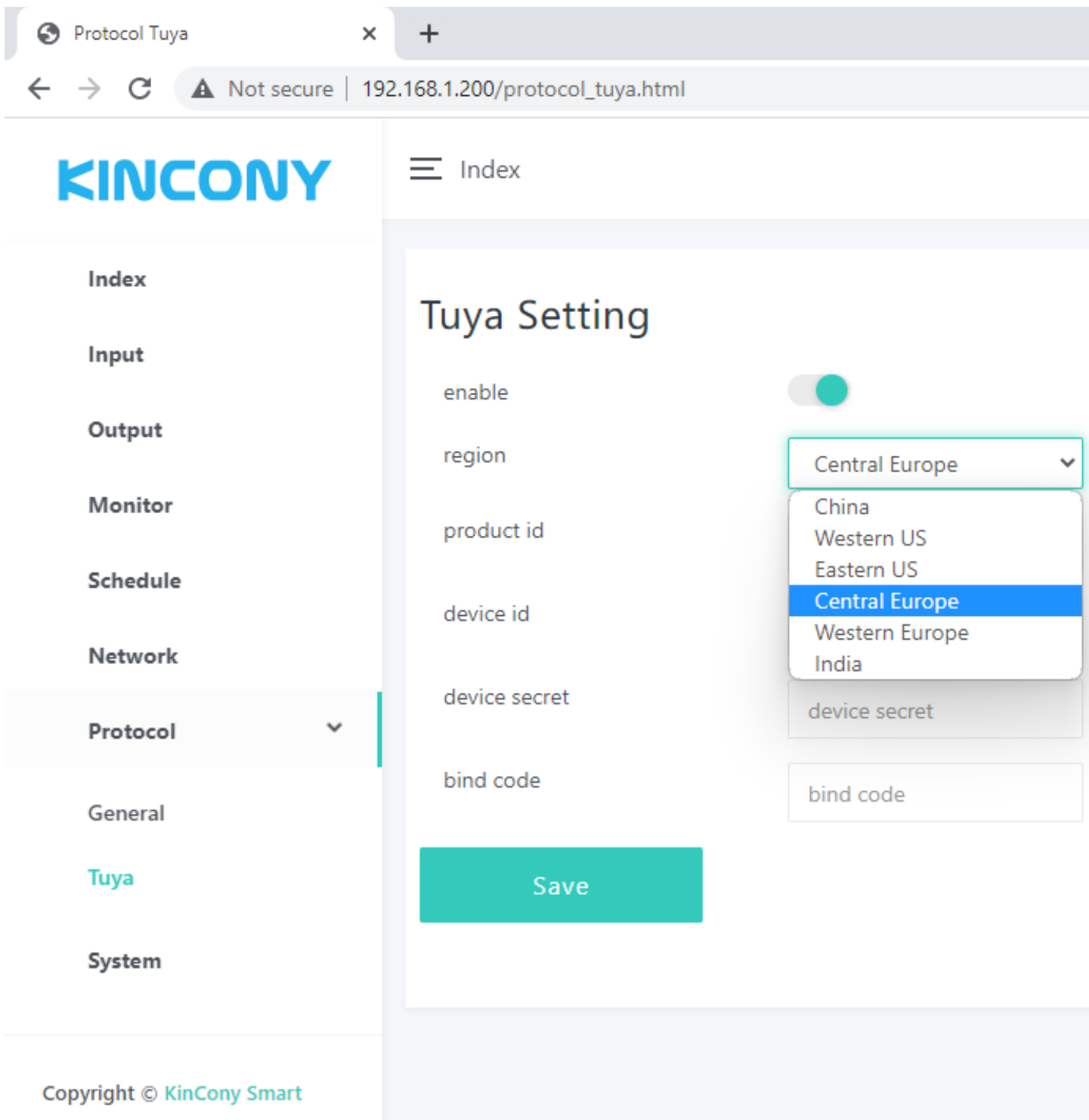
protocol local addr

baud data bit

stop bit parity

Save

Here is protocol setting webpage. You can enable/disable different protocol in webpage. About these protocol document you can download from KinCony's webpage.



If you want to use Tuya mobile phone application by remote monitor and control output by internet. You can contact us order the Tuya licence code. If you bought Tuya licence from KinCony, you just fill product id, device id, device secret, bind code to this webpage, then it will auto generate QR code, you can scan QR code add board to Tuya mobile phone application.

System Setting x +

← → ↻ ⚠ Not secure | 192.168.1.200/system_setting.html

KINCONY

☰ Index

- Index
- Input
- Output
- Monitor
- Schedule
- Network
- Protocol >
- System

ntp server

time zone ▼

double click time ms

hold on time ms

keep output after restart

username

password

Restart Board

Restore Factory

Copyright © KinCony Smart

Here is system webpage.

“double click time”: adjust value for change speed of double click.

“hold on time”: adjust value for long or short the hold on time.

“keep output after restart”: when after power failure, whether auto recovery digital output state when power on again.

“Restart Board”: reboot board.

“Restore Factory”: clear all setting and set WiFi to “AP” mode.