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

Note: This document use for KinCony smart controller:

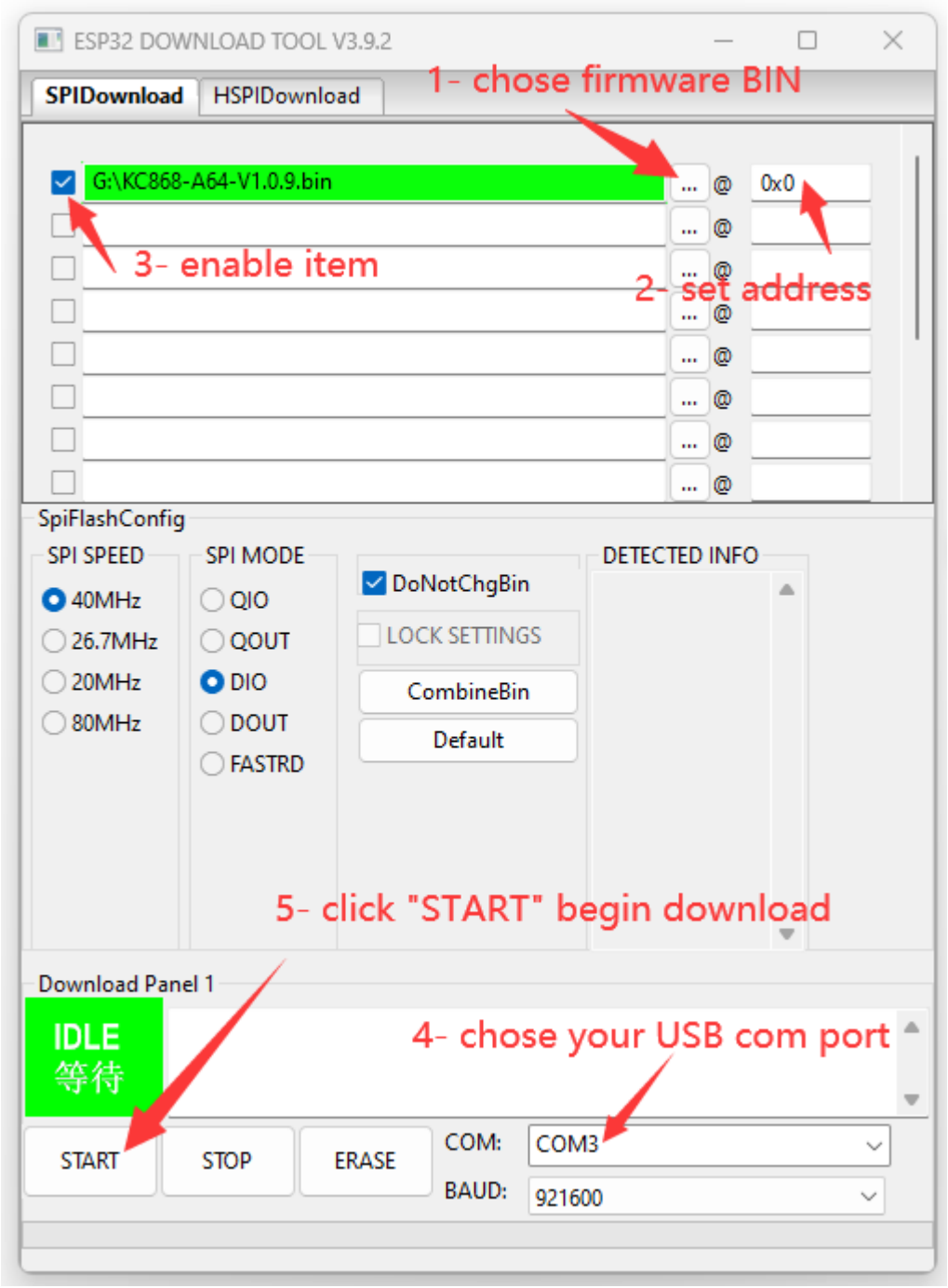
KC868-A4 A6 A8 A8S A16 E16S A32 A64 A128

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.

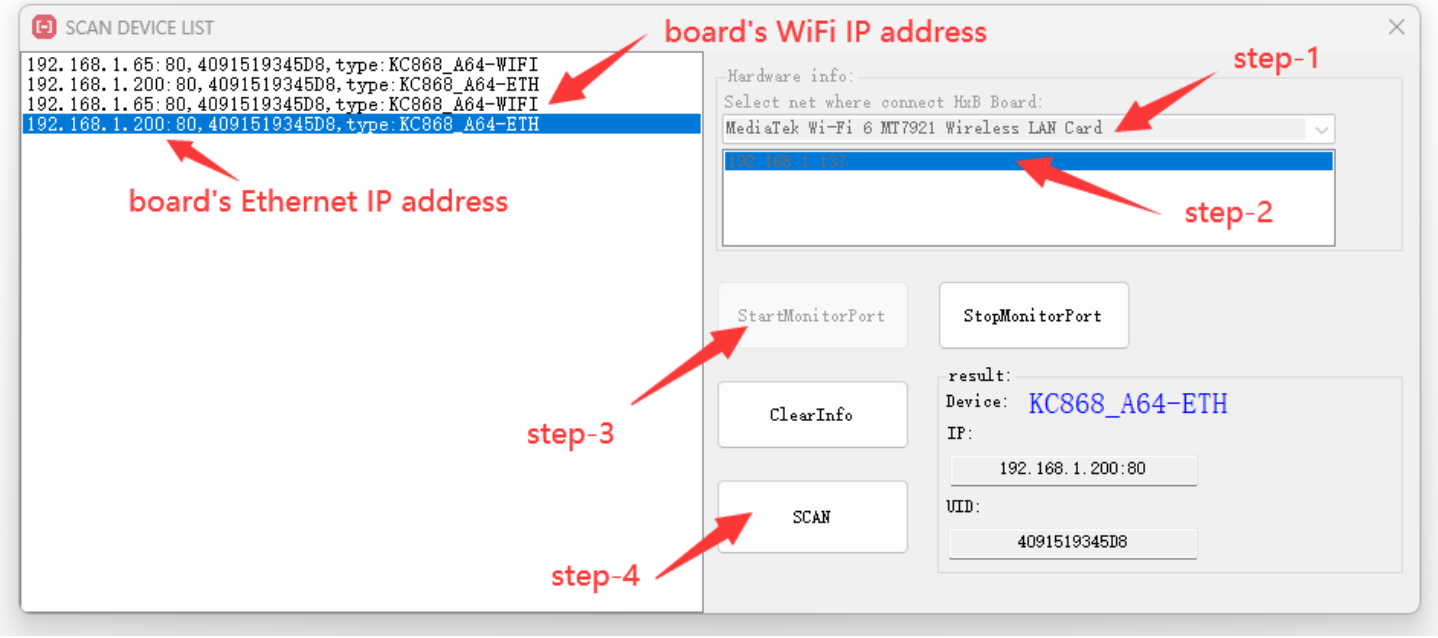


2. Use ethernet cable or WiFi config setting.

   a. use ethernet cable connect board to your router, make sure your computer also connect with same router, just all in one local network.

   b. 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.

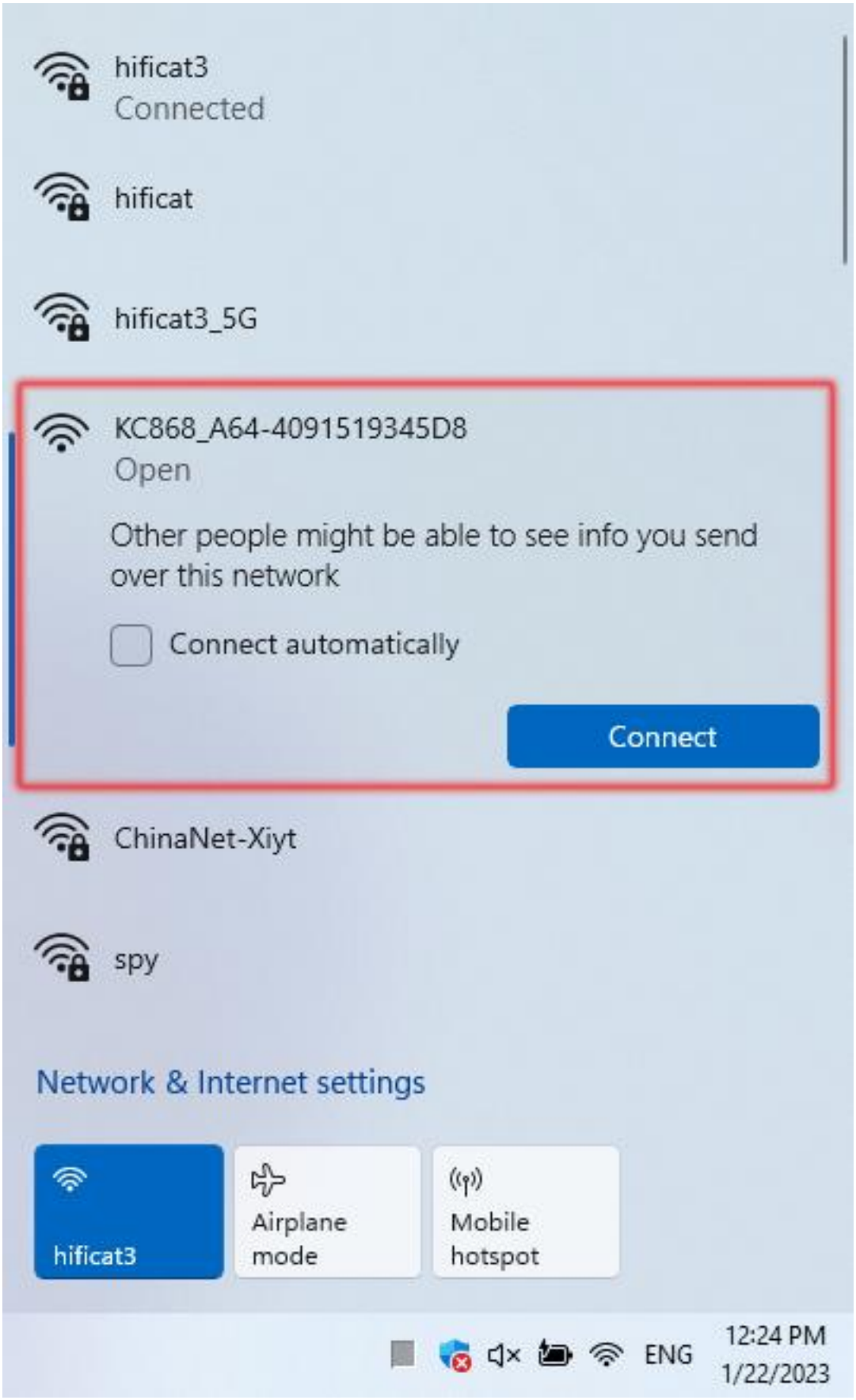
Step-4: click “SCAN” button.

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.

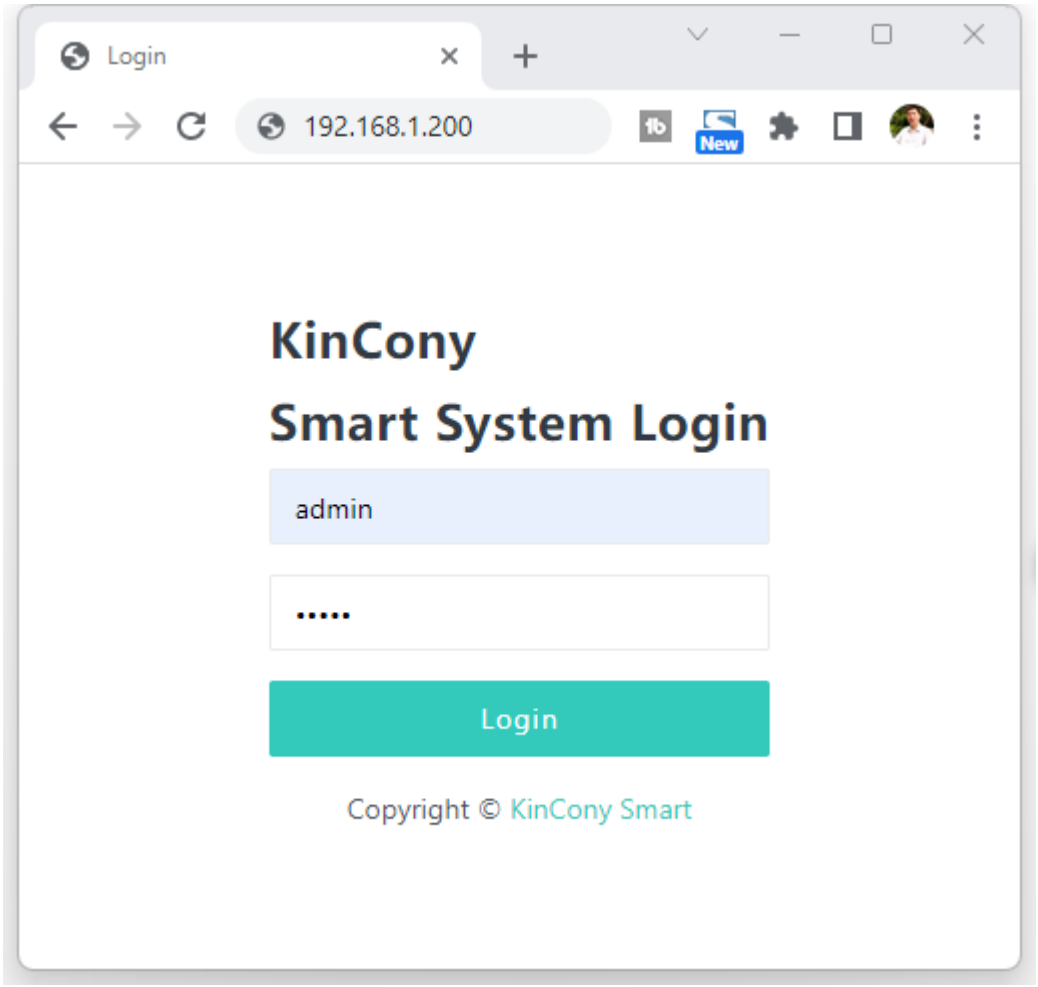
You can use ethernet IP address login by web browser to config board setting.

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



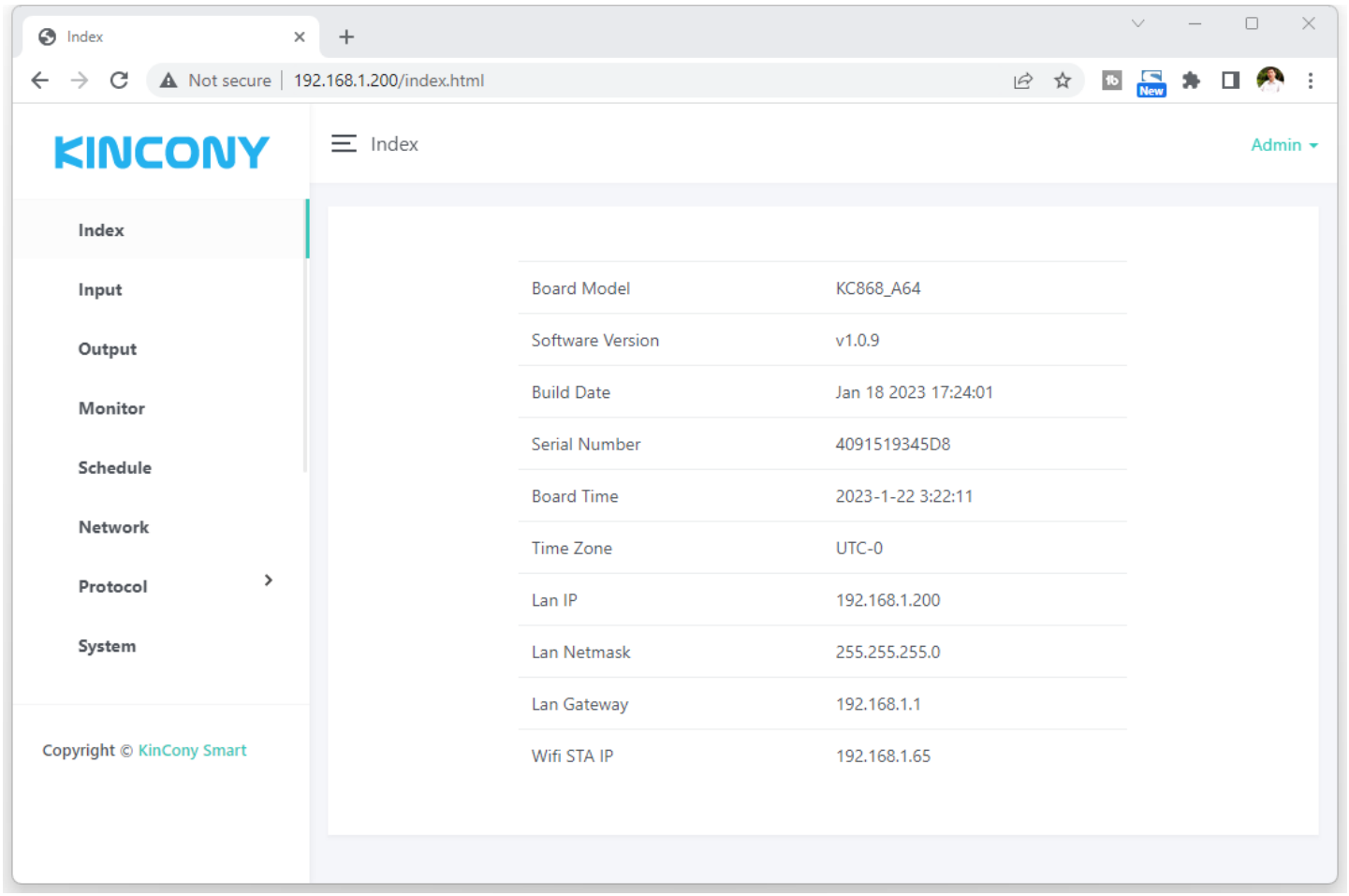
Let your computer connect to the “AP”, it’s without password, after you connected, just use http://192.168.4.1 to login by webpage.

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”.

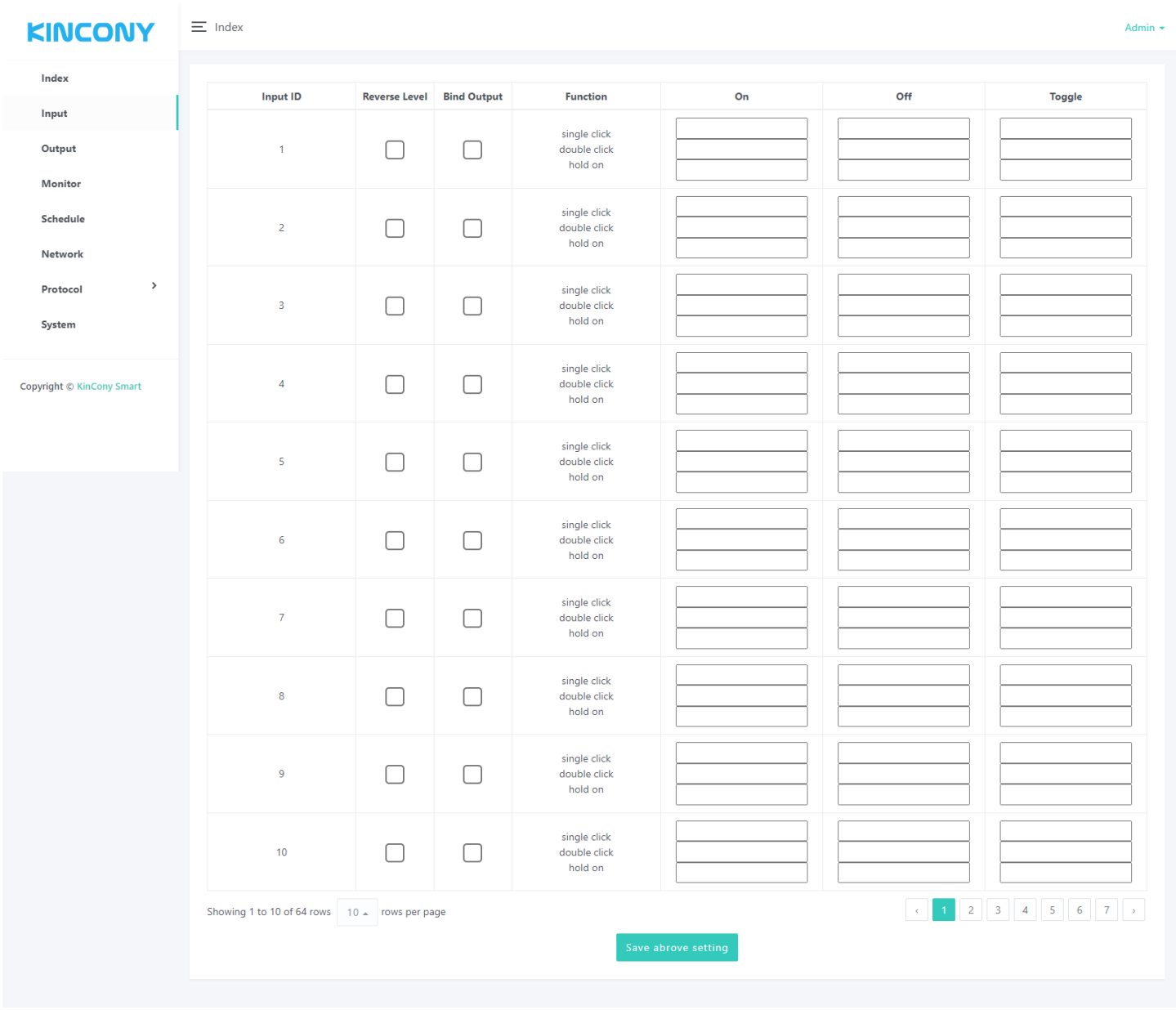


You can login webpage by ethernet IP or WiFi IP. Here is sample login by ethernet IP address 192.168.1.200

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



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



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	☐	☑	single click double click hold on	 1-64	 1-64 	1
2	☐	☑	single click double click hold on	 5 6 7 8 9 10	 5 7-10 	2
3	☑	☑	single click double click hold on	 	 	3
4	☐	☑	single click double click hold on	4 	 4 	
5	☐	☑	single click double click hold on	 1-64 	1-64 	
6	☐	☐	single click double click hold on	 	 	

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

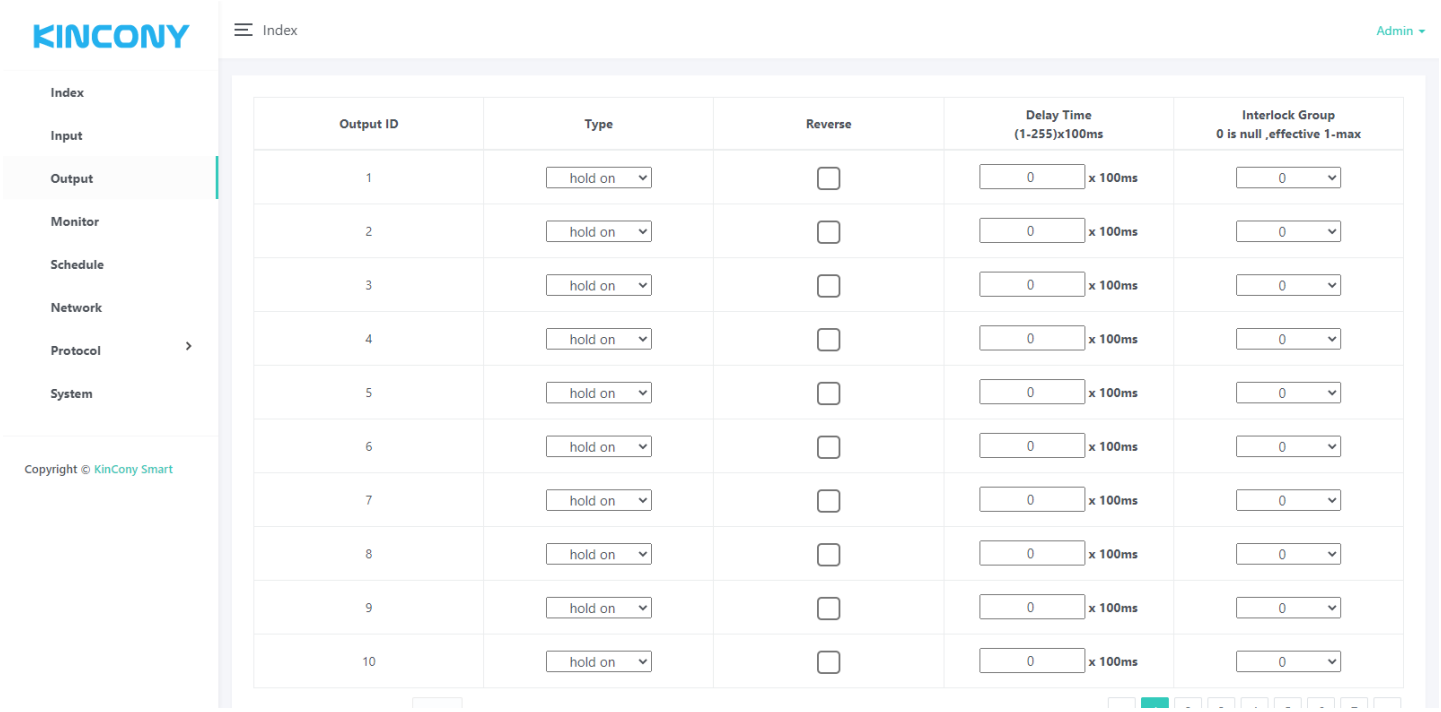
Input-4: when “single click” will turn ON digital output 4

when “double click” will turn OFF digital output 4

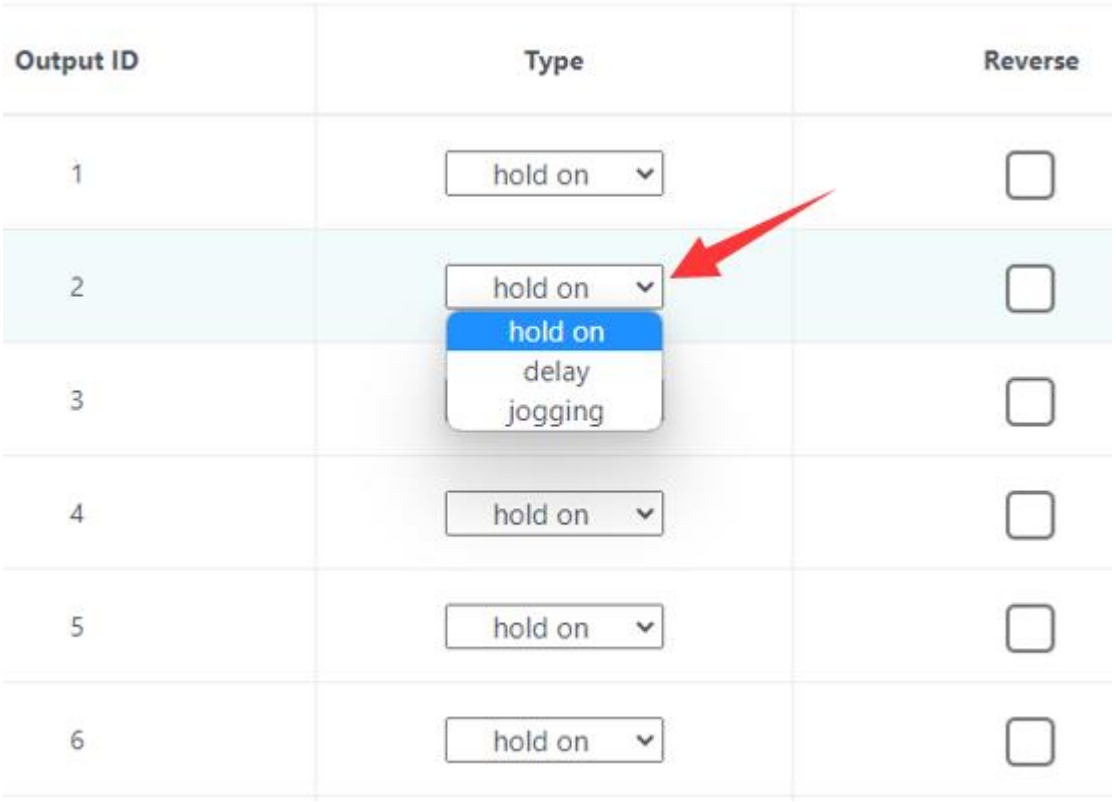
Input-5: when “single click” will turn OFF digital output 1-64

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.



Here is OUTPUT webpage.



“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	☐	0 x 100ms	0
2	hold on	☐	0 x 100ms	0

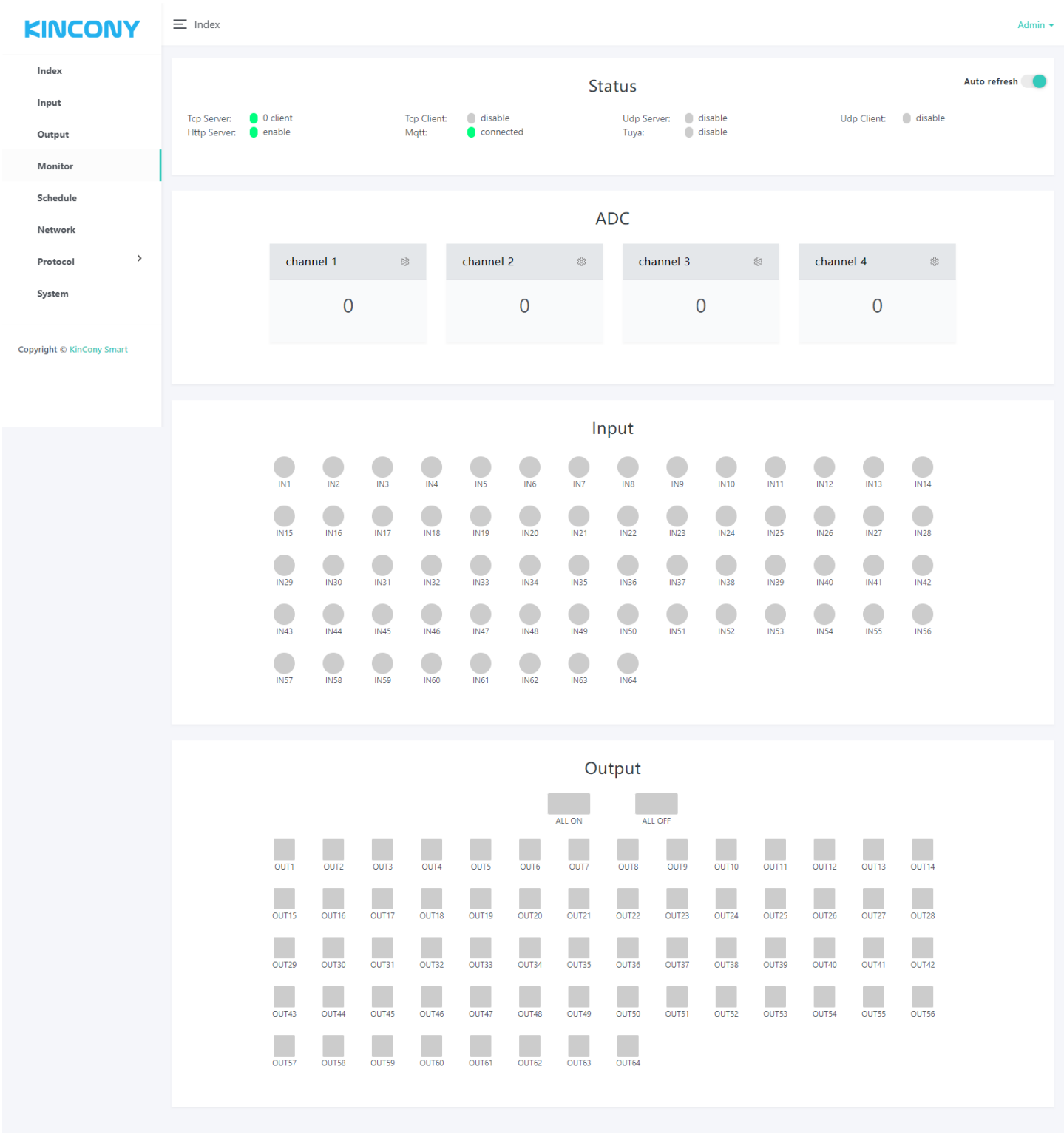
Input ID	Reverse Level	Bind Output	Function	On	Off	Toggle
1	☐	☑	single click double click hold on	1		

Here is sample INPUT1 jogging mode with OUTPUT1.

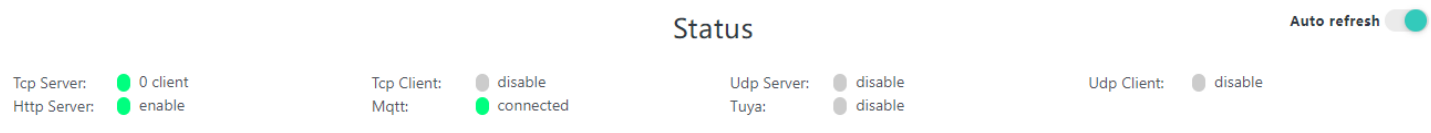
Output ID	Type	Reverse	Delay Time (1-255)x100ms	Interlock Group 0 is null ,effective 1-max
1	hold on	☐	0 x 100ms	0
2	hold on	☐	0 x 100ms	0
3	hold on	☐	0 x 100ms	
4	hold on	☐	0 x 100ms	
5	hold on	☐	0 x 100ms	
6	hold on	☐	0 x 100ms	
7	hold on	☐	0 x 100ms	
8	hold on	☐	0 x 100ms	
9	hold on	☐	0 x 100ms	

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

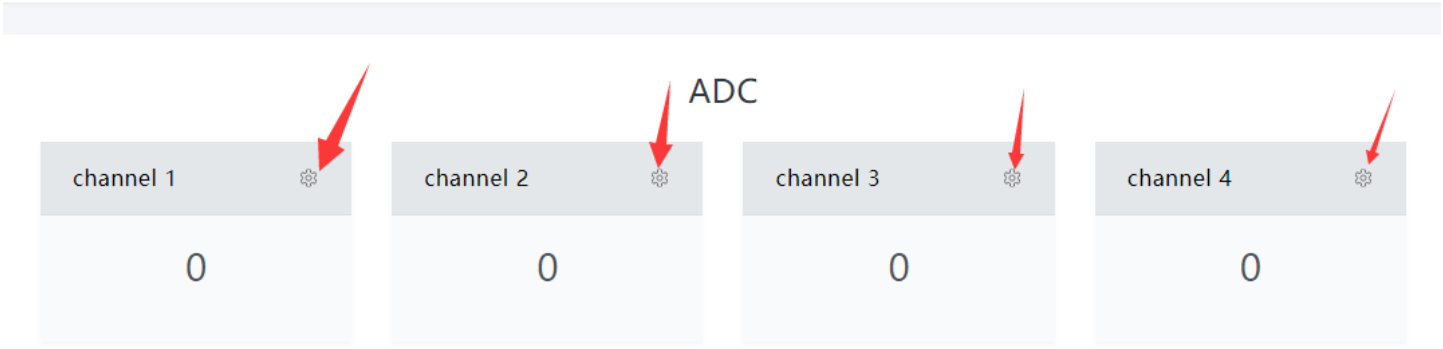
“Interlock group”: set interlock group for digital output. If set to “0” , disable interlock function. If “Output1” set to “1” and “Output2” set to “1” = Output1 and Output2 work with interlock. If “Output3” set to “2” and “Output4” set to “2” = Output3 and Output4 work with interlock. For example ,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



Here is monitor webpage.



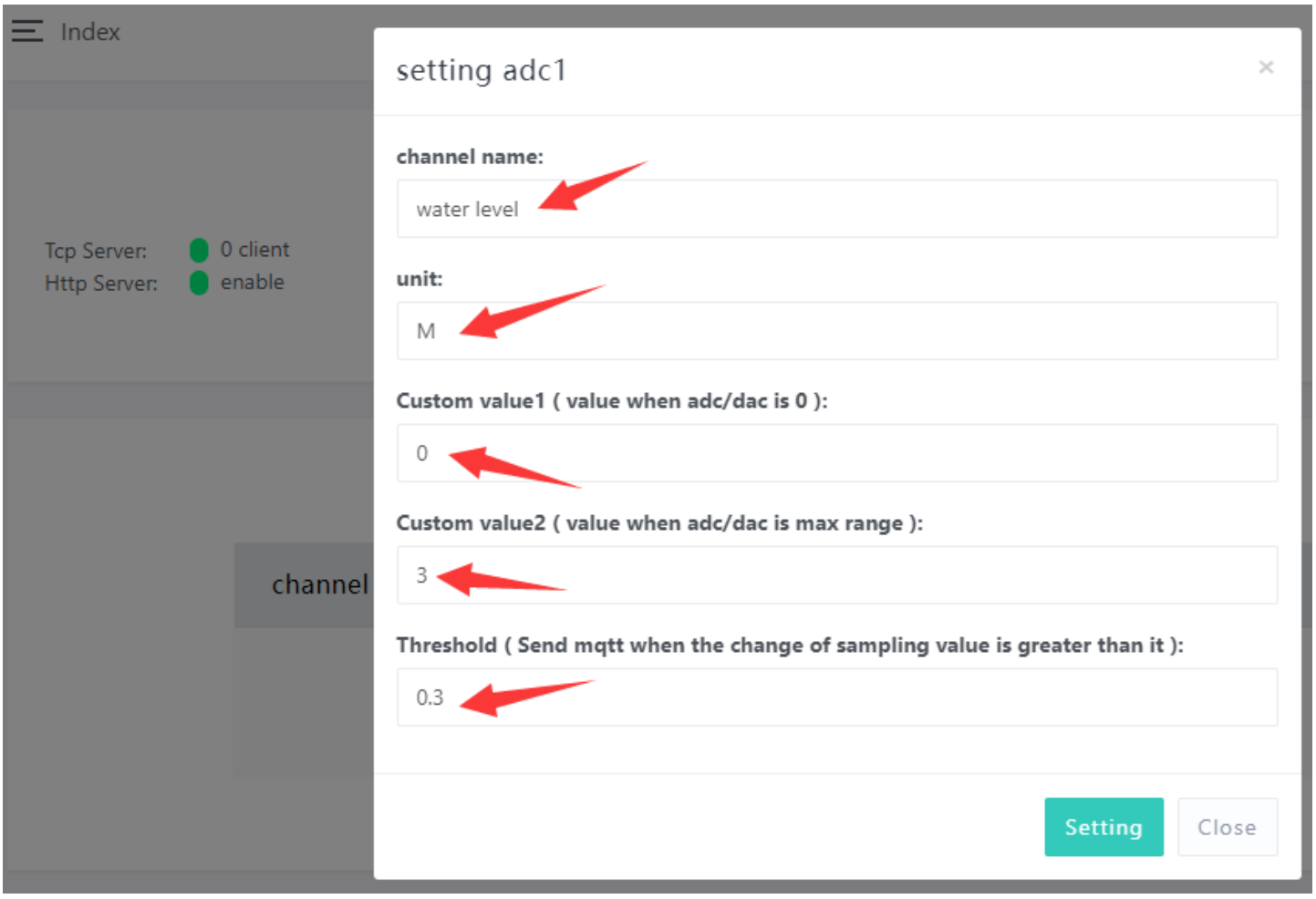
Monitor all protocol work state, whether have connect to server or have a client have connected.



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.

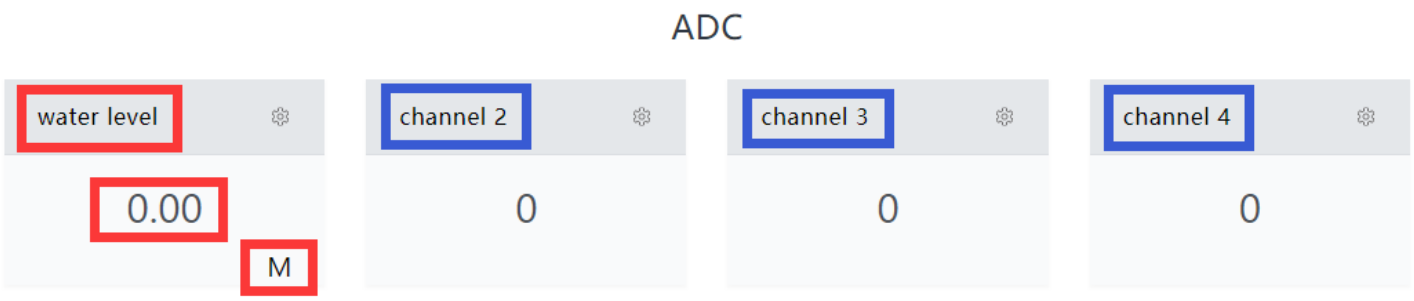


Fox example, we set a water level analog sensor, name is “water level”, unit is M (meter), Custom value1 and value2 means: if you are using DC 0-5v analog sensor, when sensor voltage is 0v, what’s “Custom value1” corresponding value. when sensor

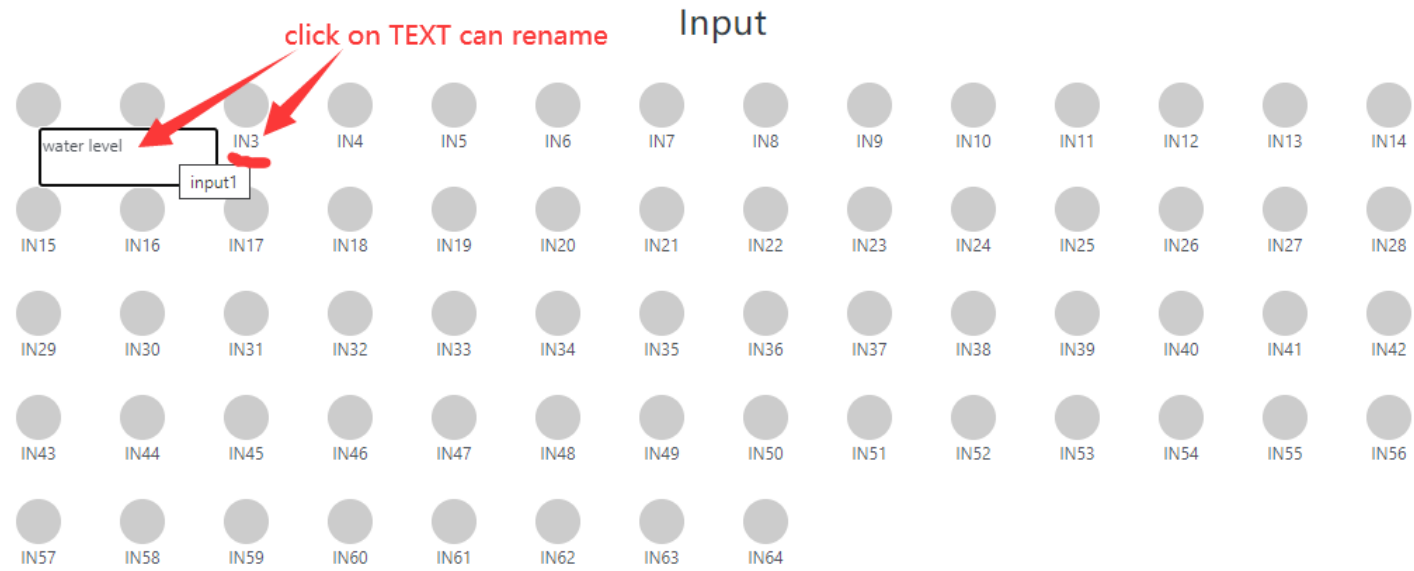
voltage is 5v, what's "Custom value2" corresponding value.

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

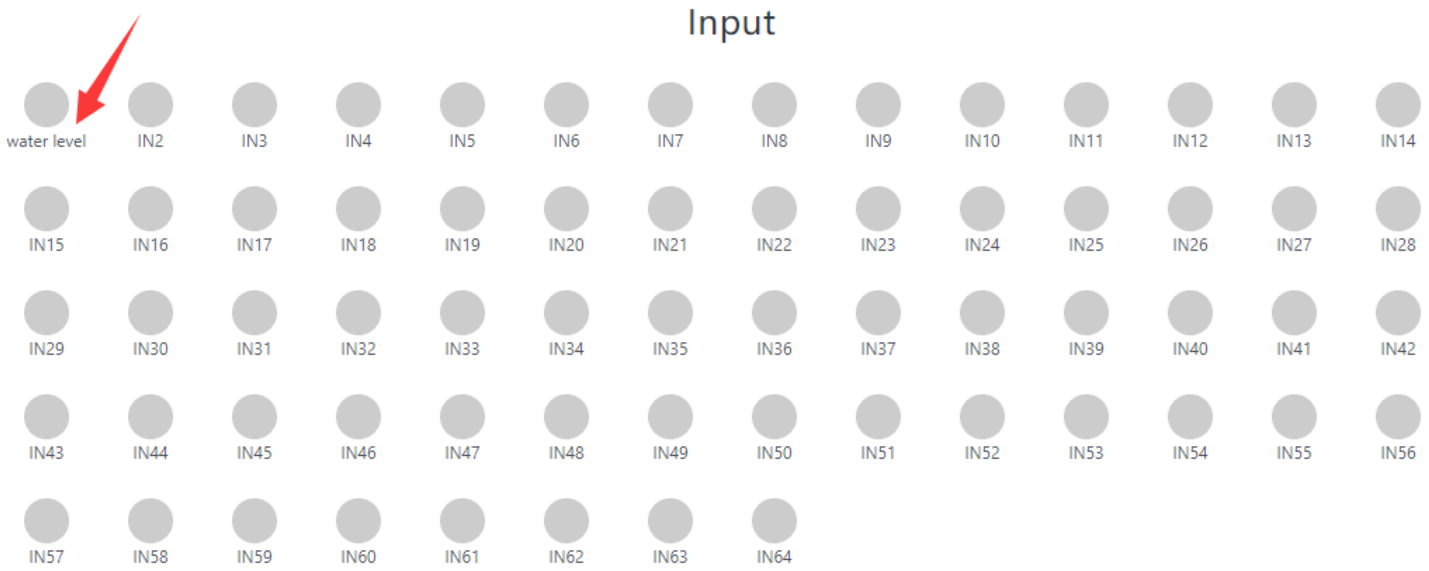
If you are using sensor 4-20mA, so 4-20mA 4mA=Custom value1, 20mA is Custom value2.



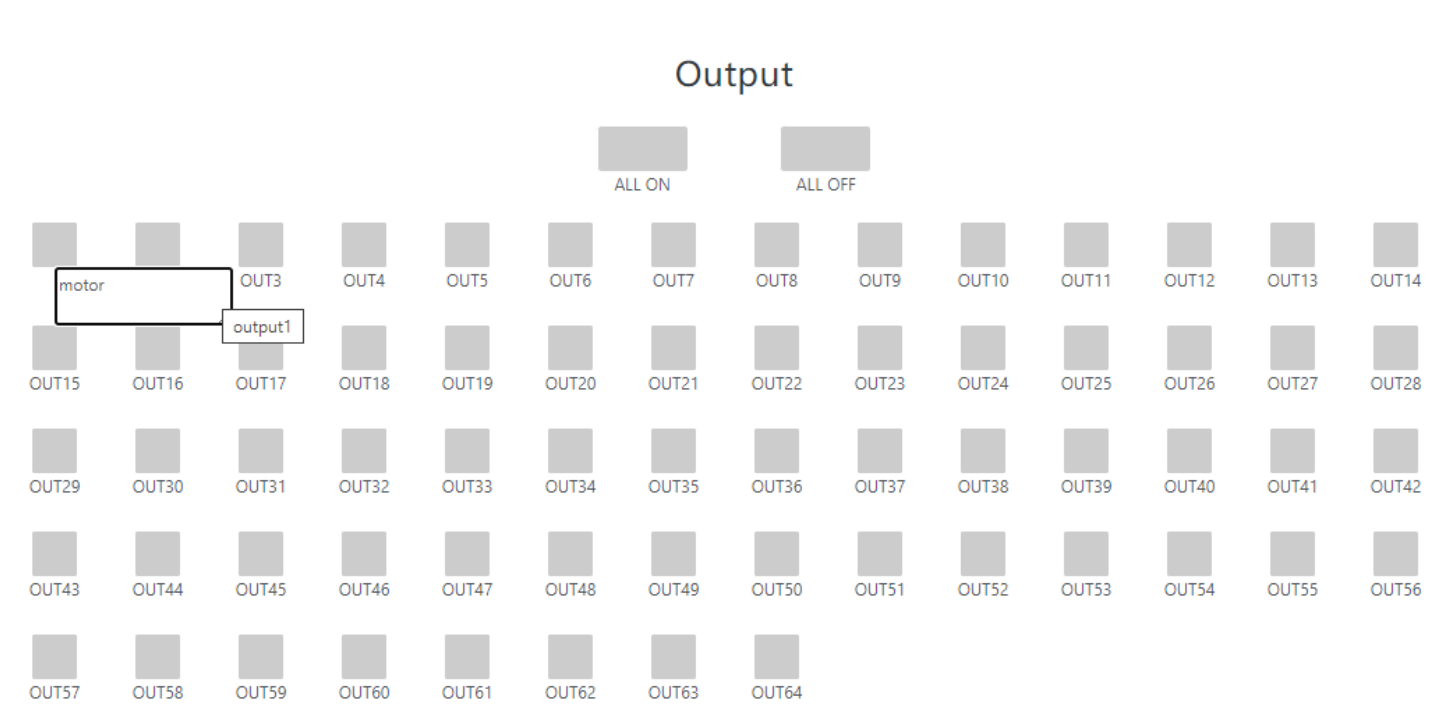
Then you will see the actually sensor name , value and unit on the monitor webpage.



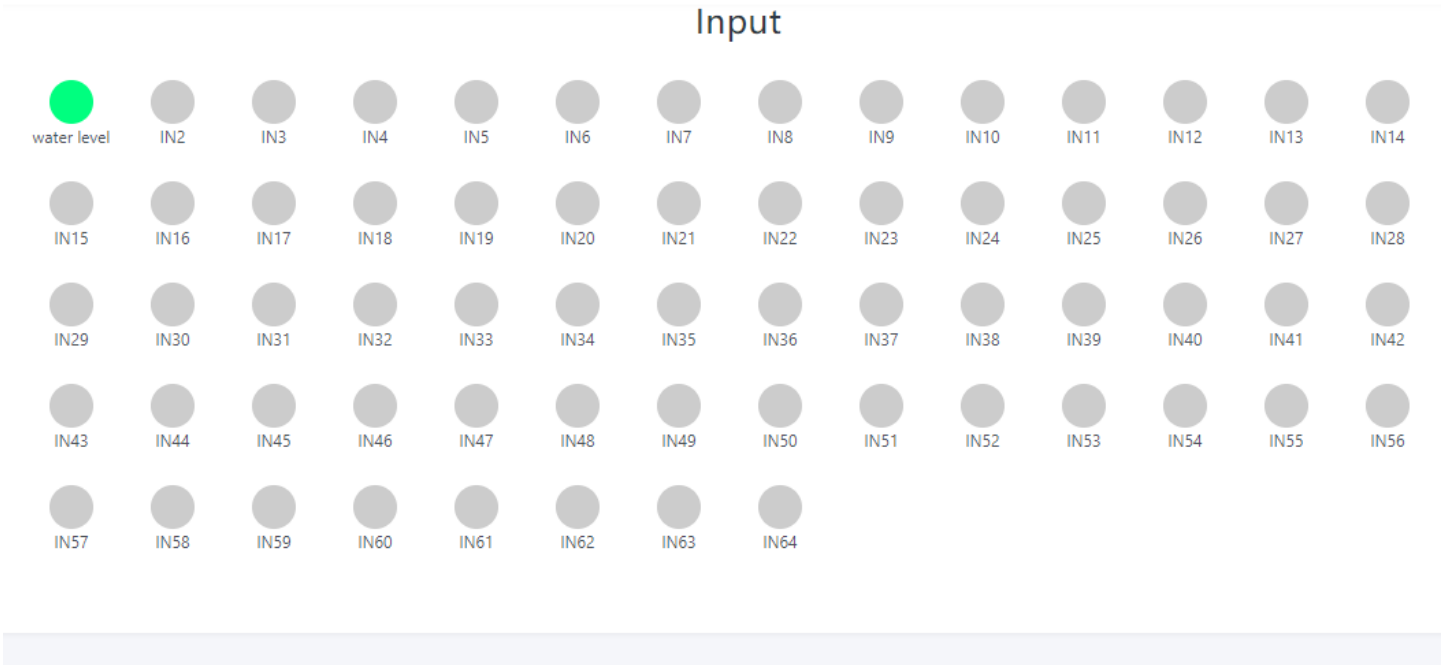
Double click on the input name's TEXT can be rename by yourself.

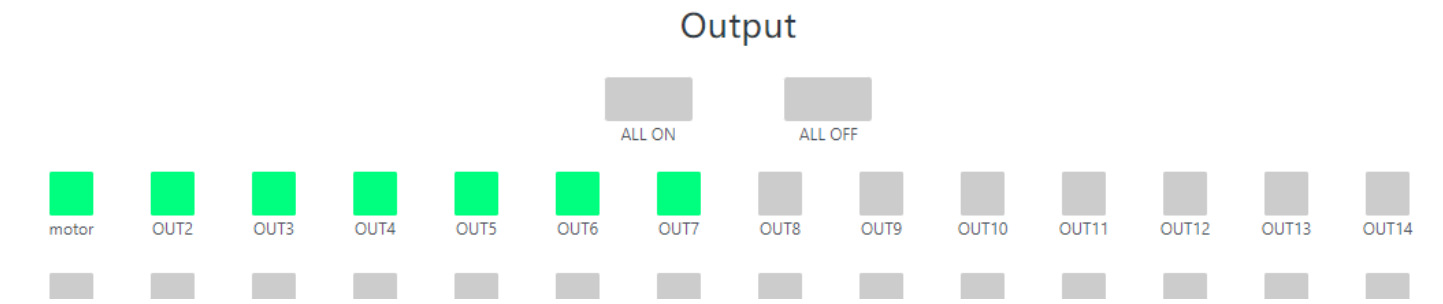


After renamed.



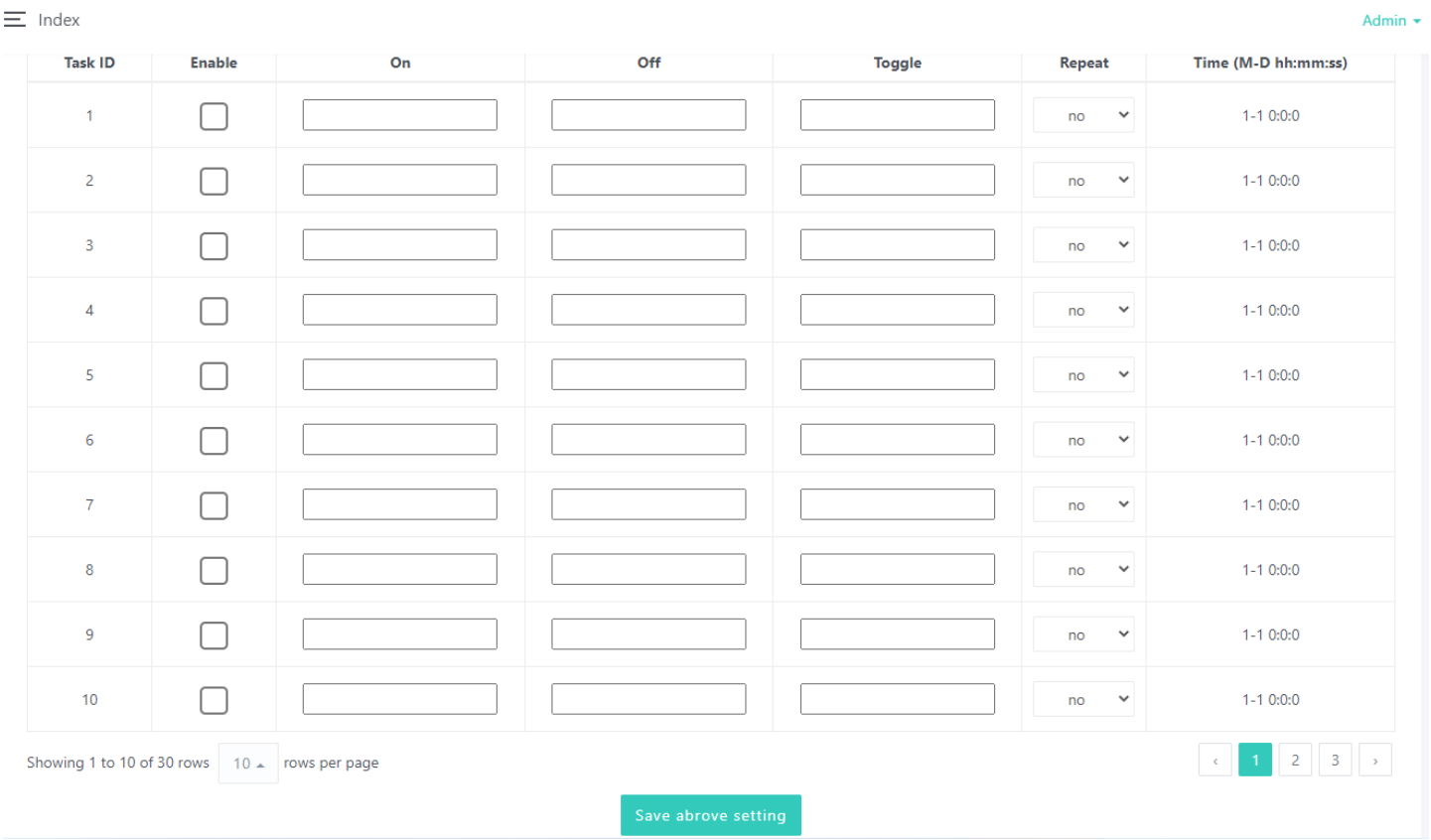
Use the same way (double click TEXT) can rename of the output ports.





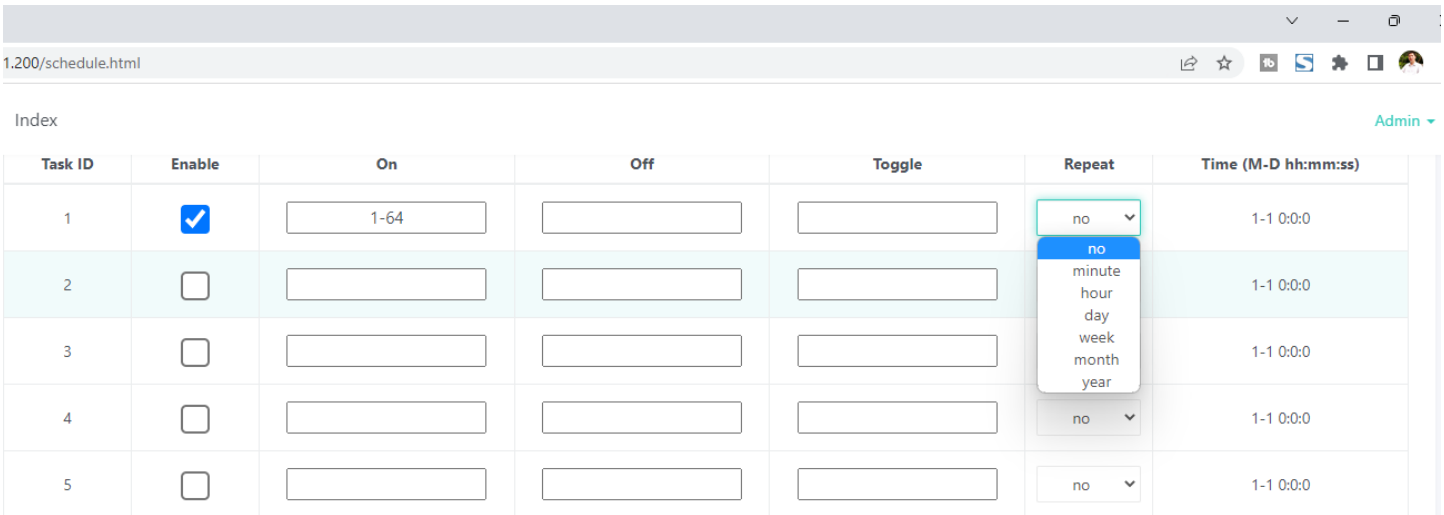
Green ico for INPUT means triggered.

Green ico for OUTPUT means output is ON state.

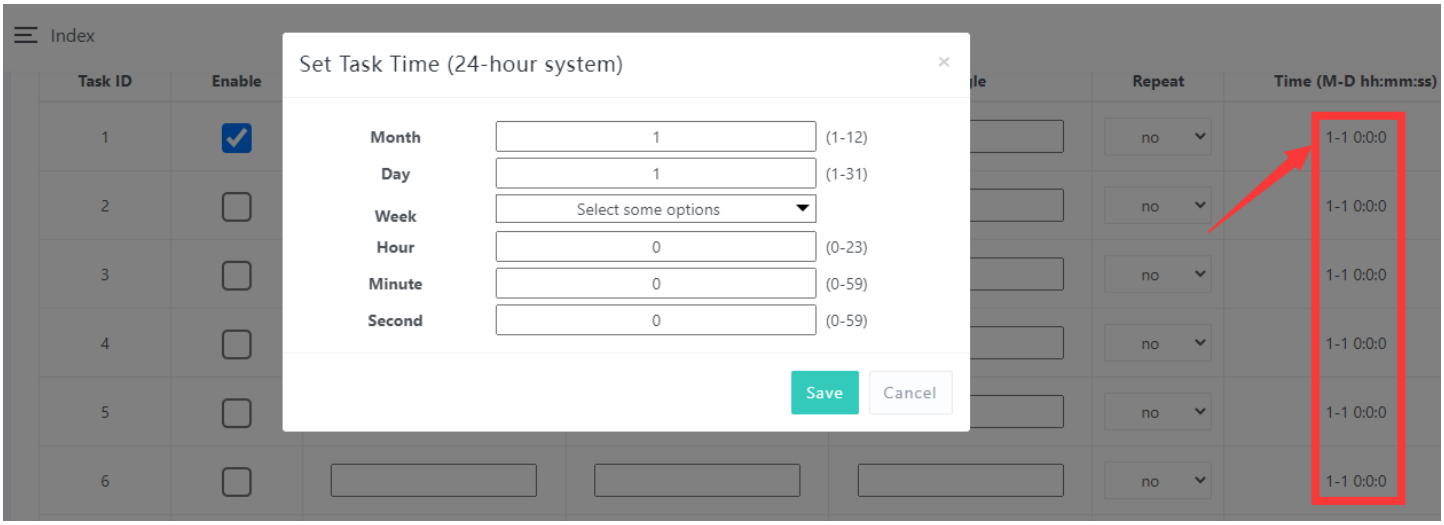


Here is schedule webpage.

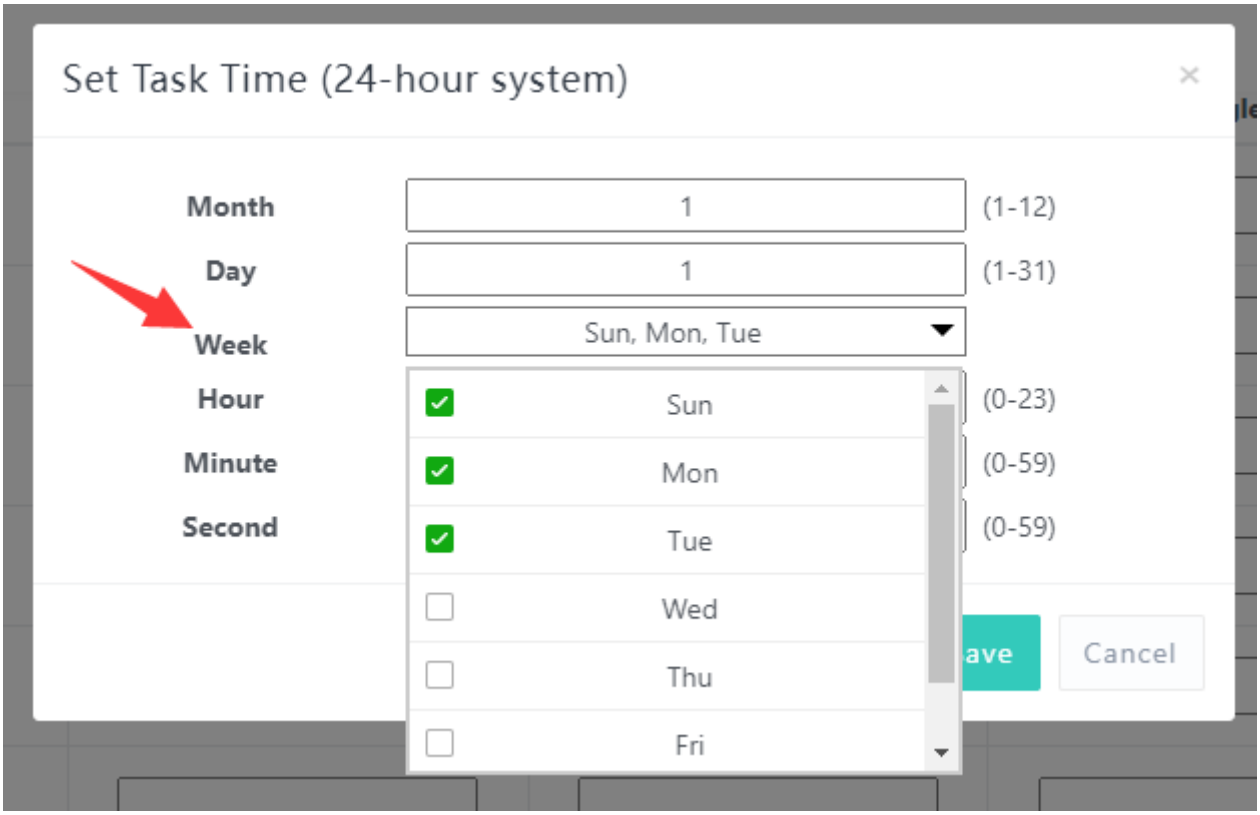
You can create task turn ON/OFF/TOGGLE output by preset. Option “On” ,”Off” ,”Toggle” set way as same as INPUT webpage.



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



Set every task time.



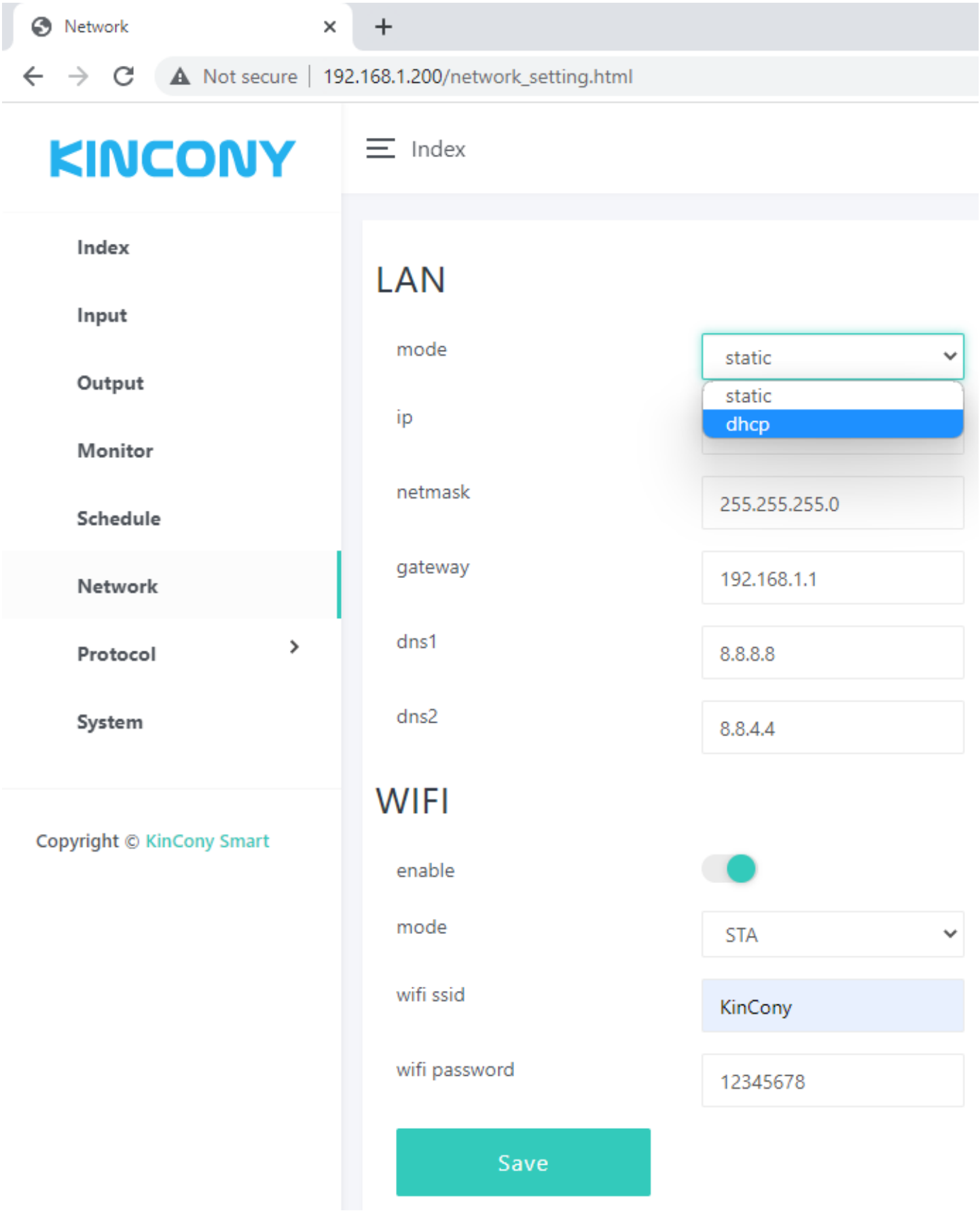
Week for “repeat” option.

Task ID	Enable	On	Off	Toggle	Repeat	Time (M-D hh:mm:ss)
1	☑	1-64			day	1-1 8:30:10 [Sun Mon Tue Wed Thu Fri]
2	☑		1-64		day	1-1 18:30:15 [Sun Mon Tue Wed Thu]
3	☐				no	1-1 0:0:0
4	☐				no	1-1 0:0:0
5	☐				no	1-1 0:0:0

For example, here have:

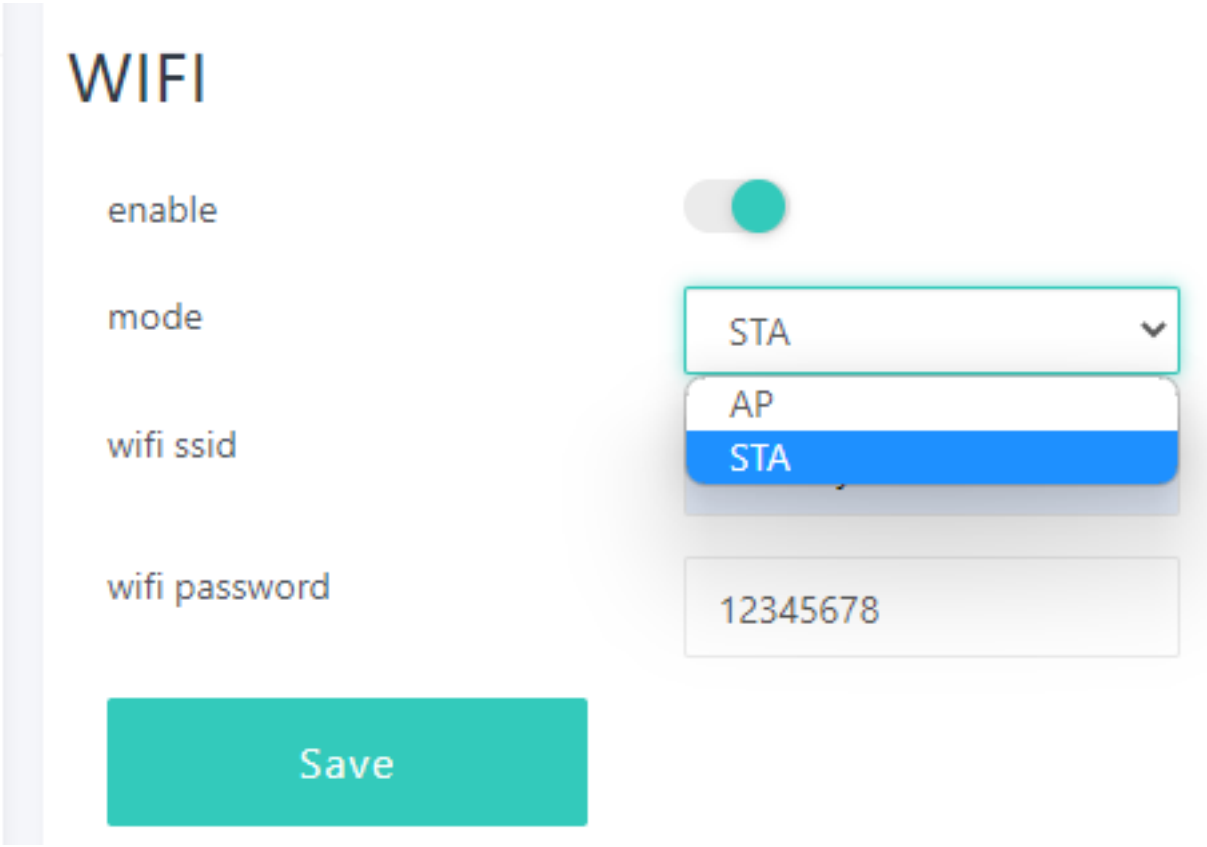
Task-1: every work day (Sun--Fri) 08:30:10 turn ON digital output 1-64

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

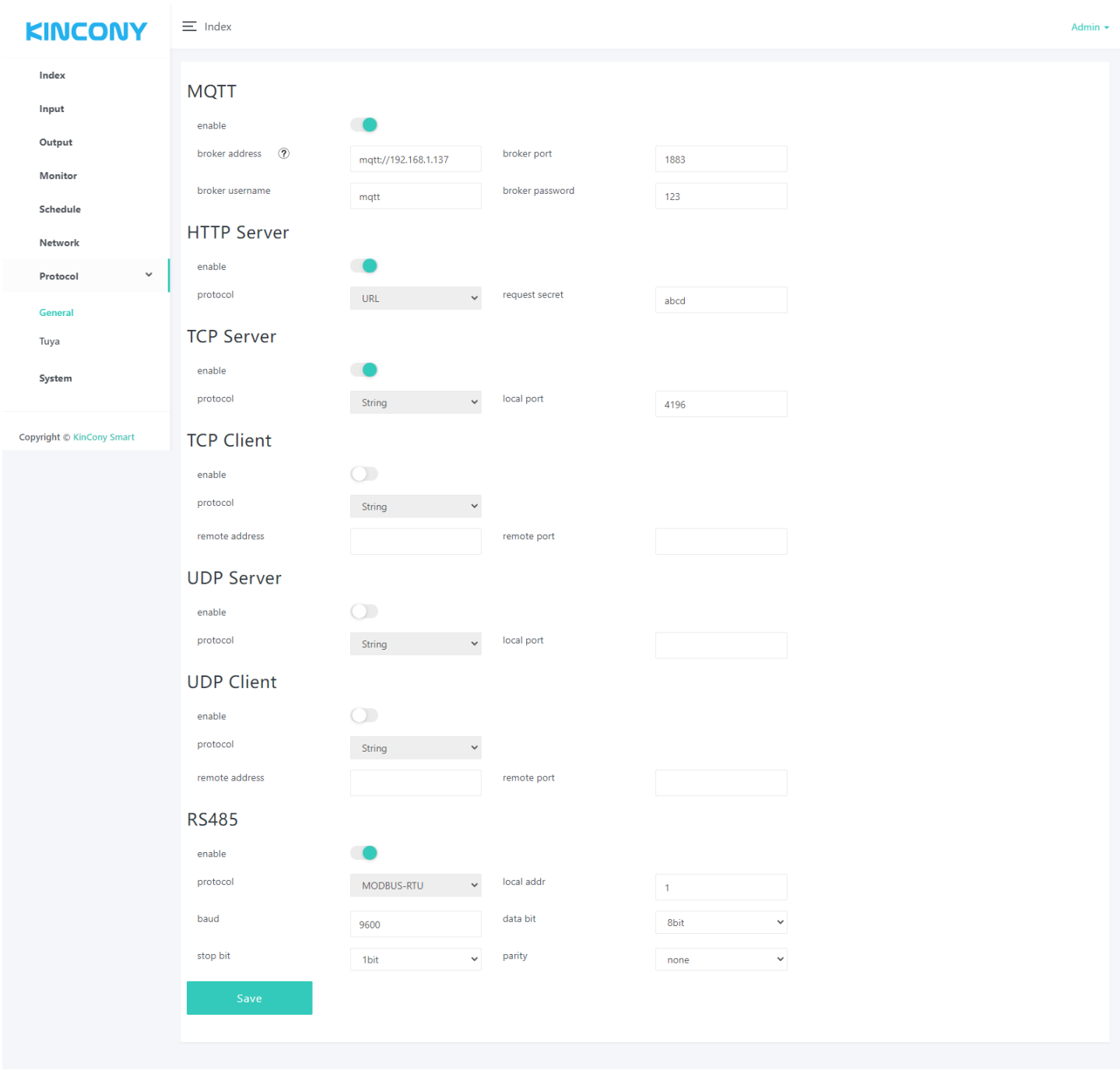


Network setting for ethernet and WiFi.

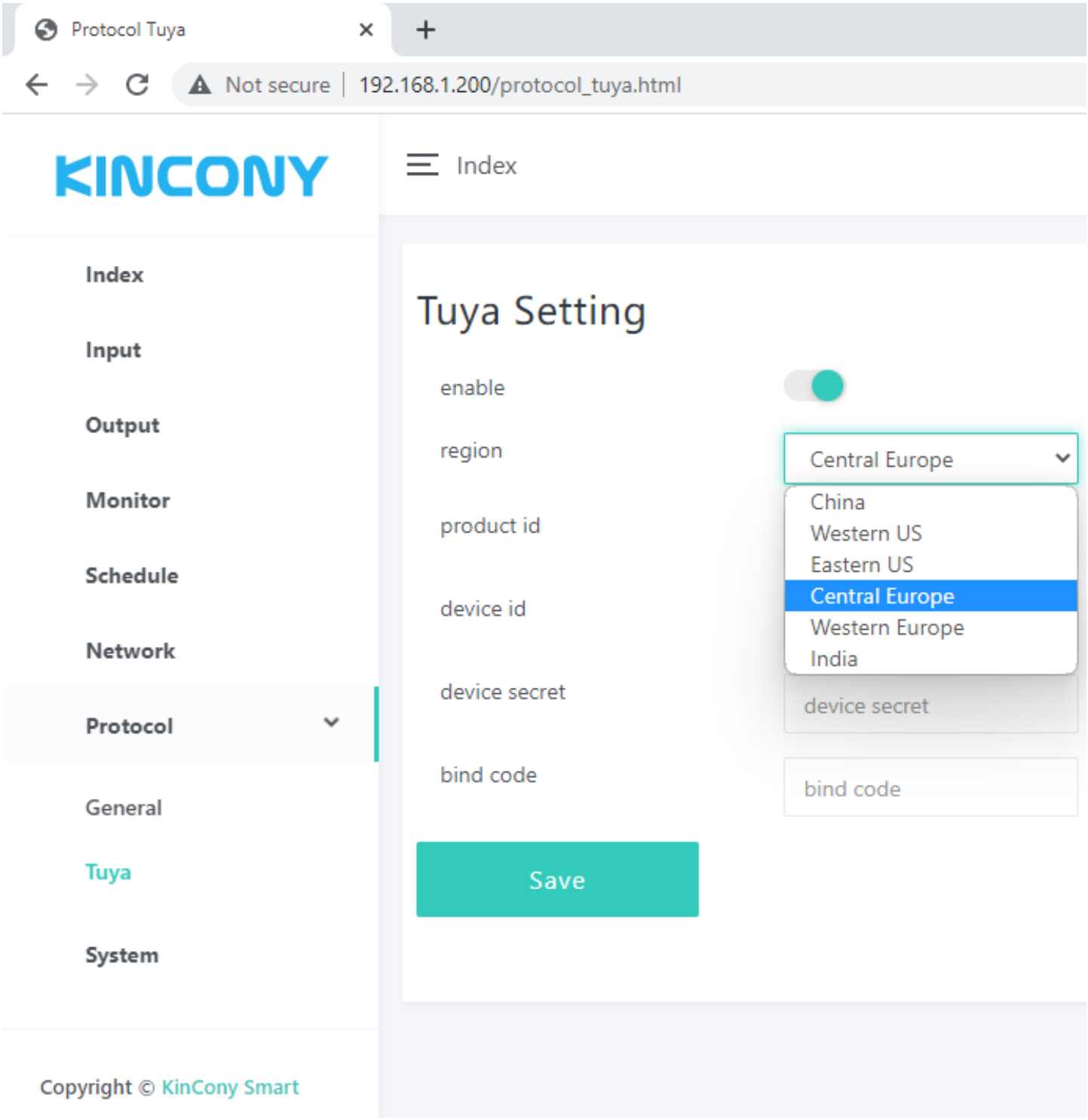
You if set WiFi by AP mode. device such as mobile phone or tablet can connect to board by wifi directly without wifi router.



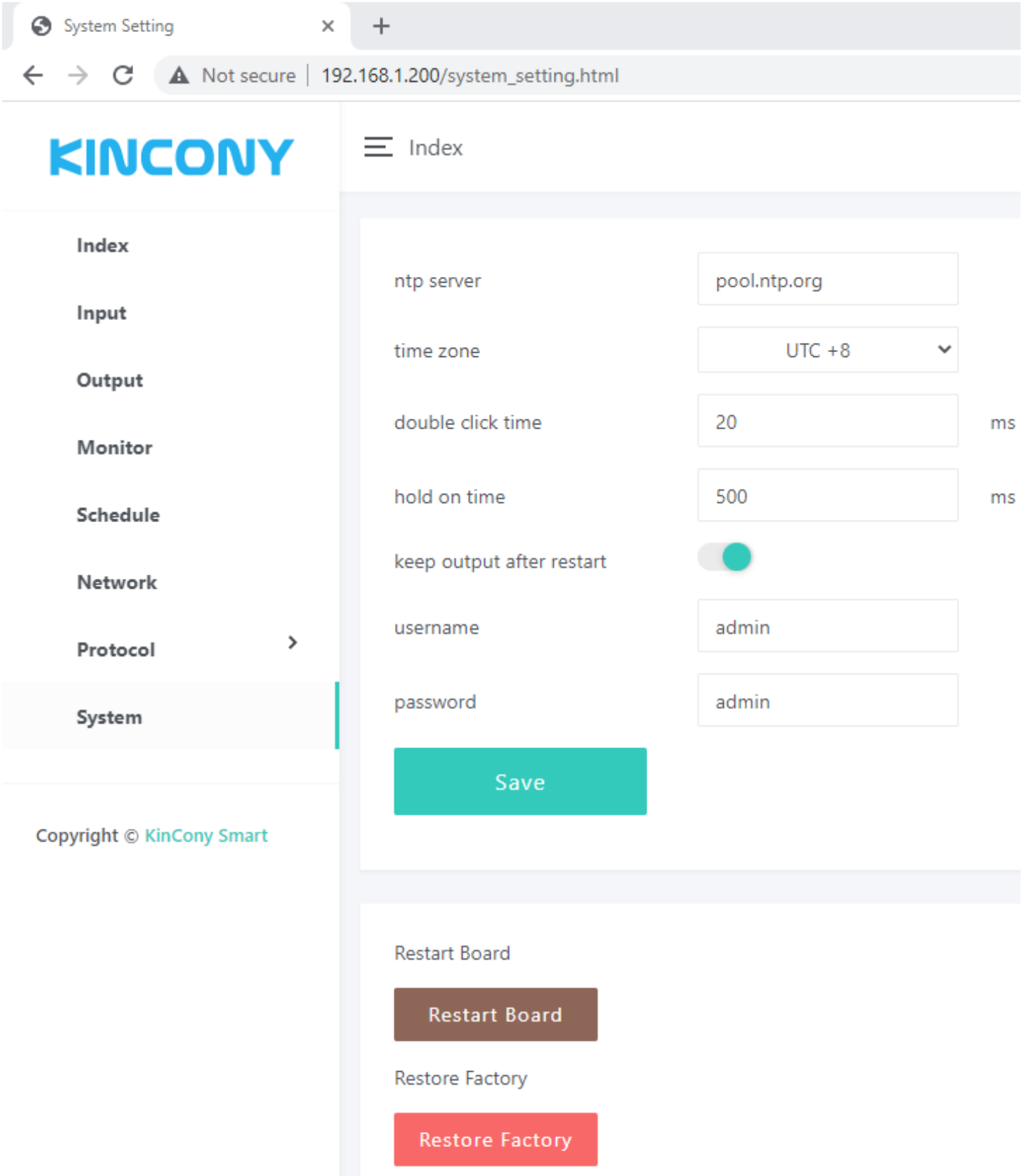
If you set WiFi to STA mode, also you have connect to router by ethernet cable. Board will use ethernet firstly, if ethernet cable disconnected, then will auto switch to WiFi connect to your wifi router, so that make sure let board always connect to your router.



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.



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.