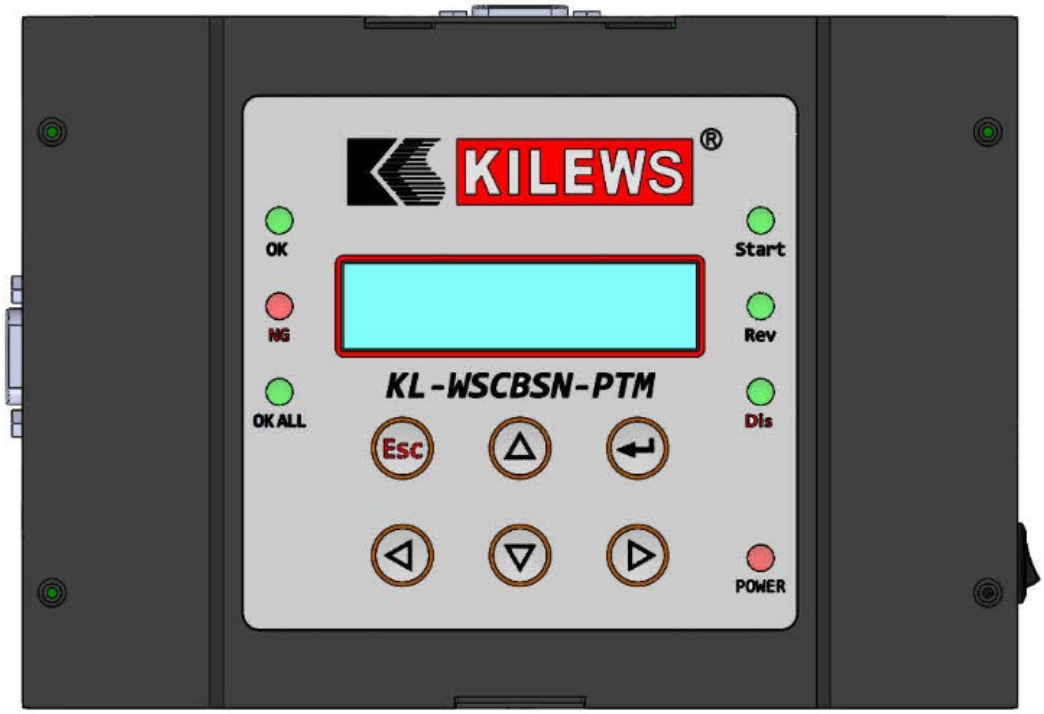
PTM Power Screwdriver
Control Display User Manual



Model: KL–WSCBSN-PTM

Please scan the following QR code or download the operation manual from KILEWS website

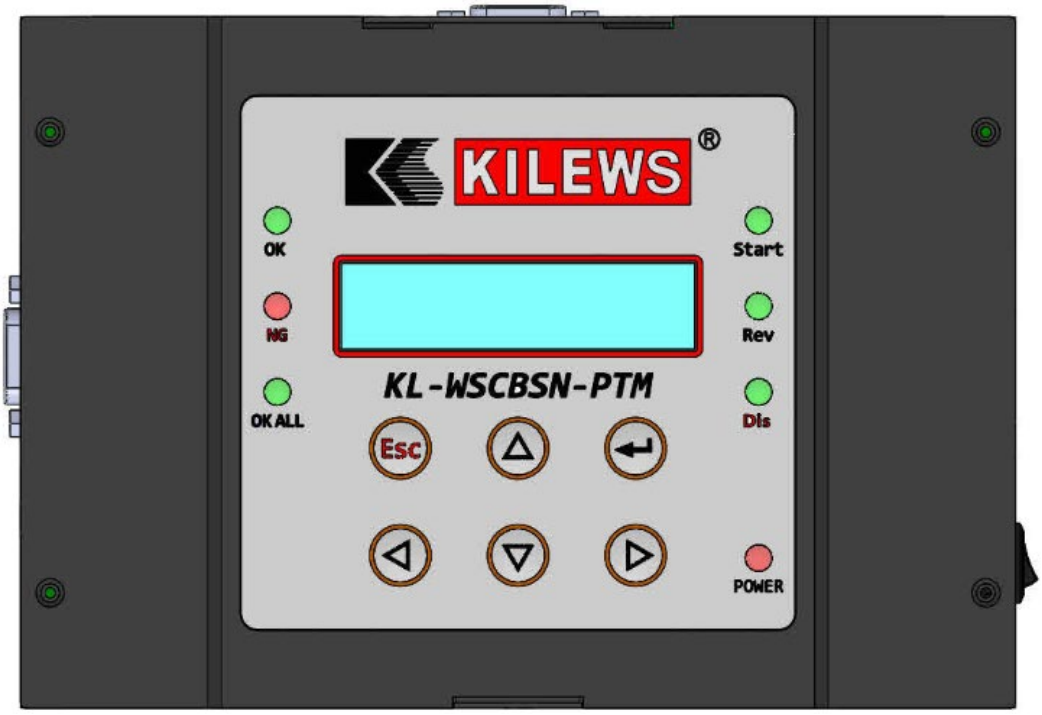
https://www.kilews.com.tw/tc/download-list.php

KILEWS INDUSTRIAL CO., LTD.

http://www.kilews.com.tw

Y2F216Q-3-001

I. Panel Function



Display Screen:
Boot Version: (Ver 1.xxx)
16X2 LCM Display Setting Function，WSCBSN connected to PTM picture:

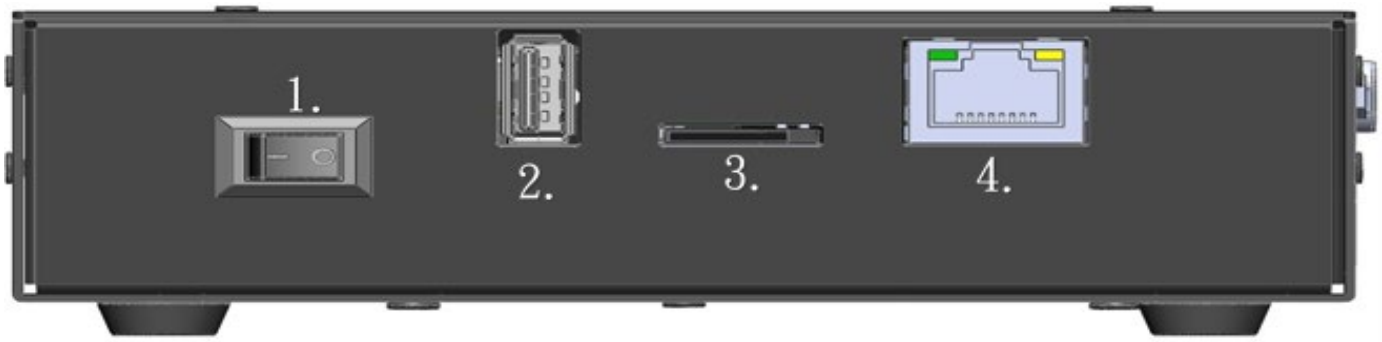


- S99-99-19: Display Sequence--(Program)-(Tool)。
- 03/05: Display Count Value
- C: Display Screwdriver Action Number of Turns
- OKALL: Display status (OK, NG, OKALL)

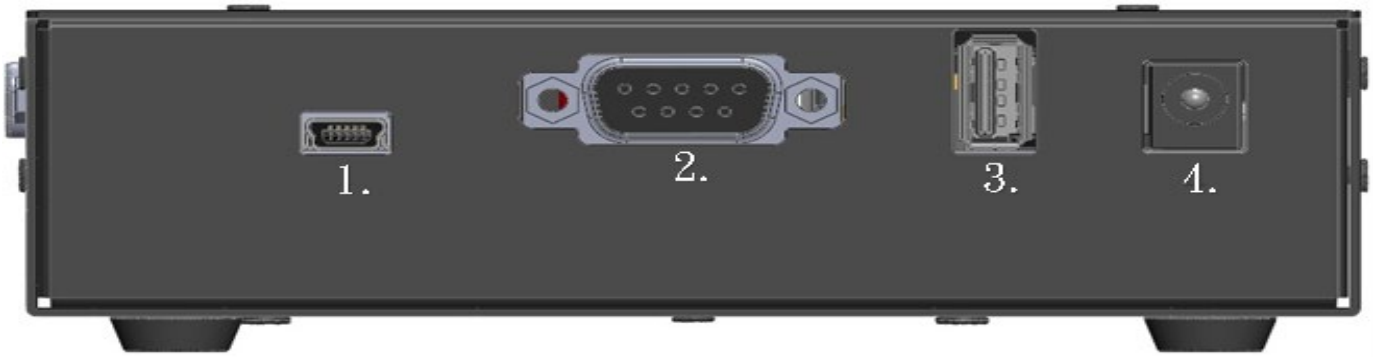
Up Key: Setting mode Up key switch function.
Down Key: Setting mode Down key switch function.
Left Key: Setting mode Left key switch function
Right Key: Setting mode Right key switch function
Esc Key: Press three seconds to enter/leave the setting mode.
↵Key: CONFIRM key
OK, NG, OKALL, start, Rev, Dis, POWER: Display status indicator.



1. OUTPU: External output control，The OUTPUT pin define is customized. Please go to CTRL Setting [9]Ext Output for setting.
2. INTPU: External input control，The OUTPUT pin define is customized. Please go to CTRL Setting [8]Ext Input for setting.
3. PORT1 (RS232): Connect to DAS or wifi module.



1. Switch element: turn on or turn off the module power
2. USB port: Connect to the barcode reader.
3. Micro SD Card port: Used to store data.
4. Cable communication port: Used to online.



1. Micro USB port: Used to connect Micro harness.
2. RS232: Reserved port, no function for now.
3. USB port: Used to connect bluetooth module.
4 Power supply port: Used to supply power to module.

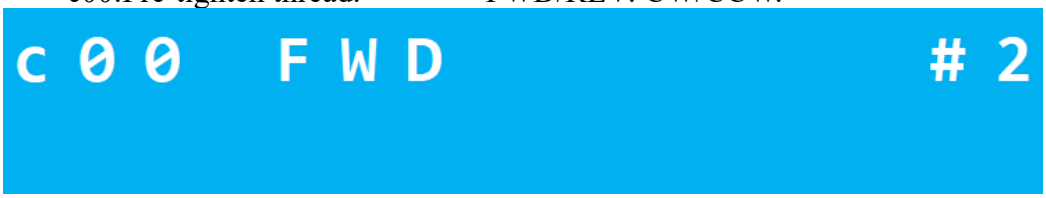
II. Status

It shows status of WSCBSN connected to PTM. Press Up/Down to show current status #1~#5 of Program and Sequence:

- #1 Show status of Program:
  AT1.0: OKALL signal holding time
  n05: Screw count. F01: Impact Force.
  H10: Impact parameter. L00: Limit rotation number setup
  u00: Ignore Rundown Friction.



- #2 Show status of Program:
  c00:Pre-tighten thread. FWD/REV: CW/CCW.



- #3 Show status of Gate:
  Gate=Once (Hi): Status of Gate. [None/Once (Hi)/Twice/Once (Lo)]
  Ac=ON: Disable PTM when batch completed [ON/OFF]
  Nc=ON: Disable PTM when NG occurred. [ON/OFF]



- #4 Show current Sequence, Program, number of PTM and name of program:
  T01: Sequence – Program - Tool
  P99: Current program number.
  SCREW 001: name of program.



- #5 Show connected PTM MAC number:
  T01: connected PTM number.
  168880111302: PTM MAC number.



III. Set Function Options and Operating Instructions

1. After switching on the power, to enter into the function menu, press the “Esc” key on the panel for 3 seconds, following which password input is required to enter the menu.

2. Open Bluetooth of PTM and connect PTM to WSCBSN.

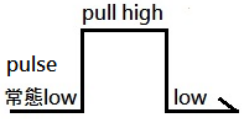
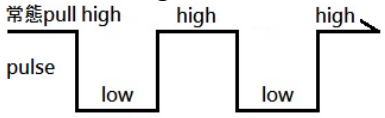
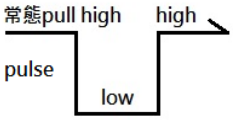
3. After setting, press "ESC". It will show PTM connecting as below

```
T01  Connecting..
168880111130C
```

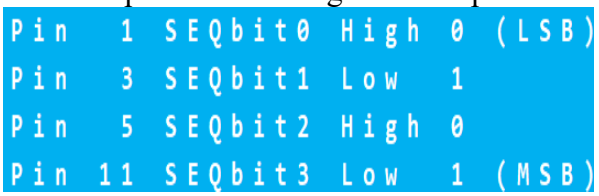
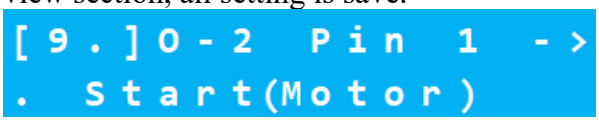
4. When the PTM does not run for over 30 mins, it will enter the sleep mode. Press trigger to activate.

CTRL Setting			
Name	Set Up Time and Value	Function Description	Default
[1] Query Tool	0-0~J-J xxxxxxxxxxxx	(1). Search PTM list and find PTM Bluetooth MAC number, it is able to choose PTM by order via [2] Tool Pair. For example: A-3 168880111302, “A” mean total 9 PTM, “3” mean the 3rd PTM, “168880111302” mean MAC number. Press Up/Down to check, and confirm by Enter. (2). We suggest to connect PTM to WSCBSN one by one. Follow first step to detect 2nd, 3rd. WSCBSN is able to detect 19 PTM. (3). If user take Bluetooth dungle of PTM to WSCBSN, it will became Master. After user take Bluetooth dungle to PTM. It have to close PTM Bluetooth and open again. That Bluetooth dungle will become Slave and able to dected by WSCBSN by Query Tool function.	NA

[2] Tool Pair	T01~T19 MAC number of Tools	(1). Press left/right to select PTM(T01...T02...etc), and press enter to let MAC number blink. And then press up/down to select Tool Pair 1~19 and press enter to save.
		`[2]Tool Pair 2`
		`T01 168880111322`
		(2). While MAC number blink, Tool Pair number become 0, it means PTM match MAC number completed.
		`[2]Tool Pair 0`
		`T01 168880111322`
		(3). While MAC number blink, select Tool Pair 20 and MAC number is 000000000000. Press enter the Matched PTM and its MAC number will be cleared.
		`[2]Tool Pair 20`
		`T01 000000000000`
			NA

[3] SEQ Numbers	S 00~99 E 00~99(≧S) S 00=OFF(S01)	The first (S xx) and the last (E xx) sequence. For example S01→E05 means WSCBSN will let PTM run a sequence from program 1 to program 5; If select S00, it will set S Off and only run one program.	S OFF = S 01
[4] Sequence	SEQ01 P01 T01 P:	(1).Setting sequence parameter, Program as (Program), PTM as (Tool), P: program name (SCREW Setting [1]Program/Name) (2).As program set P00, job sequence will pass this program to next.	SEQ01 P01 T01 P:
[5] Gate Mode	None Once(Hi) Twice Once(Lo)	Gate function: (1).None: Function off. (2).Once(Hi): Workpiece in position (Short signal.) high is active and low is deactivate.  (3).Twice: Workpiece in/out position (Open signal) Low is active and high deactivate.  (4).Once(Lo): Workpiece in position (Open signal.) Low is active and high deactivate.  	None
[6] OKALL Signal	Each SEQ All SEQ Done	OKALL signal output method Each SEQ: Output OKALL signal after each sequence completed. All SEQ Done: Output OKALL signal after all sequences completed.	Each SEQ
[7] BC1 S01-01-01	BC1~9 S01~S99 (C03~C05)	Barcode learning function. (1).BC1~9: Barcode program, press left/right to select barcode program. (2).S01~S99(C03~C05)：S is sequence number, C is control code. Press enter to setting and select S or C. S Sequence: It is only able to use on setting [3]SEQ Numbers is S OFF=S 01. Adjust S01~S99, program and PTM will bring [4]Sequence setting. C control code: C03:Confirm, deactivate NS and AS. C04:Clear, clear current screw count. C05:Reset SEQ, reset current sequence. (3).On setting (blink) scan barcode, barcode will show on second line. Left/right to move on barcode and up/down to change barcode to *. For example, it will show barcode as BC1*S01-01-01.	BC-1 S01-01-01

[8] Ext Input
<- I-1 ->
	I-1~I-5
	View
	(Read Only)
	Pin 1,3,5,7,9,
	11,13
	Enter to Set
	Goto SEQ-01~99
	Disable
	Confirm
	Clear
	Gate
	Reset SEQ
	Select Enter
	Select SEQbit0~4
		Output signal pin define setting. There are 4 section. Press Enter to go into 1 section and press ESC to back.
		
		(1).Select section: Left/right could select I-1~I-5 5 sets of signal number.
		`[8]Ext Input`
		`<-  I-1  ->`
		
		(2).View section: Left/right to view each pin define. I-1 only for view not allow to edit. I-2~I-5 is able to edit.
		`[8.]I-1  View ->`
		`(Read Only)`
		
		(3).edit section: In edit section, press enter is able to edit I-2~I-5.
		`[8.]I-2  View ->`
		`Enter to Set ↵`
		In edit section, press up/down to select each pin define. After select each pin define, press enter to confirm. Until all pin is setting and back to view section, the setting is saved.
		`[8.]I-2 Pin 1 ->`
		`. Select SEQbit0`
		
		(4).Number section: On Goto SEQ-xx press enter to let number blink and press up/down to select sequence number. This function only active on [3]SEQ Numbers is S OFF=S 01.
		`[8.]I-2 Pin 3 ->`
		`. Goto SEQ-99`
		
		(5).Select section: Press left/right to select <-I-1->~<-I-5-> signal, and press enter to go to edit section. If press ESC quit, the signal number will not be edited. Only one pin is able to be signal input.
		
		(6).Input signals function definition:
		Goto SEQ-01~99(change sequence), Disable(Disable PTM), Confirm(deactivate NS & AS), Clear(clear screw count), Gate(gate), Reset SEQ(Reset sequence), Select Enter(binary sequence number enter), SEQbit0~4(binary sequence number)
		
		(7).Gate function:
		In order to set Gate function Input signal must set Gate. [5]Gate Mode function is able to set.
		
		(8).Reset SEQ (Reset sequence) is in [3]SEQ Numbers as S OFF=S 01. It will return to the first sequence. As [3]SEQ Numbers is multi sequence, it will return to the first sequence.
			<- I-1 ->

		(9).SEQbit0~4: SEQbit0 is LSB, bit4 is MSB, there is 31 unit for sequence S01~S31. For example Pin as setting as below picture:  Set Pin3 as select enter, while signals show as above, it will switch to S10 sequence (binary 1010 is equal 10.)	
[9] Ext Output <- O-1 ->	O-1~O-5 View (Read Only) Pin 1,3,5,7,9, 11 Enter to Set Start(Motor) Reverse(Motor)OK NG OKALL Disable Start(Trigger) SelBit0 SelBit1 SelBit2 SelBit3 SelBit4	Output signal pin define. There are 3 section. Press Enter to enter section, press ESC to back. (1). Selection section: Left/right to select O-1~O-5 five signal numbers.  (2). View section: Left/right to view each Pin define. O-1 is view only, not able to edit. O-2~O-5 is able to edit on edit section.  (3). Edit section: O-2~O-5. It is able to enter and edit each Pin.  In edit section, press up/down to select pin define and press enter to confirm. Until each pin define is set and back to view section, all setting is save.  (4).Select section: Press left/right to select signal number <-O-1->~<-O-5->, it has to press Enter to enter Edit section. If press ESC to quit, signal number <-O-1->~<-O-5->will not change. It is only able to set one output signal pin at time. (5).Output signal pin define: Start(Motor)(PTM motor start)、Reverse(Motor)(PTM motor reverse start)、OK(tightening ok)、NG(tightening NG)、OKALL(All screws tightening ok)、Disable(PTM disable)、Start(Trigger)(PTM trigger on)、SelBit0~4(SEQBit0~4 of [8]Ext Input sequence change)	<- O-1 ->
[10]Device ID 001	001~250	Controller ID.	001

[11] Ext SEQ Ctrl	OFF	No use.	OFF
[12] Operator Standard	Standard	No use.	Standard
[13] Password 0000	0000~9999	Password to enter setting.	0000
[14] Default Val OFF	OFF Only Ctrl? Only Eth? Both?	Factory default setting. It is able to select Controller or LAN module, or Both.	OFF
[15] Data Port RS232	RS232 Ethernet RS232(Ack) Ethernet(Ack)	Select data transfer mode. Ack mode is data output, if does not receive CMD reply, it will re-send.	RS232
[16] System Date 2021/xx/xx	2020/01/01 2099/12/31	Date setting. (Store by CR2032 button battery)	2020/01/01
[17] System Time xx:xx:xx	00:00:00 23:59:59	Time setting. (Store by CR2032 button battery)	00:00:00
[18] Product No.	xxxxxxxxxxxxxxxx	Serial number.	NA
[19] Screw BT MAC 000000000000	xxxxxxxxxxxx	The last connected Bluetooth MAC number of PTM.	000000000000
[20] Screw FW Ver MB:0.00 CB:0.00	MB:1.07 CB:1.06	The last connected Version of PTM.	MB:0.00 CB:0.00
[21] Ctrl BT MAC xxxxxxxxxxxx	xxxxxxxxxxxx	Bluetooth MAC of controller.	000000000000
[22] Ctrl FW Ver. Ver 1.001 SA000 ST: V1.01	Ver 1.001 SA000 ST: V1.01	1. Controller version Displaied regular and special edition firmware version of controller 2. Press Left / Right key to switch ST version	Ver 1.001 SA000 ST: V1.01
[23] SD Card 0.00 MB	0.00 MB	SD card Data Store. (Support 32GB and below.)	0.00 MB
[24] IP Address 192.168.0.7	192.168.0.7	Setting of [15]Data Port must set for Ethernet or Ethernet(ACK), it will IP address. Otherwise it will show " Not Eth Port!". Please reference **IX. LAN port instruction** for Ethernet connection.	192.168.0.7

SCREW Setting

Name	Set Up Time and Value	Function Description	Default
[1] Program/ Name	P01~P99	Select program/Program name: Press enter and number will blink. Press up/down to select program and press enter (number stop blinking). Press down to enter [2]~[8] each program. Enter the selected program to setting.	P01
[2] OKALL Alarm	AT 0.0~AT 9.9	The duration of the OKALL Alarm signal after OK Batch is completed.	1.0
[3] Batch Count	n01~n99	Screw count number. When set n00, controller will not count screw count. In multi sequence, it will skip program set n00.	05
[4] Force	F01~F06	PTM torque force setting. Adjust the impact force based on needs. PTM-100 & 70 setting value is [F01]~[F06]; PTM-50 setting value is [F01]~[F03] If controller set F04~F06, PTM-50 will show F03.	F 01
[5] Impacts	H00~H99	The setting is [HoF] [H01]~[H99], and the number of Impacts is adjusted based on needs. [H00] is set unlimited impact until release trigger.	H10

[6] Limit	L00,L02~L99	The setting value is L00, L02~L99, during fasten operation, the PTM completes the fastening before reach request setting thread.	L00
[7] Ignore Rundown Friction	u00~u99	Ignore Rundown Friction: Even there is resistance between tightening, the PTM will keep hit until reach setting thread. The setting value is [u00]~[u99]. If set both ignore Rundown Friction and limit, the limit must larger then ignore Rundown Friction.	u00
[8] PreFastening	c 00 c 99	Pre-Fastening setting: (1).After fasten reach pre-fasten thread, PTM stop and count screw number. (2).If set Pre-Fastening, Limit and Ignore Rundown Friction, PTM will run Pre-Fastening.	c 00
[9] Rev Thred	rr=FWD rr=REV	FWD/REV setting FWD is Clockwise REV is Counter clockwise	rr=FWD
[*] OKALL Stop	Ac= OFF Ac= ON	Disable PTM when batch completed. Ctrl Setting 的 [6]OKALL Signal Each SEQ/All SEQ Done of Ctrl are the same.	Ac =OFF
[*] NG Stop	nc= OFF nc= ON	Disable PTM when error occurred.	nc= OFF
[*] Sync Program	P01-05→P1-5 OFF/ 1T P99-99→P5-5 OFF/ 1T	(1).Select Program of controller and Sync to PTM. (2).Select 1~5 Program and press up/down to select “1T”then press enter. Pres “ESC” twice and connect PTM to Sync program to PTM. (3).Close the Bluetooth of PTM and close program switch. Save PTM setting and set PTM offline mode. (4).As PTM is offline mode, it will show Program 5th and its screw count, please select the program which need. (5). Synchronization is unable to write FWD/REV to PTM offline mode. If request FWD/REV tightening, please go to setting of PTM SE3 for setting rrF/rrn.	P01-05→P1-5 OFF
[*] Sel Program	P o1 x2 x3 x4 x5 P o1 o2 o3 o4 o5	PTM program cycle select. (1).Select Program cycle setting and sync to PTM. (2).For example: P x1 x2 o3 o4 x5. It shows offline PTM set Program 3 ~ Program 4 for a program cycle. (3).Sel Program must set before Sync Program. Referece as [*]Sync Program.	P o1 x2 x3 x4 x5
[*] Copy Program	P01→→→P02 N P98→→→P99 Y	It is able to select single Program setting and COPY to other, select “Y” and press enter.	

IV. Set Function Options and Operating Instructions

1) After switching on the power, to enter into the function menu, press the “Esc” key on the panel , following which password input is required and press key to enter the menu
2) Press UP or DOWN key to select the setting page to enter; after that, press key.
3) If data fails to flash, check the parameters; the flashing data can be increased/decreased.
4) When data isn’t flashing, the RIGHT/LEFT keys are disabled. When data is flashing, switch to the parameter to be adjusted.
5) Except [4] Sequence SEQ0x P0x T0x change data will save directly, other setting must press enter to save.
6) Press Esc to jump out from the setting page.

V. External Input Control Function Description

Connector No.	Definition	Function Description
CN 1	Goto SEQ-01	Default setting. When CN1 & CN2 short, controller go to SEQ-01. Only available CTRL Setting > [3]SEQ Numbers is S OFF=S 01.
CN 2	GND	Input power GND
CN 3	Goto SEQ-02	Default setting. When CN3 & CN4 short, controller go to SEQ-02. Only available CTRL Setting > [3]SEQ Numbers is S OFF=S 02.
CN 4	GND	Input power GND
CN 5	disable signal input Disable	1. When (CN5+CN6) is closed, the screwdriver disable rotation function is turn on. 2. When (CN5+CN6) is closed, the screwdriver disable rotation function is turn off.
CN 6	GND	Input power GND
CN 7	Confirm key input Confirm	1. When (CN7+CN8) is closed, confirm is selected. 2. When (CN7+CN8) is open, there is no input status.
CN 8	GND	Input power GND
CN 9	clear key input Clear	To clear the count value, the (CN9+CN10) closed circuit can enable the function.
CN 10	GND	Input power GND
CN 11	sensor switch GATE	1. When (CN11+CN12) is closed, article is detected. 2. When (CN11+CN12) is open, there is no article detected.
CN 12	GND	Input power GND
CN 13	Reset SEQ	Default setting. When CN13 & CN14 short, reset sequence.
CN 14	GND	Input power GND

VI. External Output Control Function Description

Connector No.	Definition	Function Description
CN 1	Start signal output START (Motor)	1. When (CN1+CN2) is closed, the screwdriver then start running. 2. When (CN1+CN2) is open, the screwdriver then stop running.
CN 2	COM	This pin refers to the START signal connection negative end
CN 3	Brake signal output Disable	1. When (CN3+CN4) is closed, Disable is displayed. 2. When (CN3+CN4) is open, there is no output status.
CN 4	COM	This pin refers to the BRAKE signal connection negative end
CN 5	Screwdriver reversed signal output Reverse (Motor)	1. When (CN5+CN6) is closed, the screwdriver then start reverse rotation. 2. When (CN5+CN6) is open, the screwdriver then stop reverse rotation.
CN 6	COM	This pin refers to the Reverse signal connection negative end
CN 7	After completion of fastening a screw OK	1. When (CN7+CN8) is closed, OK is displayed. 2. When (CN7+CN8) is open, there is no output status.
CN 8	COM	This pin refers to the OK signal connection negative end
CN 9	When error operation , NG is displayed	1. When (CN9+CN10) is closed, NG is displayed. 2. When (CN9+CN10) is open, there is no output status.
CN 10	COM	This pin refers to the NG signal connection negative end
CN 11	When the batch, work or job sequence completed, OKALL is displayed.	1. When (CN11+CN12) is closed, OKALL is displayed. 2. When (CN11+CN12) is open, there is no output status.
CN 12	COM	This pin refers to the OKALL signal connection negative end
CN 13	Vdc Positive DC voltage terminal	This pin is to provide the external positive voltage.
CN 14	GND Negative DC voltage terminal	This pin is to provide the external negative voltage.

※Remarks:

1. **INPUT contact, if using non-isolating (wet contact) control, it needs to connect a 10K resistor in series on the line.**
2. **When the automatic machine is installed, it is recommended to install the signal line on the machine and then connects to KL-WSCBSN.**
   When working with automatic control, pay attention to the above items to prevent equipment damage.
3. **INPUT/OUTPUT: Please check CTRL Setting > [8]Ext Input &[9]Ext Output for the actual pin define.**

VII. CONFIRM Mode

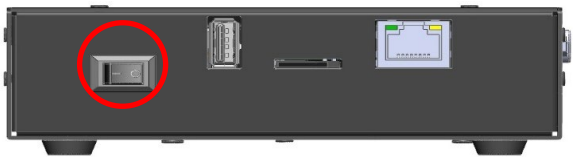
Code	Description	Remarks
C1	External GATE signal trigger once CONFIRM mode.	External GATE signal trigger once
C2	External GATE signal trigger twice CONFIRM mode.	External GATE signal trigger twice
C3	『OKALL Stop Ac= ON』, after batch complete, it will show『C3』	Press Enter/ External CONFIRM
C4	『OKALL Stop Ac= ON』 & 『Gate Mode_Once(Lo) &Once(Hi)』, after batch complete, it will show『C4』	External GATE Signal Trigger once + Enter/ External GATE Signal Trigger once + External CONFIRM
C5	『OKALL Stop Ac= ON』&『Gate Mode_Twice』after batch complete, it will show『C5』	External GATE Signal Trigger twice + Enter/ External GATE Signal Trigger twice + External CONFIRM

VIII. BARCODE Operating Instructions

1. Hardware Configuration Description

Connect the Barcode Reader to the USB port specified on the diagram.





2. Operating Functions Description

2.1. CRTL Setting > [3]SEQ Numbers sets OFF, and set CRTL setting > [4]Sequence for each program and PTM, and then it is able to use barcode scanner to switch different Sequence.

1.Use Kilews default barcode to switch Sequence (CMD.S01-CMD.S99)

CMD.S01

CMD.S99

Description:
1. Use CMD.S01~CMD.S99 barcode to switch sequence.
2. After switch Sequence, it will bring Program and PTM by setting on CTRL Setting > [4]Sequence.

2.2. Barcode scanner could be confirm/enter for AS or NS
When set AS or NS, it disable PTM. It could use barcode Scanner to enable PTM. It is same as Confirm/Enter.

Use KILEWS barcode format: CMD.C03 to release AS (okAll Stop) &NS(NG Stop) command



Description:

As WSCNBS set AS or NS, it disable PTM. Operator is able to use barcode scanner to scan CMD.C03 to enable PTM.

2.3 Barcode Scanner clear batch count.

During the operator tightening, it is able to use barcode scanner to clear batch count.

Kilews default barcode: CMD.C04 Clear Batch Count.



2.4. Barcode Scanner reset sequence.

During the operator tightening, it is able to use barcode scanner to reset sequence

Kilews default barcode: CMD.C05 reset sequence.



Description:

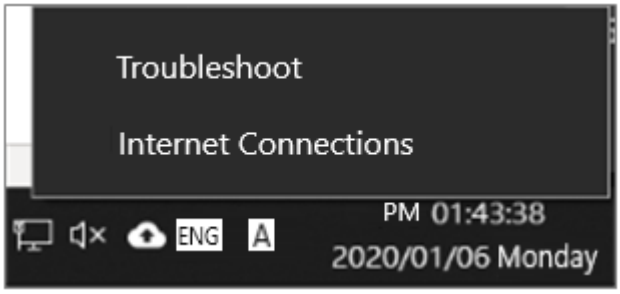
After reset sequence, due to CTRL Setting > [3]SEQ Numbers, it will to to first sequence.

IX. LAN port instruction

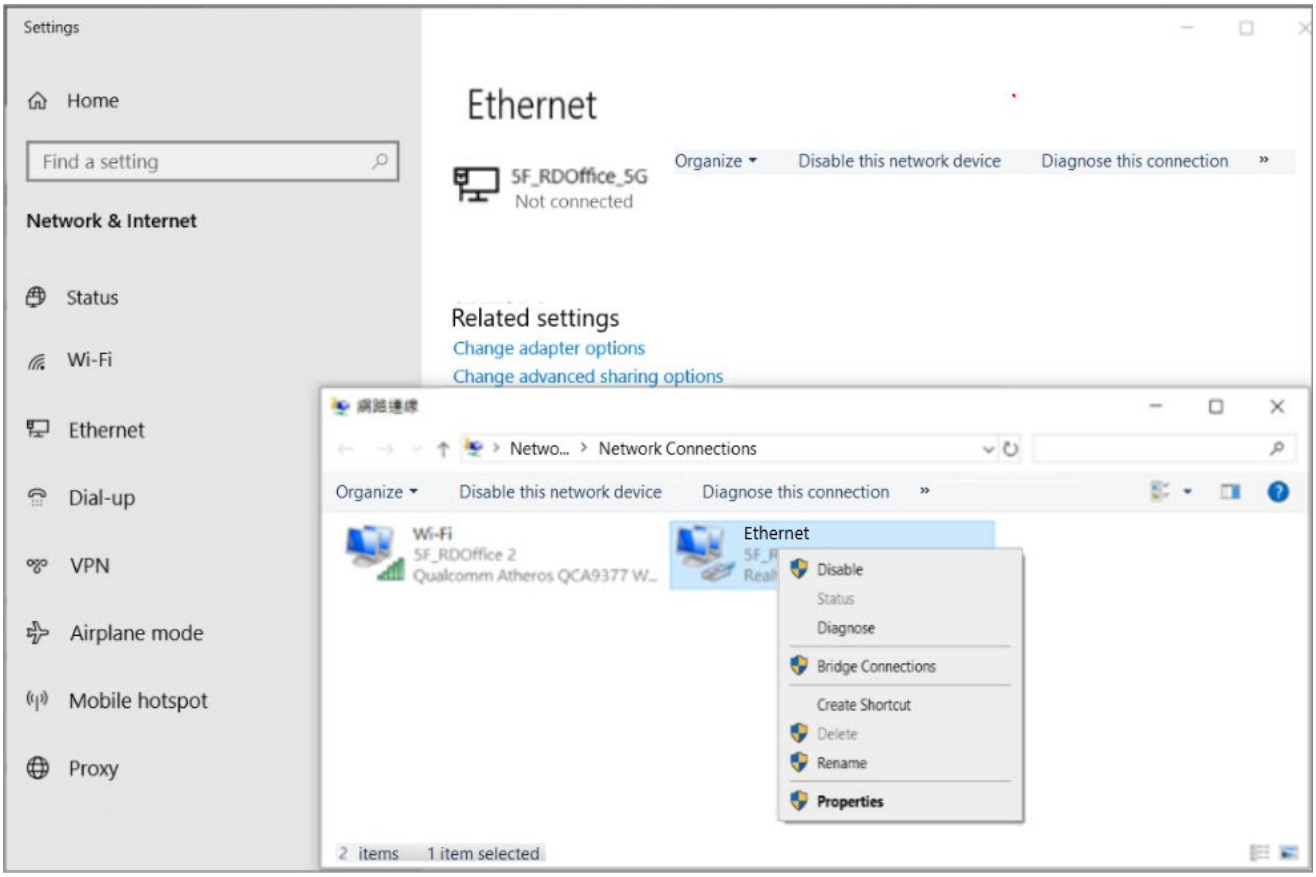
(1) Set computer interface.

Connect LAN to WSCBSN Ethernet port, another side connect to Computer Ethernet port.
Set computer IP to 192.168.0.X, due to WSCNSN deault IP is 192.168.0.7.

Step 1: Right Click  or  On computer and click "open network & internet settings".

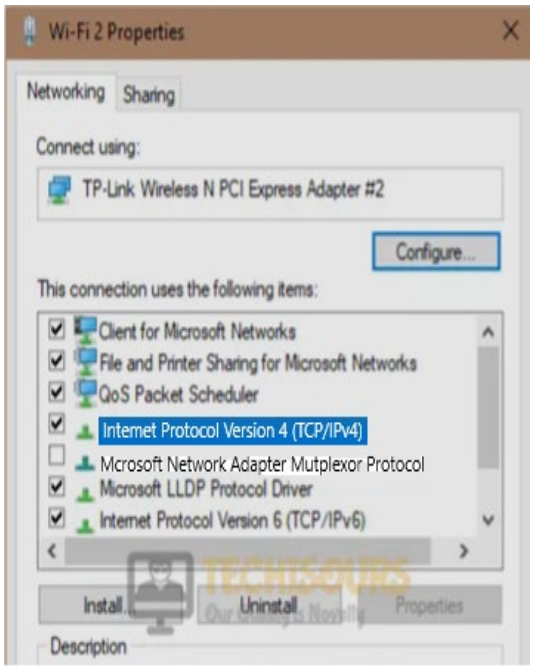


Step 2：Status → change adaptor options → network connections, select Ethernet and right Click then select properties.



Step 3：

- WSCBSN and computer have connected to the same network (LAN). In WSCBSN > CTRL Setting > [24]IP Address will show assign IP address. Enter this IP on browser in the computer will connect to WSCBSN.



Step 4：Enter static IP and DNS (follow 192.168.0.xxx)then click OK.

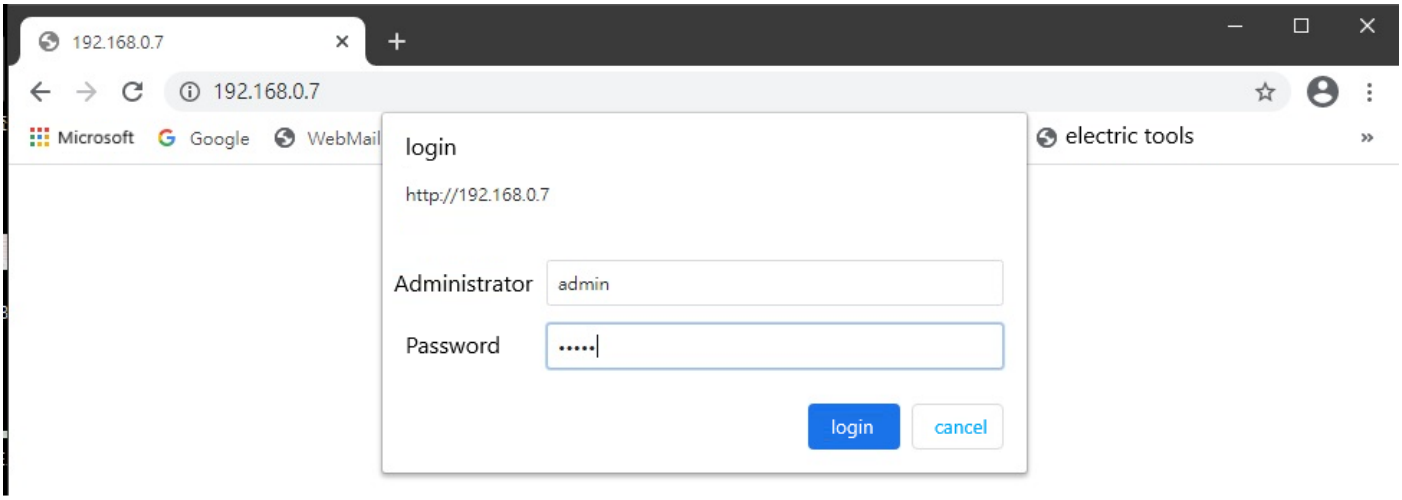
【※】If computer is static IP, please check its IP address is different as WSCBSN.

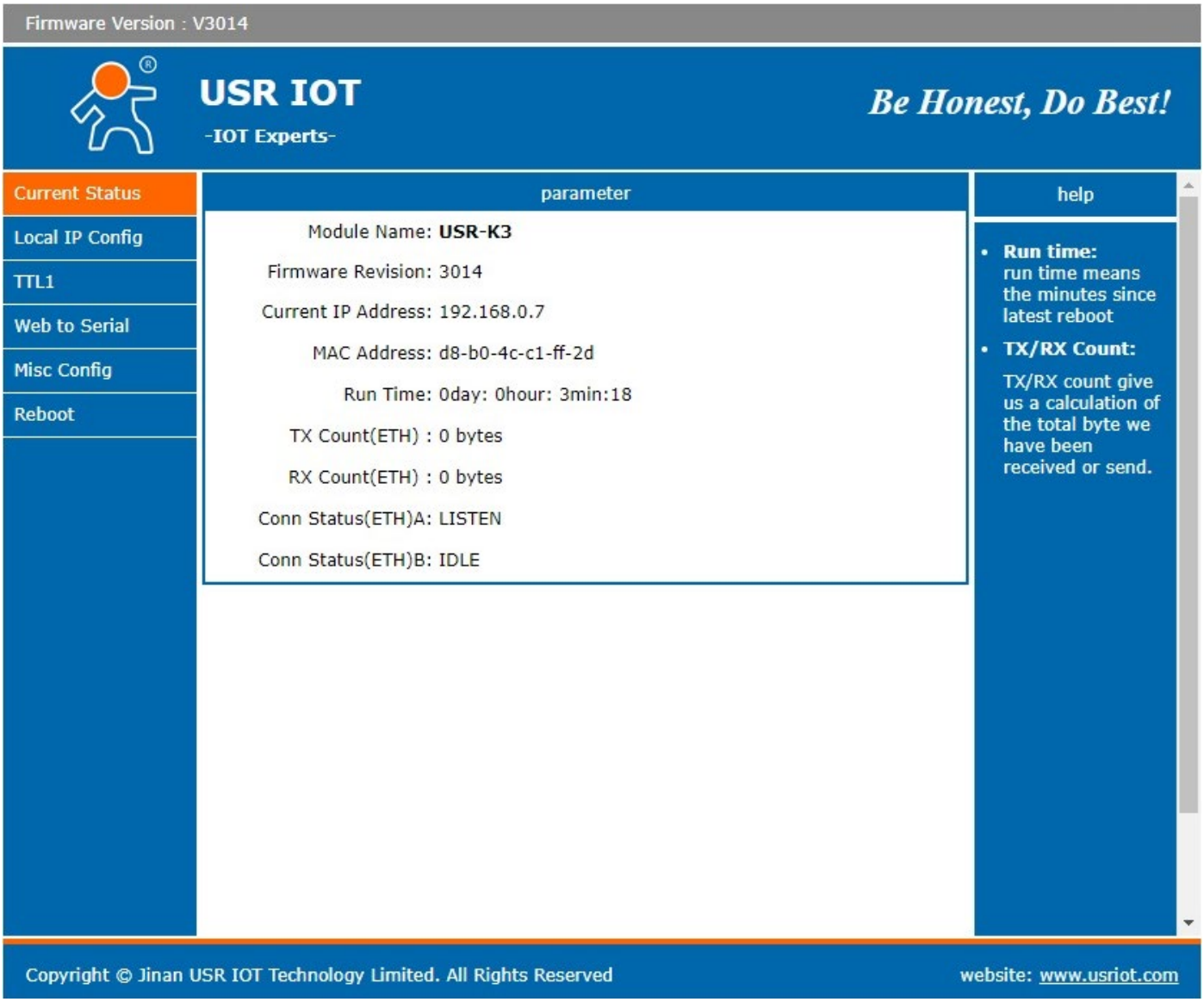
【※】While change IP, please do not connect to internet.



(2)Log in website setting

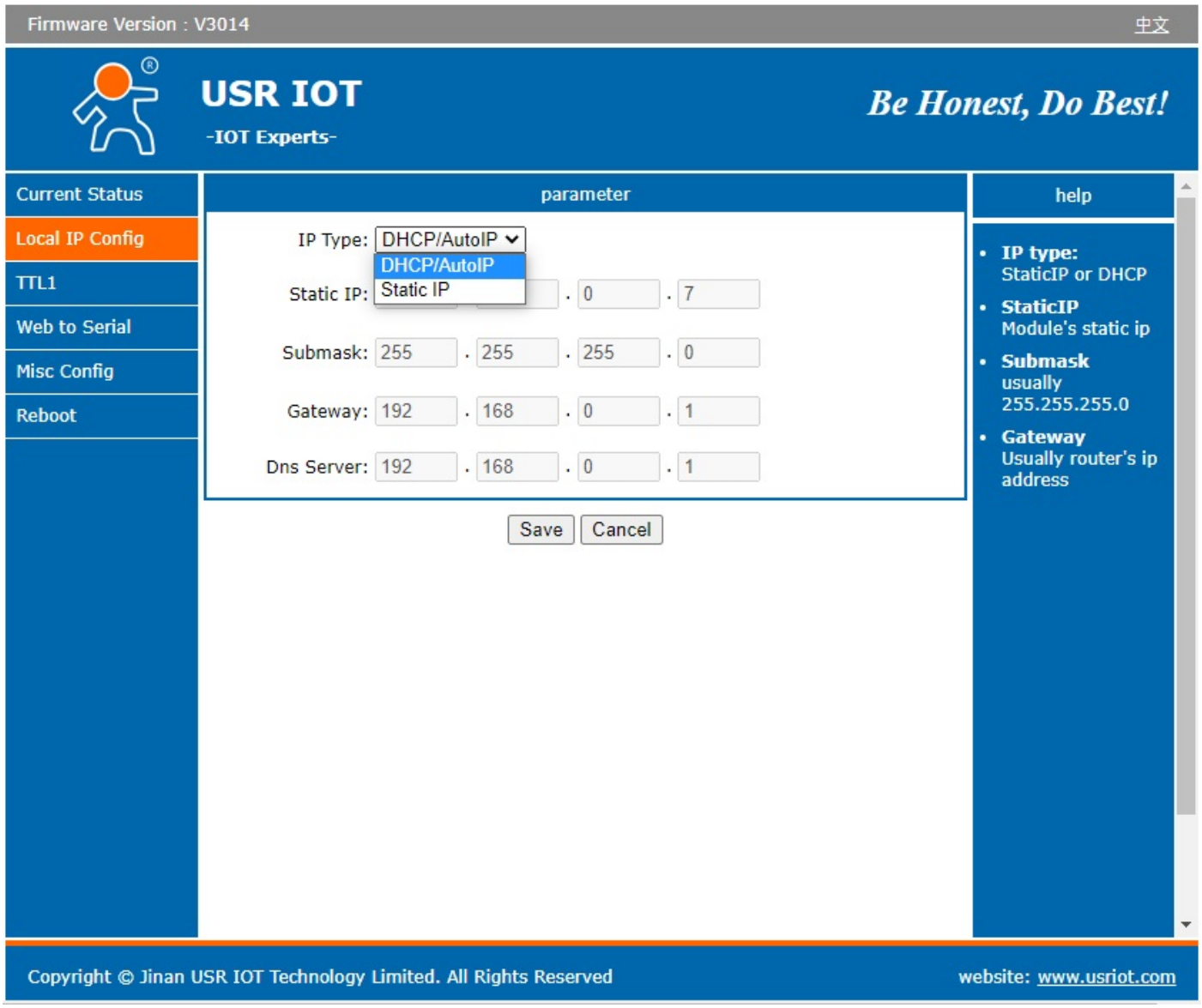
Step 1:In WSCBSN CTRL Setting > [15]Data Port set Ethernet or Ethernet(ACK). CTRL Setting > [24]IP Address will show default IP. And enter IP 192.168.0.7 in browser of computer. Account: admin // Password: admin Press Log-in.

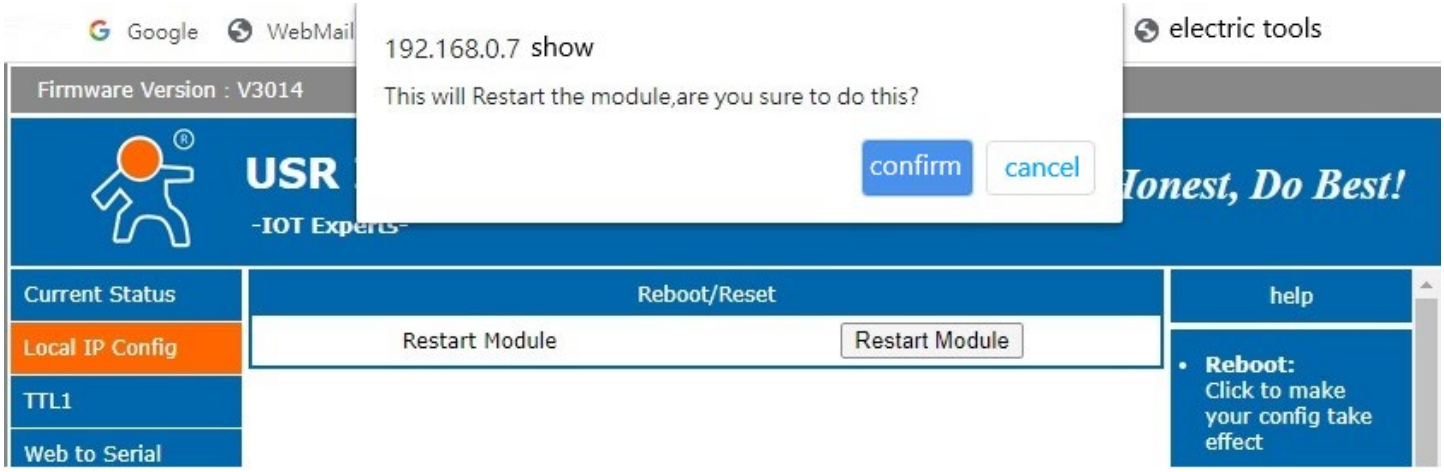




Step 2：

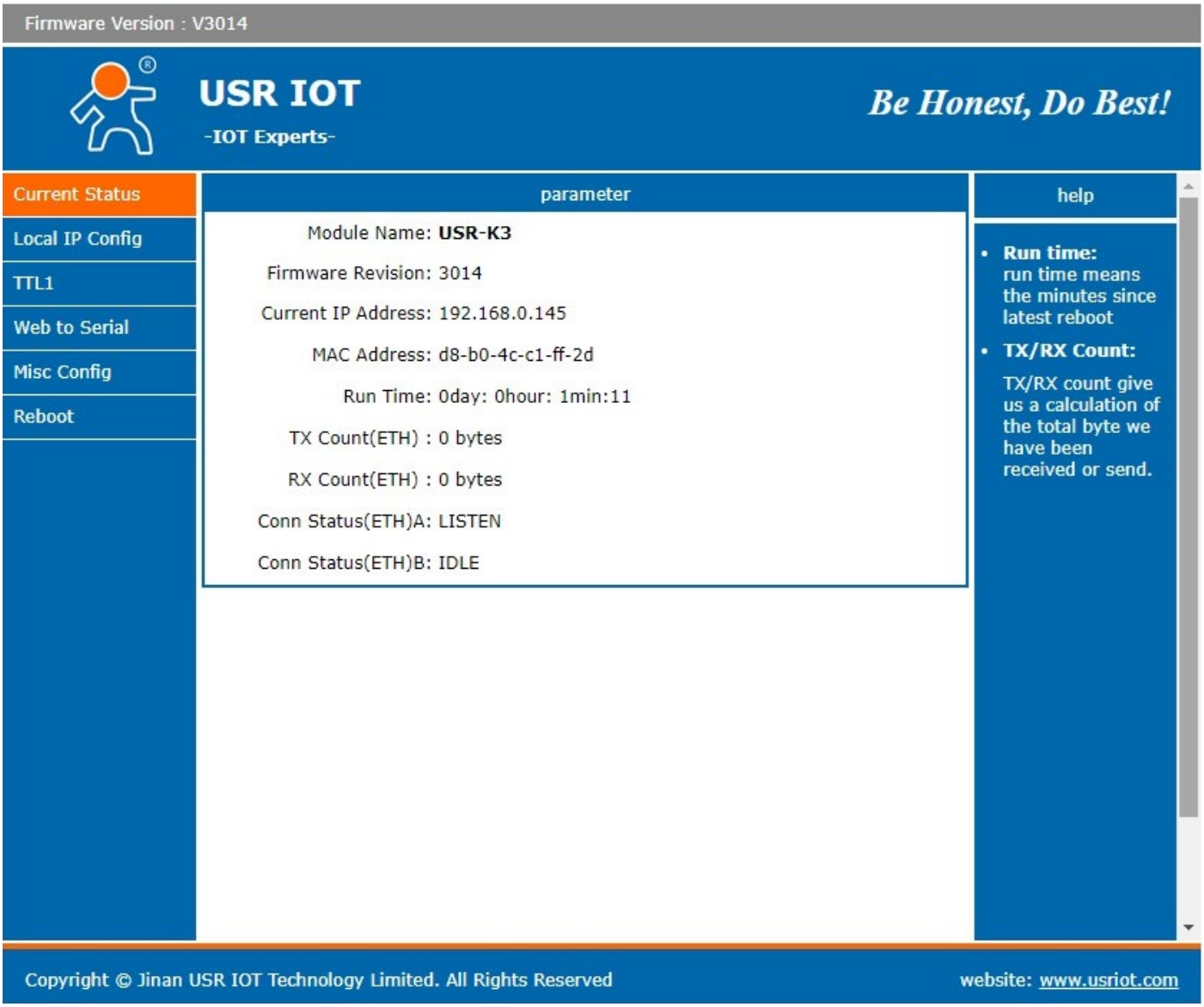
- IP Type select DHCP/Auto IP and press save, and press 「Restart Module」 a「OK」, WSCBSN will be assign a dynamic IP.





Step 3：

- WSCBSN and computer have connected to the same network (LAN). In WSCBSN > CTRL Setting > [24]IP Address will show assign IP address. Enter this IP on browser in the computer will connect to WSCBSN.



Step 4：

- The setting of TTL1 just follow default setting. Please reference below picture: Baud Rate: 115200bps, operation mode: TCP Server, Local/Remote Port Number: 23.