

# **Wisen Gateway Ethernet Daughter Board Configuration Instructions**

**Wisen Innovation Co., Ltd.**

**29<sup>th</sup> April 2020**

### Revision History and Clarification

Rev.	Issue Date	Version Control	Written by	Revised by
V1.1	27/11/2018	1. Initial Version.	H.X.Y.	Y.W.
V1.2	29/04/2020	1. Correct "Local Port Number" setting to "0" instead of "23" in Step 3.1.B and Step 3.2.B; "Local Port Number" is set to "0" so that at each connection to a router, gateway will use a random port number among 1-65535, therefore multiple Ethernet Gateways can be working under one router. 2. Trouble Shoot rewording added; 3. Document name changed from "Series B Gateway Ethernet Module Instructions" to "Wisen Gateway Ethernet Daughter Board Configuration Instructions".	H.X.Y.	Y.W.

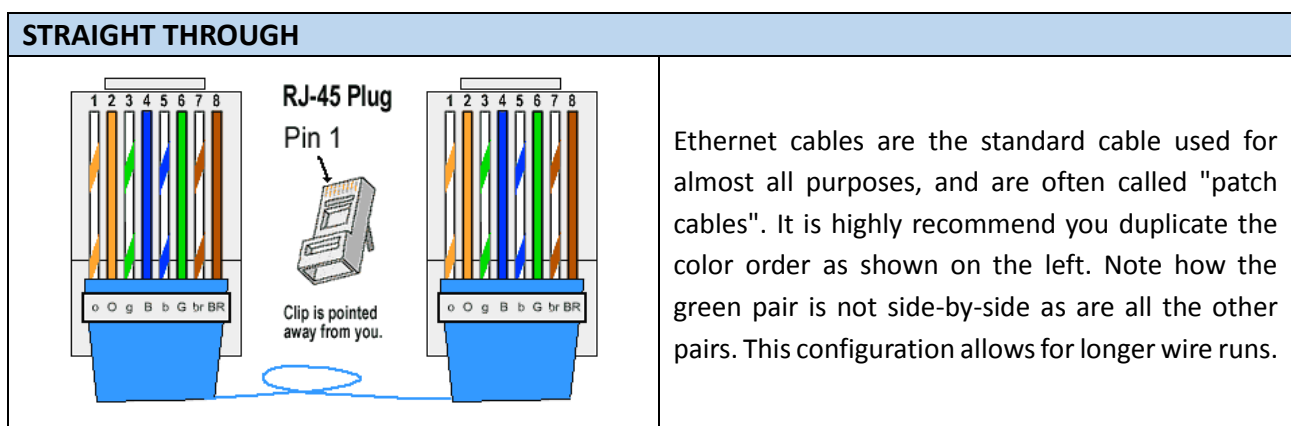
### Statement:

All the Ethernet Module when shipped from Wisen are in the following condition:

1. all are set to send data to our Business server;
2. all are set in **WLAN + DHCP** mode, so when a module is connected with any Wisen gateway, then connected via an Ethernet cable with a router of DHCP setting, it can work straight away.

**Note:** However, when the user needs to reconfigure the board (such as "LAN Application"), please follow the instructions in Trouble Shoot located at the end of this document.

Notice: **Cabling:** to maintain an IP66 or above seal protection, a Straight Through Ethernet cable should be made locally, refer to <http://www.groundcontrol.com/galileo/ch5-ethernet.htm>. Or the photo as below:



Wisen Ethernet Daughter Layout.

### Purpose of this document:

1. This document should ONLY be used when the forwarding address needs to be modified;
2. This document should ONLY be used when WLAN + DHCP mode does not suit for the condition to use, such as: a static IP is needed in the module;
3. This document should ONLY be used if a LAN setting is required, e.g., a Wisen gateway is connected

to a local industrial PC. Note: in this case, customers should request for the local Windows TCP-IP Monitoring Software from Wisen in advance.

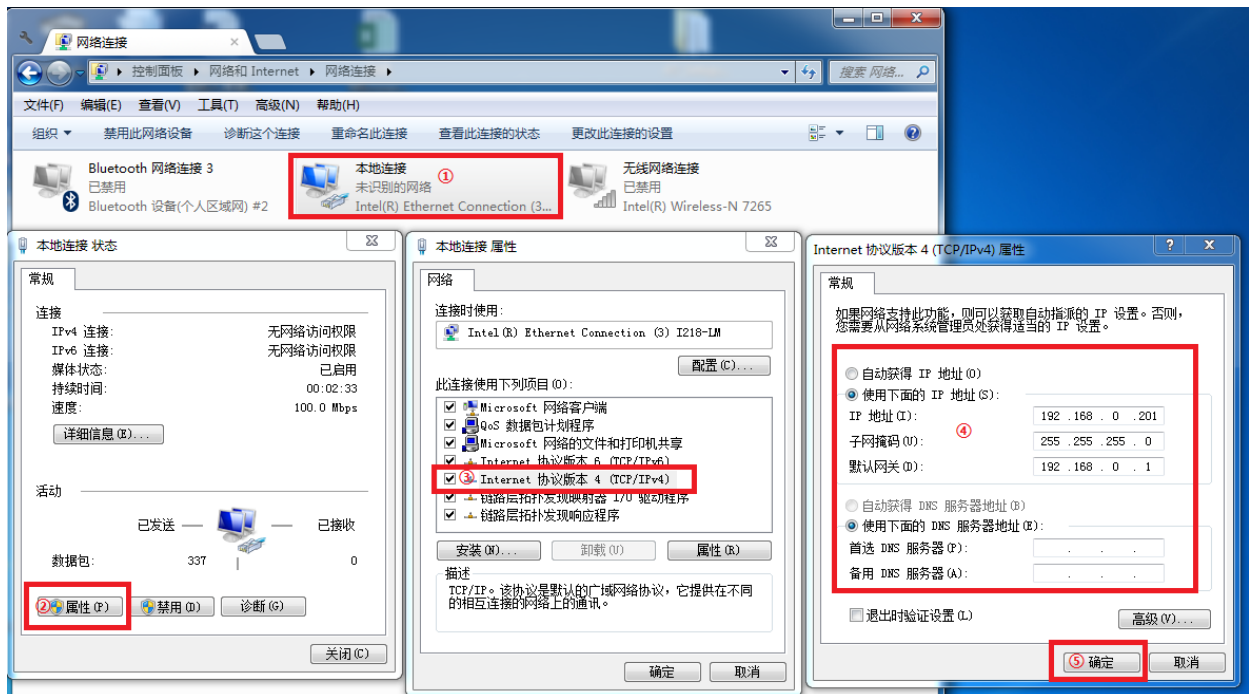
## Step 0 – Gateway Preparation

Hardware: Series B gateway V7.0 or plus;

Software: RS232 Serial program SVN543 or above;

## Step 1 – Laptop Setting

Laptop: Configure local IP for PC. Connect a laptop with the Ethernet daughter board via the straight through Ethernet cable, which made before.



## Step 2 - Power On

Power on the gateway. Within 10s, the “POWER” LED on the Ethernet daughter board is on. After 5s, the green LED of RJ45 is on and the yellow/orange one irregularly blinks, representing the Ethernet module is initialised properly and the connection between laptop and Ethernet module has been established properly;

## Step 3 – Login for Ethernet Module Setting

A. On the laptop, from the Internet explorer, visit 192.168.0.7 with:

Username: admin

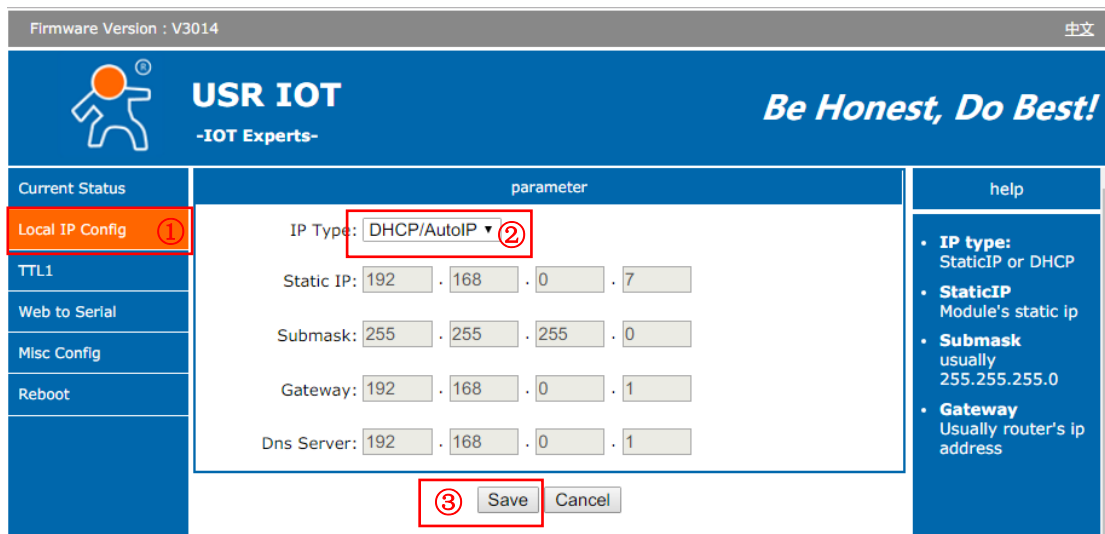
Password: admin

There are 2 applications for Ethernet module:

- A. **WLAN application (by default):** Connect wisen server by a router. In this application, we assume that the DHCP function of a router is enabled.
- B. **LAN application:** Connect PC which has been installed with Wisen TCP-IP Monitoring Software.

### Step 3.1 - WLAN Setting (by default)

- A. On the explorer, click on “**Local IP Config**”, select “**DHCP/AutoIP**”, then click “**Save**”;



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Current Status

Local IP Config ①

TTL1

Web to Serial

Misc Config

Reboot

parameter

IP Type: DHCP/AutoIP ②

Static IP: 192 . 168 . 0 . 7

Submask: 255 . 255 . 255 . 0

Gateway: 192 . 168 . 0 . 1

Dns Server: 192 . 168 . 0 . 1

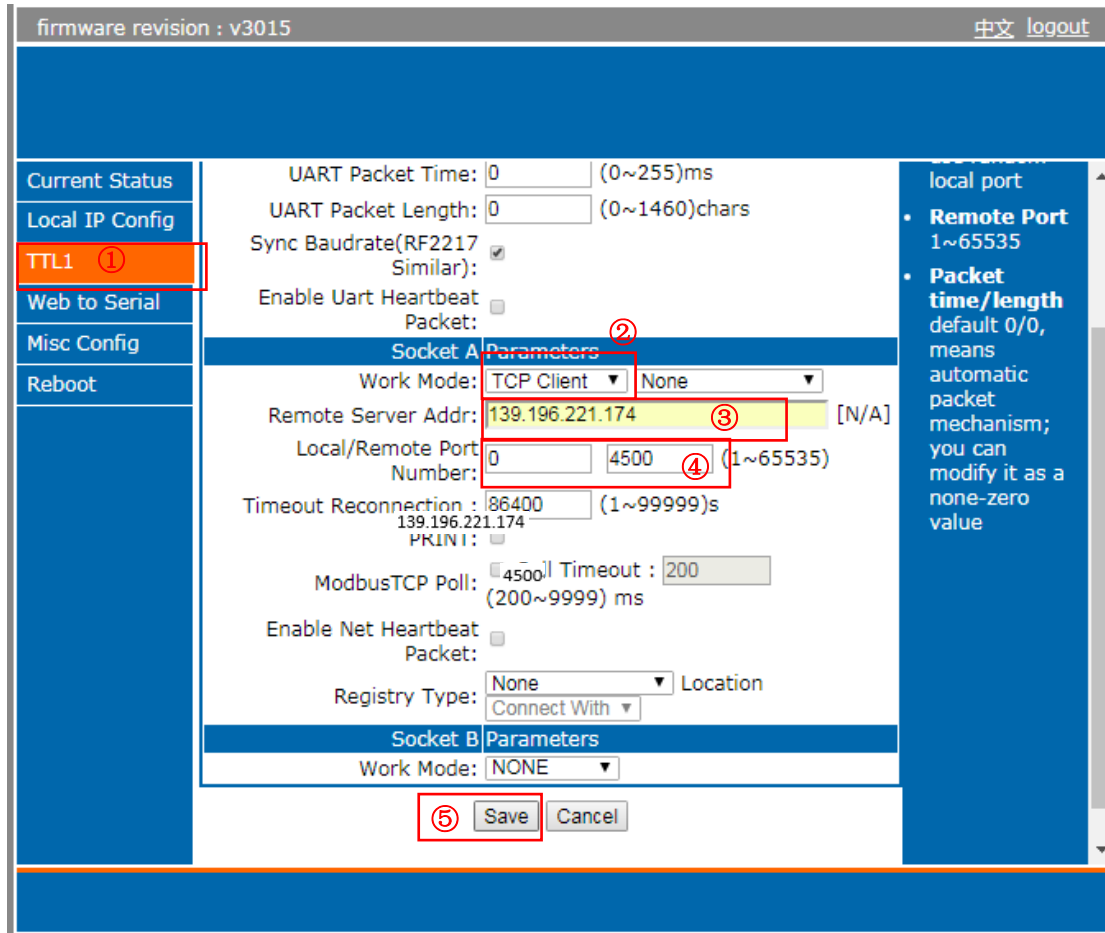
③ Save Cancel

help

- **IP type:** StaticIP or DHCP
- **StaticIP** Module's static ip
- **Submask** usually 255.255.255.0
- **Gateway** Usually router's ip address

- B. Click on “**TTL1**”, select “**TCP Client**” in “**Work Mode**”, type “**139.196.221.174**” (Wisen Business Server IP address) to “**Remote Server Addr**”, “**0**” to “**Local Port Number**” and “**4500**” to “**Remote Port Number**”, then click “**Save**”; Note: **Do NOT** restart at this stage!

Notice: “Local Port Number” is set to “0” so that at each connection to a router, gateway will use a random port number among 1-65535, therefore multiple Ethernet Gateways can be working under one router.



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Current Status

Local IP Config

**TTL1**

Web to Serial

Misc Config

Reboot

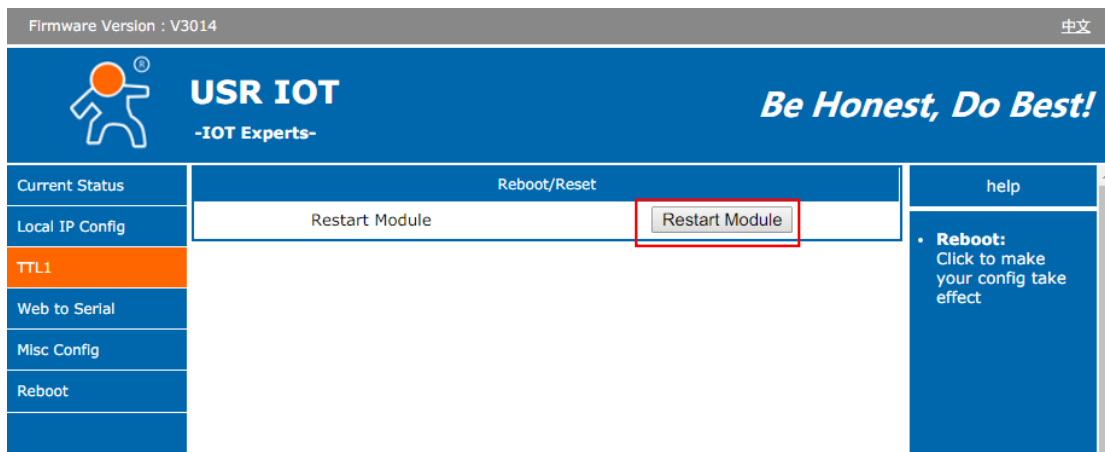
UART Packet Time: 0 (0~255)ms  
 UART Packet Length: 0 (0~1460)chars  
 Sync Baudrate(RF2217 Similar): ☒  
 Enable Uart Heartbeat Packet: ☐

**Socket A Parameters**  
 Work Mode: TCP Client None  
 Remote Server Addr: 139.196.221.174 [N/A]  
 Local/Remote Port Number: 4500 (1~65535)  
 Timeout Reconnection: 86400 (1~99999)s  
 ModbusTCP Poll: 4500 Timeout: 200 (200~9999) ms  
 Enable Net Heartbeat Packet: ☐  
 Registry Type: None Location  
 Connect With


**Socket B Parameters**  
 Work Mode: NONE

local port  
 • **Remote Port**  
 1~65535  
 • **Packet time/length**  
 default 0/0, means automatic packet mechanism; you can modify it as a none-zero value

- C. Click on “**Restart Module**” to make all the settings to be effective.



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Current Status

Local IP Config

**TTL1**

Web to Serial

Misc Config

Reboot

Reboot/Reset

Restart Module

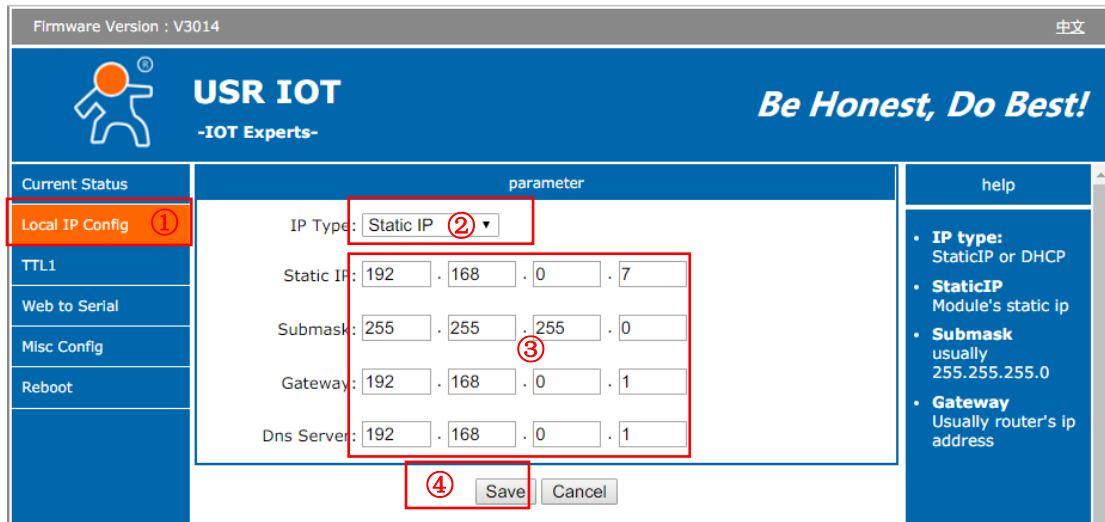
help

- **Reboot:**  
Click to make your config take effect

- D. Connect the router with the Ethernet daughter board via Ethernet cable.

### Step 3.2 - LAN Setting

- A. On the explorer, click on “**Local IP Config**”, select “**Static IP**”, type “**Static IP**”, “**Submask**”, “**Gateway**”, “**Dns Server**” according to actual requirements provided by system administrator (Note: all the information filled in the figure below are examples ONLY!), then click “**Save**”;



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Current Status

Local IP Config ①

TTL1

Web to Serial

Misc Config

Reboot

parameter

IP Type: Static IP ②

Static IP: 192 . 168 . 0 . 7

Submask: 255 . 255 . 255 . 0 ③

Gateway: 192 . 168 . 0 . 1

Dns Server: 192 . 168 . 0 . 1

④ Save Cancel

help

- **IP type:** StaticIP or DHCP
- **StaticIP** Module's static ip
- **Submask** usually 255.255.255.0
- **Gateway** Usually router's ip address

B. Click on **"TTL1"**, select **"TCP Client"** in **"Work Mode"**;

Type the ACTUAL IP address (of the PC connecting to) in **"Remote Server Addr"**

Type **"0"** to **"Local Port Number"**; Notice: "Local Port Number" is set to "0" so that at each connection to a PC, gateway will use a random port number among 1-65535, therefore multiple Ethernet Gateways can be working under one PC.

Type the ACTUAL Remote PORT from WISENMESHNET Windows TCP-IP Monitoring Software to **"Remote Port Number"**;

Then click **"Save"**;

Notice: the ACTUAL IP address and the ACTUAL Remote PORT filled in the figure below are examples ONLY!

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Current Status

Local IP Config

TTL1 ①

Web to Serial

Misc Config

Reboot

Parameter

Baud Rate:

115200 bps(600~230400)bps

Data Size:

8 bit

Parity:

None

Stop Bits:

1 bit

Flow Mode:

NONE

UART Packet Time:

0 (0~255)ms

UART Packet Length:

0 (0~1460)chars

Sync Baudrate(RF2217 Similar):

☒

Enable Uart Heartbeat Packet:

☐

Socket A Parameters

Work Mode:

TCP Client None

Remote Server Addr:

192.168.0.201 [N/A]

Local/Remote Port Number:

0 27788 (1~65535)

Timeout Reconnection :

86400 (1~99999)s

PRINT:

☐

ModbusTCP Poll:

☐ Poll Timeout : 200 (200~9999) ms

Enable Net Heartbeat Packet:

☐

Registry Type:

None Location Connect With

Socket B Parameters

Work Mode:

NONE

⑤ Save


Cancel

Help

- Local Port**  
1~65535, when TCP Client, set this to 0 means use random local port
- Remote Port**  
1~65535
- Packet time/length**  
default 0/0, means automatic packet mechanism; you can modify it as a none-zero value

- C. Click on “Restart Module” to make all the settings to be effective.

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Current Status

Local IP Config

TTL1

Web to Serial

Misc Config

Reboot

Reboot/Reset

Restart Module

Restart Module

help

- Reboot:**  
Click to make your config take effect

- D. Connect the PC and the Ethernet daughter board via Ethernet cable.

#### Step 4 – Data Confirmation on Wisen Platform

- A. If data is transmitted successfully from a gateway to a Wisen server successfully, then on the gateway PCB board, “NET” LED will be on within 5 minutes! By default, T=5min;
- B. For WLAN application:

Check WISENMESHNET Visualisation Software and ensure live data is there.



**Note: all the gateway data is transmitted to our Business server.**

For LAN application:

Check wisen TCP-IP Monitoring Software on IPC and ensure live data is received.

### **Trouble shoot:**

How to initialise the Ethernet module:

1. **Power off** the gateway and wait for a minimum of 3 minutes;
2. Keep pressing on the “Reload” button on daughter board, switch on the gateway, Notice: the “Reload” button should stay pressed for more than 5s after daughter board “POWER” light turns on, then release “Reload”;
3. By now, the module is initialised successfully. You must follow Steps 2 & 3 to reconfigure the Ethernet Module.