

Wisen Gateway Ethernet Daughter Board Configuration Instructions

Wisen Innovation Co., Ltd.

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Rev.	Issue Date	Version Control		Revised by
V1.1	27/11/2018	1. Initial Version.	H.X.Y.	Y.W.
V1.2	29/04/2020	 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. Trouble Shoot rewording added; Document name changed from "Series B Gateway Ethernet Module Instructions" to "Wisen Gateway Ethernet Daughter Board Configuration 	H.X.Y.	Y.W.
		Instructions".		

Revision History and Clarification



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 <u>http://www.groundcontrol.com/galileo/ch5-ethernet.htm</u>. Or the photo as below:



Ethernet cables are the standard cable used for almost all purposes, and are often called "patch cables". It is highly recommend you duplicate the color order as shown on the left. Note how the green pair is not side-by-side as are all the other pairs. This configuration allows for longer wire runs.



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.

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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";

Firmware Version : V3014 中文				
	USR IOT -IOT Experts-	Be Honest, Do Best!		
Current Status	parameter	help		
Local IP Config 1	IP Type: DHCP/AutoIP • 2	• IP type:		
πι	Static IP: 192 · 168 · 0 · 7	StaticIP or DHCP		
Web to Serial Misc Config	Submask: 255 . 255 . 255 . 0	Module's static ip • Submask usually		
Reboot	Gateway: 192 · 168 · 0 · 1	255.255.255.0		
	Dns Server: 192 · 168 · 0 · 1	Usually router's ip address		
	3 Save Cancel			

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.



firmware revisio	n : v3015	<u>中文</u> <u>logout</u>	<u> </u>
Current Status	UART Packet Time: 0 (0~255)ms	local port	*
Local IP Config	UART Packet Length: 0 (0~1460)chars	Remote Port	
TTL1 (1)	Sync Baudrate(RF2217 Similar):	1~00030	
Web to Serial	Enable Uart Heartbeat	time/length	
Misc Config	Socket A Parameters	means	
Reboot	Work Mode: TCP Client V None V	automatic packet	
	Remote Server Addr: 139.196.221.174 (3) [N/A]	mechanism;	
	Local/Remote Port Number: 4500 (1~65535)	you can modify it as a	
	Timeout Reconnection : 86400 (1~99999)s 139.196.221.174 PRINT: U	none-zero value	
	ModbusTCP Poll: ^[4500] Timeout : 200 (200~9999) ms		
	Enable Net Heartbeat Packet:		
	Registry Type: None Connect With Connect With		
	Socket B Parameters		
	Save Cancel		
			Ť

C. Click on "Restart Module" to make all the settings to be effective.

Firmware Version : V3014			中文
[©]	USR IOT -IOT Experts-	Be Hone	st, Do Best!
Current Status	Reboot/Reset		help
Local IP Config	Restart Module	Restart Module	• Reboot:
πLi			Click to make your config take
Web to Serial			effect
Misc Config			
Reboot			

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";



Firmware Version : V3014 中文				
گر	USR IOT Be How	nest, Do Best!		
Current Status	parameter	help		
Local IP Config 1	IP Type: Static IP 2 •	• IP type:		
TTL1	Static IF: 192 . 168 . 0 . 7	StaticIP or DHCP		
Web to Serial	Submask: 255 . 255 . 0	Module's static ip • Submask		
Reboot	(3) Gateway: 192 . 168 . 0 . 1	usually 255.255.255.0		
	Dns Server: 192 . 168 . 0 . 1	Usually router's ip address		
	(4) Save Cancel			

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!



firmware revision :	v3015	<u>中文 logou</u>	t
Current Status	Parameter	Help	Â
Local IP Config	Baud Rate: 115200 bps(600~230400)bps	Land Bast	i
πl1 (]	Data Size: ⑧▼ bit Parity: None ▼	• Local Port 1~65535. when TCP Client set	
Web to Serial	Stop Bits: 1 ▼ bit	this to 0 means	
Misc Config	Flow Mode: NONE ▼ UART Packet Time: 0 (0~255)ms	use random local port	
Reboot	UART Packet Length: 0 (0~1460)chars	Remote Port	
	Sync Baudrate(RF2217 Similar): 🖉	1~65535	
	Enable Uart Heartbeat Packet: 🔲 📀	Packet	
	Socket A Parameters	default 0/0.	
	Work Mode: TCP Client V Npne V	means automatic	
	Remote Server Addr: <u>192.168.0.201</u> [N/A]	packet	
	Local/Remote Port Number: 0 27788 (4) (1~65535)	can modify it as	
	Timeout Reconnection : 86400 (1~99999)s	a none-zero	
		value	
	ModbusTCP Poll: Poll Timeout : 200 (200~9999) ms		F
	Enable Net Heartbeat Packet:		
	Socket B Parameters		
	Work Mode: NONE 🔻		
	5 Save Cancel		
			•

C. Click on "Restart Module" to make all the settings to be effective.

Firmware Version : V3014			
[©]	USR IOT -IOT Experts-	Be Hone	st, Do Best!
Current Status	Reboot/Reset		help
Local IP Config	Restart Module	Restart Module	• Reboot:
πL1			Click to make
Web to Serial			effect
Misc Config			
Reboot			

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;
- 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.