



WZB-05ET User's Manual (ZigBee HA Profile)

Ver. 1.03

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Congratulations for choosing a world-class digital temperature and humidity sensor using ZigBee wireless transmission technology. This manual is designed to help set up and get the most from the sensor in a few short minutes.

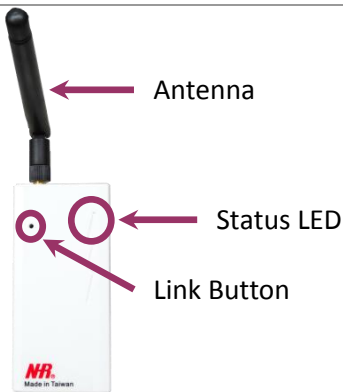
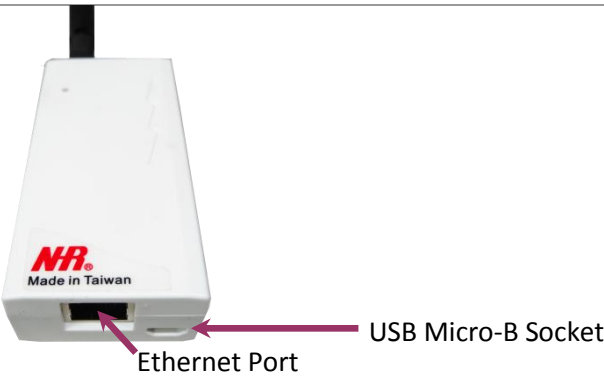

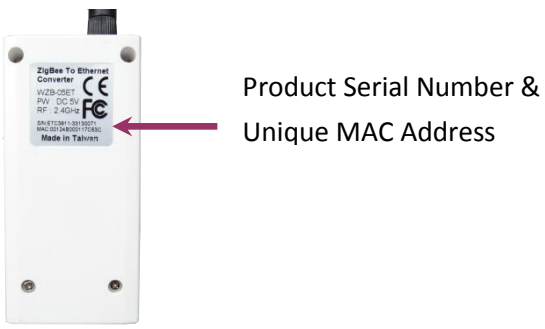
Safety notice: Please read and follow the instructions before using this product

- To prevent electrical shock or fire, do not disassemble or expose the unit to liquids of any kind
- Only use attachments and / or accessories specified by the manufacturer

1 Package Content and WZB-05ET Views

NHR WZB-05ET Ethernet Receiver with Antenna	Mounting fixtures (mounting cradle, 2 wall plugs, 2 screws)	DC 5V USB Adapter and Micro B to Standard A USB Cable
		

If any of the above is missing, please contact your supplier.

Front	Bottom
 <p>Antenna</p> <p>Status LED</p> <p>Link Button</p>	 <p>Ethernet Port</p> <p>USB Micro-B Socket</p>
Side	Back
	 <p>Product Serial Number & Unique MAC Address</p>

2 Installing Mounting for WZB-05ET

Requirements:

- Mounting fixtures
 - Drill with 5mm (0.2 inches) drill bit size (if using wall plugs) or 3.5mm (0.14 inches) drill bit size (if not using wall plugs)
 - Size 1 Phillips screwdriver
- a) Locate WZB-05ET within 1.0m of AC mains socket and with at least 15cm (approx.. 6 inches) spacing on each side (except on mounting side) avoiding the following sources of interference: direct sunlight, air flow from vents, fans, doors, windows, heaters, sources of steam, oil vapor, etc.

For installation using the mounting cradle –

- b) If necessary, pre-drill mounting holes (use mounting cradle for alignment) with the appropriate drill bit – 5mm (approx. 0.2 inches) if using wall plugs or 3.5mm (approx. 0.14 inches) if not using wall plugs.
- c) If necessary, first insert wall plugs into the 2 holes, then use size 1 Phillips screwdriver to fasten the screws securing the mounting cradle. Note: pay careful attention to the orientation of the mounting cradle.
- d) Install and remove WZB-05ET using the following 2-step action to ensure the mounting cradle has been correctly and securely installed and WZB-05ET can be installed and removed.



For installation using the built-in hanging fixture –

- b) If necessary, pre-drill mounting hole with the appropriate drill bit – 5mm (approx. 0.2 inches) if using wall plugs or 3.5mm (approx. 0.14 inches) if not using wall plugs.
- c) If necessary, first insert the wall plug, then use size 1 Phillips screwdriver to fasten the screw, leaving 2mm (0.08 inches) protruding for seating STH-M02ZB's built-in hanging fixture.
- d) Hang and remove WZB-05ET on the protruding screw to ensure it can be installed and removed.

Initial hardware installation for WZB-05ET has been successfully completed.

3 Powering On WZB-05ET

Requirements:

- DC 5V USB adapter and cable

- Connect USB cable's Standard-A plug to DC 5V USB adapter and plug into live AC Mains socket.
- Connect USB cable's Micro-B plug to WZB-05ET.
- The status LED on WZB-05ET should start flashing.

WZB-05ET has been successfully powered on.

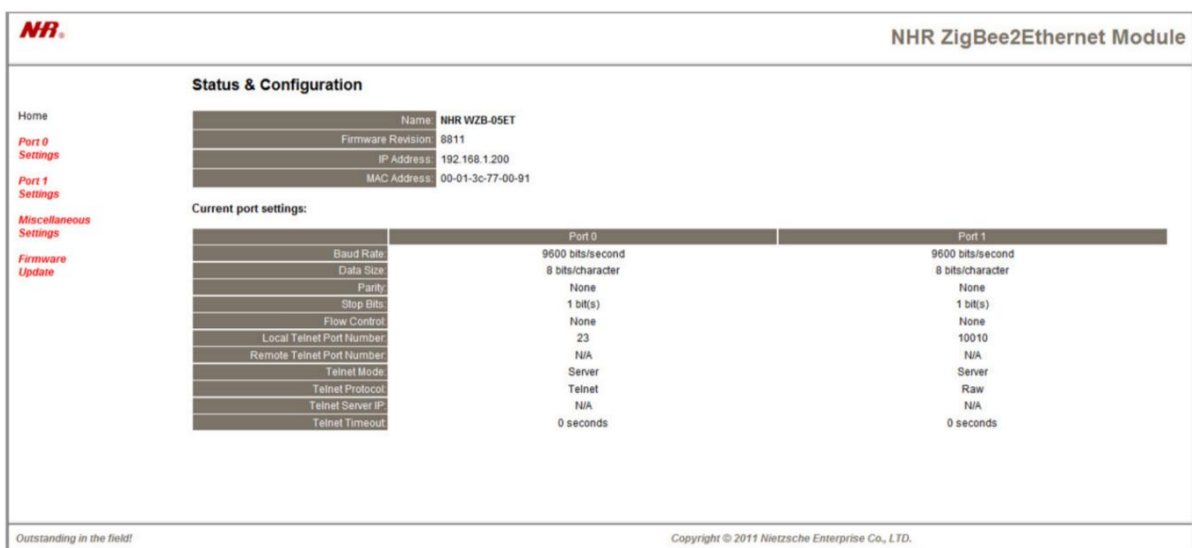
Recommendation: It is strongly recommended to power on WZB-05ET **just before** joining to parent device or when required as this will reduce power wastage and RF traffic.

4 Configuring IP Address and Host PC Port for WZB-05ET

Requirements:

- Ethernet Cable

- Powering on WZB-05ET (See [Powering On WZB-05ET](#))
- If necessary, remove WZB-05ET from the mounting cradle.
- If WZB-05ET will be added to a network, reserve an IP address and port on that network for WZB-05ET – check with local network administrator to obtain configuration details.
- Use the Ethernet cable to connect WZB-05ET to a host machine.
- Use a web browser on the host machine to access WZB-05ET internet web server, the factory Default IP Address is 192.168.1.200 → It will bring up the configuration screen as shown below.



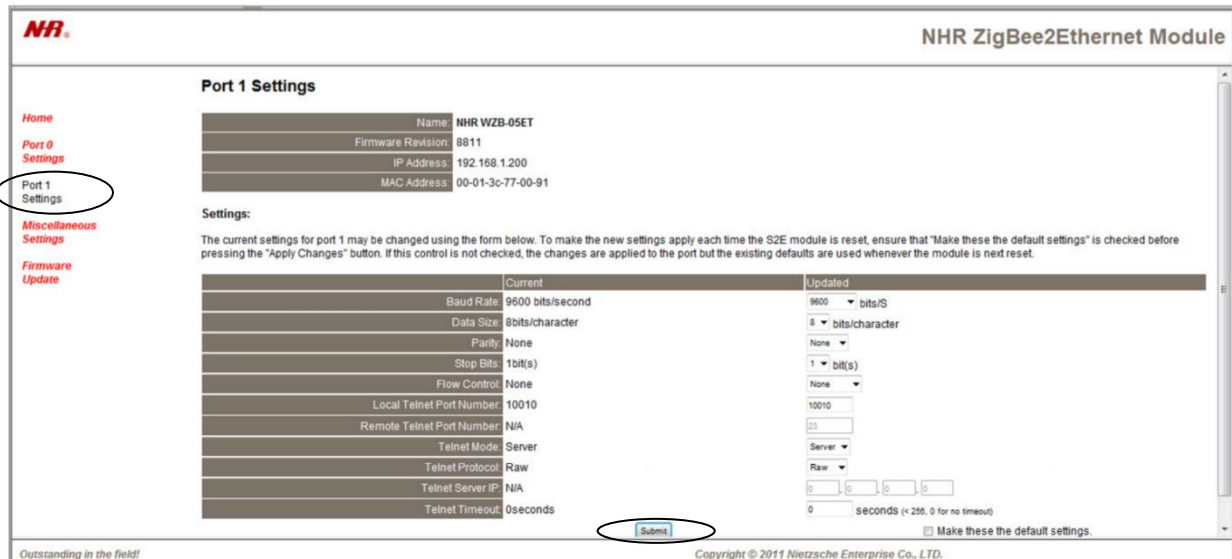
The screenshot shows the 'Status & Configuration' page of the NHR ZigBee2Ethernet Module. The page has a sidebar with navigation links: Home, Port 0 Settings, Port 1 Settings, Miscellaneous Settings, and Firmware Update. The main content area displays the following information:

Status & Configuration		
Name:	NHR WZB-05ET	
Firmware Revision:	8811	
IP Address:	192.168.1.200	
MAC Address:	00-01-3c-77-00-91	
Current port settings:		
	Port 0	Port 1
Baud Rate	9600 bits/second	9600 bits/second
Data Size	8 bits/character	8 bits/character
Parity	None	None
Stop Bits	1 bit(s)	1 bit(s)
Flow Control	None	None
Local Telnet Port Number	23	10010
Remote Telnet Port Number	N/A	N/A
Telnet Mode	Server	Server
Telnet Protocol	Telnet	Raw
Telnet Server IP	N/A	N/A
Telnet Timeout	0 seconds	0 seconds

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- Click on **"Port 1 Settings"** on the left side of the screen → update the **"Local Telnet Port Number"** with the reserve port obtained from steps above if on a local network or choose one

that will not cause conflict, (eg. 10010) if WZB-05ET will not be networked → click **“Submit”** to make the changes as shown below.



Port 1 Settings

Current	Updated
Baud Rate: 9600 bits/second	9600 bits/S
Data Size: 8bits/character	8 bits/character
Parity: None	None
Stop Bits: 1bit(s)	1 bit(s)
Flow Control: None	None
Local Telnet Port Number: 10010	10010
Remote Telnet Port Number: N/A	23
Telnet Mode: Server	Server
Telnet Protocol: Raw	Raw
Telnet Server IP: N/A	0.0.0.0
Telnet Timeout: 0seconds	0 seconds (< 255, 0 for no timeout)

Submit

- g) Click on **“Miscellaneous Setting”** on the left side of the screen. → Update the **“IP Address Selection”** details with the reserve IP address and other network configuration obtained from the steps above if on a local network, or choose ones that will not cause conflict.

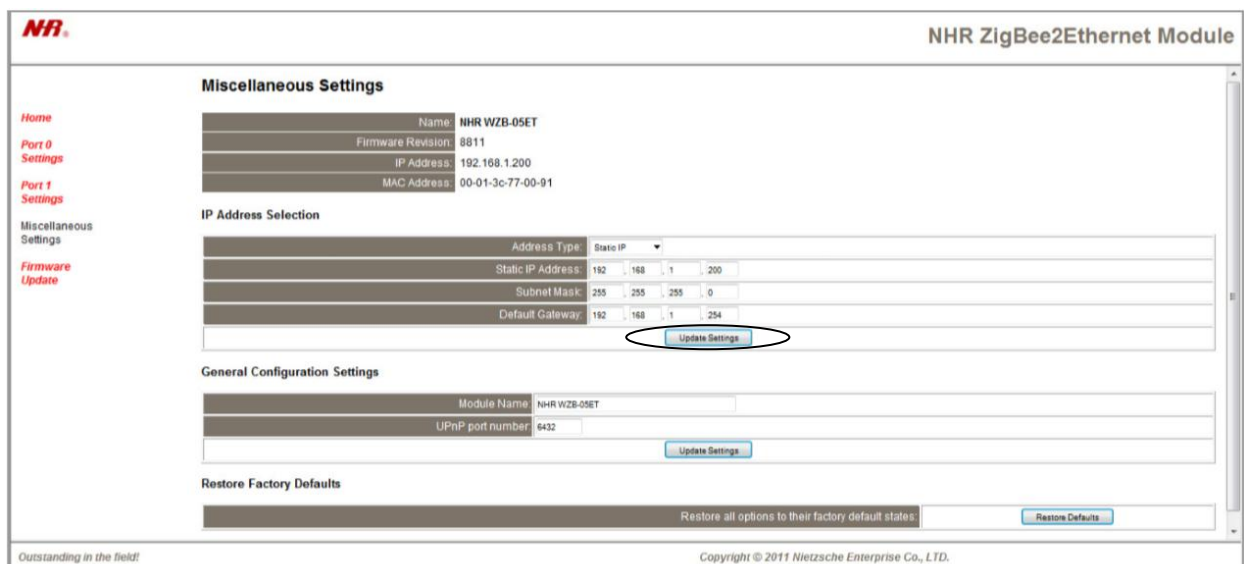
Default settings:

IP Address: 192.168.1.200

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.254

If WZB-005ET will not be networked, click **“Update Setting”** to make the changes as shown below



Miscellaneous Settings

Current	Updated
Name: NHR WZB-05ET	
Firmware Revision: 8811	
IP Address: 192.168.1.200	
MAC Address: 00-01-3c-77-00-91	

IP Address Selection

Address Type	Static IP
Static IP Address:	192.168.1.200
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.1.254

Update Settings

General Configuration Settings

Module Name	UPnP port number
NHR WZB-05ET	6432

Update Settings

Restore Factory Defaults

Restore all options to their factory default states: **Restore Defaults**

Replace WZB-05ET into mounting cradle as required.

WZB-05ET has been successfully configured.

5 Enabling WZB-05ET to Permit Join Other Devices to its Network

Requirements:

- Child device, such as router (eg. STH-M02ZB, WZB-01USB, WZB-02485R), or end device (eg. STH-01 series, STH-M02ZB, STH-03ZB, S05 series)
- Sharp pointed tool

a) Ensure WZB-05ET is powered on (see “**Powering On WZB-05ET**”) and ready to receive data from the Child Device (blue LED flash every second).

b) Ensure child device(s) to be joined to WZB-05ET's network is in **ready to join** status (see relevant device's manual).

c) Use a sharp pointed tool to apply 1 quick press to the link switch on WZB-05ET, the blue LED will flash twice every 3 seconds for up to 60 seconds to ***permit join*** other devices to its network.

d) If a child device has successfully joined WZB-05ET's network, the blue LED will flash 3 times to confirm successful addition then return to a flash per second pattern.

e) Check the status of the device to confirm it has been connected (see relevant device's manual)

f) Repeat the above steps until all devices have been added successfully.

[illegible]

Recommendation: Open the DavaView before joining sensors to WZB-05ET to confirm with joined sensors.

6 Removing Devices from WZB-05ET

Requirements:

- Child device, such as router (eg. STH-M02ZB, WZB-01USBR, WZB-02485R), or end device (eg. STH-01 series, STH-M02ZB, STH-03ZB, S05 series)
- Sharp pointed tool

- a) Ensure WZB-05ET is powered on (See "Product Installation: Power On").
- b) Ensure the devices is powered on (See relevant devices' manual) and is connected it WZB-05ET or one of its slave routers.
- c) Use pin or other appropriate tool to apply 2 quick presses to link switch on WZB-05ET → the blue light should flash rapidly for up to 30 seconds or until removal has been successful. Uninstallation should take place within 30 seconds.
- d) Use the pin to apply 3 quick presses to the link switch on the device to be removed. → The red LED light should flash rapidly for up to 30 seconds or until removal is successful.
- f) Check the status of the device to confirm it has been removed (See relevant device's manual).
- g) WZB-05ET should return to a flash per-second pattern.

7 WZB-05ET LED Statues

The table below shows the LED status for WZB-05ET:

Blue LED Sequence	Status
flash every second	Ready: Ready to receive data from slave devices
2 blue flashes in 3 second interval	Connecting: Searching for devices to connect
3 blue flashes	Connected: Found and connected to device →(Return to Ready)
Rapid, repeated flashes (up to 30 seconds)	Removing: Removing device →(Return to Ready)
Blue & Red on for 3 seconds	Reset: Resetting linkage to all ZigBee devices

8 ZigBee Reset

- a) To disconnect and reset all the connected devices from WZB-05ET, press link switch for 3 seconds.

- b) LED light should show Reset status (Blue & Red light for 3 seconds). → Blue LED light should return to Ready status (1 blue flash repeated in 1 second interval)
- c) All connected devices stored in WZB-05ET have been disconnected.

Note: Devices that were stored in WZB-05ET before the reset process are now “orphaned” and need to reset individually to connect to the same or different data receivers.

Recommendation: Before removing power from WZB-05ET, removing it from the network or resetting, please ensure its router capability is no longer needed on the network by child device(s). Once WZB-05ET has been removed from the network or reset, it is suggested to remove power from the WZB-05ET when not in use to reduce power wastage, RF traffic, and unintentional joining to original or new network.

9 Product Specifications

Chip Set	T1 ZigBee SoC cc2530F256, 256K Flash	
Wireless Protocol	Compliant IEEE 802.15.4, ZigBee2007 / PRO HA Profile	
Operating Frequency	2.4GHz ISM band	
Channel	16CH	
Transmission Range	500m (1640.4ft) line of sight	
Transmission Data Rate	250kbps Max.	
RF Output Power	18dBm	
Power Supply	DC 5V USB Adapter	
Receiver Sensitivity	-92dBm	
Operating Environment	-10 ~ +80°C, 90% relative humidity	
Power Consumption	0.8W	
ESD Protection	±4KV contact	
Antenna	2dBi Omni SMA Antenna	
Network Topology	Star / Tree / Mesh	
Enabling Devices	End Device	NHR HA Devices
	Router	S05-R / WZB-01USBR / WZB-02485R
Dimensions	197 (L) x 43 (W) x 21 (H) mm	
Weight	141.8g / 5oz. (Includes Cable)	
Supported Systems	Windows NT ~ Win 8	
Certifications	CE / FCC	