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# Thunder 360/80

## Wi-Fi interface communication guide

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### Introduction

The Wi-Fi module enable sensor's data delivery to Internet with MQTT and HTTP protocols. The module supports connection to host system, updates occupancy status and motion and respiration data when detection occurs in sensor and allows to the setup system using its own hotspot and web page.

Internal web page supports setup of main Wi-Fi connection and chose and setup transport protocol and sensor's working range and type of data sending (by event or fixed time interval).

For detailed information about the radar sensor please check the "Thunder Series Guidebook".

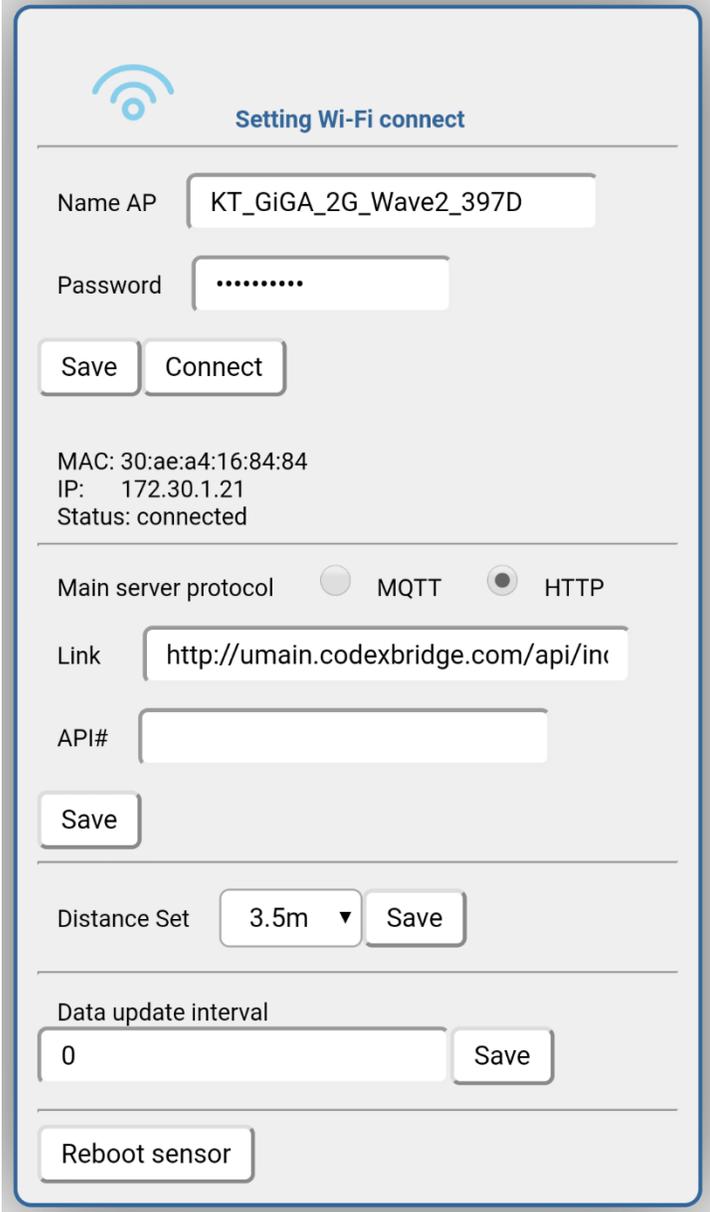
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## 1. Connection to Wi-Fi module's web page and setup

After you apply the power to the sensor it activates the hotspot and available to connect for 10 minutes. In the Wi-Fi list on your device, you can find sensor's Wi-Fi with name like "UWB\_Sensor\_59C0" where "59C0" is a sensor's unique ID. Connect to this hotspot and open in web browser the address "192.168.4.1" and you will see the web page with available settings as shown in figure 1.



The screenshot displays the 'Setting Wi-Fi connect' web page. At the top left is a Wi-Fi icon. The title is 'Setting Wi-Fi connect'. Below this, there are two input fields: 'Name AP' with the value 'KT\_GiGA\_2G\_Wave2\_397D' and 'Password' with a masked value '.....'. There are 'Save' and 'Connect' buttons. Below these, the MAC address is '30:ae:a4:16:84:84', the IP address is '172.30.1.21', and the status is 'connected'. A section for 'Main server protocol' has radio buttons for 'MQTT' (unselected) and 'HTTP' (selected). Below this is a 'Link' input field with the value 'http://umain.codexbridge.com/api/inc' and an empty 'API#' input field. There is a 'Save' button. The next section has a 'Distance Set' dropdown menu set to '3.5m' and a 'Save' button. Below that is a 'Data update interval' input field set to '0' with a 'Save' button. At the bottom, there is a 'Reboot sensor' button.

Fig. 1 – The web page of the Wi-Fi module

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### 1.1 Connect to the main Wi-Fi router

First, you will need to connect the sensor to your main Wi-Fi router. To do this remove existed name in “Name AP” field and find your router name. Then type the password of your router in the “Password” field. When it is done click the “Save” button first and then “Connect”.

### 1.2 Setup the data delivery protocol and address

In the middle section chose one of two protocols “MQTT” or “HTTP”. Each of them will provide you different field for setup as it shown in figure 2. Make necessary changes according to your needs. Then click “Save”.

The figure displays two side-by-side screenshots of a web interface for configuring data delivery protocols. The left screenshot shows the MQTT configuration form with the following fields: Main server protocol (MQTT selected), Server MQTT (broker.hivemq.com), Topic MQTT (umain/sensor/data), Port MQTT (1883), User Name, Password, and Time Interval (10 sec). The right screenshot shows the HTTP configuration form with the following fields: Main server protocol (HTTP selected), Link (http://umain.codexbridge.com/api/in), API#, and a Save button.

Fig. 2 – Setup the communication protocol for data delivery

### 1.3 Change the sensor’s settings

In the bottom sections of the web page, you may setup the sensor’s working range and sending interval.

In the field “**Distance Set**” you may choose one of the available options from 1.5m to 5m and click “Save”.

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In the field “**Data update interval**” you may set the time from 0 to 180s.

If you **set 0** then sensor will work in “**event driven**” mode and update information immediately as event happens. Also, sensor will send zero message (both motion and respiration are 0) once a minute if there are no detections. **This is the recommended mode.**

If you set the value from 1 to 180 then sensor will send the data with fixed interval even if there are no detections. If you want to use this mode, **we recommend the intervals from 2s to 10s.**

You may change the distance and interval settings individually or together and click “Save”.

#### 1.4 Errors during the setup process

When you use “Save” button the sensor’s Wi-Fi module stores the data in the internal memory and sometimes may have difficulties during this process. If you get the message that sensor couldn’t save the data or if there is no more response from the web page, please reboot the sensor and make changes for settings that were not stored.