FDV3-W Wi-Fi Provisioning And Voice Guide (2.4 GHz Wi-Fi)

1. Overview

The FDV3-W Human Fall Detection Sensor is a device designed to monitor human spatial activity and behavior information. It supports human presence detection and fall detection alarm functions, while also providing voice interaction and night light illumination features.

Through a 2.4 GHz Wi-Fi network, the device transmits data to the cloud platform, enabling smart scene linkage and device status reporting.

2. Product Network Provisioning Guide

The initial development process on the customer platform consists of two main steps:

1. Configure the customer server address information

（The customer server address can be pre-configured by the factory before mass production shipment.）

2. Network provisioning

Configure the device to connect to the Wi-Fi access point (AP) and establish a connection with the MQTT server.

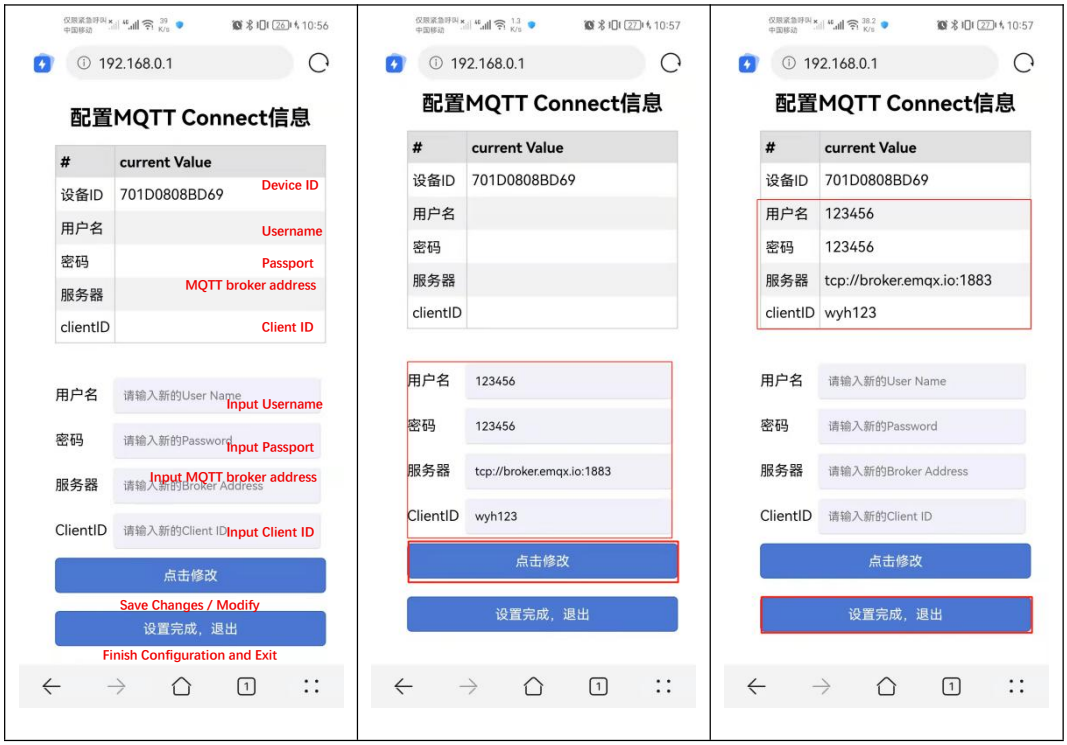
2.1 Configure the customer server address information

The device must first be configured with the MQTT Server connection parameters, including the server address, Client ID, username, and password. This configuration only needs to be performed once, as the configuration parameters will be stored in the device.

The detailed configuration steps are as follows:

1) Press and hold the button for more than 15 seconds. The device will create a Wi-Fi access point (AP) named RadarConfig-xxxxxxxxxxxx. The mobile device can connect to this AP through Wi-Fi settings. After connecting, open a browser and access 192.168.0.1 to enter the web configuration page.
   The configuration page will be displayed with only the Device ID information by default. Other parameters must be configured according to the MQTT Server settings.
2) Configure the parameters according to the MQTT Server settings. After completing the configuration, click the "Modify" button to submit the changes.
   The MQTT Server address must be entered in one of the following formats:
   tcp://broker.emqx.io:1883 OR tcp://43.136.88.1:1883
   After submitting the configuration, the webpage will refresh automatically, and the updated parameters will be displayed in the information table. Click the "Finish Configuration and Exit" button to exit the configuration mode. The module will then

exit the configuration mode and restart automatically.



2.2 Network Provisioning Indicator:

After the device is powered on, it will connects to the default server and goes online. During the startup process, the red network configuration LED flashes to indicate the network configuration progress. The LED turns off after the device successfully connects to the server.

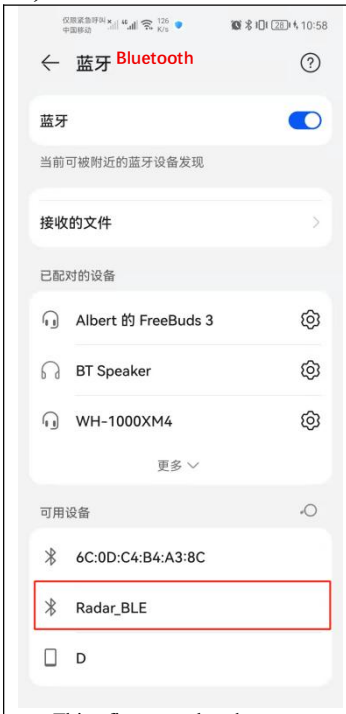
Network Configuration LED Status:

Entering Wi-Fi provisioning mode	Red LED flashes every **500 ms** (**90 s timeout**)
Reset button pressed	Red LED remains **ON**
MQTT server connection successful	Red LED turns **ON** for 1 second and then turns OFF
Device connected to the network and operating normally	Red LED remains OFF
Network configured successfully, but disconnected from the server or network	Red LED remains **ON**

2.3 Network provisioning

Note: All of the following operations must be performed while the device LED indicator is flashing, indicating that the device is in Wi-Fi provisioning mode. If the LED indicator is not flashing, the provisioning process will fail and the provisioning procedure must be restarted：

1) Press and hold the **Reset** button for 5 seconds until the LED indicator turns off, then release the button. The LED will start flashing, indicating that the radar sensor has entered Wi-Fi provisioning mode. At this time, the radar sensor will broadcast a Bluetooth device named "**Radar_BLE**". Open the App *"BK_BLE"* and start the network configuration process.
   Note: The maximum provisioning time is 90 seconds. If the radar sensor is not successfully configured within 90 seconds after entering provisioning mode, a provisioning timeout command will be sent to the App.
2) Open the network provisioning App*"BK_BLE"*, select the Bluetooth device and Wi-Fi network (SSID), then enter the Wi-Fi password. Please use a 2.4 GHz Wi-Fi network, as 5 GHz Wi-Fi is not supported.
3) Click "Start Provisioning"



This figure only demonstrates that the Bluetooth signal from the radar sensor can be detected. Do not click any buttons on this page.



Please use a 2.4 GHz Wi-Fi network, as 5 GHz Wi-Fi is not supported.



When the Wi-Fi provisioning is successful, a message indicating "Provisioning Successful" will be displayed.

3. Subscribe to device data after successful provisioning

Note: The following operations assume that the device has successfully connected to the public server. After the connection is established, the Network Configuration LED should be off. If the Network Configuration LED still indicates any network configuration status, troubleshoot the issue according to the network configuration procedure and LED indications, then perform the network configuration again until the device successfully connects to the public server.After the Wi-Fi provisioning is completed successfully, the device information can be subscribed to using a PC-based MQTT client or other MQTT client tools.

Use the PC-based MQTT client (MQTT X) to connect to the MQTT Server, subscribe to the

corresponding device topic, and receive the device reported data.



4. Voice Interaction Module

Note: Due to the current voice chip configuration, only Chinese voice prompts are available. English voice support will be provided in a future version.

By default, the voice function is enabled based on the radar sensor's human presence detection status. Voice commands can be triggered normally when a person is detected. When no person is detected, voice commands will not be triggered.

When human presence is detected, voice commands are divided into two categories:

4.1 Commands Requiring Manual Wake-up：

Safety Assistance Function:

For example, when reporting a fall detection event, the user can say the wake-up command "Help" to activate the voice interaction function. The device will then prompt: "Did you fall?"

Based on the user's response, different voice commands such as "I fell", "I have fallen", or "I did not fall" can be used to trigger different status reporting or cancel the alarm.

4.2 Commands Without Wake-up Required:

- Lighting Control Function:
  The device supports direct voice commands "Turn on the light" and "Turn off the light" without requiring a wake-up phrase. According to the received command, the device will turn the white ring light on or off and provide a voice response.

- Keyword Voice Learning Function:
  The device supports voice learning for customized keywords, including dialects and new voice commands. Use the voice command "Enter learning mode" to activate the learning mode, then follow the voice prompts from the device to complete the learning process.

- Reset Voice Prompt Function:
  To delete the learned voice prompt content, use the voice command "Restore factory settings" twice. The learned voice prompt content will be deleted, while the original built-in voice prompts will not be affected.

4.3 Passive Voice Triggering：

When the device detects a fall event, it will automatically initiate a voice prompt and ask the user: "Did you fall?"

A. If the user does not respond to confirm whether a fall has occurred, and the fall status is not cleared within 15 seconds, the device will automatically report the fall event to the service platform.

B. If the user responds with a voice command confirming the fall status, the device will report the fall event to the service platform according to the user's response.

In addition to the above scenario, the device also supports passive voice triggering during fall detection verification. After the device is installed, when a person falls within the detection area, the radar sensor detects the fall event and automatically triggers a voice prompt. The user can respond to confirm whether a fall has occurred, and the device will report the corresponding status. If the user does not respond and the fall status is not cleared within 15 seconds, the device will automatically report a fall event.