

MEITRACK® GPS Vehicle Tracker



T799L User Guide

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Document Changelog

Version	Date	Modification
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catalogue

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1 Product Overview

The T799L Bluetooth Series is an in-vehicle positioning solution featuring IP67-rated waterproofing, built-in Bluetooth and WiFi modules, as well as a built-in GPS and GSM antenna. It is designed to operate stably in various harsh environments and in special settings where there is no available cellular signal; it supports WiFi connectivity, Bluetooth beacons, and Bluetooth-based temperature and humidity sensors. In the future, it will support additional Bluetooth peripherals and is suitable for various transportation vehicles, including automobiles, motorcycles, yachts, and cold-chain logistics vehicles.

1.1 Product Feature

1.1.1 Harsh Acceleration, Harsh Braking, Sharp Left Turn and Sharp Right Turn Alerts

The MM or commands can be used to set the emergency acceleration value, emergency deceleration value, emergency left turn value, and emergency right turn value, as well as to enable alarm detection.

Note: To configure MM authorization events, refer to the following figure:

Authorize					
Event	SMS Header	Setting	SMS	Call	SMS
Ult-Sensor Drop	Ult-Sensor Drop		☐	☐	☐
Sharp Turn to Left	Harsh Cornering	...	☐	☐	☐
Sharp Turn to Right	Harsh Cornering	...	☐	☐	☐
Output 1 Active	Out1 Active	Angle Value(Degree)			60
Output 2 Active	Out2 Active	Detection Time(secs)			10
Output 1 Inactive	Out1 Inactive	Alarm Speed(km/h)			30
Output 2 Inactive	Out2 Inactive				
Harsh Braking	Harsh Braking	...	☐	☐	☐
Harsh acceleration	Fast Accelerate	...	☐	☐	☐
Idle Overtime	Idle Overtime	...	☐	☐	☐
Idle Recovery(Recovery from Idle Overtime)	Idle Recovery		☐	☐	☐
Fatigue Driving	Fatigue Driving	...	☐	☐	☐

For setting instructions, please refer to the BBD commands and BC6 commands.

No installation direction restrictions apply.

1.1.2 GPS Data Filtering

The GPS data filtering function can ensure GPS data accuracy and eliminate static drift.

You can set the following parameters by Meitrack Manager: **GPS speed range**, **GPS positioning accuracy**, and **Number of GPS satellites**. After the GPS data filtering function is enabled, if all conditions are met, GPS data will be updated.

GPS Data Filtering

☒ Enable GPS data filtering (If all conditions below are met, GPS data will be updated.)

GPS speed range(km/h)

10
To
200

GPS positioning accuracy <

5.0

*10
Number of GPS satellites >

3

Note: This function can be enabled by Meitrack Manager only.

1.1.3 Event Control Output Port Function

Users can control the output port status based on events.

For example:

1. When the device detects speeding, the buzzer makes sounds.
2. When the device detects unauthorized ignition or GPS antenna cut-off, the engine fails to be started.
3. When the device detects that the iButton reader or RFID reader is triggered, the engine starts.
4. When the device detects that an input is activated or inactivated, the output port is active or inactive.

1.1.4 Idling Detection

This function is used to detect whether a vehicle's engine is switched off while parking. To enable the function, input 2 must be connected to the ACC detection cable.

When the device detects that the ACC is on and the driving speed is 0 for one consecutive minute (default time), an idling alert will be sent.

For detailed instruction settings, please refer to B14 instructions.

1.1.5 Changing the I/O Port Mode

This function can change the mode of the I/O port; for example, if it was originally configured for negative-edge triggered activation, it can be changed to an AD analog interface or positive-edge triggered mode.

For detailed instruction settings, please refer to the C08 instructions.

1.1.6 RFID/iButton controls engine startup

After successfully swiping the authorized iButton/RFID card, the driver must start the engine within 1 minute. If more than 1 minute passes without starting, Output 1 will cut off the engine power, rendering the driver unable to start the vehicle. To restart the vehicle, the driver must swipe the iButton or RFID card again.

The following conditions must be met:

1. "Input 2" connects to the engine detection system
2. iButton/RFID requires authorization;
3. "Output 1" is controlled by the engine via a relay.
4. Enable the "RFID-controlled ignition" function via Meitrack Manager or the platform.
5. When enabling this feature, you must configure an RFID event; otherwise, this feature will be ineffective.

1.1.7 CAN Interface (Optional)

The T799LL supports FMS protocol-based CAN bus data acquisition; the acquired data includes the following content:

Vehicle speed value, vehicle control status, accelerator pedal position (%), total fuel consumption, engine RPM, total engine operating time, total vehicle mileage

Engine speed, engine coolant temperature, remaining fuel quantity, actual engine torque, ambient air temperature around the vehicle, actual engine torque at the current speed, fuel consumption rate, axle load, maintenance mileage, and instantaneous fuel consumption.

pay attention to :

1. Access to the above data depends on whether the vehicle's FMS protocol supports it.
2. The installation method depends on the specific vehicle model; to proceed, locate the CANH and CANL bus terminals on the vehicle and identify the corresponding CANH and CANL connection devices.
3. The interface definition is as follows:

11 CAN-H	12 CAN-L
-------------	-------------

Pin Number	Cable Color	function
11(CAN-H)	Purple Line	Used for connecting to CANBUS peripherals
12(CAN-L)	Brown wire	Used for connecting to CANBUS peripherals

2 Product Functions and Specifications

2.1 product function

2.1.1 Position Tracking

- GNSS + LBS positioning
- Real-time location query
- Tracking by time interval
- Tracking by distance
- Tracking by mobile phone
- Speeding alert
- Cornering report

2.1.2 Anti-Theft

- Polygonal geo-fence
- Engine or vehicle door status alert
- Remote vehicle fuel or power cut-off
- GPS blind spot alert
- Towing alert

2.1.3 Other Functions

1.1.1 Other Functions

- SMS or GPRS (TCP or UDP) communication (Meitrack protocol)
- Built-in 8 MB flash for recording driving routes
- IP67 water resistance rating
- Mileage report
- Roaming parameter settings
- Smart power-saving mode
- Built-in 3-axis accelerometer
- Online Parameter Editor (only for the MS06 platform)
- GPS data filtering
- Set the output port status based on events
- Stop Moving and Start Moving alerts
- Vehicle power protection

- Idling alert
- AGPS
- Internal Bluetooth module
- Support a CAN bus interface(Optional)
- Supports WiFi transmission function.

2.1.4 Optional Features

fittings of a machine	function
iButton	Identify the driver ID and grant permission to start the vehicle.
A53 Fuel Level Sensor	Check the fuel level and detect a fuel theft alert.
Digital Cable Temperature Sensor	High-and low-temperature detection (up to 4 wired temperature sensors are supported; requires connection to the A61 expansion box).
400mAh/3.7V battery (-10°–60°)	When the external power supply is cut off, the device can continue to operate for a certain period; low battery alarm will be triggered.
Bluetooth Temperature and Humidity Sensor	Check temperature (-20°C to 55°C) and humidity (0% to 100% RH). (A maximum of four Bluetooth temperature and humidity sensors are supported.)
Bluetooth Beacon	Detect the location of the tracker or Bluetooth beacon. (A maximum of 16 Bluetooth beacons are supported.)

2.2 Specifications

project	description
Overall dimensions	80.5*60*23.5mm
weight	100g
I/O power supply length	50CM
Input power supply	DC 11.4–90V/1.5A
cell	Equipped with a built-in 400 mAh battery (high-temperature rated: -10°C to +60°C)
Normal standby power consumption	Standard standby current: 65 mA
working temperature	-35°C to 80°C (this operating temperature range applies to units without a battery); -10°C to 60°C (with a battery).
Work humidity	5%~95%
LED pilot lamp	The green LED indicates the GSM signal, while the blue LED indicates the GPS signal.
Button/Switch	1 Upgrade button (for manual firmware upgrade), 1 Power button
memorizer	8M
sensor	Accelerometer (for vibration wake-up, towing, and emergency acceleration/deceleration alerts)
	T799L-GFW1B5U2 (Global Edition): LTE FDD:B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/ B17/B18/B19/B20/B25/B26/B28/B66/B71; LTE TDD:B34/B38/B39/B40/B41;

	T799L-LAFW1B5U2 (Latin America Edition): LTE FDD: B2/B3/B4/B5/B7/B8/B28/B66; T799L-EFW1B5U2 (European Version): LTE FDD: B1/B3/B5/B7/B8/B20/B28; LTE TDD: B38/B40/B41; T799L-CFW1B5U2 (China Edition): LTE FDD: B1/B3/B5/B8; LTE TDD: B34/B38/B39/B40/B41;
GNSS	GPS/GLONASS/BEIDOU
Microphone and speaker (optional)	3.5 mm plug
Positioning sensitivity	-167dB
positioning accuracy	2.5 meters
PDA	Compatible with Bluetooth 5.3
GPS/GSM Antenna	built-in
WiFi	Built-in, supports WiFi @2.4 GHz, 802.11b/g/n
Input/Output ports	Up to 4 digital inputs can be configured; IN1, IN3, and IN4 allow for switching between AD analog input (0–30 V) and free switching between positive and negative triggering. 1 × 1-Wire interface, configurable as OUT2 or negative trigger. 1 OUT1 1 USB port (standard Type-C cable; no conversion chip required) 1 × 5V output port, maximum current: 0.5A RS232 serial port (standard version): Ground line, Tx line, Rx line RS485 serial port (RS485 version): Ground line, A line, B line 1 CAN (CAN version): CAN-H line / CAN-L line; supports the FMS protocol. Note: The RS232 version; the RS485 and CAN versions are mutually exclusive (only one can be selected); the standard configuration is the RS232 version.

2.2.1 Interface Definition

The I/O port consists of a 12-pin cable containing power supply lines, analog input ports, positive trigger and negative trigger input ports, as well as output control ports.



1 Power (+)	2 GND (-)	3 Input 1 (-)	4 Input 2 (+)	5 Input 3 (+)	6 Input 4 (+)	7 Output 1	8 1-wire	9 + 5V
-------------------	-----------------	---------------------	---------------------	---------------------	---------------------	---------------	-------------	-----------

Cable harness (PIN)	pigment	function
1 (Positive power terminal)	redline	The power input positive terminal is connected to the positive terminal of the car battery, with an input voltage range of 11.4–90 V. It is recommended to use 12 V/24 V for optimal performance.
2 (Ground wire)	Black Line	The ground wire should be connected to the negative terminal of the car battery or to a grounding point on the vehicle.
3 (Input 1)	gray line	The digital input defaults to negative triggering and can be used to connect a door-opening trigger signal line to monitor the door status (most Chinese-, Korean-, and Japanese-made vehicles use negative triggering); it can also be configured for positive triggering or as an AD4 (0–30 V) analog input.
4 (Input 2)	White line	Digital input, positive trigger; defaults to connecting to the vehicle's ACC system to detect the vehicle's ignition status.
5 (Enter 3)	blue line	Digital input 3 defaults to positive triggering; negative triggering or AD2 (0–30 V) analog input can be configured.
6 (Enter 4)	yellow line	Digital input 4 defaults to positive triggering; negative triggering or AD1 (0–30 V) analog input can be configured.
7 (Output Control 1)	Green Line	When enabled, the output is low-level (0V); when disabled, it operates as an open-collector output (OC). Output open-drain configuration (invalid): Maximum withstand voltage: 60 V Maximum (effective) current at low output voltage: 300 mA Additionally, PWM pulse output can be configured (with adjustable output duration and pulse width). Used to connect external relays for remotely cutting off the vehicle's fuel supply or engine power, among other applications.
8 (1-Wire interface)	tailor's chalk line	Supports external single-bus protocol-enabled IBUTTON devices and other terminals that support the single-bus protocol; can be configured as a negative-triggered input or an OUTPUT2 open-drain output, with a maximum withstand voltage of 5 VDC;
9 (5V output cable)	Yellow Red Line	5VDC output, suitable for temperature-sensing power supplies, with a maximum current of 0.5A

10 Earth wire	11 RS232-Tx/RS485-A or CAN-H	12 RS232-Rx/RS485-B or CAN-L
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Pin Number	Cable Color	function
10 (Ground wire)	Yellow-brown line	earth wire
11(RS232-Tx/RS485-A)	Purple Line	RS232 serial port data transmission / RS485 serial port data

or CAN-H)		transmission or for connecting to CANBUS peripherals
12(RS232-Rx/RS485-B or CAN-L)	Brown wire	RS232 serial port data reception / RS485 serial port data reception, or for connecting to CAN bus peripherals

Two-way communication version (optional)

The green wire is the speaker interface.

The red color indicates the microphone interface.



3 T799L Bluetooth Series Host Devices and Accessories

The following are standard accessories:

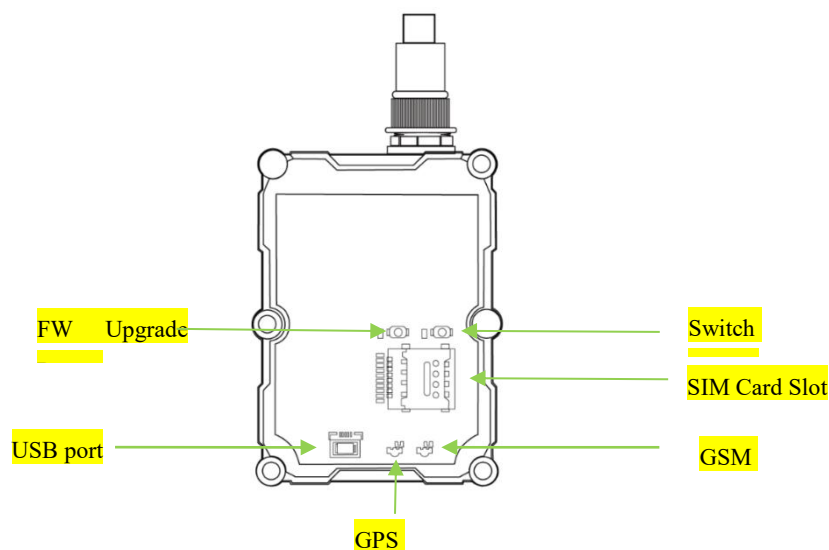
Main unit (includes a 50 cm power supply IO cable, 12-pin connector)
L-shaped wrench
CD Download Guide Page
400mAh built-in battery
Screws (6 pieces)

The following are optional accessories:

Accessories (Optional)	remarks
USB data wire	Standard Type-C Data Cable
Relay (12V/24V)	linkage Output1
alarm buzzer	To connect Output1 or 1-Wire (pink wire), set it to OUTPUT2; the power supply should be connected to a 5V power source.
A52 Digital Temperature Sensor	1-Wire cable (pink wire), available in lengths of 3m,5m,10m, and 20m; custom lengths available upon request.
iButton Reader	Connect to 1-Wire (pink wire)
A53 Fuel Level Sensor (Voltage-AD)	Connect to AD1 (blue line)

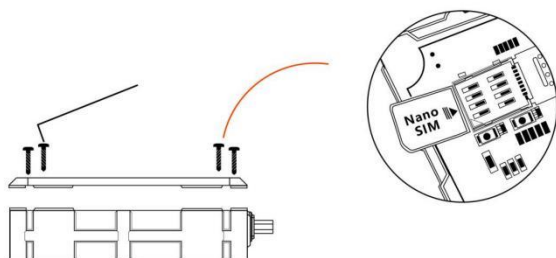
Bluetooth Temperature and Humidity Sensor	
Bluetooth Beacon	
Ultrasonic Oil Level Sensor	Connect to RS232 (requires RS232 version T799L)
RFID	Connect to RS232 (requires RS232 version T799L)

4 Main Unit Panel



5 First-time use

5.1 Install SIM card



SIM Card:

Use the included screwdriver to open the back cover; insert the SIM card (Nano type, with the chip facing downward), as shown in the figure; then, re-cover the device.

pay attention to :

- Ensure that the SIM card has sufficient balance (insert the SIM card into your phone to test making calls

- and sending text messages);
- Ensure that the password lock for the SIM card has been turned off;
- If you need to make a call from a mobile phone using an authorized number, and the terminal has the feature to send a location-based SMS to your authorized number, please first ensure that the SIM card inserted in the terminal supports caller ID functionality.
- Before inserting the SIM card, please turn off the terminal's power and ensure it is in the powered-off state.

5.2 LED pilot lamp

Press and hold the power button for 3–5 seconds, or connect an external power supply of 11.4–90 V; the device will then turn on.

GPS indicator light (blue light)	
Flash (flashes every 0.1 seconds)	The device is initializing or the battery power is low.
Flash (on for 0.1 seconds, off for 2.9 seconds)	Received GPS signal
Slow flash (lights for 1 second every 2 seconds)	Unable to receive GPS signal
GSM indicator light (green light)	
Chang Liang	There is an incoming call or you are on a call.
Flash (flashes every 0.1 seconds)	The machine is initializing.
Flash (on for 0.1 seconds, off for 2.9 seconds)	Received base station signal
Slow flash (lights for 1 second every 2 seconds)	Unable to receive base station signals

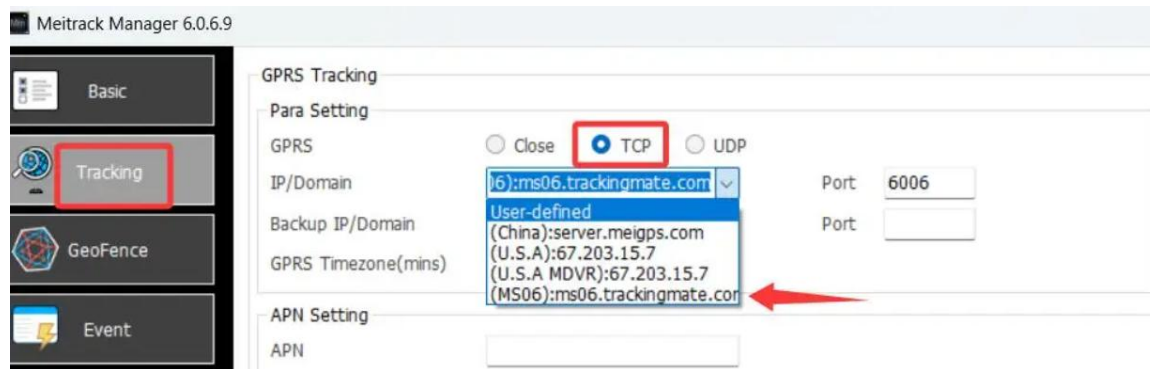
5.3 MeitrackManager: Configure Device Parameters

This section describes how to configure devices on a computer using Meitu Manager (version 6.0.6.9 or later). Program:

1. Install the STM32 USB driver and MeitrackManager.
2. Connect the device to your computer using a Type-C cable.
3. Run MeitrackManager; the following dialog box will appear:



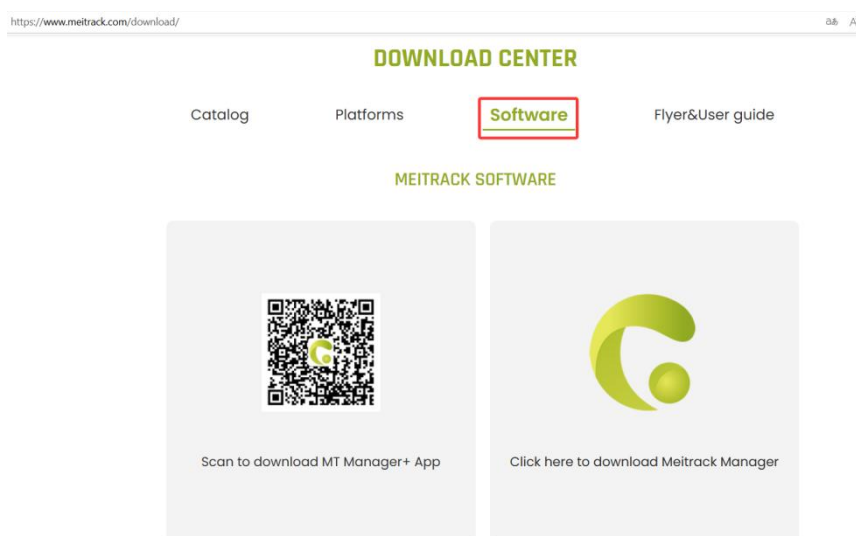
After powering on the device, MeitrackManager will automatically detect the device model and display the corresponding parameter page.



4. Configure the server IP on the tracking page:

For detailed information about MeitrackManager, please refer to the MEITRACKManager User Guide.

[Download Link: DOWNLOAD CENTER – meitrack](https://www.meitrack.com/download/)



6.3.1 Using MM to configure the Bluetooth temperature and humidity sensor and iBeacon

pattern :

Boardcasting Mode (Default Slave Mode): Used for configuring via the MT Manager+ APP;

Scanning Mode: Host mode, used for scanning nearby Bluetooth peripherals. If ACC (Input 2) is triggered, the terminal will automatically switch to Broadcasting Mode for 1 minute; if no connection to the APP is established, it will automatically revert to Scanning Mode.

Off: Disables Bluetooth functionality

Bluetooth Settings	
Mode	Boardcasting mod ▾
Broadcast name	868817040201061
Broadcasting interval(ms)	1000
Bluetooth password	
Company Identifier Code	0000
Manufacturer specific data	☐
Custom advertising data contents	
Set	

Configure Bluetooth iBeacon

Alarm triggered when signal loss occurs for (secs): If no Bluetooth iBeacon is detected within this time period, an alarm notification will be generated.

Lost: When configuring the Bluetooth iBeacon signal loss detection, does the system control OUT1/OUT2?

Trigger OUT1/OUT2: When the Bluetooth iBeacon signal is lost, select to control OUT1/OUT2.

Data Report: Whether this Bluetooth data has been uploaded.

MAC Address: The MAC address for the Bluetooth iBeacon must be configured, as shown in the figure below.

Beacon Parameters Settings

Alarm when signal lost for(secs)

☒ Lost

☐ Trigger OUT1 ☐ Trigger OUT2

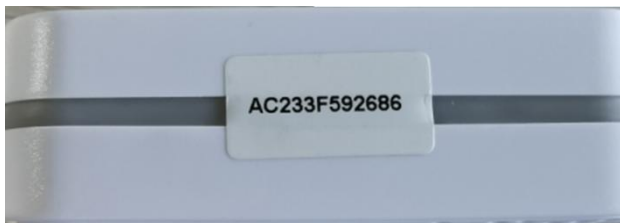
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

☒ Report Data

Device Name

MAC Address

Set



Press and hold the side switch for 3 seconds; if the blue LED on the front of the Bluetooth iBeacon lights up steadily for 5 seconds, it indicates that the device has been powered on and is now searching for nearby devices.



Note: If you cannot find the Bluetooth iBeacon's MAC address, you can configure it using the MEITRACK Manager App.

Configure Bluetooth temperature and humidity sensor

Alarm triggered when signal loss occurs for (secs): If no signal from this Bluetooth temperature and humidity sensor is detected within this time period, an alarm notification will be generated.

Trigger output when: Upon detecting Bluetooth signal loss, excessively high temperature, excessively low temperature, excessively high humidity, or excessively low humidity, OUT1 and OUT2 will be controlled.

Control Output: Select control OUT1/OUT2

Data Report: Whether this Bluetooth data has been uploaded.

MAC Address: The MAC address for the Bluetooth temperature and humidity sensor must be configured; see the figure below.

Temperature and Humidity Senesor Setting

Alarm when signal lost for(secs)

Trigger Output When ☐ Lost ☐ Temperature too high ☐ Temperature too low ☐ Humidity too high ☐ Humidity too low

Control Output ☐ Trigger OUT1 ☒ Trigger OUT2

1 2 3 4

☒ Report Data

Device Name

MAC Address

High Temperature Threshold High Humidity Threshold

Low Temperature Threshold Low Humidity Treshold

Set



Press and hold the rear power switch for 3 seconds; if the blue LED on the front of the Bluetooth temperature and humidity sensor remains lit continuously for 5 seconds, it indicates that the device has been powered on and is searching for signals.



Note: If you cannot locate the MAC address of the Bluetooth temperature and humidity sensor, you can configure it using the MEITRACK Manager App.

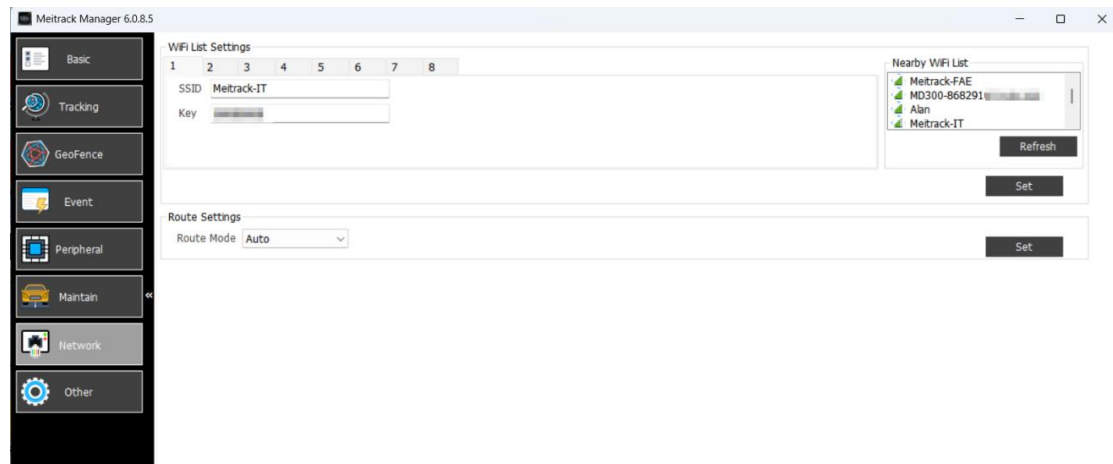
6.3.2 Using MM to configure WiFi for data transmission

Find the Network-Wi-Fi List Settings interface

Click 'Refresh' to search for nearby WiFi networks

When you click on the WiFi link, the SSID will be automatically populated.

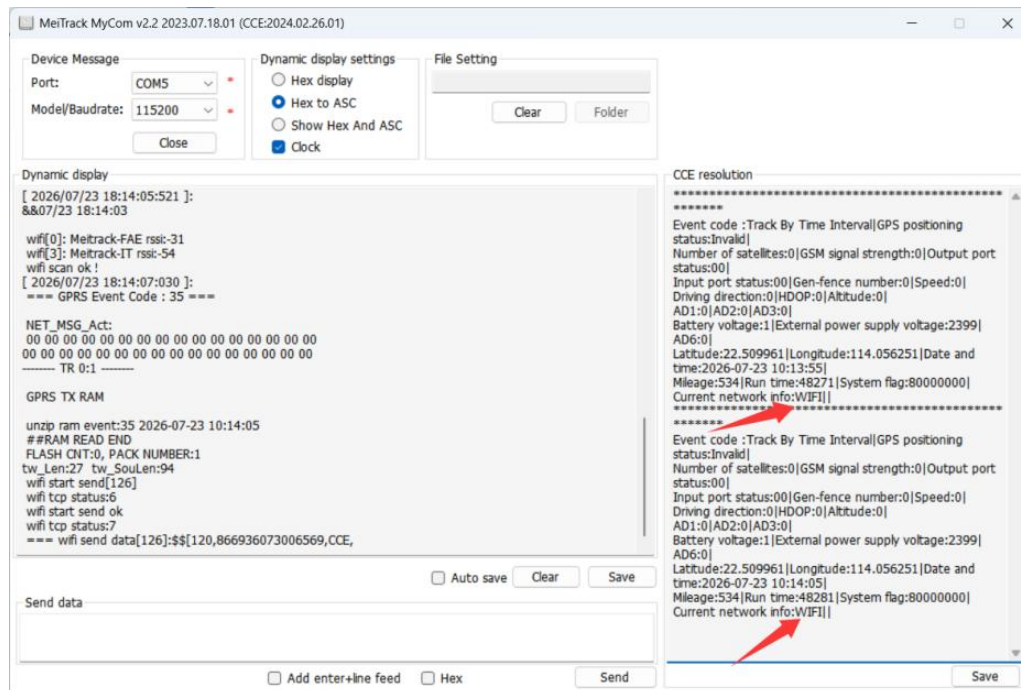
Enter your password and click "Set"



Supports up to 8 WiFi network records; after configuration, relevant WiFi connection information can be queried via the Basic-Device Status API.

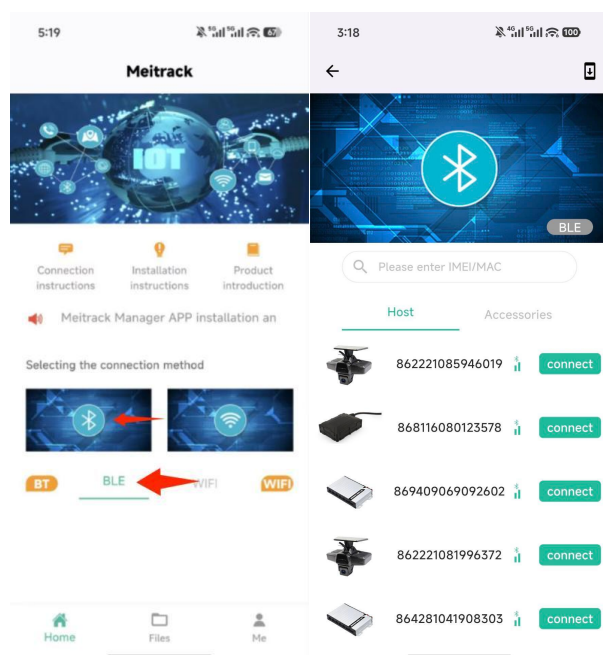
WIFI			
Status: Normal	Work mode: Station	RSSI: 31	SSID: Meitrack-FAE

Data upload via GPRS can also be used to verify the network conditions during the upload process.



7. MEITRACK MT Manager+ App Configuration

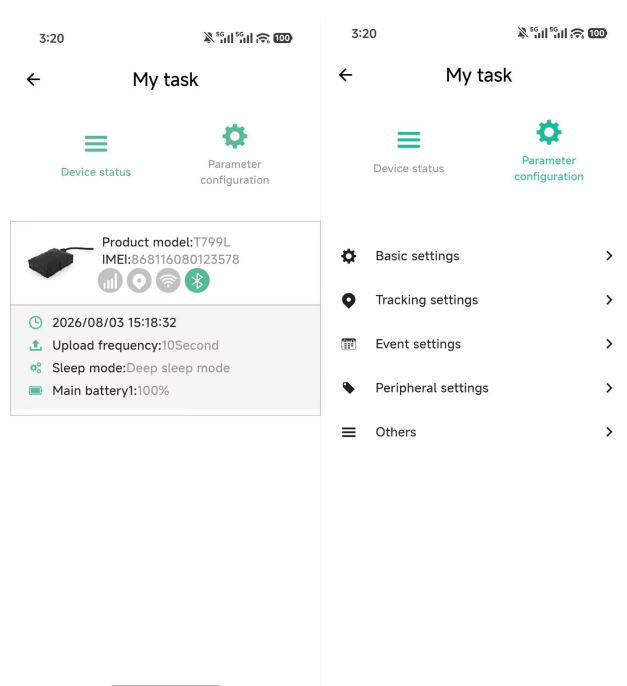
1) Open the MT Manager+ APP, and the app will automatically search for the terminal (if no terminal is found, please connect the terminal's white wire (INPUT2) to a 12–36 V power supply, connect the terminal to the ACC ignition point, and the terminal will automatically switch to Boardcasting Mode for 1 minute); click on the terminal, confirm, and you will enter the device interface. As shown in the figure below:



2) After entering, there are two interfaces, as shown in the figure below.

Device Status: Used to view the current status of the device

Parameter Configuration: Set various parameters



Note: For parameter settings, refer to the MTManager+ User Guide.

Note 2: To achieve full compatibility with the T799L, MT Manager+ version 1.2.41 or later is required.

8 Log in to the MS06 Tracking System

Visit <http://ms06.trackingmate.com>, enter your username and password, and log in to MS06. (To obtain a login account, please purchase one from your supplier.)

MS06 supports the following features:

- Track based on time intervals or distance.
- View your history of trips.
- Set up a polygon-based geographic fence.
- Bind driver and vehicle information.
- View various reports.
- Batch send command.
- Supports OTA updates.

For detailed information, please refer to the MEITRACKGPS Tracking System MS06 User Guide.

If you have any other questions, please send an email to our address info@meitrack.com; we will be happy to assist you.