

MEITRACK T399 Bluetooth Vehicle Tracker User Guide



Change History

File Name	MEITRACK T399 Bluetooth Vehicle Tracker User Guide		
Project	T399 Bluetooth vehicle tracker	Creation Date	2020-12-18
		Update Date	2023-01-13
Subproject	User Guide	Total Pages	23
Version	V2.4	Confidential	External Documentation

Contents

1 Copyright and Disclaimer.....	- 4 -
2 Product Introduction	- 4 -
2.1 Product Features.....	- 4 -
2.1.1 Harsh Acceleration, Harsh Braking, Sharp Left Turn and Sharp Right Turn Alerts.....	- 4 -
2.1.2 GPS Data Filtering	- 4 -
2.1.3 Setting the Output Port Status Based on Events.....	- 5 -
2.1.4 Idling Detection.....	- 5 -
2.1.5 Changing the I/O Port Mode.....	- 5 -
2.1.6 Starting the Engine by RFID or iButton	- 5 -
2.1.7 CAN Bus Interface(Optional).....	- 5 -
3 Product Functions and Specifications.....	- 6 -
3.1 Product Functions.....	- 6 -
3.1.1 Position Tracking.....	- 6 -
3.1.2 Anti-Theft.....	- 6 -
3.1.3 Other Functions	- 6 -
3.1.4 Functions of Optional Accessories	- 7 -
3.2 Product Specifications	- 7 -
3.2.1 Interface Definition	- 9 -
4 Main Device and Accessories	- 10 -
5 Product Appearance	- 11 -
6 First Use.....	- 12 -
6.1 Installing a SIM Card	- 12 -
6.2 LED Indicator.....	- 12 -
6.3 Device Configuration	- 13 -
6.3.1 Installing the USB Driver	- 13 -
6.3.2 Configuring Device Parameters by Meitrack Manager.....	- 13 -
6.3.3 Setting the Bluetooth Temperature and Humidity Sensor and Beacon by Meitrack Manager	- 14 -
6.4 Tracking by Mobile Phone.....	- 16 -
6.5 Common SMS Commands	- 18 -
6.5.1 Querying the Location in Real Time – A00.....	- 18 -
6.5.2 Setting Authorized Phone Numbers – A71	- 18 -
6.5.3 Setting the Smart Sleep Mode – A73	- 18 -
6.5.4 Setting the Idling Alert – B14	- 19 -
6.5.5 Setting the Harsh Acceleration or Harsh Braking Alert – BBD.....	- 19 -
6.5.6 Setting the Sharp Left Turn or Sharp Right Turn Alert – BC6.....	- 20 -
6.5.7 Controlling Output Status – C01	- 20 -
6.5.8 Setting I/O Port Status – C08	- 20 -
7 Logging In to MS03 Tracking System.....	- 21 -
8 Configuring the Meitrack Manager App	- 22 -
9 Mounting the Device	- 23 -

1 Copyright and Disclaimer

Copyright © 2022 MEITRACK. All rights reserved.

, and are trademarks that belong to Meitrack Group and its subsidiary.

The user manual may be changed without notice.

Without prior written consent of Meitrack Group, this user manual, or any part thereof, may not be reproduced for any purpose whatsoever, or transmitted in any form, either electronically or mechanically, including photocopying and recording.

Meitrack Group shall not be liable for direct, indirect, special, incidental, or consequential damages (including but not limited to economic losses, personal injuries, and loss of assets and property) caused by the use, inability, or illegality to use the product or documentation.

2 Product Introduction

The T399 is a vehicle tracker featuring the IP67 water resistance rating, internal Bluetooth module and internal GPS and GSM antennas. This tracking unit can work properly in harsh environments. It can be connected to Bluetooth beacons and Bluetooth temperature and humidity sensors and is specially designed for different types of vehicles, such as cars, motorcycles, yachts, and refrigerator trucks.

2.1 Product Features

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

Users can set the thresholds of harsh acceleration, harsh braking, sharp left turn and sharp right turn alerts by using Meitrack Manager software and a command.

Note: For details about how to set these thresholds on Meitrack Manager, see the following figure.

Event	SMS Header	Setting	SMS		Call	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UI-Sensor Drop	Ult-Sensor Drop	<input type="checkbox"/>				
Sharp Turn to Left	Harsh Cornering	...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sharp Turn to Right	Harsh Cornering	...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Harsh acceleration	Fast Accelerate	...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Idle Overtime	Idle Overtime	...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Idle Recovery(Recovery from Idle Overtime)	Idle Recovery		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fatigue Driving	Fatigue Driving	...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

For details about how to set these thresholds by a command, see the BBD and BC6 commands.

Users can install the device in any direction.

2.1.2 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) To

GPS positioning accuracy < *10 Number of GPS satellites >

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

2.1.3 Setting the Output Port Status Based on Events

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.

2.1.4 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 details, see the section 6.5.4 "Setting the Idling Alert – B14."

2.1.5 Changing the I/O Port Mode

This function is used to change the I/O port mode. For example, change the active negative input to the analog port or positive input.

For details, see the section 6.5.8 "Setting I/O Port Status – C08."

2.1.6 Starting the Engine by RFID or iButton

After swiping the authorized RFID card or iButton key, the driver must start the engine within one minute. Otherwise, the device's output 1 will be triggered (engine cut-off), and thus the driver cannot start the vehicle. If you want to start the engine, you must swipe the iButton key or RFID card again.

Before starting the engine, ensure that:

1. The device's input 2 is connected to the engine detection cable.
2. An iButton key or a RFID card has been authorized.
3. The device's output 1 is connected to the engine control cable through a relay.
4. The RFID ignition function has been enabled by Meitrack Manager or MS03 tracking platform.
5. The RFID event has been enabled on Meitrack Manager. Otherwise, the function will be unavailable.

2.1.7 CAN Bus Interface(Optional)

The device can read CAN bus data of a vehicle that supports the FMS protocol.

The following data can be read: vehicle speed, vehicle control status, accelerator pedal position (%), total fuel consumption, engine rotational speed, total engine run time, total mileage, engine coolant temperature, fuel level, engine torque, ambient temperature, torque at current speed, fuel consumption rate, axle weight, service distance, and instantaneous fuel consumption.

Note:

1. To obtain the preceding data, the vehicle must support the FMS protocol.
2. Install the device based on vehicle types. Connect vehicle's CANH and CANL wires to tracker's CANH and CANL 2. connectors respectively
3. Interface definition is as follows:

11	12
CAN-H	CAN-L

Pin Number	Cable Color	Description
11(CAN-H)	Purple	Used to connect a CAN bus peripheral.
12(CAN-L)	Brown	Used to connect a CAN bus peripheral.

3 Product Functions and Specifications

3.1 Product Functions

3.1.1 Position Tracking

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

3.1.2 Anti-Theft

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

3.1.3 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 MS03 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)

3.1.4 Functions of Optional Accessories

Accessory	Description
iButton reader and iButton key	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.
Wired digital temperature sensor	Check temperature. (At most eight wired temperature sensors are supported, and a sensor must be connected to the A61 sensor box.)
400 mAh/3.7 V high temperature resistant battery (-5°C to 75°C)	The device can continuously work after the external power supply is cut off. When the battery power is low, a low battery alert will be sent.
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.)

3.2 Product Specifications

Item	Specifications
Dimension	80.5 mm x 60 mm x 23.5 mm
Weight	100g
I/O power cable length	50 cm
Power supply	DC 11.4–90 V/1.5 A
Battery	Internal 400 mAh battery (normal temperature resistant: -20°C to 60°C)
Power consumption	Current in standby mode: 65 mA
Operating temperature	-35°C to 80°C (for the device without a battery) -5°C to 75°C (for the device with a high temperature resistant battery)
Operating humidity	5%–95%
LED indicator	Green LED indicator showing the GSM signal Blue LED indicator showing the GPS signal
Button/Switch	1 upgrade button (used to manually upgrade the firmware) 1 power button

Memory	8 MB flash
Sensor	3-axis accelerometer (used to wake the device up by vibration and detect towing alerts, harsh acceleration alerts, and harsh braking alerts)
Frequency band	<p>T399E-GFB5 LTE CAT M1/NB: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26 (CAT M1)/B27 (CAT M1) /B28/B66/B71 (NB) /B85 GSM: 850/900/1800/1900MHz</p> <p>T399L-AFB5: LTE CAT1 :B2/B4/B12 WCDMA: B2/B4/B5</p> <p>T399L-JFB5: LTE CAT1 FDD: :B1/B3/ B8/B18/ B19/B26</p> <p>T399L-GFB5: LTE CAT1 FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 TDD: B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B6/B8/B19 GSM: 850/900/1800/1900MHz</p> <p>T399L-AUFB5: LTE CAT1 FDD: B1/B2/B3/B4/B5/B7/B8/B28 TDD: B40 WCDMA: B1/B2/B5/B8 GSM: 850/900/1800/1900MHz</p> <p>T399L-EA LTE CAT1 FDD: B1/B3/B7/B8/B20/B28 TDD: B38/B40 WCDMA: B1/B8 GSM: 900/1800MHz</p> <p>T399L-ER GSM: B2/B3/B5/B8 LTE-FDD: B1/B3/B5/B7/B8/B20/B28 LTE-TDD: B38/B40/B41</p> <p>T399L-AUR GSM: B2/B3/B5/B8 LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B28/B66 LTE-TDD: B38/B40/B41</p>
GNSS	GPS/GLONASS/BeiDou/Galileo
Positioning sensitivity	-167 dB
Positioning accuracy	2.5 meters
Bluetooth	Support Bluetooth 4.2 and Bluetooth 5.0

GPS/GSM antenna	Built-in antenna
I/O port	<p>At most 5 digital inputs can be set (switched to the positive trigger or negative trigger). IN3 and IN4: switched to the analog input (0–30 V). IN5: 1-Wire port by default; configured as output 2 or the negative trigger.</p> <p>Output 1</p> <p>1 USB port (standard Android USB cables)</p> <p>1 output (5 V)</p> <p>1 RS232 serial port (RS232 version): Ground wire/Tx cable/Rx cable</p> <p>1 CAN bus interface (CAN version):FMS protocol</p> <p>Note: Either the RS232 or CAN version CAN be selected.</p>

3.2.1 Interface Definition

The I/O port cable of the device is an 8-pin cable, including the power port, analog input port, positive trigger input port, negative trigger input port, and output port.



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

Pin Number	Cable Color	Description
1 (Power +)	Red	Positive charge of the power input. Connect to the positive charge of the vehicle battery. Input voltage: 11.4–90 V. 12 V or 24 V is recommended.
2 (GND)	Black	Ground wire. Connect to the negative charge of the vehicle battery or to the negative terminal.
3 (Input 1)	Grey	Digital input (negative trigger by default) Connect to a vehicle door trigger signal cable to detect vehicle door status. (Most vehicles made in China, South Korea and Japan are negative edge-triggered.) The port can be configured as the positive trigger or analog input 4 (0–30 V).
4 (Input 2)	White	Digital input (positive trigger by default). The port can be configured as the negative trigger or analog input 3 (0–30 V).

		Connect to the vehicle's ACC cable by default to detect the vehicle's ACC status.
5 (Input 3)	Blue	Digital input 3 (positive trigger by default). The port can be configured as the negative trigger or analog input 2 (0–30 V).
6 (Input 4)	Yellow	Digital input 4 (positive trigger by default). The port can be configured as the negative trigger or analog input 1 (0–30 V).
7 (Output 1)	Green	Valid: low level (0 V) Invalid: open collector Maximum voltage for the open collector output (invalid): 60 V Maximum current for the low level output (valid): 500 mA Set the PWM output (adjustable output time and pulse width). Connect to an external relay to remotely cut off the vehicle fuel cable or engine power supply.
8 (1-Wire port)	Pink	Connect to the iButton reader and other devices supporting the 1-Wire protocol. The port can be configured as negative input 5 or open collector output 2.
9 (5 V output cable)	Yellow & red	5 V DC output It can be connected to the power supply of a temperature sensor.

10 Ground wire	11 RS232-Tx or CAN-H	12 RS232-Rx or CAN-L
-------------------	-------------------------	-------------------------

Pin Number	Cable Color	Description
10 (GND)	Yellow & brown	Ground wire
11 (RS232-Tx or CAN-H)	Purple	Send data through the RS232 port or used to connect a CAN bus peripheral..
12 (RS232-Rx or CAN-L)	Brown	Send data through the RS232 port or used to connect a CAN bus peripheral...

4 Main Device and Accessories

Standard accessories:

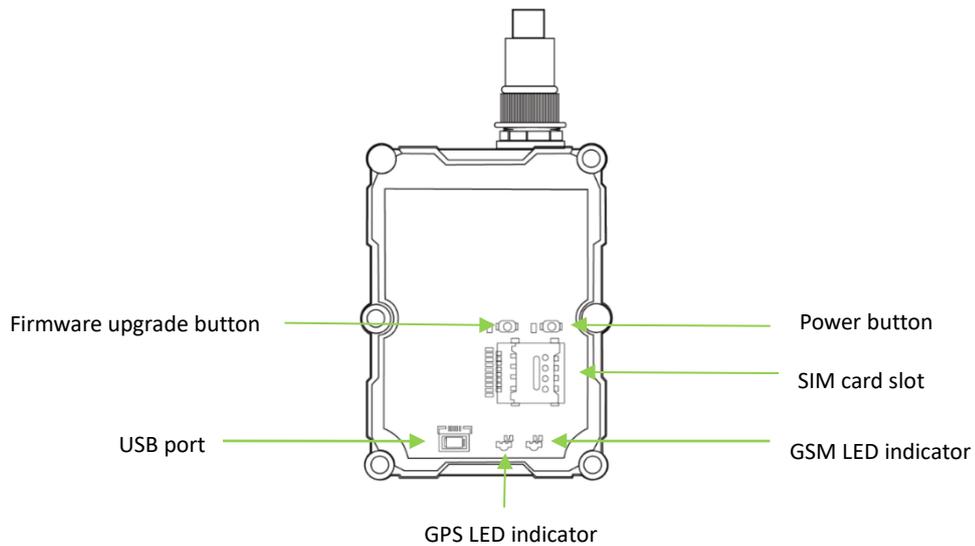
- T399 Bluetooth vehicle tracker (with a cable of 50 cm in length)
- L wrench
- Hexagon screw
- CD download card

Optional accessories:

Optional Accessory	Description
USB cable	Standard Android USB cable
Relay (12 V/24 V)	It is connected to output 1.

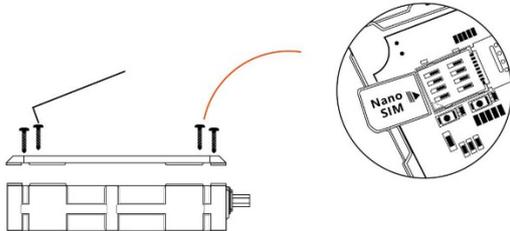
Buzzer	It is connected to output 1 or the 1-Wire port (pink cable), which needs to be set to output 2. The buzzer is powered by an external 5 V power supply.
A52 digital temperature sensor	It is connected to the 1-Wire port (pink cable).
iButton reader	It is connected to the 1-Wire port (pink cable).
A53 fuel level sensor (analog input voltage)	It is connected to analog input 1 (blue cable).
High temperature resistant battery (400 mAh)	Optional (-5°C to 75°C)
External GPS antenna	3 meters in length (two hardware versions available: internal or external antenna)
Bluetooth temperature and humidity sensor	
Bluetooth beacon	
Ultrasonic fuel level sensor	It is connected to the RS232 port.
RFID reader	It is connected to the RS232 port.

5 Product Appearance



6 First Use

6.1 Installing a SIM Card



Perform the following steps to install a SIM card:

1. Use the screwdriver to open the back cover of the device.
2. Insert the Nano SIM card into the card slot (with the gold-plated contacts facing down).
3. Close the cover, and tighten the screws.

Note:

- Ensure that the SIM card has sufficient balance. (After the SIM card is installed properly, make calls and send SMS messages to confirm it.)
- Ensure that the PIN lock of the SIM card has been closed properly.
- Ensure that the SIM card in the device has subscribed the caller ID service if you want to use your authorized phone numbers to call the device.
- Power off the device before installing the SIM card.

6.2 LED Indicator

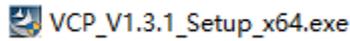
To turn on the device, press and hold down the power button for 3–5 seconds or connect the device to an external power supply (11.4–90 V).

GPS LED Indicator (Blue)	
Blink fast (once every 0.1 seconds)	The device is being initialized, or the battery power is low.
Blink fast (0.1 seconds on and 2.9 seconds off)	A GPS signal is received.
Blink slowly (1 second on and 2 seconds off)	No GPS signal is received.
GSM LED Indicator (Green)	
Steady on	There is an incoming call, or the subscriber you dialed is busy now.
Blink fast (once every 0.1 seconds)	The device is being initialized.
Blink fast (0.1 seconds on and 2.9 seconds off)	A signal is received from a base station.
Blink slowly (1 second on and 2 seconds off)	No signal is received from a base station.

6.3 Device Configuration

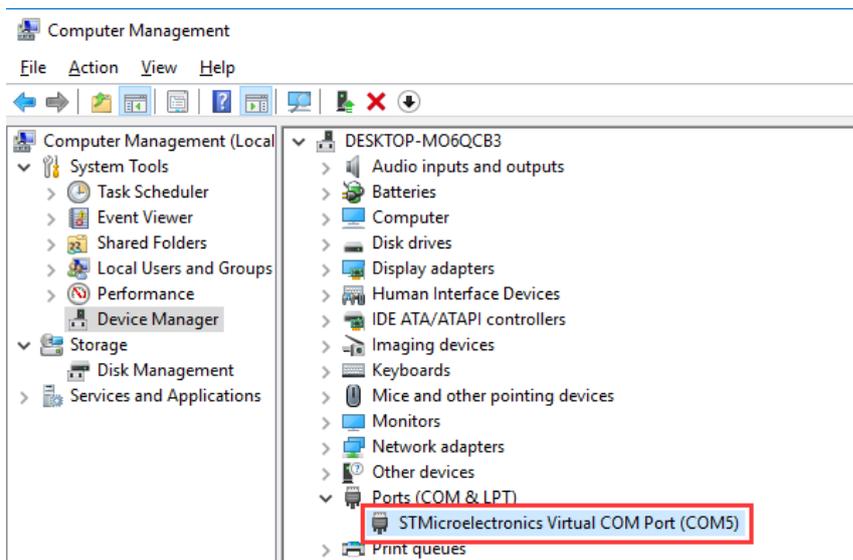
6.3.1 Installing the USB Driver

1. Visit http://67.203.13.28:9090/play/STM32_USB_Driver.rar, and download the STM32 USB driver.



2. After the installation is finished, connect the device to the computer through the USB cable. If **STMicroelectronics Virtual COM Port (COM5)** is displayed on the **Device Manager** page, the driver is installed successfully.

Caution: Before connecting the device to the computer through the USB cable, turn on the device first. Otherwise, the device cannot be detected by Meitrack Manager.



Note: After the driver installation is finished, if the preceding figure is not displayed, copy the **mdmcpq.inf** file to the **C:/windows/inf/** directory and **usbser.sys** file to the **C:/windows/system32/drivers/** directory, and then restart the computer.

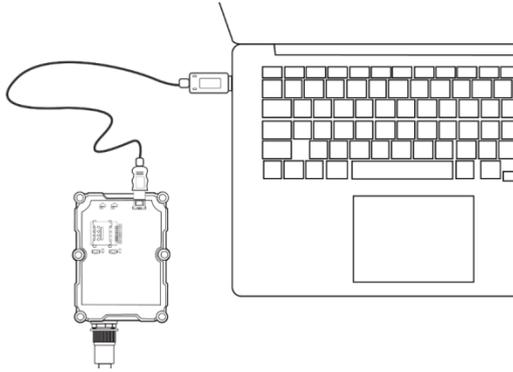


6.3.2 Configuring Device Parameters by Meitrack Manager

This section describes how to use Meitrack Manager to configure the device on a computer.

Operation steps:

1. Install the USB driver and Meitrack Manager.
2. Connect the device to a computer by using the USB cable, as shown in the following figure.



3. Run Meitrack Manager, then the following dialog box will appear:

4. Turn on the device, then Meitrack Manager will automatically detect the device model and the configuration interface (default parameter settings) will appear accordingly.

Note: Visit <http://67.203.13.28:9090/play/MMPlusSetup.rar> and download Meitrack Manager.

For details about Meitrack Manager, see the *MEITRACK Manager User Guide*.

6.3.3 Setting the Bluetooth Temperature and Humidity Sensor and Beacon by Meitrack Manager

There are three Bluetooth modes as follows:

Broadcasting mode (default): Used to connect the Meitrack Manager app.

Scanning mode: indicates the main device mode and used to detect nearby Bluetooth devices. If the ACC (input 2) is triggered, the device is switched to broadcasting mode. If the Meitrack Manager app fails to be connected within one minute, the device is switched to scanning mode.

Off: Disable the Bluetooth function.

Bluetooth Settings	
Mode	<input type="text" value="Broadcasting mod"/>
Broadcast name	<input type="text" value="868817040201061"/>
Bluetooth password	<input type="text"/>
Company Identifier Code	<input type="text" value="0000"/>
Broadcasting interval(ms)	<input type="text" value="1000"/>
<input type="checkbox"/> Manufacturer specific data	
Custom advertising data contents	<input type="text"/>

Set Bluetooth beacon parameters.

Alarm when signal lost for(secs): If the Bluetooth beacon fails to be detected within a specified period, an alert is generated.

Lost: Determine whether output 1 or output 2 is controlled when Bluetooth beacon signals are lost.

Trigger OUT1/Trigger OUT2: Output 1 or output 2 is controlled when Bluetooth beacon signals are lost.

Report Data: Upload Bluetooth data or not.

MAC Address: indicates the MAC code of the Bluetooth beacon, as shown in the following figures.

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 down the button on the side of the Bluetooth beacon for three seconds. Then the blue LED indicator is on for five seconds, which means the Bluetooth beacon is powered on and starts to search information.



Note: If the MAC code of the Bluetooth beacon fails to be found, set it by Meitrack Manager app.

Set Bluetooth temperature and humidity sensor parameters.

Alarm when signal lost for(secs): If the Bluetooth temperature and humidity sensor fails to be detected within a specified period, an alert is generated.

Trigger output when: Output 1 or output 2 is controlled when Bluetooth signals are lost, the temperature is too high or low, or the humidity is too high or low.

Control output: Output 1 or output 2 is controlled.

Report Data: Upload Bluetooth data or not.

MAC Address: indicates the MAC code of the Bluetooth temperature and humidity sensor, as shown in the following figures.

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



Press and hold down the button on the back of the Bluetooth temperature and humidity sensor for three seconds. Then the blue LED indicator is on for five seconds, which means the Bluetooth temperature and humidity sensor is powered on and starts to search information.



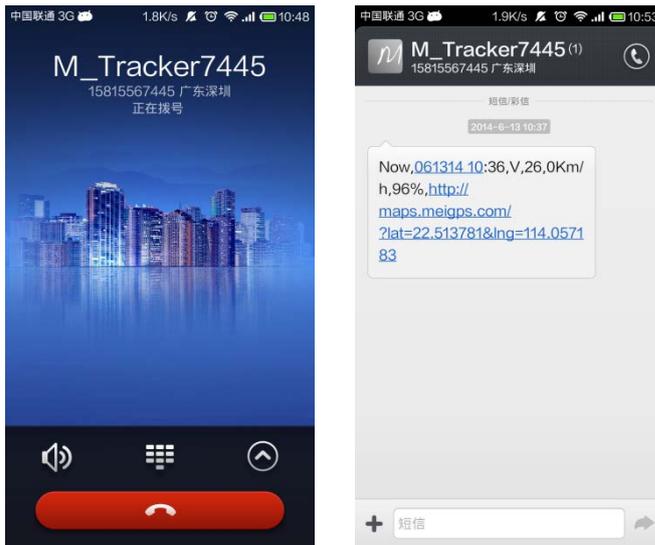
Note: If the MAC code of the Bluetooth temperature and humidity sensor fails to be found, set it by Meitrack Manager app.

6.4 Tracking by Mobile Phone

Call or send the **0000,A00** command by SMS to the device's SIM card number. The device will reply to an SMS with a map link.

Click the SMS link. The device's location will be displayed on Google Maps on your mobile phone.

Note: Ensure that the device's SIM card number has subscribed the caller ID service. Otherwise, the tracking function by mobile phone will be unavailable.



SMS example:

Now,061314 10:36,V,26,0Km/h,96%,http://maps.meigps.com/?lat=22.513781&lng=114.057183

The following table describes the SMS format:

Parameter	Description	Remarks
Now	Indicates the current location.	Alert type: indicates the current location or alert type.
061314 10:36	Indicates the date and time in MMDDYY hh:mm format.	Time
V	The GPS is invalid.	A = Valid V = Invalid
26	Indicates the GSM signal strength.	Value range: 1–32 The larger the value is, the stronger the signal is. If the parameter value is greater than 12, it means that the GPRS signal strength is good.
0Km/h	The driving speed is 0.	Speed
96%	The remaining battery capacity is 96%.	Remaining battery capacity
http://maps.meigps.com/?lat=22.513781&lng=114.057183	This is a map link with a latitude and longitude. lat indicates the latitude. Latitude: 22.513781. lng indicates the longitude. Longitude: 114.057183.	You can visit the map through a mobile phone. lat indicates the latitude, and lng indicates the longitude.

If your mobile phone does not support HTTP, enter the latitude and longitude on Google Maps to query a location.

(Note: The two digits placed before the decimal point are a latitude, and the three digits placed before the decimal point are a longitude.)



6.5 Common SMS Commands

6.5.1 Querying the Location in Real Time – A00

SMS sending: 0000,A00

SMS reply: Now,Date and time,Positioning status,GSM signal strength,Speed,Remaining battery capacity,Map link

Description: This command is used to query the current location of the device.

Example:

SMS sending: 0000,A00

SMS reply: Now,160721 16:40,V,12,56Km/h,97%,<http://maps.meigps.com/?lat=22.513015&lng=114.057235>

6.5.2 Setting Authorized Phone Numbers – A71

SMS sending: 0000,A71,Phone number 1,Phone number 2,Phone number 3

SMS reply: IMEI,A71,OK

Description:

Phone number: contains a maximum of 16 bytes. If no phone numbers are set, leave them blank. Phone numbers are empty by default.

Phone number 1/2/3: Set these phone numbers to authorized phone numbers. When you call the device by using these phone numbers, you will receive an SMS notification about the location, geo-fence alert and low battery alert and an SMS notification or a call about the unauthorized door opening and unauthorized ignition.

If you want to delete all authorized phone numbers, send **0000,A71**.

Example:

SMS sending: 0000,A71,13811111111,13822222222,13833333333

SMS reply: 353358017784062,A71,OK

6.5.3 Setting the Smart Sleep Mode – A73

SMS sending: 0000,A73,Sleep level

SMS reply: IMEI,A73,OK

Description:

Sleep level = 0: The sleep mode is disabled (default).

Sleep level = 1: The device enters normal sleep mode. The 3G module always works, and the GPS module occasionally enters sleep mode. The device works 25% longer in normal sleep mode than that in normal working mode. This mode is not recommended for short interval tracking because it will affect the precision of travel routes.

Sleep level = 2: The device enters deep sleep mode. If no event (such as the SOS, button triggered, incoming calls, SMS messages, or vibration) is triggered after five minutes, the GPS module will stop working and the 3G module will enter sleep mode. Once an event is triggered, the GPS module and 3G module will be woken up. Then the above actions will be cycled.

Note: In any condition, you can use an SMS command to disable the sleep mode, and then the device exits the sleep mode and returns to the normal working mode.

Example:

SMS sending: 0000,A73,2

SMS reply: 353358017784062,A73,OK

6.5.4 Setting the Idling Alert – B14

SMS sending: 0000,B14,*Consecutive time (second)*,*Speed (km/h)*,*Alert Time (second)*

SMS reply: IMEI,B14,OK

Description:

This command is used to detect whether an idling alert is generated. The device must be connected to ACC detection. Otherwise, the function will be unavailable.

Consecutive time and alert time: indicate the consecutive time for the speed and alert time respectively. The value of the two parameters ranges from **0** to **60000**. Unit: second.

Speed: The parameter value ranges from **0** to **200**. Unit: km/h. (Recommended value: 5 km/h)

An idling alert will be generated when the following conditions are met simultaneously: the device detects that the ACC is on, the driving speed is smaller than the preset value, and the consecutive time for the speed is larger than the preset value.

If you want to read the command settings, send **B14**.

Note: The alert activation conditions may be affected due to static drift. Therefore, it is recommended that you should set the speed to a value between 5 km to 10 km and the consecutive time for the speed to a value that is larger than 60 seconds. The alert time is unavailable temporarily. It is recommended that you should set this parameter to **0**.

Example:

SMS sending: 0000,B14,60,5,0

SMS reply: 353358017784062,B14,OK

6.5.5 Setting the Harsh Acceleration or Harsh Braking Alert – BBD

SMS sending: BBD,*X1*,*Y1*,*Z1*,*X2*,*Y2*,*Z2*

SMS reply: IMEI,BBD,OK

Description:

X1: indicates the initial speed after the vehicle accelerates suddenly. Unit: km/h. The maximum parameter value is **480**.

Y1: indicates the increased speed after the vehicle accelerates suddenly. Unit: km/hr/sec. The parameter value ranges from **0** to **1000**.

Z1: indicates the detection time of the harsh acceleration alert. Unit: second. The parameter value ranges from **1** to **255**.

X2: indicates the initial speed after the driver brakes sharply. Unit: km/h. The maximum parameter value is **480**.

Y2: indicates the increased speed after the driver brakes sharply. Unit: km/hr/sec. The parameter value ranges from -

1000 to 0.

Z2: indicates the detection time of the harsh braking alert. Unit: second. The parameter value ranges from **1** to **255**.

If you want to read the command settings, send **BBD**.

Note: When all conditions of *X1*, *Y1* and *Z1* (or *X2*, *Y2* and *Z2*) are met, a harsh acceleration alert (or harsh braking alert) will be triggered. For example, when the driving speed is greater than *X1*, the device starts to detect harsh acceleration.

If the increased speed is greater than *Y1* within the time period of *Z1*, a harsh acceleration alert is triggered.

Example:

SMS sending: 0000,BBD,30,10,3,50,10,3

SMS reply: 353358017784062,BBD,OK

6.5.6 Setting the Sharp Left Turn or Sharp Right Turn Alert – BC6

SMS sending: BC6,X,Y,Z

SMS reply: IMEI,BC6,OK

Description:

X: indicates the angle. The parameter value ranges from **0** to **359**.

Y: indicates the consecutive cornering time. The parameter value ranges from **2** to **100**. Unit: second.

Z: indicates the driving speed. The parameter value ranges from **0** to **255**. Unit: km/h.

If you want to read the command settings, send **BC6**.

Note: When all conditions of *X*, *Y* and *Z* are met, a sharp left turn or sharp right turn alert will be triggered. For example, when the driving speed is greater than *Z* and the device detects the angle is greater than *X* within the time period of *Y*, a sharp left turn or sharp right turn alert will be triggered.

Example:

SMS sending: 0000,BC6,90,10,60

SMS reply: 353358017784062,BC6,OK

6.5.7 Controlling Output Status – C01

SMS sending: 0000,C01,*Speed*,ABCDE

SMS reply: IMEI,C01,OK

Description:

Speed = 0: No speed limit exists. When the device receives the command, the function will take effect immediately.

Speed = [1...255]: Set the speed limit. Unit: km/h. When the driving speed is lower than the speed limit, the function will take effect.

ABCDE: indicate outputs 1–5 respectively. When the parameter value is **0**, the output is disabled. When the parameter value is **1**, data will be generated according to the preset output mode. When the parameter value is **2**, the previous status will be remained unchanged.

Example:

SMS sending: 0000,C01,10,10000

SMS reply: 353358017784062,C01,OK

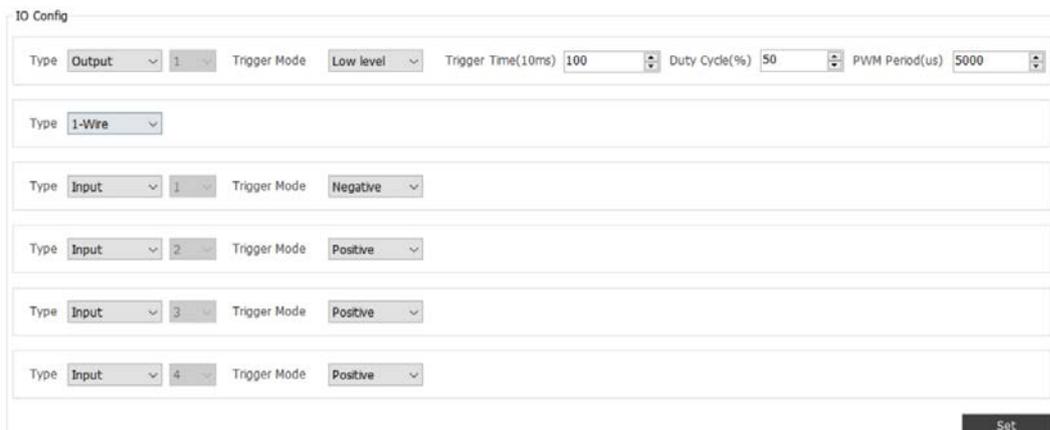
6.5.8 Setting I/O Port Status – C08

SMS sending: 0000,C08,*IO0:Mn*,*IO1:Mn*,*IO2:Mn*,*IO3:Mn*,*IO4:Mn*,*IO5:Mn*

SMS reply: IMEI,C08,*IO0:Mn*,*IO1:Mn*,*IO2:Mn*,*IO3:Mn*,*IO4:Mn*,*IO5:Mn*

Description:

1. **IO0, IO1, IO2, IO3, IO4** and **IO5** indicate I/O ports.
 IO0: open collector 1 by default (green cable)
 IO1: 1-Wire port by default (pink cable)
 IO2: negative input 1 by default (grey cable)
 IO3: positive input 2 by default (white cable)
 IO4: positive input 3 by default (blue cable)
 IO5: positive input 4 by default (yellow cable)
2. **Mn** indicates the I/O port status. The parameter value is as follows:
 0: low trigger
 1: high trigger
 2: analog input
 3: remote control input
 4: open collector
 5: low output
 6: PWM output
 7: buzzer alert output
 8: 1-Wire
3. You can set one or multiple input ports simultaneously. If you want to read the command settings, send **0000,C08**.



Example:

SMS sending: 0000,C08,IO0:5

SMS reply: 353358017784062,C08,IO0:5,IO1:0,IO2:2,IO3:1,IO4:1;IO5:1

For details about SMS commands, see the *MEITRACK SMS Protocol*.

Note:

1. The default SMS command password is 0000. You can change the password by using Meitrack Manager or an SMS command.
2. The device can be configured by an SMS command with a correct password. After an authorized phone number is set, only the authorized phone number can receive the preset SMS event report.

7 Logging In to MS03 Tracking System

Visit <http://ms03.trackingmate.com>, enter the user name and password, and log in to the MS03. (Purchase the login account from your provider.)

For more information about how to add a device, see the *MEITRACK MS03 GPS Tracking System User Guide* (chapter 4 "Getting Started").

The MS03 platform supports the following functions:

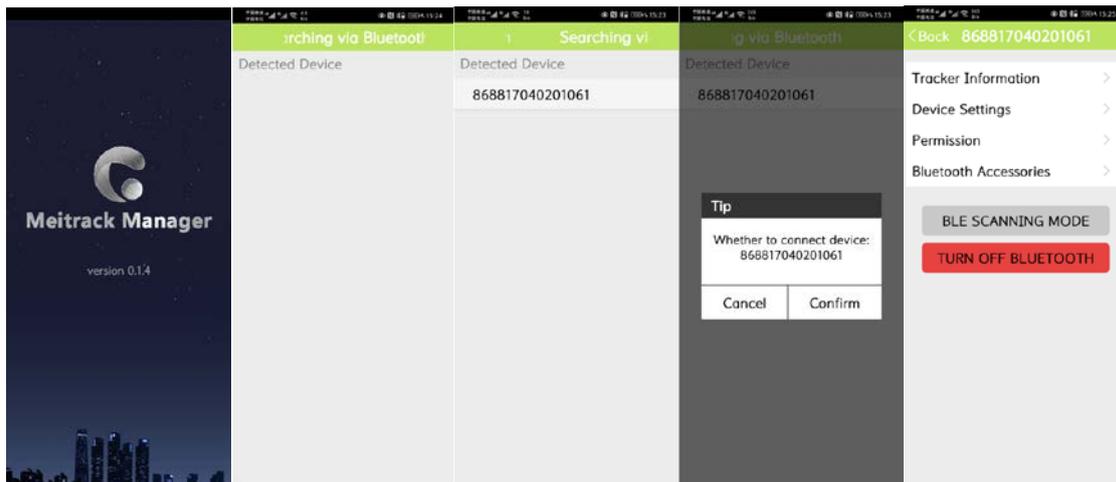
- Track by time interval or distance.
- Query historical trips.
- Set polygonal geo-fences.
- Bind driver and vehicle information.
- View different types of reports.
- Send commands in batches.
- Support OTA updates.

For details, see the *MEITRACK MS03 GPS Tracking System User Guide*.

8 Configuring the Meitrack Manager App

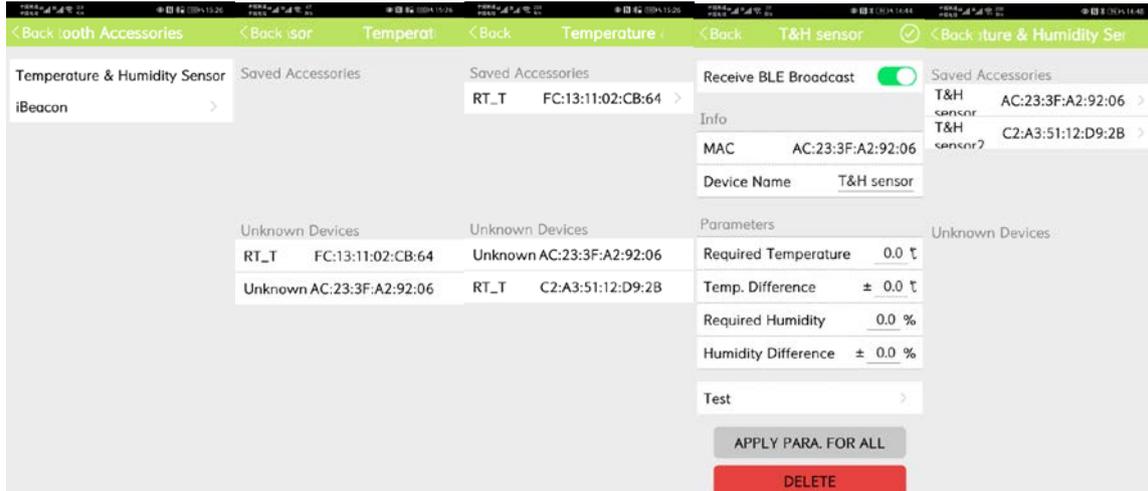
1) Start the Meitrack Manager app. Trackers will be detected automatically. After a tracker is detected, select one and click **Confirm**. Then the device configuration page is displayed.

If a tracker fails to be detected, connect the white cable (input 2) of the device to the power cable (12–36 V) and the analog device to ACC ignition cable. Then the device is switched to broadcasting mode for one minute.



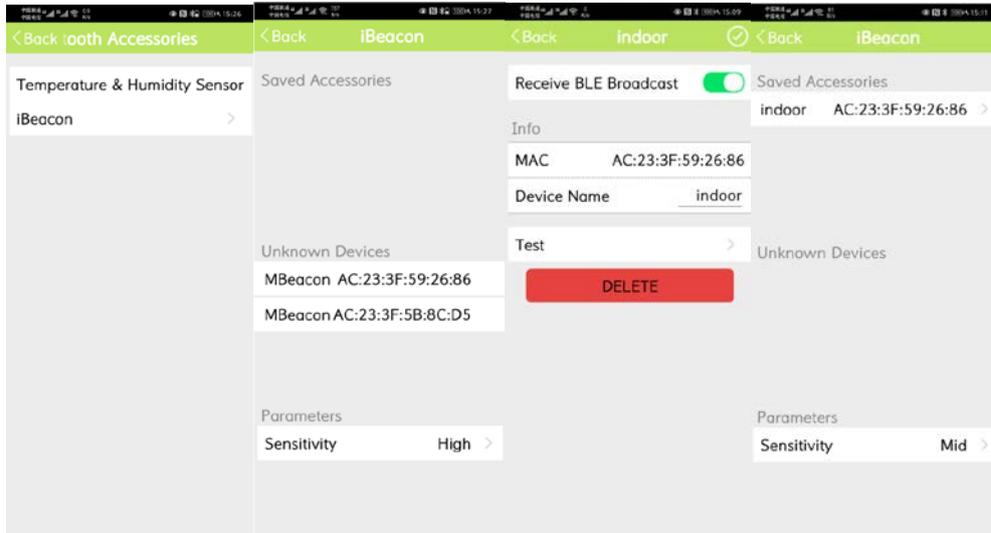
2) Set Bluetooth temperature and humidity sensor parameters.

Select **Temperature & Humidity Sensor**. Nearby Bluetooth temperature and humidity sensors will be detected automatically. Then select one and set sensor parameters as required, as shown in the following figures.



3) Set Bluetooth beacon parameters.

Select **iBeacon**. Nearby Bluetooth beacons will be detected automatically. Then select one and set Bluetooth beacon parameters as required, as shown in the following figures.



9 Mounting the Device

Mount the device in the vehicle by a cable tie.

Note: Do not install it at a metal covered place.

If you have any questions, do not hesitate to email us at info@meitrack.com.