

MEITRACK TS299L Cigarette Lighter GPS Tracker User Guide



Change History




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1 Copyright and Disclaimer

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2 Friendly Reminder

2.1 Use Notice

- Power off the device before you go to a gas station, hazard zone, or a place where wireless products are prohibited.
- Do not expose the device to rain or extremely hot temperatures.
- The device's tracking function may be unavailable due to force majeure (like bad weather and GPS blind spots).
- The device's operating voltage is DC 11.5–36 V, and you can install it into a 12 V or 24 V vehicle.
- Ensure that the vehicle engine is cut off before installation.

2.2 Device and Accessories

Check whether the product and standard accessories are included according to the following table. You can additionally purchase optional accessories as required.

Device and Standard Accessories		
NO.	Item	Quantity
1	TS299L tracker	1
2	Packing box	1
3	CD download card	1

Notes: *USB cable is optional, is common Android cable.*

3 Product Introduction

3.1 Product Overview

The TS299L is a vehicle GPS tracker equipped with a cigarette lighter plug, which supports vehicle positioning, live tracking, and anti-theft functions.

With a standard cigarette lighter plug, it can be easily installed. The device has an internal battery that supplies power to it for a limited time period.

The TS299L tracker is a perfect choice for private cars and other motor vehicles equipped with a cigarette lighter receptacle.

3.2 Product Specifications

Item	Specifications	
Dimension	105 mm x 51 mm x 23.5 mm	
Weight	60g	
Power supply	DC 11.5–36 V / 1 A	
Backup battery(opention)	110 mAh/3.7 V	
Battery life	Power-saving mode: 12 hours Normal working mode: 1 hour	
Power consumption	Current in standby mode: 100 mA	
Operating temperature	-20°C to 55°C	
Operating humidity	5%–95%	
LED indicator	2 LED indicators showing GSM and GPS status	
Button/Switch	1 SOS button	
Memory	8 MB	
Sensor	3-axis accelerometer	
Frequency band	No WiFi version band: TS299L-E: LTE FDD:B1/B3/B5/B7/B8/B20/B28A WCDMA: B1/B8 GSM/GPRS: B3/B8 TS299L-A: LTE FDD:B2/B4/B12 WCDMA: B2/B4/B5 TS299L-AU: LTE FDD:B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD:B40 WCDMA: B1/B2/B5/B8 GSM/GPRS: B2/B3/B5/B8 TS299L-J: LTE FDD: B1/B3/B8/B18/B19/26 support Bluetooth and no wifi version band: TS299E: GSM:850\900\1800\1900 Cat M1/Cat NB2: LTE- FDD:B1/B2/B3/B4/B5/B8/B12/B13/B14/B18/B19/B20/B25/B26/B27/B28/B66/B71/B85	WiFi version band: TS299L-E: LTE FDD:B1/B3/B5/B7/B8/B20/ WCDMA: B1/B5/B8 GSM/GPRS: B3/B8 TS299L-A: LTE FDD:B2/B4/B12 WCDMA: B2/B4/B5 TS299L-AU: LTE FDD:B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD:B40 WCDMA: B1/B2/B5/B8 GSM/GPRS: B2/B3/B5/B8 TS299L-J: LTE FDD: B1/B3/B8/B18/B19/26 WCDMA: B1/B6/B8/19 TDD: B41
GPS sensitivity	-161 dB	
Positioning accuracy	2.5 meters	

I/O port	1 USB port
WiFi function (optional)	2.4 GHz WiFi hotspot
Bluetooth	Support Bluetooth 4.2 and Bluetooth 5.0 (Only TS299E support)

3.3 Product Functions

3.3.1 Position Tracking

Function	Description
Real-time tracking	After sending a command, you can query the current device location from the platform or your mobile phone.
Tracking by time interval	After you set the time interval, the device will report its location information to the platform or mobile phone at the preset time interval.
Tracking by distance	After you set the distance, the device will report its location information to the platform based on the preset distance.
Cornering report	Set the cornering angle. When the driving angle is greater than the preset value, the device will report its location information. This report is used to make the driving route smoother when no data is sent at the preset time interval or distance interval while the vehicle corners.

3.3.2 Alerts

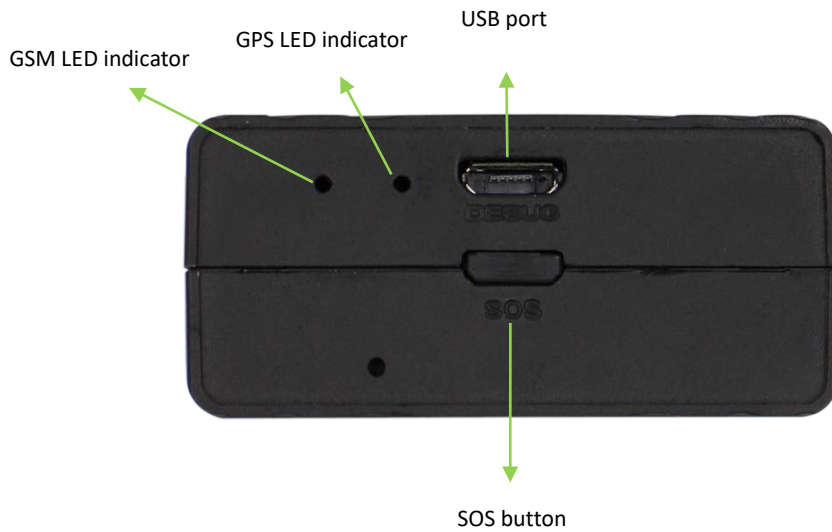
Function	Description
External power supply cut-off alert	When the device is removed from the cigarette lighter receptacle, an alert will be reported to the platform or be notified to the user.
Speeding	You can set the maximum speed threshold by using the platform, Meitrack Manager software or SMS. When the driving speed exceeds the preset value, an alert will be sent.
Geo-fence	With a coordinate and radius, you can set a circular or polygonal geo-fence. When the vehicle enters or exits the preset geo-fence, an alert will be reported to the platform or be notified to the user by SMS. A maximum of eight circular geo-fences and eight polygonal geo-fences can be set.
SOS alert	When the SOS button is pressed, an alert will be sent.
Low battery alert for the external power supply	When the voltage of the external power supply is lower than 11.4 V or 22.8 V, an alert will be sent.
Device status alert	When the device is powered on or powered off, a device status alert will be sent. When the internal battery power is low, a low battery alert will be sent.

3.3.3 Other Functions

Function	Description
Over-the-Air (OTA) update	Update the device firmware by OTA.

GPS log	When the GPS is valid, the device will record the driving routes at the preset time interval. You can use Meitrack Manager software to read these records. A maximum of 130,000 records can be stored.
GPS + LBS positioning	When a valid GPS signal cannot be received, the GSM base station will be used for assisted positioning to ensure that the vehicle can be located at any time.
GPS blind spot report	When the vehicle enters or exits an area without GPS signal, the device will send a report to the platform.
Auto data storage in a GSM blind spot/Data resending	When data fails to be sent to the platform in a GSM blind spot, the data will be automatically stored. When the GSM becomes valid, the data will be automatically sent to the platform. The built-in 8 MB flash memory can store 8,192 pieces of GPRS data and 256 SMS messages.
Mileage report	All the GPRS data contains the vehicle mileage. For the first use, you can modify the default mileage.
Maintenance report	You can set the maintenance mileage and time by using the platform or Meitrack Manager software. When the vehicle maintenance mileage or time reaches the preset value, the device will send a maintenance alert.
External power protection	When the device detects that the voltage of the external power supply is lower than the rated voltage and the device stops moving, it will automatically enter the deep sleep mode.
WiFi function (optional)	The device supports the 2.4 GHz WiFi hotspot function, and a maximum of eight WiFi networks can be connected. You can use Meitrack Manager software to configure the WiFi function.

4 Appearance



Cigarette lighter plug

NO.	Item	Description
1	USB port	The USB port is used to charge the device, configure device parameters, and upgrade software.
2	GSM LED indicator (green)	Indicates the GSM status. For details, see the section 5.2 "LED Indicator."
3	GPS LED indicator (blue)	Indicates the GPS status. For details, see the section 5.2 "LED Indicator."
4	SOS button	Press and hold down the button for two seconds in the case of emergency. Then the device will beep once. The device will also dial three authorized phone numbers 1, 2, and 3 in sequence. It will stop dialing when a phone number responds. Meanwhile, the device will send an SMS with positioning information to authorized

		phone numbers. If the GPRS function is enabled, the device will send a GPRS message to the server. In the sleep mode, short press the button to wake the device up.
5	Cigarette lighter plug	Put the cigarette lighter plug in the vehicle's cigarette lighter receptacle.

5 How to Use

5.1 Installing a SIM Card

To install a SIM card, open the SIM card cover, insert the card (card chip facing up), and close the card cover.



Note:

- Ensure that the SIM card has sufficient balance.
- Ensure that the phone card PIN lock 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 number to call the device.
- Power off the device before installing the SIM card.

5.2 LED Indicator

GPS LED Indicator (Blue)	
Steady on	A button or an input is triggered.
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 GSM signal is received.
Blink slowly (1 second on and 2 seconds off)	No GSM signal is received.

Note: When the device is in the sleep mode, the GSM and GPS LED indicators are off.

5.3 Tracking by Mobile Phone

Call the device's SIM card number, and hang up after the dial tone rings 2–3 times. 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.



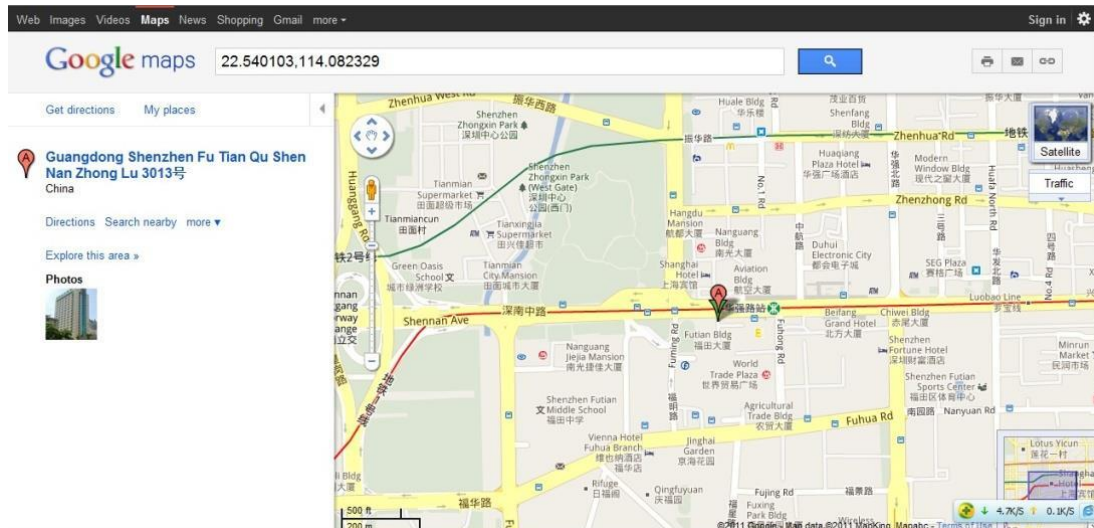
SMS example:

Now,110721 16:40,V,10,0Km/h,97%,http://maps.meigps.com/?lat=22.513015&lng=114.057235

The following table describes the SMS format:

Parameter	Description	Remarks
Now	Indicates the current location.	SMS header: indicates the current location or the alert type. For details about the SMS header, see the <i>MEITRACK SMS Protocol</i> and <i>MEITRACK GPRS Protocol</i> .
110721 16:40	Indicates the date and time in MMDDYY hh:mm format.	Time format: MMDDYY hh:mm
V	The GPS is invalid.	A = Valid V = Invalid
10	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 , GPRS reaches the normal level.
0Km/h	Indicates the speed.	Unit: km/h. The speed is 0.
97%	Indicates the remaining battery capacity.	The remaining battery capacity is 97%.
http://maps.meigps.com/?lat=22.513015&lng=114.057235	This is a map link with a latitude and longitude. lat indicates the latitude. Latitude: 22.513015. lng indicates the longitude. Longitude: 114.057235.	You can visit the map through a mobile phone.

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



More SMS commands

You can configure the device on a mobile phone or on a computer by using Meitrack Manager. For details, see the section 5.4 "Configuring Device Parameters by Meitrack Manager."

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.

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

Phone number 1: SOS phone number. When you call the device by using the phone number, you will receive an SMS notification about the location, geo-fence alert and low battery alert.

Phone number 2/3: When you call the device by using these phone numbers, you will receive an SMS notification about location information.

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

When the SOS button is pressed, the device will dial phone numbers 1, 2, and 3 in sequence. It will stop dialing when a phone number responds. Meanwhile, the device will send an alert to phone number 1.

Example:

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

SMS reply: 353358017784062,A71,OK

5.3.2 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 the normal sleep mode. The GPS module works for five minutes, then the device will stop working for five minutes. The above actions will be cycled, but the GSM module always works. GPRS and SMS scheduling functions are not affected.

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

In any condition, you can disable the sleep mode, and then the device exits the sleep mode and returns to the normal working mode.

In the deep sleep mode, if you want to obtain the location by the SMS or call, when the GPS is valid, the device will reply to a GPS map link; when the GPS is invalid, it will reply to the most recent GPS map link.

After the device enters the deep sleep mode, functions of Tracking By Time Interval, Tracking By Distance, and GPSLog are not available until the device is woken up from the deep sleep mode.

The device can be woken up from the sleep mode by pressing a button, making a call, or sending an SMS message. After events are handled, the device will enter the sleep mode again.

Example:

SMS sending: 0000,A73,2

SMS reply: 353358017784062,A73,OK

5.3.3 Setting the SMS Time Zone – B35

SMS sending: 0000,B35,*SMS minute*

SMS reply: IMEI,B35,OK

Description:

The default time zone of the device is GMT 0 (480 minutes). This command is used to change the time zone of SMS reports to the local time zone. The time zone of SMS reports is different from that of GPRS data packets. In addition, the GPS Log time zone is GMT 0.

SMS minute = 0: The time zone is GMT 0.

SMS minute = [-32768...32767], set time zones. Set the China time zone value to **480**.

Example:

SMS sending: 0000,B35,480

SMS reply: 353358017784062,B35,OK (set the Beijing time zone)

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

5.4 Configuring Device Parameters by Meitrack Manager

This section describes how to use Meitrack Manager to configure the device on a computer. For details about Meitrack Manager, see the *MEITRACK Manager User Guide*.

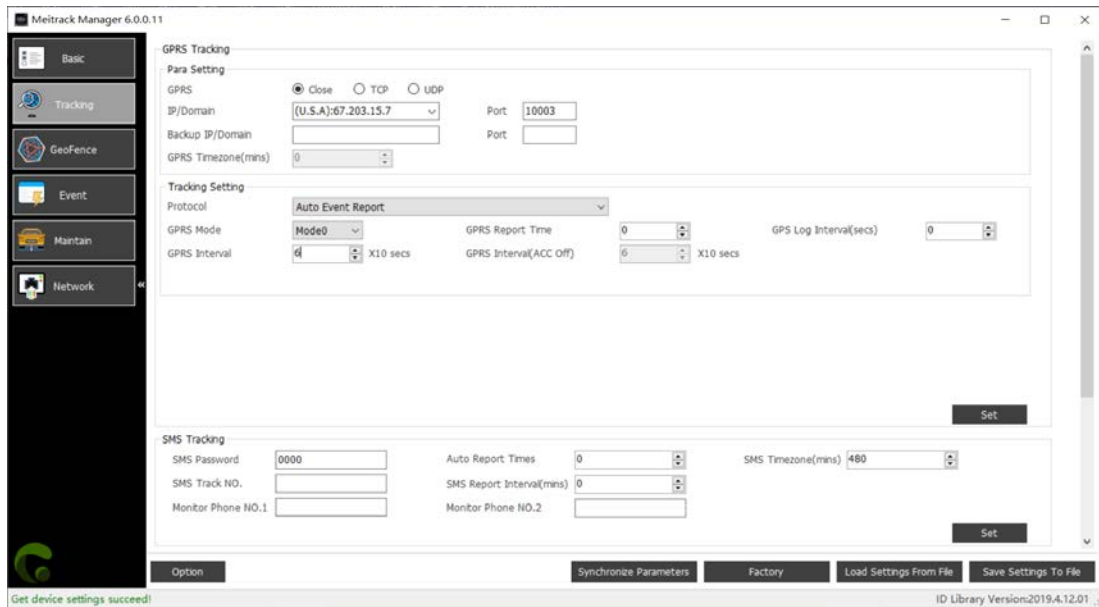
Operation steps:

1. Install the USB driver and Meitrack Manager.
2. Connect the device to a computer by using the USB cable.
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 parameter page will appear accordingly.



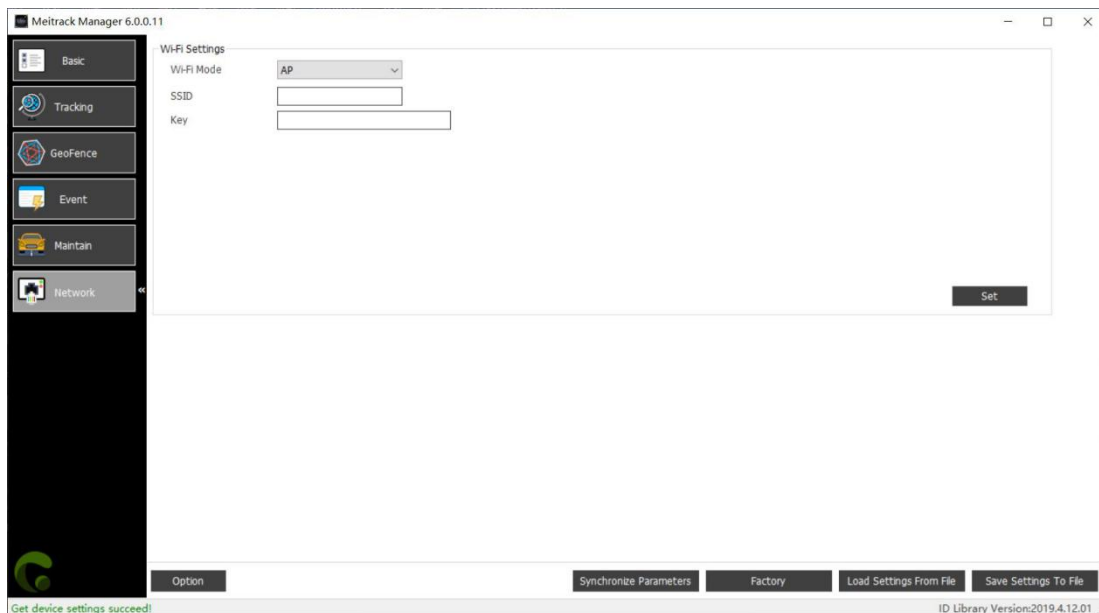
5.4.1 Setting the IP Address and Port

Set the MS03 server IP address to **67.203.15.7** and the port to **10003**, as shown in the following figure.



5.4.2 Setting the WiFi Network

Set the WiFi network, as shown in the following figure.



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

(Only TS299E support)

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



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.

5.5 Logging In to MS03 Tracking System

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

For more information about how to add a device, see the *MEITRACK GPS Tracking System MS03 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 GPS Tracking System MS03 User Guide*.

6 Device Installation

The TS299L is a GPS tracking device without wiring.

After the device is plugged into the vehicle's cigarette lighter receptacle, the device will beep once and all LED indicators will blink, which means that the device is installed successfully.

Note: Ensure that the device is firmly connected to the vehicle connector.



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