

MEITRACK MVT100 User Guide



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Contents

1 Copyright and Disclaimer.....	- 4 -
2 Product Overview	- 4 -
3 Product Function and Specifications	- 4 -
3.1 Product Function	- 4 -
3.1.1 Location Tracking	- 4 -
3.1.2 Anti-Theft.....	- 4 -
3.1.3 Other Functions	- 4 -
3.2 Specifications	- 5 -
4 MVT100 and Accessories.....	- 5 -
5 Appearance.....	- 6 -
6 First Use	- 6 -
6.1 Installing the SIM Card	- 6 -
6.2 Charging.....	- 6 -
6.3 Indicator.....	- 7 -
6.4 Configured on a Computer	- 7 -
6.5 Location Tracking	- 8 -
6.5.1 Tracking on a Mobile Phone.....	- 8 -
6.5.2 Setting a Combined Function Phone Number – A71	- 9 -
6.5.3 Setting the Smart Sleep Mode – A73	- 10 -
7 MS02 Tracking System	- 10 -
8 Installing the MVT100.....	- 11 -
8.1 Installing an I/O Cable.....	- 11 -
8.2 Installation/Connection Diagram.....	- 12 -
8.2.1 Power Cable/Ground Wire (PIN1, PIN2)	- 12 -
8.2.2 Digital Input 1 (PIN4, Negative Triggering/SOSButton)	- 13 -
8.2.3 Digital Input 2 (PIN5, Positive Triggering)	- 13 -
8.2.4 Output (PIN7).....	- 13 -
8.2.5 Voltage Formula for the Built-in Battery and Extenal Power Supply.....	- 13 -
8.2.6 Analog Input (PIN6).....	- 13 -
8.3 Mounting the MVT100	- 13 -

1 Copyright and Disclaimer

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2 Product Overview

The MVT100 is a vehicle tracker that can be used for cars, motorcycles, yachts, and boats. The MVT100's unique design makes its appearance cool. The product is easy to install, waterproof (IP66), dustproof, and has built-in antenna. Once installed on a vehicle, the MVT100 is hard to be noticed. Whenever typhoon or rainstorm approaches, the MVT100 can work properly.

3 Product Function and Specifications

3.1 Product Function

3.1.1 Location Tracking

- GPS + GSM dual-module tracking
- Real-time location query
- Scheduled tracking
- Track by distance
- Track on a mobile phone
- Speeding alarm
- Direction change report

3.1.2 Anti-Theft

- SOS alarm
- Polygon geo-fence
- External power supply cut-off alarm
- GPS blind spot alarm
- Low power alarm
- Remote vehicle fuel/power cut-off alarm
- Towing alarm
- Engine or vehicle door status alarm

3.1.3 Other Functions

- SMS/GPRS (TCP/UDP) communication (Meitrack protocol)

- Built-in 8 MB chip for recoding driving routes
- Waterproof (IP66)
- Mileage report
- Support for Over-the-Air (OTA)
- Built-in standby battery
- Smart power saving mode

3.2 Specifications

Item	Specifications
Dimension	110 mm x 72 mm x 39 mm
Weight	170g
Input voltage	DC 11 V to 36 V/1.5 A
Standby battery	850 mAh/3.7 V
Power consumption	65 mA standby current
Operating temperature	-20°C to 55°C
Humidity	5% to 95%
Working hour	43 hours in power-saving mode and 10 hours in normal mode
Indicator	2 indicators showing GSM and GPS status
Button/Switch	1 SOS button (for sending SMSs) 1 power button (next to the SIM card slot)
Memory	8 MB byte
Sensor	3D acceleration sensor (for vibration, wake-up, and towing alarms)
GSM frequency band	GSM 850/900/1800/1900 MHz
GPS sensitivity	-161 dB
Positioning accuracy	10m
I/O port	2 inputs (1 negative input and 1 positive input) 1 analog detection input 1 output 1 USB port

4 MVT100 and Accessories

MVT100 and standard accessories:



MVT100 with a battery, I/O cable, and SOS button



3M sticker



Screws



USB cable



CD

5 Appearance



6 First Use

6.1 Installing the SIM Card

Pay attention to the following items before installing the SIM card:

- Ensure that the SIM card has sufficient balance.
- Ensure that the phone card PIN lock has been closed.
- Ensure that the SIM card in the MVT100 has subscribed the caller ID service if you want to use your authorized phone number to call the MVT100.
- Power off the MVT100 before installing the SIM card.

To install the SIM card, perform the following operations:

1. Loosen the screws, and remove the cover.
2. Insert the SIM card to the slot. Ensure that the card chip is facing up to the Printed Circuit Board (PCB).
3. Close the cover, and tighten the screws.



6.2 Charging

When you use the MVT100 for the first time, connect the MVT100 GND (-Black) and Power (+Red) wires to 12 V or 24 V external power supply for charging. Ensure that the MVT100 is charged at least three hours. Eight hours are recommended.

The MVT100 can be installed on a vehicle only after it is configured and tested.

6.3 Indicator

To start the MVT100, press and hold down the power button for 3s to 5s, or connect the MVT100 to external power supply (11 V to 36 V).

GPS Indicator (Blue)	
Steady on	One button is pressed or one input is activated.
Blink (every 0.1s)	The MVT100 is being initialized or the battery power is low.
Blink (0.1s on and 2.9s off)	A GPS signal is received.
Blink (1s on and 2s off)	No GPS signal is received.
GSM Indicator (Green)	
Steady on	A call is coming in or a call is being made.
Blink (every 0.1s)	The MVT100 is being initialized.
Blink (0.1s on and 2.9s off)	A GSM signal is received.
Blink (1s on and 2s off)	No GSM signal is received.

6.4 Configured on a Computer

This section describes how to use MEITRACK Manager to configure the MVT100 on a computer.

Procedure:

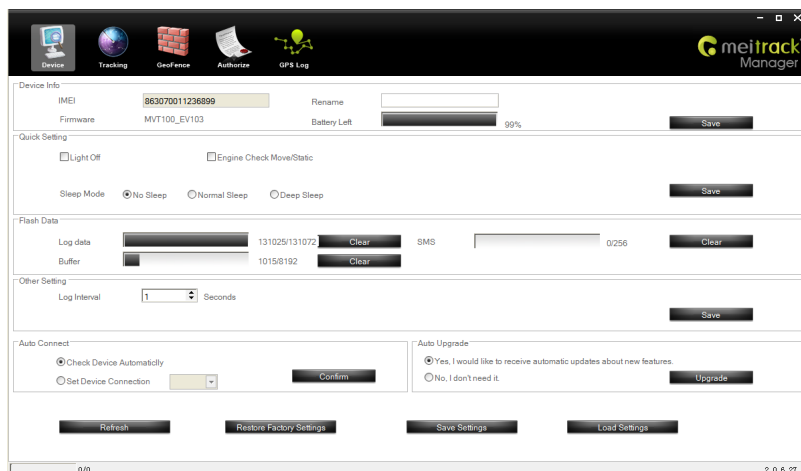
1. Install the USB driver and MEITRACK Manager.
2. Connect the MVT100 to a PC by using a USB cable.



3. Run MEITRACK Manager. The following dialog box is displayed:



MEITRACK Manager will automatically detect the device, and the **Device** tab page for default parameters is displayed.



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

6.5 Location Tracking

6.5.1 Tracking on a Mobile Phone

Make a call to the MVT100 SIM card number. An SMS with a map link will be received. Click the SMS link. The location is displayed on Google Maps on your mobile phone.



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.	SMS header: indicates the alarm type.
061314 10:36	Indicates the date and time in MMDDYY hh:mm format.	None
V	The GPS is invalid.	A = Valid V = Invalid

26	Indicates the GSM signal strength.	Value: 1–32 The larger the value is, the stronger the signal is. If the value is greater than 12, GPRS reaches the normal level.
0Km/h	Indicates the speed.	Unit: km/h
96%	Indicates the remaining battery power.	None
http://maps.meigps.com/?lat=22.513781&lng=114.057183	This is a map link. Latitude: 22.513781 Longitude: 114.057183	None

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 MVT100 on a mobile phone or on a computer by using Meitrack Manager. For details, see section 6.4 "Configured on a Computer."

Note:

1. The default password is 0000. You can change the password by using Meitrack Manager and SMS commands. For details, see section 6.4 "Configured on a Computer."
2. The MVT100 can be configured by SMS commands with a correct password. After an authorized phone number is set, only the authorized phone number can receive the preset SMS report.

6.5.2 Setting a Combined Function Phone Number – A71

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

SMS Responding: IMEI,A71,OK

Description:

A phone number has a maximum of 16 bytes. Phone numbers are empty by default.

Set phone number 1 to an SOS phone number. When the tracker is called by using the phone number, a location SMS, geo-fence alarm, and low power alarm are received.

If all combined function phone numbers need to be deleted, send **0000,A71**.

When the SOS button is pressed, the tracker dials phone numbers 1, 2, and 3 in sequence. The tracker stops dialing when a phone number responds.

Example: 0000,A71,13811111111,13822222222,13833333333

Responding: 353358017784062,A71,OK

6.5.3 Setting the Smart Sleep Mode – A73

SMS sending: 0000,A73,Sleep level

SMS Responding: IMEI,A73,OK

Description:

When the sleep level is **0** (default value), disable the sleep mode.

When the sleep level is **1**, the tracker enters the general sleep mode. The GSM module always works, and the GPS module occasionally enters the sleep mode. The tracker works 25% longer in the general sleep mode than that in the normal working mode. The mode is not recommended for users who set the scheduled tracking in a short interval. In this way, the mode will affect trace integrity.

When the sleep level is **2**, the tracker enters the deep sleep mode. If the tracker is not activated (SOS, button changes, calling, incoming calls, SMSs, or vibration) after five minutes, the GPS module is stopped, and the GSM module enters the sleep mode. If the tracker is activated, the GPS and GSM modules are waken up.

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

Example: 0000,A73,2

Responding: 353358017784062,A73,OK

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

7 MS02 Tracking System

- Configure parameters in any of the following ways:
 - Configured by SMS: Send SMS commands **0000,A21,1,67.203.13.26,8800,APN,APN username,APN password** and **0000,A12,6,0** to the MVT100 SIM card number.
 - Configured by Meitrack Manager: Connect the tracker to a PC, run Meitrack Manager to enter the main screen, and click the **Tracking** tab to set parameters.
- Visit ms02.trackingmate.com, and enter the user name and password. Contact us if you have no account or forget the password.
- Go to the map, and choose **Manage > Admin**.
- Select a user, and Click **Add a New Device**.



- Obtain the tracker IMEI number from the packing or Meitrack Manager, register a device, set the parameters shown in the following figure, and then click **Save**.

Add a New Device

Device ID: 013777002817011
Password: 0000
Device Name: MVT100A
SIM Number: 1234567890
Model: MVT100
Select a picture: 

- Double-click a device in the panel on the right, and check whether data is updated in **Status**.

Status
Alarm
Updates

Device Name: MVT100A Valid: Valid Speed: 0 Direction: East
GPS Time: 11-28 14:42:06 Latitude: 22.513673
Received Time: 11-28 14:42:04 Longitude: 114.057121 Others:
Journey(Km): 0.00 Run Time: 0day(s)0:25:2
Location: GPS Location:Taohua Road, Mai Po, 福田区深圳市广东省 China, 518038
GSM Signal: 31
Satellites: 7
Altitude: 43
RFID: 13703357

8 Installing the MVT100

8.1 Installing an I/O Cable

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



1	2	3	4	5	6	7	8	9	10
Power (+)	GND (-)	GND (-)	Input 1 (-)	Input 2 (+)	AD 1	Output 1	USB port		

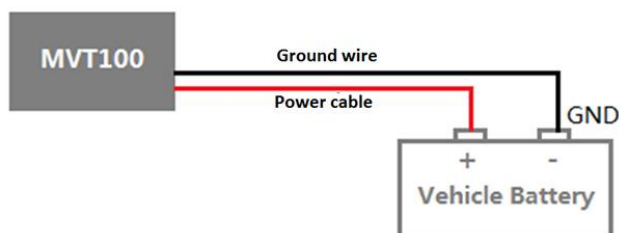
Pin	Color	Description
1 (Power +)	Red	Positive electrode of the power input, connected to the positive electrode of the vehicle storage battery. Input voltage: 11 V to 36 V. 12 V is recommended.

2 (GND)	Black	Ground wire, connected to the negative electrode of the vehicle storage battery or to the negative terminal.
3 (GND)	Black	Ground wire It can be used as a ground wire connected to an analog sensor.
4 (Input 1)	White	Digital input, negative triggering SOS button by default, used for asking for help When the SOS function is not required, input 1 connects to a door triggering signal cable to detect vehicle door status. (Most Chinese, Korean, and Japanese cars are negative edge-triggered.)
5 (Input 2)	Purple	Digital input, positive triggering Detect the vehicle ACC status by default. Connects to a door triggering signal cable to detect vehicle door status. (Most Europe and American cars are positive edge-triggered.)
6 (AD)	Blue	Analog input with 12-bit resolution and valid voltage 0–6.6 V Connects to an external sensor, such as the fuel sensor.
7 (Output)	Yellow	Valid: low level (0 V) Invalid: open drain Maximum voltage for output open drain (invalid): 45 V Maximum current for output low voltage: 500 mA Connects to an external relay to remotely cut off the vehicle fuel cable or engine power supply.
8/9/10 USB port (for configuration only)	Green	TTL232 receiving (MVT100 sending)
	Orange	TTL232 sending (MVT100 receiving)
	Black	TTL232 ground wire

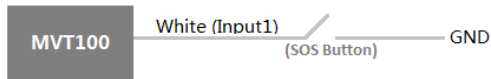
8.2 Installation/Connection Diagram

8.2.1 Power Cable/Ground Wire (PIN1, PIN2)

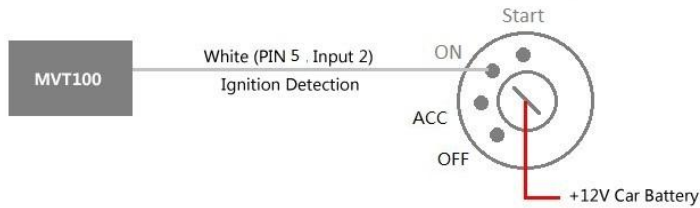
Connect the power cable (red) and ground wire (black) to the positive and negative electrodes of the vehicle battery respectively.



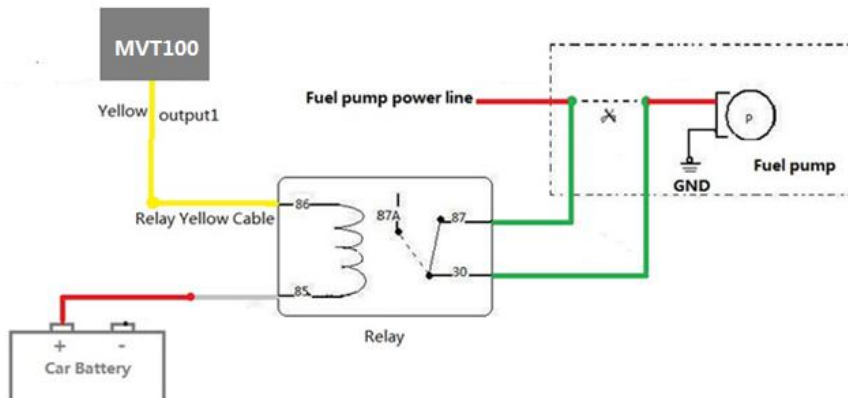
8.2.2 Digital Input 1 (PIN4, Negative Triggering/SOSButton)



8.2.3 Digital Input 2 (PIN5, Positive Triggering)



8.2.4 Output (PIN7)



8.2.5 Voltage Formula for the Built-in Battery and External Power Supply

Built-in battery input voltage = $(AD4 \times 3.3 \times 2)/4096$

Battery percentage = $[(AD4 - 2114) \times 100/492] \times 100\%$

External power supply input voltage = $AD5/4096 \times 3.3 \times 16$

8.2.6 Analog Input (PIN6)

The AD analog input can connect to a sensor whose output voltage ranges from 0 V to 6.6 V.

AD analog voltage = $(AD1 \times 3.3 \times 2)/4096$

8.3 Mounting the MVT100

Use any of the following methods to mount the MVT100:

- 3M sticker
- Screw

- Built-in super magnet



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