GPS Motorcycle/Vehicle Tracker
USER MANUAL

MAARK05

CONTENT

Preface

MT05 GPS Motorcycle/vehicle tracker is the cost-effective solution for security & real-time tracking. It is specially used for motorcycle/car tracking because of its compact size and water-proof design.

Read it Firstly

Please read this manual thoroughly before you use the device; please keep it for future reference.

Attention

1. Please keep the device away from heavy water, high temperature, heavy dust or strong magnetism.

2. Please prepare a valid GSM SIM card in advance.

3. For safety reason, do not tell other people the mobile phone number of your tracker.

Warning

We strongly suggest user let the professional car electrician to install the system.

I. Features & Functions

MT05 GPS Motorcycle/vehicle tracker is the cost-effective solution for security & real-time tracking. It is specially used for motorcycle/car tracking because of its compact size and water-proof design.

01 Track on command or by time interval via SMS/GPRS;

02 Arm/disarm by SMS or phone call.

03 Check the car's real physical address (such as city name, street name.);

04 Track by mobile SMS to get the latitude, longitude, speed, direction & odometer etc.

05 Check the location directly by the Google map's URL;

06 Data logger to store 5520 waypoints.

07 Online tracking by website;

08 Odometer function

09 Over-speed alarm;

10 Movement alarm which can be used as an alarm;

11 Engine on alarm;

12 Vibration alarm;

13 Built-in rechargeable backup battery; when the car battery is cut off or low enough, the system will send out power failure alarm immediately;

14 Cut off engine to stop the car safely by SMS/GPRS;

15 Routine optimization when vehicle turns a corner;

16 A-gps function to get GPS signal much faster;

17 Monitor the voice(optional);

18 Wide working voltage range, from 6V-45VDC, suitable for motorcycle, car or some big truck with normal voltage.

19 Reliable design of framework with hardware watchdog.

20 Power save design.

II. How to Operate it

The default user password is `111111`.

If the user password is changed, user should send the SMS command with the new user password instead of `111111`.

`XXX` is the control code, all the letters must be capital letters or in small letters, command with mixed capital letter & small letter is not recognized by system

Authorize the Alarm-received Phone No.

SMS command: 111111*10 `Mobile #1`*20 `Mobile #2`*30 `Mobile #3`*

In case of alarm, if user wants to get the alarm SMS from the tracker, he/she needs send the following SMS to program the tracker firstly, otherwise, the alert information can't be received correctly.

Example: User sends the SMS 111111*10`13922713571`*20`18902267400`* to the tracker's SIM card number, if there is any alarm, system will send SMS to both of these two mobiles. In case of SOS alarm, the system will only send alarm to the mobile #2 & mobile #3.

Arm/Disarm by Phone Calling

User could also use the 1st alarm-received mobile phone to call the tracker's SIM card number, so as to arm/disarm the system.

Arm: After hearing several ring tones, if the systems hang up the call automatically, and call back you, it means that the system is armed.

Disarm: After hearing several ring tones, if the system hangs up the call automatically, and don't call back you, it means that the system is disarmed.

Note

01   There is no communication fee for this operation, it is a very convenient way to arm & disarm the system.

02   The SIM card inside the device must have the function of Caller ID Display.

03   Only the 1st alarm-received mobile phone can realize this function.

Check the Vehicle's Status

SMS command: `111111CHK` (or `111111chk`)

This instruction is used to inquiry the vehicle's location & system's status.

The system will send back the SMS, includes the similar information, such as "Armed……"

Arm/Disarm the System by SMS

SMS command: `111111ARM` (or `111111arm`)

This SMS instruction is used to arm the system

When the system is armed, the movement alert is activated automatically.

When the motorcycle/car moves, the alarm will be triggered.

SMS command: `111111DSM` (or `111111dsm`)

This command is used to disarm the system & stop sending alert SMS

Check the location by Google Map's URL

SMS command: `111111MAP` (or `111111map`)

Upon receiving the SMS command, the tracker will automatically send back the SMS including the Google map's URL, user can use smart phone (GPRS data service is enabled) to open the URL link, the car's location will be showed on the Google map.

User can also use the 2nd alarm-received phone to call the tracker, the tracker will send back the same content with Google link.

Stop the Car by SMS

SMS command: `111111STP` (or `111111stp`)

This instruction is used to stop the motorcycle/car safely. If the car speed is higher than 30Km/h, it will not carry out until the speed is lower than 30Km/h.

Restore the Stopped Car to Normal Status

SMS command: `111111RES` (or `111111res`)

It is used to restore the car to normal status after being stopped.

Monitor the Voice (Optional function)

SMS command: `111111MON`

This instruction is used to monitor the voice around the car. The SIM card inside the system pays for the communication fee.

SMS command: `111111MON!`

This instruction is used to monitor the voice around the car. The user's telephone pays for the communication fee.

Example: User uses the mobile 13780012345 to send 111111MON! to the system, then use the mobile 13780012345 to call the tracker, it will be connected automatically, and user can monitor the voice around.

SMS command: `111111MON:P1*P2*P3*`

This instruction is used to program the phone number which is used for carrying out direct monitoring.

Once set up, any call from P1 or P2 or P3 will be picked up automatically by the tracker. By this way, user can monitor the voice conveniently.

Example: 111111MON:13922713571*

Note: If the phone is the same as the first alarm-received phone (111111*10 `Mobile #1` *20 `Mobile #2` *), the calling from this telephone can only arm/disarm the tracker.

Check the Real Physical Address

SMS command: `111111ADD` (or `111111add`)

User can program the tracker to work with our platform. Once connected, user can send this SMS command to get the actual address which is translated by the platform..

Remark:

(1) The GPRS data service of the tracker's SIM card must be activated, and the correct GPRS setting is needed (refer to the chapter of the setting of GPRS connection);

(2) The physical address depends on the map of the platform..

Change User Password

SMS command: 111111PSW`nnnnnn` (or 111111psw`nnnnnn`)

This instruction is used to change the user password. The length of the user's password is 3~6 digits. Users are suggested to change to the new password in use.

Example: User sends the SMS "111111PSW12345" to the system SIM card number, and gets the confirmed SMS "111111PSW12345" in 3 seconds. It means that the user password has been changed to 12345.

Remark: Please keep the password deep in mind if it is changed.

Over-speed Alert

`111111SPD:X` x is the speed in KM/H , maximum value is 255KM/
(For example: 111111SPD:120, if the car speed is over 120KM/H send alert SMS to warn you).

`111111SPD:0` to disable the over-speed alert. It is the default setting.

`111111SPD:` to check the setting of over-speed alert.
when the car speed is higher than the speed value, it will trig over-speed alarm.

Remark: this function is just for reference, because there might be some delay or error in detecting the running car's real speed by GPS.

Power Save Mode

SMS command: `111111PWR:X`

Value of X	Actions
0 (default)	Disable power save mode
1	Close GPRS connection
2	Close GPRS connection,GPS module

After setting 111111PWR:1(or 2), if there is no vibration and ACC is turned OFF, the tracker will go into power save mode after 2 minutes.

Once there is vibration or engine is turned ON, or incoming call/SMS, the tracker will wake up from the power save mode immediately

Other SMS Command List

Note: ****** is user's password and the default password is `111111`. The tracker will only accept commands with the correct password.

Functions	SMS Command	Example
Auto Report by SMS	******RPT:X	111111RPT:5
Remarks: To set time interval for continuous automatic report via SMS. X is the interval in minute. If X=0 to turn off tracking by time. Example, the tracker will send location data back to 3rd alarm-received phone(XXX) every 5		
Movement Alarm	******MOV:X	111111MOV:500
X: X is the radius of the fence. default setting is 500 meters=0: close the movement alarm (when tracker is armed, it will be activated automatically.) Example: it is set the radius of movement alarm as 500meters		
Set the Shock Sensor	******SHK:X	111111SHK:3
It is to set the sensitivity of the shock sensor. X=1~5. (X=0,less sensitive; X=5, most sensitive; default X=2) minutes. 111111*10*20*30XXX*		
Clear the Parameters	******STR	111111STR
It will reboot the tracker immediately.		
Routine Optimization	******DEG:X	111111DEG:30
It is to set the angle. When the car turns a corner over this angle, then it will sample a location to optimize the routine		
Set the Time Zone	******TZN:X	111111TZN:-8.5
It is to adjust the time difference comparing with Greenwich Mean Time, so that the display time in SMS content is the same as your local time. (+: means earlier, - mean later) Example: if your local time is 8hours & 30 minutes earlier than Greenwich Mean Time, then send 111111TZN:-8.5 to adjust it.		
Set the Odometer	******ODO:X	111111ODO:1000
111111ODO: It is to check the present odometer; **111111ODO:**X It is to set the tracker's initialized odometer as X meter, and start accumulation.		
Set Heartbeat interval	******HRT:X	111111HRT:5
It is to set the time interval of the tracker's heartbeat packet, default:3minute. Maximum: 65535 minutes.		

Functions	SMS Command	Example
Clear Data Logger	******NUL	111111NUL
It is to clear the offline GPS data in the data logger minutes.		
Check the Gprs Setting	******WWW	111111WWW
It is to clear the offline GPS data in the data logger minutes.		

III. The Setting for GPRS Connection

The GPRS setting is necessary for using the following 2 functions:

1. Check the car's real physical address by send 111111ADD

2. Online tracking service by web-based tracking platform SMS format:

111111WWW:IPN:X;COM:X;APN:apn,user,password;RPT:X;SLP.X;RUN:X;

- IDN: The tracker's ID, it is the last 14 digits of IMEI which can't be changed.

- IPN: The IP address or domain name of the GPRS server

- COM: The communication port for the GPRS server

- APN: The Access Point Name for the GSM SIM card.

- RPT: The interval for the uploading GPRS packet (Unit: sec.)

- SLP. The interval for uploading GPRS packet when Engine is OFF. (unit: sec.);

- RUN: GPRS connection setting. 0=close, 1=TCP

  Example, if server is: www.51track.com, TCP port is 8500, APN is web.gprs,mtnnigeria.net, apn ser:web, apn password: web, time interval is 60 seconds

  Then the command is:

  111111WWW:IPN:www.51track.com;COM:8500;APN:web.gprs.mtnnigeria.net, web,web;RPT:60;SLP.60;RUN:1;

User can send one or more options at the same SMS commands, such as:

`111111WWW:IPN:X;COM:X;`

This is to set the server's address and port separately.

Example: 111111WWW:IPN:www.51track.com;COM:8500;

`111111WWW:APN:X;`

The tracker can automatically detect most of the APNs of GSM operator in the world. But for some operator SIM card, you need to set it manually. Please use "," to separate the APN, APN username & APN password.

Example: 111111WWW：APN：web.gprs.mtnnigeria.net,web,web;

`111111WWW:RPT:X`

This is to set the upload time interval. The unit is second, the minimum value is 10 seconds. The default setting is 60

Example: 111111WWW:RPT:60;SLP.300；(Upload time interval: Engine ON: 60s, Engine OFF:300seconds)

`111111WWW:RUN:X;`

X=0; is to close down the GPRS;

X=1; is to open the GPRS via TCP

E.g.: 111111WWW：RUN：1；(Open the TCP connection)

`111111WWW`

You can send 111111WWW to check the GPRS settings

Default GPRS Setting

The initiated GPRS setting is:

IPN: www.topten-track.com	COM:8500
APN: internet	RPT: 30 seconds
SLP.300	RUN:1

IV . Specifications

Particulars	Details
Working voltage:	+6.0 ~+60VDC
Power Consumption:	Standby current:8mA
Working current:	30mA;
Peak current:	80mA;
Inside Backup battery:	Rechargeable 3.7V 210mAh Li-ion battery
Size of the main unit:	58*40*15 (mm)
Weight of the main unit:	34g
Working temperature:	-20 ~ 80 degree C
Humidity:	0 ~ 95%
GSM frequencies:	Quad-band: 850MHz/900MHz/1800MHz/1900MHz
GPS chip:	U-blox 7 chipset
Receiving ways:	56 channels

V. Alarm Types

Vibration Alarm

In arming status, if the vehicle is vibrated, it will send out the alarm.

Power Failure Alarm

At any time, ff the car battery is cut off, it will send out the alarm.

Engine ON Alarm

In arming status, if the vehicle engine is ON, it will send out alarm SMS and call the preset phone.

Movement Alarm

In arming status, the movement alert is enabled automatically. Once the car moves away from the parking point for the preset distance, it will send out the alarm.
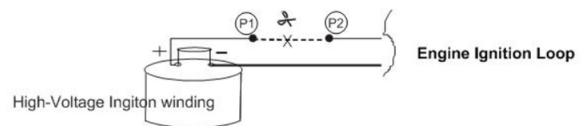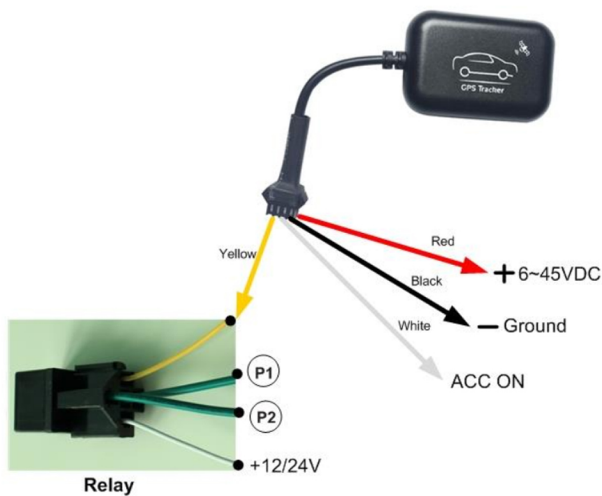
Over-speed Alarm

At any time, if the vehicle runs over the speed limitation, it will send out the alarm.

VI. Installation

The Wiring diagram of Maark05

Installation Steps

1. Please read the manual carefully before installation. Please prepare a valid GSM SIM card with Caller ID Display & GPRS function;

2. Please use screw driver to open the cover of the box;

3. Insert the valid GSM SIM card, then turn on the backup battery switch;

4. Close the cover, and fix the main unit tightly with the wiring harness at the correct place, please make sure that the side with GPS antenna(with satellite icon) is placed upside to sky or away from the metal materials, please make sure to install the main unit at broad place so that it can receive GPS signal well. For motorcycle, it is better to install inside the head bulb light where there is power supply and water proof. For vehicle, it is better to install inside the upper rim of the driving room or inside the dashboard. The recommend installation place is showed in the following picture:

5. Do the wring connection according to the diagram;

6. Call the SIM card, to check if rings, if not, then check the power supply and the change the place of installation;

7. If it rings when calling the SIM card, then send SMS to the tracker to check the GPS coordinate, if the GPS location is not correct, then fix the main unit to other place so that it can receive better GPS signal.

8. **IMPORTANT:** The side with GPS antenna(satellite icon) must be placed upside to the sky and kept away from the metal materials, otherwise, it can't get GPS signal well.

VII. FAQs & Troubleshooting

FAQ	Troubleshooting
I call the tracker, it does not ring	(1) The GSM SIM card has no credit; (2) The SIM card is protected by PIN code; (3) Check the power supply, if 2 LEDs flash; (4) The SIM card is placed correctly in the slot;
I call the tracker, it rings, but it doesn't response with SMS	(1)The user password is wrong, please use the correct password or reset the password to test; (2) Low power, please use outside power supply to power on the unit to test
I can not get the alarm message	(1) The SIM card inside the device has no credit; (2) The Alert-received mobile number is not programmed correctly, or the SMS command is not in correct format; (3) The mailbox of the user's mobile is full;
I can not get the correct GPS coordinates or the location is wrong	(1) Please make sure there is no metal obstacles above the tracker. Please place the side with GPS antenna upside to the sky; (2) Please check it at broad place; (3) Please check if the GPS LED flash once every 3 seconds; place the tracker to other place, so as to make sure that it can receive the GPS siganl well. (4) In cloudy condition, it is a little hard to get the GPS signal, and the GPS coordinate might have some errors.
Tracker fails to connect to server by GPRS	(1) The SIM card must be activated with GPRS function; (2) Do the correct setting for GPRS connection

VIII. Maintenance

- Please make the local professionals to do the installation & maintenance of the GPS terminal. If the user assemble/ disassemble or repair the terminal without permission, we hold no responsibility for any loss caused thereafter.

- Please keep the terminal dry. In case of soaking or leaking water, contact the local professionals. Do not start the car yourself, or we hold no responsibility for any loss caused thereafter.

- When the car is inside buildings, cave, tunnel, or very close to tall buildings, the GPS/ GSM signal may not work well and the system may fail to work at that moment.

- Please check the balance of the tracker's SIM card periodically.

- The backup battery. The backup battery can only work for a certain time.

- For any other unusual situations, please contact the local agent