GPS Vehicle Tracker

USER MANUAL (Model: MT01)

Please read carefully before operation

Contents

1. Product Overview

MT01 is a kind of mini GPS vehicle tracking product can be used for tracking and security of motorcycle and automobile etc. Mini size, built-in antenna and waterproof designed, easy to be installed and concealed, with power voltage range from 6V~24V, therefore can satisfy tracking and security demands for all kinds of vehicles.

2. Applications

❍ Vehicle Real Time Tracking

❍ Motorcycle/Car Security/Anti-Hijack

❍ Fleet Management

3. Product Function and Specifications

3.1 Product Function

❍ 6V-24V Power supply

❍ Track by SMS/GPRS (TCP/UDP)

❍ Track by time Interval

❍ Track by Distance Interval

❍ SOS panic button

❍ Geo-fence Alarm

❍ Over Speed Alarm

❍ Built-in motion sensor for power saving

❍ GOOGLE map URL for location via SMS, which shows you location on map via mobile phone.

❍ Get the physical address name via SMS.

❍ Remote Engine Cut

❍ Mileage Report

❍ 1 positive input, 1 negative input and 2 outputs

❍ Mini size, simple installation, low cost tracker for motorcycles, 12V and 24V vehicles

❍ Monitor the voice(optional)

3.2 Specifications

Items	Specifications
Dimension	80*58*22
Weight	90g
Charging Voltage	+9V~+24V
SIM card type	3V
Power consumption	Active mode(peak) < 1.0A Active mode(avg.) < 300Ma Idle mode <50mA
Operating Temperature	-20℃~+75℃
Humidity	Up to 75% non-condensing
External Antenna	Connected via 50Ω coax connector
External SIM Card	Connected via SIM card connector
Button	1 SOS and 1 power on/off
Microphone	Optional
Transmit Power	Class 4(2W) for E-GSM 900 and 850 Class 1(1W) for DCS 1800 Class 1(1W) for PCS 1900
Sensitivity	-104dBm minimum for E-GSM 900 AND 850 -102dBm minimum for DCS 1800 -102dBm minimum for PCS 1900
GPS Chip	Latest GPS SIRF-Star III chipset
GPRS	Multi-slot Class 8(4Rx, 1Tx., 5slot Max.) Support all 4 coding schemes(CS-1,CS-2,CS-3 and CS-4) Maximum download speed is 85.6kbps Maximum upload speed is 21.4kbps
Speech Codec	Triple rate Codec Half rate—ETS 06.20 Full rate—ETS 06.10 Enhance full rate—ETS 06.50/06.06/06.08
I/O	2 Digital Inputs (1positive triggering and 1negative triggering) 2 Outputs

4. MT01 and Accessories

MT01 Main Unit   **6P I/O Cable**   **Relay**

Optional Accessories

Microphone

5 First Use

5.1 Install SIM Card

Check that the SIM has not run out of credit

(test the SIM in a phone to make sure it can

send and receive SMS);

Before installing the SIM card, turn off the
power for MT01

Then install the SIM card as following

Unscrew the cover

Unlock the card holder
and put in an available
SIM card like this

Screw the cover back

Put the SIM card in place
and lock the card holder

5.2 Charging

Connect the device with external power like car battery,and turn on its power switch,then it will do charging automatically.

5.3 LED Indications

Push the power switch to turn on/off MT01.

| GPS LED (Red)	
Flashing (every 0.1 second)	Initializing or back-up battery power is low
Flashing (0.1 second on and 2.9 seconds off)	MT01 has a GPS fix
Flashing (1 second on and 2 seconds off)	MT01 has no GPS fix
GSM LED (Green)	
Flashing (every 0.1 second)	Initializing
Flashing (0.1 second on and 2.9 seconds off)	MT01 is connected to the GSM network
Flashing (1 second on and 2 seconds off)	MT01 is not connected to the GSM network

6. Basic SMS Commands:

6.1 Track on command
Description: To know the position of your MT01 , send an SMS or make a telephone call directly to MT01 and you will receive an SMS with its location and other information.

Command: W<password>,000

For example: send SMS W000000,000

Remark: The default password is **000000**

Item	Description
ID: 1234567890	The tracker's ID number
ACC=OFF	The engine is turned off
Latitude=23 08 57.58N, longitude=113 18 59.31E	Latitude and longitude information, "N" in latitude means North,"E" in latitude means East,
Speed=0.00Km/h	Speed information
Odometer=0.013km/h	Odometer information
2012-09-26,11:32	Date and time

You can copy this coordinate get from the SMS into http//:maps.google.com and see its location as below:

Another easier way to get MT01's position:
(a)   Call MT01 using your mobile phone.
(b)   After listening to the ring for 10 - 20 seconds, hang up the phone.
(c)   Then, after 20 second, your mobile phone will receive a position SMS.

### 6.2 Set receiving physical address name via SMS
Description: To know specific address of your MT01, send an SMS and you will receive an SMS with its location physical address name
Command: W<password>,<111>
Example:
SMS send: W000000,111
SMS receive: Xinfu 1st Rd, Maonan, Maoming, Guangdong, China

6.3 Get location Google Map's URL via SMS

Description: You will get a Google map URL after sending the command, click the URL then the location can be shown directly on Google Maps on your mobile phone.

Command: W<password>,100
For example: send SMS W000000,100
SMS Get: as following picture
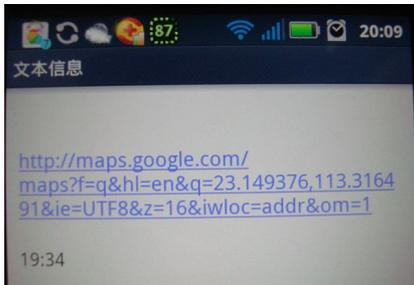
Note: by click the URL, you can get the location in Google map from your mobile phone, see bellowing

6.4 To cut off Engine, immobilize the vehicle

Command: W<password>,020,P,F

Description: P=1, means output1, P=2 means output2 … P=5, means output5

F=0, to disable this output function; F=1, to enable this output function

SMS send:W000000,020,1,1

If the output1 is connect to oil-cut relay, this command is to enable the engine-cut function, the engine oil pump line will be cut-off to immobilize the vehicle.

While send W000000,020,1,0 is to restore the engine oil pump line and the vehicle can be started again.

6.5 Set over speed alarm

Description: XX(the speed preset value) XX=00, disable XX=[01<XX<20](unit:10Km)
Command :W<password>,005,XX
Example:
SIM send:W000000,005,10

SIM receive:SET OK! SPEED LIMIT:100Km/h

Meaning: If your speed is over 100Km/h, an alarm SMS will send to your phone to warn you.

7.Simplified SMS Commands：

7.1 Engine Stop/Vehicle Immobilize: 000000STP

7.2 Engine Restore: 000000RES

7.3 Check Location Address Name: 000000ADD

7.4 Location Coordinate Check: 000000CHK

7.5 Get Location GoogleMap's URL with Mobilephone: 000000MAP

7.6 Voice Monitoring: 000000MON13800138000   please replace 13800138000 with the supervisor

mobilephone number

8.Set by SMS for GPRS tracking

8.1 Set ID by SMS
Command : W<password>,010,ID
Description: every tracker have a unique ID. Tracker ID must be less than 14 digitals
Example:
SMS send:W000000,010,20120823
Meaning: this tracker's ID is 20120823

8.2 Set APN by SMS
Command: W<password>,011,APN name,APN username, APN password
Description: APN name, APN username ,APN password
if no username and password required, just fill in APN name only.

8.3 Set IP Address and Port by SMS
Command: W<password>,012,IP,Port
Description: Our online tracking website's IP address is 210.209.68.180 port is 9500
Example:
SMS send:W000000,012, 210.209.68.180,9500
We support domain name instead of IP address:
Example: W000000,012,www.global-track.net,9500

8.4 Enable GPRS Function
Command: W<password>,013,X
Description: X=0,close GPRS(Default)
            X=1,enable TCP
            X=2,enble UDP

8.5 Set Time Interval for Sending GPRS Packet
Command: W<password>,014,XXXXX
**Description:** XXXXX should be in five digitals and in unit of 10 seconds.
        XXXXX =00000, to disable this function
        XXXXX =00001~65535, time interval for sending GPRS packet and in unit of 10 seconds

9. Installation

9.1 Install I/O Cable

The I/O cable includs power, negative/positive input and output.
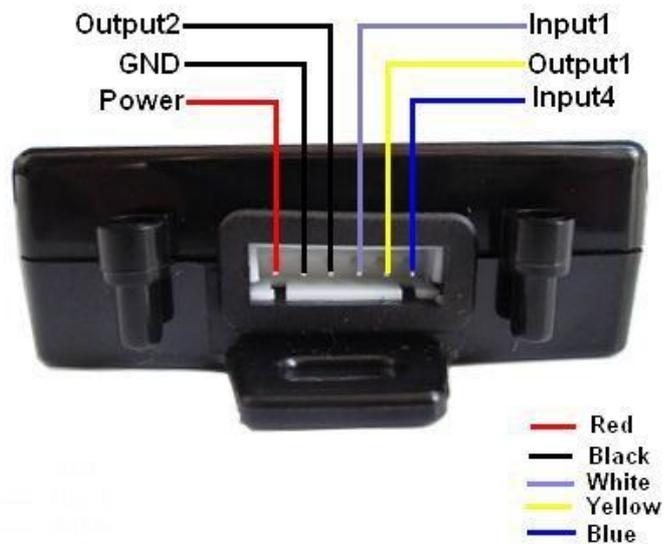
PIN Number	Color	Description
1	Red	DC IN (power input)
2	Black	GND
3	White	Input 1, E.g. for connecting SOS button
4	Blue	Input 4, E.g., connecting to ACC to detect engine on/off status
5	Yellow	Output 1, E.g. for connecting Engine-cut relay
6	Black	Output 2

9.1.1 Power/GND

Connect GND (-Black) and Power (+Red) wires to the battery of vehicle.
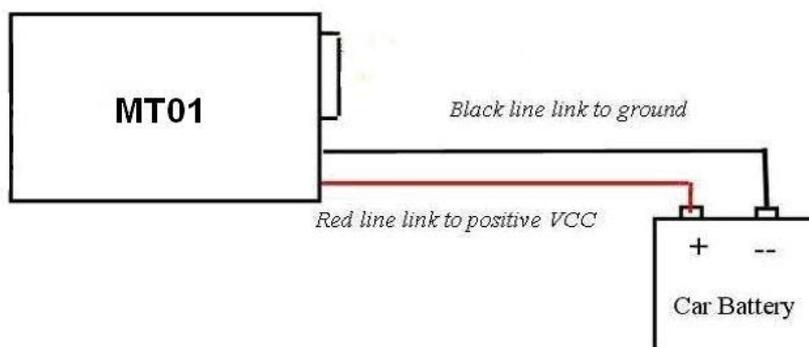
9.1.2 Digital Input (Negative Triggering)

E.g. Detecting SOS button
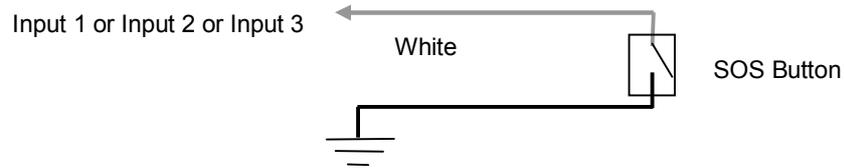
9.1.3 Digital Input (Positive Triggering)

E.g. Detecting engine on/off status
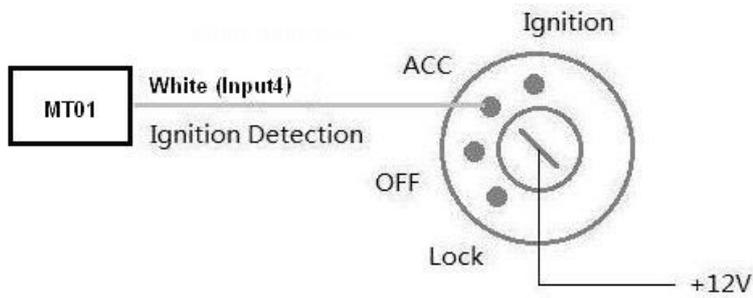
9.1.4 Output

Pin IN and OUT1 application example:
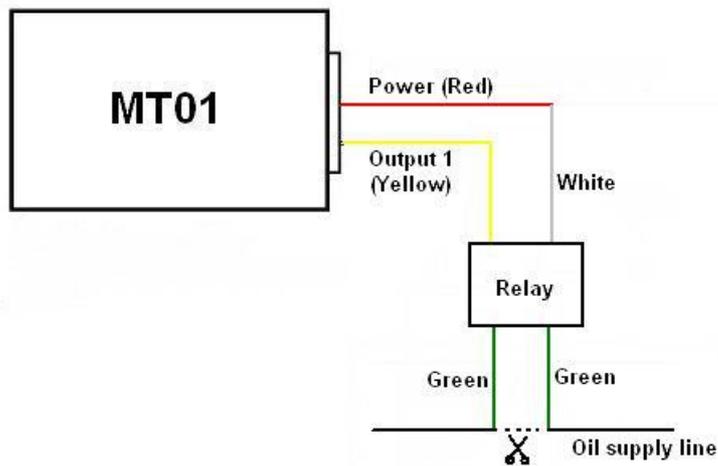
10. Troubleshooting

If you find some trouble in using MT01, please refer the following:

(1) If the GPS signal is abnormal

Please check following issue:

a. Working outdoor,MT01 can get faster and better GPS signal;

b. To wait more time at least 3 minutes;

c. Charging MT01 for 3 hours for the tracker has enough power before using

(2) If the Check GSM signal is abnormal

Please try following issue:

a. Whether the GSM network is strong enough to make the track unit work.

You can judge it by calling the device through your cell phone.

b. Make sure the sim card has been installed correctly

c. Whether there is enough deposit in SIM card or not;

d. Whether SIM card has specific requirement on cell phone or not,

For example whether the SIM card can only use in an appointed cell phone, other cell phone cannot use

the SIM card

e. Whether SIM card is binding to the specific cell phone or not

f. Whether SIM card need some authorization when using it

For example, you need type one password when you use the kind of SIM cards

g. Whether the tracker has enough power to work, we strongly suggest it was charged at least 3 hours

or connect to the external power before use it.

(3) The SMS which is replied by MT01 is including the chars --- "Last ....", It indicates the GPS signal is lost.

Appendix 1

Configure by Computer

This part shows the basics of how to use the **TOPSHINE Parameter Editor.**

Note: Don't connect MT01 to external battery when configuring.

How to Edit the Parameters of MT01

Step 1   **Buy one specific USB cable for configuration from Our Company**

Step2 . **Install USB driver program for the configuration USB cable**

   1. Run 'CP210x_Prolific_DriverInstaller' to install the driver for the USB data cable.

   Note: CP210x _Prolific Driver Installer is in the folder 'USB-232 Driver' in the

   CD. Connect the USB Data Cable between MT01 and PC.

2. Connect the configuration cable with PC, open device management of your computer,you can find "Prolific USB-

to-Serial COM Port " ,as following picture shows. The USB port is virtual comm. Port (com3) in this
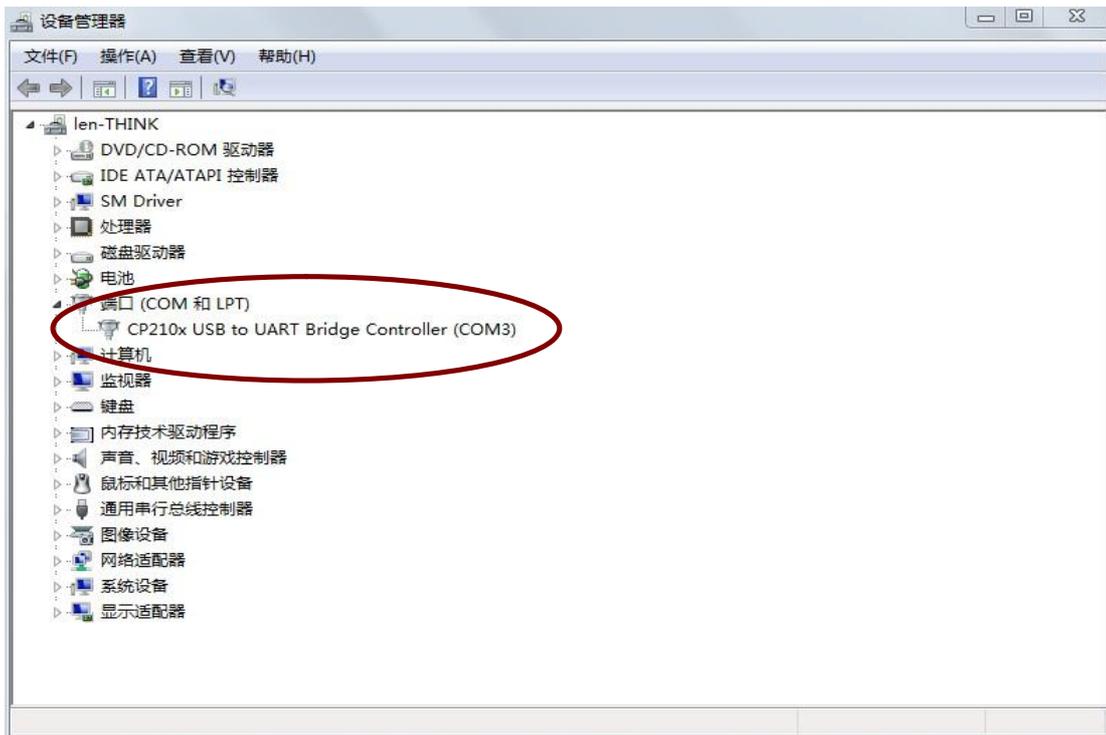
example,

Step3 .**Open the GPS Tracker Parameter Editor**

1. Connect MT01 with PC by the configuration cable
2. Confirm MT01 is in the Power Off states
3. Double click GPS Tracker Parameter Editor.exe and Select the COM Port, following picture shows:
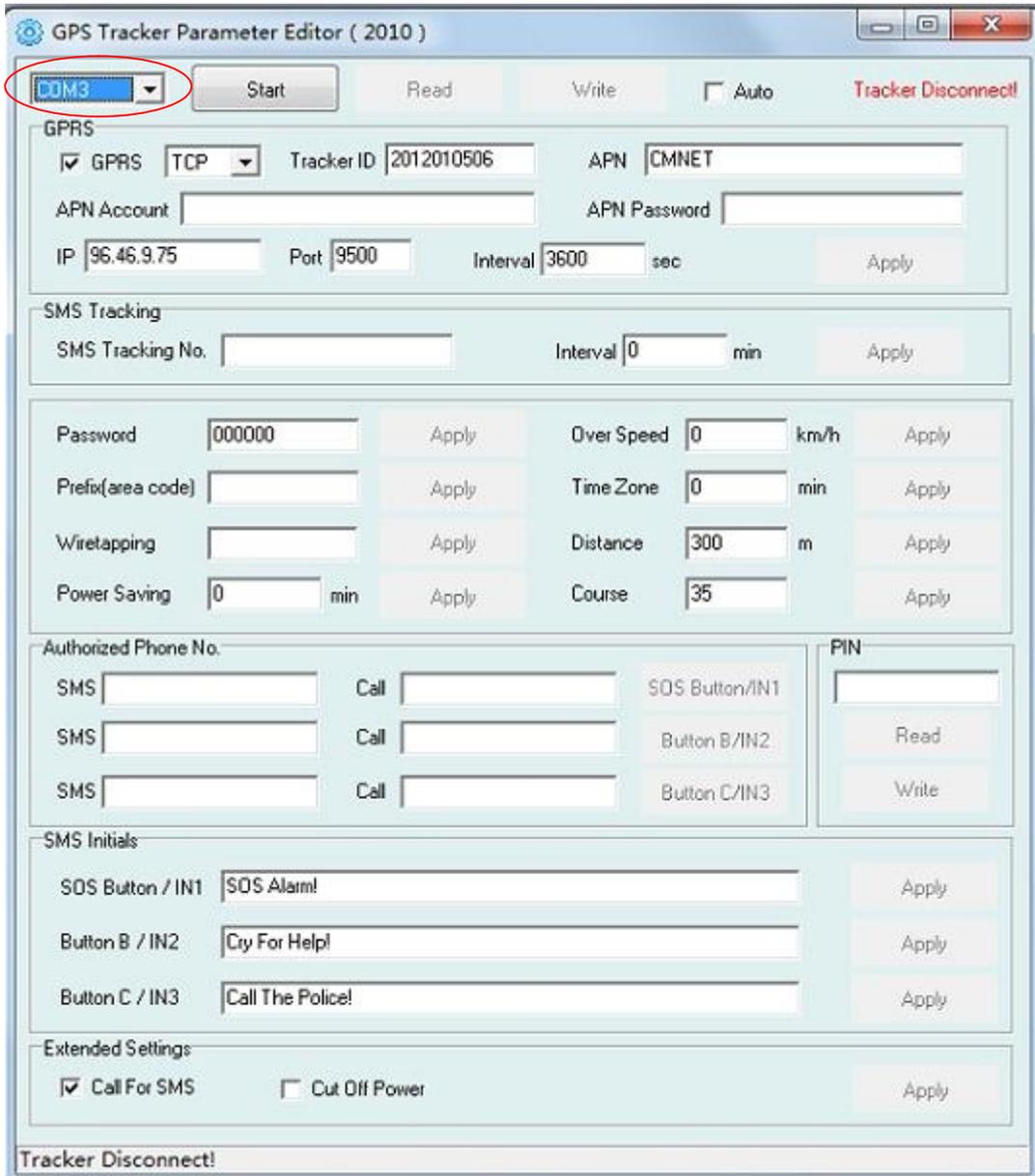
5. Click Start button to open the COM port,

6. Turn on MT01 and connect with the Editor automatic, As soon as they connect successful, all the buttons are re availability and the status bar will clue on' **Tracker Connect!**' , then you can Read or Write the MT01'S Parameters.
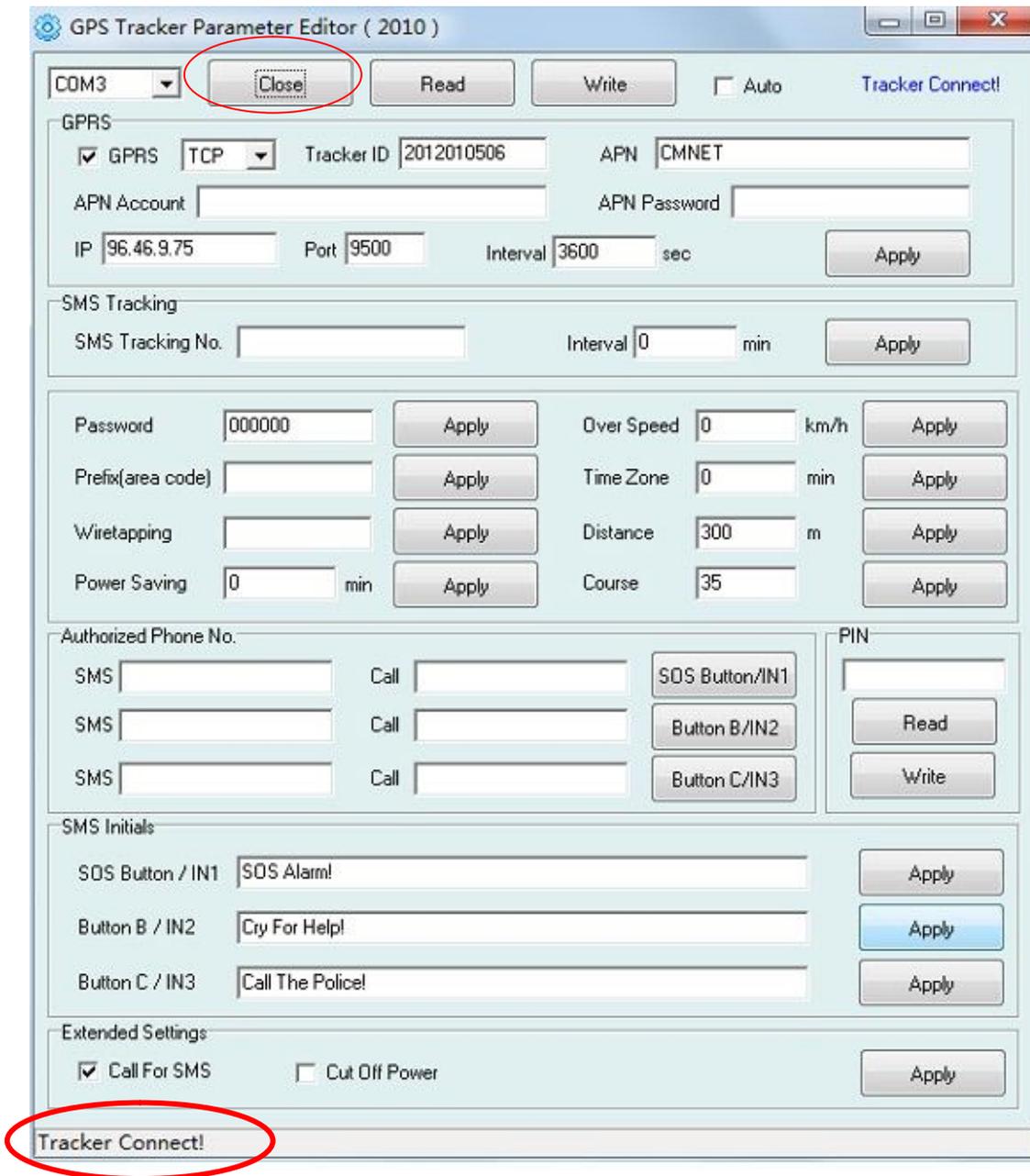
Instruction of parameter settings:
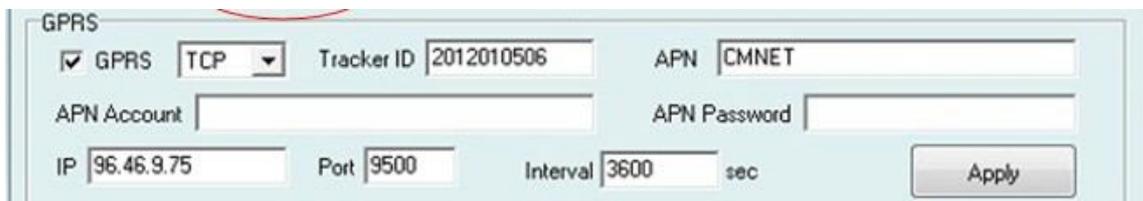
Item	Description
GPRS	Tick to enable GPRS function, select TCP or UDP mode
Tracker ID	ID Should be unique, in number, maximum 14 bytes
APN, APN Account, APN Passoword	Put your local APN name, APN username and password if necessary
IP, Port	Put online tracking server IP and port, our default is IP:www.global-track.net port: 9500
Interval	To put time interval to upload a data

Item	Description
SMS tracking No. Interval	To put a mobilephone number for automatic tracking by SMS at certain time interval in minutes
Password	To set SMS command password, the default is 000000,
Over Speed	To set speed limit for overspeed alarm
Prefix(area code)	To set country code
Time Zone	To set time zone, GMT*60 (minutes), if in west half western hemisphere, "-" is necessary to put ahead
Wiretapping	To set wiretapping mobilephone number
Distance	To set track and upload data by certain distance in meters
Power Saving	To set time enter into standby mode when shaking not detected to save power and gprs data traffic
Course	To set upload data via angle shifting by certain angles

Item			Description
SMS	Call	SOS Buton/IN1	To set Mobilephone No. for SMS or Calling when SOS button/Input 1 is triggered
SMS	Call	Button B/IN2	To set Mobilephone No. for SMS or Calling when Button B/Input 2 is triggered
SMS	Call	Button C/IN3	To set Mobilephone No. for SMS or Calling when Button C/Input 3 is triggered

SOS Button/IN1	To customize the reply SMS text when SOS Button/Input 1 triggered
Button B/IN2	To customize the reply SMS text when Button B/Input 2 triggered
Button C/IN3	To customize the reply SMS text when Button C/Input 3 triggered

Call for SMS	Tick it to reply SMS when calling in
Cut off Power	Tick it to send alert when the external power be cut off

Appendix Ⅱ

SMS Command List

Description	Command	Remarks
Get current location	W******,000	Get current location
Get location in google map URL format via SMS	W******,100	http://maps.google.com/maps?f=q&hl=en&q=22.542563,114.077971&ie=UTF8&z=16&iwloc=addr&om=1
Change user's password	W******,001,######	****** is old password ###### is new password
Set interval for automatic timed reports receiving by SMS	W******,002,XXX	XXX is the interval in minute. If XXX=000 it will stop tracking
Set preset phone number **for SOS button**	W******,003,F,P,T	F=0, to disable this function; F=1, only sending SMS; F=2, only calling preset phone number; F=3, both SMS and calling (default) P is the button number and should be 1,or 2, or 3. If SOS button is linked to IN1, then P=1. T: Preset phone number (T must be less than 16 digits)
Set over speed alarm When MTO1 speeds higher than the preset value, it will send one over speed alarm SMS to the SOS preset number.	W******,005,XX	XX (the speed preset value) =00 , disable =[01<XX<20] (unit: 10Km)
Set Geo-fence alarm (foursquare) When the MT01 moves out of preset scope, it will send one Geo-fence SMS to the SOS preset number.	W******,006,XX	XX (set distance from current central point place) =00, disable =01, 30m =02, 50m =03, 100m

		=04, 200m
		=05, 300m
		=06, 500m
		=07, 1000m
		=08, 2000m
Extend Settings	W******,008,ABCDEFGHIJ###	A=0, disable position report function when a call is made toMT01 A=1, enable position report function to get position SMS by Calling MT01 I=0, disable power failure alert I=1, enable power failure alert The functions of BCDEFGHJ are remained for furthur use. ### is the ending character.
Set Geo-fence alarm 017 command is for alarm when tracker moves out the preset scope; 117 command is for alarm when tracker moves in. When the tracker moves in or out, it will send an SMS alarm to the authorized phone number for SOS.	W******,017,data W******,117,data	data is the coordinates which include: Lower-left X, Lower-left Y,Upper-right X,Upper-right Y For example, 11404.0000,E,2232.0010,N,11505.1234,E,2333.5678,N Note: 1. Lower-left X,Y (longitude and latitude) should be smaller than Upper-right X,Y; 2. All longitudes and latitudes should be in ASCII format as follows:- Longitude: DDDMM.MMMM,E/W. 4 places of decimal. '0' is needed to be stuffed if no value available. Latitude: DDMM.MMMM,N/S. 4 places of decimal. '0' is needed to be stuffed if no value available; 3. Send W******,017 or W******,117 without data to disable this function.
Presetting by SMS for GPRS tracking		
Set ID for MT01 by SMS	W******,010,ID	Tracker ID must be less than 14 digits
Set APN by SMS	W******,011,APN,APN Name, APN Password	APN Name, APN Password If no password required, just insert APN name only; APN defaulted as 'CMNET'; APN name + password not over 39 characters.
Set IP Address and Port by	W******,012,IP, Port	IP: xxx.xxx.xxx.xxx

SMS		Port: [1,65536]
Enable GPRS Function	W******,013,X	X=0, close GPRS (default); X=1, enable TCP X=2, enable UDP
Set Time Interval for Sending GPRS Packet	W******,014,XXXXX	XXXXX should be in five digitals and in unit of 10 seconds. XXXXX=00000,to disable this function; XXXXX=00001~65535, time interval for sending GPRS packet and in unit of 10 seconds.
Output Control	W******,020,P,F	P =1, Out1 　=2, Out2 　=3, Out3 　=4, Out4 　=5, Out5 F =0, to disable the output 　=1, to enable the output
Output Control (Safe **mode)** This function is achievable when the speed is below 10km/h and GPS is available.	W******,120,ABCDE	ABCDE represents Out1, Out2, Out3, Out4, Out5 respectively. If A or B or C or D or E, =0, to disable the output =1, to enable the output =2, to remain previous status
Set power saving mode **WhenMT01 is still** (In power saving mode, GPS stops working. GSM enters standby mode and stop sending out message until it is activated by an SMS or an incoming call)	W******,026,XX	XX=00, to disable this function XX=01~99, to set this function. It is in unit of minute. Example: If XX=10, MT01 will enter power saving mode in 10 minutes after it is immobile.
Set phone number for **wiretapping**	W******,030,T	T is the telephone number for wiretapping and max. 16 digits
Set time zone difference	W******,032,T	T=0, to disable this function T=[1, 65535] to set time difference in minutes to GMT. Default value is GMT +, not necessary for those ahead of GMT. For example, either +120 or 120

		is acceptable. -, required for those behind GMT. For example, -120.
Set character for SOS alert message	W******,033,P,Char	Char P is the button number. P=1, 2, or 3. Char is the character in SOS message and max 32 characters
Set tracking by driving angle change function	W******,036,Degree	Measured by Degree(s), Degree=0,disable this function；X=1-359，means set angle degree interval in this function.
Set tracking by distance function	W******,045,X	Measured by Meter(s), X=0, disable this functio；X=1—65535，means the distance interval in this function.
Set clear/reset odometer function	W******,046	To clear and reset odometer information to zero.
Set function of recive location physical address name via SMS	W******,111	This function need support of the GPRS01 or SMS01 tracking platform, address SMS will be received in text format.
Get version and serial number	W******,600	To get version and serial number of current firmware
Get IMEI	W******,601	To get IMEI
Reboot GPS and GSM Module	W******,900###	### is the ending character.
Initialization To turn all the parameters / settings (except for the password) to factory default.	W******,990,099###	### is the ending character.
Password Initialization	W888888,999,666	This command will reset the current password to factory default password 000000