GPS Vehicle Tracker

USER MANUAL (Model: VT900)

Please read carefully before operation

Contents

1. Product overview

VT900 is an advanced GPS/GSM/GPRS tracking device which is specially developed and designed for vehicle real-time tracking and security. With superior GPS and GSM modules, VT900 has good sensitivity and stable performance. Especially, VT900 is well designed to work with our web-based tracking system, which is suitable for a company to establish a tracking server to provide real-time tracking solutions to their customer or manage their fleet. It is a fully function tracker that supports camera and voice prompt/broadcasting functions and has strong expansibility and customization ability.

2. Applications

- Vehicle Real Time Tracking
- Car security/Anti-Hijack
- Fleet Management

3. Product Function and Specifications

Product Function

- GPS tracking & RFID car alarm function (need equip RFID kit)
- Support immediately snapshoot via tracking platform (Need camera support)
- Two way communication
- Harsh acceleration Alert/Braking Alert
- OTA function(support upgrade Over The Air)
- Oil leaking/Refuel Alarm
- Get location physical address name by SMS request & from the web-platform
- Crash alert (optional)
- Tracking via SMS or GPRS (TCP/UDP)
- Current location report
- Tracking by time interval
- Tracking by distance interval
- Position logging capacity up to 26,000 + waypoints
- SOS panic button
- Geo-fencing control
- Over speed alert
- Engine-cut in safety mode
- Built-in motion sensor for power saving
- Google map URL for location via SMS, which shows you location on map via mobile phone
- Remote listen in/Wiretapping
- Mileage calculation with longitude and latitude via SMS, view mileage data via GPS web-based tracking centre system
- I/O: 5 digital inputs, 3 negative and 2 positive triggering; 5 outputs.
- Analog Input: 2 Analog Input for temperature sensor & fuel remote monitoring

Specifications

Items	Specifications
Dimension	105*75*30mm
Weight	180g
Charging Voltage	9V~24V
SIM card type	3V
Power consumption	Active mode(peak) < 1.0A Active mode(avg.) < 300mA
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
Speaker	optional
Camera	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
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
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	5 Digital Input (2 positive triggering and 3 negative triggering) 2 Analog Input Detection 5 Output

4. VT900 and Accessories

VT900 Main Unit

GPS Antenna

GSM Antenna

16P I/O Wire harness

Microphone

Relay

Optional Accessories

Camera

Speaker

Fuel Sensor

Passive RFID Kits

Active RFID Kits

Temperature Sensor

5. Installation

Install SIM Card

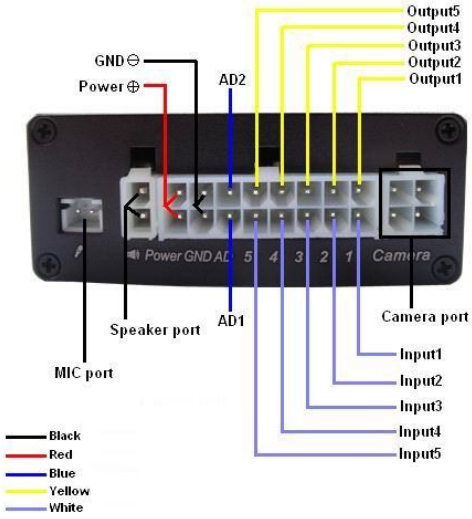
Check that the SIM has not run out of credit (test the SIM in a phone to make sure it can send and receive SMS);

Before installing the SIM card, turn off the power for VT900. Then install the SIM card as following:

Install I/O wire harness

The I/O wire harness is a 16-pin wire harness including power wire,

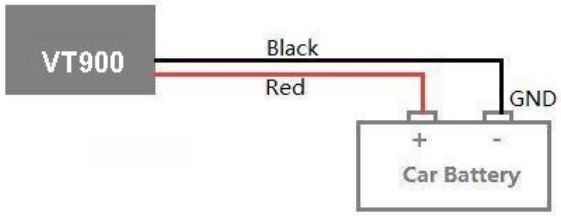
Analog input wire, negative/positive input and output wire



PIN Number	Color	Description
IN1/SOS	White	Digital Input 1 (negative triggering)
IN2	White	Digital Input 2 (negative triggering), e.g. detecting status of vehicle door.
IN3	White	Digital Input 3 (negative triggering)
IN4	White	Digital Input 4 (positive triggering), e.g. detecting the ACC.
IN5	White	Digital Input 5 (positive triggering).
AD1	Blue	10 Bits Resolution Analog Inputs. 0~6V DC Detection. It can be used to connect with temperature/fuel sensor etc.
GND	Black	Ground
POWER	Red	DC In (power source). Input voltage: 9V~36V. 12V suggested.
OUT1	Yellow	Output1. It can be used to connect with relay for engine immobilization. Low voltage (0V) when effective and open drain (OD) when ineffective. Output open drain sink voltage (ineffective): 45V max. Output low voltage sink current (effective): 500mA max.
OUT2	Yellow	NC
OUT3	Yellow	E.g. connected with siren
OUT4	Yellow	E.g. unlocked car door
OUT5	Yellow	E.g. Lock car door
AD2	Blue	10 Bits Resolution Analog Inputs. 0~6V DC Detection. It can be used to connect with temperature/fuel sensor etc.
GND	Black	Ground.
POWER	Red	DC In (power source). Input voltage: 9V~36V. 12V suggested. Same as PIN8

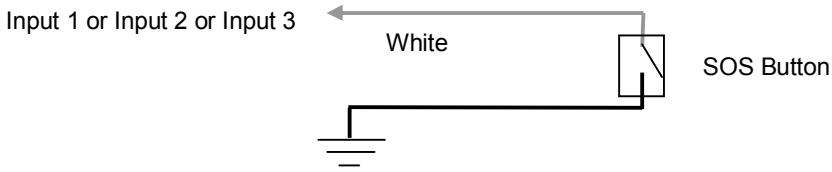
5.3 Power/GND

Connect GND (-Black) and Power (+Red) wires to the battery of vehicle.

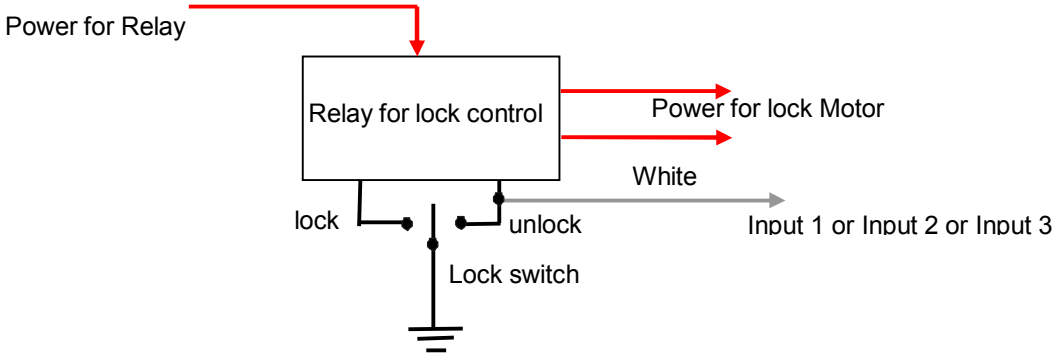


5.4 Digital Input (Negative Triggering)

E.g. Detecting SOS button

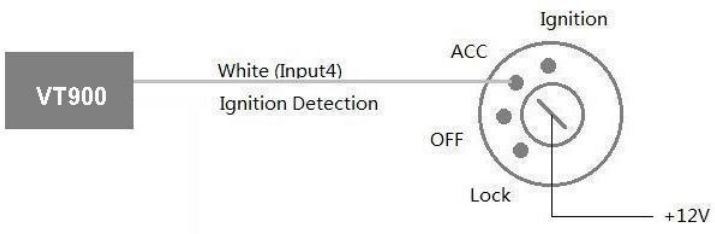


E.g. detecting vehicle door open/close



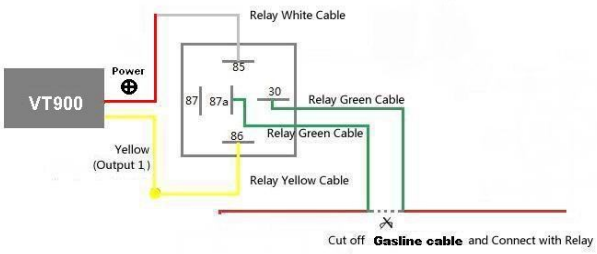
5.5 Digital Input (Positive Triggering)

E.g. detecting engine on/off status



5.6 Output

E.g. Control fuel-cut



5.7 Analog Input (PIN6/AD2)

5.7.1 Analog Input Application 1– Detect External Power Voltage

Input range：0-6V

Voltage Calculating Formula: input voltage=(AD*6)/1024

0x0377=>887(Decimal)=>(887*6)/1024=5.1972V(Voltage)

OxO2FB=>763(Decimal)=>(763*6)/1024=4.4707(Voltage)

Note:

Fuel level sensors supplied by our company are resistance-type sensors with output resistance: 0-200Ù (Ohm).

For the circuit shown on above figure, if VCC is 12V, R should be 200Ù (ohm) and if VCC is 24V then R should be 600Ù (ohm) to make the input range to AD1 or AD2 is 0-6V.

Below formula is for calculating the fuel percentage left for this fuel level sensor:

$$\text{Percentage Left} = \frac{\text{AD value}}{1024 * 2 - \text{AD value}} * 100\%$$

The value must be converted into decimal, for example, 0x0267 is 615 in decimal.

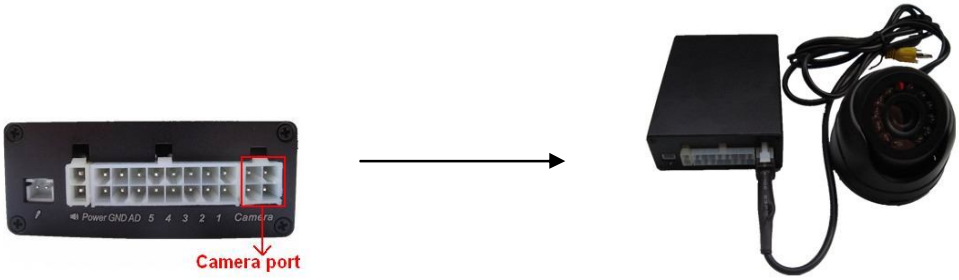
5.8 Install GPS/GSM Antenna

Connect the GSM antenna to the SMA connector which is 'GSM' text labeled. The GSM antenna is non-directional, so you can hide it in any place of vehicle.

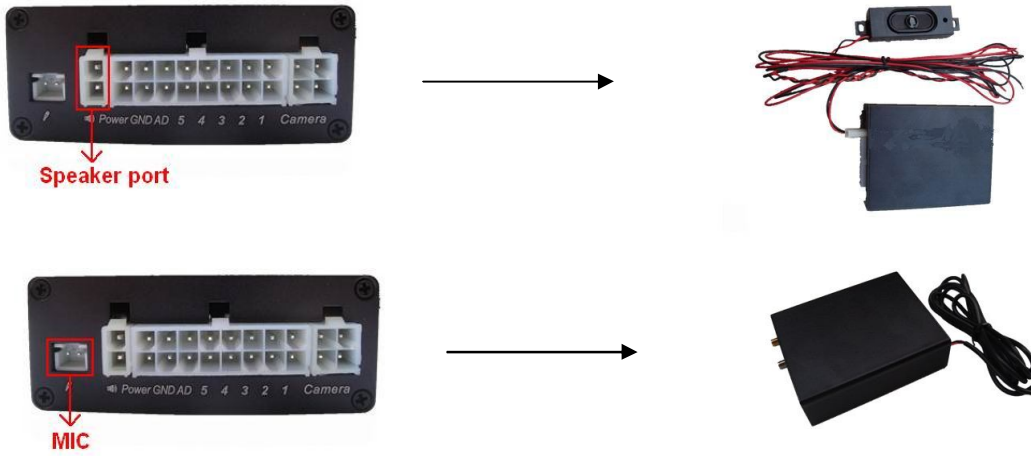
Connect GPS antenna to the GPS connector which is 'GPS' labeled. The optimum location for the GPS antenna is on the roof of the vehicle. The covert and GPS antenna are directional, make sure they are facing up and lying as flat as possible. Secure them in place with glue or zip ties.

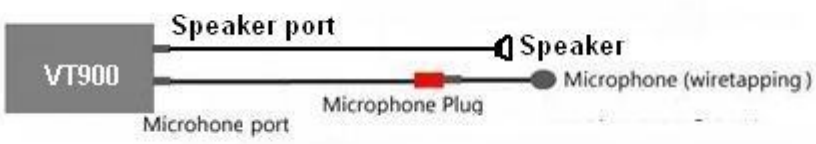
Note: Do not shield or cover the GPS antenna with any objects containing metal.

5.9 Install Camera (Optional) (more Specific details refer to Appendix 3)



5.10 Install Microphone and Speaker (optional)





5.11 Charging

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

5.12 LED Indications

Insert the 16-Pin wire harness and push the power switch to turn on/off VT900

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)	VT900 has a GPS fix
Flashing (1 second on and 2 seconds off)	VT900 has no GPS fix
GSM LED (Green)	
Flashing (every 0.1 second)	Initializing
Flashing (0.1 second on and 2.9 seconds off)	VT900 is connected to the GSM network
Flashing (1 second on and 2 seconds off)	VT900 is not connected to the GSM network

6. Set SMS for GPRS tracking

6.1 Set ID by SMS

Command: **W<password>,010,ID**

Description: every tracker has a unique ID. Tracker ID must be less than 14 digitals

Example:

SMS send:**W000000,010,20120823**

Meaning: this tracker's ID is 20120823

6.2 Set APN by SMS

Description: W<password>,011, APN name, APN username, APN password

if no username and password required, just put in APN name only.

Command: **W<password>,011,APN name,APN username, APN password**

6.3 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

6.4 Enable GPRS Function

Command: **W<password>,013,X**

Description: X=0, close GPRS (Default)

X=1, enable TCP

X=2, enable UDP

6.5 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

7. Basic SMS Commands

7.1 Position report

Description: To know the position of your VT900, send an SMS or make a telephone call directly to VT900 and you will receive an SMS with its location and other information.

Command: **W<password>, 000**

Note: The default password is **000000** (the following the same)

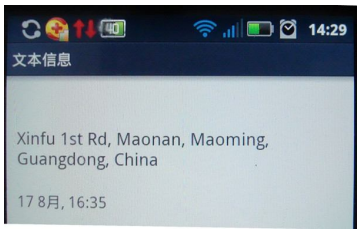
Item	Description
ID: 1234567890	The tracker's ID number
ACC=OFF	The engine is turned off
Latitude=23 08 57.58N, longitude=113 18 59.31E	Latitude and longitude information, "N" in latitude means North ,"E" in latitude means East,
Speed=0.00Km/h	Speed information
Odometer=0.013km/h	Odometer information
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 VT900's position:

Use your mobile phone to call the SIM number in the VT900, after hearing several times ring, then hung up, VT900 will send a SMS with location information back to your mobile phone.

7.2 Set function of receiving actual address name via SMS



Description: To know specific address of your VT900, send an SMS and you will receive an SMS with its location physical address name.

(This command needs our GPRS tracking platform GPRS-01 support)

Command: **W<password>,111**

Example:

SMS send: W000000, 111

SMS receive: Xinfu 1st Rd, Maonan, Maoming, Guangdong, China

7.3 Get location in Google map URL format

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**

Example:

SMS send: W000000,100

SMS Received: as following picture 1

Note: then by click the URL, you can get the location in Google map from your mobilephone, see bellowing picture 2

1

2

7.4 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

Example:

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.

7.5 Set over speed alarm

Command :**W<password>,005,XX**

Description: XX(the speed preset value) XX=00, disable XX=[01<XX<20](unit:10Km)

Example:

SMS send:W000000,005,10

SMS 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.

7.6 Harsh acceleration/braking alert

SMS command: **W<password>,047,X**

Description: X means value of velocity change, 1 to 2 digitals. Default value is 0 for disable acceleration/braking alert function.

(1) Acceleration Alert: When the speed is over 20km/h, if the speed increase over X km/h in 5 seconds, the tracker will trigger acceleration alert, send the alarm data to tracking platform, its alarm code is 0x73.

Example:

SMS send: W000000,047,5

Meaning：When the speed is over 20km/h, if the speed increase over 5 km/h in 5 seconds, the tracker will trigger acceleration alert, send the alarm data to tracking platform.

(2) Braking Alert: When the speed is over 20km/h, if the speed decrease over (X+10) km/h in 5 seconds, the tracker will let out braking alert, send the alarm data to tracking platform, the protocol number is 0x72.

Example:

SMS send: W000000,047,10

Meaning: When the speed is over 20km/h, if the speed decrease over 20 km/h in 5 seconds, the tracker will let out braking alert, send the alarm data to tracking platform.

7.7 Oil leaking/Refuel Alarm

SMS command: **W000000,094,X**

Description: X = 000~199(unit: second), means for fuel capacity change exceed preset value in the time interval X, it will send out oil leaking or fueling alarm, send alarm data to tracking platform, the leaking protocol number is 0x74, the fueling protocol number is 0x76. And if X is less than or equal to 5 seconds, then the function will be disabled. System default value is 10 seconds.

7.8 Enable Impact Alarm Function:

SMS command: **W<password>,028.1**

Meaning: If the vehicle impact , an alarm SMS will send to your phone to warn you

Disable Impact alarm function:

SMS command: w<password>,028,0

When sending out impact alarm, alarm data will be sent to platform, alarm code is 0x14

System's default setting is disable function of impact alarm

More commands please refer to appendix 2

8. Troubleshooting

Problem: Unit will not turn on	
Possible Cause	Resolution
Wiring was not connected properly	Check and make sure wiring connection is on order
Battery needs charging	Recharge battery
Problem: Unit will not respond to SMS	
Possible Cause	**Resolution**
GSM antenna was not installed properly	Make VT900 connected to GSM Network.
GSM Network is slow	Wait for SMS. Some GSM networks slow down during peak times or when they have equipment problems.
Wrong password in your SMS	Insert the correct password
The SIM in VT900 has run out of credit	Replace or top up the SIM card
No SIM card	Insert working SIM card. Check in phone that the SIM can send SMS messages.
SIM card has expired	Check in phone that the SIM can send SMS messages. Replace SIM card if needed.

SIM has PIN code set	Remove PIN code by inserting SIM in you phone and deleting the code
SIM is warped or damaged	Inspect SIM, clean the contacts. If re-inserting does not help try another to see if it will work.
Roaming not enabled	If you are in a different country your SIM account must have roaming enabled
Battery is low	Recharge the unit and the GSM will start working.
Problem: SMS from VT900 states "last....."	
Possible Cause	**Resolution**
Unit does not have clear view of the sky	Move the antenna of the unit to a location where the sky is visible.
VT900 is in an inner place	Wait for the target to come out

Appendix 1

Configure by computer

This part shows the basics of how to use the **TOPSHINE Parameter Editor. Note: Don't connect VT900 to external battery when configuring.**

How to Edit the Parameters of VT900

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

USB configure cable

Step 2 . **Install USB driver program for the configuration USB cable**

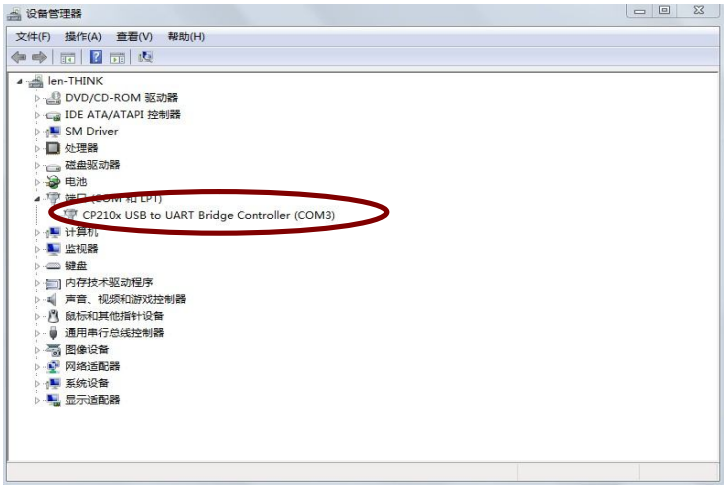
1. Run 'CP210x_Prolific_DriverInstaller' to install the driver for the USB data cable.

Note: CP210x_Prolific_DriverInstaller is in the folder 'USB-232 Driver' in the CD.

Connect the USB Data Cable between VT900 and PC.

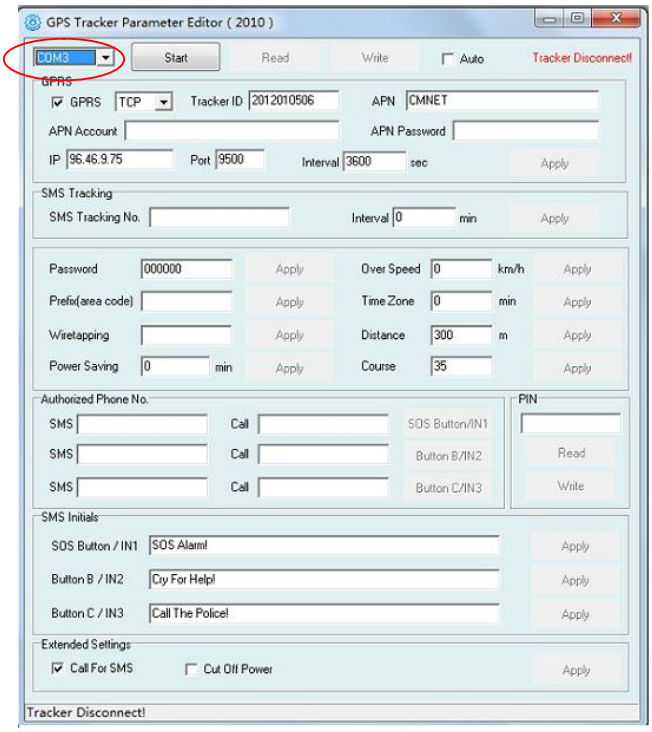
2. Connect the configuration cable with PC, open device management of your computer. You can find "Prolific USB-to-Serial Comm. Port " , as following picture shows.

The USB port is virtual comm. Port (com3) in this example,

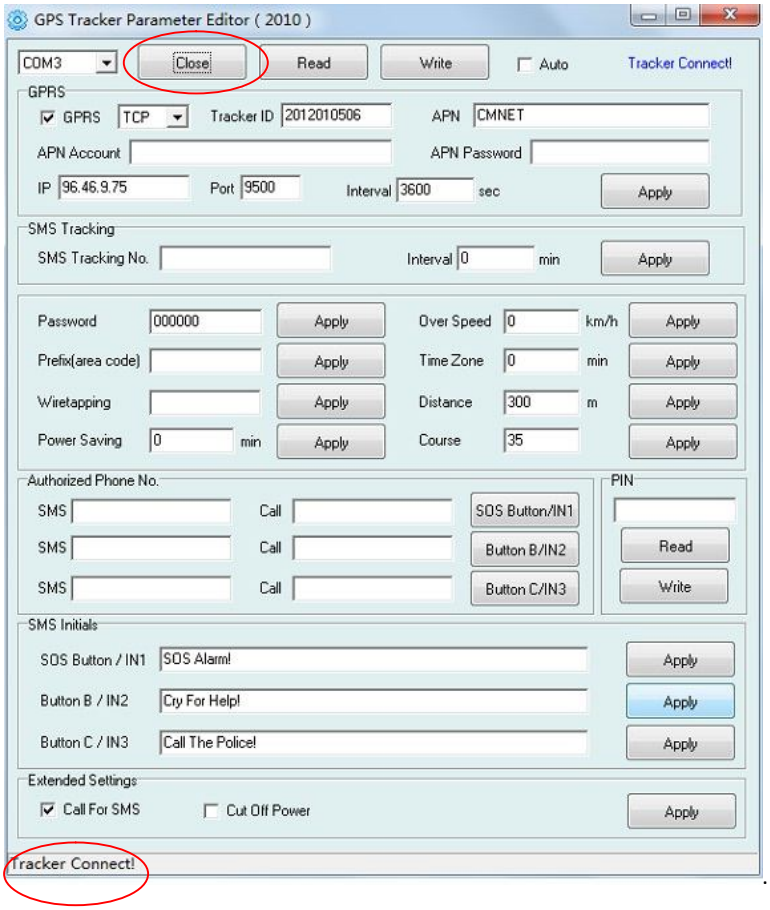


Step3 .Open the GPS Tracker Parameter Editor

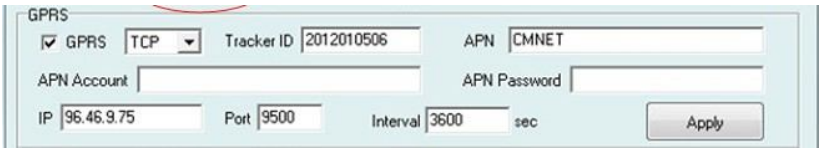
1. Connect VT900 with PC by the configuration cable
2. Confirm VT900 is in the Power Off states
3. Double click GPS Tracker Parameter Editor.exe and Select the COM Port, following picture shows:



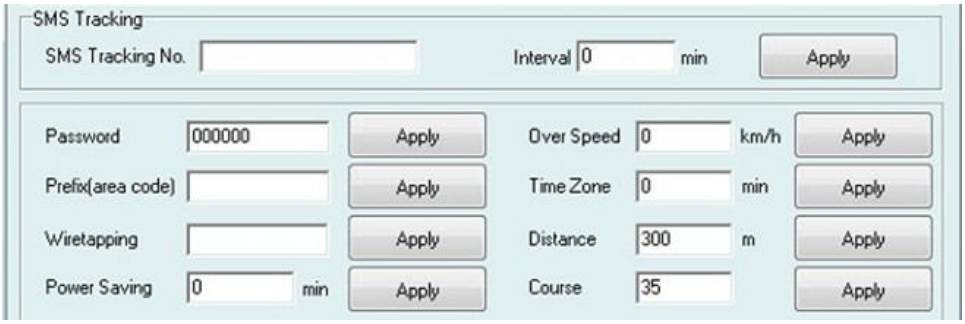
4. Click Start button to open the com port.
5. Turn on VT900and it will connect with the Editor automatic, As soon as they connect successful, all the buttons are availability and the status bar will clue on' Tracker Connect!' , then you can Read or Write the VT900's Parameters



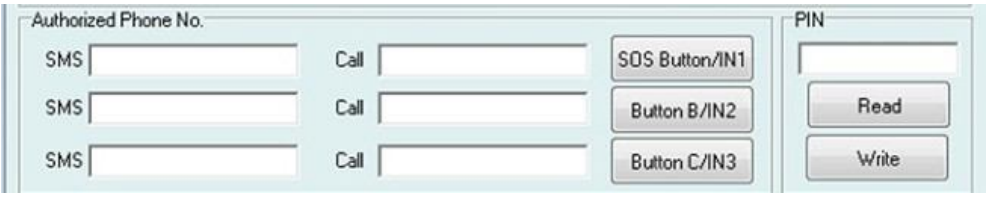
Instruction of parameter setting:



Item	Description
GPRS	Tick to enable GPRS function, select TCP or UDP mode
Tracker ID	Should be unique, in number, maximum 14 bytes
APN, APN Account, APN Password	Put your local APN, 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

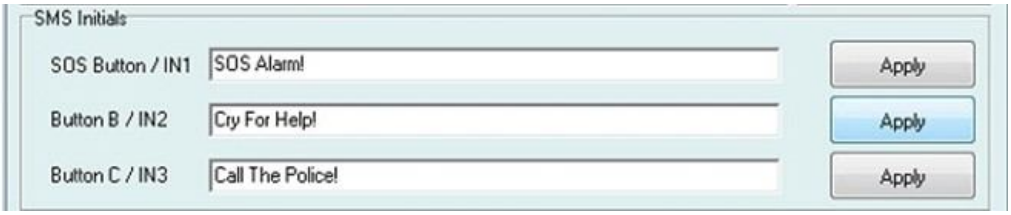


Item	Description
SMS tracking No. Interval	To put a mobilephone number for automatic tracking by SMS at certain time interval in minutes
Password	To set SMS command password, the default is 000000,
Over Speed	To set speed limit for overspeed alarm
Prefix(area code)	To set country code
Time Zone	To set 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 Button/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 2

Presetting by SMS for GPRS tracking		
Set ID for VT900 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 SMS	**W******,012,IP, Port**	IP: xxx.xxx.xxx.xxx 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 when VT900 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, VT900 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 receiving 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 No.	**W******,601**	To get device IMEI No.
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

Description	Command	Remarks
Get current location	**W******,000**	Get current location of VT900
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	**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 VT900 speeds higher than the preset value, it will send one over speed alarm SMS to the SOS preset	**W******,005,XX**	XX (the speed preset value) =00 , disable =[01<XX<20] (unit: 10Km)

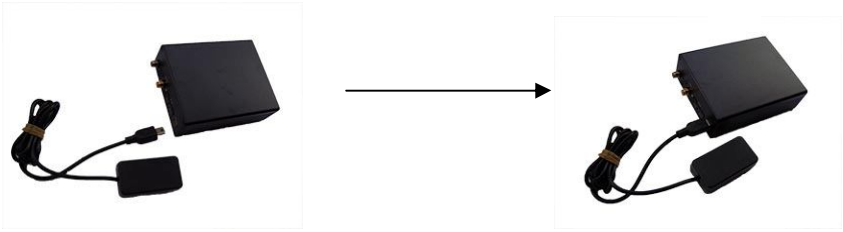
number.		
Set Geo-fence alarm (foursquare) When the VT900 moves out of preset scope, it will send one Geo-fence SMS to the SOS preset number.	**W******,006,XX**	XX (set distance from current central point place) =00, disable =01, 30m =02, 50m =03, 100m =04, 200m =05, 300m =06, 500m =07, 1000m =08, 2000m
Extend Settings	**W******,008,ABCDEF GHIJ###**	A=0, disable position report function when a call is made to VT900 A=1, enable position report function to get position SMS by Calling VT900 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.

Appendix 3: Configure and use of RFID function

RFID Reader

RFID Tag

1. Install RFID as following:



2. How to use

2.1 SMS Commands

2.1.1 Firstly, enable the RFID:

(1) Enable the RFID function： **W000000,062,1**

(2) Disable the RFID function: **W000000,062,0**

(3) The system default is RFID function enabled.

(4) When send the disarming SMS command ”000000DSM”, it will automatic disable the RFID function, and if send the enable SMS command the RFID function will be restored.

2.1.2 Secondly To configure authorized RFID tag by SMS commands

W<password>,060,num1

W<password>,160,num2

W<password>,260,num3

W<password>,360,num4

W<password>,460,num5

Note: The default password is **000000**

Num1, num2, num3, num4, num5 means 5 digital FRID number.

For example: if configure NO.00412 as the authorized RFID tag, then send SMS:

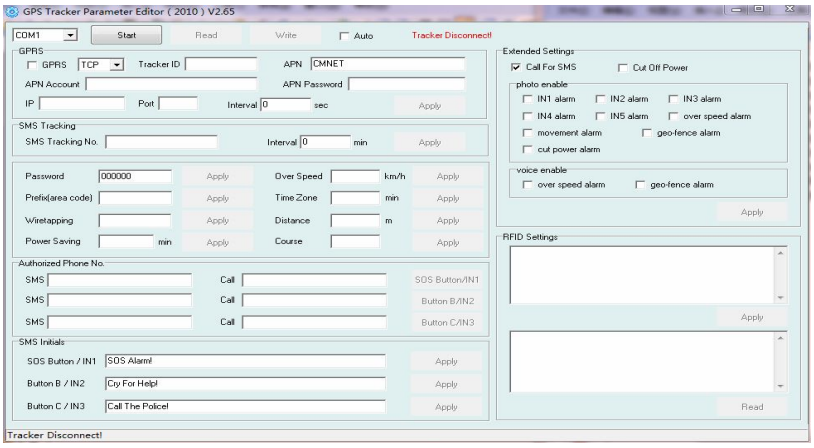
W000000,060,00412

Tracker will reply SMS “STUDY ID OK: 1:00412; 2:00000; 3:00000; 4:00000; 5:00000”, means the 1st RFID tag number is 00412, the 2nd , 3rd, 4th, 5th RFID tag not set. If the RFID tag is detected at this time, tracker will send SMS “NOW ID : 00412 “ .

Another way to configure authorized RFID tag by Parameter.

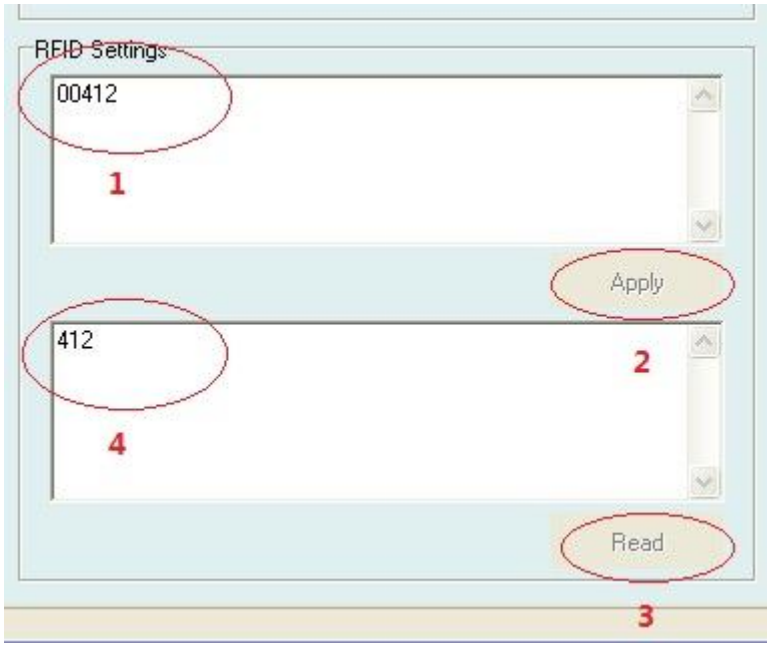
Step 1: Open GPS Tracker Editor (2010) V2.65 (following picture)

(Following Appendix 1 to configure the tracker)



Turn on MT100 and it will connect with the Editor automatic, As soon as they connect successful, all the buttons are availability and the status bar will clue on' Tracker Connect!' , then you can Read or Write the MT100's Parameters

Step 2: Finding RFID Settings (as following picture). Following the digital sort to do: 1. write the RFID tag's number, (example: 00412) 2. click Apply, then display "com operate success" ,click the OK; 3. Click the Read. 4. Then it will display "412" it prove already configure authorized RFID tag succeed. If you want to configure multiple RFID tags, just like the example "00412,00234,00322,*****"; after write success, it will display" 412,234,322,***"



Note: RFID reader detecting test RFID tag distance is within 5 meters, the RFID tag must be detected before RFID can be used.

2.1.3 The ARMING SMS command: "<password>ARM "

The disarming SMS command "<password>DSM ",

When send the disarming SMS command "000000DSM", it will automatic disable the RFID function, and if send the enable SMS command the RFID function will be restored.

2.1.4 Judge if need to cut off oil/fuel supply when the ignition alert occurs to stop engine start.

Enable function of cutting off oil-way when illegally ignite under ARM status

SMS command: **W<password>,061,1**

Disable function of cutting off oil-way when illegally ignite under ARM status

SMS command: **W<password>,061,0**

The system default setting is disable function of cutting off oil-way when illegally igniting under ARM status.

3. Command List

Description	Command	Reply SMS
Configure authorized RFID tag	**W<password>,060,num1** **W<password>,160,num2** **W<password>,260,num3** **W<password>,360,num4** **W<password>,460,num5**	STUDY ID OK: 1:num1; 2:num2; 3:num3; 4:num4; 5:num5
Enable the RFID detection	**W<password>,062,1**	ENABLE OK !
Disable the RFID detection	**W<password>,062,0**	DISABLE OK !
Arm	**<password>ARM**	Vehicle is armed!
Disarm	**<password>DSM**	
Enable function of cutting off oil-way when illegally ignite under ARM status	**W<password>,061,1**	System default setting is disable function of cutting off oil-way when illegally ignite under ARM status.
Disable function of cutting off oil-way when illegally ignite under ARM status	**W<password>,061,0**	

4. Functions

4.1 To ignite in Armed status, it will check the RFID tag. If an authorized tag can be detected, it will not alert. If an authorized tag can not be detected, it will send alert SMS “Engine Is On !” to three authorized alert mobilephone numbers, and at the same time, the Output 3 will control siren to sound, and call the three mobilephones at one minute interval, and decide to cut off the oil/fuel supply according to its oil cut enable/disable status.

4.2 If vehicle door is opened in armed status, it will check the RFID tag. If an authorized tag can be detected, it will not alert; if an authorized tag can not be detected, it will send alert SMS “Door Is Open !” to three authorized alert mobilephone numbers, and the Output 3 will control the siren to sound, and call the three mobilephone numbers at one minute interval.

4.3 If the vehicle is moved/towed in armed status, it will detect the RFID tag, if no authorized tag be detected, it will send alert SMS ”Movement alarm!” to the 1st alert mobilephone number.

4.4 In disarmed status, if no authorized RFID tag Is detected for successive 30 seconds, then the system will automatically arm the vehicle, and it will call the 1st alert mobilephone number, after several rings and hang off automatically, indicating the vehicle be armed.

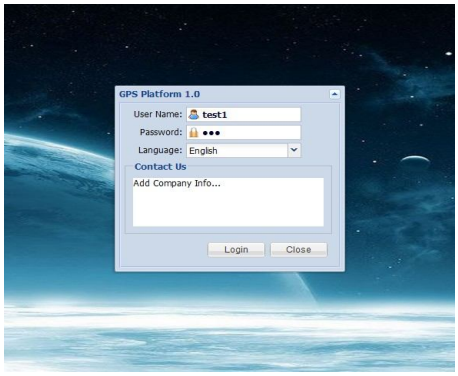
4.5 If alert be triggered, the siren will sound for 10 seconds and shut or immediately shut when disarm action is detected.

4.6 If illegal ignition be detected and oil/fuel supply cut off enabled, then the oil/fuel supply will be cut off, and it will be immediately restored as soon as disarm action be detected.

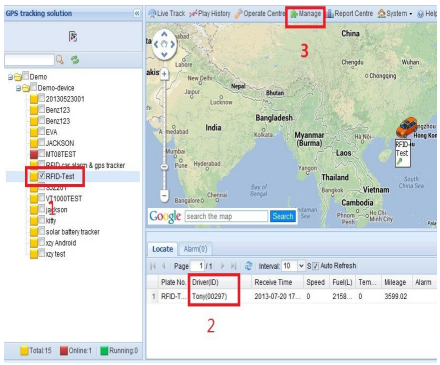
4.7 If the oil/fuel supply is cut off by SMS or GPRS platform, it can not be restored by disarm action.

5. RFID on the platform applications

5.1 Into our GPS Tracking Platform: **http;//www.global-track.net,** as following picture P1，login interface, as following picture P2



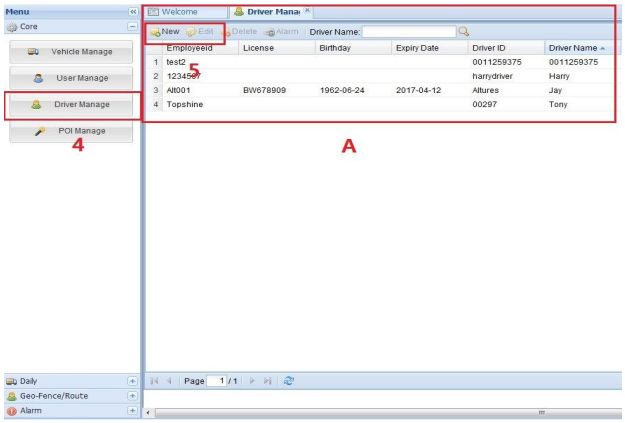
P1



P2

5.2 Select your device, such as instructed 1；it will display your car's the current information, Driver (ID) means the driver and his/her RFID tag number such as instructed 2；

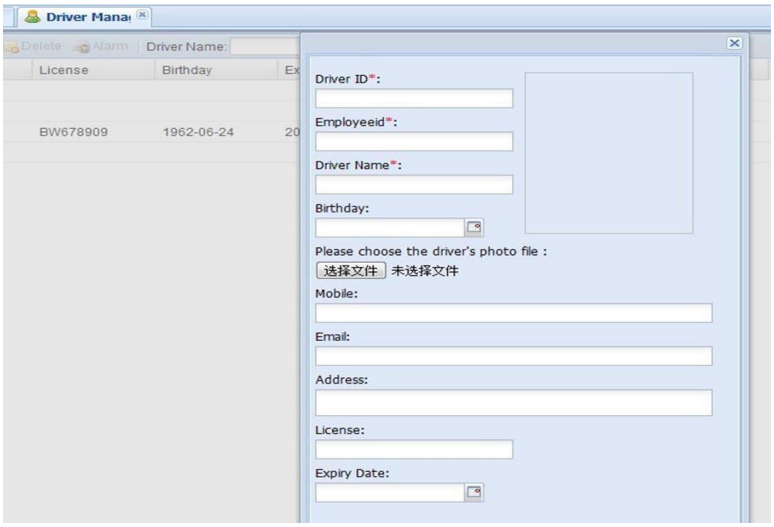
5.3 If you want to edit the driver information, please click "manage" ，such as instructed 3, then interface will into as following picture P3;



P3

5.4 Click Driver Manage , such as instructed 4； it will open such as instructed A；

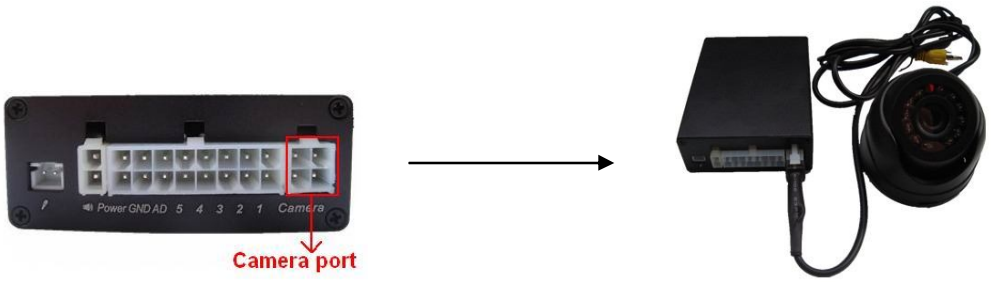
You can click New, such as instructed 5, open as following picture P4; to add tag ID and the driver's information etc.



P4

Appendix 4: How To Use The Camera

1. Install camera



2. How to take photos:

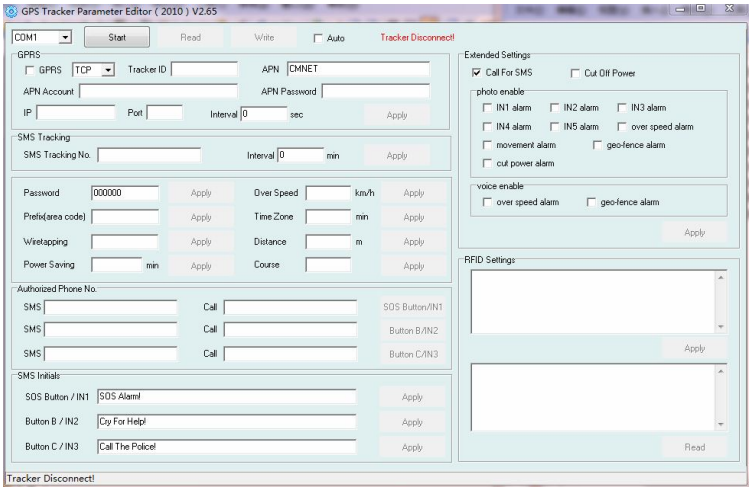
2.1 Send SMS commands to set take photos :

Description	**Command**	Remarks
Configure SMS for the extended photoing parameters	**W<password>,108,<ABCDEFGHIJ…>**	A : Snap or not when IN1 alert triggered, A=1 means snap, A=0 means no action B : Snap or not when IN2 alert triggered, B=1 means snap,B=0 means no action C: Snap or not when IN3 alert triggered, C=1 means snap, C=0 means no action D: Snap or not when IN4 alert triggered, D=1 means snap,D=0 means no action E: Snap or not when IN5 alert triggered, E=1 means snap, E=0 means no action F: Snap or not when over speed alarm triggered, F=1 means snap, F=0 means no action G: Snap or not when movement alarm triggered, G=1 means snap, G=0 means no actions H: Snap or not when Geo-fencing alarm triggered, H=1 means snap, H=0 means no actions I: Snap or not when power fail alert triggered, I=1 means snap, I=0 means no actions J: Snap or not when Oil/fuel leakage alarm triggered, J=1 means snap, J=0 means no actions The system all default is 0 , no actions.
By send SMS to Roll call take photos:	**W<password>,051**	

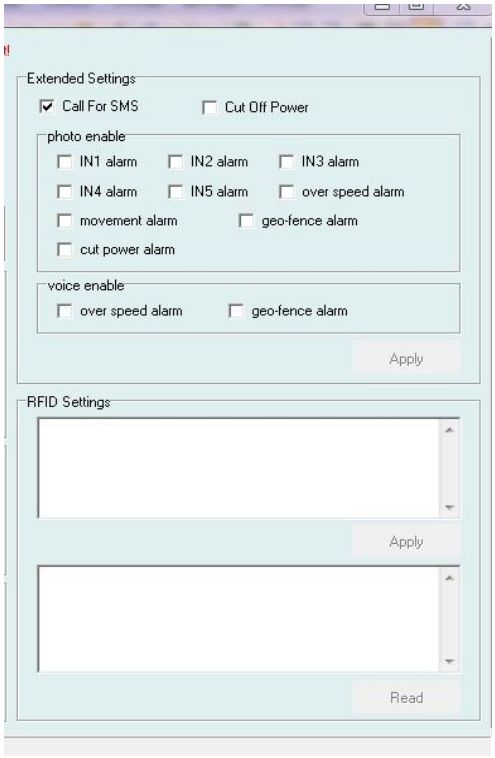
Camera Failure Alarm, send SMS "CAMERA ERROR ALARM!" to SOS number, and send alarm data to platform as well, alarm code 0x75

2.2 Configure tracker to set take photos

Open gps tracker parameter editor (2010)v2.65(following picture)



Finding photo enable in the Extend Settings（as following picture）

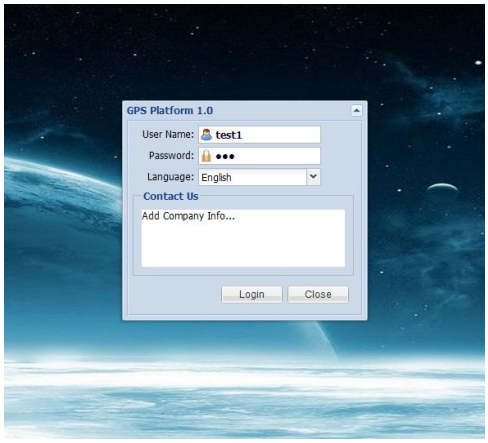


In photo enable option, Choose you want to select the function.

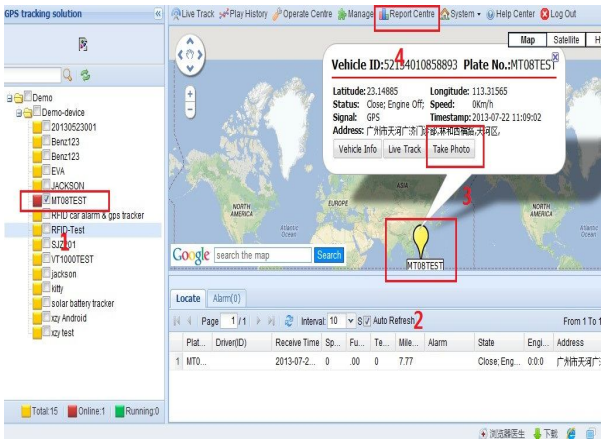
Such as select IN1 alarm , means when trigger IN1 alarm ,tracker will automatic take photo.

2.3 On the platform applications

Into our GPS Tracking Platform: **http;//www.global-track.net** , (following picture P1)，login interface，(following picture P2)

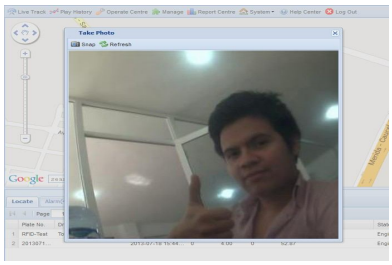


P1

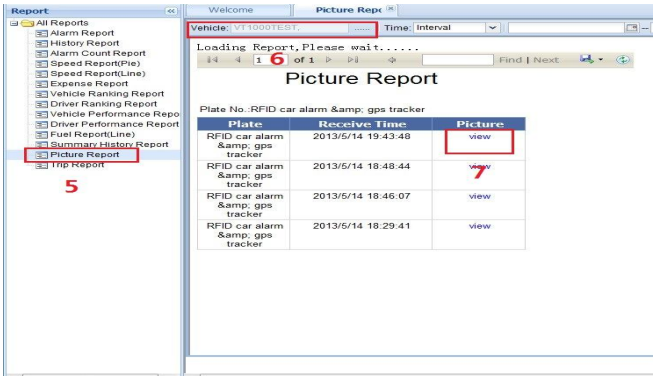


P2

Select your device, such as instructed 1; it will display your car's the logo on the map(instructed). Put the mouse on the logo, It will automatically pop up frame (instructed 3),you can click the "Take Photo" in the options (instructed 3),then it will taking photo down (following picture P3).If you want to see photos record, please click "Report Centre"(instructed 4),then The Report interface will pop up;（following picture P4）



P3



P4

In Reports options, there is a Picture Report, click it (instructed5), then it will display "Picture Report" interface. Choose you want to choose the vehicle (instructed6), wait for few seconds, it will display the Picture Report, click "view", Will see you want to see pictures（instructed 7）

Appendix 5: Fuel Sensor Installation and function

1. Installation instruction

1.1 Installation flow chart:

1.2 Operation procedures:

1.2.1 Find the position

Generally installed in the middle of the fuel tank, to avoid the original fuel floater

1.2.2 Clean the oil stain on the installation position

Clean the oil stain on the installation position

1.2.3 Holing

Use hand-drill with a 42mm metal drill bit, connect the power supply and drill in the position (Note: please do not drill too fast, stop when it is about to drop, then use the screwdriver and sharp-nose plier to remove the attached metal scraps to prevent them dropping into the tank). **Special note: Make sure to open the fuel tank cap before drilling; it's better to drain away all diesel, if not, just make sure not too full in the tank.**

1.2.4 Cleaning work

Use the grater to polish the rough selvedge;

Use a rope-tied magnet to adsorb the iron scraps.

1.3 Flange installation

1.3.1 Put the gasket under the flange and holing, then tighten with screws.

1.3.2 Put sealing ring

1.3.3 The sensor has two circle sealing rings, first fit the bigger ring and then the small one, fix them on the top of the sensor, see the flow chart.

1.3.4 Screw tighten the sensor

1.3.5 Put the sensor into the flange opening, and screw tighten along the screw thread direction, then wiring and wrapping.

1.3.6 Power supply of the fuel sensor

The sensor power voltage is 18-32VDC. Note: Do not connect the biggest power line in the vehicle, please connect the normal size power line, otherwise will burn the sensor.

1.4 Tools required

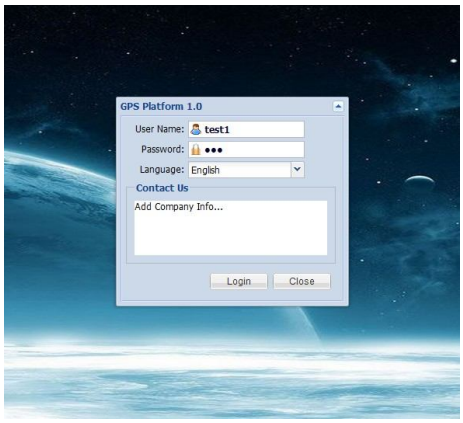
Tools: Hand-drill, Metal hole saw, Hex tapping screws (3cm)

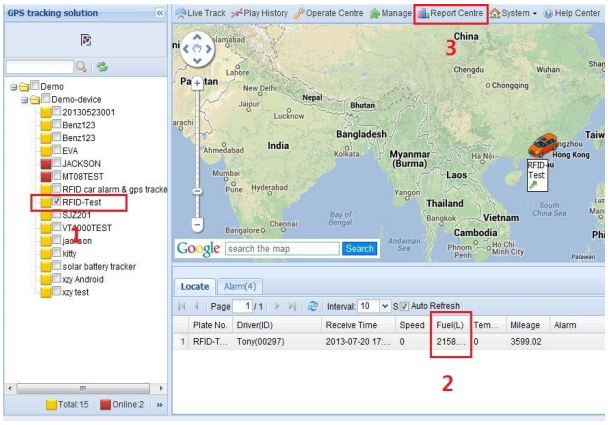
Pistal Drill **Hole saw** **Hexagon self tapping screw**

Extension cable of Fuel sensor: it's better wiring along the fuel tank, generally for a big vehicle, 9~10 m cable is enough and 5~8 m for a small vehicle; choose the 3-core, 0.75mm2 cable.

2 Fuel sensor on the platform applications

2.1 Into our GPS Tracking Platform: **http;//www.global-track.net** , as following picture P1，login interface，(as following picture P2)



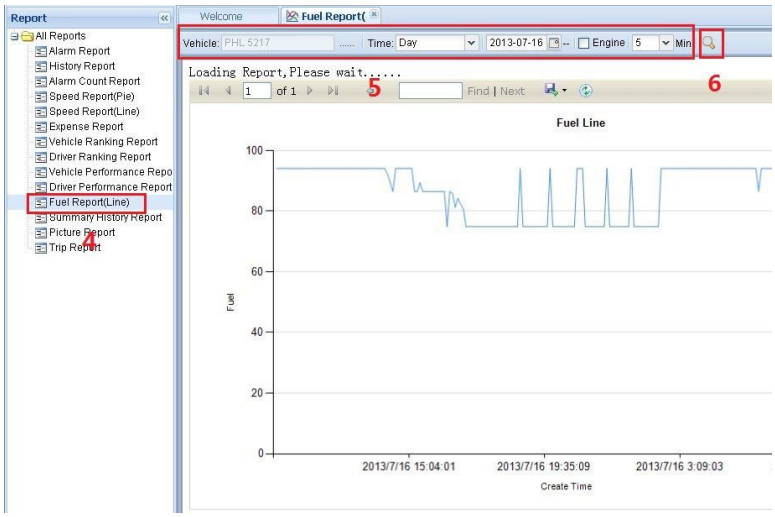


P1 P2

P2

2.2 Select your device, such as instructed 1; it will display your car's the current oil/Fuel (L) (instructed2).

2.3 If you want to see the history record chart. Please click "Report Centre"(instructed 3), then the Report interface will pop up; (following picture P3)



P3

2.4 In Report options, there is a Fuel Report (Line), click it (instructed 4), then it will display instructed 5, 6; you need choose "vehicle, Time or data etc.", and click search (instructed 6), later it will display "Fuel Line" chart.