# Auto leaders

# 900E

**Vehicle GPS Tracker User Manual**

2009-10-01

# Table of Contents

# 1. Working Directions

Thank you for your purchase of 900E Vehicle GPS Tracker. In order to realize the full functions of this product, please read this manual carefully before starting to use the product.

| | |
|---|---|
| 1. | This product can only be maintained and repaired by qualified professional service personnel. If you detach this product for maintenance or repair, your warranty will be invalidated. |
| 2. | When connecting the other devices, read carefully their instruction manuals, so as to carry out correct installation; do not connect incompatible device. |
| 3. | Please use genuine original parts and qualified batteries and peripheral equipments, so as to avoid damage to this product. |
| 4. | As this product is a high-tech product, please read carefully this manual before starting to use the product, so as to avoid inappropriate operation. |
| 5. | Drivers should not operate this product while driving a vehicle, thereby, affecting safe driving. |
| 6. | This product can work properly only when GSM communication is in good condition. |
| 7. | Please reduce electromagnetic wave interference to the product; and use it properly. |
| 8. | GPS communication is liable to be affected by environmental shielding; may fail to carry out positioning during certain circumstances. It will resume the positioning function as soon as it leaves the shielding environment. This is normal. Please do not worry when encountering such problem. |
| 9. | Each signal sent out from the system will be confirmed for successful transmission in the base station of the mobile operator. However, if system stoppage occurs or if the mobile telephone is preset to a switch off state by the customer, it cannot ensure successful transmission. |
| 10. | For safety reason, do not tell the other people your 900E mobile number, without taking precautions. Otherwise, your privacy may be compromised along with other safety problem. |

# 2. Wiring Installation

## 2.1. Product Parts List

| GPS Tracker Unit | |
|---|---|
| **GPS Antenna** | |
| **GSM Antenna** | |
| **Car Charger Lighter Socket** | |

## 2.2. Precaution before Installation

| 1 | Check if all the parts are included. |
|---|---|
| 2 | Prepare a SIM card for GSM communication. Use some other mobile phone to confirm that the PIN code has not been set and that it can dial out and receive telephone calls and SMS without problem. |
| 3 | Before install the SIM card; make sure to cut off power from the GPS Tracker unit. The correct installation method is to push the tray completely into the GPS Tracker unit, until you feel it is hooked by something. |
| 4 | Find a suitable place inside the car for installing the unit. |
| 5 | Check if all the wiring has been connected correctly; then connect the GPS Tracker unit to the power source. |

## 2.3. INSTALLATION

### 2.3.1    Step 1: Install SIM Card

| 1 | Using a speculate object to poke the small button of the SIM card seat, and then it will pop-up a small drawer. |
|---|---|
| 2 | Put the SIM card in the drawer, and put back the drawer, as direction shown in the picture. |
| 3 | Make sure to turn off the power before install the SIM card. |
| 4 | Make sure to deactivate the PIN code, so that the SIM card can operate without PIN protection. |
| 5 | Before install the SIM card to the GPS Tracker, please use a mobile phone to make sure the SIM card can make & receive phone calls without problem. |
| 6 | Before install the SIM card to the GPS Tracker, please use a mobile phone to empty the SMS storage of the SIM card. |

### 2.3.2    Step 2: Connect GSM Antenna

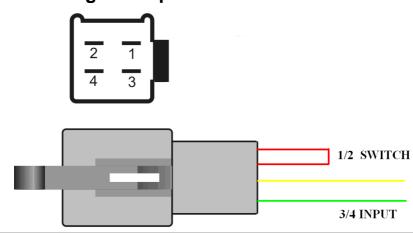| 1 | Connect the GSM Antenna to the unit. |
|---|---|
| 2 | Fasten the connection by turning the screw in the bottom. |
| 3 | Please do not swing round the antenna itself. |

### 2.3.3 Step 3: Connect GPS Antenna

| | |
|---|---|
| 1 | GPS antenna is used to receive satellite signals in the sky. It should be positioned at a place where it will have an unobstructed view of the sky. The ideal location is top of the dashboard or close to the rear window of the car. |
| 2 | GPS antenna can pick up signals through glass and plastic, but will not "see the sky" through metal or other conductive surfaces. To avoid distractions of GPS signal, make sure the antenna is not covered or shielded by any object containing metal, such as the metallic windshield. |
| 3 | If your car is with metallic windshield please cut a hole on the windshield above the place where you put the GPS antenna, so that the antenna can receive the GPS signals. |

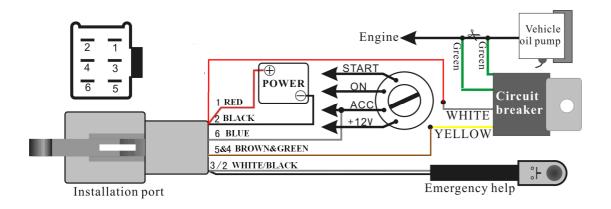### 2.3.4 Step 4: Connect power charging

900E connects to the 4pin and 6pin wires.

## 2.4. Wiring Description



| 4 pins connector | | |
|---|---|---|
| **Pin** | **Color** | **function** |
| 1 | Red | power switch |
| 2 | Red | power switch |
| 3 | Yellow | Connect to door sensor |
| 4 | Green | Undefined input. for example you can use it to detect the signal of car alarm |

| 6 pins connector | | |
|---|---|---|
| **Pin** | **Color** | **function** |
| 1 | Red | DC in<br>Input voltage: 8-40V<br>Suggestion: 12V |
| 2 | Black | GND |
| 3 | Brown | Output , starter kill relay you can use it to cut the electricity or oil of the car |
| 4 | White | SOS button |
| 5 | Green | Output , starter kill relay you can use it to cut the electricity or oil of the car |
| 6 | Blue | ACC signal detecting |

According to the relay parameter to make sure to following requirement:

The input voltage of relay must be suited to the car battery

# 3. Operating Instructions

SMS protocol of 900E, the default password of 900E is 000000

| | **SMS Instruction** | **Format** | **Remark** |
|---|---|---|---|
| 1 | Request one position | A******,000 | 000:   command code<br>******: password, default 000000 |
| 2 | Modify user password | A******,001,###### | 001:   command code<br>******: old password , default 000000<br><br>######: new password |
| 3 | Set a preset phone number for SOS button or monitoring number. | A******,002,1, Tel Number | 002:   command code<br>******: password, default 000000<br><br>1 :     Set SOS number<br>Tel Number: Preset Tel. number<br>(Tel Number must <20 digits ) |
| | When this button is pressed,<br>900E will send the SOS and position message to the preset number. | A******,002,2, Tel Number | 002:   command code<br>******: password, default 000000<br><br>2 :     Set monitoring number<br>Tel Number: Preset Tel. number<br>(Tel Number must <20 digits ) |

| | | | |
|---|---|---|---|
| 4 | Set the time interval of position refresh to SOS number | A\*\*\*\*\*\*,003,XXX | 003: command code<br>\*\*\*\*\*\*: password, default 000000<br><br>XXX: (3 digital)<br>XXX =000,stop<br>XXX = 001 – 999 time internal (unit: min) |
| 5 | Set low power alarm When the 900E voltage is lower than the preset value, 900E will send one lower power alarm SMS to the control number.<br>Otherwise,there is not this function in vehicle tracker | A\*\*\*\*\*\*,004,X | 004: command code<br>\*\*\*\*\*\*: password, default 000000<br><br>X : voltage preset value<br>X=0, close (default )<br>X =1, <3.5V send SMS alarm<br>X =2, <3.6V send SMS alarm<br>X =3, <3.7V send SMS alarm<br>X =4, <3.8V send SMS alarm<br>X =5, <3.9V send SMS alarm |
| 6 | Set over speed alarm When the 900E speed higher than the preset value, 900E will send one over speed alarm SMS to the control number. | A\*\*\*\*\*\*,005,XX | 005: command code<br>\*\*\*\*\*\*: password, default 000000<br><br>XX : the speed preset value<br>XX = 00 , close<br>$01 \le XX \le 99$ (unit: XX Km/h) |
| 7 | GPRS Status, To check GPRS Status | A\*\*\*\*\*\*,502 | 502: command code<br>\*\*\*\*\*\*: password, default 000000 |
| 8 | Get IMEI | A\*\*\*\*\*\*,505 | 505: command code<br>\*\*\*\*\*\*: password, default 000000 |
| 9 | Set GPRS internal of position refresh | A\*\*\*\*\*\*,506,00030 | 506: command code<br>\*\*\*\*\*\*: password, default 000000<br><br>00030: Such as 30 seconds interval is 00030 |
| 10 | Check GPRS interval of position refresh | A\*\*\*\*\*\*,507 | 507: command code<br>\*\*\*\*\*\*: password, default 000000 |
| 11 | Inquire GPRS parameter<br>Return Including IP, Port, APN | A\*\*\*\*\*\*,006 | 006: command code<br>\*\*\*\*\*\*: password, default 000000 |

| 12 | Control the output | A\*\*\*\*\*\*,007,P,F | 007: command code<br>\*\*\*\*\*\*: password, default 000000<br><br>P: the position of the output<br>P =1 output 1<br>P =2 output 2<br><br>F: the control signal<br>F =1 give the relay the current to drive it (cut off the car power).<br>F =0 cut off the current of the relay (comeback the normal). |
|----|----|----|----|
| 13 | Time zone setting | A\*\*\*\*\*\*,008,+8 | 008: command code<br>\*\*\*\*\*\*: password, default 000000<br><br>+8: Set the local time zone, the default value is +8 |
| 14 | Inquire the system parameter.<br>Including the software version, password, interval, speed limit, area limit, I/O state, GPS state, SOS number, control number, etc | A\*\*\*\*\*\*,009 | 009: command code<br>\*\*\*\*\*\*: password, default 000000 |
| 15 | GPRS switch | A\*\*\*\*\*\*,010,X | 010: command code<br>\*\*\*\*\*\*: password, default 000000<br><br>X: GPRS function<br>=0 GPRS OFF<br>=1 GPRS UDP<br>=2 GPRS TCP |
| 16 | SET APN | A\*\*\*\*\*\*,011,APN, username,password | 011: command code<br>\*\*\*\*\*\*: password, default 000000<br><br>APN: GPRS use this gateway to connect internet.<br>Username: APN Username<br>Password: APN Password<br><br>The default APN is CMNET |
| 17 | Set the center IP and | A\*\*\*\*\*\*,012,IP:Port | 012: command code |

| | | | |
|---|---|---|---|
| | Port<br>Set server parameter | | ******: password, default 000000<br><br>IP:    Platform server ip<br>Port:   Platform server port |
| 18 | LED Light Switch | A******,666, X | 666:   command code<br>******: password, default 000000<br><br>X: LED Light Switch<br>X =0   LED Light OFF<br>X =1   LED Light ON |
| 19 | Reset to factory settings | A******,888 | 888:   command code<br>******: password, default 000000 |
| 20 | Restart Tracker | A******,999 | 999:   command code<br>******: password, default 000000 |

# 4. SMS Tracking by Mobile

## 4.1. Position Report Function

### 4.1.1. Get position from vehicle - way 1:

No matter where you are, when you want to know the position of your vehicle

| | |
|---|---|
| **Step1** | Send a SMS message or make a telephone call to the 900E. |
| **Step2** | vehicle will report its location back to you by SMS, which including the position information |

Edit a message as following format, and then send it to 900E:

| | Command | Remark |
|---|---|---|
| **Send Format:** | A+Password+,+000 | Get position command code is: 000 |
| **For Example Send message:** | A000000,000 | 000:     command code<br>000000: password, default 000000 |
| **Back information:** | Lat:2232.6022N, Lon:11402.2969E | This mean your position is on North Latitude 22 degree 32.2232 cent and East Longitude 114 |

| | | degree 2.2969 cent |
|---|---|---|
| | | |

### 4.1.2. Get position from vehicle - way 2:

Apply for one position service by another way: you need pre-storage the phone number in SIM card:

| **Step1** | Make a cell phone call to 900E |
|---|---|
| **Step2** | After listening the ring of 900E, it will hold off after two rings. |
| **Step3** | Then, after 10 second, the cell phone will receive the Position SMS. (Its means is 900E will send Position Data every 5 minute.) |

## 4.2. Tracking Function

Tracking report function can be turned on or off according to the requirements of the user. Tracking function will continually report vehicle position until it get stop command .In this tracking mode, 900E will send one position message at a preset time interval.

| **Step1.** Edit a message as following format, then send it to 900E | | |
|---|---|---|
| | **Command** | **Remark** |
| **Send Format:** | A+Password+,+003,+XXX | Note: XXX , if XXX=000 it is STOP tracking<br>Unit: preset minute interval<br>Command code : 003 |
| **For example:** | A000000,003,003 | 003: command code<br>000000: password, default 000000<br>003: 3 minute interval<br><br>It means is 900E will send Position Data every 3 minute. |

| **Step2.** 900E will send back one SMS-----Set Time OK. |
|---|
| This SMS means that 900E is in tracking mode now and preset time interval is 3 minutes. |

| **Step3.** 900E will send back position SMS at preset time interval. |
|---|
| In this example, the SMS will send back at preset time interval: 3 minute |

## 4.3. Stop tracking function.

This function is used to turn off tracking report function. Edit a message as following format, and then send it to 900E:

|  | Command | Remark |
|---|---|---|
| **Command format:** | A+passwaord+,+003+,+000 | |
| **For example:** | A000000,003,000 | 003:　command code<br>000000: password, default<br>000:　0 minute interval, mean stop back |

# 5. GPRS Tracking by Computer

The default mode is GPRS when powering on the unit. The default setting is ours; you need to send the following SMS to Set APN and IP, Port. (If you use our server, you only need to set APN).

## 5.1.Set APN

Send the SMS to the tracker as following format

|  | Command | Remark |
|---|---|---|
| **Command format:** | A+Password+,+011,+APN | |
| **For example:** | A000000,011,CMNET | 011 :　Command code<br>000000: password, default 000000<br><br>CMNET: APN, is gateway to connect internet, Each country is different, |

## 5.2.Set IP and Port

Send the SMS to the tracker as following format:

|  | Command | Remark |
|---|---|---|
| **Command format:** | A+Password+,+012,+IP:Port | |
| **For example:** | A000000, 012,119.147.24.211:8886 | 012 :　Command code<br>000000: password, default 000000<br><br>119.147.24.211<br>Platform server IP<br><br>8886:　Platform server software Port |

When the 900E connect to the monitor system, the power LED flash by 1 S. Then you can login in the tracking server to manage your car.

# 6. Take Photo function (only for 900E):

Connect the Camera to 900E,

You can send a command to take photographs; the car terminal will shoot pictures and spread to Center. After that, pictures will display on the operation platform.



## 6.1. Take photos on software.

## 6.2. Take photos by press SOS button.

## 6.3. Send SMS command to set the time interval to take photos.

**Such as 30 minutes to take a photo and send back to software.**

# 7. LCD Screen (only for 900E):



**7.1. Use as navigation.**

**7.2. Make and receive phone calls.**

**7.3. Receive massages from control center.**

**7.4. Receive GPS signal.**