

**4G/GPS ALARM
TRACKING KIT**

AS201L USER'S GUIDE

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1. Introduction

AS201L is a 4G/GPS alarm tracking box for multi applications.

This small unit is equipped with Quad Bands 4G module, Hi-sensitivity GPS receiver and 3D Accelerometer. It's also can be connected with optional wireless/wired accessories like fuel sensor, RFID reader, iButton Probe Kit, Temperature sensor, RF Key Fob, Camera, Fingerprint device, Alarm siren, Speaker, Microphone, SOS button, Remote control and Relay for external electronics device control.

It supports both GPS tracking and backup LAC/CID tracking, which brings an idea solution with no blind tracking both indoor and outdoor.

1.1 Instruction of Safety

- ◆ Do not disassemble the device more than it is allowed. If the device is damaged, the power supply cables are not isolated or the isolation is damaged, before unplugging the power supply, do not touch the device.
- ◆ All wireless data transferring devices produce interference that may affect other devices which are placed nearby.
- ◆ The device may be fitted only by qualified personnel.
- ◆ The device must be firmly fastened in the predefined location.
- ◆ The device is susceptible to water and humidity in environment with IP class greater than IP67.
- ◆ Any installation and/or handling during a lightning storm is prohibited.
- ◆ Ensure that the batteries are not immersed in water. When stored, keep the device in a cool and dry place.
- ◆ Ensure that device and batteries are not exposed to hot surfaces or direct sunlight.

1.2 Specification

- Physical Specification:

- Dimension: 104x75x29mm
- Weight: 160g
- Enclosure: Aluminum Metal Box
- Connector:
 - Molex 18Pin Connector, 8Pin Molex Connector and one 4Pin Molex Connector
 - SMA Connector for 4G/GPS antenna
 - Mini USB port for configuration and firmware update
 - Two socket for alarm buzzer

- Power Supply:

- Voltage: 9-36V DC
- Power Consumption:
 - 70-150mA(All active)
 - Simple Sleep:<20mA (4G ON, GPS Off, Alarm trigger active)

Deep Sleep: <5mA (4G Off, GPS Off, Alarm trigger active)

- Internal Battery: 500mAH, 3.7V

- GPS Navigation:

- Antenna: External
- Receiver: Skylab GPS Receiver
- Sensitivity: -162dBm
- Navigation Update: 1Sec
- TTFF: Cold Starts: 29s/Aided Starts: <1S/ Hot Starts: <1S

- 4G Specification:

- Antenna: External
- Modem: QUECTEL EC25

Frequency		EC25-E	EC25-EU	EC25-EUX	EC25-J	EC25-A	EC25-V	EC25-AF
LTE	LTE-FDD	B1/B3/B5/B7/B8/B20	B1/B3/B7/B8/B20/B28A	B1/B3/B7/B8/B20/B28A	B1/B3/B8/B18/B19/B26	B2/B4/B12	B4/B13	B2/B4/B5/B12/B13/B14/B66/B71
	LTE-TDD	B38/B40/B41	B38/B40/B41	B38/B40/B41	B41			
WCDMA		B1/B5/B8	B1/B8	B1/B8	B1/B6/B8/B19	B2/B4/B5		B2/B4/B5
GSM/EDGE		B3/B8	B3/B8	B3/B8				
Embedded GNSS		Optional	Optional	Optional	Optional	Optional	Optional	Optional
Wi-Fi/BT Interface		Y	Y	N	Y	Y	Y	Y
Region		EMEA/South Korea/ Thailand/India	EMEA/Thailand	EMEA/Thailand	Japan	North America	Verizon	North America FirstNet

- Radio Frequency:

- Working frequency: 433MHz.
- Code: HCS301 Rolling code or 1527/2240 Study code
- Working Voltage: 12V (27A 12V dry battery)
- Control Distance: 20-50M

- Environmental:

- Working Temp.: -20°C ~ +75°C
- Humidity: 20-95%

1.3 Typical Application

- ◆ Car, truck, trailer and other special machinery like excavator or forklift or ATM)
- ◆ Motor Homes
- ◆ Boats & Yacht



1.4 Package Contents

1.4.1 Standard Package Contents

- 1) AS201L GPS Alarm Tracker x 1PC
- 2) GSM Antenna x 1PC
- 3) GPS Antenna x 1PC
- 4) 18Pin Power+ I/O Wire harness x 1PC
- 5) Panic Button x 1PC
- 6) Engine Cut-off Relay x 1PC
- 7) Microphone x 1PC

1.4.2 Optional Accessories



433MHz RF receiver



433MHz Remotes



Wireless door sensor



Wired door sensor



Wireless PIR



Wireless smoke detector



RFID Reader



Wireless glass break detector



Wireless gas detector



Ultrasonic fuel sensor



Temperature sensor



iButton



3W Audio speaker



12/24V Alarm horn



Short call button



USB cable



Camera



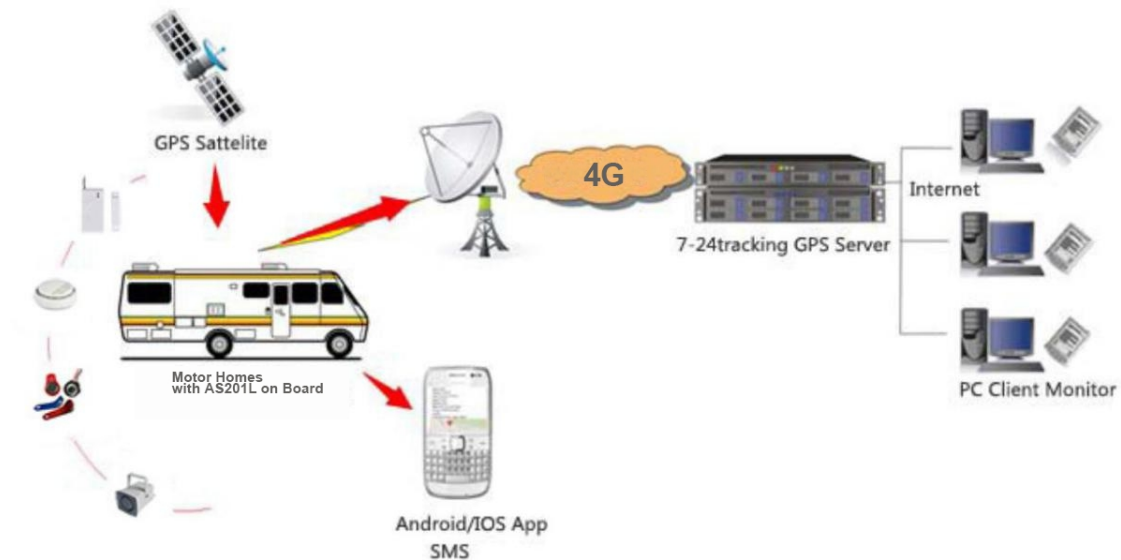
Fingerprint reader

Note:

Please kindly noted that optional accessories are not available in the standard package. But they are available for purchase separately from manufacturer.

2. Knowledge Before Usage

2.1 How it works?



The AS201L mainframe works as a host box with multi input/outputs. The mainframe will process to get GPS location and various working status from inputs and wireless sensors, and then send those information to preset Phone Numbers or IP/Port Server via 4G network. Cell Phone or Server software can send commands to control outputs action and also acquire different information by available commands.

2.2 Factory Default Setting

- Device SMS Command Password: 1234
- IP/Port/APN: Empty
- Alarm Alert Phone No.(A/B/C/D/G): Empty
- Arm/Disarm Status: Disarmed
- Speed Over Limit: Off
- GEO Fence: Off
- Data Transmit Mode: SMS Default when 4G Parameter is not configured
- Siren: ON
- Automatic Immobilizer in Armed status: Disabled
- Automatic Power supply switch from external to internal when external power low: Enabled
- External Power low voltage Alert Level: less than 11.5V DC
- Re-Arm: Disabled
- Power Saving Mode: No Sleep
- SMS Data Time Zone: GMT+0
- Crash accident Logger and alert : Off

2.3 Power Supply

2.3.1 External Power and Internal Power

AS201L works with two power supply mode: External Power and Internal Battery.

It's working normally with external power supply range from 9-36V DC. When the external power is disconnected or with low voltage output, device will switch to work on internal battery automatically. And it also will send "Circuit Cut Off" or "External power low voltage" Alert to preset Alerts Phone Numbers.

2.3.2 Sleep Mode consumption and how it works

- Simple Sleep when Ignition Off:

4G Sleep with SMS/Call Active, NO 4G Connection and GPS shut down

All Alarms Detection working normally

Power Consumption in standby without alarm trigger: 10mA

- Deep Sleep when Ignition Off:

4G Shut down, NO SMS/Call active, GPS shut down

Alarms trigger detection: Off 3 seconds, detect 2 seconds in recycle

Average power consumption without alarm trigger: <5mA

- NO sleep when Ignition Off:





4G all ON with SMS/Call active, and 4G connected with Server with continuously data sending
GPS ON

All alarm detection work normally

2.4 Transmitter Operation

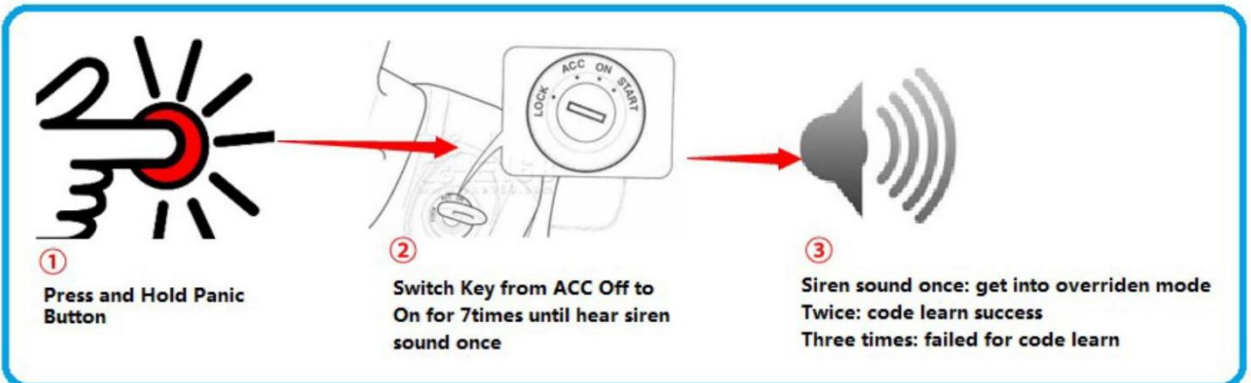
2.4.1 Transmitter Button functions



-  Arm: Buzzer sound once, or direction light flash once
-  Disarm: Buzzer Sound Twice or direction light flash twice.
-  Mute Key: In siren sounding, press this button to stop the sounding.
-  In panic, Activate Siren to sound. Or in parking lot, press this button for car finding.

2.4.2 Transmitter and wireless sensor Program to AS201L Box

If your transmitter is lost or damaged, or the transmitter battery is flat, the system can be overridden by Ignition switch conjunction with Panic Button.



Please follow below process to finish the transmitter overridden operation:

- 1) Send SMS command to clear all existing transmitter code which stored in the system
- 2) Disarm the system by SMS command
- 3) Press and Hold Panic button
- 4) Switch Key from ACC off to ON position continuously 7 times
- 5) Buzzer will sound once to indicating Overridden mode entered
- 6) Press any button of the transmitter
- 7) Buzzer sound twice again to indicate override success and exit overridden mode.

If system get into overridden mode, and no transmitter button was pressed or did not receive any incoming signal during 20seconds, buzzer will sound bibibi three times and exit override mode

After you pressed the transmitter button during overridden mode, but system failed in accident due to unexpected reason, system also will sound bibibi three times to indicate failure.

You can start the process again until you get it work success.

Note:

For other wireless sensor, like Door/window contact, Smoke and gas detectors follow the same process to integrate them to system.

2.5 How to configure device (Configuration)

AS201L box support configuration via SMS commands and also via PC program tool(Configurator) via connect AS201L with PC through USB cable.

2.5.1 Configure by SMS commands

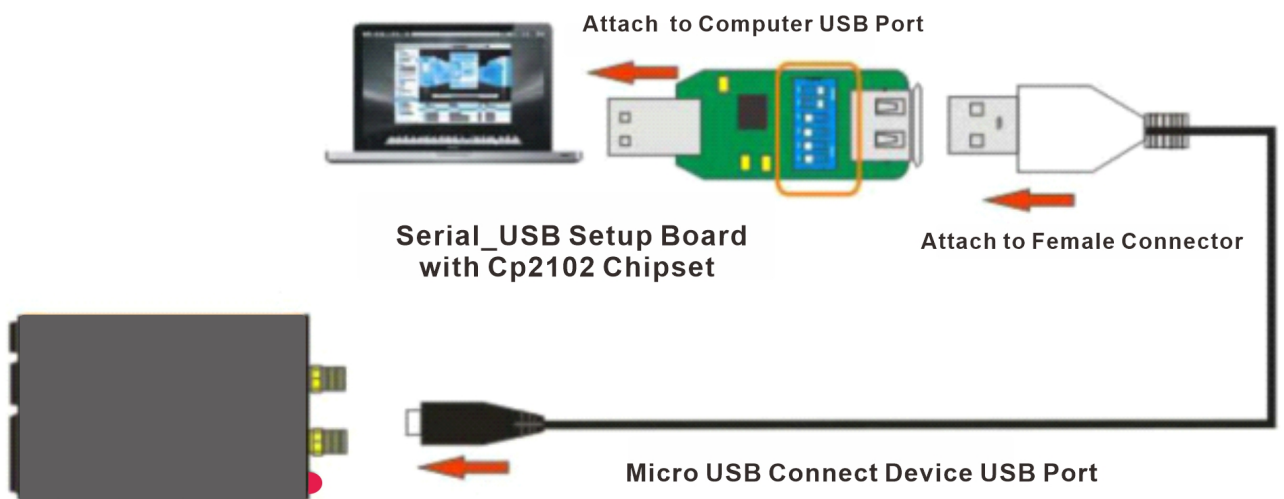
Command Name	SMS Command Format	System Reply	Remark
Setup/Delete Center SMS service Number G	*1234*G8613480877140# *1234*G#	Armed/Unarmed;G:xxxxxxx Armed/Unarmed;G:	A/B/C is for Alarm SMS alerts, D number is call center for voice response, G number is SMS master Number for all priority
Setup/Delete authorization Phone Nos.	*1234*AXXXXX*BXXXXXCXXXXDXXXXX# *1234*A*B*C*D#	Armed/Unarmed;A:xxxxB:xxxxC:xxxxD:xxxxx Armed/Unarmed;A:B:C:D:	
Query all Service Phone No.	*1234*YY#	Armed/Unarmed;A:XXXXXB:XXXXC:XXXXD:XXXXXXG:XXXXXX	
Modify SMS command Password	*1234*E4321#	Password has been changed!	
Setup SMS Data Time Zone	*1234*GMT+/-XXXX#	GMT+/-XXXX Setup OK!	Default is UTC time. This zone only will effect on SMS data.
Query Time zone	*1234*GMT#	GMT+/-XXXX Setup OK!	
Setup GPRS Parameter	*1234*GPRS:863070015806069,211.154.142.150,9114,T,CMNET,user,pass#	GPRS Parameter:863070015806069,211.154.142.150,9114,1,CMNET,User,Pass	T=0, TCP;T=1, UDP
Query GPRS Parameter	*1234*QP#	GPRS Parameter:863070015806069,211.154.142.150,9114,1,CMNET,,SMS/SMS+GPRS	
Data Update Time Interval	*1234*ITV0010#	ITV Enabled:60	Setup the Positoin report frequency
Setup G sensor	*1234*CS*m,x,y,z,z#	Crash Sensitivity 5,5,0,8,0,7,0	M is installation direction. (Range 1-6) x,x is the X axis alert limit (0.0-8.0) y,y is the Y axis alert limit (0.0-8.0) z,z is the Z axis alert limit (0.0-8.0)
	*1234*GOFF#	Accident Alert Off	
	*1234*GON#	Accident Alert ON	
SMS GPRS Priority Mode Setup	*1234*SMS#	SMS Mode Activated	
	*1234*SMS+GPRS#	SMS+GPRS Mode Activated	
Sleep Mode Setup	*1234*SL*O#	Simple Sleep Activated!	Details working condition check user's Manual 2.3.2 Part.
	*1234*SL*A#	Deep Sleep Activated!	
	*1234*SL*C#	Sleep Deactivated!	

For more commands information, please contact technical support or your seller!

Website: www.anbtek.com

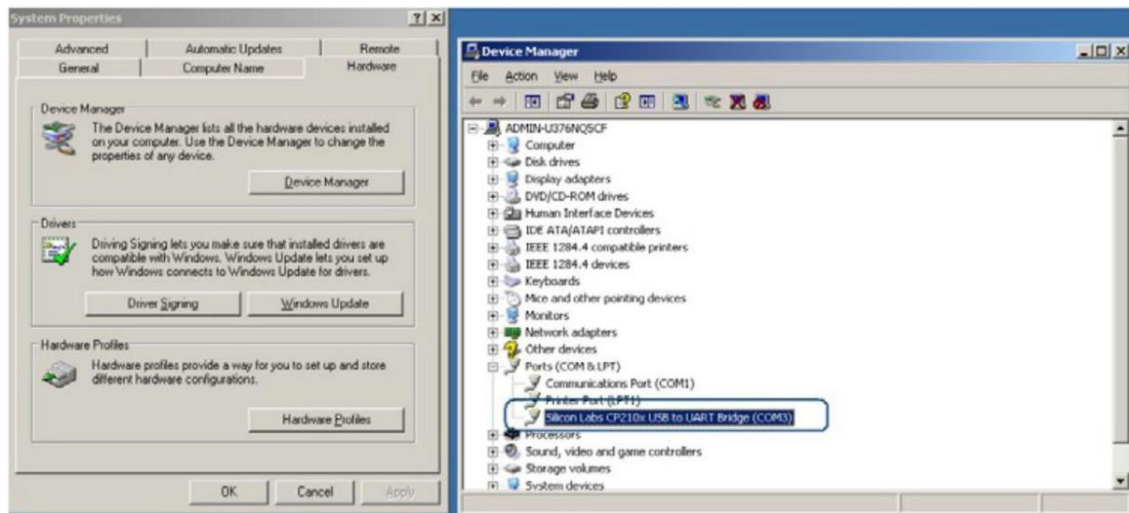
Mail: info@anbtek.com

2.5.2 Configure by PC tool(Configurator)

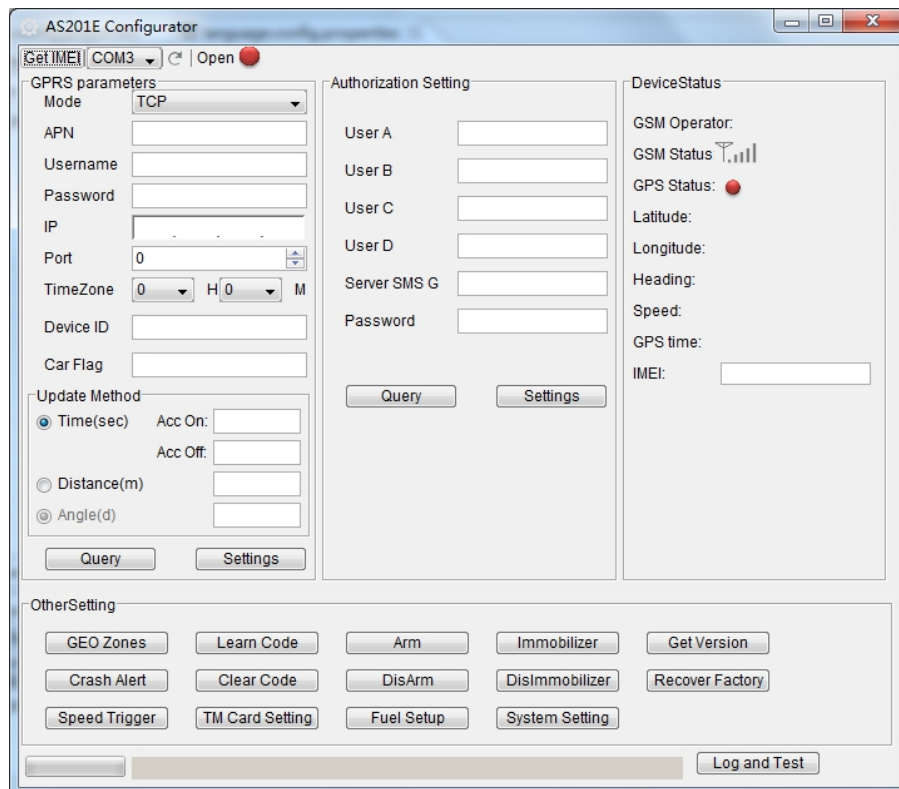


1) Connect AS201L with PC via USB cable:

2) Install CP2102 USB-Serial Driver:

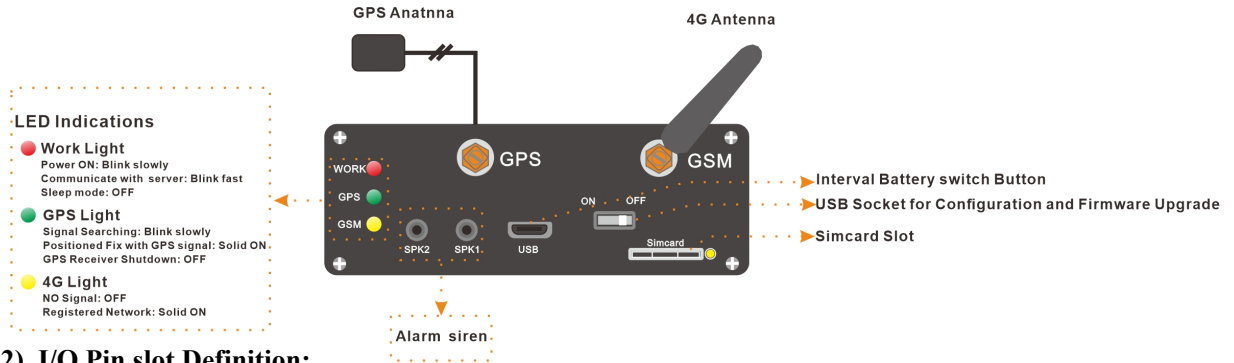


3) Run AS201L configurator.exe and get into following interface:

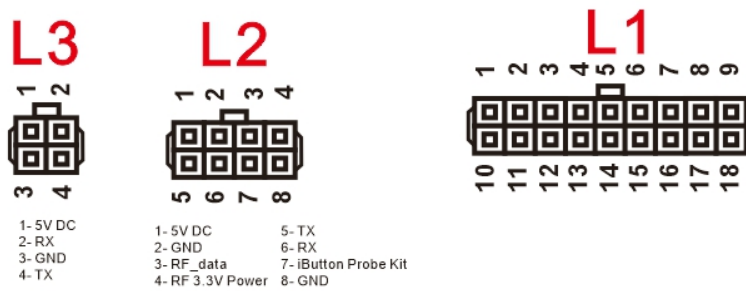


2.6 I/O Introduction and Definition

1) Main I/O ports Introduction:



2) I/O Pin slot Definition:



3) L1 18Pin Port Pin slot definition:

	Wire Description	Pin No.	Wire Color	Function/Specification Description
L1 Molex 18Pin Connector	Power	9	Red/White	Power positive pole, 9-36VDC
		18	Black/White	GND
	Output	6	Purple/White	Over speed Buzzer(=0V,Effect)
		8	Yellow	Input(=12V/24, Effect)
		7	Blue	Lock Door(=0V, Effect)
		16	Blue/White	Unlock Door(=0V, Effect)
		12	Brown/White	AD/Output(=0V, Effect)/Input(=12V/24, Effect)
		15	Gray/White	Engine Immobilizer (=0V, Effect)
	Input	17	Red	Ignition status Detection(=0V, Off)
		4	White	Door Status(=0V: Open)
		3	Orange/White	Panic Button(=0V:Effect)
		13	Blue/White	Short Call(=0V, Effect)
		5	Black/White	Temperature/Fuel AD
	Arm/Disarm LED	14	Yellow/White	LED+
	Microphone	1	Orange	Mic+
		10	Black/White	Mic-
	3W Speaker	2	Green/White	Speaker+
		11	Black/White	Speaker-

2.7 How to insert Simcard



3. Functions and Operation

3.1 Arm/Disarm

- Arm/Disarm:

Arm: In armed status after ARM operation, any illegal events happened in I/O ports or Wireless sensor will trigger Siren sound and SMS alerts.

Disarm: Opposite to Arm, user is free to do any operation but no alarm alert will be triggered.

- Re-Arm:

Re-Arm is a function which is automatic arm again if the system was disarmed wrongly by mistakes and kids press.

- Trigger condition:

If in Armed status, the system was disarmed, and get no Door open or Ignition status operation within 60 Seconds, system will automatic arm once.

AS201L system allow user to enable/disable Re-arm function according user's usage habit.

- Re-Arm function Enable/Disarm Method:

Enable SMS command: *1234*REARMON#

Disable SMS command: *1234*REARMOFF#

3.2 Alarm Alert functions

In Armed status, any illegal operation which happened in I/O ports and wireless sensor will trigger an alarm action.

In alarm, the alarm siren will sound for 20seconds, and also send alarm alert via SMS and missed call to preset phone numbers A/B/C.

Please check following alarm events alert system:

Functionality	A	B	C	D	G	Alarm Siren Sound	Server
Shock alarm	SMS Once	SMS Once	SMS Once			20Seconds Sound	Yes
External Power Disconnection	SMS Once	SMS Once	SMS Once			20Seconds Sound	Yes
Ignition ON	SMS Once	SMS Once	SMS Once			20Seconds Sound	Yes
Panic Alarm	SMS Once	SMS Once	SMS Once				Yes
GEO In/Out Alarm	SMS Once	SMS Once	SMS Once				Yes
Speed Over Alarm	SMS Once	SMS Once	SMS Once			Over timer with siren/light warning and immobilizer activated until speed below limit	Yes
Fuel stealing	SMS Once	SMS Once	SMS Once			20Seconds Sound	Yes
Crash Accident Alert	SMS Once	SMS Once	SMS Once				Yes
External battery Low	SMS Once	SMS Once	SMS Once				Yes
Temperature	SMS Once	SMS Once	SMS Once				Yes
iButton							Yes
Low Voltage	SMS Once						Yes
External Battery Charge Alert	SMS Once	SMS Once	SMS Once				Yes
Daily Travel Mileage SMS Report	SMS Once						Yes
Call-IN Direct for voice Listen-in				Yes	Yes		Yes
Wireless sensor Trigger Alert(Smoke, PIR, Gas, Magnetic Door sensor)	SMS Once	SMS Once	SMS Once		SMS Once	20Seconds Sound	Yes
Short-Call	SMS Once			Yes			Yes

3.3 Remote stop Oil/Power supply for engine (Immobilizer)

1) Remote cut off Oil/Power supply for engine:

By SMS Command: ***1234*STOP#**

Operation from smart Phone App command

Operation from Server Platform Command

2) Release engine cut-off to allow start

By SMS Command: ***1234*K#**

Operation from smart Phone App command

Operation from Server Platform Command

3) Automatic Ignition starter lock in armed status

In Armed status, the system will keep Oil/Power supply in locked status. This is to protect burglar ignore alarm alerts and start vehicle to drive away.

This function is default as Disabled. If the user want to activate this function, can use SMS command sent AS201L inserted SIMCARD number to switch on and off this feature.

***1234*AUTOCUTON#**

***1234*AUTOCUTOFF#**

3.4 Power Saving

The system is designed to have different sleep mode when ignition off. In different sleep mode, the power consumption are different. Details please check [<2.3.2 Sleep Mode consumption and how it works>](#).

The user can use SMS command to configure device to be in different Sleep mode to save vehicle battery consumption. Check [<2.5.1 Configure by SMS commands >](#)

3.5 Shock Alert, Crash accident alert and Crash accident data logger and Harsh event

AS201L box is with built-in 3D Acceleration sensor (G sensor) on board.

The device use this G sensor created three functions.

1) Shock Alarm

AS201L will detect all X,Y,Z acceleration always, any changes in all X,Y,Z axis will be calculated, every changes over 0.1G, system calculated for shocking once, every 5Seconds scan and calculate once.

We use 5 seconds average shocking times as shocking sensitivity to generate Shock Alarm alerts in Armed Status.

SMS commands for adjusting shocking sensitivity:

***1234*VS*xxx#**

(xxx=001-200)

1=most sensitive

200=Most insensitive.

Switch On/Off Shocking Alarm SMS commands:

***1234*H#** <Switch On shocking Alarm>

***1234*N#** <Switch Off Shocking Alarm>

2) Accident Alert for A/B/C Numbers

By configure AS201L installation position and X,Y,Z axis value to setup the accident alert value limit as trigger conditions. AS201L provides two ways to configure:

- **Configure By SMS commands**

***1234*CS*m,x.x,y.y,z.z#**

M for the custom direction value (1-6)

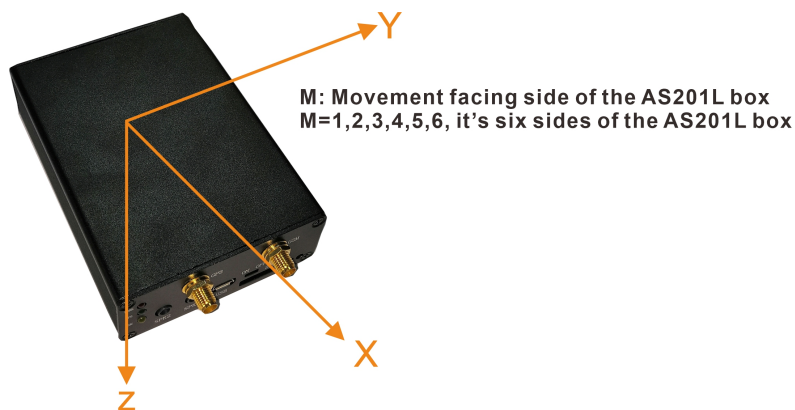
x.x corresponding to X axis value (0.0-8.0)

y.y corresponding to Y axis value (0.0-8.0)

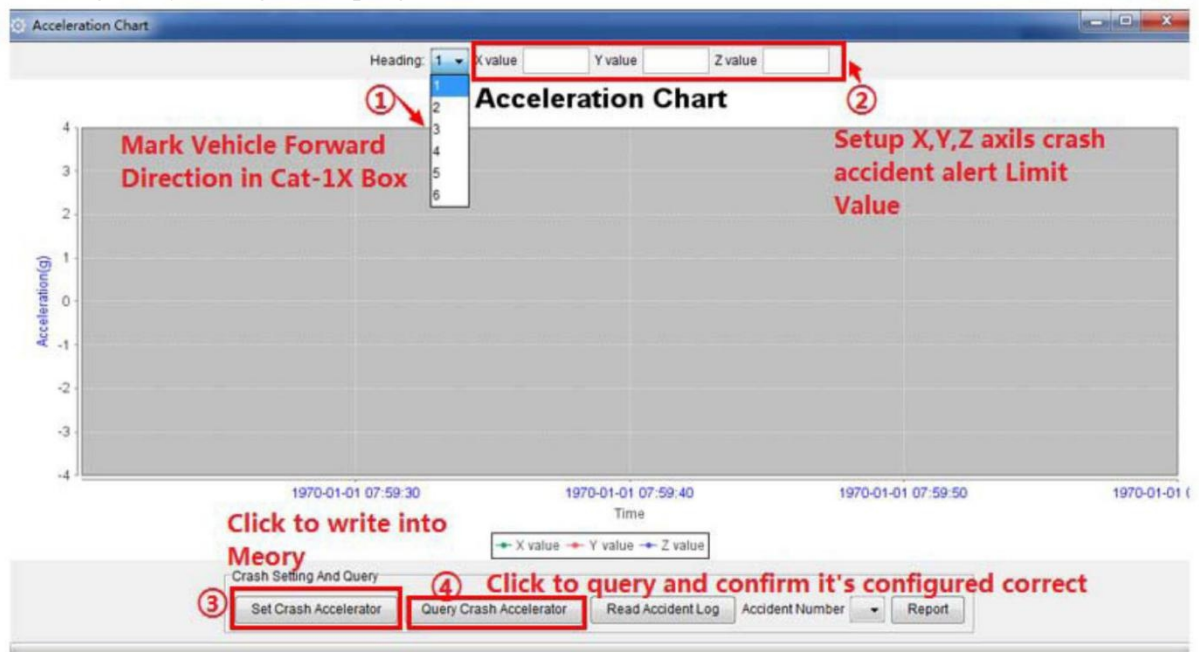
z.z corresponding to Z axis value (0.0-8.0)

Note:

Check as following picture which we defined the X,Y,Z direction for the accelerator sensor. And M is the movement sides serial NO. It can be any one as user self-define. Just make sure it's the movement facing side.



- **Configure by Configurator program:**



Any axis exceed the configured G value, it will trigger the accident alert.

3) Crash accident data logger for before/After 15 Seconds in accident time

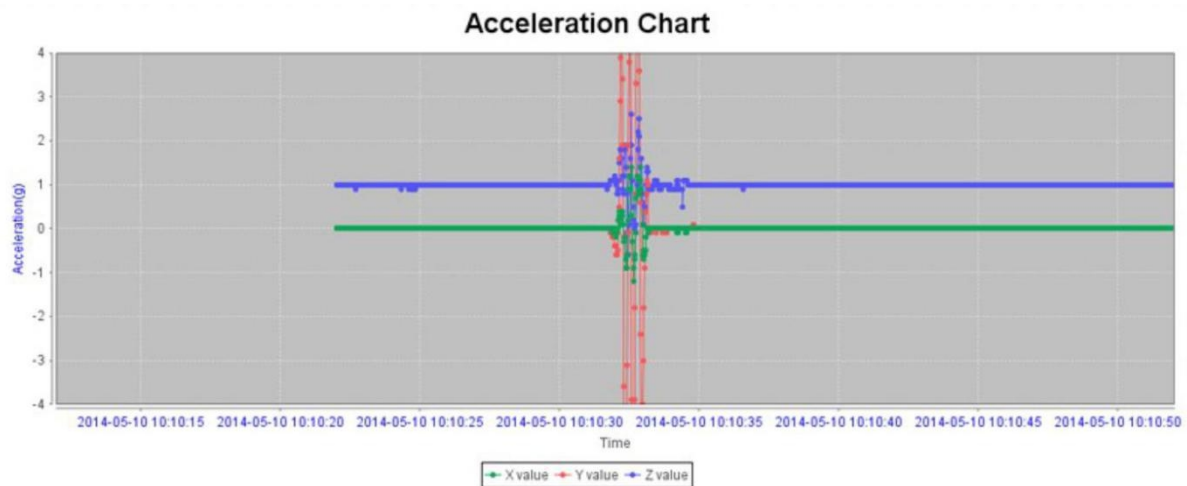
AS201L will record recent 3Times Accident G varies truth in memory. And allow user to load out via USB connection through the Configurator program. And recover back all details information via chart.

Check as following picture:

- A. By click “Read Accident Log” button to download AS201L recorded Accident Data,
This process will take several minutes before download finish.



- B. Display accident data log via chart with time frame and G value varies:



4) Harsh acceleration and Harsh braking and Harsh cornering

AS201L can detect the driving behavior of the driver, by configure AS201L installation position and X,Y axis value to setup Harsh acceleration and Harsh braking and Harsh cornering trigger conditions.

- Configure By SMS commands

***1234*GSENSORCS*x1,x2,x3;y1,y2,y3#** <Setup harsh event>

***1234*GSENSORCS#** <Query harsh event setting>

x1 is X axis Harsh acceleration, x2 X axis Harsh braking, x3 is Y axis Harsh cornering

y1 is Y axis Harsh acceleration, y2 Y axis Harsh braking, y3 is X axis Harsh cornering

x1,x2,x3,y1,y2,y3 value range is from 0 to 8, 0 is disable.

Example:

***1234*GSENSORCS*1.8,1.8,1.8;1.8,1.8,1.8#**

Note:

The X-axis or Y-axis of the device is the same as the car's forward direction.

The default value of each axis is 1.8.

3.6 Voice Listen-in

Call Center Number D and SMS center Service No. G call AS201L, the system will put through to Voice Listen-in mode directly.

AS201L also provide other two methods to start Voice listen-in Operation:

1) By SMS command with correct password to AS201L box to get re-call back

***1234*VMxxxxxxx#** <xxxxxxx is call back phone No. for system>

2) Via GPS tracking platform Voice Listen-in Command to start Re-call back for voice listen-in

For how to operate this please check 7-24tracking Platform User's guide for reference.

3.7 Switch ON/Off Siren

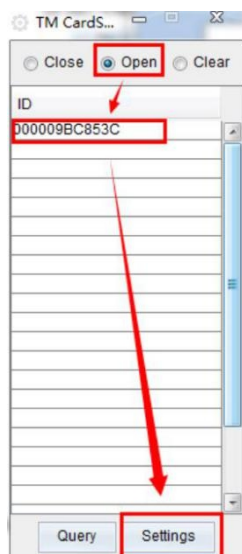
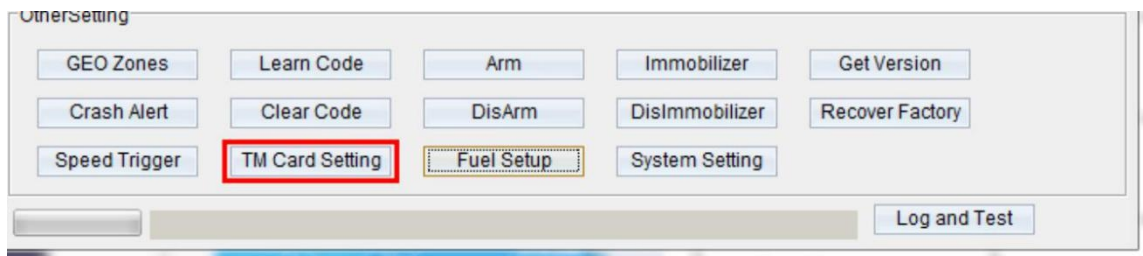
By SMS command, user can switch ON/Off siren remotely.

***1234*SIRENON#** <Switch On SIREN SOUND>

***1234*SIRENOFF#** <Switch Off SIREN SOUND>

3.8 iButton Probe Kit

AS201L support 1-Wire iButton Key/Probe Kit for driver Identification, allow only authorized drivers to start the vehicle, via the AS201L Configurator to set iButton Key, as following the picture :



- By server command from our tracking platform

Send Command

Please select command

- Initialization Mileage
- Temp Alarm Limit
- Cancel Temp Alarm
- Setup authorized RFID/iButton**
- Voice Monitoring

Command parameters

*Item: Close

*RFID/iButton: 123456789*987654321 split by *

Send Cancel

By SMS command, user can activate or close this feature:

- *1234*AUTHENIDON# <Driver Authorization Activated>
- *1234*AUTHENIDOFF# <Driver Authorization Deactivated>

3.9 Temperature detection

- By server command from our tracking platform

Send Command

Please select command

- Initialization Mileage
- Temp Alarm Limit**
- Cancel Temp Alarm
- Setup authorized RFID/iButton
- Voice Monitoring

Command parameters

*Lower Temp: -5 °C

*Upper Temp: 5 °C

Send Cancel

- By SMS command :

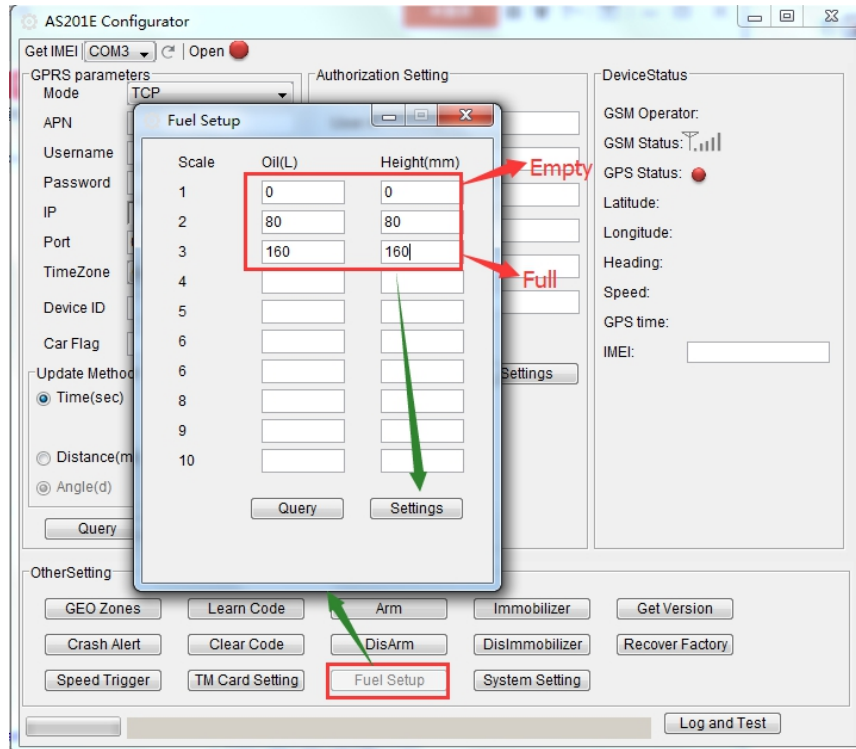
- *1234*TMP:1, -10, +35# <Activate temperature detection, temperature range is -50°C~ +150°C>
- *1234*TMP:0# <Deactivated temperature detection>
- *1234*TMP# <Query temperature parameters>

3.10 Ultrasonic fuel sensor configure

AS201L support Ultrasonic fuel sensor.

How to install the Ultrasonic fuel sensor please refer the <UF-141 Ultrasonic Fuel Sensor Installation Guide> provides two ways to configure:

- **Set parameters by AS201L Configurator :**



How to activate the fuel sensor on platform please refer the <UF-141 Ultrasonic Fuel Sensor Installation Guide>

- **Set parameters by SMS commands :**

***1234*OILPARA:XXX1,YYY1;XXX2,YYY2;XXX3,YYY3;XXX4,YYY4;XXX5,YYY5;XXX6,YYY6;XXX7,YYY7;XXX8,YYY8;XXX9,YYY9;XX10,YY10#**

<XXX is liters >

<YYY is highly >

For example :

***1234*OILPARA:0,0;80,80;160,160#**

- **Query the fuel parameters:**

***1234*OILPARA#**

Response : OIL Parameters:0,0;80,80;160,160#

3.11 Asset maintain notice

AS201L support send the asset maintain notice via SMS message,by send the SMS command to set the parameters to activate this feature.

SMS command:

***1234*MAINTENANCE:X,Y#**

X= mileage, maximum 10000Km

Y= engine running time, maximum 5000 hours

If both X and Y are 0,means this feature deactivated.

For example :

***1234*MAINTENANCE:1000,0#**

3.12 Battery Low Alert

When AS201L detected external battery output is with lower than 11.5V (This voltage can be configured by the AS201L Configurator, defaults to 11.5V), system will generate Battery low alerts to A/B/C Numbers. And stop draw vehicle battery, will switch to user internal battery for work.

After internal battery is going to use out again, system will generate another alert to A/B/C, and system will go to deep sleep to avoid killing vehicle battery dead. But keep all alarm detection alive for protection.

3.13 Recovery Factory Default

By click the button **Recover Factory** in the AS201L Configurator to be factory default setting.

By sending SMS command ***1234*V#** recover device to be factory default setting.

Be careful to use this command, because it will request you to re-configure the device again for working properly.

3.14 Remote Reboot

By sending SMS command ***1234*Z#** reboot AS201L remotely.

This is to solve problem if any operation fail and do quick problem shooting.

3.15 Locate in parking Lot

AS201L provides two methods for user to quick locate where the vehicle is by Siren sound and light flashing.

1. By press Remote controller Siren button to make sound
2. By send SMS command ***1234*L#** to get AS201L driving siren sound and light flashing.

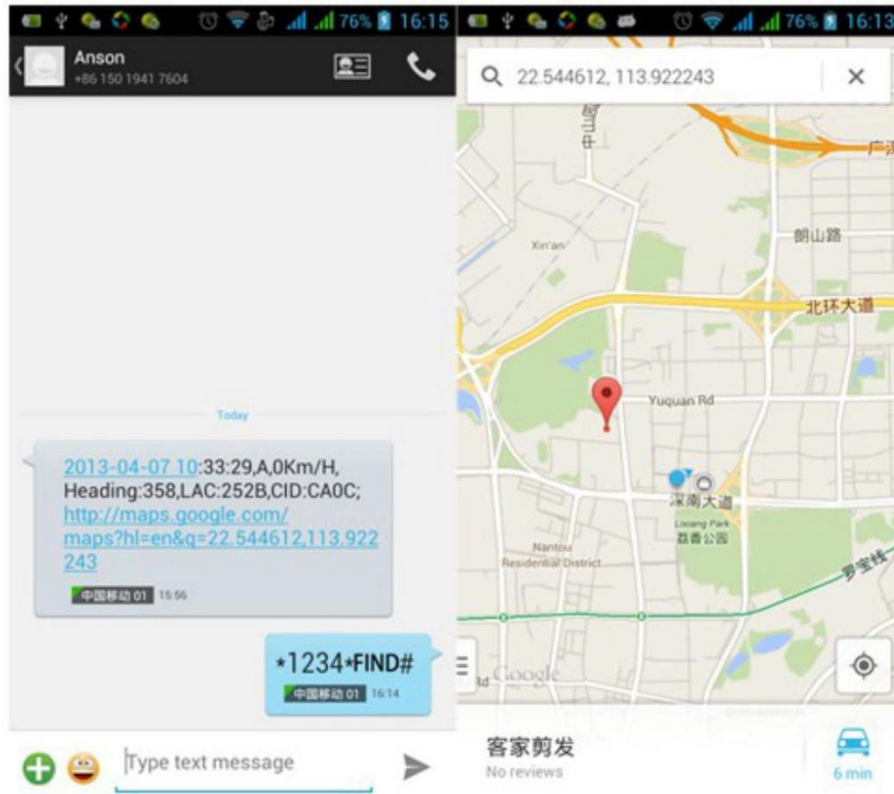
3.16 GPS Tracking features

3.16.1 Real Time Tracking

1) Track by SMS command

*1234*FIND# <To query with Google Map link reply>

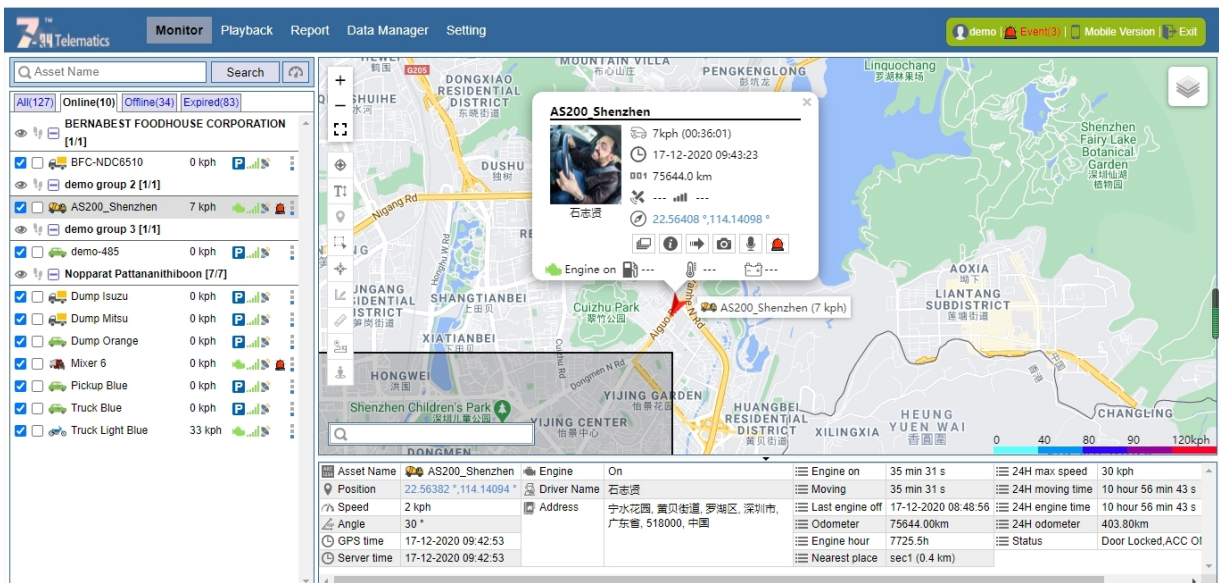
*1234*GPS# <To query with GPRMC format GPS co-ordinates>



2) Track by our GPS tracking platform

First ,you need to configure IP/Port/APN to the device .

Second , get a tracking account name and password.(Please contact your seller to got it)



3.16.2 Speed Limit Manage

1) Speed Limit configuration:

By sending SMS command ***1234*SPD080#** configure as speed limit as 80Km/H

2) Speed Over alert:

After speed limit is break, if the vehicle is not slow down to under limit within a configured time period, the AS201L will drive the siren sounding until the speed slow down to under limit.

At the same time, AS201L will activate the "immobilizer" for oil/Power supply for engine to force the driver down. <This function is default disabled by factory. Only can be used after activate by SMS command>.

Speed over SMS alert for A/B/C/G Number with contents:

**Over Speed Alert;2011-12-08 12:32:13,V,60Km/H,Heading:60,LAC:2638,CID:0ECF;
<http://maps.google.com/maps?hl=en&q=22.537222,114.020948>**

And AS201L will generate this alert to 7-24Tracking platform via server data either.

3.17 GEO Fencing Management

AS201L maximum allows user to create 40 GEO fencing areas. And the area shape can be circular or rectangular.

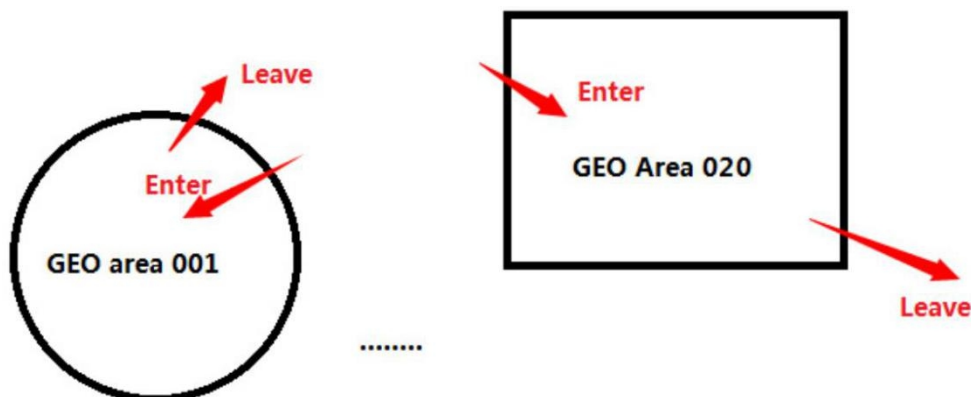
3.17.1 Setup GEO fencing

Considered text message only can contain 140Bytes text, so user need to create multi-areas with more than one text message command. GEO fencing alert support both Entry and Exit event. Details please check following SMS command definition.

Setup GEO fencing SMS command:

Circular: ***1234*GEOZXXXYSSSUUUTTTTRRRRRRAAAAAAAAAAABBBBBBBBBBB#**

Rectangular: ***1234*GEOZXXXYSSSUUUTTTTAAAAAAAAAABBBBBBBBBBBCCCCCCC
CCDDDDDDDDDDDD#**



The parameters are explained as follows:

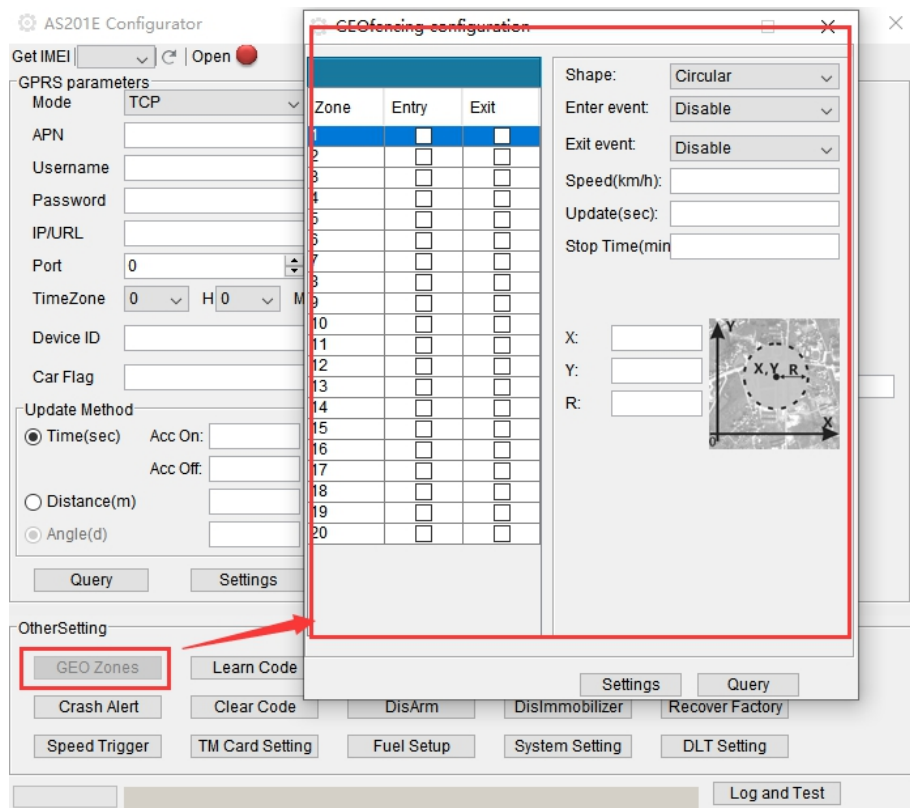
1234 <Command header with password>
 GEO <Command Name>
 ZXXXXY <First Area definition for area ID, area shape and events alert type>
 <Z=Area shape, Z=1 means circular, Z=2 means rectangular>
 <XXX is area ID. Circular ranges=001-020, rectangular ranges=021-040>
 <Y=Alert type, Y=1 means entry, Y=2 means exit, Y=3 means alert both in entry and exit>
 SSSUUUTTT <SSS=over speed alarm(km/h), UUU=update time interval(sec), TTT=max stop time(mins)>
 ABCDR <Rectangular shape parameter format. Unit must be degrees, AB is bottom left latitude and longitude, CD is top right latitude and longitude, please put "-" or "+" before it>
 <Circular shape area parameter format, Unit must be degrees, R is radius(meter), AB is center latitude and longitude of Circular ,please put "-" or "+" before it>

Example:

Circular *1234*GEO10013080030030000500+22.543213+113.543213#

Rectangular *1234*GEO20213080030030+22.543213+113.543213+22.543213+113.543213#

- Set GEO fencing by AS201L Configurator :



- By server command from our tracking platform

3.17.2 Setup GEO fencing trigger relay

You can also configure to enter or leave the GEO fence to trigger stop car engine.

SMS command:

***1234*IOGEOCUTOILxy#**

x=1 is enable enter GEO fencing trigger relay. 0 is disable.

Y=1 is enable leave GEO fencing trigger relay. 0 is disable.

Example:

*1234*IOGEOCUTOIL01#

3.18 Emergency Medical/Information Call to Center(Two way intercom)

AS201L has two way audio intercom functions by provided Hands free kits and Short-call button.

By Configurator program or SMS commands, user can configure one Call center Voice service Number D in AS201L.

After the short call button was pressed, the AS201L will start to call this D number and connect to talk with Call center support people.



3.19 Remote Door Lock/Unlock

AS201L get two digital outputs for Door Lock/Unlock via central locking system. This operation can be activate via Remote controller/SMS Commands/Server command of Arm/Disarm operation.

SMS commands:

***1234*S#** < Door Lock>

***1234*C#** < Door Unlock>

3.20 Arm/Disarm Status LED Indicator

In Disarmed Status: LED Off

In Armed Status: Off 3Seconds, On 2Seconds in recycle.

3.21 Wireless Sensor Detection

AS201L is with 5 wireless Defense Zones which named: H, I, J, K, L

Defense Area Name	Alarm Type Code Define	Sensor Numbers Supported
H	1= Fire Alarm	All areas supported 1/2/3/4/5 Alarm
I	2= Gas Leakage Alarm	type, and Each type can program
J	3= Intrusion Alarm	5Sensors maximum in one area. Example
K	4= Booth Open Alarm	H1 can program 5 same Smoke
L	5= Glass Broken Alarm	Detectors

- SMS Alarm Alerts Format:

Area Name+ Alarm Type+ Sensor ID, Date, Time, Speed, Heading, LAC/CID code + Address

Google Link

Example:

I Area,Gas Leakage Alarm I2;2014-06-06

14:42:49,A,0Km/H,Heading:0,LAC:2638,CID:0FA1;

<http://maps.google.com/maps?hl=en&q=+22.54522,+113.92223>

All defense Area can be programmed to be switch ON and Off by SMS command:

***1234*AWAY*H#** <Switch ON Area>

***1234*HOME*H#** <Switch Off Area.Default setting is all defense area in ON status>

Default setting is all defense area in ON status

- How to program sensor to AS201L Box?

AS201L allow user to do sensor code programming via two methods: SMS Command and override via Panic button + ACC ON/Off switch.

1) Override via panic button and ACC status:

Details please check <[2.4.2 Transmitter and wireless sensor Program to AS201L box](#) >

2) SMS Command for Wire sensors code Program

Code Program Process:

- A. Confirm what type sensor and which area to be coded program.
- B. Edit SMS command *1234*CODE*H1#(H area, Smoke detector)and send to AS201L SIMCARD.
- C. AS201L siren sound once indicates code pending start, within 20seconds; trigger the sensor, if success siren sounds twice indicate success. And then start another 20seconds wait for second sensor input, maximum 5 sensors can be programmed. Any fail, siren will sound BIBiBi and exit code program mode.

***1234*ERASECODE#** <Erase all defense area all sensor code>

***1234*ERASECODE*H#** <Erase signle defense area all sensor code>

3) SMS Command for Remote Control code Program

After device get the SMS command will sound bi, then press any button of the remote control.

SMS Command:

***1234*RW#**

3.22 Daily Travel Mileage SMS report to Driver (A authorization Phone No.)

AS201L designed to have a daily travel mileage SMS report to driver at defined time every day.

Configure Mileage Report Time by SMS Command:

***1234*REPTIME:09:36#** <Set Mileage Report Time>

KJ 20145A	<Vehicle Plate No.>
2014-01-21	<Report Date>
1st Trip:15:39-15:51=0Km	<First Trip mileage>
Last Trip:15:39-15:51=0Km	<Last Trip Mileage>
Sum:0h15m,1km,0KmH Max	<Summary: Driving time, Total Mileage, Max. Speed>
SMS 11	<SMS count>

Note:

Please configure AS201L Time zone to be your local time before you setup this.

3.23 Synchronize ODO meter

Synchronize car's ODO meter to device.

SMS command:

***1234*ML:XXXXX#**

XXXXX unit is KM, value from 0 to 5600

- By server command from our tracking platform

Send Command

Please select command

- Enable Immobilizer
- Disable Immobilizer
- Initialization Mileage**
- Temp Alarm Limit
- Cancel Temp Alarm
- Setup authorized RFID/iButton

Command parameters

*Mileage 1000 Km

Send Cancel

3.24 OTA firmware

AS201L supports firmware upgrading via GPRS.

If you need upgrade the latest version of firmware , please contact your seller or technical support!

4. APPENDIX

<Available SMS Commands List> please contact your seller or technical support to get it .

<AS201L Installation Diagram> please download from our website :<Download> .