



Gosafe[®]
G797 Tracking Device
User Manual | Version 2.01

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1.DEVICE INTRODUCTION

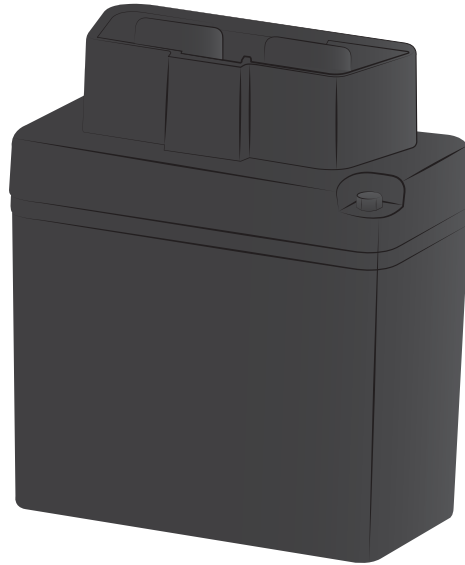
G797, which uses GSM and SMS together with GPS to locate your belongings, is a new model tracking device designed by Gosafe Company Limited. With connect & Go concept, G797 can connect with OBDII diagnostic port and can get necessary power from the same port.

Inside G797, there are GSM modem, GPS receiver, control PCBA, microprocessor, power circuit, and so on. Before starting G797 installation, please one SIM card which works on GSM based network that is offered by GSM mobile operating agency and can work with GPRS.

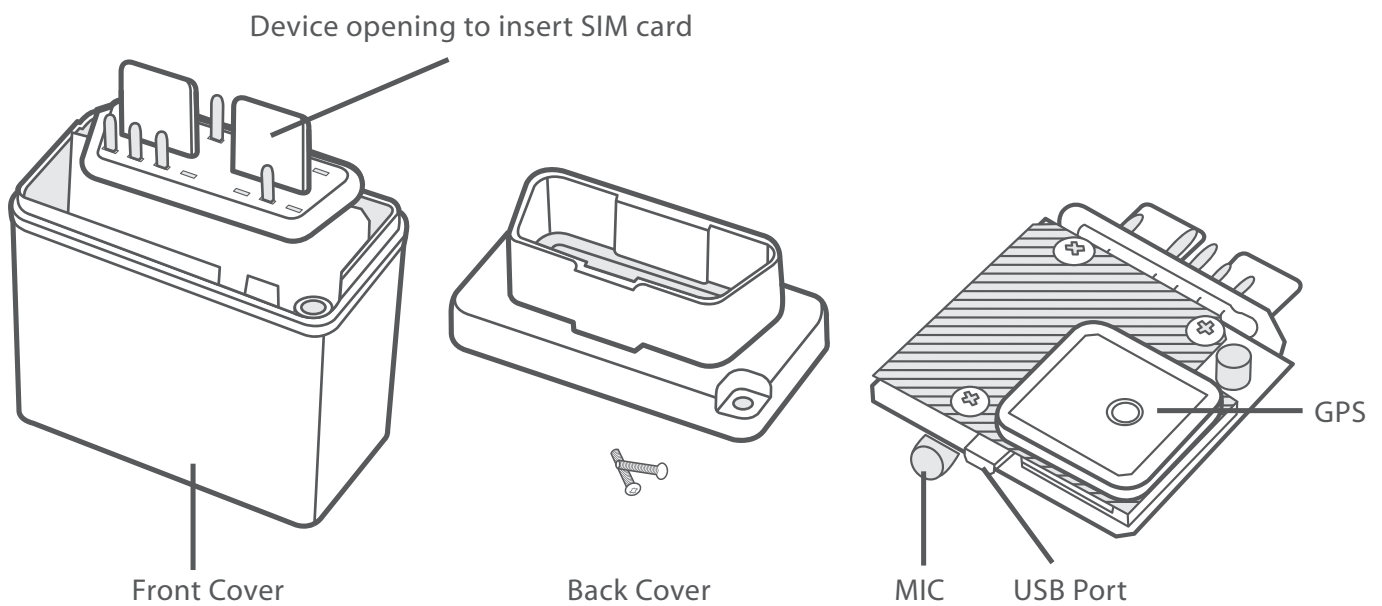
G797 is easy to install device and even nonprofessionals can install this device. You only need to get the valid data SIM Card. Insert the SIM card in G797 and connect the device to OBDII port in the vehicle. The system have internal movement sensor which controls the power management of the device.

G797 is equipped with highest available GPS uBlox modules and able to use A-GPS (Assist GPS) technology to give help connecting the device with GPS faster with more accuracy.

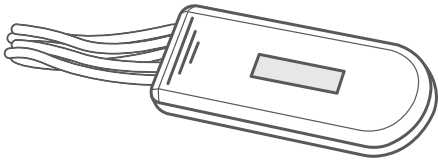
1.1 PHYSICAL APPEARANCE



Device and Components



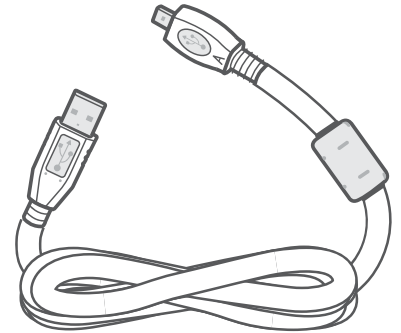
Accessories



RF Wireless Relay

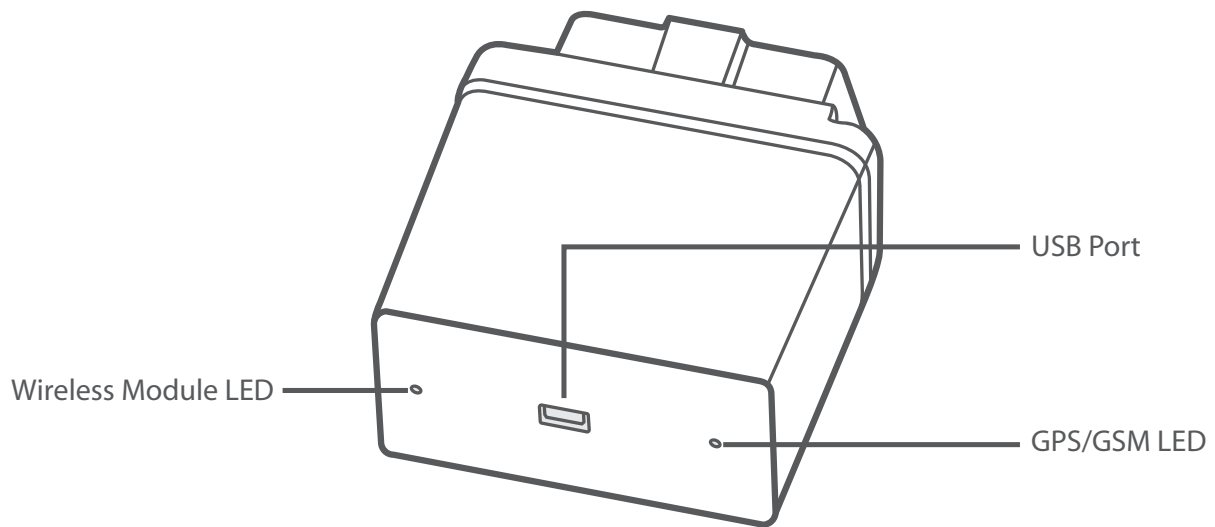


RF Tag



USB Configuration cable

Front View



1.2 SPECIFICATIONS

Physical Specification	
Size	55 x 50 x 25 mm
Weight	80 g
IP Rating	IP62
Power	
Rechargeable Battery	Connector: J1962
Power Consumption	7.4V 180mAh Lithium ION Sleep Mode 500uA Active 70mA
MCU	
MCU	TI MSP430 12KB RAM, 256KB Flash
GSM	
Antenna	Internal
Modem	uBlox LEON G100
Frequency	Quad band 850/900/1800/1900MHz
GPRS	Class 10 (4 downlink, 2 uplink, max. 5) Mobile Station Class B
Approvals	AT&T, R&TTE, CE, GCF, FCC, PTCRB, Anatel, IC, China SRRC, etc
SIM card	3.3V SIM
LBS Location Accuracy	100 to 500meters(Urban) 0.5 to 30kilometers(Suburb)
GPS	
Antenna	Internal
Receiver	uBlox NEO 6M (GPS, & Sbase) engine
Channels	50 Parallel Channels
Sensitivity	-162dBm
Navigation update	1sec
Acquisition	Cold Starts: 27s Aided Starts: <1s Hot Starts: <1s
Location Accuracy	2.5 to 10meters (Strong Signals) 500 meters (Weak Signals)

Sensor	
3D G-Force Sensor	Onboard
Memory	
Flash	10,000 Locations
Environmental Conditions	
Operating Temperature	-40°C to +70°C
Storing Temperature	-40°C to +85°C
Humidity	95%

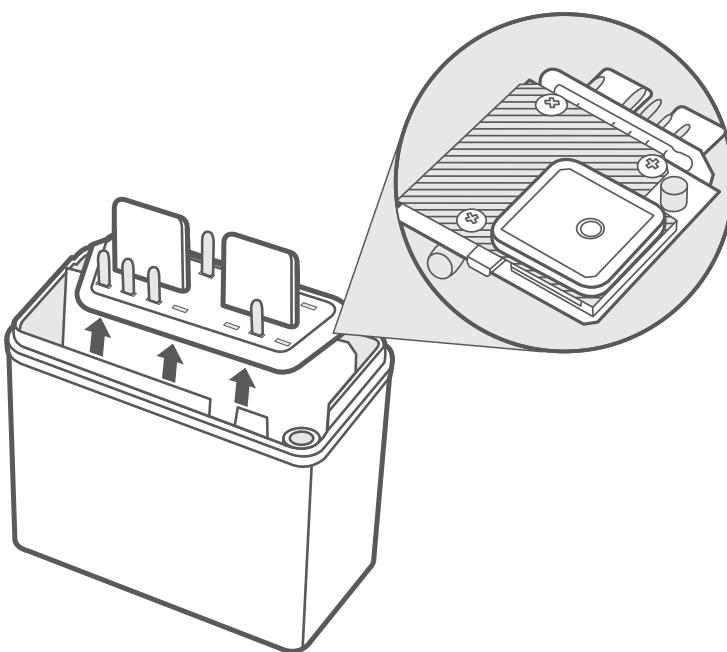
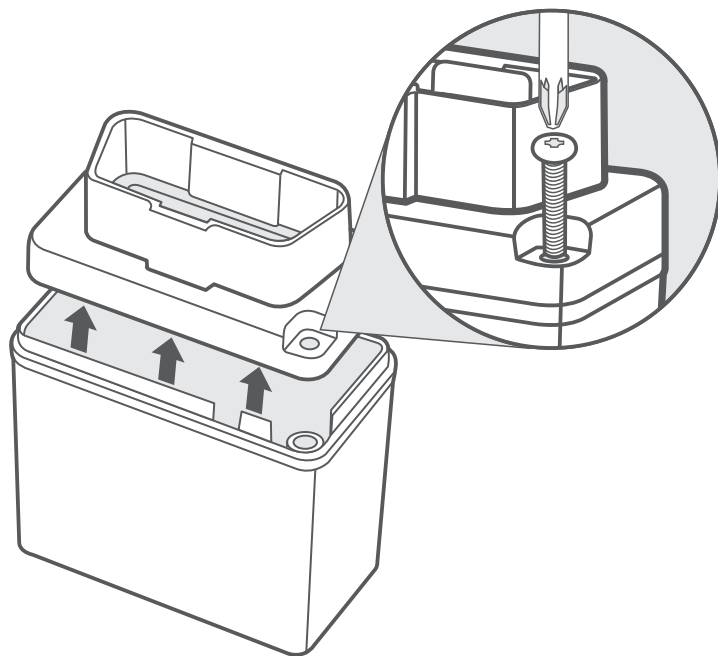
1.3 FEATURES

- Real Time Location
- Mobile Map Location
- Latitude and Longitude Location
- GSM Base Station Location (LBS Technology)
- Convenient GSM Mobile Control
- Easy-to-use SMS Communication Mode
- Internal Movement Sensor for better power management
- Internal backup battery for Device disconnection notification
- Internal memory for the data buffer

2. QUICK INSTALL INSTRUCTIONS

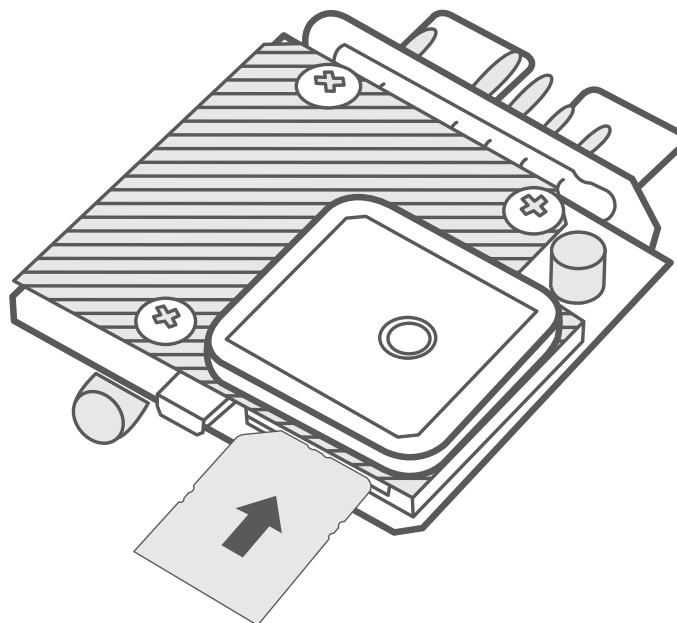
2.1 OPEN DEVICE

Open G797 enclosure carefully by screwing off the four screws.



2.2 INSERT SIM CARD

Insert SIM card into the SIM card jacket correctly according to the below picture. Press SIM card inside the SIM card jack completely.

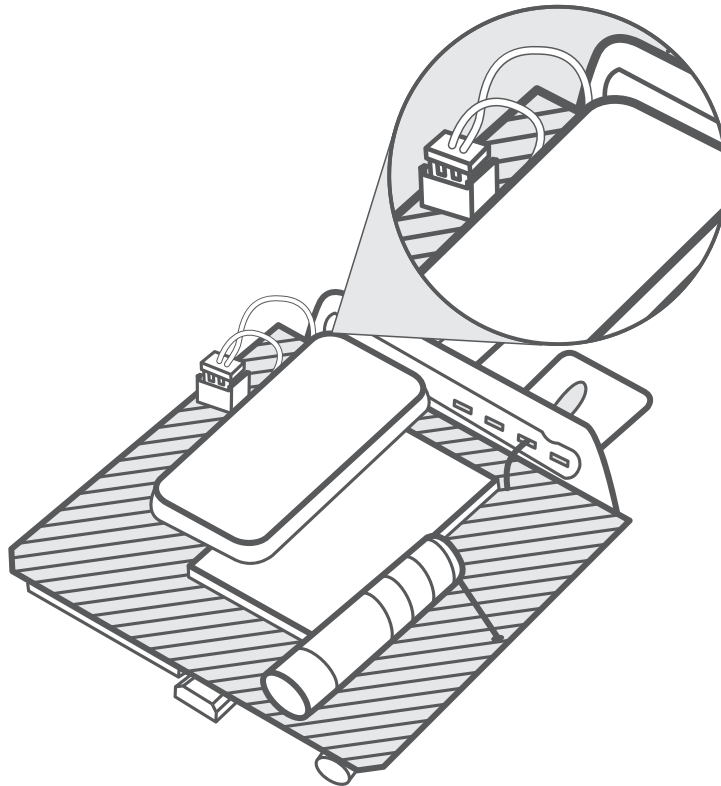


Note

Please do activate the SIM card, disable its PIN code function, and make sure SIM card has enough balance before operating the device. Each time before taking SIM card out of or inserting SIM card into the device, device power supply remove the device from the OBDII connector, or it would damage device and/or your SIM card.

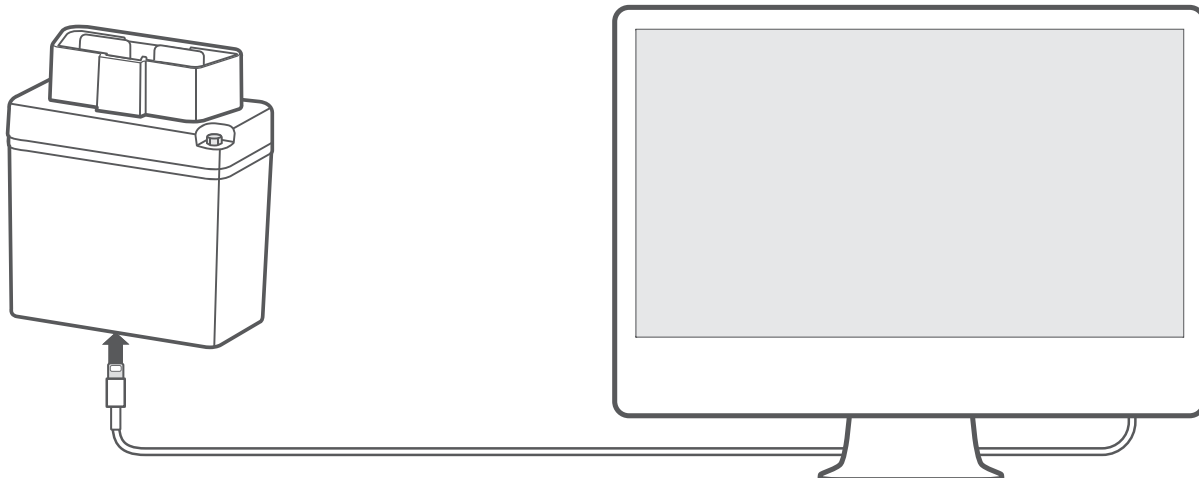
2.3 POWER ON

Connect battery to the device, like the below picture shows you:



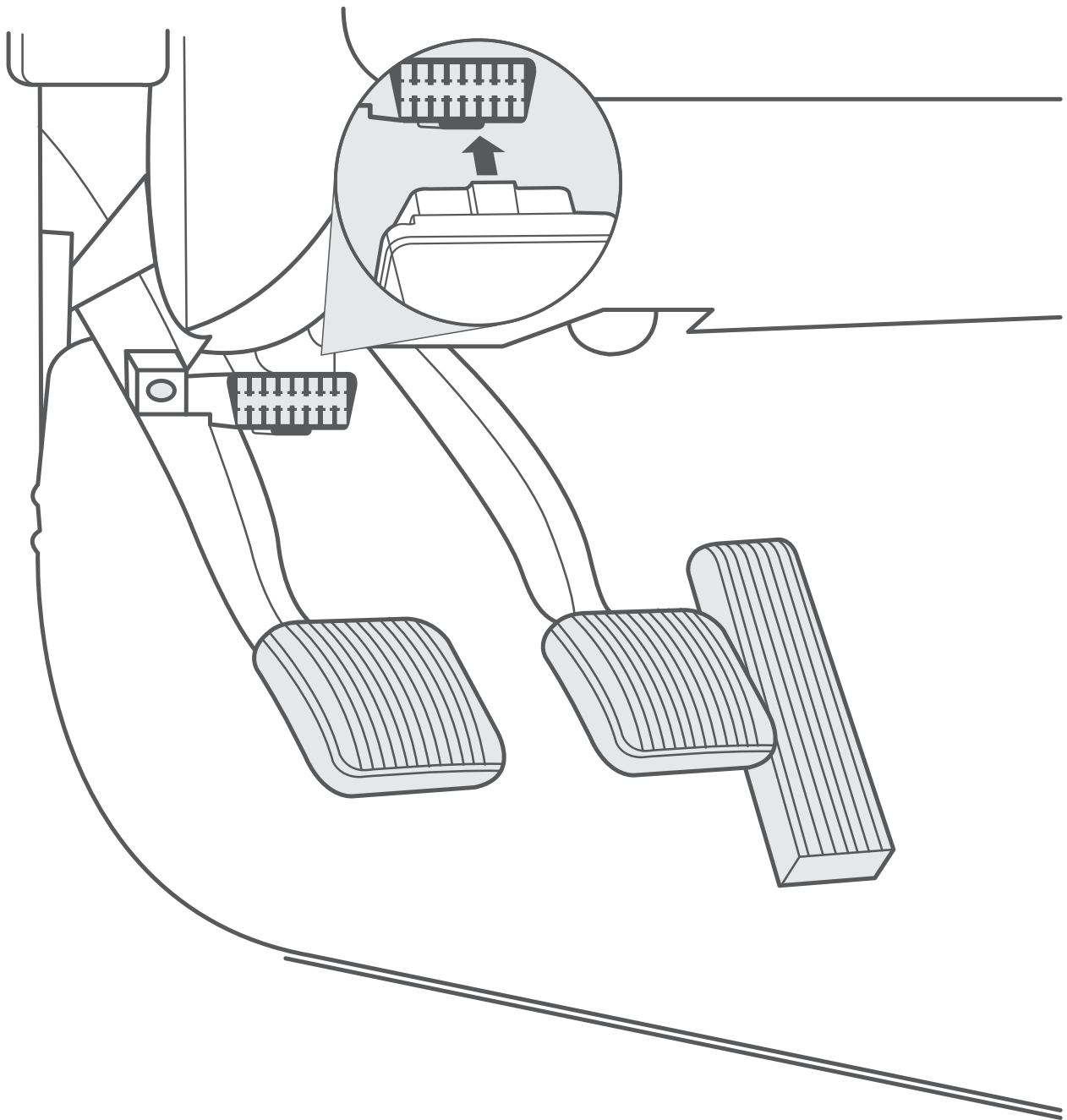
2.4 CONFIGURATION

Connect USB cable to device and computer. Use the configuration software to configure.

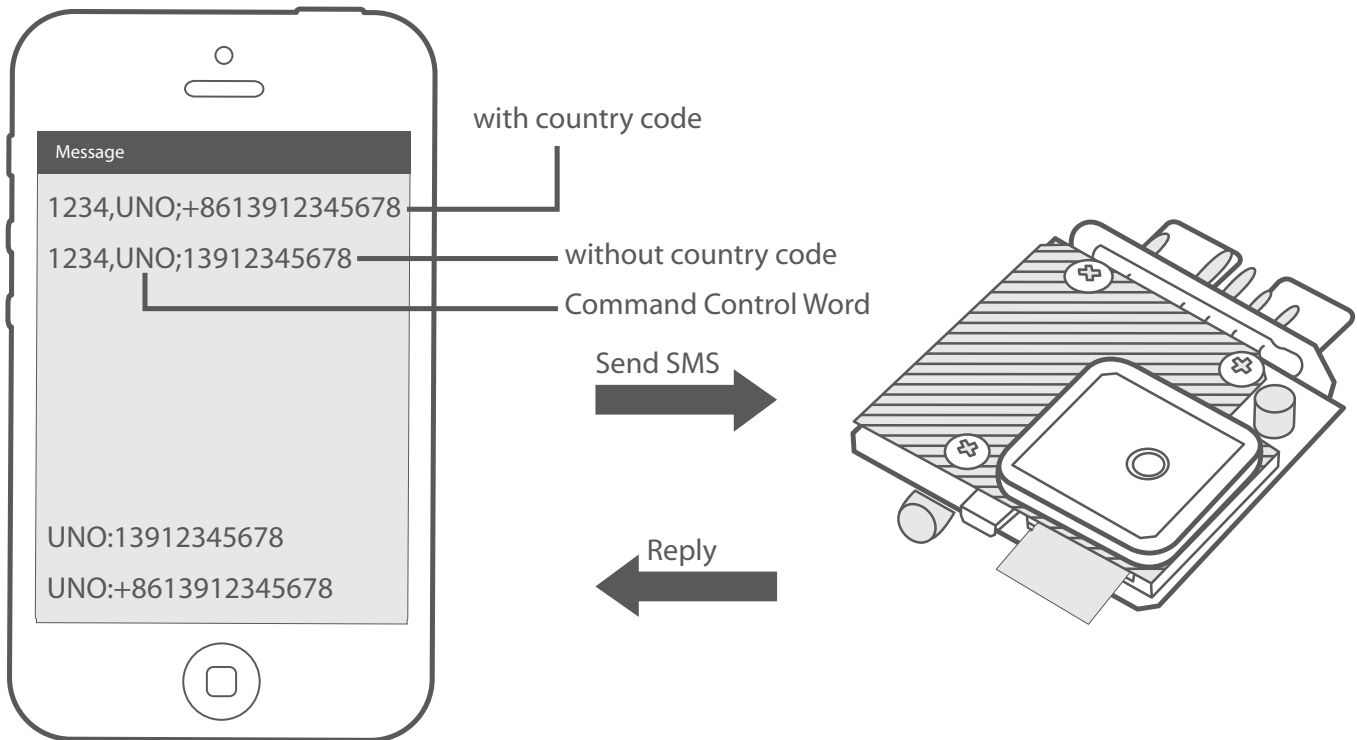


2.5 LOCATION OBDII PORT

Normally OBDII port is available in all the vehicles manufactured after the 1996 and 2000. This port is located under the dash near the driving side of the vehicle. Normally this port is covered with some cover.



2.6 SET USER NO.

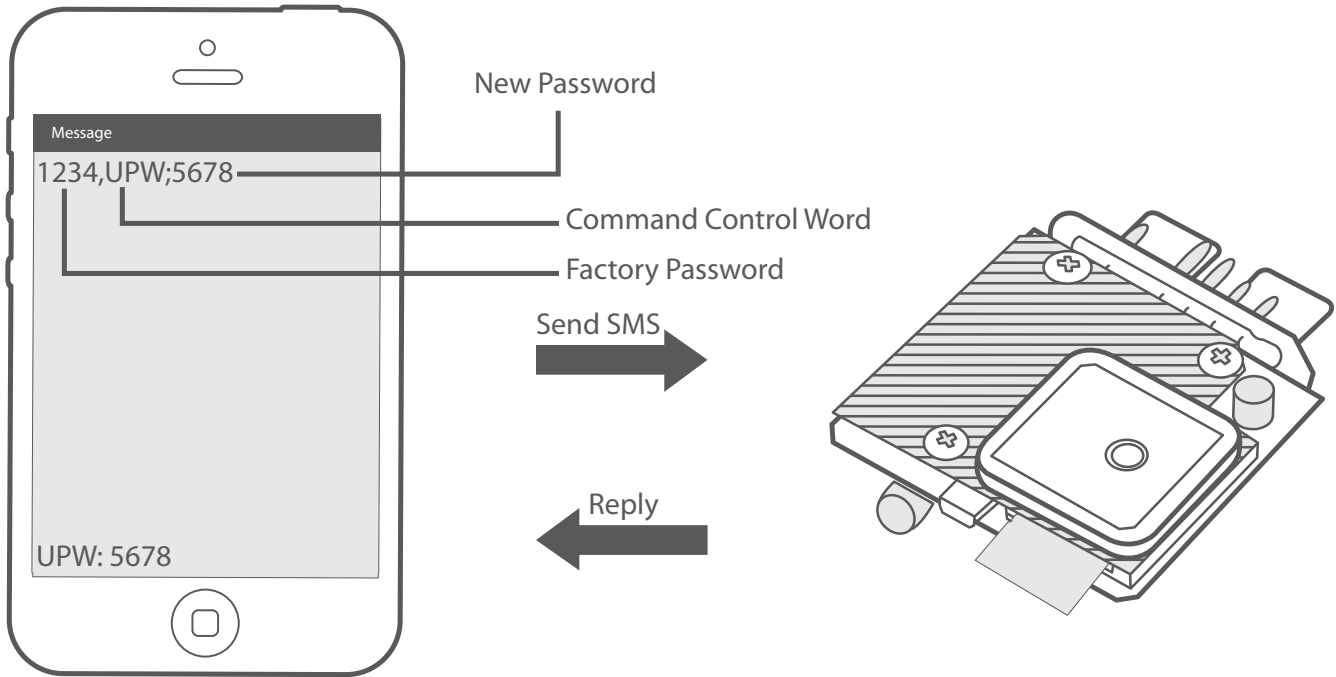


Note

After receipt of the above SMS command, device will reply a confirmation SMS and work at default work mode: 30M;G;W To protect device, if there is any error in this command, device will not send back any error warning.

2.7 MODIFY PASSWORD

To modify factory password at the first usage is strongly suggested..

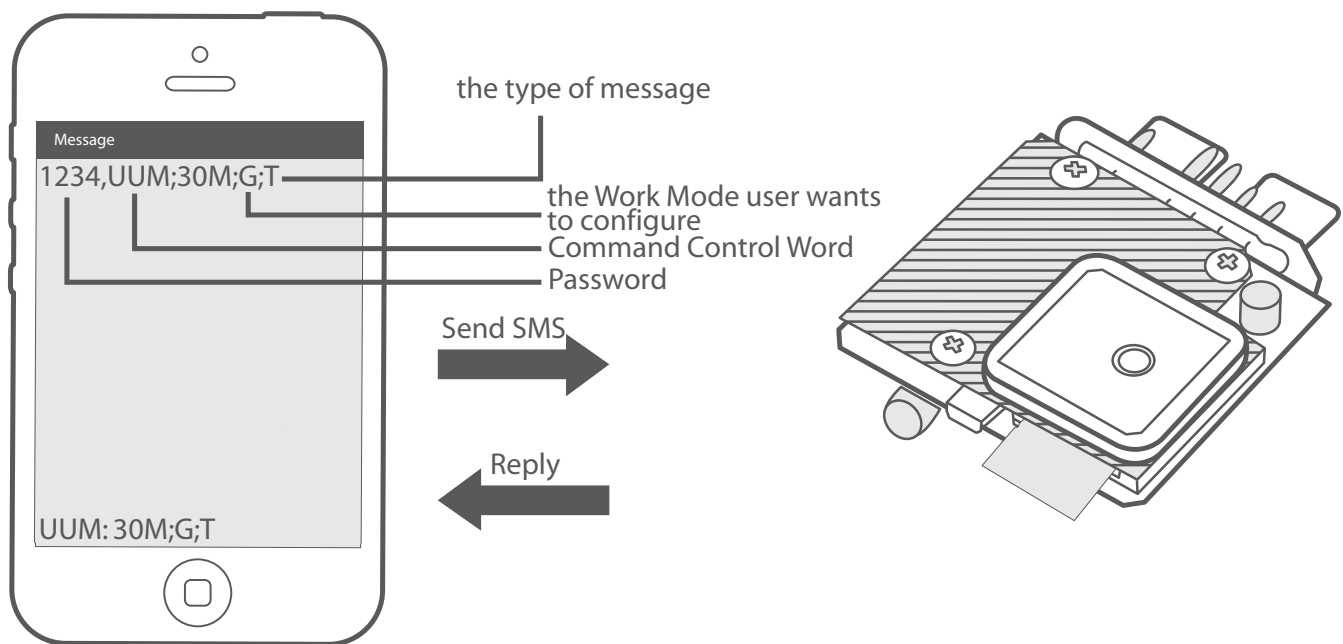


Note

Please memorize your New Password and wait for confirmation SMS for password modification from device. Only if this command is sent by user No., the system can process this command.

2.8 SET WORK MODE

There are 4 different work modes configurable for device according to user's need: O, S, G, and L. For detailed information on 4 work modes, please go to "Commands for Device Setting" in this User Manual.



3. COMMANDS FOR DEVICE SETTING

All the commands for device setting in this User Manual are in the same format:

3.1 COMMAND TABLE

The user command is shown in the below table. The whole command format is "PSW,CMDXX;Para".

Table only show the second part "CMDXX;Para" in the column of command format.

Sr.	Description	Ctrl Word	Command	Reply	Remarks
3.1.1	Setting user phone number	UNO	1) 1234,UNO;13912345678 2) 1234,UNO;+8613912345678	1) UNO:13912345678 2) UNO:+8613912345678	0~20 bits, default is empty 1) set national number 2) set international number, "86" is country number
3.1.2	Setting user password	UPW	UPW;1234	UPW:1234	Four bits,range:0000~9999
3.1.3	Setting users to upload mode	UUM	UUM;30M;G;T	UUM: 30M;G;T	30M:upload interval, M can be (30~900S),(15~59M), (1~240H) Default:30m;G;W G: upload mode, it can be: "O"/close uploading "G"/upload GPS data by interval set, when there is no GPS, data uploading based on base station information "S"/Always upload with LBS location T: data format, it can be: T = Text Format W = Hyper link Format
3.1.4	User alarm cleared	UAC	UAC	UAC	
3.1.5	Requests for location information	PRQ	PRQ	PRQ	Usage: send command to device, the device will upload information, Information format is the same as upload data by interval, and this function can also be done by calling to the device and hang up after first ring.

Sr.	Description	Ctrl Word	Command	Reply	Remarks
3.1.6	Setting the SMS center number	SCN	SCN;+8613800200500	SCN:+8613800200500	Total is 20 bits"86" is national code, must have. Leave factory set: empty Default: usually, no need to set SMS center number, when user use SIM card, device will record SMS center number automatically ,when change SIM card the old number will be delete and record new one
3.1.7	Set APN	APN	APN; APN; user name; password APN;APN	APN: APN; user name; password APN:APN	Parameter range "APN": 1~30 characters "user name": 0~30 characters "password": 0~30 characters The second command way "APN; APN"Means only set APN. Device comes with of some APN list of some mobile service providers for some country. when the APN information is included for the SIM card used, no need to configure, if APN is wrong, GPRS connection will be wrong
3.1.8	Monitor	VOM	VOM;13912345678 or VOM;+8613912345678	VOM:13912345678 or VOM:+8613912345678	"86" is country code The number can't be empty Usage: send command, the device will call back, open microphone, user start monitor
3.1.9	Enable/disable over Speed	SPO	SPO;0	SPO:0	0: close 1: open Default: SPO;1
3.1.10	Speeding alarm parameters	SOP	SOP; 100;120	SOP:100;120	100: prompt 120: alarm Default: SPO;80;100
3.1.11	Motion sensor enable and disable	MOT	MOT;0	MOT:0	0 : Close, shielding sensor related function IS cancelled, relevant information don't send. 1 : open ,can Use related functions of movement sensor

Sr.	Description	Ctrl Word	Command	Reply	Remarks
3.1.12	Time zone setting	TZN	TZN;8:00	TZN:8:00	Set local time zone parameter from -12:00 to 12:00, Negative represent western time zone, positive represent east eastern time zone Default : 0 : 00
3.1.13	Immobilizer Output	IMM	IMM;0	IMM:0	"0" : close "1" : open device send power cut command or the device is disconnection, cut power of vehicle.

3.2 COMBINED COMMAND

To save time and SMS resource on configuration, user can apply combine command, in which there is more than one command, to operate configuration. The combine command would begin with user password, which is followed by commands (commands order is flexible). Format is as follow:

Pw	,	Command word	;	Parameter	;	Parameter	,	Command word	;	Parameter	
		First command						Second Command			

If there is duplication of the same command in the same combine command, just the last piece of command would be processed; if there is error in the command, the command with error would be discarded, and device would only confirm setting of correct commands with no error warning. If all the commands are error, an alarm will be sent. All setting commands, except user No. setting command under the condition of the user number has never been changed, can be set by combine command.

Example : 1234,UUM;30M;G;T,UPW;1234

3.3 COMMANDS WAIT

In the event that if commands come from user when device is in sleep mode then the device couldn't process commands, however at each wakeup, device will wait one minute to receive those commands and take precedence to process them then response one confirmation message; after 1 min, device would receive and process real-time commands and will reply accordingly.

3.4 ALARMS

The device sends alarm immediately when it triggers. The message received is as follows when device is in alarm.

G797 V0.12
GPS 6/77
UTC 11-05-14 05:33:47
N23.164479
E113.428606
SPD:0km/h 0
Alarm: Power Off

LIST OF ALARMS

Description	SMS Received
Power Off	G797 V0.12 GPS 6/77 UTC 11-05-14 05:33:47 N23.164479 E113.428606 SPD:0km/h 0 Alarm: Power Off
Over Speed	G797 V0.12 GPS 6/77 UTC 11-05-14 05:33:47 N23.164479 E113.428606 SPD:0km/h 0 Alarm: Over Speed

Description	SMS Received
Moving (When the vehicle is stopped and the movement sensor is enabled, the device sends a move alarm on the trigger of the movement sensor)	G797 V0.12 GPS 6/77 UTC 11-05-14 05:33:47 N23.164479 E113.428606 SPD:0km/h 0 Alarm: Moving
Geo-Fence (Future use the current version firmware doesn't support it)	G797 V0.12 GPS 6/77 UTC 11-05-14 05:33:47 N23.164479 E113.428606 SPD:0km/h 0 Alarm: Geo-Fence
Anti-Jamming (This alarm appears if the anti-jamming feature is enabled and someone uses a GSM jammer near the device)	G797 V0.12 GPS 6/77 UTC 11-05-14 05:33:47 N23.164479 E113.428606 SPD:0km/h 0 Alarm: Anti-Jamming

Note

The user can use the UAC command to clear user-based alarm.

3.5 DEFAULT PARAMETERS

Device is set with the following default parameters. When device powers up first time it will use the following parameters to connect and wait for user commands or server commands.

Description	Parameter
User number	(EMPTY)
SMS center number	(EMPTY)
PIN code of SIM	1234
APN list	APN list of China only
User password	1234
User upload mode	30M;G;W
Manager phone number	(empty)
Manager upload mode	30M ; G ; T
Server IP or domain name	domain name (empty) IP (114.142.154.28)
TCP port	3032
UDP port	3032
TCP channel upload mode (mode 0)	60S ; G ; B
UDP channel upload mode (mode 0)	60S ; G ; B
Package number of per TCP upload	1
Package number of per UDP upload	1
percentage of data buffer per TPC upload	50
percentage of data buffer per UDP upload	50
Over speed	80 ; 100
Enable/ disable over speed alarm	Disable
Enable/disable vibration sensor	Disable
Enable/disable phone roaming status test	Enable
Enable/disable anti-jamming	Disable
Time zone	0:00
Vibration sensor parameter	10 ; 10 ; 30
Anti-jamming parameter	30 ; 20
Baud rate of extend serial port	9600
Transmit mode of extend serial port	Common mode
USB port mode	Common mode
Supper link (0) GPS Link	http://maps.google.com/staticmap?zoom=14&size=300x300&markers=%n,%e&sensor=false
Supper link (1) (LBS Link)	(empty)
Phone list of SMS forwarding	(empty)
Hot line list	(empty)
Time for talking	0 ; 0
SMS number counter	0 ; 0

4. STRUCTURES OF SMS FROM DEVICE

4.1 NORMAL LOCATION SMS FORMAT (G MODE)

(Located Successful)

Gosafe G797 V0.10	Device Name and Version
GPS 3/56	Satellites Connected & Time used for Location (secs)
LTM08:00 11-24-10 02:54	Specific time zone and Location time based on specific time zone
N23 9.8329	Latitude in degree-minute format
E113 25.7149	Longitude in degree-minute format
Speed: 1km/h 39	Device speed and Move Direction
TMP=25.6C	Temperature
PWR=12.5	Power

(Located Unsuccessful)

Gosafe G797 V1.05	Device Name and Version
MCC=460	Mobile Country Code
MNC=1	Mobile Network Code
LAC=517A	Location Area Code
CID=1FB1	Cell Identity
TMP=25.6C	Temperature
PWR=12.5V	Power

4.2 HYPERLINK SMS FORMAT (W MODE)

(Located Successful) Google link

Gosafe G797 V0.10	Device Name and Version
http://maps.google.com/static map?zoom=14&size=150x150 &markers=39.9493,116.3875& sensor=false	Google Map Link
TMP=25.6C	Temperature
PWR=12.5	Power

(Located Successful) Yandex link

Gosafe G797 V0.10	Device Name and Version
http://m.maps.yandex.ru/?ll=1 6.3875,39.949328&pt=116.38 75,39.949328&z=12	Yandex Link
TMP=25.6C	Temperature
PWR=12.5V	Power

(Located Unsuccessful)

Gosafe G797 V0.10
MCC=460
MNC=1
LAC=517A
CID=1FB1
TMP=25.6C
PWR=12.5V

Device Name and Version
Mobile Country Code
Mobile Network Code
Location Area Code
Cell Identity
Temperature
Power

4.3 ERROR COMMAND ALERT

Gosafe G797 V0.10
Error command!

4.4 PASSWORD MODIFICATION SUCCESSFUL CONFIRMATION

Gosafe G797 V0.10
UPW:5678

4.5 USER NO. SETTING SUCCESSFUL CONFIRMATION

Gosafe G797 V0.10
UNO:+8613912345678

5. LED FLASHES & RELEVANT DEVICE STATUS

There is an external LED light to reflect device status in G797. In order to check device status through this LED light flashes, LED is located right next to the USB port. When device is at work, LED will flash at 8-sec cycle constantly to show related GSM and GPS status in each cycle.

In each flash cycle when device is at work, LED will flash to indicate GSM status first then GPS status (there is an interval between them). To check the statuses, please count the LED light flashes then compare it to the chart below:

Status	LED Flashes
Device Power on	LED ON <1sec
GSM module ON but unregistered	1 flash at the beginning of each flash cycle
GSM module ON and registered	2 flashed at the beginning of each flash cycle
GSM module OFF	No flash at the beginning of each flash cycle
GSM module on and registered	3 flash then GPRS connection
GSM module on and registered	4 flash then TCP connection
GPS module ON but haven't located	1 flash after interval (behind GSM status flash) in each flash cycle
GPS module ON and located	2 flashes after interval (behind GSM status flash) in each flash cycle
GPS module OFF	No flash after interval (behind GSM status flash) in each flash cycle

Device also uses LED flashes to indicate relevant error if any of the following situations happens: Device Error, SIM card no balance, GSM network cannot register. When there is any error as mentioned above, LED light will ON for 1sec then flash quickly, which helps trouble shoot errors; user can count LED quick flashes then compare it to below chart:

Error Details	LED Flashes	Solutions
GSM module Communication Error	1 flash	Power OFF then check GSM module power supply and communication
SIM card Error	2 flashes	Power OFF then check whether SIM installation is good and PIN is disabled
Cannot register at GSM network	3 flashes	To check whether SIM card is overdue and/or device in an area there is no GSM signal
GPS module Error	4 flashes	Power OFF then check GPS module power supply and communication To check whether there is SIM card SMS
SMS Sending Error	5 flashes	To check whether there is SIM card SMS center setting error and/or SIM card is overdue
Can't use GPRS	6 flashes	To check whether the APN is correct and SIM has GPRS function or not
TCP connection Error	7 flashes	To check if the server is normal
Unknown Error	8 flashes	Power OFF then Power ON, if there is still the error, please contact us.

6. APPENDIX

6.1 CHARACTERS FOR COMMANDS

0	1	2	3	4	5	6	7	8	9
A	b	c	d	e	f	g	h	i	j
K	l	m	n	o	p	q	r	s	t
U	v	w	x	y	z	A	B	C	D
E	F	G	H	I	J	K	L	M	N
O	P	Q	R	S	T	U	V	W	X
Y	Z	!	"	#	%	&	'	()
*	+	,	-	.	/	:	;	<	=
>	?	@	\$	Sp	_	^	{	}	\
[~]							

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