Product Overview

INS(Inertial Navigation System)

INS can be used as an alternative tracking system when vehicle is in an area without GPS signal, such as urban canyon, tunnel or underground parking lot.

Driving behavior analysis

Harsh acceleration alert
Harsh braking alert
Harsh cornering alert
Sudden lane change alert
Collision alert
Skidding alert
Rollover alert
Roll and pitch alert

Vehicle tracking

GPS & LBS positioning
Real-time location query

Easy installation

After insert SIM card, plug device into OBD II port and start to use.

Multiple alerts

Over-speed alert
Fatigued driving alert
Tow/Theft alert
Vibration alert
Other alerts

Standard Parts List

Item	Quantity
JM-VG02U device	1
Pry tool	1

Specification

GSM Band	850/900/1800/1900 MHz
GNSS Type	GPS+INS(Inertial navigation system)
Antenna	Built-in GPS ceramic antenna; GSM quad-band antenna
LED indicator	GPS(blue), GSM(green), Power(red)
Battery	50mAh/3.7V Li-Polymer battery
Working voltage/current	9-36VDC/38mA(12VDC)
Standby current	5mA
Working time	1 hour (power supply disconnected)
Operating temperature	-20℃ – 70℃
Weight	37g
Dimension	48.6*49.0*24.0mm

LED Indications

Power Status (Red)

Indication	Definition
Fast blinking (on 0.1s, off 0.1s)	Low battery
Slow blinking (on 2s, off 2s)	Charging
Solid on	Fully charged
Slow blinking (on 0.1s, off 2s)	Normally working
Off	Battery is exhausted/Internal failure

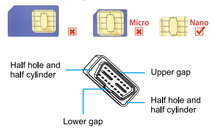
GNSS Status (Blue)

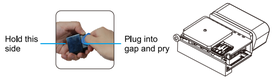
Indication	Definition
Fast blinking (on 0.3s, off 0.3s)	Searching GNSS signal
Solid on	Positioned
Off	GNSS module is in sleep more or not working

Cellular Status (Green)

Indication	Definition
Fast blinking (on 0.1s, off 0.1s)	Network initializing
Slow blinking (on 0.1s, off 2s)	Receiving signal normally
Solid on	GSM/GPRS is online
Off	No signal received/No SIM card detected

Product setup





Insert SIM card and Power on

1. Choose Nano SIM card with access to GPRS and SMS.
2. Take the pry tool our and plug it into the gaps one be one, pry them until the case is loose, then separate the case from core.
3. Insert SIM card into the slot.
4. Align the half hole and half cylinder of double sides, then fasten the case and core (LEDs will be damaged if without alignment).

Note: After SIM card inserted, device will power on itself automatically. Low battery voltage may affect its self-activation, in this situation please plug it into vehicle OBD interface to charge.

Configuration

Login platform

iOS Android

To interact with this device, please login the location service platform that your distributor designate, and enter the designated website to download mobile app.

Tracked by mobile phone

Send the command URL# by SMS to the device's SIM card number.
The device will reply with a map link. Clink the link to have the location displayed on Google Maps on your mobile phone.
If device in somewhere not positioned, device will reply "Positioning, please wait for a moment" or "Positioning fail".

Monitored by tracking platform

APN & Server setting
To ensure normal network operation, please confirm your APN and server setting before you login. In most countries, APN could be automatically adapted to local mobile operators. If not, please send SMS to set the APN.

If user name and password are required for APN, please add it into the command.
APN,apnname#
E.g.APN,internet#
APN,apnname,user,pwd#
E.g.APN,internet,CLENTE,AMENA#

Confirm the server address and setting with distributors. If server is incorrect, please send SMS to change.
SERVER,mode,domain name/IP,port,0#
E.g: SERVER,1, www,ydpat,com, 8011,0#
SERVER,0, 211.154.135.113,8011,0#
mode=1 means set with domain name
mode=0 means set with IP address

Please login the designated service platform and enjoy your monitoring experience.

GPS upload interval setting

By time interval (Default Valid)
TIMER,T1,T2#

T1 means upload interval when ACC ON
T2 means upload interval when ACC OFF
Range: 5~18000 or 0 (second);0 means no upload
Default valid setting: TIMER,10,10#
Query current TIMER setting: TIMER#

By distance interval (Default OFF)
DISTANCE,D#
D ranges 50~10000 or 0 (meters)
Note: When user enable uploading by DISTANCE, the preset TIME uploading turns invalid.

Over-speed alert (Default OFF)

SPEED,A,B,C,M#
A=ON/OFF; speeding alarm; default: OFF
B=5~600 seconds; detection time range; default: 20
C=1~255 km/h; speeding threshold; default: 50
M=0/1; alarm report mode; 0: GPRS, 1: SMS+GPRS; default: M=1

E.g. SPEED,ON,80,120,1#
When vehicle speed has been over 100km/h for 80 seconds, you will receive alerts via SMS and GPRS.
Note: Send SPEED,OFF# to disable over-speed alert when necessary.

Towing alert (Default OFF)

When vehicle is dragged, device could send alert.
MOVING,S,R,M#
S=1 means ON; S=0 means OFF
R means radius, range 100~1000 (meter)
M means alert way
M=1 SMS+GPRS; M=0 means GPRS
Note: Send MOVING,OFF# to disable tow alert when necessary.

Fatigued driving alert (Default ON)

FATIGUEALM,ON,T1,T2,T3,M,S#
If a driver has continuously driven over Maximum Driving Time (T1), and the total break time is less than Minimum Break Time (T2), fatigued driving alert will be activated.

Fatigued driving alert: A period of time (T3) before reaching Maximum Driving Time, device will start to warn driver (e.g. buzzer) to have a break.

T1=60-600 minutes; Maximum driving time, default: T1=240;
T2=1-255 minutes; Minimum break time, default: T2=20;
T3=10-240 minutes; Pre-alert time before reaching T1, default: T3=30 (Note: T1>T3)
M=0/1; alert report mode; 0: GPRS, 1: SMS+GPRS; default: M=0

S=ON/OFF; activate/block buzzer;
ON: Buzzer will sound to pre-alert fatigued driving;
OFF: Buzzer will not sound to pre-alert fatigued driving.
Default: ON. (Buzzer sounds in a cycle of 1s active and 1s inactive to pre-alert fatigued driving, total 5 cycles).
Note: Send FATIGUEALM,OFF# to disable fatigued driving alert when necessary.

Driving Behavior Analysis

Device support detecting eight types of driver behaviors, which are transmitted via GPRS and can be displayed on server.

1.Harsh acceleration alert
When vehicle's speed increases sharply, an alert will be sent to platform.

E.g.: One vehicle's speed increases from 0KM/H to 50KM/H in 2 seconds.

2.Harsh braking alert
When vehicle's speed decreases sharply, an alert will be sent to platform.

E.g.: One vehicle's speed drops from 50KM/H to 10KM/H in 2 seconds.

3.Harsh cornering alert
When vehicle makes sharp turning, am alert will be sent to platform.

E.g.: The driving speed is greater than 30KM/H, and the angle change is greater than 90 degrees.

4. Sudden lane change alert
When vehicle suddenly changes lanes at high speed, an alert will be sent to platform.

E.g.: The driving speed is greater than 60KM/H, and the angle change is less than 20 degrees.

5. Collision alert
If collision occurs, the device will send alert to the platform.
Slight impact and scratch will not trigger the alert.

6. Rollover alert
When vehicle's rolling angle exceeds 70°, an alert will be sent to platform.

7. Skidding alert
When vehicle changes the course angle for more than 3 seconds at an angular velocity greater than 20° / s, an alert will be sent to platform.

8. Roll and pitch alert
When vehicle pitches or rolls greater than 20° and smaller than 70°, an alert will be sent to platform.

Troubleshooting

Trouble	Solution
Unable to connect to tracking platform	Check APN and server settings. Check whether the data service of SIM card is enabled. Check the balance of your SIM card.
The device is offline on the platform	Check whether the external power is well connected. Check if the device is in an area without network. Check the balance of SIM card.
Unable to locate	Check if there is a metallic layer above the device shielding satellite signal. Check if the device is in an area without network.
Location drifts	Drifting may happen if in an area with poor GNSS signal such as urban canyon or basement. Check whether the device is firmly fixed.
No reply from device after send it a command	Make sure the format of command is correct. Check if the device is in an area without network. Check if SIM card is well inserted and supports SMS service.

Warranty Instructions

1. The warranty is valid only when the warranty card is properly completed, and upon presentation of the proof of purchase consisting of original invoice indicating the date of purchase, model and serial No.of the product. We reserve the right to refuse warranty if this information has been removed or changed after the original purchase of the product from the dealer.
2. Our obligations are limited to repair of the defect or replacement the defective part or at its discretion replacement of the product itself.
3. Warranty repairs must be carried out by our Authorized Service Centre. Warranty cover will be void, even if a repair has been attempted by any unauthorized service centre.
4. Repair or replacement under the terms of this warranty does not provide right to extension or renewal of the warranty period.
5. The warranty is not applicable to cases other than defects in material, design and workmanship.

Maintenance Record

Date		Serviced by	
Product Model			
IMEI Number			
Fault Descriptions			
Comments			

JM-VG02U

INS-AIDED OBD
GPS VEHICLE TERMINAL
Quick Start Manual
V2.0