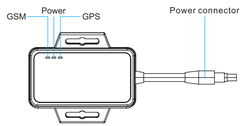
Product overview



INS(Inertial Navigation System)

INS can be used as an alternative function in weak or non-GPS signal area such as urban canyon, tunnel and underground park, etc.

Driver 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

Position tracking

GPS & LBS positioning
Real-time location query

Easy self-installation

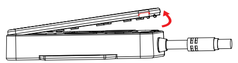
Specification

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	450mAh/3.7V Li-Polymer battery
Working voltage/current	9-36VDC/38mA(12VDC)
Standby time	28 hours
Working time	1.5 hours
Operating temperature	-20℃ – 70℃
Weight	63g
Dimension	80.0 x 67.0 x 16.0mm

Package & Optional accessories

Standard package	JM-VG01U device
	2-pin power cable
	Hook & Loop
Optional accessories	6-pin power cable
	SOS button cable
	12V Relay

Product setup



Insert SIM and Power on

1. Choose the Micro SIM card with SMS and GPRS access.
2. Remove the front cover and toggle the switch to OFF.
3. Insert the SIM card into the card slot with its gold-plated contacts towards the Printed Circuit Board.
4. Toggle the battery switch to ON and return the cover.

LED indications

Power Status (Red)

Quick blinking	Low internal battery
Slow blinking	Normal mode
Solid on	Charging
Off	Power off or battery failure

GNSS Status (Blue)

Blinking	GNSS synchronizing
Solid on	Positioned
Off	GNSS module is in sleep mode or not working

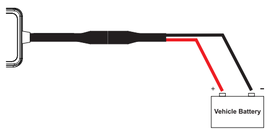
Wireless Network Status (Green)

Quick blinking	Module initializing
Slow blinking	Registered but no inbound acknowledgement
Solid on	Network available
Off	No signal received or no SIM card detected

Wiring & Installation

2-pin power cable

Color	Meaning
Red	Power+
Black	Power-



Self installation: If you choose device with 2-pin cable, it's recommended to mount the device on the surface of vehicle battery.

1.Select a proper installation place and stick the hook & loop on it. (To ensure GPS & INS tracking and driver behavior monitoring and to avoid GPS drift, please fix the device with the hook & loop.)

2.Stick and fasten the device (back cover) on the other side of the hook & loop. Make sure device is faced up.

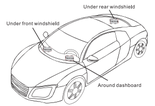
3.Connect the red positive line to the positive terminal fastener of the vehicle battery.

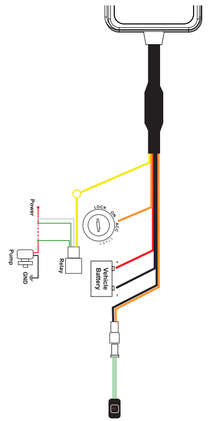
4.Connect the black negative line to the negative terminal fastener of the vehicle battery.

6-pin power cable(Optional)

Color	Meaning
Red	Power+
Black	Power-
Orange	ACC by default, positive triggered
Yellow	Immobilization by default, open drain output
Orange	SOS+ by default
Black	SOS-

Specialized installation:
If you choose device with 6-pin cable, you can install the device inside the car, close to the windshield.





Power connection

The standard power supply ranges from 9V to 36VDC.
During installation, negative side should connect to the ground.
Do not connect with other ground wires simultaneously.

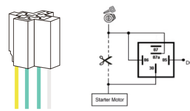
Ignition wire

ACC line (orange) connects to vehicle's ACC, detecting ignition.
Be sure to check if it's a real ignition wire i.e.power does not disappear after starting the engine.

Relay wiring

Relay's white line(85) connects to the positive side of battery(12V) while the yellow line(86) connects to the device's relay control (yellow line on power cord).

Find the fuel pump of the vehicle and cutoff its positive power line. The positive side of fuel pump connects to the green line(87a) while the side closing to starter motor connects to green line(30), as the below chart. Switch of the two green lines have the same effect.



12V relay is standard. The device is suitable for vehicles with 12V supply. If the vehicle power supply is 24V, use 24V relay.

SMS configuration

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.

SOS emergency call (with 6-pin power cable)

In case of emergency case, press SOS for 3 seconds to activate SOS alert. The device will send SMS alert to preset SOS numbers and dial the numbers in a loop for three times until the call is picked up. Alarm message will also be sent to the tracking platform.
To add SOS number: SOS,A,number1,number2,number3#
To delete the SOS number: SOS,D,phone number#
Query SOS number: SOS#

Remote power/fuel cut-off (with 6-pin power cable)

When vehicle is stolen, fuel/power command can be sent by platform, APP or SMS.

Notice:
1.Make sure ACC is correctly connected.
2.When ACC is OFF, command will be executed immediately.
3.When ACC is ON but GPS is not fixed, command will defer.
4.When ACC is ON and GPS is fixed, command will be executed when vehicle speed is less than 20km/h.

To cut-off/restore the fuel by SMS command, you have to authorize a center number.
Set the center number: CENTER,A,mobile number#
Delete the center number: CENTER,D#

Notice:
Only the preset SOS number can set/delete the center number.
Only one center number can be set.

To cut-off fuel/power connection: RELAY,A#
A=0/1 (0=restore fuel; 1=cut-off fuel) Default value:0
E.g.RELAY,1#

Over-speed alert (Default OFF)

SPEED,S,T,SPEED,M#
S=1 means ON; S=0 means OFF
T means duration of speeding, ranges 5~600 (second)
SPEED ranges 1-255 (km/h)
M means alert way
M=1 SMS+GPRS; M=0 means GPRS
E.g. SPEED,ON,20,100,1#
When vehicle speed is over 100km/h for 10 seconds, you will receive SMS alert and GPRS alert on server.
Note: SPEED,OFF# Disable over-speed alert

Driver 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

Type	Use
Unable to connect to tracking platform	Check the APN and IP settings. Check whether the data service of SIM card is enabled. Check the balance of SIM card.
Tracker shows offline	Check whether external power is still connected. Check if the vehicle entered network blind area. Check the balance of SIM card.
Unable to locate	Make sure the top side facing upward without metallic things shielded. Make sure it's not in area with no satellite coverage.
Location drift	In area with poor GNSS signal(tall building around or basement), drifting may happen. Check whether vibration happens around to trigger the accelerator.
No command reply	Make sure command format is correct. Vehicle may be in network blind area. Make sure SIM card is well inserted and have 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-VG01U

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