Product overview

POWER
GSM
GPS
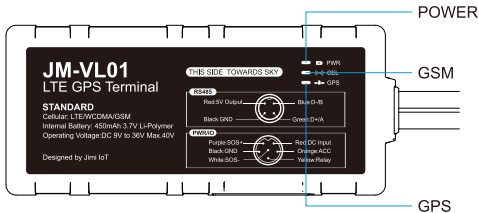
Position tracking
LTE, UMTS& GSM connectivity
GPS & LBS positioning
Real-time location query
Track by time/distance/cornering/ignition

Anti-theft
Remote power/Fuel cut-off
SOS emergency call
Geo-fence alert
Towing alert

Monitoring
Ignition detection
Over-speed alert
Driver behavior monitoring
Fuel level monitoring(optional)
Temperature monitoring(optional)

Specification

LTE Band	B1/B2/B3/B4/B5/B7/B8/B28AB (VL01LA) B2/B4/B5/B7/B12/B66 (VL01A) B1/B3/B7/B8/B20/B28A (VL01E)
UMTS/HSPA Frequency	850/900/1900/2100 MHz (VL01LA) 850/1900 MHz (VL01A) 900/1900/2100 MHz (VL01E)
GSM Frequency	850/900/1800/1900 MHz (VL01LA) 850/1900 MHz (VL01A) 900/1800 MHz (VL01E)
GNSS Type	U-blox all-in-one GNSS receiver
Sensitivity	Cold start: <45s Warm start: <35s Hot start: <1s
Position Accuracy	2.5m CEP

General Specifications

LED Indicator	GPS (blue), GSM(green), power (red)
Battery	450mAh/3.7V
Working Voltage	12VDC/24VDC
Operating Temperature	−20℃～ 70℃
Weight	105g
Dimension	113(L)*51(W)*20(H)mm

Product setup

Micro   Nano

Insert SIM and Power on
1. Remove the soft plug on one side of the tracker and insert the SIM card into the card slot with its gold-plated contacts towards the Printed Circuit Board.
2. Remove the cover and toggle the battery switch besides the SIM slot to power on.

Power off
1. Disconnect the tracker from external power.
2. Remove the cover and switch to "OFF"

LED indications

Power Status (Red)

Solid on	High power (>3.9V)
On for 0.3s and off for 3s	Medium power (3.65V-3.9V)
On for 0.3s and off for 0.3s	Low power (<3.65V)

GNSS Status (Blue)

On for 0.3s and off for 0.3s	Searching signal (over 1min in this state please move to open ground)
On for 0.1s and off for 3s	Positioning success
Solid on	Bluetooth pairing

GSM Status (Green)

|	
On for 0.3s and off for 0.3s	Initializing
On for 1s and off for 3s	Logining (If long-stay in this state, please check server settings)
On for 0.1s and off for 3s	Network available

Interface and Wiring

RS485

RS485
Red:5V Output   Blue:D-/B
Black:GND   Green:D+/A

Power and I/O

Red	PW+	Supply voltage, 9-36V
Orange	ACC	ACC by default, positive triggered
Yellow	Relay	Fuel/Power cut-off
Black	GND	Grounding wire
Purple	SOS+	SOS(positive)ADC
White	SOS-	SOS(Negative)

Vehicle Power
RS485
Vehicle Battery
Pump
GND
Relay
Relay
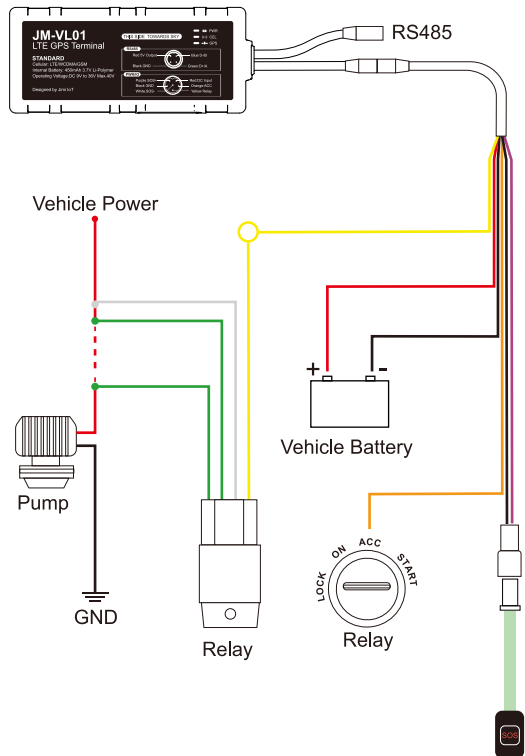
Power connection
The standard power supply ranges from 11V to 36VDC.
During installation, negative side should connect to the ground.
Do not connect with other ground wires simultaneously.

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 relay control (yellow line on the power cord).

Find the fuel pump in the vehicle and cut off 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.
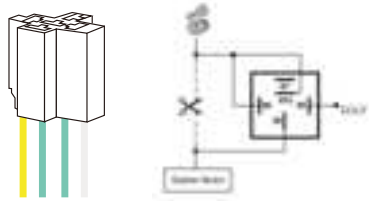
12V relay is standard. The device is suitable for vehicles with 12V supply. If the vehicle power supply is 24V, use 24V relay.

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.

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

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: MOVING,OFF# Disable towing alert

WIFI hotspot (Default OFF)
Data transmission and communication is available through WIFI.
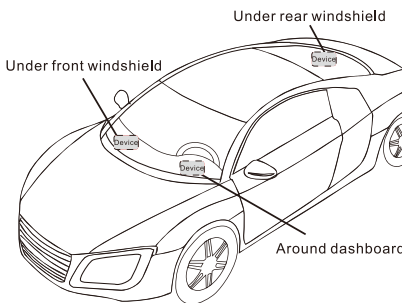HOTSPOT,S,N,P#
S=ON/OFF. Default: OFF (uppercase required)
N=Name, 20 characters, default: last four digits of IMEI
P=Password, minimum eight, default password: 11111111

Package & Optional accessories

Standard

Power cable

Relay

SOS cable

Installation recommendation

Under rear windshield
Under front windshield
Around dashboard

1) The device should face up to the sky.
2) Metal thermal barrier or heating layer of the windshield affects the signal.

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 has 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-VL01
LTE VEHICLE TERMINAL
User Manual
V1.3

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FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

FCC Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.