

G13

GPS VEHICLE TRACKER

Product Specifications

Ver:1.0

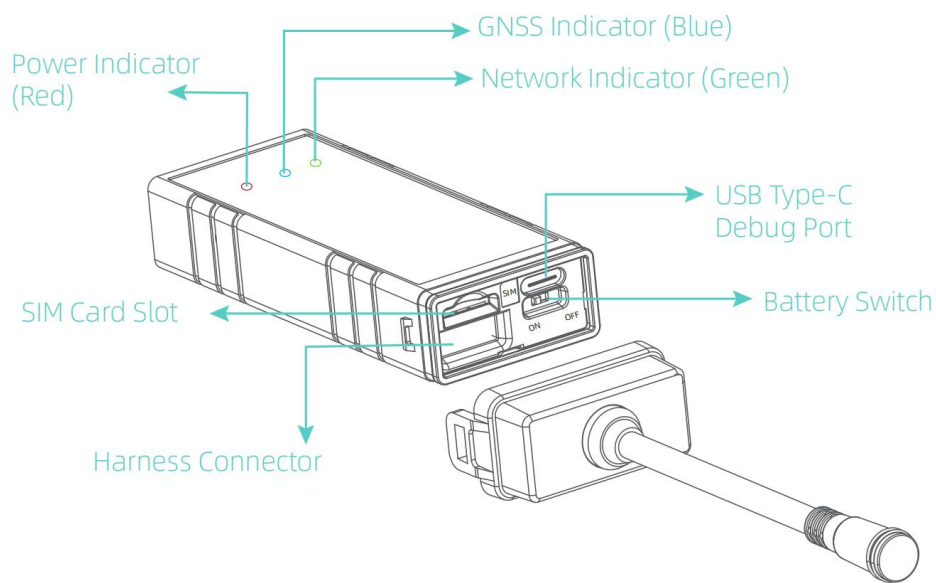


1、Introduction

1.1 Summary

The G13 is an advanced vehicle tracking terminal equipped with dual-network (4G + 2G) support for reliable, uninterrupted communication. Featuring a built-in high-performance 25x25x2mm BeiDou/GPS antenna, the device delivers enhanced satellite acquisition capability and precise positioning accuracy.

The terminal offers comprehensive expansion options including SOS emergency button, speaker and microphone integration, analog input, relay control, and TTL/485 interface for peripheral devices, making it adaptable to diverse application scenarios. With an IP67 waterproof rating, the G13 is engineered to perform reliably even in harsh operating conditions.



1.2 Applications

Insurance industry, corporate fleets, automotive manufacturers/4S stores, individual users, electric vehicle anti-theft systems, public transport, taxis, rental vehicles, etc

1.3 Packing List

Device	*1
Power cable	*1 (1200mm)
Relay	Optional
Panic Button	Optional
Microphone	Optional
Capacitive Fuel Sensor	RS485

2、Hardware Specifications

#	Functions		Description
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Electricity Character	Work Voltage		DC 9V - 90V	
	Operating current		12V/ average 25mA	
	Sleep current		12V/ average 5mA	
	Internal Battery		300mAh (3.7V Polymer battery)	
Environment Character	Work Temp		-20℃ - 70℃	
	Storage Temp		-30℃ - 80℃	
	Work Humidity		10%-85% RH non-condensing	
	Frequency Bands	SA	LTE/4G	LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B28/B66
			GSM/2G	850/900/1800/1900MHz
		EU	LTE/4G	LTE-FDD:B1/B3/B5/B7/B8/B20
			GSM/2G	GSM:900/1800MHz
	SIM card		NANO SIM 卡	
	Antenna		Built-in antenna	
GPS/BD Location Character	Antenna spec		FPC antenna	
	Chip Model		AT6558R	
	Location mode		BDS+GPS	
	Cold Start		32S(open sky)	
	Hot Start		1S(open sky)	
	Sensitivity (tracking)		-162 dBm	
	Locate the antenna		Built-in ceramic dielectric antenna	
	Antenna spec		25mm * 25mm * 2mm	
	GPS frequency bands		L1: 1575.42±1.023MHz	
	BDS frequency bands		B1: 1561.098±2.046MHz	
	Satellite channel		66	
	Location accuracy		<10m	
	Timing accuracy		<30ns	
	Speed measurement accuracy		<0.1m/s	
External port	ACC detection input		ACC detection 1 channel	
	Cut off oil and electricity		Low output one (relay control line)	
	SOS (optional)		Low detection all the way (SOS alarm line)	
	MIC(optional)		1 channel	
	5V(optional)		1 channel	
	TTL/RS485 (optional)		1 channel	
Shape	Device Dimension		88(L)*38(W)*17(H) mm	
	Housing Material		ABS+PC plastic	
	Unit weight		45g	

3、Key Features

Functions	Description
Real time tracking	Positioning accuracy <10m in open outdoor environments
Power cut off alarm	The device will trigger a power cut off alarm when the external power is disconnected or the connecting cable is cut
Fall detection alarm	After the device is installed and the device posture is identified, the device will report a fall detection alarm when the device posture changes.
Tamper alarm	Report a tamper alarm when the device is removed
Driver behavior analysis	<p>Harsh Acceleration: When the driver suddenly presses the accelerator pedal, causing the vehicle's speed to increase rapidly, the device reports a harsh acceleration event to the platform.</p> <p>Harsh Deceleration: When the vehicle's speed decreases rapidly due to emergency braking, the device reports a harsh deceleration event to the platform.</p> <p>Harsh Turning: When the vehicle makes a harsh turning during normal driving, the device reports a sharp turn event to the platform.</p> <p>Collision: When the vehicle collides with another object or vehicle during normal driving, the device reports a collision event to the platform.</p>
Low external battery alarm	When the device detects that the external power voltage is lower than the set threshold, the device will trigger an low external power battery alarm.
Low internal battery alarm	When the device detects that the internal battery voltage is lower than the set threshold, the device will trigger an low internal battery battery alarm.
Overspeed alarm	<p>The vehicle speed threshold can be set through the platform or SMS.</p> <p>When the vehicle's speed exceeds the threshold within the set time, an overspeed alarm will be reported.</p>
Vibration alarm	When the vehicle ignition is off and in a stationary state, the device detects vehicle vibration and a vibration alarm will be reported.

4、Installation

4.1 Main device

Check if the appearance is in good condition and verify all relevant accessories are present.

4.2 Insert SIM Card

4.2.1 Choose appropriate SIM Card

Please choose a 4G LTE-FDD supported nano SIM card like below:



Normal ☐

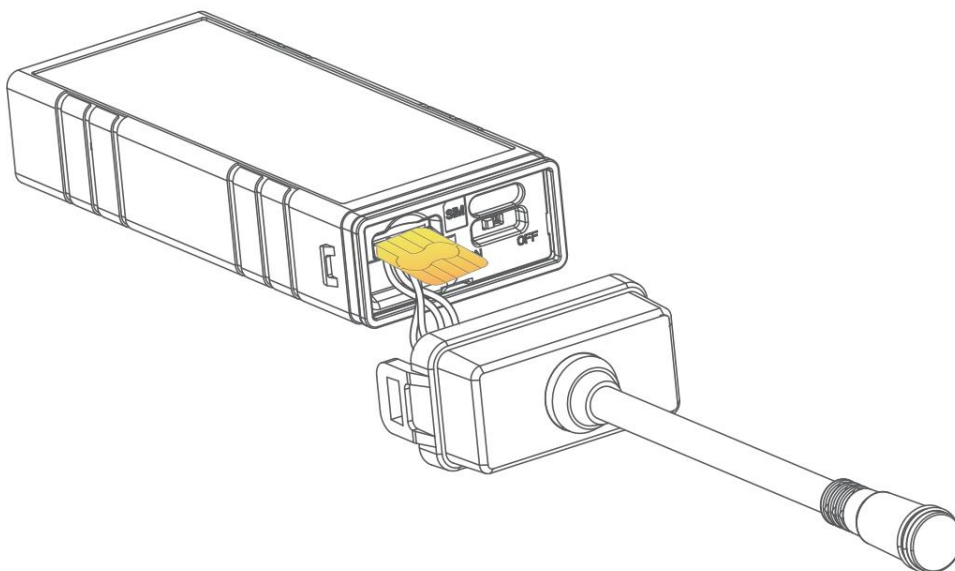


Micro ☐



Nano ☒

4.2.2 Power off device before installing or removing SIM card. Orient and insert SIM as depicted.



Note:

Please insert the SIM card with the correct orientation, ensure the SIM card has an active data plan to enable network connectivity and maintain sufficient credit on the SIM card for optimal device functionality. Before inserting or removing the SIM card, please power off the device and set the backup battery switch to the OFF position to prevent accidental activation or damage.

4.2 LED Indicators

Red Light (Power):

Status	meaning
Fast blink (0.3S on, 0.3S off)	Low internal battery or failure

Slow blink (0.3S on, 2S off)	External power supply disconnected
Solid on	Normal working
Solid Off	Low external battery or internal failure

Green Light (GSM):

Status	meaning
Fast blink (0.3S on, 0.3S off)	Network initiating
Slow blink (0.3S on, 2S off)	Network signal is normal
Solid on	Connected to platform
Solid Off	No network signal or no SIM card

Blue Light (GPS):

Status	meaning
Fast blink (0.3S on, 0.3S off)	Searching satellites
Solid on	Position fixed
Solid Off	In sleep mode or not working

Note:

When the device is in a static sleep mode, the LED indicators will turn off automatically. When the device is in motion, the indicator lights will all turn on automatically.

4.3 Wire Diagram

VER M: 9PIN

#	Function	Instruction
PIN1	Power positive	Connect power supply positive (9-90V) (Red)
PIN2	Power negative	Connect power supply negative (Black)
PIN3	Detect ACC	Connect ACC wire (Organge)
PIN4	Digital output	Connect and control relay (Yellow)
PIN5	MIC -	Microphone GND(Blue)
PIN6	MIC +	Microphone Input(Green)
PIN7	AIN	Analog detection 0-5V (Purple)
PIN8	SOS +	SOS Input (White)
PIN9	SOS -	SOS GND (Black)

VER D: 9PIN

#	Function	Instruction
PIN1	Power positive	Connect power supply positive (9-90V) (Red)
PIN2	Power negative	Connect power supply negative (Black)
PIN3	Detect ACC	Connect ACC wire (Organge)
PIN4	Digital output	Connect and control relay (Yellow)
PIN5	Data1	TX/RS485A(Blue)
PIN6	Data2	RX/RS485B(Green)
PIN7	5V	Output 5V (Purple)
PIN8	SOS +	SOS Input (White)
PIN9	SOS -	SOS GND (Black)

4.4 Wiring Diagram

(1) Use a multimeter to find the positive and negative terminals of the vehicle battery;

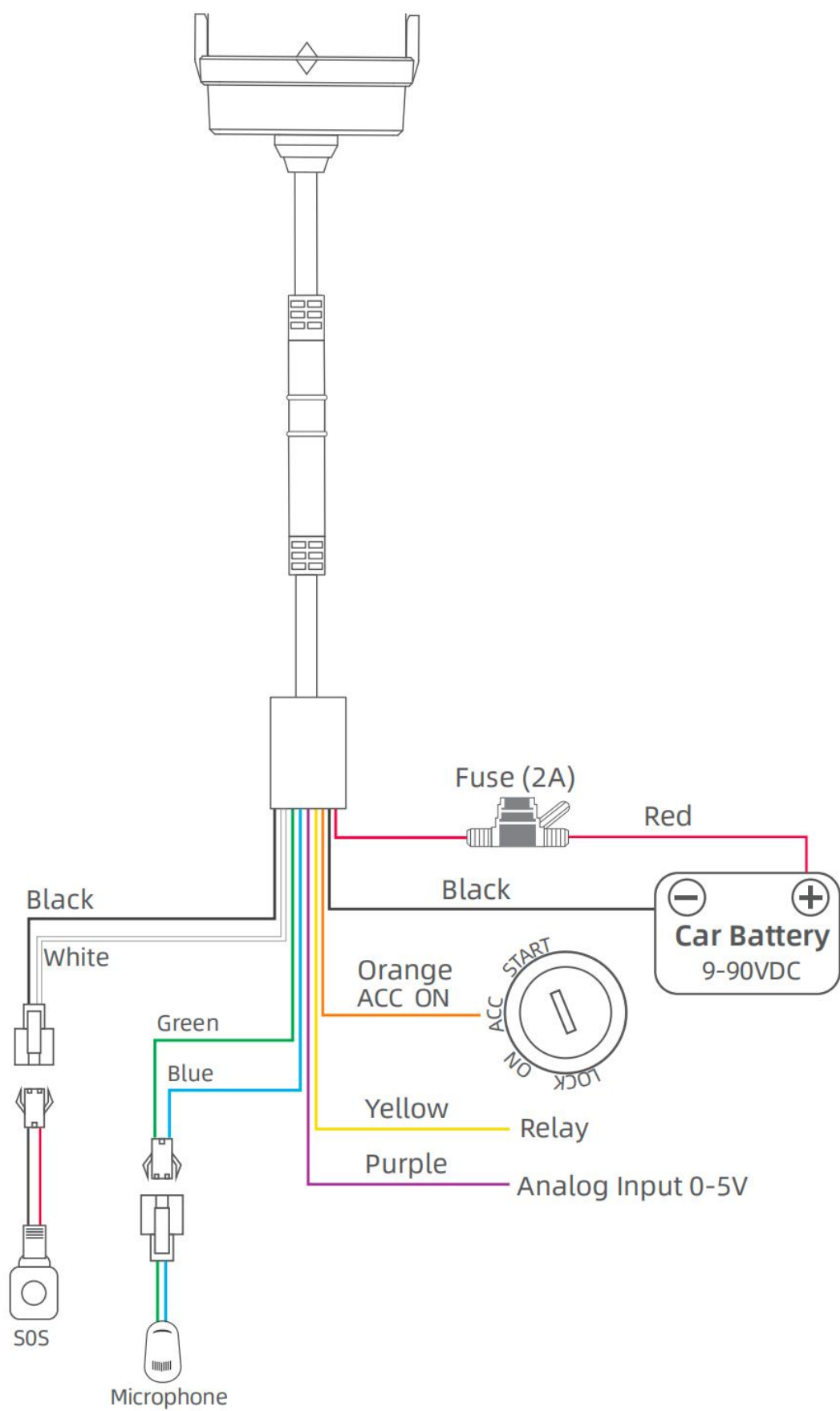
(2) Use a multimeter to find the ACC wire. To do this, connect the black probe of the multimeter to the negative terminal of the vehicle battery and the red probe to the vehicle ignition switch wire. When the vehicle key is in the OFF position, the voltage should be 0V.

When the vehicle key is in the ON position, the voltage should be the vehicle supply voltage. The wire that the red probe of the multimeter is connected to is the ACC wire;

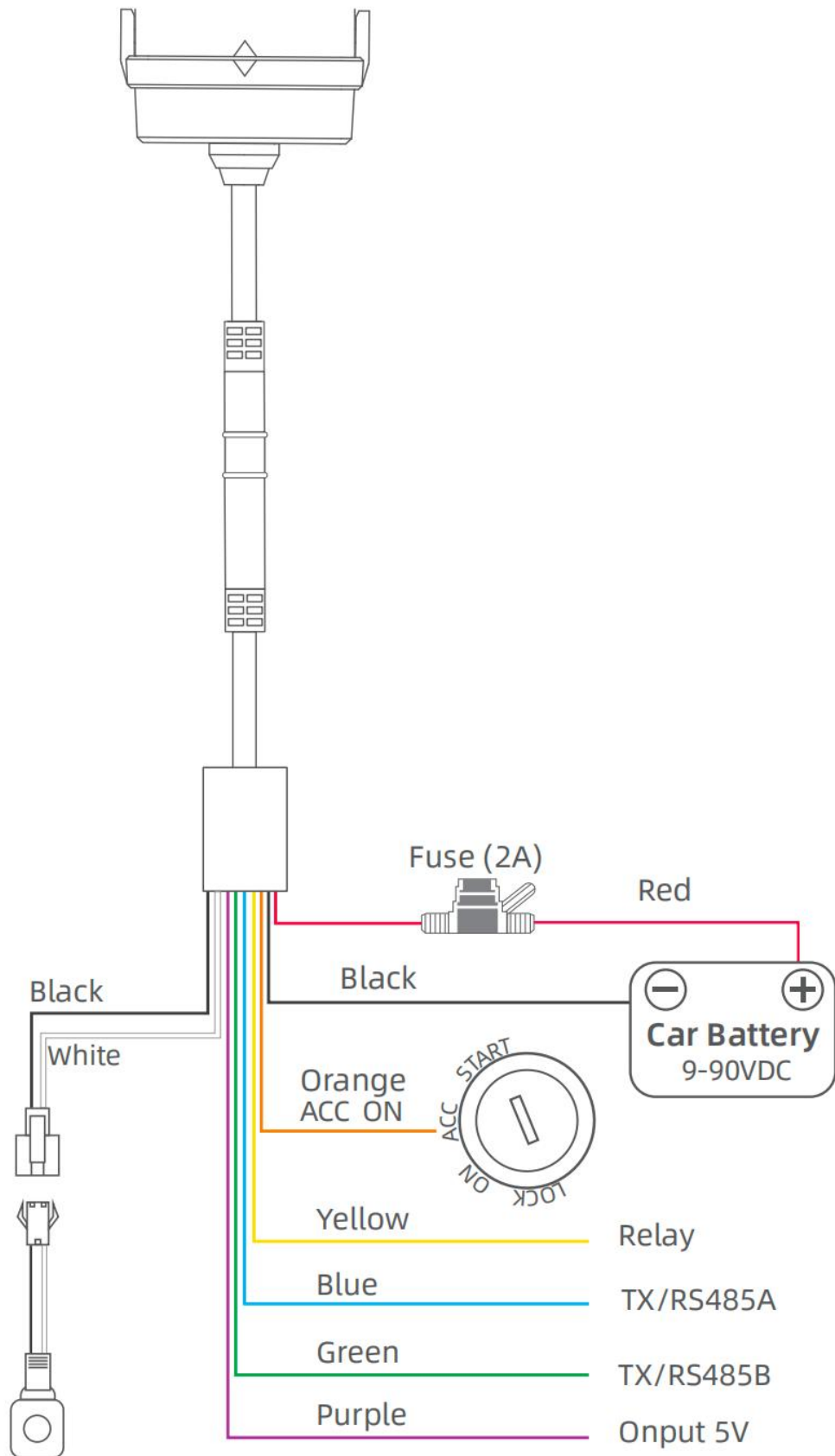
(3) Connect the red wire (positive terminal) of the device power cable to the positive terminal of the vehicle battery;

(4) Connect the harness according to the below diagram:

VER M: 9PIN



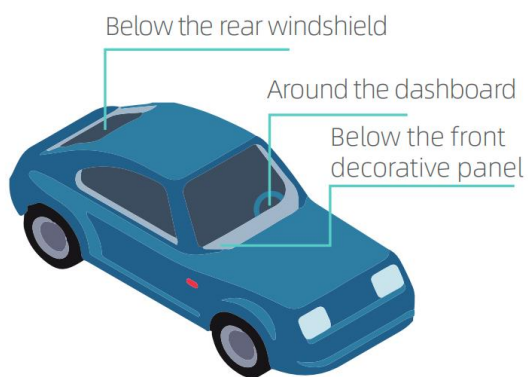
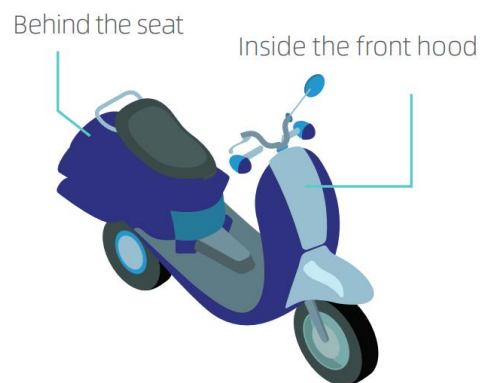
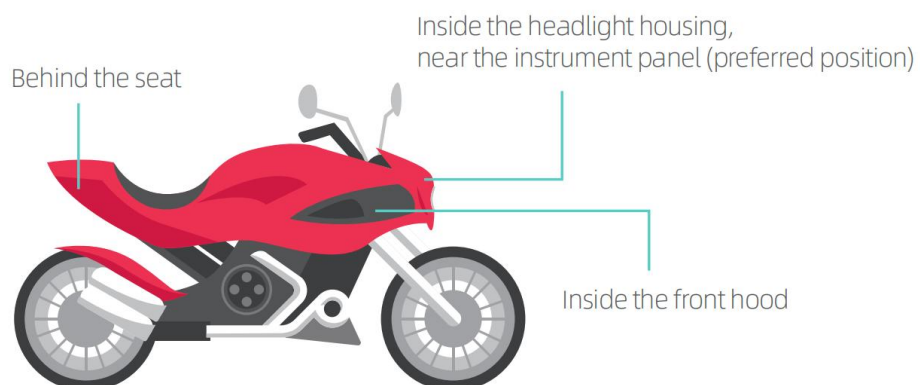
VER D: 9PIN



Note:

- (1) The device must be equipped with manufacturer-specified accessories.
- (2) The standard power supply for this device is 9-90V. Please choose the original power cable. Do not connect the positive and negative wires incorrectly during installation.
- (3) Please refer to the device installation instructions.

This device is an advanced satellite positioning system. It is recommended to choose an authorized distributor or professional personnel to perform the installation and debugging to ensure that the device is installed correctly.

Installation diagram:**| Automobiles****| Electric bikes****| Motorcycles****Note:**

- (1) Install the product with the front facing upwards towards the sky.
- (2) If the windshield has a metal heat-insulating layer or a heating layer, it may reduce the reception strength of satellite signals, making satellite positioning difficult. Please

consider changing the installation position of the device.

(3) When installing equipment on electric bicycles and motorcycles, try to avoid placing it below the driver, as satellite signal strength may significantly decrease in this position.

5、APP

Please log in to the APP or the location services platform provided by your distributor to configure settings and operate device features.



iOS



Android

6、Appendix

6.1 Battery Security

(1) Use only original batteries. Non-original batteries invalidate warranties and the manufacturer is not liable for any device damage caused.

(2) Prevent metal objects from shorting battery terminals.

(3) Do not bend or puncture the battery.

(4) Do not immerse or incinerate the battery.

(5) Charge battery near room temperature between 0°C and 45°C.

(6) Do not use damaged, leaking or deformed batteries.

(7) Do not disassemble or modify the battery

6.2 Troubleshooting

Refer to the solutions below if you encounter the following common faults. Contact your distributor or service provider if problems persist.

Fault	Cause	Solution
Poor GPS Signal	Using the device in areas with poor signal reception, such as inside tall buildings or basements	Use the device in an area with good signal reception
	The device is placed face down or obstructed by a metal layer, preventing it from receiving satellite signals	Place the device in the correct orientation or change the installation location

Unable to Power On	Battery is drained	Connect the external power supply to charge the battery
	Fuse blown	Contact the dealer for replacement with a fuse of the same specifications and model
Unable to Connect to Network	SIM card not installed properly	Check the SIM card and reinstall it
	The metal surface of the SIM card is dirty	Clean the metal surface of the SIM card with a clean cloth.
	SIM card is damaged or invalid	Replace the SIM card with a valid one
	Out of service area	Move to the service area of the network service provider.
	Weak signal	Move to a place with a strong signal and try again.
Unable to Charge	Poor contact	Check if the power cable of the device is properly connected
Location can't be fixed	SIM card data service is not activated	Contact the network service provider to activate data service
	SIM card is out of credit	Recharge the SIM card
	No reply to SMS commands	Ensure the device can connect to the network and the SIM card's SMS function is activated

6.3 Warranty

Note:

- (1) The product may be modified in the future without prior notice.
- (2) The actual appearance and color of the product may vary.
- (3) This warranty card is only valid for the presented IMEI number.
- (4) Please keep this warranty card in a safe place. Please present this card and the original receipt when you need warranty service.

Clauses:

- (1) The product is covered by a one-year warranty for non-human-made damage from the date of purchase.
- (2) The following are not covered by the warranty, but may be repaired for a fee:

- ❖ Beyond the warranty period;
- ❖ You do not have a valid warranty card or receipt;
- ❖ The equipment or accessories are out of warranty;
- ❖ Product quality problems caused by unauthorized repairs, collisions, liquid ingress, accidents, modifications, incorrect input voltage, or tearing, altering stickers, device IMEI numbers, or anti-counterfeiting marks;
- ❖ Damage caused by incorrect installation or use that does not comply with the product manual requirements;
- ❖ Damage caused by force majeure such as fire, flood, or lightning strike;
- ❖ Warranty certificate does not match the product model or warranty certificate is altered;
- ❖ Damage caused by force majeure.