


**ACC401 Basic 4G
Only GPS Tracking
Device**



amber connect ACC401 Basic 4G Only GPS Tracking Device User Guide

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amber connect ACC401 Basic 4G Only GPS Tracking Device

**Description:**

The product is a tracking device with various features for monitoring driving behaviors and providing alerts.

Product Schematic Diagrams:

The device includes 4-pin, 5-pin, and 2-pin connectors with specific color coding for easy installation.

Accessories:

- VL149 Device
- Power cable
- Relay

Definitions of Interfaces:**4-Pin Connector (Standard):**

- V+ VACC SOS
- PCS PCS PCS

5-Pin Connector (Optional):

V+ VTX RX

2-Pin Connector (Optional):

- V+
- V-

Connotations of LEDs:

GNSS LED (Blue): Fast blink [0.3s-0.3s (on-off)] – The device is searching for satellite signals.

- **Solid on** – Position fixed
- **Off** – The GNSS module is in sleep or not operating.

Cellular LED (Green):

- Fast blink [0.3s-0.3s (on-off)] – Network initialization.
- Slow blink [1s-3s (on-off)] – The cellular module works normally.
- Solid on – The device goes online.
- Off – No GSM signal/No SIM card

External Power Status Blue and green LEDs:

Solid on for 3s – Plug or unplug the external power source

Note: The LEDs will go off after the device operates correctly for a while.

Product Usage Instructions

- **Real-time Tracking:** The device provides real-time tracking with positioning accuracy under 10m under open sky.
- **Power-cut Alert:** An alert will be triggered if the power supply to the device is disconnected or its power cable has been cut.
- **Tamper Alert:** An alert will be triggered if the device is removed.

Driving Behaviors:

- **Harsh Acceleration:** The device reports a harsh acceleration event to the platform when it detects abrupt speed increases.
- **Harsh Braking:** The device reports hard braking events when abrupt speed decreases are detected.
- **Sharp Cornering:** The device reports harsh turn events during sharp cornering.
- **Collision:** The device reports collision events if a collision is detected.

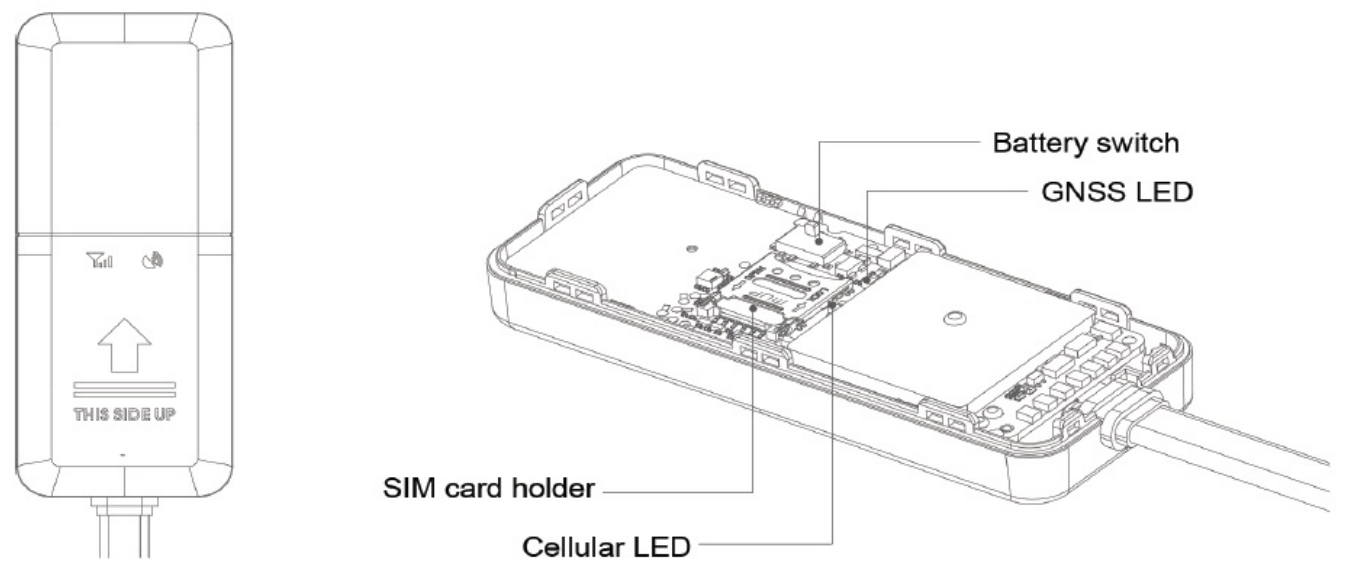
Product overview

Description

ACC401 is a portable compact 4G Cat.1 GPS tracker for tracking and monitoring automobiles, motorcycles, electric two-wheelers, and other types of transportation whose voltages range from 9V to 90V. It has a built-in GPS antenna with good RX capabilities for precise position fixes. It can offer optional TTL interfaces. The 4G capability enables it to be widely used in different countries and regions. The black appearance makes the ACC401 easy to hide on a vehicle. It can fix positions in real-time, generate tracks of traveled routes, send out alerts for exceptions, help immobilize vehicles by cutting off fuel and power supply, and other functions, making it a suitable choice for

businesses trying to lower their management risks, protect the vehicles from theft.

Product Schematic Diagrams



Accessories

VL149	1	PCS	—
Power cable	1	PCS	—
Relay	1	PCS	Optional

Definitions of Interfaces
4-Pin Connector (Standard):

	V+	Red	To the positive end (9–90V)
	V-	Black	To the negative end
	ACC	Orange	For ACC detection
	SOS	Yellow	For cutting fuel/power supply

5-Pin Connector (Optional):

	V+	Red	To the positive end (9–90V)
	V-	Black	To the negative end
	TX	Blue	To peripherals such as SOS button
	RX	Green	To peripherals such as SOS button

2-Pin Connector (Optional):

	V+	Red	To the positive end (9–90V)
	V-	Black	To the negative end

Connotations of LEDs

GNSS LED (Blue)

Fast blink [0.3s-0.3s (on-off)]	The device is searching for satellite signals.
Solid on	Position fixed
Off	The GNSS module is in sleep or not operating.

Cellular LED (Green)

Fast blink [0.3s-0.3s (on-off)]	Network initialization.
Slow blink [1s-3s (on-off)]	The cellular module works normally.
0.1s-3s (On-Off)	The device goes online.
Solid on	The device is engaged in a call.
Off	No GSM signal/No SIM card

External Power Status

Blue and green LEDs solid on for 3s	Plug or unplug the external power source
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Note: The two LEDs will go off after the device operates correctly for a while. You can unplug and plug the external power source to activate them or you can deliver a command to keep them always on.

Specifications

Network Communication	
System	4G
Bands	FDD: B1/ B3/ B5/ B8
	TDD: B34/B38/B39/B40/B41
	LTE-TDD: Class3 (23dBm+1/–3dB)

Max. Output Power	LTE-FDD:Class3 (23dBm±2dB)
RX Sensitivity	TD-LTE: ≤ −96dBm (10M)
	LTE-FDD: ≤−96dBm (10M)
GNSS Parameters	
Frequency	BDS B1, 1561.098MHz;
	GPS L1, 1575.42MHz
No. of Channels	64
Antenna	25mm x 25mm x 2mm
Positioning Accuracy	2.5m CEP
Tracking Sensitivity	−165dBm
Acquisition Sensitivity	−148dBm
TTFF	Avg. hot start: ≤2s (open sky)
	Avg. cold start: ≤28s (open sky)
Overall Specification	
Antenna	Built-in GPS ceramic antenna
LEDs	GNSS (blue), Cellular (green)
Battery	60mAh/3.7V industrial-grade Li-polymer battery
Operating Voltage	9–90VDC
Standby Current	≤5mA (battery-powered)
Device Color	Black
Dimensions (LxWxH)	80mm x 31mm x 13.6mm
Operating Temperature	−20°C to +70°C
Interface	4-Wire edition (standard): P+, P−, ACC, and relay for power connection, A CC detection, and power/fuel cutoff
	2-Wire edition (optional): P+ and P−
	4-Wire edition (serial): P+, P−, TX and RX for power connection and communicating with external devices. The TX and RX wires can also be changed to be able to connect with an SOS button.

Features

- Real-time Tracking**

The positioning accuracy could reach under 10m under open sky.

- Power-cut Alert**

An alert will be triggered if the power supply to the device is disconnected or its power cable has been cut.

- **Tamper Alert**

An alert will be triggered if the device is removed.

Driving Behaviors

- **Harsh Acceleration**

The device will report a harsh acceleration event to the platform when it detects the vehicle's speed increases abruptly due to a hard stepping on the accelerator.

- **Harsh Braking**

The device will report a hard braking event to the platform if it detects the vehicle's speed decreases abruptly.

- **Sharp Cornering**

The device will report a harsh turn event to the platform if it detects the vehicle is cornering sharply during moving.

- **Collision**

The device will report a collision event to the platform if it detects the vehicle in motion collides with another object or vehicle.

- **Low External Power Alert**

If the device detects the voltage of the external power is under the preset threshold, it will send out an alert message.

- **Low Internal Battery Alert**

If the device detects that the voltage of its internal battery is lower than the preset threshold, it will send out an alert message.

- **Geofence Alert**

Provided that you have set a geofence and the alert conditions on the designated platform, you will be alerted if the device detects the vehicle enters or leaves the geofence and the alert conditions are met.

- **Speed Alert**

Provided that you have set the speed limit for the vehicle on the platform or via SMS, you will be alerted if the device detects the vehicle moves at a speed greater than the speed limit for a set duration.

- **Vibrating Alert**

If the device detects any vibration when the vehicle stops and has its ignition off, it will send out an alert.

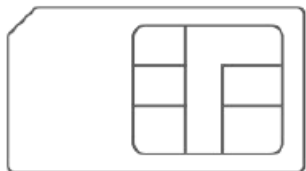
Installing the Device

Device check

Check visually whether the device is in good condition and whether the relevant accessories are complete.

SIM Card Attachment

- Prepare a proper SIM card. For size details, refer to the following figure.



Standard ✕



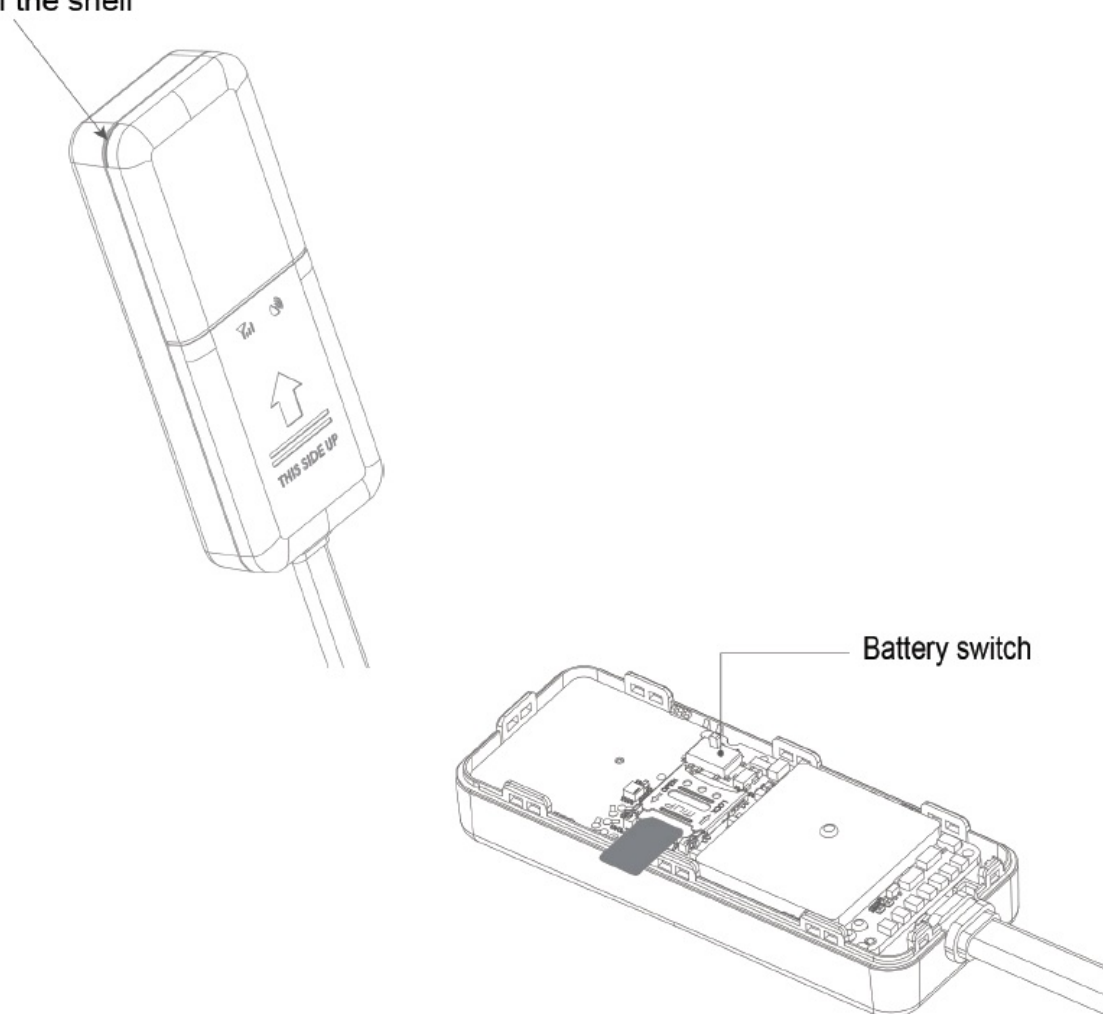
Micro ✕



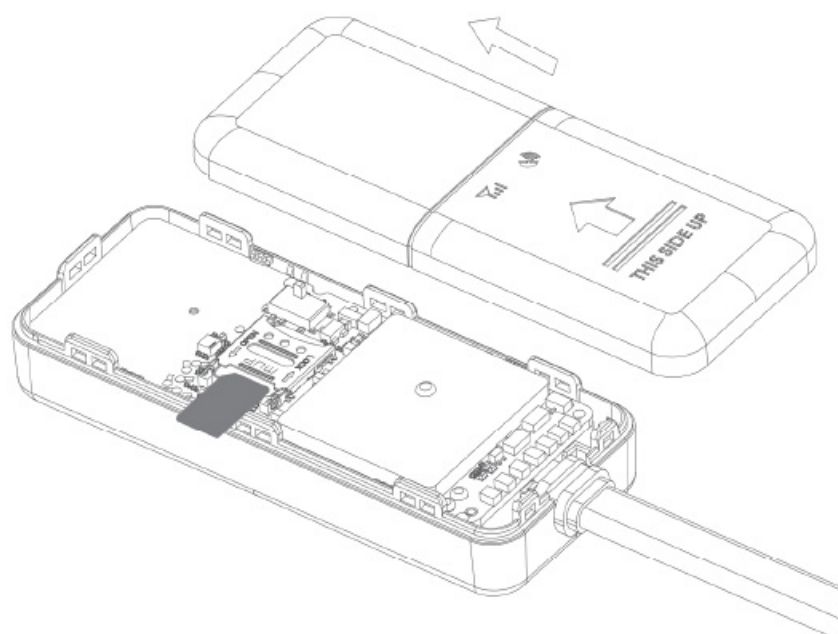
Nano ✓

- Insert the SIM card (power off the device before inserting or removing the SIM card) as the following figure shows:

Remove the top cover with your fingers at the buckle of the shell



After the SIM card is inserted in place, slide the battery switch to ON.

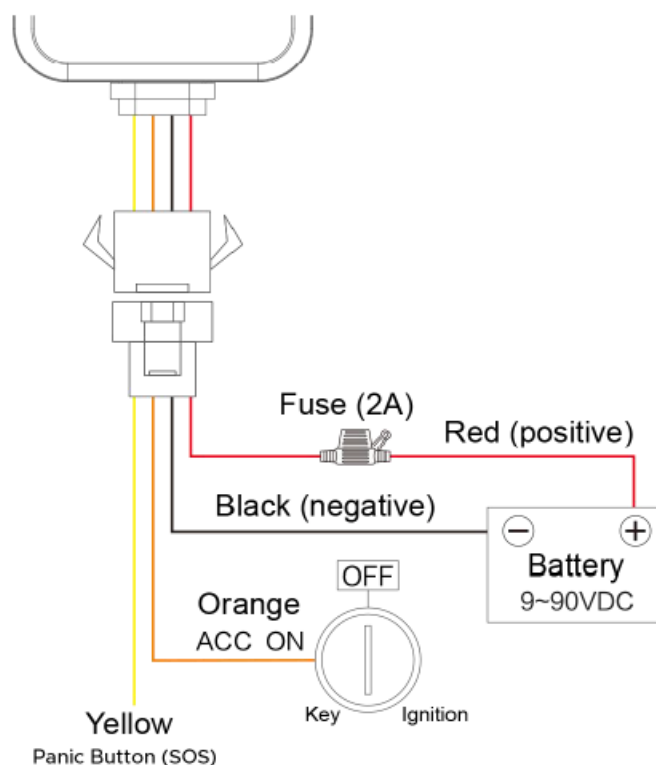


Attach the shell back

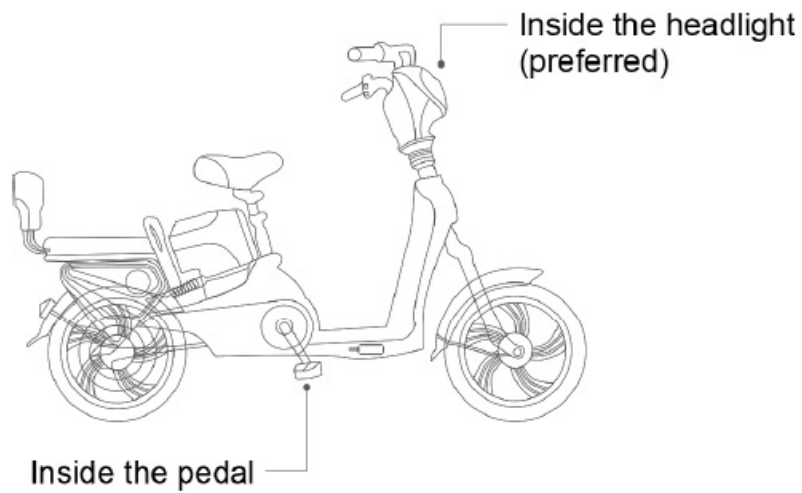
Note: The SIM card should be inserted correctly. Make sure the SIM has data services activated and is not in arrears. Disconnect the external power and slide the battery switch to OFF before inserting or removing the SIM card. After the SIM card is placed in the slot, slide the battery switch to ON and lock the SIM.

Wiring Diagram for Motorcycles and Electric Two-Wheelers

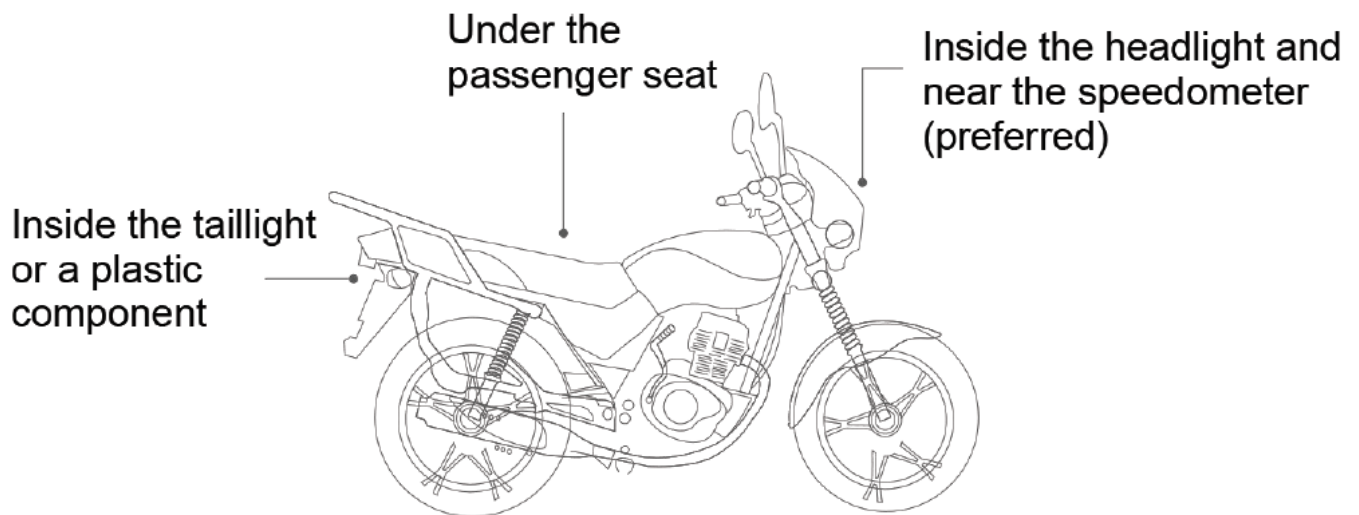
- Use a multimeter to determine the positive and negative wires of the battery.
- Use the multimeter to determine the ACC wire. Provided the black and red probes of the multimeter are connected with two wires separately, if the multimeter reads 0V when the key points to OFF and reads the same as the supply voltage of the vehicle when the key points to ON, then the wire connected by the red probe of the multimeter is the ACC wire.
- Connect the red wire (positive) of the device power cable with the positive pole of the motorcycle battery.
- Mate the connectors as the following figure shows.



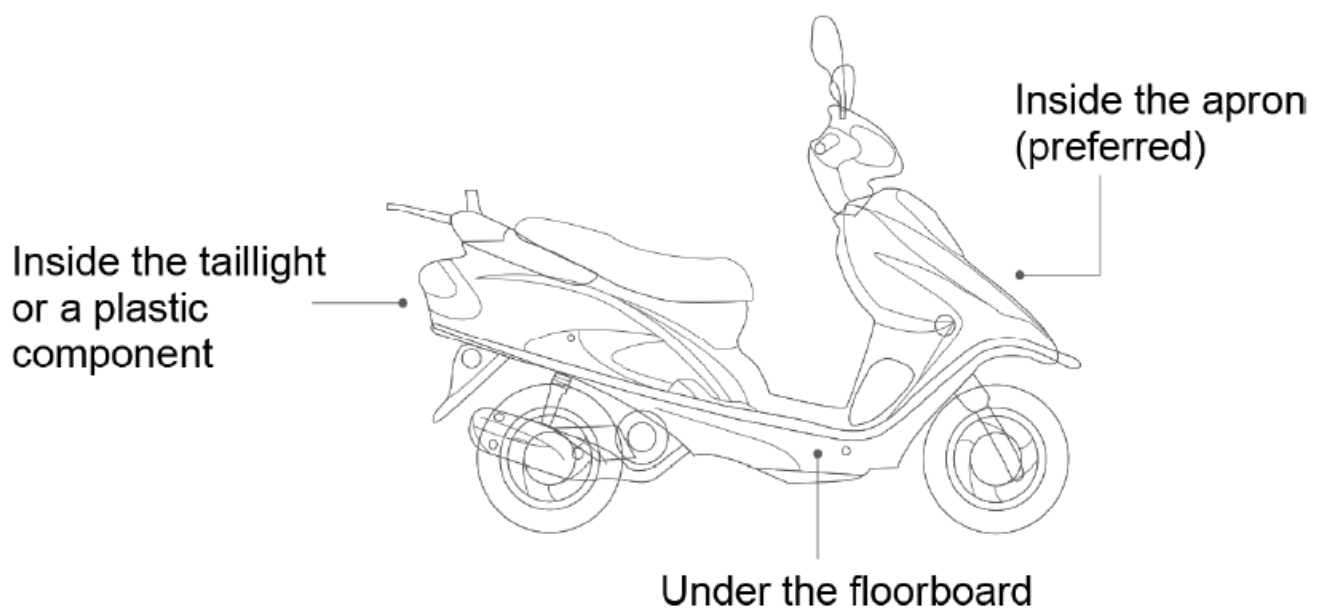
Possible Install Positions for Electric Two-Wheelers



Possible Install Positions for Electric Two-Wheelers

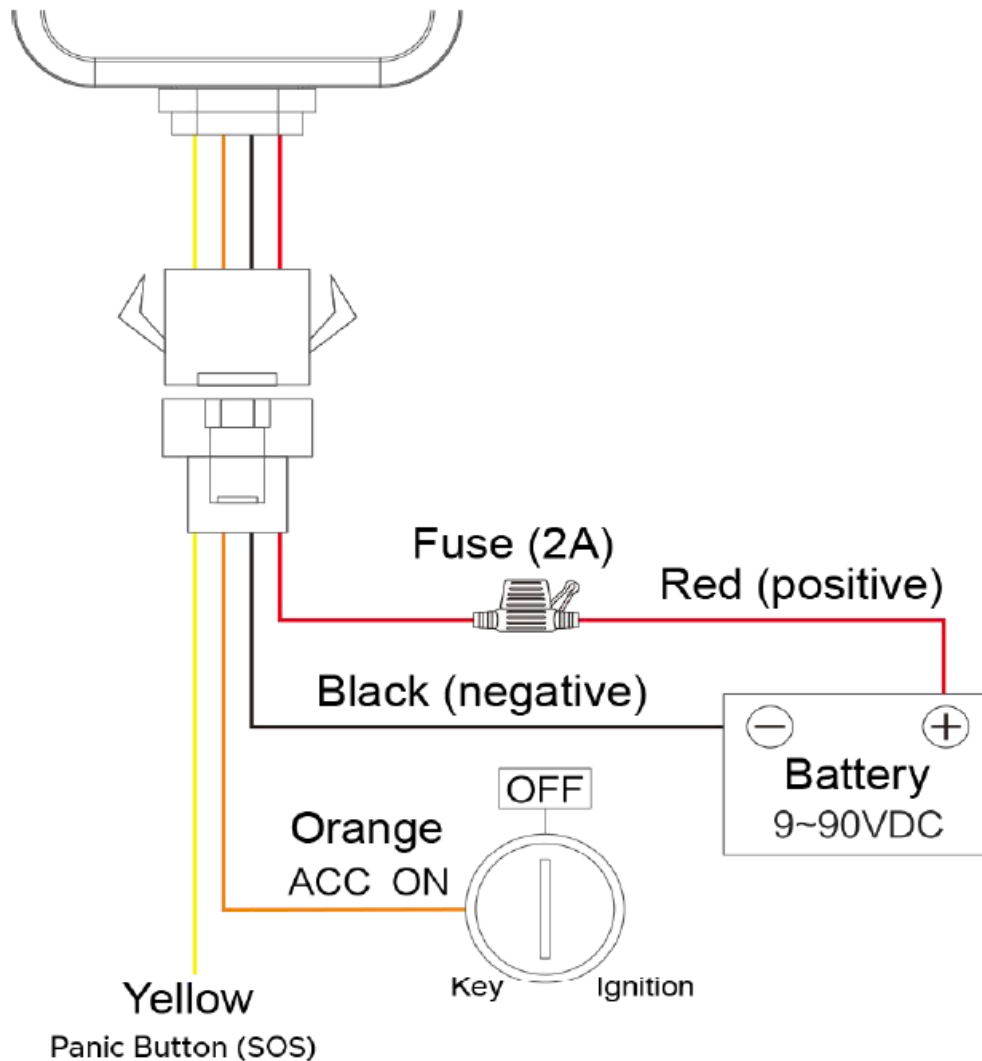


Note: If the device is installed under the rider, the strength of satellite signals reaching the device will be seriously affected.



Wiring Diagram for Automobiles

- Use a multimeter to determine the positive and negative wires of the battery.
- Use the multimeter to determine the ACC wire. Provided the black and red probes of the multimeter are connected with two wires separately, if the multimeter reads 0V when the key points to OFF and reads the same as the supply voltage of the vehicle when the key points to ON, then the wire connected by the red probe of the multimeter is the ACC wire.
- Connect the red wire of the device power cable to the positive pole of the vehicle battery.
- Mate the connectors as the following figure shows.

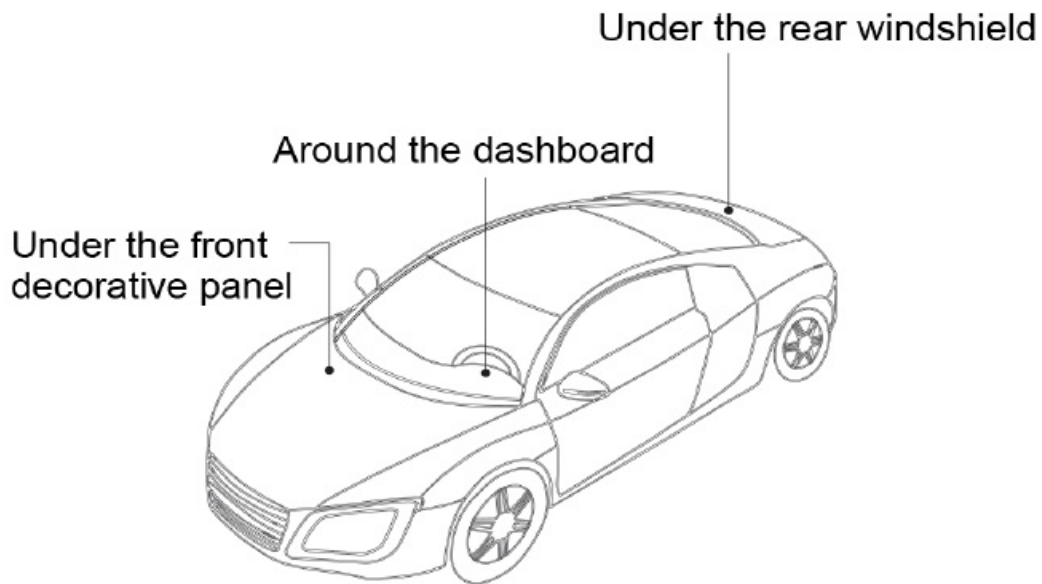


Note:

- Choose accessories specified by the manufacture.
- The standard supply range is 9~90V, please use the original power cable and ensure that the positive and negative ends are correctly wired.
- Description on device installation

To ensure that the device is installed and debugged correctly, professional agencies and personnel designated by your dealer are recommended. See the following figure for install positions:

Possible Install Positions for Automobiles



Note:

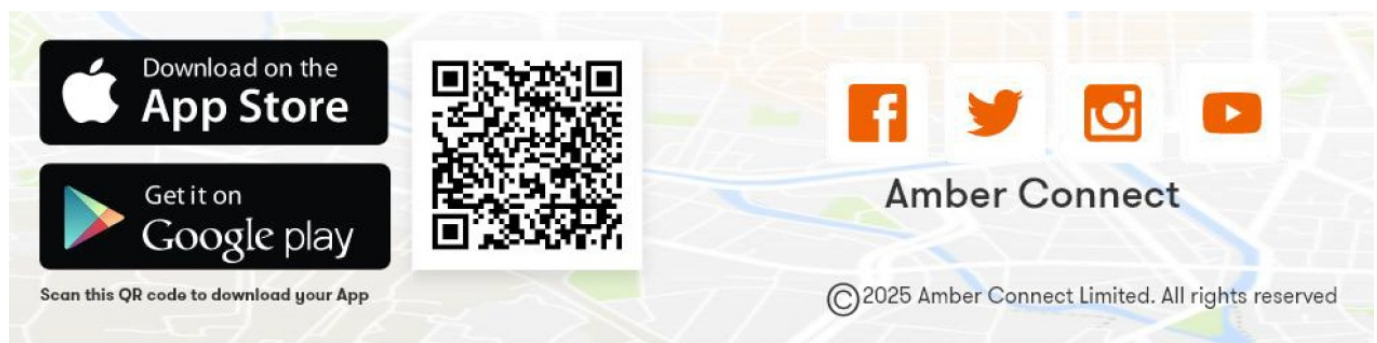
- Make sure the front side of the device is facing to the sky;
- Avoid positions where a metal insulation layer or heating layer may

exist; as such a layer may affect the strength of satellite signals reaching the device.

Need help? Contact 24/7 live support!

In App Chat

- support@amberconnect.com
- Chat via website www.amberconnect.ai
- Works with Android phones and tablets, iPhone, iPad.
- Compatible with Chrome, Mac and PC web browsers.



FAQ

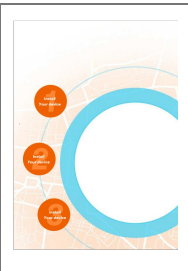
Q: How do I set up geofence alerts?

A: To set up geofence alerts, you need to define a geofence area and set alert conditions on the designated platform. You will receive alerts if the vehicle enters or leaves the geofence and meets the alert conditions.

Q: How can I receive low external power alerts?

A: If the device detects that the voltage of the external power is below the preset threshold, it will send out an alert message to notify you.

Documents / Resources

	<p>amber connect ACC401 Basic 4G Only GPS Tracking Device [pdf] User Guide ACC401 Basic 4G Only GPS Tracking Device, ACC401, Basic 4G Only GPS Tracking Device, Only GPS Tracking Device, GPS Tracking Device, Tracking Device</p>
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References

- [User Manual](#)

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