

VL113

LTE Vehicle Terminal

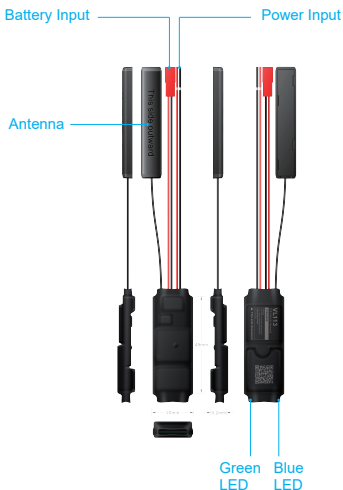
User Manual V1.0

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Product overview

The VL113 is a compact vehicle tracking terminal featuring Category 1 communication, a wide input voltage range of 9–90V, and precise positioning via GPS, BDS, WiFi, and LBS, with AGPS support. The unit comes with an external LTE antenna and can optionally connect to an external battery for supplemental power. It can operate in various modes, including timing mode, alarm-based mode, condition-based mode, and sleep-wake tracking mode, and provides advanced anti-detection and anti-jamming (GNSS) capabilities to enhance security. It is ideal for applications such as automotive finance, car rental and leasing, fixed asset management, and logistics.



Packing List

VL111

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Unit

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Interface Specifications

Pin	Color	Description
V+	Red	Power + (9–90VDC)
V–	Black	Power – / GND
BAT+	Red	Battery positive terminal
BAT-	Black	Battery negative terminal

LED Indication

Blue (GNSS)

On for 0.3s and off for 0.3s	In search of GNSS signals
Solid on	Positioned fixed
Off	The GNSS module is in sleep or not working

Green (Cellular)

On for 0.3s and off for 0.3s	Network initializing
On for 1s and off for 3s	Receive network signals normally
On for 0.1s and off for 3s	Device online
Off	No cellular signals are received or no SIM card is attached

External Battery Status

The red, green, and blue indicators are on for 3 seconds

Connect or disconnect the external battery

Note

The three indicators will go out after the terminal has been operating correctly for a while. They can be enabled to work for a while by disconnecting and reconnecting the external power supply, or you can send a command to make them always work.

Introduction

Specifications

Communication network	4G
Frequency bands	VL113_EU: LTEFDD: B1/B3/B7/B8/B20/B28; LTETDD: B34/B38/B39/B40/B41 VL113_JP: LTEFDD: B1/B3/B5/B8/B18/B19/B26/B28 LTE-TDD: B41
GNSS	GPS + BDS
Positioning accuracy	< 2.5m CEP
TTFF (open sky)	Avg. hot start: 1s Avg. cold start: 32s
LED indication	GNSS (Blue), Cellular (Green)
Battery (Optional)	270mAh/3.7V industry-grade Li-polymer battery
Operating voltage	9–90VDC
Ingress rating	IP44

Operating temperature	-20 °C to +70 °C
Product weight	24g
Dimensions	49.0 x 20.0 x 9.2mm

Functions

Live tracking	The terminal is accurate to within 2.5m (CEP) radius under open sky.
Power-off alert	This type of alert is triggered by a sudden power disconnection or a cut of the connection cable.
Low external battery alert	This type of alert will be triggered if the terminal detects the voltage of the external battery is lower than a preset threshold.
Working modes	Timing mode Alarm-based mode Condition-based mode Sleep-wake tracking mode
Anti-jamming (GNSS)	When GNSS signal interference is detected, the terminal sends an alert notification to the platform.
Anti-detection (LTE)	When LTE signal interference is detected, the terminal sends an alert notification to the platform.
Vibrating alert	This type of alert will be triggered if the terminal detects any unexpected vibration of the ignition-off vehicle.

Installation

Terminal Check

Visually check if the terminal is in good condition and if all accessories are included.

About SIM Card

The terminal is equipped with an E-SIM, eliminating the need for a physical SIM card. Upon power-on, it will automatically attempt to connect to the network.

Wiring Diagram

Tips for finding the right wires:

1. Use a multimeter to find out the positive and negative of vehicle battery.

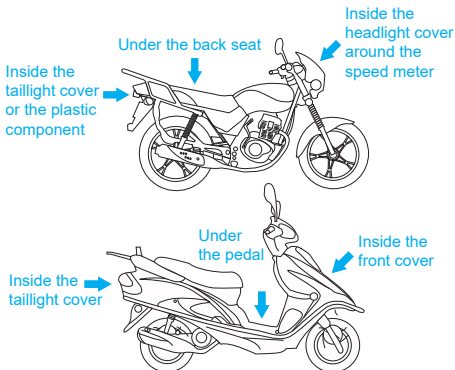
Note: The battery voltage will display on the multimeter regardless of the ignition status of the vehicle.

2. Connect the external battery to the corresponding port.

Note: The external battery should be purchased separately.



Installation Diagram for Motorcycles



Note:

1. The device should face up to sky.
2. Metal thermal barrier or heating layer, which are always installed on windshield, may affect the signal, please avoid installing the device under these objects.

Platform Operations

Logging In to the Platform

You can configure and control the terminal via the platform designated by your dealer.

You can download the mobile app via the URL provided by your dealer.



iOS



Android

Battery Safety

Please use batteries that are specified by the manufacturer of the terminal. The use of any non-original accessories will void the warranty services. The manufacturer will assume no repair liabilities for damages resulting from the use of non-original accessories.

- Avoid metal objects as they may cause short circuits on battery contacts.
- Do not bend or forcibly open the battery.
- Do not soak the battery in water or expose it to fire.
- It is forbidden to use batteries that are deformed, discolored, spilled, or package-damaged.
- It is forbidden to disassemble or modify the battery.

Troubleshooting

When an issue arises with the device, you can troubleshoot it by the following solution. If the issue persists, please don't hesitate to contact your dealer or service provider.

Issues	Description	Solutions
Poor satellite signal	The terminal may be used in a place where the satellite signals cannot be perfectly penetrated, such as at lower stories of a high-rise building or in a basement.	Try it in a place where satellite signals can be well received.
	The terminal is facing downward or is blocked by metal objects.	Adjust the terminal so its front side facing upward or install it in another position.
Power-on failure	The internal battery is low.	Connect the device to an external power source to recharge the battery.
	Fuse burn-out	Contact your dealer for a replacement.
Failure to access the network	The SIM card is attached incorrectly.	Re-attach it.
	The metal side of the SIM card is stained.	Wipe it with a clean cloth.
	The SIM card is damaged or invalid.	Replace it.
	The terminal is out of the cellular service area.	Try it in a service area.
	The signal is poor.	Try it in an area with strong signals.
	The contact is poor.	Check if the power cable is connected securely.
Failure to query a location	Your SIM card has no GPRS services activated.	Please contact the network operator and activate GPRS services.
	The SIM card is in arrears.	Recharge it.
	The terminal doesn't respond to a command.	Check to ensure that the terminal can access the network and the SIM card is activated with text feature.

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		Service by	
Product Model			
IMEI Number			
Failure Description			
Comments			

FCC compliance statement

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.

changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.