GSM/GPRS/GPS Tracker

Prime AT Plus
User Manual

Revision: 1.04

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Contents

1 Introduction

Prime AT Plus is a powerful GPS locator which is designed for vehicle, pets and assets tracking. With superior receiving sensitivity, fast TTFF and GSM frequencies 850/900/1800/1900. Its location can be real time or schedule tracked by backend server or specified terminals. Based on the embedded wireless tracking protocol, Prime AT Plus can communicate with the backend server through GPRS/GSM network, and transfer reports of emergency, Geo-fencing, device status and scheduled GPS position etc... Service provider is easy to setup their tracking platform based on the functional wireless tracking protocol.

2 Product Overview

2.1 Appearance

Figure 1-1

2.2 Buttons/Mini USB Interface Description

Button /Mini USB Interface Description	
KEY/interface	Description

Power Key	Power on Prime AT Plus
	Power off Prime AT Plus (If power key is enabled)
Function Key	Geo-Fence mode
	Long press the key to enable/disable Geo-Fence ID0
	Geo-Fence in current position mode
	Long press the key to enable/disable Geo-Fence ID0. If enable Geo-Fence ID0, using the current position as the centre of Geo-Fence 0.
	SOS mode (default)
	Long press the key to active SOS alarm
Mini USB interface	Connect a 5V DC adapter can power on Prime AT Plus and charge the internal battery
	Connect a 3.7V Li-ion or Li-Polymer battery can power on Prime AT Plus
	Backend server developer or administrator can use the Data_Cable_M to configure Prime AT Plus
Reset Key	Click the key will turn off internal VBAT when OS is abnormal, and then press Power Key to restart Prime AT Plus.
	Note: Reset key is invalid when external battery is used.

2.3 LED Description

Figure 1-2

There are three LED lights in Prime AT Plus device, the description as following.

Light	Event	State
GPS LED	GPS fixed failed	Slow flash (blue)
	GPS has been turned off	Dark
GSM LED	Network has been registered	Slow flash (green)
	Power off	Dark
Power LED	Power on and normal	Dark
	Fully charged	Slow flash (green)

In charging	Slow flash (red)
Power key was pressed and prepare to power off	Fast flash (red)
Power key was pressed and prepare to power on	Fast flash (green)

2.4 External Power Interface

2.4.1 External DC Charger Interface

The Pin2 on Mini-USB connector is used for charging and named as VCHG pin, which can be connected to 5V DC power source to power on Prime AT Plus device and charge the current battery.
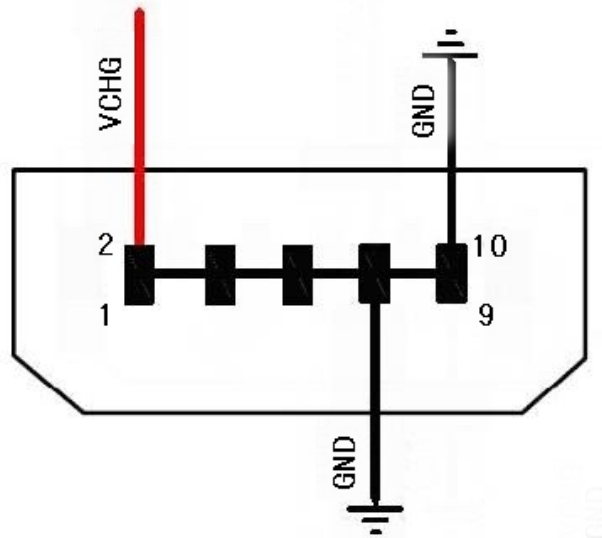

Figure 1-3

PIN NO.	NET NAME	FUNCTION
PIN1	NC	Not used
PIN2	**+5V**	**VCHG +5V input**
PIN3	NC	Not used
PIN4	NC	Not used
PIN5	NC	Not used
PIN6	NC	Not used
PIN7	NC	Not used
PIN8	NC	Not used
PIN9	NC	Not used
PIN10	**GND**	**Ground**

2.4.2 External Battery Interface

The Pin 8 and Pin9 on Mini-USB connector are used for external battery and named as EXTBAT pin, which can be connected to 3.7V Li-ion or Li-Polymer battery to power on Prime AT Plus device.

The Pin6 on Mini-USB connector is used for external battery interrupt detection and named as EXT_VBAT INT, which must be connected to GND for EXT_VBAT detection.
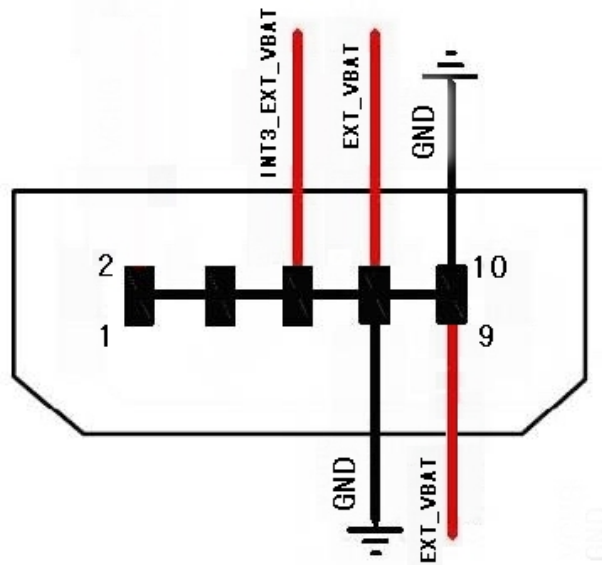

Figure 1-4

PIN NO.	NET NAME	FUNCTION
PIN1	NC	Not used
PIN2	NC	Not used
PIN3	NC	Not used
PIN4	NC	Not used
PIN5	NC	Not used
PIN6	**INT3_EXT_VBAT**	external battery interrupt detection
PIN7	NC	Not used
PIN8	**EXT_VBAT**	for external battery
PIN9	**EXT_VBAT**	for external battery
PIN10	GND	Ground

3 Getting Started

3.1 Parts List

Name	Picture	Remark
Prime AT Plus Locater		The GSM/GPRS/GPS locator.
AC-DC Power Adapter		It is used to charge the internal battery of Prime AT Plus.
Prime AT Plus Data and charger Cable		It the USB data cable which can be used for firmware upgrading and configuration. It also includes the charger interface on the Prime AT Plus.

3.2 Battery Charging

The following items are suggestion for battery charge, please pay more attention.

◆ Please connect AC-DC power adapter with Prime AT Plus device.
◆ Insert the AC-DC power adapter into the power socket.
◆ During the charging process, the Power LED light will flash fast. When the battery is full y charged, the Power LED light will be Ever-light.
◆ You can also charge the battery using USB cable which connects Prime AT Plus device with the PC.
◆ Charging will last about 5 hours.

Note: If the Prime AT Plus device is firstly used, please make sure the battery is fully charged, which will make the life of battery much longer.

3.3 Prime AT Plus Data Cable

Prime AT Plus Data Cable is a cable with a Mini USB connector.
The USB data cable is used for data download, which will be used for firmware update or configuration and can be used for charging at the same time.

Figure 2-1
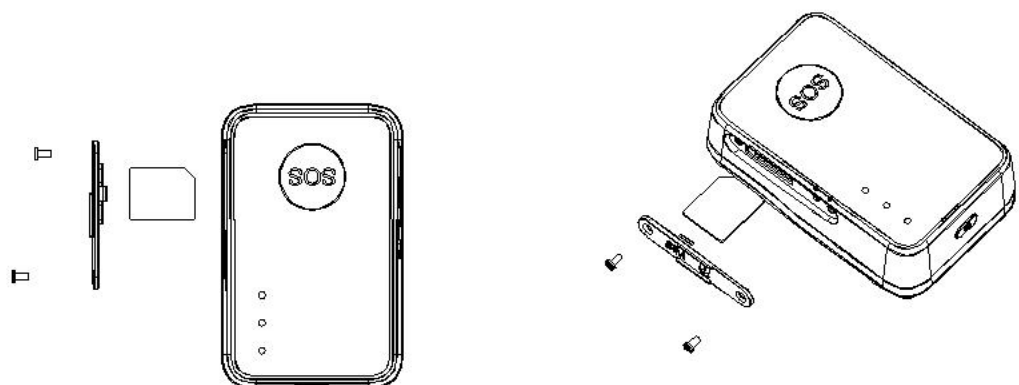
3.4 How to insert SIM Card

Figure 2-2

Step1: Screw off and pull out the cover of SIM card..
Step2: insert the SIM card into the slot of the device according to the direction as

shown.

Step3: push the cover back.

3.5 Power on/Power off

Figure 2-3

Power on:

◆ Press the Power key at least 3 seconds and release it to power on Prime AT Plus device. Note that, the Power LED light will fast flash.

Power off:

◆ Press the power key about 3 seconds; Power LED light will fast flash and then turn off, which indicates that Prime AT Plus device has been powered off.

Note: the user can not power off Prime AT Plus if the power key is disabled by protocol.

4 Trouble shooting and Safety info

4.1 Trouble shooting

Trouble	Possible Reason	Solution
Messages can't be reported to the backend server by GPRS.	The SIM card in Prime AT Plus doesn't support GPRS.	Try a GPRS supported SIM card.
	APN is wrong. Some APN can not visit the internet directly.	Ask the network operator for the right APN.
	The IP address or port of the backend server is wrong.	Make sure the IP address for the backend server is an identified address in the internet.
Unable to power off Prime AT Plus.	The function of power key was disabled by AT+GTFKS.	Enable the function of power key by AT+GTFKS.
Battery can not be charged	The battery has not been used for too long time and	Using a external power source with 3.6V to 4.2V DC power supply to active the

	has been locked.	battery or apply for after sale help.
Prime AT Plus can't fix GPS successfully. GPS LED flashes slowly.	The GPS signal is weak.	Please move Prime AT Plus to a place with open sky.
		It is better to let the top surface face to the sky. (The same surface with indication LED)

4.2 Safety info

The following items are suggestion for safety use, please pay more attention.
◆ Please do not disassemble the device by yourself.
◆ Please do not put the device on the overheating or too humid place, avoid exposure to direct sunlight. Too high temperature will damage the device or even cause the battery explosion.
◆ Please do not use Prime AT Plus on the airplane or near medical equipment.

5. warning statement

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 correct the interference by one or more of the following measures:
- Reorient the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into and outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

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.