

AT510S User Manual V1.0

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Preface

Thank you for choosing the company's AT510S GPS tracking products, please carefully read the instructions before operating.

Please check the items in package with packing list, contact with the distributor when you found something leave out.

Disclaimer:

- Read this user manual carefully please. When you start use this product, then you are deemed to have read this user's manual.
- This Product used as assistant tool for Security only, can't prevent all kinds of deliberately theft or malicious damage vehicles. For the safety of your assets, you still need keep necessary vigilance and security awareness after you installed this product. We do not bear responsibility to any loss except product itself. Thanks!

1. Product Introduction

AT510S is 4G CAT4 multifunctional GPS tracking device, which combined with positioning, monitor, alarm and tracking functions, with IP67 waterproof standard main applies to vehicles and other mobile object location and tracking service.

Product Features:

- Built-in large rechargeable battery.
- Support 12-13V fast charging.
- Support Low battery Power alarm.
- Built-in 4G/GPS antenna.
- Support Vehicle mileage statistic.
- Support remote Cut/Recover Engine.
- Support remote upgrade by OTA.
- Support remote configure by SMS/GPRS.
- Waterproof IP67.
- Interfaces:
 - ① 3 digital inputs(1 high digital input, 2 low digital inputs);
 - ② 3 digital output(Two low digital outputs and one 3.3V);
 - ③ 1-wire for Temp sensor;
 - ④ 1*RS485.

Note:

- ✓ This product function based on GPRS network, need a SIM card which have GPRS data transmit and SMS functions.
- ✓ SIM card is not include in the packing list, please prepare SIM card before you use this device.
- ✓ This product working based on battery.
- ✓ Charging voltage range is: 5-13V.

But to support **Fast charging function voltage range is 12-13V**, **Cannot exceed 14V**, if exceed can't get charging(will enter protection mode).

- ✓ **Charging(+) and charging(-) can not reverse.**

2. Technical Parameters

Item	Parameters
4G CAT4	EC200A-AU LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B28/B66 LTE-TDD: B40 WCDMA: B1/B2/B4/B5/B8 GSM/EDGE: B2/B3/B5/B8
Color	Black
GPS chip	(Zhongke Microelectronics) AT6558R
Battery	20000mAH
Charging voltage	12-13V
Working Current	Around 50mA@3.7V
Sleep current	Around 1mA@3.7V
Tracker size	46*70*163mm
Tracker weight	502g
Working temperature	-20℃ - +75℃
Moisture	10% - 85%
Locate Sensitivity	5m
Locate time	Hot start(average): <1s Cold start(average): <32s
GPS Sensitivity	-162dbm
Position	GLONASS LI, 1602.0-1615.5 MHz GPS LI, 1602.0-1615.5 MHz
LED Indicator	GSM/GPS/Power
Blind area data	10,000 records
IP standard	IP67

3. Define of LED indicator

Item	LED Color	Status	Status describe
Charging	Blue	Light static	Charging
		LED OFF	Not charging
GSM	Red	1s Blinking once	Initializing, Finding SIM card
		3s Blinking once	Read SIM card/online
		Fast blinking 0.2s once	Sending GPRS data
		LED OFF	In sleep/GSM fault
GPS	Green	1s Blinking once	Initializing,finding GPS(not locate)

		3s Blinking once	GPS Located
		LED OFF	In sleep/GPS fault

4. Device Installation

Before you start install the device, Please check the product you get with the packing list, if you have any problem please contact us or distributor in time.

4.1 Prepare works

- ✧ GPS product AT510S
- ✧ Local GPRS SIM card

4.2 SIM Card Installation

This device need install a SIM Card, which must have 4G/GPRS data transmission and SMS function.

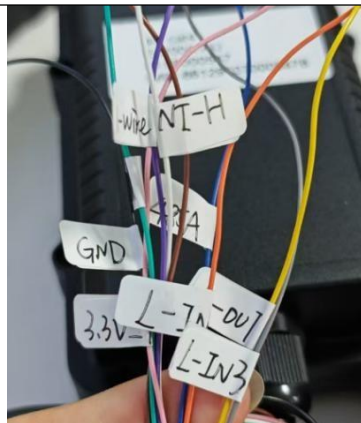


- ① Power switch: Control device power ON/OFF;
- ② SIM card: Micro SIM
- ③ USB port: for parameter configure and upgrade FW.

Note:

- SIM Card must enable 4G/GPRS data transmission function
- Confirm the SIM Card have enough balance inside.
- Test SIM card by cellphone to check if it can connect network
- Please do not remove or insert SIM Card without power off, to avoid the damage to SIM card and device.

4.3 Device wire Description

Color	Define	Refer to sample
Red	VIN/Charger+ (12-13V)	
Black	GND/Charger-	
White	H-IN 1	
Orange	L-IN 2	
Grey	L-IN 3	
Brown	L-OUT2	
Yellow	L-OUT1	
Pink	3.3V_OUT	
Black	GND	
Purple	1-WIRE	
Blue	485A	
Green	485B	

5. Common Fault analysis

Issue	Analysis	Describe
Can't get online	Power supply abnormal	Battery run out
	Sim issue	No balance, no GPRS, Install incorrect
	Setting issue	IP, PORT, ID, APN wrong
	GPRS signal weak	
	Server issue	

Can't get location	GPS signal weak	Test with open sky area
	Installation reversed	The antenna side need face to sky

6. Serial Port configuration

- Baud rate:115200;
- Tool: SSCOM or GPS SSCOM;
- USB Driver:
<CH340 USB-SER>

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COM3 Silicon Labs CP210x USB to UART Bridge
COM9 USB-SERIAL CH340
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Serial cable:



Enable log with GPS SSCOM:



Enable log with SSCOM command:*269#Y,1



7. Commands

Name	Command	Reply	Instruct
Set server IP/Port	*269#1,120.24.225.253,5577,1	120.24.225.253;5577,1; OK	Reply content is "IP" "Port", connection type:

Set URL/domain			1: TCP
	*269#1,tracking.telematics.net,5577,1		
Set Device ID	*269#2,12007845	12007845;OK	Will clear history data
Set APN	*269#3,internet,,,	CMNET,,;OK	APN setting
Restart Device	*269#B	GSM/restart; OK	Device restart
Factory set	*269#F	Reset OK;	All parameters recover to factory, beside IP/Port/ID/APN
Check connection info	*269#C	IP:120.24.225.253,5577,1,APN:M2Minternet,,,0,I D:40677242,M:6,CGR:1,CSQ:18,PPP:1,GPS:A,10,POW:121,N1,30,60,500,40,Z+0.0,AT200-V001	M6: Online; GPS:A,10: A=locate, V=not locate, 10 located satellite; Z+0: Timezone, GMT+0.
Angle upload	*269#G,X	Angle:30, OK	
Check FW version	*269#V	AT200-V001@20231025 IMEI:868768066772420 CCID:89860000192127877768 4G:EC200NCNAAR03A06M08	
OUT1 ON	*269#O1,1	OUT1, OK	
OUT1 OFF	*269#O1,0		
OUT2 ON	*269#O2,1	OUT2, OK	
OUT2 OFF	*269#O2,0		
Set TIMEZONE	*269#I,Ex/Wx	X is 0-12.	
SMS set ACC ON/OFF upload interval	*269#7,x,y,	x=ACC ON upload interval, y=ACC OFF upload interval	Note: If ACC OFF report interval $\geq$ 300s, will activate sleep mode by AUTO.
Check alarm parameters	*269#R	D:200m; sp:50,3s; idl:8,3; mv:500; sleep:0; ack:0; acc:0; sos:0; power:0	D:upload by distance; Sp: over speed; idl: idle; Mv: ACC OFF moving alarm distance; Sleep: 1 sleep mode on; Ack: 1 enable position

			ack; Acc: 1=ACC ON; SOS: 1= SOS ON; Power: 1 main power normal
Heartbeat configure	*269#KA,x	x=heartbeat interval, unit seconds.	
IO_IN signal delay duration	*269#IO,x	X=200 - 1000ms Default 500ms.	
Battery low power alarm	*269#vlow,x	X=battery percent, default 30%	
Vibration detection	*269#vib,x,y,z	X=sensitive, range 0-100; Y=detection time, unit seconds; Z= working duration, unit seconds.	
Speed detect ACC	*269#0,x,y,z,w	X=speed trigger ACC ON, KM/H; Y=Duration time triggers ACC ON, unit seconds; Z=speed trigger ACC OFF, KM/H; W=Duration time triggers ACC OFF, unit seconds	
OTA Command	*269#W,IP,PORT;		
SMS command format	"AS1234" + "Serial command" + "#" For example, set IP SMS: AS1234 *269#1,120.24.225.253,5577,1#		

FCC warning statements:

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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this 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.

The device has been evaluated to meet general RF exposure requirement 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.