



# 4G Solar GPS Tracker Model ZZTK900

## User Manual



## 1. Product Introduction

### 1.1 product function

- (1) 4G
- (2) Beidou/GPS, WIFI, LBS multiple modes of positioning;
- (3) Multi-mode intelligent work;
- (4) Support blind spot make-up pass;
- (5) Support over-speed alarm;
- (6) Support single fence and multiple fence alarms;
- (7) Anti-demolition alarm with light sensor;
- (8) Waterproof IP68 and dust-proof design;



### 1.2 Specifications

- (1) Frequency band GSM900/1800MHz, FDD-LTE B1/B3/B5/B8 TDD-LTE B34/B38/B39/B40/B41
- (2) GPS positioning accuracy: <10 meters
- (3) Main unit size: 235\*112\*38 (mm)
- (4) Working temperature: -20°C to +70°C
- (5) Voltage: 3.5-4.2V
- (6) Built-in battery: 20000mA
- (7) Maximum solar power: 3.5W
- (8) Battery life: battery life (LTE and positioning chip work) 50-60 days

### 1.3 SIM Card Installation

The device support MicroSIM card. The card slot is a cover-type. Insert SIM card according to the shape of the card slot.

Note: The card notch corresponds to the card slot, and the chip faces the elastic side of the card slot. After installing the card, lock the card slot.

### 1.4 Indicator light working instructions

#### 1.4.1 Yellow light - GSM indicator light

- (1) Flash once within two seconds: GSM initialization is normal;
- (2) Steady on: GSM communication is normal;
- (3) Off: GSM sleep/shut down;

#### 1.4.2 Red light - GPS indicator light

- (1) Steady on:Charging;
- (2) Blinking: press the button;

### 1.5 Description of working mode

- (1) Timing positioning mode: In this mode, GSM is always on, and the terminal locates and uploads location data according to the set timing interval. The positioning interval can be set by logging in to the location service platform or mobile client specified by the dealer.
- (2) Intelligent mode: The terminal can automatically identify the current positioning environment and motion status, and intelligently select the positioning mode and upload interval.
- (3) Super power-saving mode: The terminal can wake up regularly to upload location data, and the interval between wake-up periods can be set. After waking up to upload location data, the terminal will enter deep sleep, during which it cannot perform any remote query setting tasks.

### 2.Features

- (1) Support SOS alarm,Battery will enter low power protection when the battery power is lower than 40%, and will start charging solar panel when battery power lower than 80%.
- (2) Support electronic fence function. Users can through platform/APP define a virtual electronic fence.It can be recognized by platform and alert when equipment enter or exit the fence.
- (3) It will call admin phone number or message when alert,and will upload platform.
- (4)

The terminal adopts industrial-grade high-stability GPRS module from well-known manufacturers, built-in 4G high-sensitivity antenna, supports TCP/IP data transmission, and supports domain name/IP address to connect to the server.

- (5) Built-in large-capacity memory chip, support offline data storage and supplementary transmission blind area data; when the solar tracker is in weak signal place or serious interference, Car will temporarily store the vehicle running data in FLASH, and when wireless signal is restored normal, Data can be supplemented to achieve no data omission.
- (6) Built-in 3-axis acceleration sensor, integrated with precise acceleration algorithm, real-time acquisition of the vehicle's current attitude and other vehicle condition judgments.
- (7) High-sensitivity GPS/BDS dual-star positioning module, anti-jamming ceramic antenna, realizes more stable satellite search signals, and supports AGPS fast positioning and tracking.
- (8) When sleep mode, Support battery low voltage monitoring and alarm, abnormal vibration alarm, etc.
- (9) Support online remote upgrade and remote configuration of product parameters.
- (10) When Low-power energy-saving mode, accurate solar locator status, intelligent sleep and wake-up mechanism, can reduce the average power consumption of the entire system.

### 3.Terminal Fixing and Charging Instructions

#### 3.1 Terminal Installation Fixing Method

The light-sensitive side of the terminal is facing down.the light-sensitive side is in a state of no light after installation. The two ends are fixed with screws or glue, and the solar panel is facing upward.

#### 3.2 Charge

The red light of the terminal is always on, indicating that it is charging, and the red light is off when it is fully charged or not charged.

Note: The effective illumination angle of the solar panel is 45 degrees.

### 4.Battery Precautions

Please use original manufacture specified battery. If device damaged due to the use of non-original accessories, manufacturer will not liable for any warranty.

- (1) Do not let metal objects cause a short circuit on the battery contactor.

- (2) Do not bend or open the battery by force.
- (3) Do not soak the battery in water or put it in fire.
- (4) Forbid use battery with deformed appearance, discoloration, liquid leakage or damaged outer packaging.
- (5) Forbid disassemble and modify the battery.

## 5. Troubleshooting

Please read below troubleshooting plan when operate device any problem, Please contact your dealer or service provider if you still not solve problem!

Common problem	Fault description	Solution
Poor signal reception, unable to boot	Use terminals in areas with poor signal reception, basements, high-speed rail, and airplane	Go to good signal place and use the terminal
	Battery dead	Charging it
cannot connect network	SIM card not install ok	Check SIM Card
	SIM Card have dirt on the metal surface	Use clean clot wipe it
	Invalid SIM card	contact network service provider
	Out of network service area	Move it to the service network area
	Weak signal	Move it to strong signal area
Can not charge	Charging light is off without sunlight	put in the sun
	Weak sunshine can not charge and turn on	put in the sun
	The solar panels are flooded or blocked	Remove standing water or foreign matter

## 6. Terminal after-sales warranty terms

6.1 There is warranty card and order record user can enjoy free replacement services After testing and confirmation by our company's after-sales service center.

6.2 Effective service warranty scope only for correct instructions and methods. Our company will stop free maintenance if anyone damage device or damaged after repairing.

6.3 Non-warranty provisions:

1. Unauthorized maintenance, misuse, collision, negligence, abuse, nightfall, accident, modification, fall, water, damp, mold, etc. Uncertain use of non-product accessories or tearing, altering labels, anti-counterfeiting registration, Product damage due to low or high ambient temperature;
2. During the warranty period, the appearance of the product is worn out and the accessories are missing;
3. Damage caused by failure to use, maintain, and maintain in accordance with the requirements of the instruction manual, damage caused by human factors and irresistible factors such as floods, fires, lightning strikes, and car accidents;
4. If it is stated that the product does not enjoy the three-guarantee service when it is sold, the gift, casing and packaging are not covered by the warranty;

# Installation



← Insert micro sim



**Note: Solar panel faces directly above when fixing solar equipment, , and install it in strong sunshine without shelter.**

# **SMS Commands**

## 1. Enable early sleeping mode

SMS command: \*SPJLX\*P:753869\*8:1,1,0#

Reply: Working Mode extend:1,0

Check command works or not: \*SPJLX\*P:753869\*8:0,1,0#

Paraphrase of command: \*SPJLX\*P:753869\*8:mode,x,y#

mode 1 set 0 query

x gps sleep function (1 on 0 off) (gps sleep function

After it is turned on, turn off the GPS when it is still, and turn it on when it vibrates)

Module early sleep function (1 on, 0 off)

## 2. Live mode

SMS command: \*SPJLX\*P:753869\*9:1,0#

Reply: <\*9:0,0,0 solar:1,1,50,5000>

Check command works or not: \*SPJLX\*P:753869\*9:0#

Paraphrase of command: keep working, no sleeping

## 3. interval mode

SMS command: \*SPJLX\*P:753869\*9:1,1,3,57#

Reply: <\*9:1,3,57 solar:1,1,50,5000>

Check command works or not: \*SPJLX\*P:753869\*9:0#

Paraphrase of command: It works for 3 minutes and sleeps for 57 minutes. During the sleep period, it can be woken up by SOS, photosensitive (tamper), vibration and restart the timer. During the working period, the alarm will be triggered and the timer will be restarted.

Note: It can be awakened by SOS and photosensitive during sleep, and the alarm will be re-timed when it is triggered during work

#### 4. Shaking mode

SMS command: \*SPJLX\*P:753869\*9:1,2,3,57#

Reply: <\*9:2,3,57 solar:1,1,50,5000>

Check command works or not: \*SPJLX\*P:753869\*9:0#

Paraphrase of command: Work for 3 minutes at rest and sleep for 57 minutes. During sleep, it can be woken up by SOS, photosensitive (anti-tamper), vibration, and continue to work without sleep during exercise.

Note: Work in full accordance with the working time and sleep time when stationary

(can be awakened by sos photosensitive vibration)

Save work without sleeping while exercising

#### 5. Temporary continuous work

SMS command: \*SPJLX\*P:753869\*9:1,4,60#

Reply: <run time :60>

Check command works or not: \*SPJLX\*P:753869\*9:0#

Paraphrase of command: No sleep countdown within 60 seconds

Note: Unit: second

#### 6. Set reporting interval

SMS command: \*SPJLX\*P:753869\*E:1,30,60#

Reply: ^E:1,30,60,0,30,4;`

Check command works or not: \*SPJLX\*P:753869\*C:#

Paraphrase of command: 30: Vibration report interval 60: Static report interval

#### 7. set inflection point

SMS command: \*SPJLX\*P:753869\*E:3,30,4#

Reply: ^E:1,15,1800,0,30,4;`

Check command works or not: \*SPJLX\*P:753869\*C:#

## 8. Set server IP

SMS command: \*SPJLX\*P:753869\*U:58.61.154.247,7018,1,#

Check command works or not: \*SPJLX\*P:753869\*C:#

Paraphrase of command: \*SPJLX\*P:753869\*U:IP,port,connecting type,#

## 9. Set ID

SMS command: \*SPJLX\*P:753869\*N:13612345678#

Reply: N:013612345678;

Check command works or not: \*SPJLX\*P:753869\*C:#

Paraphrase of command: \*SPJLX\*P:753869\*N:ID (11 位) #

## 10. check parameters

SMS command: \*SPJLX\*P:753869\*C:#

Reply:

IP:58.61.154.247,7018,1,,0,0,0,cmnet,,,ID:013650794452,M:2,0,GPS:A,4,CSQ:9,CGR:1,BAT:100%,RPT15,1800,30,MD:3,TZ:+8.0,W:100,3,pro:0

Check command works or not: IP:58.61.154.247,7018,1,,0,0,0,cmnet,,,

ID:013650794452,

M:2,0,

GPS:A,4,

CSQ:9,

CGR:1,

BAT:100%,

RPT15,1800,30,Vibration report interval, static report interval, inflection point

MD: 3,

TZ:+8.0,

W: 100,3,

pro:0 protocol type (0:808,1: Xingan)

## 11. check firmware version

SMS command: \*SPJLX\*P:753869\*V:#

## 12. Reset



SMS command: ~~\*SPJLX\*P:753869\*B:#~~

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Check command works or not: \*SPJLX\*P:753869\*C:#

13. query IMEI code

SMS command: \*SPJLX\*P:753869\*IMEI:#

14. AGPS switch

SMS command: \*SPJLX\*P:753869\*AGPS:X#

Check command works or not: 0:close 1: open

Note: After booting up, vibration & online & no positioning -- "Apply for AGPS

After 60 seconds after sleep and wake up, vibrate & go online & no positioning --  
"Apply for AGPS