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## 1. Product Overview

Thanks for buying our products!

This is an IP67-IP68 waterproof, low power consumption, long standby time, easy to use GPS 4G judicial community correction locator, suitable for special people, GPS module with built-in AT6558R-5N chip, using low-power ARM processor.

Its location can be obtained through a GPS (Global Positioning System) locator, and through Google Earth or Google Maps sends location data to your smartphone; At the same time, it will send the location information through GPRS, it is sent to the Internet server platform, so you can see the location of the tracker in real time.

### Tracker function introduction:

IP67-IP68 waterproof	A maximum of 3 authorized mobile phone numbers are supported
AGPS location assistance	real-time tracking
Support Beidou /GPS/GPRS/AGPS/LBS/WIFI positioning	SOS alarm
monitoring function	Electronic fence alarm
Long standby mode	Low battery alarm
SMS and GPRS (TCP/UDP) communication	Three tracking modes
Wristband alarm	voice broadcast
Two-way call/monitoring	Disassembly alarm

## 2. Safety instruction

Please read the following terms carefully, improper use will damage the equipment, lead to dangerous delivery and even break the law.

Safe startup	Do not turn on devices in places where the use of wireless phones is prohibited or where interference and danger may occur
Shutdown of medical facility	Follow the regulations of the medical facility and turn off medical equipment when approaching it
Airplane shutdown	Follow airport regulations and turn off devices while on board
Turn off when refueling	Do not use this device at gas stations
Blasting site shutdown	In accordance with the special site regulations, the equipment should be closed when working in the blasting site
Machine maintenance	Non-professionals are not allowed to disassemble the device and its related components without authorization
Waterproof	The waterproof grade of this product is IP67-IP68

## 3. Specifications parameters

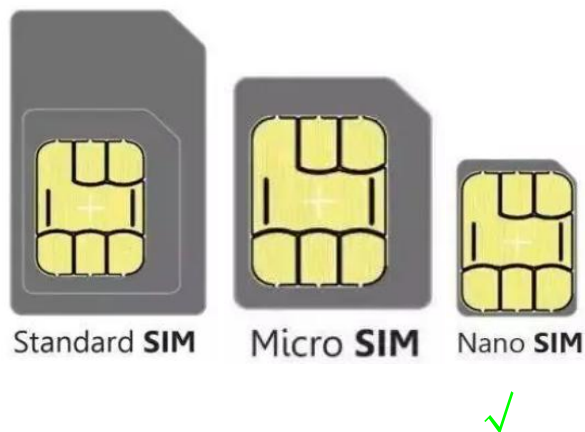
Project	Specification
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4G module	SIM7670SA
Cellular network	GSM band 850/900/1800/1900Mhz
GPS chip	AT6558R-5N chip
Positional accuracy	<15 M, 2D RMS>
Speed accuracy	0.1 M/S
Turnover time	Average 0.1 seconds
Warm boot	Average 20 seconds
Cold boot	Average 70 seconds
Maximum altitude	18,000 meter (maximum 60,000 feet)
Maximum speed	500 m/s (maximum 1000 knots)
Maximum acceleration	Less than 4g
Charging voltage	DC5V
Power bank battery	4000mAH
Main engine battery	1900mAH 3.8V
Dedicated charging cable for device charging time	About 1.5-2h

## 4. Note

### 4.1 Install SIM card

The device supports only Nano SIM cards



Explanation:

The device supports only Nano SIM cards

Ensure that the lock password for the SIM card is disabled

Confirm that the SIM has sufficient balance (use the mobile phone to test whether it can receive calls and send short messages normally)

If real-time location query is required, ensure that the SIM card supports caller ID

### 4.2 Charging

With a special charger and charging cable, a charging time is about 1.5 -2 hours. Or use a mobile power bank to charge your device.

### 4.3 Turn ON/OFF

Press and hold the power button for 5s to generate vibration and then power on the

device. Disconnect the wrist strap and hold down the power button for 5 seconds before the device shuts down.

This note only describes how to set parameters using SMS messages.

Note: Please switch to English when entering all instructions, English is not case sensitive; The device accepts only commands with correct passwords and formats. Commands with incorrect passwords and formats are ignored.

## 5. Reset Password

The initial password of the device is: 000000.

SMS command: `$SMS,*****;W001,#####;!`

Description: Change the password of a device

Explain:

\*\*\*\*\*: User password, range: 6 characters, Support for upper and lower case digits (Not support. ? ! @ \ | ; % ) , default: 000000.

Note: Please switch to English input method when typing commands on mobile phone, English is not case sensitive; The device accepts only the SMS commands with the correct password. The commands with the incorrect password are ignored.

Example: Setting the device password Example:

`$SMS,000000;W001,123456;!`

Read password example:

`$SMS,000000;R001;!`

Clear password example:

`$SMS,000000;C001;!`

## 6. SMS authorization number

Description: Set an entitlement number and corresponding functions

SMS command:

`$SMS,000000;W010,NO.,Phone Number,ABC;!`

Parameter specification:

NO	Authorization number serial number	Range:1-3
Phone Number	Authorization number	Range: 0~19 characters
A	Electronic fence function switch	Range: 0 or 1 (0 means off, 1 means on), default: 0
B	Monitor function switch	Range: 0 or 1 (0 means off, 1 means on), default: 0
C	Two-way talk function /SOS emergency help switch	Range: 0 or 1 (0 means off, 1 means on), default: 0

For example, set the number 138000000000 and enable the listening function:

`$SMS,000000;W010,1,138000000000,010;!`

Example of reading the first set authorization number:

`$SMS,000000;R010,1;!`

Clear first authorization number example:

`$SMS,000000;C010,1;!`

Read all authorization numbers example:

```
$SMS,000000;R010;!
```

Clear all authorization numbers example:

```
$SMS,000000;C010;!
```

## 7. WIFI positioning

By default, the device automatically turns on WIFI positioning when it turns on, automatically searches for nearby WIFI signals every 5 minutes, selects the 10 WIFI signals with the strongest signal, and uploads positioning information to the platform.

## 8. SOS Emergency

If you hold the SOS button for 3 seconds or more, the device will vibrate and send an SOS alert to all authorization numbers and servers. If an authorization number is set using the SOS emergency call function, the device will dial the authorization number one by one, and if the call is answered, it will stop making calls.

## 9. Real-time tracking

Call tracking:

If an authorized number makes a call to the device, the device returns the location information to the authorized number by SMS message.

Text tracking:

If an authorization number sends a real-time tracking command, the device sends location information to the authorization number by SMS. The tracker will also send alert data to the server if it is set.

Example SMS command:

```
$SMS,000000;W052;!
```

## 10. Platform timing tracking

Setting network functions:

SMS command:

```
$SMS,000000;W002,APN,Username,Password;W003,IP,Port;W005,X;W009,Y;!
```

Command explain:

```
$SMS,000000;W002,APN parameters, user name, password;W003,IP address, server port;W005,upload interval;W009,data upload mode;!
```

Example: 

```
$SMS,000000;W002,cmnet,,;W003,192.168.1.1,8088;W005,1;W009,1;!
```

Parameter Description:

APN	Service network access point name	range	0~29 characters (local operator's APN)
Username	Username	range	0~29 characters;
Password	Password	range	0~29 characters;
IP	Server IP or domain name	range	0~29 characters;
Port	Server port	range	0~65535
X	GPRS Timed upload interval	range	0~65535, default: 0, unit: 30 seconds, for example: set to 2, that is, the scheduled upload time interval is 2*30=60 seconds.

Y	GPS data upload mode	range	0~2.default:0,0 indicates that the GPRS function is disabled, 1 indicates TCP connection, and 2 indicates UDP connection
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Read GPRS Timing Trace Example:

`$SMS,000000;R002;R003;R005;R009;!`

Clear GPRS timing trace example:

`$SMS,000000;C002;C003;C005;C009;!`

## 11. Data replacement

The built-in 7M Flash memory is used to store data.

When GSM fails to upload data at the scheduled time, the device will automatically store the data in the built-in memory, and when GSM is successfully connected, the device will send the data to the platform server again.

**Note:** The device preferentially sends real-time data, while the stored data is sent after the meeting.

## 12. Electronic fence

There are two ways to set up an electronic fence:

- 1、When the exact center point is known, the latitude and longitude can be directly filled in the instruction;
- 2、When the latitude and longitude displayed in the command position is empty, the device will automatically obtain the latitude and longitude of the last positioning as the center point.

After setting up the electronic fence, When the tracker enters or leaves the preset range, the tracker will send alarm information to the authorized number (the electronic fence function must be turned on when setting the authorized number). If GPRS is connected, the tracker will also send alarm data to the server via GPRS.

SMS command:

`$SMS,000000;W018,NO.,name,lat,lng,radius;!`

Example:

`$SMS,000000;W018,1,school,22.12345,114.12345,10.50;!`

`$SMS,000000;W018,1,home,,10.50;!`

Parameter specification:

NO	Electronic fence serial number	range	1~5
Name	Electronic fence name	range	0~9 characters
Lat	The latitude of the center point of the electronic fence	range	-90.00000000~90.00000000, Unit: degree
Lng	The longitude of the center point of the electronic fence	range	-180.00000000~180.00000000, Unit: degree
Radius	Electronic fence radius	range	0.0~1.79E+308, Unit: m

Note: The electronic fence is an example of a circular area composed of a preset center point and a preset.

Example of SMS command to read the first electronic fence:

```
$SMS,000000;R018,1;!
```

Clear first geofence SMS example:

```
$SMS,000000;C018,1;!
```

Read all geo-fence SMS examples:

```
$SMS,000000;R018;!
```

Clear all geofence SMS examples:

```
$SMS,000000;C018;!
```

## 13. Time zone settings

Set SMS Time zone

SMS command: 

```
$SMS,000000;W020,X;!
```

Parameter specification:

X: time zone value, range: -720~780, default: 0 , Unit: points

Example:

```
$SMS,000000;W020,480;!
```

1 hour= 60 minutes, If the time is hours, it must be converted to minutes. For example, GMT+8 is Beijing time zone, 60\*8=480 (parameter), so this command means Beijing time.

Example of reading time zone settings:

```
$SMS,000000;R020;!
```

Example of clearing time zone settings:

```
$SMS,000000;C020;!
```

## 14. Alarm play Settings

SMS command: 

```
$SMS,000000;W043,A,B,C;!
```

Parameter specification:

A: Turn on/off other sounds except wristband alarm, default is 1(1= turn on alarm sound, 0= Turn off all sounds except wristband alarm) (can be omitted)

B: Turn on/off wristband alarm sound, default is 1 (0= off,1= on) (can be omitted).

C: Whether to play the alarm sound immediately, the default is 0 (0=off,1= play the wristband alarm sound immediately, 2= play the call center).

Example of alarm sound playing Settings:

```
$SMS,000000;W043,1,1,0;!
```

Example of alarm play Settings for reading device writes:

```
$SMS,000000;R043;!
```

Example of clear alarm play switch:

```
$SMS,000000;C043;!
```

## 15. Low battery alarm

1、When the battery level is less than 20%, the device will send an alarm SMS to all authorized numbers or send alarm data to the platform server.

2、when the battery power is equal to 0%, the device will automatically shut down.



## 16. Wristband alarm function

1、When the wristband is connected, the device sends a (belt on) alarm message to all authorized numbers and sends a message via GPRS

Alarm data to the platform server.

2、When the wristband is opened or cut, the device will send a (belt off) alarm message to all authorized numbers and send it through GPRS

Send alarm data to the platform server.

## 17. Double-locked

The device has a dual lock with a mechanical lock and a smart Bluetooth lock, allowing the device to achieve dual protection when both locks are locked at the same time.

Only when both locks are opened at the same time can the device unlock and unlatch the wristband.

Mechanical lock: We can use the standard key to open.

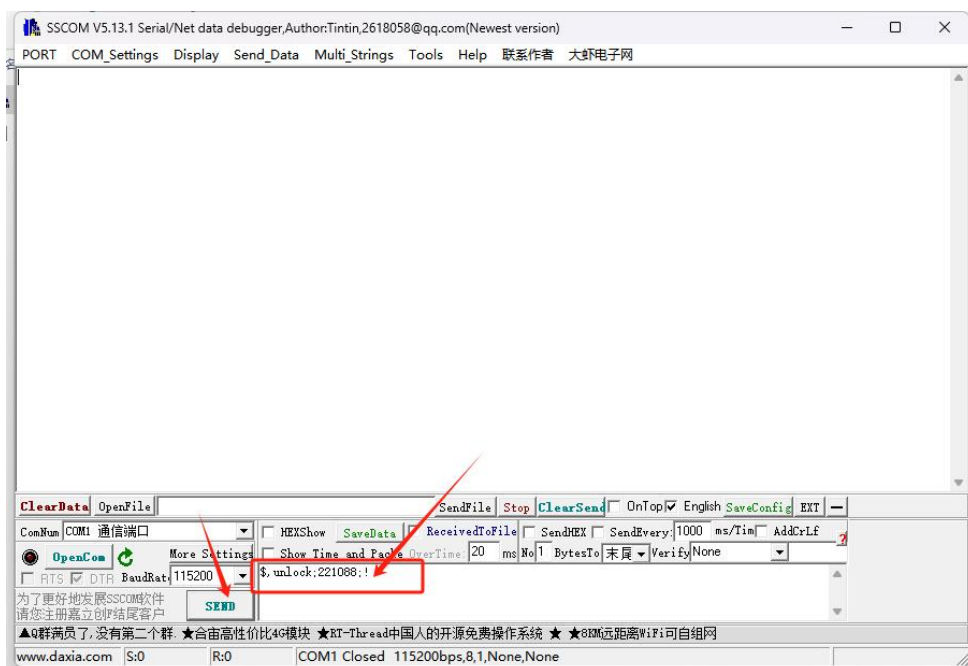
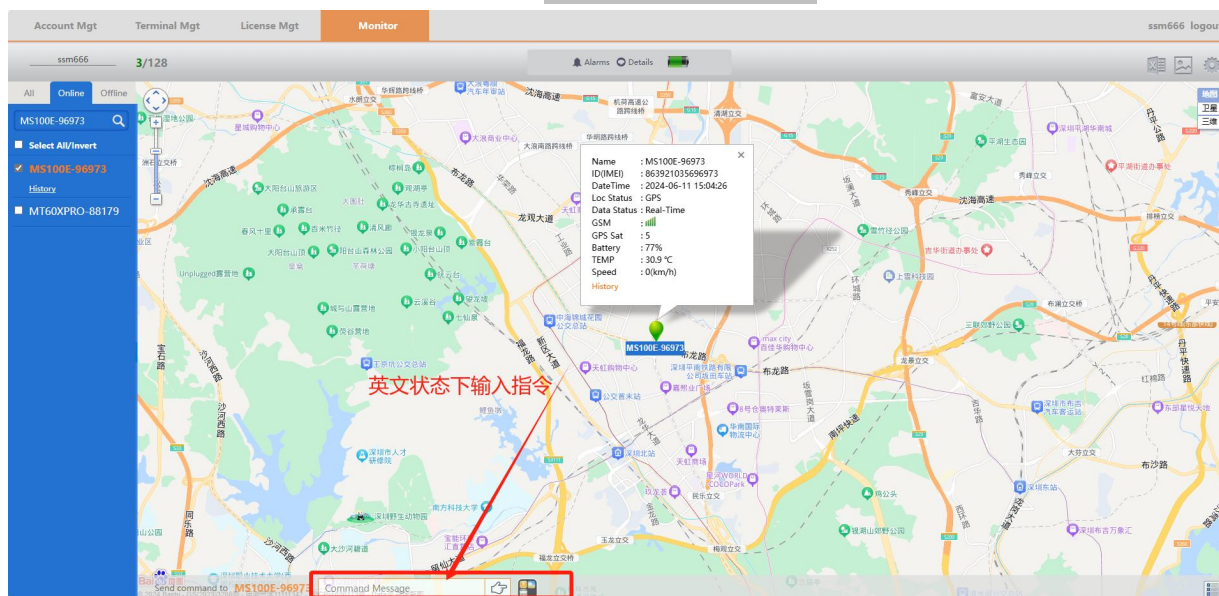
Smart Bluetooth lock:

Commands can be sent via SMS /Web platform /sscom serial port:

unlock command: \$,unlock;221088;!

lock instruction: \$,lock;000000;!

Change lock password instruction: \$,221088;123456;!( \$,old password;New password;!)



## 18. The SIM card cover opens the alarm function

A magnetic alarm device is installed behind the SIM card cover. Once the back of the SIM card cover is opened, the device will upload an alarm message to the platform and terminal A message is displayed indicating that the device SIM card cover has been opened.

## 19. Working mode

The working mode is divided into three types: personal mode, smart mode and car mode  
SMS command: `$SMS,000000;W016,X;!`

Parameter specification:

X	Work mode	Range	0~2 (0 for Personal mode, 1 for smart mode, 2 for in-vehicle mode) Default 1
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### Personal mode:

When there is data update or alarm, GPS will automatically start positioning, positioning success or positioning timeout GPS will be closed.  
The device then uploads the updated data or sends an alarm message.

### Smart mode:

GPS is always working when the device is moving, and automatically goes to sleep when the device is stationary, when new data or reports are available.  
When an alarm is generated, GPS will automatically start positioning, positioning success or positioning timeout GPS will be turned off, and then the device will upload the updated data or send an alarm message.

### Car mode:

The GPS does not turn off whether the device is moving or not.

Example:

Example of setting the device to smart mode:

`$SMS,000000:W016,1;!`

Read Device Mode Example:

`$SMS,000000:R016,1;!`

Clear Device Mode Example:

`$SMS,000000:C016,1;!`

## 20. Problems and failures

<b>Fault: The device does not turn on</b>	
Possible reason	Solution
Power switch operation problem	Make sure to press the power button for more than 5s
battery needs charging	Charge the device for 1.5-2 hours
<b>Trouble: Device does not reply to text messages</b>	
Possible reason	Solution
Bad GSM signal	Make sure the device is located with a good GPRS signal, check the installation of the SIM card, and replace the SIM card if necessary

busy network	Waiting for text messages, the network may be slow to respond during busy times or device failures
wrong password or wrong command	Use the correct password and SMS format
Insufficient SIM balance	Replace or recharge your SIM card
Low battery	Charge the device
<b>Trouble: Unable to connect to server via GPRS</b>	
<b>Possible reason</b>	<b>Solution</b>
SIM does not support 4G function	Activate the 4G function of the SIM card
4G function is turned off	Turn on 4G function
Incorrect IP address or port number	Set the correct IP address and port number, then reboot
4G signal is weak	Move the device to a place with good signal
APN parameter error	reconfirm parameters

## 21. Waterproof Statement and Disclaimer

It doesn't matter if the tracker falls into the water, because our products are IP68 waterproof, but don't submerge or use in water for a long time (not 100% waterproof).

The structural design of our products fully complies with the requirements of the waterproof level. Under no circumstances shall our company be liable for direct, indirect, special, incidental or consequential damages (including but not limited to economic losses, personal injury and loss); or property and property damage resulting from the inability to use or illegal use of the product or documentation.