

# GPS Watch Tracker

## USER MANUAL

(Model: WT100)



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## Chapter 1 Preface

### Overview

WT100 GPS watch tracker is a perfect combination of GSM communication technology & GPS positioning technology. It has portable size, nice figure & high positioning accuracy with integrated GPS & GSM module, it provides the cost-effective solution for tracking the children, elder people or those who need monitoring & safeguard.

As a professional factory of this tracker, we will continuously provide you better products & service.

### Attention

- 2 Please read this manual thoroughly before you use the device; please keep it for future reference.
- 2 This user manual is just for your reference. If some contents and operation procedures are different from the actual product, please operate as the actual one. We do not offer further notice for any upgrade of the product or any accessories.
- 2 The default user password is 0000.
- 2 The product is moderate water-proof, it is better to keep away from water.
- 2 The product needs the valid GSM SIM card for normal use.
- 2 The product can not work when power off or out of GSM coverage.
- 2 At the first time when you power up the device, it might take about 2 minutes to search for the GPS satellites. That is normal.
- 2 Please use the product in legal areas. Any illegal consequence will be borne by the user.

(Note: the GPS module is of high-sensitivity. It is usual that the product sometimes does not work well when in weak signal areas.)

## Chapter 2 Introduction

### Features

- 2 Check the location on the map by smart phone with the Google map's URL;
- 2 Check the real physical address(e.g.:city name, street name..) freely by SMS without setup of the center;
- 2 Track by mobile SMS to get the GPS coordinates;
- 2 Track on command or by time interval via SMS/GPRS;
- 2 With LCD display to show the time & GPS coordinates information;
- 2 Two-way talking function, with shortcut buttons for fast calling out 3 phone numbers;
- 2 Low power alert, when the battery's power is low, it will send out warning message;
- 2 Geo-fence alert; There are 5 fences for setup with different period
- 2 SOS button to call for help in case of emergency;
- 2 Inbuilt 512Kb memory to store the offline GPS data;
- 2 High-sensitivity, high-tech, most advanced GPS chipset;
- 2 Watch-like portable design;
- 2 Power save mode for long time's standby working status;
- 2 Voice monitoring and real-time tracking without disturbance
- 2 Auxiliary tracking by GSM base station code (LBS)

## Specifications

GSM module	GSM 850/900/1800/1900
GPS chip	Latest GPS chip
GPS sensitivity	-159dBm
GPS center frequency	L1, 1575.42MHz
GPS tracking accuracy	5~25 meters
GSM tracking accuracy	100~500 meters
Speed accuracy	0.1m/s
Time accuracy	Synchronous GPS
Default data	WGS-84
Hot start time	1 seconds
Warm start time	38 seconds
Working temperature	-20~65°C
Humidity	5%~95%
Voltage	Chargeable 500mAh battery
Power supply	DC5V
Standby time	>32 hours (in power save mode)

## Chapter 3 Preparation before Using

### Accessories

- |   |                            |        |
|---|----------------------------|--------|
| 2 | WT100's main unit          | (1pcs) |
| 2 | USB wire                   | (1pcs) |
| 2 | Charger                    | (1pcs) |
| 2 | 500mAh battery             | (2pcs) |
| 2 | microphone wire (optional) |        |



- A** Upper left button: Switch-on/off and hold-on
- B** : Microphone
- C** : USB charger's connector
- D** Bottom left button: Switching interface between time & GPS coordinates
- E** Upper right button: Call 1 phone No.
- F** Middle right button: SOS button



Bottom right button: Call 2 phone No.



: Speaker

## Charge the Battery

Before using, please charge the battery for at least 4 hours with the USB wire. It is strongly recommended to charge it for over 12 hours in shutdown status, so as to lengthen the battery service life.

When the icon on the LCD is dynamic, the battery is in charging status; when the icon on the LCD does flash, the charge is finished.

## SIM card installation

Open the rear cover and you will find the SIM card slot. Put in the SIM card rightly.

Select the SIM card:

- 2 SIM card should be GSM card;
- 2 SIM card has enough credit;
- 2 Prepare an SIM card with function of caller ID display and sending & receiving SMS. (For live tracking by platform, the SIM card needs the support of GPRS service);

## Chapter 4 How to Operate it

### Check the GPS Coordinates

SMS Command: 666password

Eg: 6660000

Send command (default password is 0000) to the system SIM card, and then the mobile phone will get an SMS message from the tracker.

#### Data format:

*Lat: Latitude Direction (+/-) Latitude Value*

*Long: Longitude Direction (+/-) Longitude Value*

*Speed: Speed KM/H*

*Direction: Direction*

*Date: Date YYYY-MM-DD*

*Time: Time HH: MM: SS (GMT)*

*BS: GSM Base Station code*

*Fix: Location state (A:available / V:shielded GPS signal )*

*ID: IMEI number*

*STATE: Message state*

#### **Note:**

If the tracker can not get valid GPS signal in 2 minutes, it will send out the last stored GPS coordinate.

### Check the Location by Google Map's URL

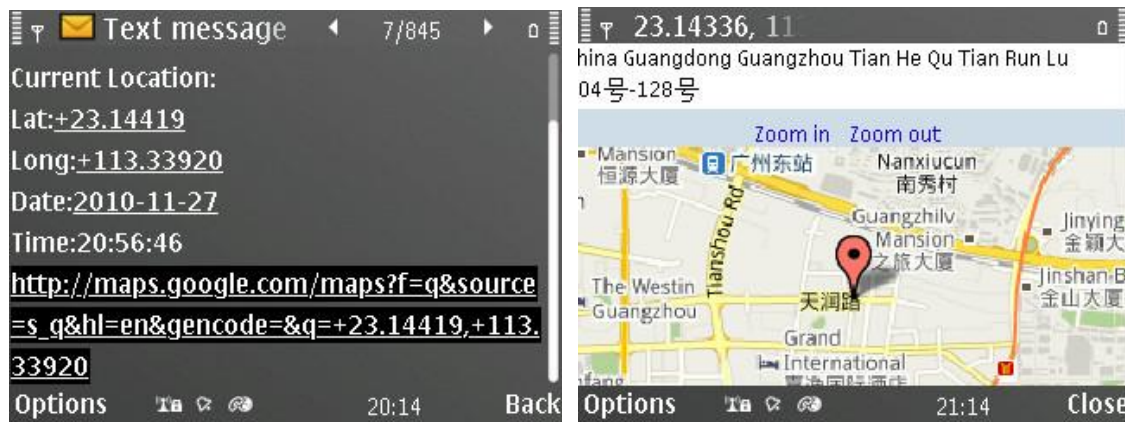
SMS Command: 999password

Eg: 9990000

User can use any mobile phone to send SMS command 999password to



the tracker SIM card number, the tracker will automatically send back the location information with Google map's URL, user can use smart phone (be able to visit internet) to open the URL link, the car's location will be showed on the Google map.



### **Note:**

The SIM card inside the tracker must be activated with the service of caller's ID display.

If the tracker can not get valid GPS signal or the last stored GPS coordinate in 2 minutes, it will send back this SMS to user "Can not get a valid location!"

### **Check the Real Physical Address**

SMS command: ADD  or add

Eg: add0000

When user sends this SMS command to the tracker, the tracker will automatically send back the car's real physical address (such as city name, street name) to your mobile by SMS. There is no need for the user to setup any server.

Remark: (1) The GPRS service of the tracker's SIM card must be activated, and the correct GPRS setting is needed, user can set up the GPRS upload time interval to 0 so as to save the GPRS flow; (2) The physical address depends on the Google map's address information. If the place has very detailed information on Google map, then the physical address by SMS is very detailed.

## Monitor the Voice

SMS command: 555[password]

Eg: 5550000

The user can send SMS command 555[password] to the tracker, then the tracker will automatically call the user mobile phone. And the user can secretly monitor the voice around about 10meter of the spot.

(Note: Only the call 1, call 2 & SMS center No. can monitor the voice)

## Two-way Talking

The user uses any telephone to call the tracker's SIM card number, the tracker's holder can shortly press SOS button to pickup the phone call (or press hand-up button to deny the calling), after that, the user can talk with the tracker holder freely as using normal mobile phone.

The tracker holder can press the call 1, call 2 or call 3 buttons to call out the stored related telephone numbers which is set up by this SMS command:

#711# the 1<sup>st</sup> phone # the 2<sup>nd</sup> phone # the 3<sup>rd</sup> phone # Password ##

(Eg: #711#13922713571#0#0#0000##)

## Show the GPS Coordinates on LCD

At mean time, users can press the hand-up button to show the GPS coordinates (latitude, longitude, speed & GPS signal status) on the LCD.

## SOS Alert

After setting up the SMS center number, when the tracker holder press the SOS button for about 2 seconds, the tracker will send out the alert message to the SMS center number(or GPRS platform), then it will call out the 3 stored phone numbers in sequence.

The SOS alert message is as following:

Data format:

*Lat: Latitude Direction (+/-) Latitude Value*

*Long: Longitude Direction (+/-) Longitude Value*

*Speed: Speed KM/H*

*Direction: Direction*

*Date: Date YYYY-MM-DD*

*Time: Time HH: MM: SS (GMT)*

*BS: GSM Base Station code*

*Fix: Location state (A:available / V:shielded GPS signal )*

*ID: IMEI number*

*STATE: **SOS***

### **Low Power Alert**

When the battery is low power, the tracker will automatically send out the alert message to the SMS center number (or GPRS platform).

The low power alert message is as following:

Data format:

*Lat: Latitude Direction (+/-) Latitude Value*

*Long: Longitude Direction (+/-) Longitude Value*

*Speed: Speed KM/H*

*Direction: Direction*

*Date: Date YYYY-MM-DD*

*Time: Time HH: MM: SS (GMT)*

*BS: GSM Base Station code*

*Fix: Location state (A:available / V:shielded GPS signal )*

*ID: IMEI number*

*STATE: **LPD***

## Geo-fence Alert

When the tracker is outside the certain fence during the period, the tracker will automatically send out the alert message to the SMS center number (or GPRS platform).

If the tracker is working at power save mode, this function can not work properly.

Please refer to the later chapter for the setting of Geo-fence.

The Geo-fence alert message is as following:

### Data format:

*Lat: Latitude Direction (+/-) Latitude Value*

*Long: Longitude Direction (+/-) Longitude Value*

*Speed: Speed KM/H*

*Direction: Direction*

*Date: Date YYYY-MM-DD*

*Time: Time HH: MM: SS (GMT)*

*BS: GSM Base Station code*

*Fix: Location state (A:available / V:shielded GPS signal )*

*ID: IMEI number*

*STATE: **OUT***

## Chapter 4 Parameters Setting

### Change the User Password

SMS command: #770#[new password]#[old password]##

Eg: #770#12aB#0000##

This instruction is used to change the user password. The length of the user's password is 4 digits. It can be combined with numbers and letters.

The default user password is: 0000

### Set the Working Mode

SMS command: #700#[mode No.]#[password]##

Eg: #700#1#0000##

This SMS instruction is used to switch the tracker to 2 working mode.

Mode No. =0 (default setting): normal mode, in this mode, if there is valid GPS signal, the GPS module will be opened on all the time, if there is no GPS signal, the GPS module will be closed in intermittence(close for 5 minutes, then open for 1-2 minutes.).

Mode No. =1 : power save mode, in this mode, the GPS module will only be opened when it needs to get the GPS location.

User can also press the hand-up button and hold for 3 seconds, then the setting menu will be showed on the LCD, please select Work Mode to select the option.

### Set the SMS Center Number for Receiving Alarms

SMS command: #710#[center No.]#[password]##

Eg: #710#13922713571#0000##

This SMS instruction is used to set the center number.

All the alarm SMS (including SOS alert, low-power alert, Geo-fence alert etc.) will be sent to the SMS center number.

### Set the Time Interval for SMS Auto-reporting

SMS command: #720###

Eg: #720#5#0000##

(The tracker will report the location by SMS to the center number for every 5 minutes)

This instruction is used to program the tracker to report the location to the SMS center number automatically by the time interval.

Note:

- ² The value range of time interval is: 5~65535 (unit: minutes) , if time interval=0, it will disable the auto-reporting function.
- ² If the SMS center number is empty, this SMS instruction will be invalid & this function will not be enabled.

### Set the Calling Phone No. for the Call Buttons

SMS command:

#711###

(Eg: #711#13922713571#0#0#0000##)

After setting successfully, press the call 1 button, the tracker will automatically call the 1<sup>st</sup> phone No.; press the call 2 button, the tracker will automatically call the 2<sup>nd</sup> phone; press the SOS button, the tracker will automatically send SOS alert message to the 3<sup>rd</sup> phone No, and call it later.

## Set the Time Zone

User can also press the hand-up button and hold for 3 seconds, then the setting menu will be showed on the LCD, please select Gps Time Adjust to select the option.

## Geo-fence Settings Instructions

### Set Geo-fence parameters

SMS command:

#600#fen-code#swtich#longitude#latitude#radius#start-time#end-time#password##

Eg: #600#1#1#+113.9013#+22.5338#1000#09:30#15:00#0000##

Note:

Fen code : 1~5 (total 5 fences for different period)  
 switch : 1: ON, 0: OFF  
 longitude : East +.... , West -... (with +/- , in degree format)  
 latitude : North +.... ,South -... (with +/- , in degree format)  
 radius : 50~65535 ( unit: meters)  
 start-time: HH:MM (fixed time format in 24hours, with 0 before number1~9, such as 09:05)  
 end-time: HH:MM (fixed time format in 24hours, with 0 before number1~9, such as 20:05)

### Switch ON/OFF Geo-fence function

SMS command:

#601#fen-code#swtich#password##

Note:

Fence code: 1~5 , (if it is 0,it stands for all the fences)  
 Switch : 1: ON, 0: OFF

E.g.: #601#1#0#0000## turn off the 1<sup>st</sup> fence  
#601#0#0#0000## turn off all the fences  
#601#0#1#0000## turn on all the fences

### Check the Setting of Geo-fence

SMS command:

#602#[fen-code]#[password]##

Note:

Fence code: 1~5 , (if it is 0,it stands for all the fences)

E.g.: #602#1#0000## check the setting of the 1<sup>st</sup> fence

The tracker will feed back SMS in the following format

Ffence-code,switch,longitude,latitude,radius,start-time,end-time



## Chapter 5 Setting for GPRS Connection

### Compositive SMS for GPRS Setting

**WWW****password****#IP:**Sever domain or IP,**COM port****#APN:**APN,**APN-user**,  
**APN-password****#RPT:**time interval,**upload packet numbers****#TCP:**1 (0)**##**

e.g.:

WWW0000#IP:www.topten-track.com,8101#APN:CMNET.,#RPT:300,5#TCP:1##

Note:

- 2 IP: it can be Server IP or server domain name
- 2 APN: access point name of the GSM SIM card
- 2 RPT: time interval (5-65535) means sampling time interval. The system will firstly sample the GPS data by this time interval, then upload several data packets together to GPRS platform for saving GPRS flow. The range of upload number is: 0-10.
- 2 TCP: 1: open Gprs connection; 0: terminate the Gprs connection

### Set the Device ID

SMS command: #801#**device ID**#**password**##

E.g.. #801#TK333#0000##

Note:

- 2 The default setting of the device ID is the IMEI number of the tracker, users are suggested to used the default setting & do not change it.
- 2 The Device ID is only used for GPRS tracking.
- 2 The device ID can be combined by letters & numbers.
- 2 The length of the device ID is: 4-20 figures.

### Set APN (Access Point Name)

SMS command: #802######

Eg 1: #802#internet###0000##

Eg 2: #802#web.gprs.mtnnigeria.net#web#gprs#0000##

Note:

- ² The default setting of the APN is internet, APN user & APN password are empty.
- ² When the APN user or APN password is guest or empty, you can use 0 or empty at the place.

### Set the Server IP & Port

#803#####

E.g.: #803#98.143.144.145#8500#0000##

Note:

- ² The server can the IP address or the domain name

### Set the Time-interval for GPRS Uploading

SMS command:

#730#####

E.g.. #730#30#5#0000##

(Uploading GPRS data packet is enabled, the tracker will sample one data packet for every 30 seconds, then upload 5 packets at one time to the GPRS server.)

#730#0#0#0000## (to cancel the uploading)

Note:

- ² Default setting of the time interval is 0, that is to cancel uploading

- 2 If time interval or upload packets No. is 0, uploading function is cancel
- 2 The range of time interval is: 5~65535 seconds. (Minimum: 5 sec.)
- 2 The range of upload packets No.: 0-10
- 2 This setting is only available for the GPRS uploading. It is working for SMS auto-reporting.

### **Reset the Parameters with default settings**

Please hold the SOS button, and turn on power switch at the same time, then the system will be reset with the factory default setting as following:

Working Mode:	Normal mode
Password:	0000
Call 1, Call 2, Call 3 phone numbers:	empty
SMS center number:	empty
SMS Auto-reporting function:	OFF
GPRS data uploading:	OFF
Geo-fence function	OFF
GPRS server IP	<a href="http://www.topten-track.com">www.topten-track.com</a> COM: 8100
APN	internet
Time zone	00.00