

# GPS Personal Tracker GPS30

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## **Introduction**

PT30 is a personal remote position device with build-in GPS and GSM/GPRS modules. It is a small size, high accuracy remote location tracking device. Based on GPS satellite, it provides accurate position information under dynamic conditions. Personal remote position device transmit the longitude and latitude coordinate to authorized cell phone.

You can use these features for protecting and searching children and old persons. Further, you can use it as a security purpose and other purpose which needs remote positioning such as asset protection and animal tracking.

## **Feature**

- 1) Build-in GPS personal locator.
- 2) GSM /SMS communication or GPRS TCP/UDP connection.
- 3) Works worldwide! Support 3-frequency GSM 900/1800/1900 MHZ or 4-frequency GSM 850/900/1800/1900 MHZ.(Optional)
- 4) High sensitivity, new technology and latest GPS SiRF-Star III chipset! Excellent for fixing the position even at a weak signal status. Work well even in areas with limited sky view like urban canyons.
- 5) Compact size, and smaller than one name card. Easy to hide
- 6) Very Low power consumption
- 7) Fast Signal Acquisition
- 8) Support single location and continuous tracking
- 9) Support location triggered by tracker
- 10) Support location triggered by authorized cell phone
- 11) Support alarm and remote monitor
- 12) Support quick dial buttons for 2 preset phone numbers
- 13) Support check location by SMS and Internet
- 14) Monitors can track the person without interfering him.
- 15) Locate the locator holder by the mobile phone via SMS (short messaging system).
- 16) SOS button send out exact location for immediate rescue/action.
- 17) Geo-fencing to restrict movement to a defined radius.
- 18) No monthly service charges to be paid to the call center
- 19) Support online real-time tracking. (<http://www.gpstracking.cc>)
- 20) Support pc software set the parameters by USB cable for bulk order. (Optional)
- 21) With optional external battery.

## **Specification**

<b>Hardware</b>	
GSM module	embedded GSM 900/1800/1900Mhz embedded GSM 850/900/1800/1900Mhz (Optional)
GPS Chipset	latest GPS SiRF-Star III chipset
GPS Sensitivity	-158Db
GPS Frequency	L1, 1575.42 MHz
C/A Code	1.023 MHz chip rate
Channels	20 channel all-in-view tracking
Position Accuracy	10 meters, 2D RMS
Velocity Accuracy	0.1 m/s
Time Accuracy	1 us synchronized to GPS time
Default datum	WGS-84
Reacquisition	0.1 sec., average
Hot start	1 sec., average
Warm start	38 sec., average
Cold start	42 sec., average
Altitude Limit	18,000 meters (60,000 feet) max.
Velocity Limit	515 meters/second (1000 knots) max.
Acceleration Limit	Less than 4g
Jerk Limit	20 m/sec
<b>Other</b>	
Operating temperature	-25° to 65° C
Humidity	5% to 95% Non-condensing
Dimension	76 mm × 46 mm × 25 mm
Voltage	Rechargeable 1300 mAh battery (3.7V), 5V for charging input.
Charging connector	DC 5V (USB port)
Standby time	Over 60 hours
LED	3 LEDs showing Power, GPS and GSM status, And other operation status.
KEY	3 Keys for SOS Emergency key, quick dial key A , quick dial key B

## **Hardware description Red LED --- indicate power state**

State	Meaning
Constant darking	The power is too low to work or Charging was completed.
Light 0.1s dark 0.1s	The power is not enough
Constant Lighting	Charging
Light 1s dark 2s	Working

### Blue LED -- indicate the GPS signal state

State	Meaning
Constant Lighting	One key be pressed
Light 0.1s dark 0.1s	Initial
Light 0.1s dark 2.9s	GPS receiver work well
Light 1s dark 2s	No GPS signal

### Green LED -- indicate the GSM signal state

State	Meaning
Constant Lighting	One call is coming
Light 0.1s dark 0.1s	Initial
Light 0.1s dark 2.9s	GSM receiver work well
Light 1s dark 2s	No GSM signal

### Button Function description

Button	Meaning
Power button	Turn on/Turn off.
SOS button	You can assign a phone numbers to the SOS button .when this button is pressed, GPS30 will send it's location information to the phone number by SMS ,at the same time, GPS30 will dial to the preset phone number.
Call B button	You can assign a phone numbers to the Quick Call B button .when this button is pressed, GPS30 will dial to the preset phone number.
Call C button	You can assign another phone numbers to the Quick Call C button .when this button is pressed, GPS30 will dial to the preset phone number.

## **Get Started**

### **Accessories**

1. GPS30
2. USB charged cable
3. Charger and car charger
4. Earphone with mini microphone

### **Charge battery**

Before you can use the GPS30, you must FULLY charge the battery by USB cable at least 2 hours under the power-off condition.

Charger state indicates:

Red light is on, it indicates that it is in charging.

Red light is off, it indicates that charge completed.

### **Buy SIM card**

Buy SIM card from local service provider.

Note: Please make sure that your SIM card support SMS function and have enough deposit, please remove PIN CODE on the SIM card.

### **Install SIM card**

## **Operation**

### **Turn On / Turn Off**

Turn on:

When the device is off, press the power button to on side and wait for about 20 seconds. It will enter standby mode. It is suggested that you be an outer place where it can receive the better GPS signal when you turn on the device.

Turn off:

When the device is on, press the button to off side and wait for 3 seconds .When the LEDs go out ,it indicates that the device is turn off for sure.

Tips: How to get better GPS signal:

1. Working outdoor, PT30 can get better GPS signal;
2. The front side of PT30 should be placed toward sky.

Apply for one position service

No matter where you are, when you want to know the position of your vehicle, send a SMS or make a telephone call to PT30, it will report its location back to you by SMS .

Edit a message as following format, then send it to GPS30:

Format: W+Password+,+000 ( init password is : 000000)

For example: W000000,000

The GPS30 send back one SMS, which including the position information

Longitude = 114-04-57.74 / Latitude = 22-32-40.05

Position Data means:

Longitude = 114 degree - 04 cent - 57.74 second

Latitude = 22 degree - 32 cent - 40.05 second

Tips: Apply for one position service by another easier way:

- (a) Dial up the GPS30 number by your mobile phone
- (b) After listening the ring of GPS30 for 10~20 seconds, ring off the phone
- (c) Then, after 20 second, your mobile phone will receive the Position SMS.

Set a preset time interval for tracking report function

Tracking report function can be turned on or off according to the requirements of the user. Tracking function will continually report vehicle position until it get stop command. In this tracking mode, GPS30 will send one position message at a preset time interval.

(it is say that GPS30 will send one position message every time interval )

**Step 1:** Edit a message as following format, then send it to GPS30:

----- W+Password+,+002,+XXX

(Note: XXX Unit: preset minutes interval, if XXX=000 it is STOP tracking )

For example : W000000,002,005 (Its means is PT30 will send Position Data each 5 minute.)

**Step 2:** GPS30 will send back one SMS ---Set Time(preset time interval) OK

In this example ,the SMS is Set Time (005 Min) OK

This SMS means that PT30 is in tracking mode now and preset time interval is 5 minutes.

**Step 3:** GPS30 will send back position SMS at present time interval.

In this example ,the SMS will send back position data at every 5 minutes. The target phone will receive the Position Data each 005 minute.

Longitude = 114-04-57.74 / Latitude = 22-32-40.05

Position Data means :

Longitude = 114 degree - 04 cent - 57.74 second

Latitude = 22 degree - 32 cent - 40.05 second

Note: if SMS show:

Longitude = 000 degree - 00 cent - 00 second

Latitude = 00 degree - 00 cent - 00 second

It means that GPS signal is too weak to work well

### **Stop continuous tracking report function**

This function is used to turn off tracking report function. Edit a message as following format, then send it to GPS30:

Format: W+passwaord+,+002+,+000

For example : W000000,002,000

The GPS30 will send back one SMS-----Stop Timer OK. This message means tracking report function is turned off.

### **Set preset phone number for SOS key.**

This function is used to set what telephone number will be dialed when press SOS key. Edit a message as following format ,then send it to GPS30

Format: W+password+,+003+,+3+,+1+,+ area number +telephone number

For example: “W000000,003,3,1,008613628888444”

When the SOS button is pressed for 4 seconds, PT30 will send one Alarm SMS to “0086 13628888444”, and then dial “0086 13628888444”.

Tips:

- After SOS button be pressed, you can call and talk with another people by ear microphone
- Press the Call Key B, you can hang up the call or cancel the SOS call
- After press the SOS key, PT30 do not go into normal state until you press Call key A to cancel the SOS call

Note: About area number, According different service provider, you may need add the area number or not, and the area number may be different. So, please try it by some different area number

### **Make a SOS help**

This function is especially useful when in emergency. When SOS key is pressed, GPS30 will in SOS state and send SOS alarm SMS and position data SMS to preset phone number. At the same time, GPS30 will dial preset telephone number. When the telephone pick up, 2 way communication starts.

When the SOS button is pressed for 4 seconds, a SOS help is make.

### **Cancel a SOS call**

When in SOS state ,press Call B key to hang up the phone, exit SOS state and return normal state.

### **Dial the preset phone number by Call B or Call C**

Press the Call B button/ Call C button for 4 seconds, GPS30 will call the according preset phone number, then you can talk with another people.

If you completed this talking, you can hang up the calling by pressing the Call B button.

### **Receive one incoming call**

When one call coming, the green light will light, you can press SOS key to receive the calling, then talk with another people by ear microphone.

### **Displaying location on map**

Download Google earth software from <http://earth.google.com/>.

Start the Google Earth software.

For more information about Google Earth software, please refer to <http://earth.google.com/>. You can also start the Internet Explorer and type "http://maps.google.com" to connect to Google Map website for displaying the location map.

### Get the latitude & longitude.

You can get the latitude & longitude data by sending “W+Password+, +000” SMS command Code to the GPS Tracker GPS30. Input the latitude and longitude that you receive from SMS and click on search button. The Google earth will display the location map for you.

Or you can visit <http://www.gpstracking.cc> or use local map software on PDA or Car Navigation Device, input the Position Data.

### More Professional SMS Instruction

\*\*\*\*\* is user password, and init password is **000000**.

SMS Instruction	Format	Note
Request one position	W*****,000	
Modify user password	W*****,001,### ###	***** is old password ##### is new password
Set the time internal of position refresh	W*****,002,XX X	XXX(3 digital) =000,stop =[1,999] time internal (unit: mins)
Set a preset phone number for SOS button/ Call B button/ Call C button; When this button is pressed, GPS30 will dial the preset number.	W*****,003,F,P ,TelNumber	F =0, close this function =1, only send alarm SMS to the preset number =2, only Call the preset number =3, Send alarm SMS ,then Call the preset number P =1, Set the preset number for SOS key =2, Set the preset number for Call B =3, Set the preset number for Call C TelNumber: Preset Tel number (TelNumber must < 16 digits)
Set low power alarm When the GPS30 voltage is lower than the preset value, PT30 will send one lower power alarm SMS to the SOS preset number.	W*****,004,X	X (voltage preset value) =0 , close =1, <3.3V send SMS alarm =2 , <3.4V send SMS alarm =3 , <3.5V send SMS alarm (default ) =4 , <3.6V send SMS alarm =5 , <3.7V send SMS alarm
Set over speed alarm When the PT30 speed higher than the preset value, GPS30 will send one over speed alarm SMS to the SOS preset number.	W*****,005,XX	XX (the speed preset value) =00 , close =[01<XX<20] (unit: 10Km)

<p>Set Geo-fence alarm When the GPS30 move out preset scope, GPS30 will send one Geo-fence SMS to the SOS preset number.</p>	<p>W*****,006,XX</p>	<p>XX ( preset distance to original place ) =00 close =01 30m =02 50m =03 100m =04 200m =05 300m =06 500m =07 1000m =08 2000m</p>
<p>Extend setting Note: Please use this instruction carefully)</p>	<p>W*****,008,AB CDEFG###</p>	<p>A=0: Close position report function which get position SMS by Calling GPS30 A=1: Open position report function which get position SMS by Calling GPS30 B=0: Position SMS format be analyzed in order to read easily. For example: Longitude = 114 degree - 04 cent -57.74 second Latitude = 22 degree - 32 cent - 40.05 second B=1: Position SMS format is NMEA 0183 Format. For example: \$GPRMC,072414.000,V,3114.3763,N,12131.3255,E,0.00,0.00,050805,*00 C=0: GPS30 do NOT hung up when one call incoming . C=1: GPS30 hung up after 4~5 rings when call incoming D=0: GPS30 do NOT send one notice SMS to SOS preset number when the PT30 power on D=1: GPS30 do send one notice SMS to SOS preset number when the PT30 power on E=0: GPS30 do NOT shut down automatically when the power voltage lower than 3V E=1: GPS30 will shut down automatically when the power voltage lower than 3V F=0: GPS30 do NOT send the notice SMS to the SOS preset number when the GPS signal is weak F=1: GPS30 send the notice SMS to the SOS preset number when the GPS signal is weak G=0: Open 3 LED when GPS30 works G=1: Close 3 LED when GPS30 works ###: end char Default value: ABCDEFG=1011110</p>
<p>Set sleep mode for saving power.</p>	<p>W*****,021,XX ###</p>	<p>XX=00 close sleep mode XX=01 sleep XX=02 deep sleep</p>

GPRS setting		
Set the phone number for GPS30 for GPRS	W*****,010,tel	tel: telephone number according the SIM card of GPS30 (tel must be < 14 digits)
Set APN	W*****,011,AP N	APN: APN string
Set IP Address &port number	W*****,012,IP, PORT	IP: xxx.xxx.xxx.xxx PORT: [1,65536]
Open / Close GPRS function	W*****,013,X	X=0 close GPRS (Default) X=1 open TCP X=2 open UDP
Set time interval of send a GPRS package	W*****,014,XX XXX	XXXXX:means times interval, (Unit: 10s) The max length of XXXXX is in 4 digits XXXXX=00001, means time interval is 10s

### **SMS Instruction Example**

1) Send Instruction “W\*\*\*\*\*,000” Meaning: Apply one position, GPS30 will reply one position SMS

2) Send Instruction “W\*\*\*\*\*,002,005”

Meaning: Set the time internal of position refresh, GPS30 will replay one position SMS each 5 minutes.

3) Send Instruction “W\*\*\*\*\*,003,3,1,(area number)+13888888444”

Meaning: when the SOS button be pressed, the GPS30 will send one SMS to “13888888444”, and then dial up “13888888444”.

4) Send Instruction “W\*\*\*\*\*,003,3,2, (area number)+13888888444”

Meaning: when the dial button A be pressed, the GPS30 will send one SMS to “13888888444”, and then dial up “13628888444”

5) Send Instruction “W\*\*\*\*\*,003,1,3, (area number)+13888888444”

Meaning: when the Dial button B be pressed, the GPS30 will only send one SMS to “13888888444”.

6) Send Instruction “W\*\*\*\*\*,005,03”

Meaning: when the speed is up 30 km/h, the GPS30 will send one Alarm SMS the mobile phone linking to SOS alarm

### **GPRS communication setting**

Step 1: make sure that your SIM card in GPS30 have the GPRS function

Step 2: Set the phone number of GPS30 by send one SMS:

SMS Format: W\*\*\*\*\*,010,tel

For example : W000000,010, 8613682413000

GPS30 will response one SMS to check it.

Step 3: Set IP address and Port by send one SMS

SMS Format: W\*\*\*\*\*,012,IP,PORT

For example: W000000,012,74.220.201.235,8000

GPS30 will response one SMS to check it.

Note: Make sure that the IP should be the Extranet IP. If your pc is in Intranet, you must know your Extranet IP. You may need the help of you network administrator

Step 4: Set APN

SMS format : W\*\*\*\*\*,011, APN

For example: W000000,011, CMNET

Note: If APN has user name and password, please use W\*\*\*\*\*,011,APN,User name,Password.

Step 5: Set time interval of sending GPRS package

SMS format: W\*\*\*\*\*,014 , XXXXX

( XXXXX: Be sure that the time interval MUST be FIVE digits).

XXXXX: means times interval, (Unit: 10s) The length of XXXXX is in 5 digits, XXXXX=00001, means time interval is 10s

For example: W000000,014,00003

SMS meaning: Make GPS30 send a GPRS package every 30 seconds

GPS30 will response one SMS to confirm the setting . Like “set GPRS Timer ok/00003”

Step 6: Enable GPRS function

SMS format: W\*\*\*\*\*,013,X

For example: W000000, 013, 1

GPS30 will response one SMS to check it.

Note:

1. GPS30 default value is GPRS Disable
2. SMS W000000,013,0 is disable GPRS function

Step 7: According to NMEA V3 protocol, the server can analyze the GPRS data. If you want more information about protocol, please contact us.

## **Trouble shooting**

If you find some trouble in using GPS30, please refer the following:

### **(1) Check GPS signal is normal**

In normal, the blue led should in rapid blink---light for 0.1 second and then dark for 2.8second in turn. If blue led is not in this correct state, it indicates GPS signal is too weak to get position info.

Please check following issue:

- a. Working outdoor,GPS30 can get better GPS signal;
- b. The front side of GPS30 should be placed toward sky;
- c. Charging GPS30 for 3 hours for the tracker has enough power before usage

### **(2) Check GSM signal is normal**

In normal, the green led should in rapid blink ----light for 0.1second and then dark for 2.8s in turn. If green led is not in this correct state, it indicate GSM communication is wrong

Please try following issue:

- a. Whether the GSM network is strong enough to make the track unit work.
- b. You can judge it by calling someone through your cell phone.
- c. Whether the SIM card is installed correctly or not ,and try to pull out and insert SIM card to ensure it; try this operation a few times may help to ensure correct installation.
- d. Whether there is enough deposit in SIM card or not;
- e. Whether your SIM card in GPS30 support SMS function or not, (including send SMS and receive SMS)
- f. Whether SIM card has specific requirement on cell phone or not,
- g. For example whether the SIM card can only use in an appointed cell phone, other cell phone cannot use the SIM card
- h. Whether SIM card is binding to the specific cell phone or not
- i. Whether SIM card need some authorization when using it
- j. For example, you need type one password when you use the kind of SIM cards
- k. Whether the tracker has enough power to work, we strongly suggest it was charged at least 3 hours before use it.

### **(3) The SMS which be replied by GPS30 is including the chars --- “Last .....”.**

It is indicate the GPS signal is weak.

## **Caution**

- a) This device is not design for water-proof, and you must use the water-proof bag accessory
- b) This device must work with GPRS/GSM network.
- c) Make sure enough deposit in the SIM card to avoid any inconvenience.