iStartek 4G Ultra Long Standby Tracker

PT60-L User Manual

V1.3

Content

1. Copyright and Disclaimer

2. Product Description

PT60-L is a 4G wireless installation-free GPS tracker designed specially for pan-IoT applications, including vehicle, asset positioning, and unattended application scenarios. It has a built-in high-sensitivity GPS and 4G communication antenna, with fast positioning speed; it can be recharged and used, and has a built-in strong magnet for easy installation.

3. Product Function

GPS+GSM dual-mode positioning
Real-time tracking
Track by time interval
Track by distance
Various SMS alarm
Low battery alarm
Support dual servers
Geo-fence alarm
Overspeed alarm
Acceleration alarm
Deceleration alarm
Haring Turnning alarm
Impact alarm
Vibration alarm
Mileage report
Head change report
Tamper alarm
Listen-in
Five working modes
Inbuilt 7800mah rechargeble battery

Inbuilt magnet for easy installation

FOTA upgrade

4. Product Specification

Item	Specification
Size	110 x 77 x 28mm
Weight	290g
Waterproof level	IP65
Input voltage	DC 5V/1A
Inbuilt Battery	7500mAh/3.7V
Average standby power consumption	80mA/h（MCU、GPS、GSM work simultaneously)
Average sleep current	20uA/h（MCU sleep，GPS、GSM OFF)
Working temperature	-25℃ to 75℃
Working humidity	5% to 95%
Communication	TCP/UDP
LTE/WCDMA/GSM Bands	**PT60-L LA(Quectel EG915U-LA cat1):** FDD：B2/B3/B4/B5/B7/B8/B28/B66 GSM：B2/B3/B5/B8 **PT60-L EU(Quectel EG915U-EU cat1):** FDD：B1/B3/B5/B7/B8/B20/B28 GSM：B2/ B3/ B5/ B8 **PT60-L NA(Quectel EG915Q-NA cat1)：** FDD: B2/B4/B5/B12/B13/B14/B66 **PT60-L MN(Quectel BG95-M3)：** CAT M1： B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 Cat NB2： B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85 GSM/EDGN：B2/B3/B5/B8
Positioning method	Beidou positioning/GPS positioning/base station positioning
GPS Module	L76K
GPS Sensitivity	-165dB
Positioning accuracy	2.5 meters
LED Indicator	3 LED indicate charging/GPS/GSM status

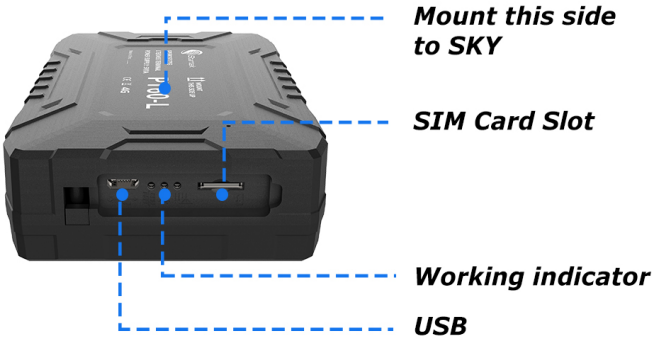
Antenna	Inbuilt GSM、GPS antennas
Sensor	3D accelerometer
Removal sensor	Light sensor

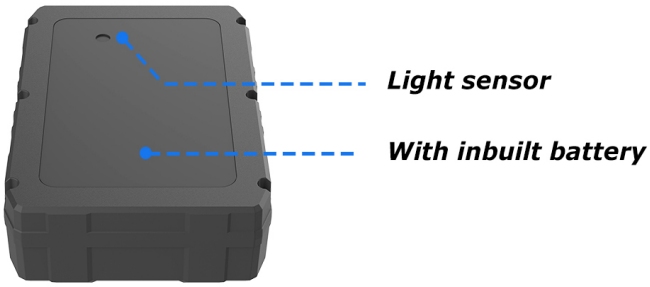
5. Products and accessories

Main Unit

Power Charging USB Cable

6、Product Appearance





7. Product Operation

7.1 Recharge

Use a DC 5V/1A charger to charge the device for more than 10 hours. When the charging indicator is constantly on, it is charging; When it is constantlly off, it is fully charged.

7.2 Install SIM card

Prepare a Micro SIM card, the device supports 2G/3G/4G SIM card;
Please make sure that the SIM card has sufficient balance, the GPRS function has been activated and the correct APN of the SIM card has been confirmed;
Please make sure that the PIN lock function of the SIM card is turned off;
If you need to use the function: Call to reply location, please make sure that the SIM card has the caller ID display function;
Please make sure the device is turned off before installing SIM.

A. Remove the waterproof rubber plug;

B. Install the SIM card in the correct direction.

7.3 Turn on Device

After inserting the SIM card, the device will automatically turn on and run (the device will automatically turn off when the SIM card is pulled out).

LED lights indicate the operation status:

GPS Indicator (Blue)	
OFF	Power OFF or in sleep mode
Flash (every 0.1 sec)	GPS module is starting or restarting
Fast Flash (0.1 sec ON, 2.9 sec OFF)	GPS signal received
Slow Flash (1sec ON, 2 Sec OFF)	No GPS signal
GSM Indicator (Green)	
ON	There is an incoming call or is in a call
OFF	Device is OFF or in sleep mode
Fast Flash (every 0.1 sec)	GSM module is starting or restarting
Fast Flash(0.1 sec ON, 2.9 sec OFF)	GSM signal received
Slow Flash (1sec ON, 2 Sec OFF)	No GSM signal

Power Indicator (Red)	
ON	charging
Fast Flash(0.1 sec ON, 2.9 sec OFF)	Sufficient battery
Fast Flash (every 0.1 sec)	Low battery

7.4 Track by GPS Tracking Platform

The device uses the http://www.istatrack.com/ platform by default. If you need to use other service platforms, you can set the server IP, Port and APN, and the timing upload interval parameters through SMS commands 100, 102, and 109.

Set server GPRS parameters by SMS commands:
0000,100,1,103.243.183.121,8011 (set 1 to TCP connection mode, server IP: 103.243.183.121, port: 8011)
Set the timed upload interval:
0000,102,10 (set the timed upload interval to 10 seconds)
Set APN:
0000,109,internet (if APN does not have APN user name and APN password, leave blank when setting)
For more SMS command functions and parameter configuration, please refer to "iStartek GPS tracker Communication Protocol V1.8" and "iStartek Parameter Editor User Manual 2.1".

8. Working hours

8.1 Working hours in normal mode

In this working mode, the device uploads positioning data according to the parameters set by the 102 instruction. MCU, GSM module, and GPS module keep working and do not sleep.

Time Interval	Theoretical working hours
10 seconds	4.2 days
30 seconds	4.5 days
60 seconds	4.9 days

8.2 Normal sports normal mode

In this working mode, in the moving (vibration) state, the device uploads positioning data according to the normal_time commanded 102 . After the device is stationary for 3 minutes, it will enter the sleep state (turn off the GPS power supply, GSM module sleep, MCU sleep), and upload the heartbeat packet data according to the time of 122 command. In the sleep state, you can receive SMS commands and incoming calls.

Time interval 30 seconds, heartbeat 60 mins	Theoretical working hours
Move 2 hours and then stop 22 hours	38.5 days
Move 4 hours and then stop 20 hours	22.9 days
Move 8 hours and then stop 16 hours	12.7 days
Move 12 hours and then stop 12 hours	8.7 days

8.3 Sports power saving mode

In this working mode, in the moving (vibration) state, the device uploads positioning data according to the normal_time commanded 102 . After the device is stationary for 3 minutes, it will enter the sleep state (turn off the GPS power supply, GSM module sleep, MCU sleep), and upload the heartbeat packet data according to the time of 122 command. In the sleep state, you can not

receive SMS commands and incoming calls.

Time interval 30 seconds, heartbeat 60 mins	Theoretical working hours
Move 2 hours and then stop 22 hours	46.8 days
Move 4 hours and then stop 20 hours	25.4 days
Move 8 hours and then stop 16 hours	13.3 days
Move 12 hours and then stop 12 hours	8.9 days

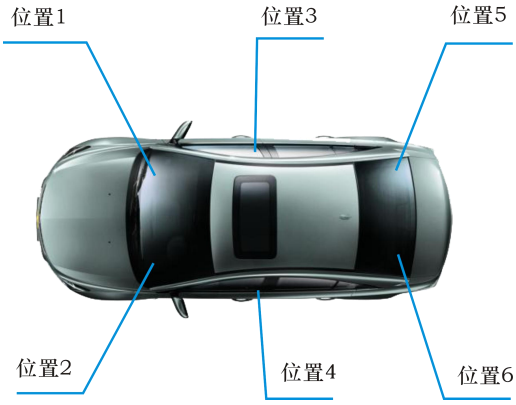
8.4 Timing wake-up mode and alarm clock mode

Timing wake-up mode: The device wakes up regularly according to the interval_time set by the 282 command to upload positioning data, and enters sleep after sending the data (turn off the GPS power, turn off the GSM power, and MCU sleep). In the sleep state, it cannot receive SMS commands and incoming calls.) cannot wake up the device.
Alarm clock mode: The device wakes up according to the alarm clock time set by the 282 command to upload positioning data, and enters sleep after sending the data (turn off the GPS power, turn off the GSM power, and MCU sleep). In the sleep state, it cannot receive SMS commands and incoming calls, and cannot move (vibrate). Wake up the device.

Time Internval	Theoretical working hours
144 data per day (one data per 10 minutes)	116.2 days
48 data per day (one data per 30 minutes)	342.9 days
24 data per day (one data per hour)	669.6 days
12 data per day (one data per 2 hours)	1278.4 days
1 data per day (one data per 24 hours)	7670.4 days

9. Product installation

Hidden installation, pay attention to the following:
a. Hidden installation, pay attention to waterproof;
b. If there is a metal explosion-proof film on the windshield, please avoid installing it;
c. Avoid putting it together with the emission source, such as reversing radar, anti-theft device and other vehicle communication equipment;
d. The device has a built-in GPS antenna. When installing, the no light sensor side faces upward, and there is no metal cover on the vertical top of the host;
Recommended installation location:
a. The hidden place in the decorative frame under the front windshield of the car;
b. The hidden place around the front dashboard of the car (the skin is made of non-metallic material);
c. Under the decorative panel under the rear windshield of the car;
d. Inside the car door or inside the center pillar;
e. Inside the dashboard of electric vehicles/motorcycles or hidden places under the rear seats.



If you have any other questions, please send an email to info@istartek.com, we are happy to serve you.