LK106 Waterproof GPS tracker

USB charging cradle

<u>Preface</u>

Thank you for purchasing the tracker. This manual shows how to operate the device smoothly and correctly. Make sure to read this manual carefully before using this product. Please note that specification and information are subject to changes without prior notice in this manual. Any change will be integrated in the latest release. The manufacturer assumes no responsibility for any errors or omissions in this document.

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Content

1. Summary

Working Based on existing GSM/GPRS network and GPS satellites, this product can locate and monitor any remote targets by SMS or internet. The most advanced technology of GPS and AGPS dual positioning. The waterproof level achieve IPX - 6.

2. Applications

- Vehicle rental / Fleet management etc
- Outdoor sports
- Protect child / the elder/ the disabled / pet etc
- Provide peace-of-mind for businessmen
- Personnel Management
- Criminals Tracking

3Hardware Description

3.1 Front face

3.2Side face

4.Specs.

Content	Specs.
Dim.	77mm x 37mm x 23mm
Weight	50g
Network	GSM/GPRS
Band	850/900/1800/1900Mhz
GPS chip	UBLOX
GPS sensitivity	-159dBm
GPS accuracy	5m
Time To First Fix	Cold status 35-80s Warm status 35s Hot status 1s
Car charger	12—24V input 5V output
Wall charger	110－220V input 5V output
Battery	Chargeable changeable 3.7V 1000mAh Li-ion battery

Standby	240hours
Storage Temp.	-40°C to +85°C
Operation Temp.	-20°C to +55°C
Humidity	5%--95% non-condensing

Functions:

1. GPS and Location Based Service

Location Based service also named A-GPS, when tracker in underground or tunnel ,can get location by AGPS.

2. Real time tracking

Real time tracking it by cell phone and platform . Also can support get location every 5 seconds, and the GPS accuracy is 5m .

3. Check the history of route on platform

Can check and replay within one year history of route of device ,by web monitor center

4.Monitoring and communication

Can hear the voice around the tracker by cell phone . Also support communication with the tracker by cell phone (OEM)

5.SOS Alarm

SOS button ,when user have emergency , press the SOS button ,the tracker will send "help me " SMS to all authorized phone number and monitoring web platform.

6. Power Saving Mode

The device go into standby mode when there isn't vibration for 3 minutes , it will go into working mode when it feel vibration

7.Google map on mobile

Check the location with google map on mobile.

8. Geofence and movement alert

Set up a geo-fence for the unit to restrict its movements within a district ,unit will send a message to the authorized numberwhen it breaches the district..

9.Overspeed alert

set up the speed as your requirement, and will get the alert when overspeed.

10.Low Battery Alarm

5.Usage

● Please charge 12hours at first use.

● Insert SIM card in right way. Please put the unit outside and make sure the trademark side facing up.

● Confirm your SIM card have calling, send SMS, GPRS function.

● Confirm your SIM card have enough balance (money).

● Confirm your SIM card can show caller ID and don not use call forwarding function.

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5.1 SIM card installation

Make sure that there is no call transfer and call display is on, and PIN code off. The SMS message must in Text format, can't be identified for PDU format.

5.1.1 Open the rear cover, remove the screws by screwdriver.

5.1.2 Forward push and open the metal piece, put the SIM card into the card slot, and press the metal piece to its original position, push it backward.

5.2 Battery and Charger

Do charge the battery to capacity in 8 -12 hours for first time. Please use the battery and charger provided by the manufacturer. This unit adopts built-in Li-ion battery, and full battery can standby 80 hours. After first use, the battery usually should be charged fully in 3-5 hours.

Cautions:

a: For it's Li-ion battery, which contains harmful chemicals and may burst, please don't bump, puncture it violently and keep it off fire.

b: Please charge the battery in time to keep it working normally.

5.3 Startup

- Put the SIM card and battery in place.
- Turn on the unit outdoors by pressing the "on/off" button until the indicator is on.
- For first use, please initialize the unit and restore it to default setting. (Please refer to 5.4 for instruction.)
- In 10 or 40 seconds, the unit will begin to work and acquire the GSM signals as well as the GPS signals. The indicator will keep flashing every 3 seconds when the unit has received the signals.
- When this unit receives GPS signals normally, you can use it and do any setting as the instructions of this manual.

green LED for GPRS working status

Status of indicator	Meaning
Slow flash (flash 1s after every 2s)	GSM / GPRS conversation start
Continuously in bright status	No GPRS signal
Green Led off	Device fault or dormant

Blue LED for GPS working status

Status of indicator	Meaning
Slow flash (flash 1s after every 2s)	GPS location successful
Continuously in bright status	Searching GPS signal
Blue led off	Device fault or dormant

Red LED for power charging status

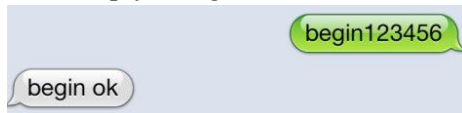| Status of indicator	Meaning
Red led on all the time	Charging
red led flash	Low battery
red led off	Full battery or charged full

1.Google link: click link, there is map when positioning ok, no map means no positioning.

2.V:A GPS signal ok.**V:V** no GPS signal

3.2013-08-30 20:54:15: the last time receive GPS signal.

4.Spd:000km/h: the speed of tracker ran.

5.**Bat:6** battery balance（the range is from 1 to 9）

6.ID:4102000759: ID code of device(used for connect tracking website or APP)

7.S19G04；plmn：46001 GSM operator data

8.Lac：9516，cellid:23596 LBS data

5.4Initialization

Send "begin+password" in SMS to the unit, it will reply "begin ok" and initialize all the settings. (Default password: 123456)

For example, send SMS " begin123456" to the tracker via a cell phone, If succeeded,

if will reply "begin ok".

5.5Change the password

5.5.1 Set Password: Send sms: "password+old password+space+new password" to the unit to change the password.

For Example, pls send sms: " password123456 000000" to terminal device, it will reply sms: "password OK". New password 000000 changed in success.

5.5.2 Be sure keep the new password in mind, you have to upload the software to restore the original setting in case of losing the new password.

5.5.3 Make sure the new password is in 6 digits Arabic numbers, or the tracker can not recognize the password.

5.5.4 Make sure that all the symbol "+" in sms commends is just for quick understanding, which don't need to enter "+" in sms, and "space" means press the spacebar button of the cell phone.

5.6Authorization

5.6.1 Send SMS：" admin+password+space+cell phone number" to set up a authorized number. The other authorized numbers should be set by the first authorized number. If the number is successfully authorized, the unit will reply "admin ok!" in SMS.
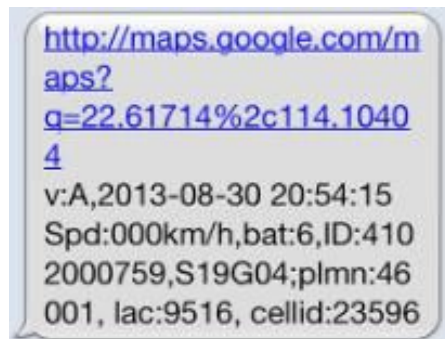
5.6.2 Send SMS：" noadmin+password+space+authorized number" to delete the authorized number.

for example, please send：" admin123456 13265790180" to tracker to set 13265790180 as an authorized number.

5.6.5 When the authorized number call the device, it will hang up your phone and reply a real-time latitude and
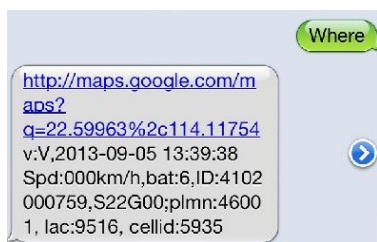
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5.7 Single Locating

5.7.1 If there is no authorized number, when any number dials up the unit, it will report a Geo-info; If there is already an authorized number, then it will not respond when an unauthorized number calls it up.

5.7.2 Single message inquires the latitude and longitude information, any telephone number can send instruction "where" to the equipment, then the equipment will reply the latitude and longitude information to this telephone.

5.7.3 When an authorized number dials up the unit, it will hang up and report a real-time Geo-info as below:
*Tracking location, When GPS signals is weak, the position of latitude and longitude included in the SMS is the position that the tracker received GPS signals at last. If it is different with its exact current location, pay attention to check the time included in the SMS you got.

5.8 Auto Track

5.8.1 Send SMS command "t030s005n+password" to the tracker device, it will report the "no reply" at 30s intervals for 5 times. (s:second, m:minute, h:hour). This command setting must be in 3 digits and the maximum value is 255.

5.8.2 Unlimited times auto track: Send SMS "t030s***n+password" to the tracker device, it will reply the "no reply" continuously at 30 seconds intervals.

5.8.3 Cancellation: Send SMS "notn+password" to the tracker device, it will report the "notn ok".
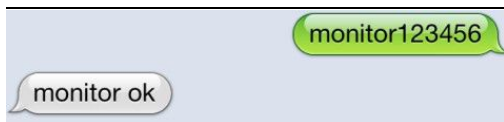
Note: the interval must not less than 20s.

5.9 Monitor (Voice Surveillance)

5.9.1 The command to switch between Track and Monitor are "tracker" and " monitor".

5.9.2 The default mode is "track" (Track mode).

5.9.3 Send SMS "monitor+password" to the unit, and it will reply "monitor ok!" and switch to "monitor" mode.

5.9.4 Send SMS "tracker+password" to the unit, it will reply "tracker ok!" and restore to "track" mode.

monitor123456

monitor ok

5.10 Geo-fence

Set up a geo-fence for the unit to restrict its movements within a district. The unit will send the message to the authorized numbers when it breaches the district.

5.10.1 Set up: When the unit stays immobile in a place for 3-10 minutes, the user can Send SMS: "stockade+password+space+latitude,longitude; latitude,longitude" to unit to set the restricted district.

Remark: The first latitude&longitude is coordinate of the top left corner of the Geo-fence, while the second latitude&longitude is the coordinate of the bottom right corner.
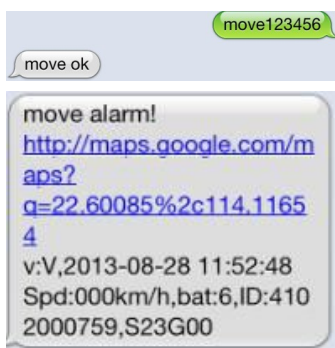
5.10.2 Cancel: Send SMS:" nostockade+password" to deactivate this function,tracker will reply "nostockade ok".

stockade123456
114.104150E,22.614140N;
114.103740E,22.614130N

stockade ok

Aug 28, 2013 11:19

stockade alarm!
http://maps.google.com/maps?
q=22.60235%2c114.11487
v:A,2013-08-28 11:19:44
Spd:003km/h,bat:6,ID:410
2000759,S24G04

5.11 Movement alert

5.11.1 Set up: When the unit stays immobile in a place for 3-10 minutes, the user can send SMS: "move+password" to the unit, then the unit will reply "move ok!". In case of such a movement（the unit default distance is 500M）, it will send SMS "Move ALARM+ Latitude and longitude" to the authorized number

5.11.2 Cancel: Send SMS:" nomove+password" to deactivate the movement alert, tracker will reply "nomove ok".

move123456

move ok

move alarm!
http://maps.google.com/maps?
q=22.60085%2c114.11654
v:V,2013-08-28 11:52:48
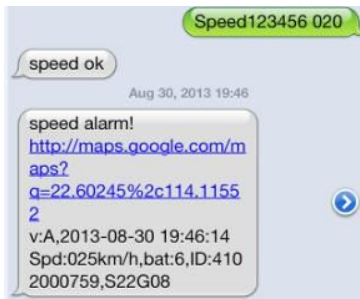Spd:000km/h,bat:6,ID:410
2000759,S23G00

5.12 Overspeed alert:

5.12.1 Set up: Send SMS: "speed+password+space+080" to the unit (suppose the speed is 80km/h), and it will reply "speed ok!". When the target moves exceeding 80 km/h, the unit will send SMS :"speed ALARM !+ Latitude and longitude" to the authorized numbers every 5 minutes.

5.12.2 Cancel: Send SMS "nospeed+password" to deactivate the overspeed alarm, tracker will reply "nospeed ok".

Remark: The recommended speed should be not less than 50km/h. For below that rate, it will be effected the
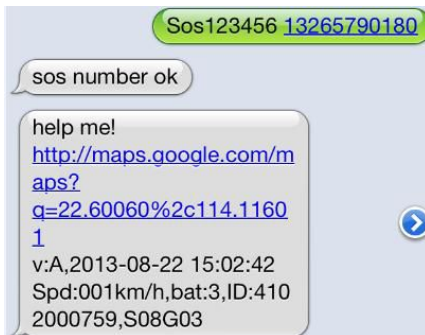
accuracy by gps signals drift etc.

5.13 SOS button

5.13.1 Set SOS number, Send SMS: "sos+password+space+cell phone number"

for example, please send：" sos123456 13265790180" to tracker to set 13265790180 as a SOS number.
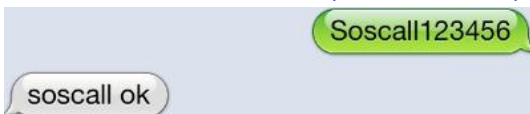
5.13.2 Press the SOS for 3 seconds, it will send "help me!+ Latitude and longitude" to all the SOS numbers

5.13.2 SOS call mode

Set: Send SMS "soscall+password", the unit will reply"soscall ok".
Press the SOS for 3 seconds, it will send "help me!+ Latitude and longitude" to all the authorized numbers, then it will call the SOS number, if need to talk, the user need to   plug the headphone.

5.14 Low battery alert

When GPS device battery is going to be about 3.7V, it will send SMS: "bat:l" at 30 minutes interval.

5.15 Terminal (local) Time Setting

Send SMS "time+space+zone+password+space+local time".

For example, Send SMS "time zone123456 8" (time zone of China).

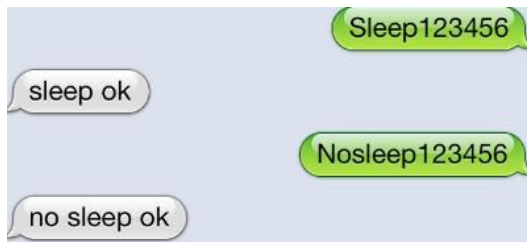If the local time zone is negative as "-3", then it should set as SMS: "time zone123456 -3".

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5.16 Sleeping power-save mode

On normal status, when the unit stoped over 10minutes, it will change to sleeping mode, on this mode, the power consumption is 4mah/h only.　When it get any command or been moved, it will start GPS locating automatically.

Forced sleeping mode, Setting: Send SMS "sleep+password", the unit will reply "sleep ok", it enter to forced sleeping power-save mode.

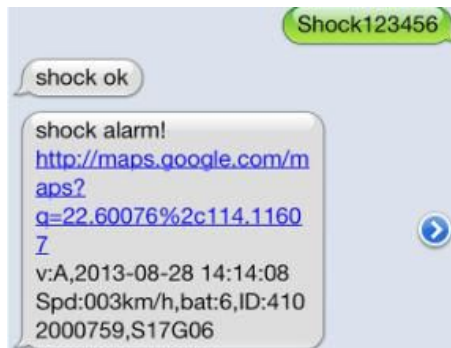Start device, send SMS　"nosleep+password",the unit will reply "nosleep ok", it start GPRS and GPS locating.

5.17 **Shock alert**

Note: It is effective sending by authorized number

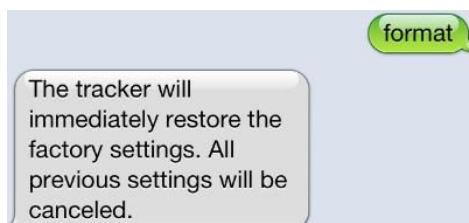Send SMS command"shock+password", the unit will reply "shock ok."

Cancel: Send SMS command "noshock+password", the unit will reply "noshock ok."

5.18 Restore factory settings

Note: It is effective sending by authorized number

Send SMS command "format", the unit will reply "The tracher will immediateiy restore the factory settings.All previous settings will be canceled."

5.19 GPRS setting

User must send SMS via cell phone to set up IP, port and APN before starting GPRS.

5.19.1 Setting up APN

5.19.1.1 APN standards for Access Point Name and differs from country to country. For more information about the local APN, inquire with your local GPRS network operator.

5.19.1.2 Text the tracker a SMS "apn+password + Space + your local APN" via a cell phone and if succeeded in setup, the tracker will return the message "apn ok".

5.19.1.3 e.g. send SMS command "apn123456 cmnet". If succeeded, "apn ok" is returned by the tracker in SMS.

Notes: 123456 refer to password of tracker and CMNET is the APN of China Mobile (One of GSM Operator in china).

5.19.1.4 Set IP Send SMS command：adminip123456 60.191.150.102 7700　If succeeded, "adminip ok"

6 .Cautions

Please comply with the instructions to extend the unit life:

6.1 Keep the unit dry. Any liquid, i.e. rain, moisture, may destroy or damage the inside circuitry.

6.2 Don't use & store the unit in dusty places.

6.3 Don't put the unit in overheated or overcooled places.

6.4 Handle carefully. Don't vibrate or shake it violently.

6.5 Clear the unit with a piece of dry cloth. Don't clean in chemicals, detergent.

6.6 Don't paint the unit, this may cause some foreign materials left in between the parts.

6.7 Don't disassemble or refit the unit.

6.8 Please use the battery and charger provided by manufacturer. Using other batteries and chargers will cause unwanted situation.

7. **Faults & The solutions**

Faults	Solution
Startup Fail	Check the battery and see if it is fully charged or correctly installed.
Hang up Fail	In existence of an authorized number, an unauthorized number dials up the unit. Please initialize the unit and re-set up the authorized numbers.
Monitoring failure	Please check the authorization number is set to the correct time
No GSM Signal	Please make sure SIM Card is GSM Net and installed correctly; also call display should be on; but no call transfer and PIN code off.