
GSM/GPRS/GPS LOCATOR

En-Kid PL123

USER MANUAL



Preface

Thank you for purchasing En-Kid PL123. 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.

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1 Summary

Working Based on existing GSM/GPRS network and GPS satellites, this product can locate and monitor any remote targets by SMS or GPRS.

2 Applications

- z Protect child / the old / the disabled / pet etc
- z Women Protection
- z Manage Personnel
- z Vehicle / Fleet management etc

3 Hardware Description

3.1 Front face



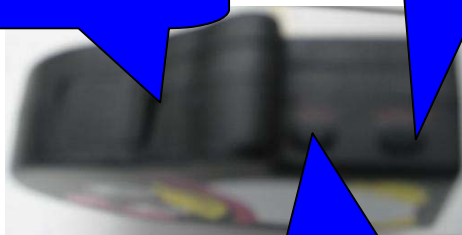
3.2 Rear face



3.3 Side face

You can update software, from here.

Turn on / off the unit here.



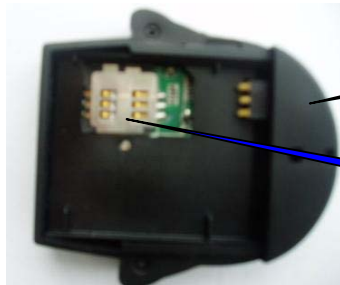
You can press the “SOS” buttons for 3s for emergency help.

3.4 Bottom face



Microphone

3.5 Interior



GSM/GPRS antenna is inside

Put the SIM Card here

4 Specs.

Content	Specs.
Dim.	67 (L) x 45 (W) x 14 (H) mm
Weight	50 g
Network	GSM/GPRS
Band	850/ 900/1800/1900Mhz
GPS chip	SIRF3 chip
GSM/GPRS module	Simcom900
GPS sensitivity	-159dBm

GPS accuracy	5m
Time To First Fix	Cold status 45s 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 800mAh Li-ion battery
Standby	48hours
Storage Temp.	-40°C to +85°C
Operation Temp.	-20°C to +55°C
Humidity	5%--95% non-condensing

5 Usage

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.

Steps:

- 1 Open the rear cover, and pick out the battery.
- 2 Pull the foil along and turn it up.
- 3 Put the SIM card into the foil holder, and turn the foil down, press it and push it forward.



5.2 Battery and Charger

Do charge the battery to capacity in 8 -12 hours for first use. Please use the battery and charger provided by the manufacturer. This unit adopts built-in Li-ion battery, and full battery will support around 80 hours use on end. After first use, the battery can 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 (Note: While First Start up unit must be under clear sky)

- z Put the SIM card and battery in place.
- z The unit turns on automatically when the sim card and battery is inserted.
- z 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 4 seconds when the unit has received the signals, otherwise it will keep flashing.
- z When this unit receives GPS signals normally, you can use it and do all the following settings.
- z For the first use, please initialize the unit and restore it to default setting.(please refer to **5.4** for instruction.)

5.4 Initialization

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

5.5 Change the Password

Send SMS password+old password+space+new password to change the password.

Remark:

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

5.5.2 Make sure the new password is in 6 digits, or else the locator can not recognize the password.

5.6 Authorization

There are only 5 numbers able to be authorized.

5.6.1 Setup: 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 Cancel: Send SMS noadmin+password+space+authorized number to delete the authorized number.

5.6.3 For roaming purpose, you have to add your country code ahead of the cell phone number, for example, please send admin123456 00911234567890 to locator to set 1234567890 as an authorized number.

5.6.4 When an authorized number dials up the unit, it will hang up and report a real-time Geo-info as below:

Lat: 19.566901 long: 73.051258 speed: 0.00 15/04/13 06:54 F: 3.85V, 1, Signal: F help me imei:354776031555987 05 43.5 404 20 4A48 7501

Lat: 19.566901 long: 73.051258 == GPS Coordinates

0.00 == Speed (More Accurate for speeds above 30 Km/hr)

15/04/13 06.54== Date Time

F:3.85V == Battery power

1 == Charging and 0 == no charging

Signal: F == Full GPS signal and L == means Weak GPS signal

help me == the SOS message; this section is blank for tracking message

354776031555987 == IMEI

05 == Number of GPS satellites overhead (Between 3 to 10)

43.5 == Altitude (More Accurate for higher altitude)

404 == MCC Mobile Country Code

20 == MNC Mobile Network Code

4A48 == LAC Location area code

7501 == Cell ID

5.7 Real-time Polling

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 When an authorized number dials up the unit, it will hang up and report a real-time Geo-info as mentioned in instruction **5.6.4**

5.8 Auto-Track

Report a Geo-info at 30s intervals to the authorized numbers for 5 times:

5.8.1 Setup: Send SMS t030s005n+password to the unit, it will report the Geo-info at 30s intervals for 5 times. (s: second, m: minute, h: hour). The setting must be in 3 digits and at maximum 250 in value.

5.8.2 Send SMS t030s***n+password to the unit, it will reply geo-info continuously for every 30 seconds.

5.8.3 Cancel: Send notn+password to delete the “auto track”

Remark: the interval must not be less than 5 seconds.

5.9 Tlimit Function

5.9.1 Send “**tlimit+password+space+50**” (50M is the distance, 1-6000M set), reply “tlimit ok” (note: this function is with auto-tracking function only. If the later position is 50M away with the position before, it will send sms or gprs data. If less than 50M, it will not send in order to save SMS or gprs fee.

5.9.2 Send “tlimit123456 0” “for close distance limit function, reply” tlimit ok”.

5.10 GPS-refresh setting

Send SMS “GpsAutoSearch123456 120” it will reply “GpsAutoSearch ok”. The locator will search gps signal in 120s interval after setting this. The refreshing time is between 120-600 seconds (120<interval <600)

(Note: Longer standby time for longer refreshing time and shorter standby time for shorter refreshing time. Default refresh rate is 600s)

5.11 Reboot remotely

Restart+password can be sent to the tracker to make the CPU restart when GPRS is stopped. The tracker will turn off and restart in 3 minutes after sending this command.

5.12 Monitoring Mode (Voice Surveillance)

Send SMS monitor+password, the response from the locator is “monitor ok”
In this mode, the authorized number can dial up the unit to hear the sound/voice around the locator after you call.

5.13 Modes switch between “track” and “monitor”

5.13.1. The default mode is “track”.

5.13.2. Send SMS monitor+password to the unit, and it will reply “monitor ok!” and switch to “monitor”mode.

5.13.3. Send SMS tracker+password to the unit, it will reply “tracker ok!” and restore to “track” mode.

5.14 Geo-fence (Set Safe Zone)

Set up a geo-fence for the unit to restrict its movement within a zone. The unit will send message to the authorized numbers when it moves out of the zone.

Notes: This function will be invalid if the unit moves outside the zone. You need to re-set it if you want this function again.

5.14.1 Send SMS stockade+password+space+latitude,longitude;latitude,longitude to the unit to set the restricted zone.

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. It will alarm one time in each setting. Please note this restricted area is a rectangular area.

5.14.2 Cancel: Send SMS nostockade+password to deactivate this function.

5.14.3 Response SMS format: stockade!+geo-info to the authorized numbers. It will alarm one time in each setting.

5.15 Movement Alert

This function is used to get alarm when the locator moves out of a restricted circle area with a 500m radius..

5.15.1 Set up: Send SMS move+password to the unit to set the movement alert, then the unit will reply “move ok!” In case the locator moves 500 meters from its previous position, the locator will send SMS “Move” along with a Geo-info to the authorized numbers. It will alarm one time in each setting.

5.15.2 Cancel: Send SMS nomove+password to deactivate the movement alert.

5.16 Overspeed Alert:

This function is useful to control the speed at which the locator moves.

5.16.1 Set up: Send SMS speed+password+space+080 to the unit (suppose the speed is 80 km/h), and it will reply “speed ok!” When the target moves exceeding 80 km/h, the unit will send SMS speed+080!+Geo-info to the authorized numbers.

5.16.2 Cancel: Send SMS nospeed+password to deactivate the overspeed alert

Remark: It is recommended that the speed alarm is set at not less than 80km/h. For below that rate, it may cause the excursion of the GPS signal influenced by clouds etc.

Response SMS format: speed+080!+Geo-info (suppose the speed is 80km/h).

The locator will check the speed in 10 minutes interval and alarm if it is overspeed.

5.17 IMEI Checking:

Send SMS imei+password to the unit to check the IMEI number of the locator.

5.18 Time Zone setting

Send "time zone+password + space+GMT time ,reply "time zone ok". (note if time is GMT plus, just write the number, If time zone is GMT minus, have to write "-" before the number) For example: time zone123456 1 , To set time of GMT+1

For Indian Standard Time: SMS time zone123456 5.3 (IST is GMT+5.3)

5.19 SOS Button

Press the SOS for 3 second, it will send " help me !+ Geo-info" to all the authorized numbers. In case if the unit is continuously sending help me messages then if any authorized number replies SMS "help me!" to the locator then it will stop sending such SMS.

5.20 Low Battery Alert

Unit begins to send SMS to the authorized numbers when the battery voltage is 3.7V.

SMS format: low battery+Geo-info.

5.21 SMS Center

5.21.1 Send SMS adminsms+password+space+cell phone number to set the SMS center.

If the SMS center is set up, when an authorized number sends SMS to the locator, the locator will reply a SMS with Geo-info & authorized number to SMS center.

5.21.2 Send SMS noadminsms+password to cancel the SMS center.

Response SMS format: authorized number+Geo-info

5.22 GSM ID

There is GSM ID in each SMS from the locator. The location of the locator can be found according to the GSM ID in case of no GPS signal. GSM ID is made up of MCC(Mobile Country Code), MNC(Mobile Network Code), LAC (Location area code) and Cell ID.

(refer **5.6.4**) Position Accuracy is 50 to 100 meters depending on cell towers.

Remark: GSM ID is not sent when locator is in maplink mode.

5.23 Motion Sensor

This function is useful to get alarm info when someone touches/shakes the unit.

5.23.1 Setup: Send shake+password+space+1-10 to the locator to set up

this function. (1-10 means the level of intensity)

5.23.2 Send SMS shake+password+space+1 is the lightest level of intensity, the locator will send alert if someone touches/shakes the unit heavily.

5.23.3 Send SMS shake+password+space+10 is the strongest level of intensity, the locator will send alert if someone touches /shakes the unit even slightly.

5.23.4 Cancel: Send SMS shake+password+space+0 to remove this function.

5.24 SD card function

A mini SD card can be put in the locator's SD card slot. The GPRS data can be saved in the SD card if GPRS is off. It will send data to the GPRS server again when GPRS is on.

5.24.1 Setup: Send SMS sdlog123456 1 to the locator to activate the function of storing data in SD card;

Cancel: Send SMS sdlog+password+0 to the locator to deactivate the function of storing data in SD card.

5.24.2 Setup: Send SMS readsd+password+space+1 to ask the locator to send data in

the SD card to the GPRS server.

Cancel: Send SMS readsd+password+space+0 to ask the locator to stop sending data in the SD card to the server.

Remark: Kindly use this function if you are aware with the technical working of GPRS and web servers.

5.25 SMS maplink

5.25.1

Send “smslinkone+password”, This unit will reply a Google map link to admin number. The position can be checked directly from a smartphone.

SMS Format

<http://maps.google.com/maps?f=q&hl=en&q=19.567610,73.051227&speed:>

0.00 12/11/10 14:36 F:4.22V Signal:F imei:012207000691839

5.25.2

Send “smslink123456”, it will reply “smslink ok”. The locator will send the following SMS format always.

<http://maps.google.com/maps?f=q&hl=en&q=22.567610,114.051227&speed:> 0.00

12/11/10 14:36 F:4.22V Signal:F imei:012207000691839

5.25.3

Send “smstext123456”, it will reply “smstext ok”. The locator will reply normal SMS format for this command

5.26 SMS ONE

Send “smsone+password”. The locator will reply one SMS to admin number or gprs server.

5.27 GPRS Setting

In order to use GPRS function, the user needs to set IP, Port and APN (access point name) by cell phone.

NOTE: Some countries or regions should set APN's User Name and APN's password.

5.27.1 Set an IP address and port:

Setup: Send SMS adminip+password+space+IP address+space+port.

If setup successful, the locator will reply SMS "adminip ok"

Cancel: Send SMS noadminip+ password

5.27.2 Set APN

Setup: Send SMS apn+password+space+specify apn content.

If setup successful, the locator will reply SMS "apn ok".

Cancel: The old APN will be invalid automatically when a new APN is set.

5.27.3 Set APN's User Name

Setup: Send SMS apnuser+password+space+the sim card's user name.

If setup successful, the locator will reply SMS "apnuser ok".

Cancel: The old APN user name will be invalid automatically when a new APN user name is set.

5.27.4 Set APN's Password

Setup: Send SMS apnpasswd+password+space+the sim card's password.

If setup successful, the locator will reply SMS "apnpasswd ok".

Cancel: The old APN password will be invalid automatically when a new APN password is set.

5.27.5 GPRS transport protocols

As soon as the IP & Port & APN are set, the user can make a call or send SMS to locator. The locator will hand up and report the coordinates to IP address.

The message format sent by locator to IP address is as following:

S/N + Authorized Number + GPRMC + UTC Time + Status+ Latitude + N/S Indicator + Longitude+ W/E Indicator + Speed + Bearing + Date + Magnetic variation + Variation sense + Mode +Checksum+ Signal + Command + IMEI number + GPS signal fix + Altitude + Battery status + Batteryvoltage +charging status(0-not charing,1-charging) +Length of command + CRC16 checksum+ GSM ID(4 parts)

For example:

090907070718,13145826175,GPRMC,070718.000,A,2234.0228,N,11403.0764,E,0.00
,,070909,,,A*73,F,,imei:354776030042714,05,50.1,F:4.11V,0,132,40512,404,01,2533,7
20B

090907070718== serial number

13145826175=== authorized number

GPRMC,070718.000,A,2234.0228,N,11403.0764,E,0.00,,070909,,,A*73,==GPSmode'

s Original GPRMC sentences

F=== Full GPS signal L=== No GPS signal

imei:354776030042714== the locator's IMEI number

05=== 5 GPS satellites

50.1=== Altitude

F:4.11V===Full battery power L:3.65V===Low battery power

0=== No charging 1===charging

132=== The length of the GPRS string

40512===CRC16 Checksum

404=== MCC Mobile Country Code

01==MNC Mobile Network Code

2533==2533= LAC Location area code

720C==720B= Cell ID

Notes:

1. Our gprs supports TCP or UDP protocol, so please confirm whether your GPRS webserver supports TCP or UDP protocol before initializing.
2. Please use the SIM card which is with GPRS function.
3. Please use the following SMS to set up GMT time in the SMS for the locator
time zone+password+space+ the customer's GMT TIME

6 Cautions**Please comply with the instructions to extend the unit life:**

1. Keep the unit dry. Any liquid, i.e. rain, moisture, may destroy or damage the inside circuitry.
2. Don't use & store the unit in dusty places.
3. Don't put the unit in overheated or overcooled places.
4. Handle carefully. Don't vibrate or shake it violently.
5. Clean the unit with a piece of dry cloth. Don't clean with chemicals/ detergent.
6. Don't paint the unit, this may cause some foreign materials left in between the parts.
7. Don't disassemble or refit the unit.
8. Please use the battery and charger provided by manufacturer. Using other batteries and chargers will cause unwanted situation.

9. Don't dismount the antenna randomly, or use other antennas. This may interfere the transmission, and increase the radiation as well.
10. Kindly use GPRS function if you are aware with the technical working of GPRS, APN and web servers.

7 Faults & Solutions

Faults	Solutions
Startup Fail	Check the battery and see if it is fully charged or correctly installed.
HangUp Fail	In existence of an authorized number, if an unauthorized number dials up the unit. Please initialize the unit and re-set the authorized numbers. Check if SIM card's call display is on or not.
Monitor Fail	Check if the authorized number is setup or is the unit in the coverage of signals.
Location report in digits of zeros.	Don't use it in the place beyond reach of signals. Place the unit outdoors, especially when starting it up.