



TK102 Mini GPS Tracker

User Manual

(Version 1.3)

Introduction

Thank you for purchasing the iTrack TK102 Mini GPS Tracker. This user manual will help you operate the device efficiently and correctly and allow you to start using your GPS tracker as quickly as possible. Please make sure to read this manual carefully before using the device.

Please note that the specification and information in this document are subject to changes without prior notice. Any change will be integrated into the latest release. The manufacturer assumes no responsibility for any errors or omissions in this document.

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Note:

Throughout this user manual you will be given instructions on how to set the tracker up in the form of setup commands which are sent to the Mini Tracker via SMS text message.

You will notice that some words are separated by either a '+' or the word 'space'. Where you see a '+' sign, this means that the two words should be written together without a space. Where you see 'space', this means that you need to insert a space between the two words.

The default password for the tracker is 123456 – this is the password that will be used throughout the user manual in all examples.

1 Summary

The iTrack TK102 Mini GPS Tracker can be used to track and monitor vehicles, assets or people. The Mini Tracker can either be used in SMS mode or real-time live tracking mode using our iTrack Live GPS Tracking Platform. SMS tracking allows you to call the tracker from your mobile phone and receive a text message back to your phone with a full location report including a link to Google maps so you can see on a map where your asset is to within 5 metres.

Live tracking uses mobile internet to continuously upload location data to a remote server, allowing you to log on to our web-based tracking platform to monitor your asset live in real time. Location data will be stored for 90 days allowing you to look back at historical location records and run simulated route repeats. There are also many more features within the software. Before using the tracker, you must activate/top up your SIM card with credit and insert it inside the tracker.

An optional hard wire kit is available to purchase separately from our website. This allows you to connect your Mini Tracker to an external power source such as a vehicle battery, thus eliminating battery life restrictions.

For live tracking, please visit our website www.itrackgps trackers.com and click on the 'iTrack Live Login' link at the top of the page or go direct to www.itracklivetracking.com.

You can also download our iOS/Android app to effortlessly control your Mini Tracker.

2 Applications

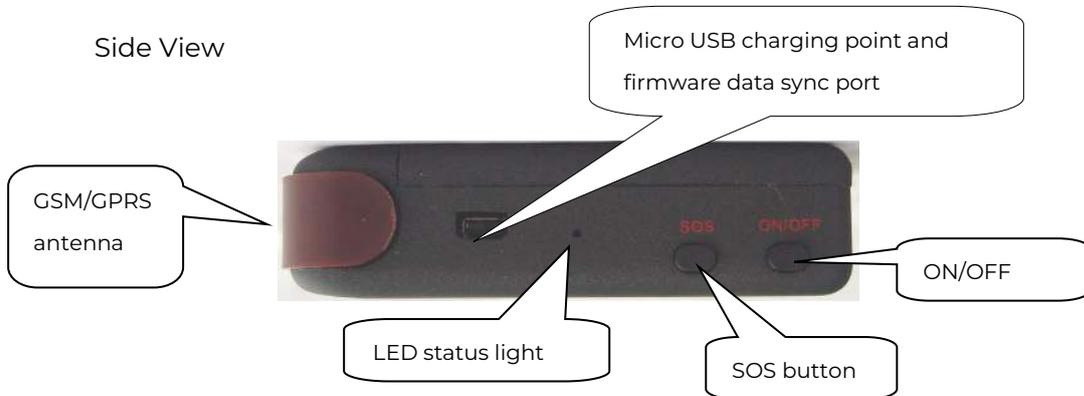
- Fleet management
- Vehicle/motorcycle tracking
- Personal tracking (e.g. children or vulnerable relatives)
- Asset tracking
- Personnel Management

3 Hardware Description

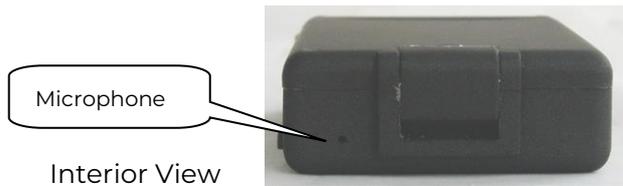
Front View



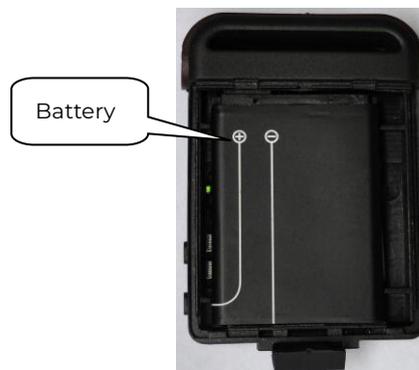
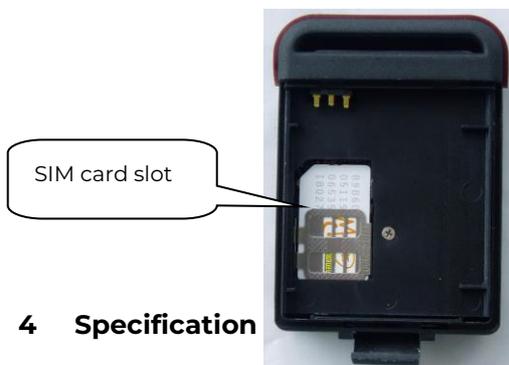
Side View



Bottom View



4 Specification



Dimensions	64mm x 46mm x 17mm (1.8" x 2.5" x 0.65")
Weight	50g
Network	GSM/GPRS
Band	850/900/1800/1900Mhz
GPS Sensitivity	-159dBm
GPS Accuracy	5m
Time to First Fix	Cold status: 45s Warm status: 35s Hot status: 1s
Hard Wired Charger (optional)	12—24V input 5V output
Wall Charger	110—220V input 5V output
Battery	Rechargeable changeable 3.7V 800mAh Li-ion battery
Standby	80 hours (approx.) Battery life can vary depending on many factors.
Storage Temp.	-40°C to +85°C
Operating Temp.	-20°C to +55°C
Humidity	5%--95% non-condensing

5 Usage

5.1 SIM card installation

Please make sure the SIM card is activated and you have topped it up with credit.

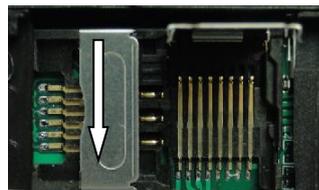
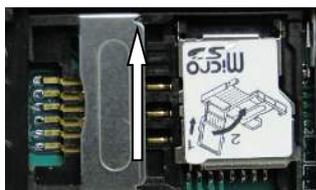
The tracker will only accept a standard size SIM card – ‘micro’ or ‘nano’ SIM cards will not work in the tracker.

Make sure that there is no call transfer and call display is on – the tracker will not respond if the phone you are using to communicate with the tracker has its number withheld.

5.1.1 Open the rear cover and remove the battery.

5.1.2 If you intend to use an SD card for data logging, then please insert the micro SD card in the holder as shown in the image below.

If you prefer not to use an SD card this is OK. SD cards are optional and are not included with the tracker.



5.1.3 Insert the **standard size** SIM into the device by sliding it in to the SIM card holder. The gold chip must be facing down. Please note that Micro or Nano SIM cards will not work. Please see image below:



5.2 Battery and charger

The battery needs to be charged for 8-12 hours before the first use. Please use the desk top battery charging cradle provided. The desk top charger can be found in the box underneath where the tracking device is located. The tracker uses built-in Li-ion battery technology - a full battery can power the Mini Tracker in standby mode for approximately 80 hours. Under normal operation you can expect the battery to last 1-2 days, but this can vary depending on usage and operating conditions. After the first use, the battery should be charged for 3-4 hours each time.

Warning!

Do not puncture heat or modify Li-ion batteries which contain harmful chemicals. If at any time you notice a battery swell up or overheat then you should stop the charging process immediately. Improper use of Li-ion batteries may cause the battery to explode.

5.3 Startup

- Insert the SIM card and make sure the battery is inserted correctly.
- Place the tracker outdoors and turn it on by pressing the “on/off” button until the green LED indicator is illuminated.
- It will take 10 to 40 seconds for the tracker to acquire a GSM/GPS signal. The green indicator LED will flash quickly while a signal is being established. Once the signal is established the light will flash every 3 seconds.
- If the tracker fails to establish a signal the green light will be on solid constantly. If this happens, please check the SIM is inserted correctly and make sure the SIM has been topped up with credit. If the green light stays on solid, then this could just mean there is no signal in your area.
- When the tracker receives a GPS signal, you can begin to set up the device

Note:

Throughout this user manual you will be given instructions on how to set the tracker up in the form of setup commands which are sent to the Mini Tracker via SMS text message.

You will notice that some words are separated by either a '+' or the word 'space'.

Where you see a '+' sign, this means that the two words should be written together without a space. Where you see 'space', this means that you need to insert a space between the two words.

5.4 Initialisation

To initialise the Mini Tracker, you need to send the following SMS command to the tracker:

SMS Command: begin+password

Tracker Response: begin ok!

Example: begin123456

5.5 Changing the password

SMS Command: password+old password+space+new password

Tracker Response: password ok!

Example: password123456 888888

The new password must be 6 digits long using only numbers.

Note: If you forget your password, you can restore it to the default setting (123456) by sending the SMS command: **adminpassword13142324**

5.6 Authorisation

To use features such as geofence, shock sensor, movement or over speed alerts you will need to authorise your mobile phone number first. Up to 5 telephone numbers can be authorised. If you call the tracker 10 times in succession the number will be authorised automatically. Alternatively, you can authorise your number in the following way:

SMS Command: admin+password+space+mobile phone number

Tracker Response: admin ok!

Example: admin123456 07976123123

Once a phone number is authorised, the tracker will not reply to phone calls with a location report from unauthorised numbers. However, the tracker will still respond to SMS commands providing the password is correct. Alarm notifications and alerts can only be sent to authorised numbers.

Deleting an authorised number:

SMS Command: noadmin+password+space+authorised number

Example: noadmin123456 07976123123

Note: You must make sure there are no spaces in the phone number. If you are planning on using the tracker in another country, then make sure you authorise your number in international format (e.g 44 for UK). This will make sure the tracker can communicate with the authorised number if it was to go outside of the UK. To enter your phone number in international format simply remove the '0' and replace it with '44'. For example, 07976 123123 would be entered as 447976123123. **In the UK don't use the '44' format.**

5.7 SMS text message tracking

If there are no authorised numbers set up, the Mini Tracker will reply to all calls from any mobile phone with a location report via SMS. If there are authorised numbers set up the tracker will only send location reports to authorised numbers.

To use SMS tracking, simply call the tracker from your mobile phone. After a couple of rings, the call will be sent to the answerphone – at this point hang up the call and wait for the tracker to send you a detailed location report via SMS. The text message will include co-ordinates of the tracker, current speed, remaining battery percentage, date & time. There will also be a link to Google Maps – simply click on the link and Google Maps will automatically open on your smart phone with a pinpoint showing the location of your tracker.

In the event where the tracker is unable to establish a GPS signal, the last known location will be sent.

5.8 Continuous interval tracking

You can configure the tracker to send automatic location reports at set time intervals. If SMS mode is activated, reports will be sent continuously via SMS. If GPRS real-time live tracking mode is activated, updates will be automatically uploaded to the online tracking platform.

You can change the time values accordingly to suit your tracking requirements. Please see various interval tracking examples below:

SMS Command: fix030s002h***n+password

Tracker Response: tracker will update every 30 seconds when the device is moving and every 2 hours when stationary until told to stop. (**n means unlimited times)

Example: fix030s002h***n123456

SMS Command: fix030m001h005n+password

Tracker Response: the tracker will update every 30 minutes when moving and every 1 hour when stationary for 5 times only.

Example: fix030m001h005n123456

To cancel interval tracking:

SMS Command: nofix+password

Tracker Response: nofix ok

Example: nofix123456

5.9 Monitor mode (Voice Surveillance / Listening Mode)

The Mini Tracker can also be used as a listening device. When monitor mode is activated the tracker will automatically answer when you call the tracker and allow you to listen using the in-built microphone. The tracker will be totally discreet and not make any sound in this mode.

To activate monitor mode:

SMS Command: monitor+password

Tracker Response: monitor ok!

Example: monitor123456

The tracker will now answer the call and allow you to listen.

To stop listening, simply hang up the call.

The tracker can only be used in a single mode – either tracking mode or monitor (listening) mode.

To switch back to tracking mode:

SMS Command: tracker+password

Tracker Response: tracker ok!

Example: tracker123456

5.10 Frequency of alarm messages

By default, the tracker will send alarm messages 5 times before the alerts stop. However, you can change the number of times the tracker sends the alarm messages to your authorised phone number.

SMS Command: xtime+password+003

Tracker Response: xtime ok!

Example: xtime123456003

The tracker will now only send the alarm messages 3 times before they stop.

5.11 Alarms

5.11.1 Low battery alarm

The tracker can send you an alert when the battery is low. This feature is activated by default.

To activate:

SMS Command: lowbattery+password+space+on

Tracker Response: When battery is low tracker will send alert with coordinates.

Example: lowbattery123456 on

To deactivate:

SMS Command: lowbattery+password+space+off

Tracker Response: When battery is low tracker will send alert with coordinates

Example: lowbattery123456 off

5.11.2 SOS alarm

Using the SOS button located on the side of the tracker, the user can press this button in case of emergency. Once the button is pressed for 3 seconds, an SOS message will be sent to all authorised numbers.

The SOS messages will continue until one of the authorised numbers replies to the tracker. Please see below:

SMS Command: help+space+me!

Example: help me!

5.11.3 Movement alert

The movement alert allows authorised numbers to be alerted if the tracker moves outside of a set radius. To configure the movement alert feature the tracker must be stationary for a minimum of 5 minutes. After 5 minutes, you may proceed as follows:

SMS Command: move+password+space+0200

Tracker Response: move+location (when tracker moves outside of set radius)

Example: move123456 0200

This will activate the movement alert with an area radius of 200 metres. The maximum radius is 999 metres.

Note: Setting the radius less than 100 metres could result in a false

alarm. The fault occurs if the GPS position is miscalculated due to bad GPS signal.

To cancel movement alert:

SMS Command: nomove+password

Example: nomove123456

5.11.4 Overspeed alert

The tracker can be configured to send an alert to authorised numbers when a certain speed is exceeded.

To activate:

SMS Command: speed+password+space+080 (speed in km/h)

Tracker Response: speed ok!

Example: speed123456 080

To deactivate:

SMS Command: nospeed+password

Example: nospeed123456

Note: The recommended speed should not be less than 50km/h. If the speed is set lower than this you may get a false alarm due to GPS inaccuracy.

5.11.5 Shock sensor alarm

The tracker has an in-built shock sensor which will sense the slightest movement. When the shock sensor is triggered, an alert will be sent to the authorised numbers. The shock sensor is deactivated by default.

To activate:

SMS Command: shock+password

Tracker Response: shock is activated!

Example: shock123456

To deactivate:

SMS Command: noshock+password

Tracker Response: shock is deactivated!

Example: noshock123456

The sensitivity of the shock sensor can be changed.

There are 3 different settings:

First Level: Alarm will be triggered after detecting very slight vibration.

Command: sensitivity+password+space+1

Example: sensitivity123456 1

Second Level: Alarm will be triggered after medium vibrations in 2 seconds.

Command: sensitivity+password+space+2

Example: sensitivity123456 2

Third Level: Alarm will be triggered after heavy vibrations in 5 seconds.

Command: sensitivity+password+space+3

Example: sensitivity123456 3

5.12 Sleep modes

There are various sleep modes available which can significantly increase the battery life of the tracker.

5.12.1 Timed sleep

When this mode is activated, the tracker will go in to sleep mode after the tracker has been in an idle state for 5 minutes. The GPS module will shut down and the LED will turn off. The GSM module will still be on, so you are still able to call or text the tracker. If you call or text the tracker, it will wake it up. Please note if the movement or shock sensor is activated then sleep mode will not work.

SMS Command: sleep+password+space+time

Tracker Response: sleep time ok

Example: sleep123456 time

5.12.2 Sleep by shock/vibration

When this mode is activated, the tracker will go in to sleep mode when no movement or vibration is detected for 5 minutes. The GPS module will shut down and the LED will turn off. The GSM module will still be on, so you are still able to call or text the tracker. Vibrations or any operation can wake the tracker.

SMS Command: sleep+password+space+shock

Tracker Response: sleep shock ok

Example: sleep123456 shock

5.12.3 Deep sleep by shock/vibration

When this mode is activated, the tracker will go in to deep sleep mode when no movement or vibration is detected for 5 minutes. The GPS module will shut down and the LED will turn off. The GSM module will also shut down so you will not be able to communicate with the tracker. Only vibration or shock will wake the tracker up – the tracker will automatically send a notification message once it is woken up by vibration.

SMS Command: sleep+password+space+deepshock

Tracker Response: sleep deepshock ok

Example: sleep123456 deepshock

5.12.4 Scheduled sleep

When this mode is activated, the tracker will turn itself off completely and only wake up at set time intervals. When it wakes up it will work for 5 minutes, report its location, and then switch it off again. If you are using the tracker in GPRS live real time tracking mode, remember to activate 'less GPRS' mode otherwise the tracker will keep waking up to record its location at the set time interval. (see 'Less GPRS' section)

SMS Command: schedule+password+space+time interval

Tracker Response: schedule ok

Example: schedule123456 30m

Time interval setting: m=minutes, h=hours, d=days

The example above is set every 30 minutes.

The maximum time setting for schedule mode is 30 days.

To cancel the scheduled sleep mode:

SMS Command: noschedule+password

Tracker Response: schedule ok

Example: noschedule123456

Note: Scheduled sleep mode can only be cancelled once the tracker has been woken up.

This mode will offer the longest battery life as the power consumption will be significantly reduced as the GPS and GSM modules are shut down.

5.12.5 Turning off sleep mode

SMS Command: sleep+password+space+off

Tracker Response: sleep off ok

Example: sleep123456 off

5.13 Status check

SMS Command: check+password

Tracker Response: Complete status report of Mini Tracker

Example: check123456

The tracker will respond with a complete status report. See example below:

Battery: 100%

GPRS: ON/OFF

GPS: OK/NO GPS

GSM Signal: 1-32 (the higher, the better)

APN: payandgo.o2.co.uk

IP: 195.181.245.145

PORT: 10200

5.14 Check IMEI

The IMEI number of the tracker can be found on the sticker behind the battery cover. However, if you can't access the tracker, you can send the following command to the tracker:

SMS Command: imei+password

Tracker Response: 15-digit IMEI number

Example: imei123456

5.15 Time setting

It is important to change the time setting of the tracker to suit the country you are in.

SMS Command: time+space+zone+password+space+local time zone

Tracker Response: time ok!

Example: time zone123456 0

The example shown above is set for GMT (UK time). For a country with a time zone of -6 you would replace the '0' with '-6'

5.16 Reset hardware

This command will reboot the GSM and GPS modules of the tracker.

Please note this will not restore factory settings.

SMS Command: reset+password

Tracker Response: reset ok

Example: reset123456

5.17 Configure parameters by USB

Using the USB cable supplied, you can connect the tracker to a computer and open the configuration file of the tracker. Once you have opened the configuration file you can manually change the parameters and settings.

5.18 GPRS configuration for live real-time tracking (iTrack Live)

GPRS tracking mode (live tracking) allows the tracker to upload its location to the web based tracking platform at pre-determined time intervals. All iTrack GPS trackers are designed to be compatible with our online tracking platform – **iTrack Live**.

All trackers are supplied with a free 14-day trial subscription. After the trial period expires, you will need to purchase a subscription from our online shop.

The tracking login can be found on our home page

www.itrackgps trackers.com or direct at www.itracklivettracking.com

If you would like to use GPRS live tracking mode, you must configure the tracker and set up the APN and IP settings. Please follow the instructions below:

5.18.1 Configure APN setting

APN is an abbreviation for Access Point Name and changes depending on which mobile network you are using. For more information about your local APN, please check with your SIM card provider (e.g. O2, Vodafone, EE, Three, etc.)

SMS Command: apn+password+space+local APN

Tracker Response: apn ok

Example: apn123456 payandgo.o2.co.uk

The example above shows the command required when using an O2 PAYG SIM card.

Please see table below showing some different examples of APN codes:

MOBILE NETWORK PROVIDER	APN CODE
O2 (PAYG)	payandgo.o2.co.uk
O2 (Pay Monthly)	mobile.o2.co.uk
T-Mobile	uk.general.t-mobile.uk
Orange / EE	everywhere
Vodafone (Pay Monthly)	wap.vodafone.co.uk
Vodafone (PAYG)	pp.vodafone.co.uk
Three	three.co.uk
Tesco Mobile	prepay.tesco-mobile.com
Virgin Mobile	goto.virginmobile.uk

5.18.2 Configure IP and port setting

This setting will configure the tracker to upload its location to the online tracking server.

SMS Command: adminip+password+space+IP+space+port

Tracker Response: adminip ok

Example: adminip123456 195.181.245.145 10200

The example above will configure the tracker to upload its position IP address 195.181.245.145, port 10200. This is the IP address and port of the iTrack Live GPS Tracking Platform.

Note: The text format of the command is very important. Please take care when inserting spaces where they are required.

5.18.3 Switch to GPRS mode

You now need to turn on GPRS mode.

Please follow the instructions below:

SMS Command: gprs+password

Tracker Response: gprs ok

Example: gprs123456

To switch back to SMS mode:

SMS Command: sms+password

Tracker Response: sms ok

Example: sms123456

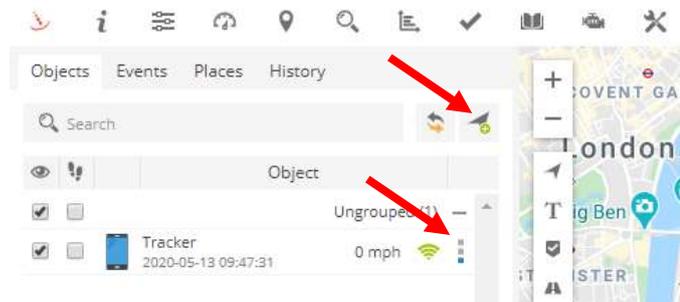
5.19 Web Tracking Platform Registration

You will need to create a user account on iTrack Live before using the tracker in GPRS real-time mode (live tracking).

Please visit www.itrackgpstrackers.com and click the 'iTrack Live Login' link in the top right corner of the page or go directly to www.itracklivettracking.com. Here you will be able to create a new user account. The username and password on the online platform will be the same for the mobile iOS/Android App so please make a note and keep it safe.

5.19.1 Adding your device to the platform

You now you need to add your tracker to the iTrack Live GPS Tracking Platform – you can add multiple trackers. From the control panel on the left-hand side click the arrow icon with the green '+' sign as shown below. You will need the IMEI number of the tracker which can be found on a sticker in the battery compartment (alternatively send the SMS command imei123456 and the device will send the IMEI via SMS). Once the 'object' is added you can then click the three small dots to control the tracker.



Once you have added the tracker to the object list you can now begin to control the monitor and control the tracker. When the device is online the signal icon will turn green – if the icon is grey this means the tracker is offline or has no GPRS reception.

GPRS settings must be configured before the tracker will show online (see section 5.19).

You will now be able to use the iTrack Live GPS Tracking Platform and all of its features.

To set continuous tracking intervals follow the steps below:

Click 3 dots icon > Send Command > Select 'Position Interval' template > edit command to required time interval in seconds.

You can set the local time of the tracker as follows:

Send SMS Command: time+space+zone+password+space+time zone.
Example for UK time zone: time zone123456 0
Note: You would need to change the time zone to 'I' during British Summer Time

You can view historical location records as follows:

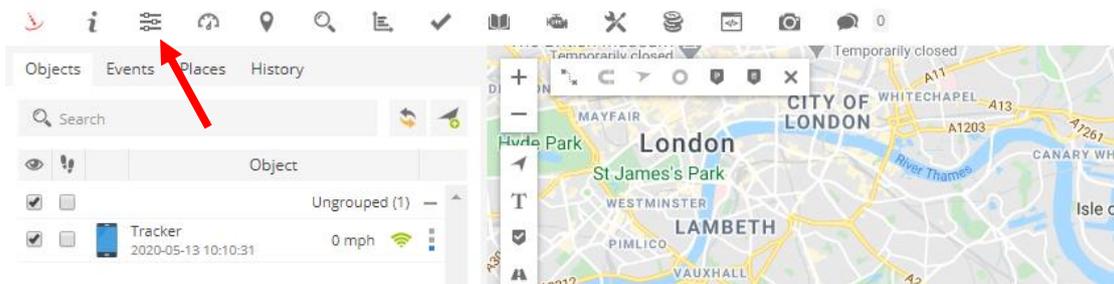
Click 3 dots icon > Show History > Choose parameter

It is possible to view a simulated route repeat when viewing the history. You are able to speed the timeframe up to 6x.

You can set up geofence zones as follows:

Right click on map > New Zone > Draw Zone > Save Zone

You can change the user settings by clicking the icon shown below:



5.19.2 IOS & Android mobile APP

If you have a smart phone or tablet you can download the iOS/Android App from the App store. Please search for 'iTrack Live' to find the App. See image below of App icon:



6 Cautions

1. Do not put the tracker in overheated or overcooled places.
2. Handle carefully. Do not vibrate or shake it violently.
3. Please use a dry cloth to clean and do not use chemicals and aggressive cleaners.
4. Please do not paint the device; this may lead to internal circuit failure.
5. Please do not disassemble the device.
6. Please read the user manual carefully before installation and operation.

If you have any questions how to use the device or any of the features, then please contact us at: hello@itrackgps trackers.com

7 Troubleshooting

Faults	Possible reason	Solution
Tracker won't turn on	<ol style="list-style-type: none"> 1. Battery is low. 2. Battery not inserted correctly. 3. Battery contacts damaged. 	<ol style="list-style-type: none"> 1. Charge the battery 2. Check battery contacts are touching each other. 3. Tracker will need to be repaired.
No GSM signal / tracker not responding to SMS messages	<ol style="list-style-type: none"> 1. SIM card not inserted correctly. 2. Wrong size SIM - Micro or Nano SIM cards will not work. 3. No network coverage in your area. 4. No credit on SIM card. 	<ol style="list-style-type: none"> 1. Check SIM installation. 2. Use standard size SIM card. 3. Try using another SIM card. 4. Top up SIM card with credit.
'Pwd fail' message	<ol style="list-style-type: none"> 1. Tracker not recognising password. 2. Forgot your password. 	<ol style="list-style-type: none"> 1. Send the following SMS to reset: reset123456 2. Send the following SMS to reset the password back to default setting (123456): adminpassword13142324
GPRS fail to be online	<ol style="list-style-type: none"> 1. APN, IP and port is not correct. 2. No GPRS subscription on SIM. 3. No credit on SIM card. 4. No GPS signal. 	<ol style="list-style-type: none"> 1. Check configuration. 2. Subscribe GPRS service. 3. Top up with credit. 4. Wait for GPS signal to be acquired.