



REWIRE
SECURITY



102-NANO USER MANUAL

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1. Summary

102-NANO can locate any remote target by using Geographic Locating System and send instant SMS or Internet reports to the user by using GSM and GPRS network. 102-Nano can be used and tracked by either SMS or via our GPS tracking software – GPSTLive. GPSTLive allows its users to track and locate their personal, vehicle and assets in real-time. 102-Nano GPS tracker can also be used as a simple SMS text message tracker, making it even easier to track the location of 102-Nano when you're out and about. Simply call the 102-Nano tracker and it will reply back with an SMS text message with a link to Google maps showing its current location in real time. The 102-Nano Kit comes ready to use out of the box and offers an optional hardwire kit for permanent installation to a vehicle as well as car charger for charging via a lighter socket and a magnetic case for attaching the tracker to magnetic surfaces.

Visit [GPSTLive](#) to get more information on our GPS Tracking platform. User Manual for GPSTLive can be [found here](#).

2. Applications

- Fleet management,
- Bike & Motorbike tracking,
- Personal tracking,
- Vehicle tracking,
- Asset Tracking,

3. Hardware Description

Keep track of your family members, employees or anyone you need to monitor, with the 102-Nano GPS tracker from Rewire Security, one of the smallest GPS tracking devices available in the market to this date. Even with its small compact design, the 102-Nano does not lack on function or features, with the ability to track by turn or distance with updates from as little as every 10 seconds.

3.1 Side



3.2 Bottom



3.3 Front



3.4 Interior



4. Specifications

Content	Specs.
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 chip	SIRF3 chip
GPS sensitivity	-159dBm
GPS accuracy	5m
Time To First Fix	Cold status 45s Warm status 35s Hot status 1s
Car charger	(Optional) 12—24V input 5V output
Wall charger	110—220V input 5V output
Battery	Rechargeable 3.7V 1000mAh Li-ion battery
Standby	16 hours to 30 days depending on usage and standby mode
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

- Please make sure that your SIM card is activated and PIN code request is disabled, the tracker won't be able to enter a PIN code. If you are using a free contract SIM card and would like to use the 102-NANO via GPSTLive GPS tracking platform, you may need to contact your SIM card network to check if your internet data access is active.

Steps for installation:

5.1.1 Open the rear cover and remove the battery.

5.1.2 If you intend to use GPS Data logging to an SD CARD, please insert a Micro SD Card to the slot as seen in the guide picture below. If not, you can move on to the next step.



5.1.3 Insert the Standard SIM card into the SIM card holder tray. Please note that Micro and Nano SIM cards are not supported.



5.2 Battery and Charger

The battery should be charged between 8 - 12 hours before first use. Please use the battery charging cradle provided with the 102-Nano. The battery charging cradle is located under the soft pads holding the GPS unit in the package. This tracker uses built-in Li-ion battery technology, and a fully charged battery can power the 102-NANO from 16 hours up to 10 days depending on usage and standby mode. After the first use, the battery should be charged for 2-4 hours every time.

Warning: Do not puncture, heat or modify li-ion batteries. If at any time you notice a battery starting to get hot or swell up, stop the charging process immediately. Improper usage of Li-ion batteries and high temperature may cause the battery to explode.

5.3 Startup

- Please make sure to use your 102-NANO outdoors as GPS technology will not work accurately indoors. (GPS signals do not penetrate walls)
- Turn on the unit by pressing the “on/off” button until the indicator is on.
- In 10 to 40 seconds the device will begin to work and acquire GPS and GSM signals. The indicator will keep flashing frequently when it is searching for GSM signal.
- Once GSM and GPS connection is established, the LED light will start flashing less frequently.
 - Please note – The **default password** for 102-NANO is ‘**123456**’

Note: While reading the set-up commands, you will notice that some words are separated by + or space. “+” means two words should be written without a space, as one word. “Space” means there should be a space between two words.

e.g. reset+123456 means the command you should send to the tracker is “reset123456”

- sleep+123456+space+shock means the command you should send to the tracker is sleep123456 shock (there is a space between 6 and shock)

5.4 Changing Your Password

Command: password+old password+space+new password

Response: password OK

e.g. password123456 888888

If you forget your password, you can restore it to the default password using the command : adminpassword13142324.

- Please note that it is not necessary to change the password unless you intend to disclose the phone number of your tracker to a third party.

5.5 Authorization

If you are planning to use geo-fence, shock, movement or over-speed alarms, please register yourself to the unit as an authorized number. Up to 5 numbers can be authorized. If you call the tracker for 10 times continuously and get its position, it will save your mobile phone number as the authorized number automatically. Alternatively, you can authorize your phone using the SMS command below;

Command: admin+password+space+cell phone number

Response: admin ok!

e.g. admin123456 +447776665544

Additional authorized numbers have to be set-up by the first authorized number. Once a user (phone number) is authorized, 102-NANO will not reply to phone calls from unauthorized numbers with a location report. However, it will still respond to SMS commands as long as the password is correct. Alarm notifications can only be sent to the authorized numbers as well.

Deleting the authorized number:

Command: noadmin+password+space+authorized number

e.g. noadmin123456 +447776665544

You have to enter your phone number in “+44” international format for 102-NANO to be able to recognize your phone number. When you enter your phone number in international format, please make sure to remove the 0 before your number.

For example: 07771112233 should be entered as follows; +447771112233

5.6 Easy SMS Text Message Locating

If there aren't any authorized numbers set-up, 102-NANO will reply to all calls with a location report. If there are authorized numbers set-up, 102-NANO will only send location reports to the authorized numbers. The SMS Text message report will include coordinates, current speed & time. There will also be a direct Google Maps link for smartphone users.

5.7 Interval Tracking

102-NANO can send automatic location reports at set intervals. If SMS mode is active, reports will be sent as SMS text messages. If GPRS tracking mode is active, updates will be uploaded to the online tracking server.

Command: fix030s***n+password

102-NANO will not respond to this message but it will start updating its location continuously at 30 seconds intervals.

e.g. fix030s***n123456

Every 30 seconds is an ideal setting for GPRS (internet live tracking). Increasing this may reduce your mobile internet data usage. Size of each data package sent in GPRS mode is approximately 150 bytes.

To cancel interval tracking:

Command: nofix+password

e.g. nofix123456

5.8 Exact Street Address

You must set up the APN of your SIM card provider before using this function. If your network requires a username and password for GPRS login, please refer to sections 5.31 to configure the APN, username and password for GPRS login.

Command: address+password

Response: No 2, High Street, Bristol, BS1 2A

e.g. address123456

5.9 Location-based service (LBS) / Cell-ID locating

If 102-NANO cannot establish a solid GPS fix, it will calculate its location using Cell-ID GSM locating. Location reports will include the GPS coordinates of the last known position as well as a LAC code. Entering the LAC code to the “Manual Track” menu of web tracking platform will enable you to see the tracker’s current location.

You can also send command “address+password” to the tracker to request exact address. 102-NANO will automatically switch to tracking by LBS in GPRS mode. The accuracy of LBS also known as Cell-ID tracking depends on the distance to the nearest GSM Network Cell Tower or Base Station. In urban areas, this accuracy usually varies between 25-100 meters.

5.10 Monitor (Voice Surveillance)

102-NANO is in tracking mode by default. When monitor mode is activated, it will automatically answer incoming calls, rather than replying with location information.

To activate monitor mode:

Command: monitor+password

Response: monitor ok!

e.g. monitor123456

Now 102-NANO will answer your calls and you will be able to listen through the built-in high sensitivity microphone.

To switch back to tracker mode:

Command: tracker+password

Response: tracker ok!

e.g. tracker123456

5.11 Data Logging

Auto logging: If the 102-NANO loses GSM or GPRS signal, it can store the tracking position and alerts automatically on the flash drive upon the pre-set conditions. When GSM reception is re-established, all the event alerts will be auto-sent to the authorized numbers or online tracking server.

Logging at preset intervals:

Command: save030s005n+password

Response: save ok

e.g. save030s005n123456

Once set, 102-NANO will store the latitude, longitude locations every 30 seconds for 5 times. (S: second, m: minute; h: hour).

Continuous logging:

Command: save030s***n+ password

Response: save ok

e.g. save030s***n123456

Logging Clearance:

Command: clear+ password

Response: clear ok

e.g. clear123456

Logging Volume: The tracking device has a built-in flash 1MB (~16,000 positions) but this can be increased by adding a Micro SD card to the slot located under the SIM Card Slot. A 2 GB Micro SD card is sufficient to record location data for up to 10 months. Data Logging function also enables you to use this tracker as a GPS Logger. You can download the location data to your PC by using the free PC software provided through USB connection.

5.12 Shock Sensor Alarm

Shock sensor alarm is deactivated by default. To activate:

Command: shock+password

Response: Shock is activated!

e.g. shock123456

Now when 102-NANO detects vibration, it will send SMS "Sensor alarm+location" to the authorized numbers. To cancel shock sensor alarm:

Command: noshock+password

e.g. noshock123456

Shock sensor sensitivity configuration:

The shock sensor module has three different sensitivity settings;

First Level: Alarm will be triggered after detecting single vibration.

Command: sensitivity+password+space+1

e.g. sensitivity123456 1

Second Level: Alarm will be triggered after detecting 8 vibrations in 2 seconds.

Command: sensitivity+password+space+2

e.g. sensitivity123456 2

Third level: Alarm will be triggered after detecting 25 vibrations in 5 seconds.

Command: sensitivity+password+space+3

e.g. sensitivity123456 3

5.13 Geo-fence

This feature allows you to create safe zones. When the 102-NANO enters or leaves this zone, the device will send geo-fence alarm warnings to the authorized numbers. To be able to configure geo-fence 102-NANO has to stay stationary for 5 minutes. After 5 minutes proceed as follows;

Command: stockade+password+space+latitude,longitude; latitude,longitude

In case of a breach, the device will respond with SMS “stockade!+location” to the authorized phone numbers every 3 minutes.

Note: 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.

e.g. stockade123456 51.460959,-2.622643;51.456842,-2.604446

You can obtain coordinates of any location from google maps by right-clicking to the desired location and selecting “what’s here?”

To cancel:

Command: nostockade+password

e.g. nostockade123456

5.14 Movement Alarm

To activate movement alert 102-NANO has to stay stationary for 5 minutes. After 5 minutes proceed as follows;

Command: move+password+space+0200

Response: move OK

e.g. move123456 0200

This will activate the movement alert with an area radius of 200 meters. Maximum radius limit is 999 meters. In case of such a movement, it will reply SMS "Move+ latitude & longitude" to the authorized numbers in 3 minutes intervals.

Note: Setting the radius less than 100 meters may result in false movement alerts. The fault alert occurs if GPS position is miscalculated due to bad GPS reception. Inaccurate GPS reading will cause the 102-NANO to think that it is in a different location, possibly farther from its current location, thus the processor will accept this as a movement and trigger the movement alarm.

To cancel movement alarm:

Command: nomove+password

e.g. nomove123456

5.15 Over Speed Alarm

To activate:

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

Response: speed ok!

e.g. speed123456 080

When the speed exceeds 80 km/h, it will send the following SMS to the authorized numbers every 3 minutes: "speed+080!+location"

To cancel:

Command: nospeed+password

e.g. nospeed123456

5.16 SOS Alarm

102-NANO is equipped with an SOS button. In case of emergency, pressing this button will notify authorized numbers with three text message followed by a phone call. The SOS alarm is activated by default and the SOS button is enabled.

To disable the SOS button:

Command: sos+password+space+off

e.g. sos123456 off

To enable the SOS button

Command: sos+password+space+on

e.g. sos123456 on

5.17 Low Battery Alarm

Low battery alert helps users to know when the battery of 102-NANO is low. It sends 3 notifications to authorized numbers; at %10, at %5 and just before it's completely flat. Low battery alert is activated by default.

To activate;

Command: lowbattery+password+space+on

e.g. lowbattery123456 on

To deactivate:

Command: lowbattery+password+space+off

e.g. lowbattery123456 off

5.18 GPS Blind Spot Alarm

This function is deactivated by default, to activate:

Command: gpssignal+password+space+on

e.g. gpssignal123456 on

Once activated 102-NANO will send SMS notifications to authorized numbers when it loses GPS reception.

To deactivate:

Command: gpssignal+password+space+off

e.g. gpssignal123456 off

5.19 Standby Modes

Timed standby after 5 minutes:

When activated, after having no activity (call or SMS commands) for 5 minutes, 102-NANO will change to standard standby mode; GPS module and led light will be OFF, GSM module (phone line) will still be ON. It will wake up and turn the GPS module ON only if you call it to request position or send an SMS command. Please note if movement or shock sensor alarm active this standby mode will not work.

Command: sleep+password+space+time

Response: sleep time ok

e.g. sleep123456 time

Standby with shock/movement sensor:

With this mode 102-NANO will change to shock sensor standby mode after being stationary for 5 minutes without any vibration or movement, GPS module and the LED light will shut off, GSM module will still be ON. As the GSM module will be ON, you will still be able to communicate with 102-NANO. Vibration, movement, calling the tracker or sending an SMS message can wake it back up. To activate;

Command: sleep+password+space+shock

Response: sleep shock ok

e.g. sleep123456 shock

Deep standby mode with shock sensor:

When activated, after being stationary for 5 minutes without any vibration or movement, 102-NANO will change to deep standby mode with shock sensor. GPS, GSM and led light will be OFF. Only vibration or movement can wake the tracker back up from Deep Sleep by Shock Sensor mode. Once it's awake, it will automatically send a notification message to the authorized numbers. As the GPS and GSM modules will be OFF, you won't be able to communicate directly with the tracker. However, if you send an SMS command, it can receive and process this command as soon as it wakes up from Deep Sleep mode.

For constant live internet tracking (GPRS), deep standby mode with shock sensor provides the longest battery life with a single charge as the GSM module (phone line) will also be OFF. Please note that the auto interval setting used for live tracking will override this the standby and keep the 102-NANO awake so GPRS economy mode should also be activated ;

Command: sleep+password+space+deepshock"

Response: sleep deepshock ok

e.g. sleep123456 deepshock

Command: less+space+gprs+123456+space+on

Response: less GRPS on ok

e.g. less gprs123456 on

- If there are registered authorized numbers, each authorized number will receive a notification every time it wakes up from standby with a movement or vibration. Please use the command below if you do not want to receive SMS notifications whenever your tracker wakes up from deep sleep;

Command: wake+password+space+off

e.g. wake123456 off

Schedule work standby mode:

With scheduled work standby mode, 102-NANO is able to turn itself completely off and only wake up at pre-set intervals. When it wakes up it will work for 5 minutes, report its location (SMS or internet) and switch OFF. If you are using 102-NANO in live internet tracking mode and would like to use schedule work mode, do not forget to activate less GPRS mode as otherwise, the auto-update interval setting will override the standby. To activate send commands below;

Command: schedule+password+space+time interval

Response: schedule ok

- Please check below for time interval settings; m = minutes, h = hours, d = days. Maximum schedule setting is 30 days.
- Please check Schedule work standby mode setting examples below;

Command: schedule123456 30m - This command will set 102-NANO to stay on standby and report its location for 5 minutes every 30 minutes.

Command: schedule123456 12h - This command will set 102-NANO to stay in deep sleep and report its location every 12 hours.

Deep sleep / Start work at specific time mode will provide the longest standby duration as power usage will be minimal due to both GSM and GPS modules being on standby at all times. 2 location reports per day will provide approximately 2-4 days battery life.

To cancel the schedule work standby mode:

Command: noschedule+password

e.g. noschedule123456

Switching standby modes OFF:

Select the sleep mode that suits you best before starting to use your 102-NANO. Real-Time GPS Tracking consumes a significant amount of battery power and standby duration of your 102-NANO will be reduced to 5-10 hours if there aren't any standby modes active. To turn switch all standby modes OFF;

Command: sleep+password+space+off

e.g. sleep123456 off

5.20 Forwarding Incoming SMS Messages

102-NANO can forward incoming messages from a pre-set number. To activate:

Command: forward+password+space+third parties phone number

Response: forward ok

e.g. forward123456 07587136846

- Only one number can be set-up for SMS forwarding.

To deactivate:

Command: noforward+password

e.g. noforward123456

5.21 SIM Card Balance Check

Using this function tracker you can instruct the 102-NANO to send an SMS message to a specific phone number. For instance, to send a text message to your Sim card network provider to check the credit balance and it will forward the

received content to the authorized number.

To check SIM card balance proceed as follows;

Command: balance+password+space+carrier's phone number+space+code

e.g. balance123456 check 0212

This function assumes that your SIM card provider network has the option where you can check your SIM card's balance by sending a text message code to a specific number; which is sending check code to phone number 0212 in this example.

- Please note – This function will only work on certain SIM card providers.

5.22 Status Enquiry

Command: check+password

Response: GSM: 100% GPS: OK/NO GPRS: ON/OFF battery: 100%. (example)

e.g. check123456

5.23 IMEI Number Request:

To request the IMEI number of your 102-NANO use the command below;

Command: imei+password

Response: 8647150022365548 (example)

e.g. imei123456

5.24 Time Setting

This setting can be used to change the time zone of your 102-NANO.

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

e.g. time zone123456 0

The example above can be used to set-up UK Time zone.

If your country's time zone is minus, send the code with a - symbol as shown below;

e.g. time zone123456 -4

5.25 TCP/UDP Switch

Command: gprs+password,0,0 TCP with keepalive data, this is the default mode.

Command: gprs+password,0,1 UDP with keepalive data

Command: gprs+password,1,0 TCP without keepalive data

Command: gprs+password,1,1 UDP without keepalive data

5.26 Reset

This command will restart/reboot GSM & GPS modules of 102-NANO. Please note that this is only a hardware reboot, it will not restore 102-NANO's settings to factory defaults.

Command: reset+password

Response: reset ok

e.g. reset123456

5.27 PC Software Tracking

The free PC Software supplied with your 102-NANO can be used for both GPRS tracking and downloading GPS Logs. Please note that if you wish to use GPRS tracking mode with this Software, you will need to open ports from your router and firewall for the tracker to be able to communicate with your PC. Log-in details for the software are:

User ID: admin

Password: admin

Note: Rewire Security recommends using Web platform for GPRS tracking as it is easier to configure and can be accessed from any device with internet connection.

5.28 GPRS (Internet) Tracking

GPRS Tracking mode allows the 102-NANO to upload its location data to a web server at pre-set intervals. All Rewire Security products are designed to be used with online tracking server www.gpslive.co.uk.

If you would like to use GPRS tracking, please start by activating GPRS mode:

Command: gprs+password

Response: GPRS OK

e.g. gprs123456

5.28.1 APN Configuration

APN (Access point name) setting differs with each GSM network. Please contact your SIM card GSM network provider to obtain the correct APN settings for your SIM card. To set APN:

Command: APN+password+space+your SIM card's APN

Response: APN OK

Please note that 102-NANO will reply "APN OK" no matter what APN information you enter for your APN setting. It will not know if the APN information you have entered is correct or not.

Please see examples below for some UK networks;

apn123456 uk.lebara.mobi	-for UK Lebara network
apn123456 payandgo.o2.co.uk	-for O2 UK pay as you go
apn123456 everywhere	-for EE/Orange
apn123456 data.lycamobile.co.uk	-for Lycamobile UK

5.28.2 APN User ID and Password setup

If your network requires password authentication for APN access, please use the command below:

Command: up+password+space+user+space+password

e.g. apn123456 internet contract password

5.29 Server IP Address and Port Setup

This setting will configure 102-NANO to upload its location to the selected online tracking server.

Command: adminip+password+space+ip address+space+port number

Response: adminip OK

e.g. dns123456 listener.gpslive.co.uk 10200

If you are going to use Rewire Security's UK based server www.gpslive.co.uk, use the IP address and port above. listener.gpslive.co.uk is the IP address and 10200 is the port of the server.

5.30 GPRS Economy Mode

With the GPRS economy mode, after being stationary for 5 minutes, 102-NANO can close the internet connection to save battery power and internet data usage. To activate:

Command: less+space+gprs+password+space+on

Response: less GPRS on ok!

e.g. less gprs123456 on

5.31 Restore to Factory Defaults

Command: begin+password

Response: begin ok!

e.g. begin123456

Sending this command will restore all settings of your tracker to factory defaults.

Thank you for purchasing 102-NANO. Please read this manual carefully before using this product. Please note that product specifications and information in this user guide are subject to changes without prior notice. Any changes will be integrated into the latest release. The manufacturer assumes no responsibility for any errors or omissions in this document.

By purchasing the 102-Nano you agree our terms and conditions, view Terms and Conditions here : <https://www.rewiresecurity.co.uk/terms>