

# Installation and operating instructions

## TKSTAR TK905-4G-LTE vehicle, person, package tracker



### Introduction

In developing the products we offer, the manufacturers have acted with the utmost care and in accordance with international standards.

### Warranty

We offer a 12-month warranty on the products, which is valid from the date of purchase. Keep the invoice or block you received at the time of purchase and / or the warranty card of the device, because you can only enforce your warranty claim if you have them. During the warranty period, we will replace any defective main unit, accessory or software of the product in the event of any defect attributable to a manufacturing, material or software defect. Subsequent repairs to the device or its accessories are not permitted by the manufacturer due to the design of the device.

The warranty does not cover a product (or accessory) that has been damaged or rendered inoperable due to attempts to modify or repair the software, physical impact, poor voltage, improper use.

To ensure proper, effective and safe use of the product, read the instruction manual carefully and keep it for future reference. Flexcom Kommunikációs Kft. Shall not be liable for any damage, product damage, short-term or long-term health damage that may occur as a result of use, repair, storage and transport other than those described in this manual.

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**Protection of personal data**

The product is a complete product as a combination of hardware and software components. For safe and correct use, proceed as described in this manual during installation and use. Keep the device or software out of the reach of unauthorized persons. Our company provides all technical and regulatory conditions to ensure that data management complies with legal requirements and that your data does not fall into unauthorized hands. We accept no liability for damage resulting from unauthorized use of the product and software.

## Formats and notations

**The following style settings are used in descriptions, guides, and other documents:**

- Bold text**      Name of product components, instructions, options, processes, services, user interface elements.
- Italic text*      Links to other publications, emphasis.
- Courier text**   System messages, internet addresses, document names.

### Warning and cautionary signs:



Tips, advice, ideas.



Document download option.



General attention to information about the product or its operation.



Indication of situations with a lower risk to the user or the product (minor injuries, inconveniences).



Indication of situations which present a higher risk to the user (serious injury, possibly death) or which may cause damage or destruction of the product.

## Product Description

The device combines several functions of accurate positioning, safety, monitoring, emergency alarms and full tracking. It supports SMS / GPRS / Internet data transfer functions and can be widely used in many areas of location-based services, traffic safety and management.

Based on its design and mounting, the device is designed by the manufacturer for multi-purpose use and is suitable for tracking land, water, aircraft, persons or packages. The magnetic mounting option also allows for quick and stable mounting on a metallic surface. The operation of the device is based on the GSM / GPRS network and GPS satellite positioning and can be tracked using SMS messages or an Internet application.

Settings that affect the operation of the device can only be changed from another device (smartphone, computer) using the appropriate application or SMS commands - so users can be sure that the device always works according to the parameters they specify.

## How to use

After charging, inserting the SIM card and setting up via SMS or a mobile phone or PC application, the device is placed in the desired location. Once turned on, the GPS receiver and SIM card will automatically connect to the GPS and GSM networks (if available) and start collecting position data.

To use the features of your device, you need a SIM card, similar to a mobile phone. The device communicates with the mobile service provider's network via SIM card, SMS or mobile phone or PC applications.

After inserting the SIM card and charging the battery, you can make the necessary settings by sending an application or SMS (eg entering the device ID name, frequency of sending GPS position data, etc.).

When switched on

- The device continuously registers position data, which can be queried with SMS commands at a limited level.
- If you have a software subscription, the device sends the position data to the software service center - their processed results (eg map route display, route event list, real-time tracking) - can be viewed in the phone or computer application.

The subscription software provided by the distributor for the device greatly expands the range of features of the device. These extensions are only available in the mobile or PC application.

*You will find detailed information on the installation, use, maintenance and decommissioning of the device in the following sections of the documentation.*

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## Technical parameters

### Physical characteristics

Parameter	Value
Dimensions (mm)	W: 90, L: 72, H: 22
Weight (g)	168
Humidity	from 5% to 95%-ig (not condensing)
Water resistance	IP65 (moisture and drip resistance)
Operating temperature	from -20C to +55C

### Memory

Parameter	Value
Built-in	Yes (max. 1000 position data)
SD card	No

### Energy supply

Parameter	Value
Battery	Li-ion polimer 3.7V 5000mAh
Charge	5V/1A via USB

### Operation time

Parameter	Value
Standby time	50 days
Continuous operation	80 hours

### Network

Parameter	Value
GNSS	GPS satellite + AGPS
Type of data traffic	LTE (4G) WCDMA/GSM/GPRS (2G, 3G)
SIM card	Normal
GSM frequencies	850, 900, 1800, 1900 MHz
GSM chip	MTK6261
GSM signal strength measurement	No
GPS chip	UBLOX 7020
GPS érzékenység	-159 dbm
GPS accuracy	5 m

### Communication

Parameter	Value
SMS	Yes
TCP	Yes

### Sensors

Parameter	Value
Vibration sensor	Yes

### Interface

Parameter	Value
GSM antenna	Internal
GPS antenna	Internal

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## User's guide

### Transport and storage

The packaging is designed to protect the product from the usual physical effects during transport. Be careful to avoid effects other than these.

The packaging of the product is not water, flame and heat resistant and only moderately pressure resistant. Therefore, do not keep the box in a humid environment, within the range of heat emitting equipment, or place heavy objects on it.

### Commissioning

The package consists of a box containing the device and its accessories.



### Unpacking



1. Open the box.
2. Remove the product and accessories.

### Contents of the package

	1 tracking device
	Carrying case and SIM devices

	1 USB cable
	1 Installation instructions

### Preparing the SIM card

As with mobile phones, a SIM card is required to operate the device. The device communicates with the mobile service provider's network via SIM card, SMS or mobile phone or PC applications.



You can purchase the card independently from your mobile service provider or, in the case of a software subscription, from your product distributor. If you received the SIM card from your dealer, you do not need to make any settings: the card is already set up, inserted in the device, switched on and ready for use.

If you have received the SIM card from your dealer, do not try to transfer it to another device (eg phone) and use it! The distributor (service provider) will reimburse the resulting costs or the correction of the resulting errors.

### Settings for your SIM card

If you did not obtain the SIM card from your tracking device vendor, you must set it up before inserting and using it in the device, which you can do as follows.

#### Disable SIM card PIN and other functions

1. Insert the SIM card in your phone.
2. Among the setting functions of the phone
3. turn off the PIN code request, auto-reply and call forwarding options.

After turning off the above, insert the card into the tracking device. See the next section for instructions on how to insert the SIM card.

### Setting up data traffic

If you want to operate the device not only via SMS, but also e.g. If you use the software tracking service provided by your dealer, you must activate GPRS (Internet) data traffic and enter the appropriate network settings. To do this, you need to send SMS messages from your phone to the

phone number of the SIM card inserted in the tracking device, as shown in the table below.

*The factory-set access password for the tracking device in the commands: 123456*

Setting	SMS message	Device response
Turn on GPRS data traffic	gprs123456	GPRS ok
Enter the APN name	apn123456(space)APN-name	apn ok
	APN names for domestic service providers in Hungary: Telenor: online vagy net Telekom: internet Vodafone: - in case of subscription: internet.vodafone.net - in the case of a top-up card: vitamax.internet.vodafone.net Digi: internet	
If your mobile network provider has not provided you with an APN username and password, you do not need to send the following SMS messages to the tracking device!		
APN username	apnuser123456 APN-username	apnuser ok
APN password	apnpasswd123456 APN-password	apnpasswd ok

### Inserting the SIM card



Only standard size SIM cards can be used with this product. If you have a nano or micro SIM, use a card adapter.

Insert the SIM card into the device as follows:



### Steps:

1. Open the cover of the SIM card slot.
2. Insert the card into the slot. The device turns on and the LED lights up when the card is inserted. Be sure to insert the card in the correct position.
3. Close the protective cover.

## Installing the device

You can place the device on any magnetizable metallic surface, either inside or outside the passenger compartment (eg. chassis).

## Application installation, access

In order to operate the device and other services based on it, the distributor provides mobile and computer applications in the subscription system. The PC program is accessible via a browser at <https://gpspositions.net/map/>, and you can install the phone application on your phone in one of the following ways:

### For Android phones

1. Open the Google Play app on your phone.
2. Search for „Flexcom” or „Flexcom tracking” on Google Play.
3. Install the tracking application.



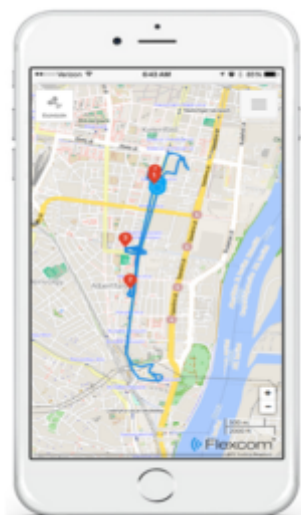
or



1. Scan the QR code shown here with your phone.
2. Open the web address decoded from this.
3. Install the Flexcom tracking application.

### For iPhones

Use the browser on your phone to access the service (<https://gpspositions.net/map/>).



## Using the product

### User Interface

The device does not have a traditional user interface (eg on / off button). An LED indicator informs the user about its operation and status. In addition, only the charger connector, the SIM card slot and a carrying strap can be connected on its surface.



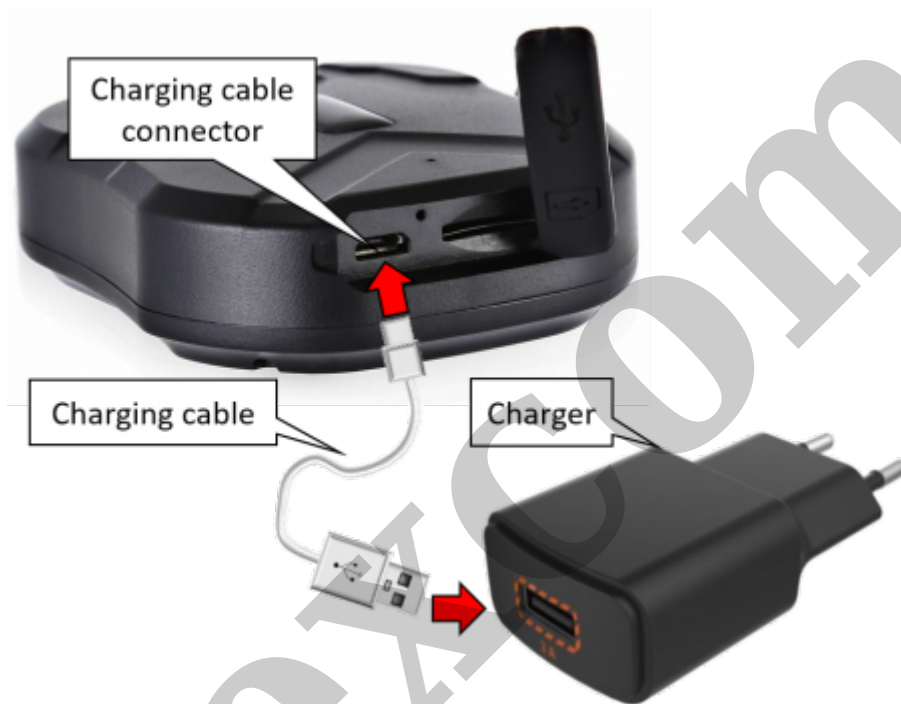
### LED display statuses

Display	Status
Solid yellow	No mobile network connection
Flashing yellow	Connected to a mobile network
Solid blue	No satellite connection
Flashing blue	Connected to a satellite network
Solid red	Charging

## Internal battery

The device is powered by a built-in battery, which needs to be charged at different intervals depending on the intensity of use. Your phone's charger is suitable for charging, but you can also use the USB connection of a computer or energy bank.

The appropriate USB charging cable is included with the device. It is connected to the tracking device via a MICRO USB connector - if you do not use the factory cable, make sure that it is type-compliant!



Charging takes 6-8 hours, during which the LED indicator lights up red. When the device is fully charged, the light turns off.



When the battery is fully charged, disconnect the charging cable. The device does NOT have overcharge protection, so keeping it on a long-term or continuous charger (eg connecting to a vehicle battery) will shorten the life of the device or, in worse cases, damage it. For the device with a voltage of 5V 1 Use a charger that provides current. Chargers with a higher capacity can damage the battery.

## Switching on and off

The device switches on automatically when you insert the SIM card, and switches it off when you remove it. It does not have a separate on / off button.

## Operating time

The device is set at the factory to be so-called at rest. Switches to „sleep” mode. In this state, its operating time is about 45 days. It switches from sleep mode to operating mode („wake”) in the event of external influences (eg movement, vibration).

For use via software, the operating time also depends on how the data transmission frequency of the device has been determined (eg 10 seconds, 1 minute, 5 minutes, 1 hour, etc.). For example:

- With 1 hour of wakefulness per day, approx. 2 weeks.
- With a wakefulness of 8-10 hours a day, approx. 1 week.

If the device is operated with SMS commands, the operating time is affected by the frequency of issuing the commands (ie forcing the device to respond).

### Normal operation of the device

The device can be operated in the following ways:

1. using the software service provided by the distributor and the SIM card together, in addition to the software service provided by the distributor but using his own SIM card, or
2. without the service provider's software service, with your own SIM card.



The service provider provides a SIM card for the tracking device only if you subscribe to the software service. In the case of unsolicited use of the software, the user must provide the appropriate card with a data traffic limit (also).

### With Distributor Software and SIM Card

In this case, you can receive the device in the ready state, no further settings are required to use it.

Separate software is available for setting or adjusting the operating parameters of the device, for retrieving information or for using more advanced services (eg map route display, waiting and travel points, diagrams, timetable, etc.). This is provided by the distributor in the form of a downloadable application on a desktop and tablet browser on an Android mobile phone as part of a subscription system.



To use the software, an active internet connection is required on your device (mobile phone, computer).

The software stores and processes the data sent by the tracking device to the service provider's center, from which the graphical and textual information is generated. Using the software triggers (sometimes very expensive) SMS and voice call communication with the device and provides tracking and security services that go well beyond the basic functions of the device.

After launching the application in a browser or phone:

1. In the login window, enter the username and password you received in the email from the distributor or registered on its website.
2. In the interface that appears, select Help and review the information for using the software.
3. Software management information is available in its help.

#### **With Distributor software but with own SIM card**

After setting up and inserting the SIM card as described in the setup chapter, you must register the card. To do this, contact your software service provider (device vendor). From now on, the operation of the device is the same as described in the previous chapter.

#### **Without software, with own SIM card**

If you have subscribed to the reseller's software service, DO NOT use the standalone SMS communication method because



- redundant (the software has all the functions needed for tracking and settings),
- the software provider charges a separate fee for the possible elimination of possible operational anomalies caused by SMS commands,
- if you use your own SIM card in the device, SMS will incur extra costs,
- if you use your service provider's SIM card, your service provider will reimburse you for the cost of the SMS.

If you do not use (have not subscribed) to the software service provided by the dealer, you can only use the basic functions of the device - by sending SMS messages from your mobile phone to the phone number of the device's SIM card.

#### **Setting options via the software**

When using the desktop or mobile application of Flexcom Kft, the setup operations related to tracing can be accessed in the following ways.



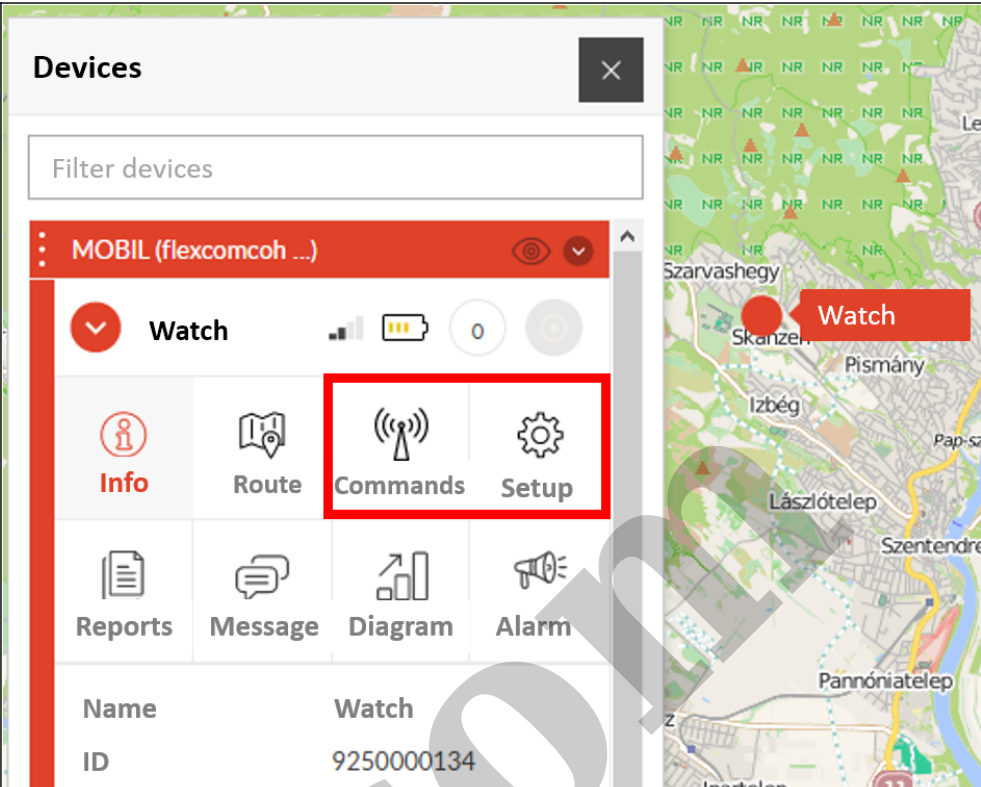
The settings and commands that can be issued depend on the type of device. See the rest of this guide for information on options for this device.

#### **When using a desktop application:**



Select the desired device on the map or in the menu.

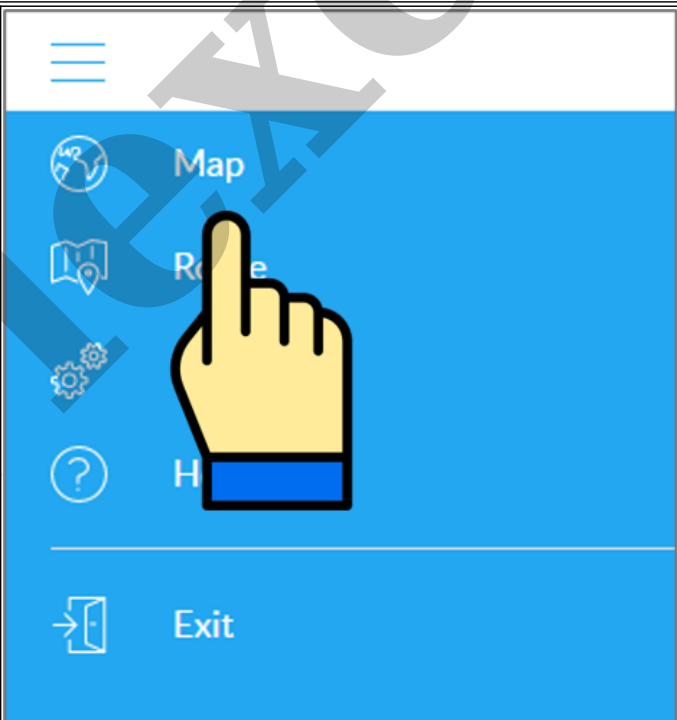
Click the Settings or Commands button to select the general setting or behavior you want.

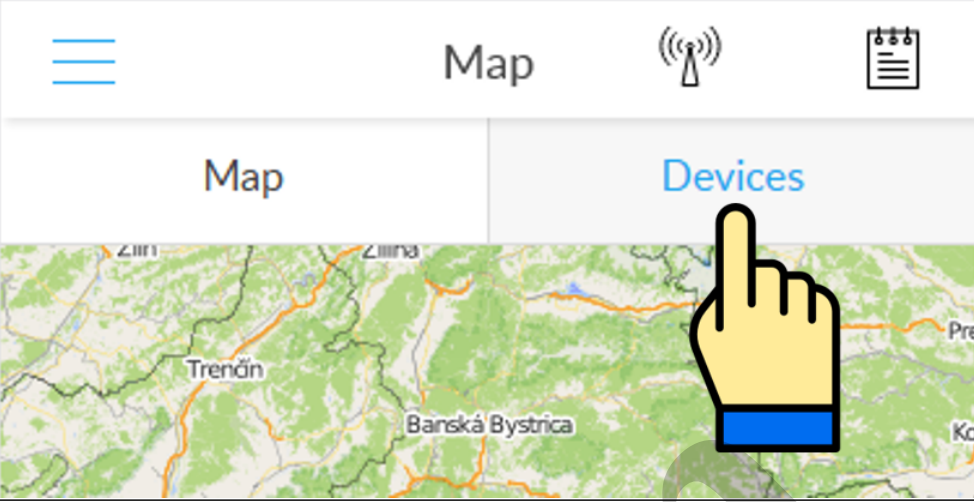
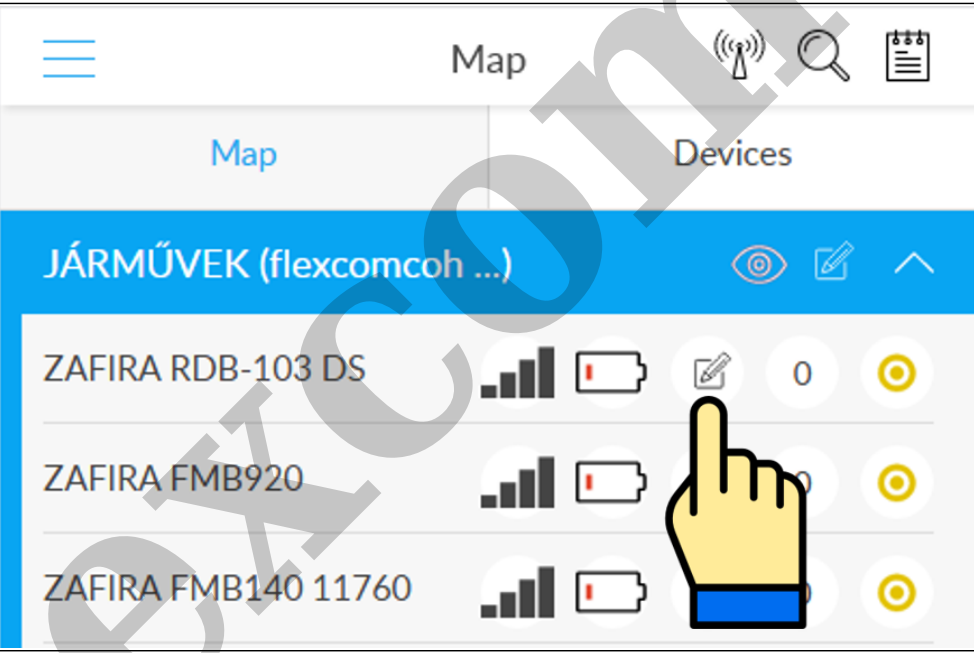
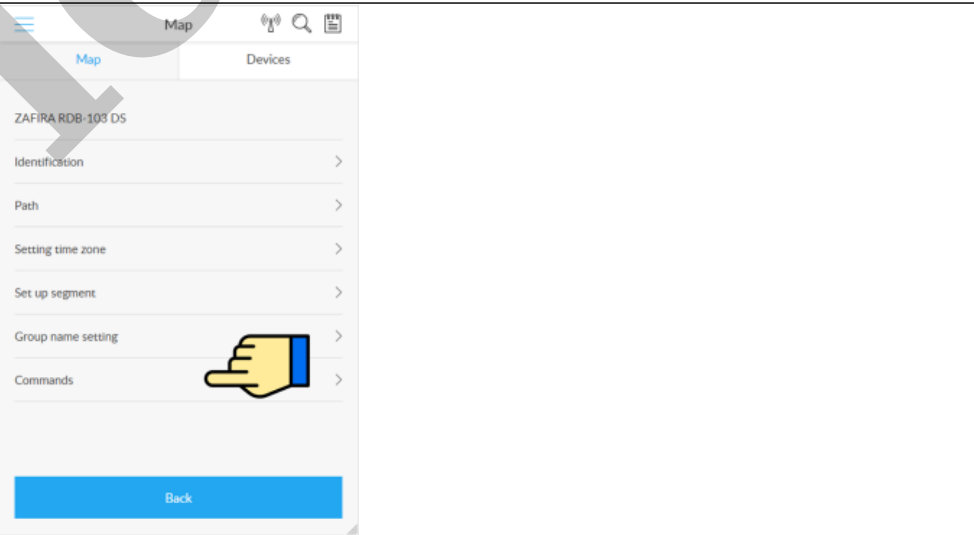


Name	Watch
ID	9250000134

### When using a mobile application:

From the application menu, select Map.



<p>Switch to the Tools panel.</p>	
<p>Find your device in the list of devices and tap the Setup icon next to the ID.</p>	
<p>Select the desired setting or, when sending a command, select Commands.</p>	

### Control the device with SMS commands sent from a mobile phone

The factory-set access password for the tracking device in the commands: 123456

**General settings**

Function	Description	SMS message	Device response
Restart device	You can also switch the device on and off from your phone without moving the SIM card.	begin123456	Begin Ok
Administrator phone number	After setting the administrator phone number (s), the device only accepts calls and SMS commands from this number (s) and sends alerts to this phone number (s). Up to 5 such phone numbers can be set on the machine. After setting the first phone number, further ones can only be entered with SMS sent from this number.	admin123456 phone number  Például: admin123456 0036709876543 Use to enter the phone number country code prefix (eg 0036, Hungary).	Admin Ok
Delete administrator phone number	Delete a previously set administrator phone number.	noadmin123456 phone number  For example: noadmin123456 003612345678	Admin Ok
Set time zone	The device's default time zone is set to GMT + 0. This is changed (eg in the case of Hungary, the time zone is GMT + 1), as follows.	timezone123456 value (where value e.g. +1, -2, 0 etc).  Például: timezone123456 +1 (Hungarian time zone setting)	Time Ok
Turn GPRS mode on and off	The GPRS data transfer mode is switched off by default in the device (GSM mode is active). If you use tracking software, the GPRS mode must be turned on. If you have purchased the device with a software service subscription from the dealer, the GPRS mode is already activated!	Turning on SMS: gprs123456  Turning off SMS: nogprs123456	GPRS Ok or NOGPRS Ok

**Query the position of the device**

Description	Device response
-------------	-----------------

Call the phone number of the device's SIM card from your phone. After receiving the call, the device interrupts it and then sends the data back in an SMS message: latitude and longitude, current speed, time and link, which, when clicked / tapped, will display the device's indicator on the Google map in our phone's browser.

If the device cannot connect to GPS satellites (eg inside a building or in another shaded area), use the cell information of the GSM transmission towers to determine its position (LBS, Location Based Service). Its accuracy depends largely on the distance from the towers and the mobile network coverage.

Latitude lat:22.65655  
 Longitude lon:114.18573  
 Speed Spd:000  
 Date T:13/10/15 15:55  
 Battery voltage bat:70%  
 Device ID ID:8168000010  
 Google map link <http://maps.google.cn/maps?q=+22.65655,+114.18573>

or LBS-based positioning

LBS position lac:27a4 1223  
 Date & time T:24/09/15 15:17  
 Battery voltage bat:100%  
 Device ID ID:2015070203  
 Last GPS connection Last:T:25/09/15 03:04  
 Google map link <http://maps.google.com/maps?q=+22.63949,+114.17188>

### Interception of the environment (sound monitoring)

The device has a built-in microphone and data storage on an SD card. The ambient noise and sounds listened to with the help of the microphone can be recorded on the card in the form of a sound recording. You can listen to the recordings by moving the card to your phone or computer. The device is set to tracking mode at the factory.

### Sleep mode

Description	SMS message	Device response
<p>The device - e.g. to save energy, you can switch it to sleep mode. There are two versions of sleep mode:</p> <ul style="list-style-type: none"> <li>timed mode: wake up to any command or voice call and then return to sleep mode after 5 minutes, or</li> <li>„Shock” mode: waking up to external influences (eg vibration) and then returning to sleep mode after rest. In sleep mode, the satellite communication is paused, the mobile network connection operates at a basic level.</li> </ul>	<p>Activation in timed mode: sleep123456 time</p> <p>Activation in "shock" mode: sleep123456 shock</p> <p>Deactivate any sleep mode: sleep123456 off</p>	<p>Sleep time ok, Sleep shock ok or Sleep off ok</p>

### Speed alarm

Description	SMS message	Device response
You can set the device to send an SMS alert if the vehicle speed exceeds the specified limit. The speed limit must be given in the form XXX, if less than 100, the leading zero must also be written out (eg 070).	Turning on: speed123456 sebességhatár For example: speed123456 070 Content of the alarm message: „Speed alarm!” Turning off: nospeed123456	Speed Ok or Nospeed Ok

**Vibration alarm**

Description	SMS message	Device response
Send an alarm to the phone when the device is moved / shocked / shaken. For this to work, the device must be at rest for at least 5 minutes before exposure.	Turning on: shock123456 Content of the alarm message: „Sensor alarm” Turning off: noshock123456	Shock OK or Noshock Ok

**Battery status indicator**

Description	SMS message	Device response
You can set an alarm in case the battery level drops too low.	Turning on: lowbatsms123456 on Turning off: lowbatsms123456 off	„lowbat sms on” or „lowbat sms off”

## Troubleshooting and repair

### Conditions for safe use of devices

#### Information for people with long-term health problems or disabilities

- This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
- Their casing is made of plastic or metal, which currently has no known health risk (e.g., toxic or allergenic effects).

#### Technical service life of products

- If the device contains a battery, its life is usually approx. 3 years.
- If you find that the operating time is significantly reduced, replace the battery as soon as possible to avoid malfunction.
- Have the battery replaced by a qualified service technician - contact your product dealer for information.

#### Possible problems with proper use

- Cracks, breaks or deformation of the cabinet may cause skin injury or injury to the user's hands.
- Restrictions on the use of products
- Do not use the products under water or expose them to strong water jets or excessive vibration.

#### Maintenance

- The products do not require regular technical maintenance.
- Disconnect the device from the charger before cleaning. Do not use abrasives or cutting or abrasive tools for cleaning.

#### Decommissioning

- Products do not contain harmful, toxic substances.
- Their internal components, outer casings and accessories are not made of or only slowly degradable materials - they must be treated in accordance with the appropriate waste disposal procedure.

## Identifying problems and possible solutions

Symptom	Possible cause	Solution
The device does not turn on or turns off immediately after turning it on.	The battery may be exhausted.	Charge the battery.
Phone calls and / or SMS communication between the device and the phone do not work.	No GSM connection.	Check the strength of the GSM connection. If the LED is solid amber, there is no connection to the service provider's network. You may be in a shaded area - change position.
	The SIM card is defective or there is a contact error.	Remove the SIM card, or clean it with a soft eraser or stylus and reinsert it. If it still does not work, have it tested by a professional (eg a mobile service provider).
Phone application services do not work.	Your device, phone or none of them have a GPS satellite and / or GSM / Wifi connection.	Check GPS, GSM and wifi connection. If the LED is solid yellow or blue, there is no satellite and / or mobile service connection. Also check the wifi connection on your phone. Look for a place that is not shaded by trees, buildings, or other landmarks, or a place where the signal strength is higher.
	Service provider system error	If you do not find a problem with the above, there may be a system error with your telephone application provider.
The device does not respond to SMS commands	APN setting error	Check the APN settings of the tracking device.
	There may be an incorrect SIM card in your device.	A card with voice call, SMS and GPRS data traffic is required for the device to work properly.
SMS mode works, but the app does not.	The device may be in sleep mode.	Check the operation of the device. For example: send an alarm SMS to the device (see Chapter 5).

## Troubleshooting and warranty repair

If you can identify the error based on the above or the recommended solution does not work, contact your dealer:

## Contact

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Mobile 2: +36 70 3333 527

Phone service: (Monday-Thursday) 9.00-15.00

During the warranty period, if the conditions of the warranty have not been violated, the distributor will take care of the professional investigation of the cause of the failure, repair of the error or replacement of the device.

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## Decommissioning

### Disposing and destroying the device

If you decide to stop using the appliance, do not throw it away with the normal household waste. The device is a complex structure and its components contribute to environmental problems to varying degrees.

- The device has a printed circuit board made of copper, an epoxy resin based board, which is coated with gold in places. It is made using gallium arsenide, antimony, beryllium, brominated flame retardants, cadmium, lead, nickel, palladium, silver, tantalum and zinc, of which flame retardants and lead are the most dangerous to the environment.
- Copper, cadmium, nickel and zinc were used to make the battery.
- The cover is made of polycarbonate plastic, which is difficult to recycle, its material may also contain brominated flame retardants, which are particularly dangerous for the environment.
- The charging cable consists mainly of plastic-coated copper wires, but may also contain gold, cadmium and brominated flame retardants.

In case of improper handling, the above substances are more or less harmful to the environment. Therefore, if you dispose of the device, dispose of the device as electronic waste, hand it in to a specialist waste disposal service or dispose of it in a container for the collection of this type of waste.

### Disposal of packaging

The packaging of the device (box and inner packaging materials) was made using paper and various plastics. The box paper, the internal sealing profile and the bags protecting the device should be disposed of as plastic waste.