

Installation and operating instructions

Teltonika FMB002 vehicle tracker device



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.

The FMB002 is a tracking device with a satellite and GSM connection that is able to determine, collect and transmit the geographical coordinates of the device via a GSM network to a central server. The device has a standard OBD-II interface, which also allows the monitoring of the basic parameters of the vehicle.

The Teltonika FMB002 is a compact and intelligent tracking device with internal High Gain GNSS and GSM antennas and a built-in spare battery. The digital input can be used to monitor the status of the ignition, door or alarm button. The vehicle can be stopped remotely using the digital output. In addition to the American GPS satellite system, it is also able to connect to the GLONASS, GALILEO, BEIDOU, SBAS, QZSS, DGPS, AGPS networks for positioning.

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

Once connected to an external power source, the GPS receiver and SIM card will automatically connect to satellite and GSM networks (if available) and begin collecting position data, which can be queried using SMS or an Internet application.

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 connecting it to the vehicle, 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 - the processed results (eg map route display, route event list, real-time tracking) - can be viewed in the phone or computer 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: 30, L: 53, H: 26
Weight (g)	55
Humidity	5%-től 95%-ig (nem lecsapódó)
Water resistance	IP41
Operating temperature	from -40C to +85C
Storage temperature (without battery)	from -40C to +85C
Storage temperature (with battery)	from -20C to +40C
Charging temperature	from 0C to +45C

Memory

Parameter	Value
Built-in	128 MByte
SD card	Micro

Energy supply

Parameter	Value
Battery	Li-ion polimer 3.7V 45mAh
Input voltage	10-30V
Charging	Vehicle power source, overcharge protection
Charging outside temperature	from 0C to +45C

Operating time

Parameter	Value
Standby time (on battery)	30 minutes

Network

Parameter	Value
GNSS	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, DGPS satellite networks
Type of data traffic	GSM / GPRS (2G)
SIM card	Nano
GSM frequencies	850, 900, 1800, 1900 MHz
GSM chip	TM2500
GSM signal strength measurement	Yes
GPS chip	TM2500
GPS sensitivity	-165 dbm
GPS accuracy	3 m

Communication

Parameter	Value
SMS	Yes

TCP	Yes
Bluetooth	Yes

Sensors

Parameter	Value
Accelerator	Yes

Interface

Parameter	Value
LED indicator	Yes
OBDII connection	Yes
USB	2.0, micro
GSM antenna	Internal
GPS antenna	Internal

More information: <https://teltonika-gps.com/product/fmb002/>

User's guide

Transport and storage

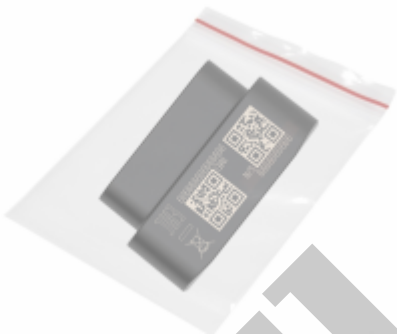
The packaging is designed to protect the product from minor physical impacts during transport. Be careful to avoid effects other than these.

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, out of the reach of heat-emitting equipment, or place heavy objects on it.

Commissioning

The package includes the device.

Unpacking



- 1. Open the tray.
- 2. Remove the appliance.

Contents of the package

	1 tracking device
	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

In the case of your own SIM card, to communicate with the device, you need to connect it to the GSM network and set up data traffic. To do this, you must 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
Setting APN-name	setparam 2001:<APN-name>
	APN names for domestic service providers: Telenor: online or 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
<i>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!</i>	

APN username	setparam 2002:<APN-username>
APN password	setparam 2003:<APN-password>
Server settings	setparam 2004:<szerver domain név> setparam 2005:<port szám> setparam 2006:<protocol>, where protocol 0:TCP, 1:UDP
Example	The above instructions can be sent to the device individually or in a single SMS: setparam 2001:internet;2002:pistike;2003:pistike1986;2004:szolgaltato.hu;2005:15423;2006:0;
More information: https://teltonika-gps.com/product Application for setup: https://wiki.teltonika-gps.com/view/Teltonika_Configurator_versions Jelszó: 5555	

Inserting the SIM card and battery

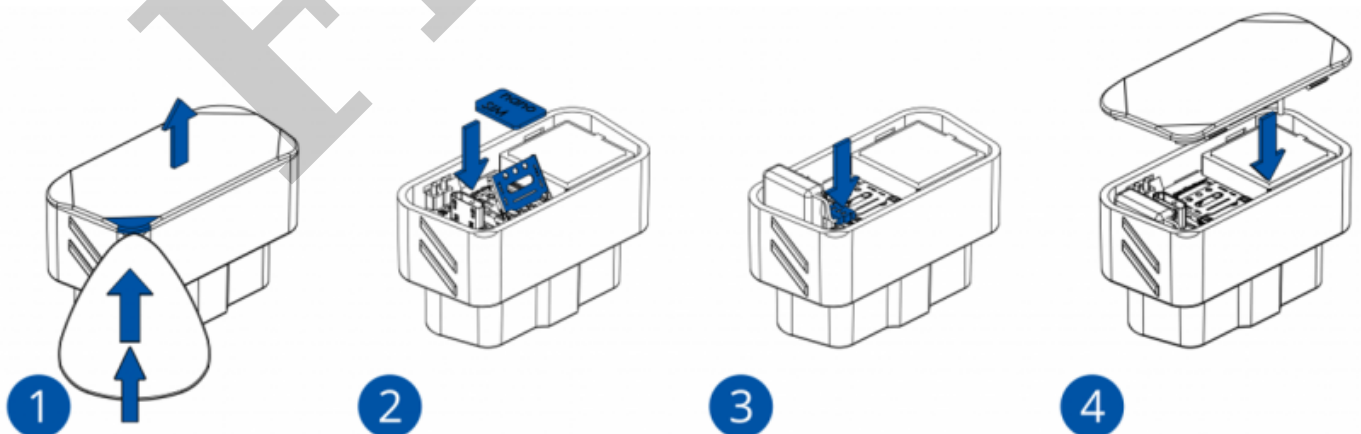


Only nano-sized SIM cards can be used with this product. The card can only be inserted or removed with the device switched off (disconnected from the external power supply, excluding the internal battery) - otherwise the card may be damaged.

Insert the SIM card into the device as follows:



When replacing cards, remove the battery first after removing the device cover. When connected to a power source (external or internal battery), the device turns on automatically.



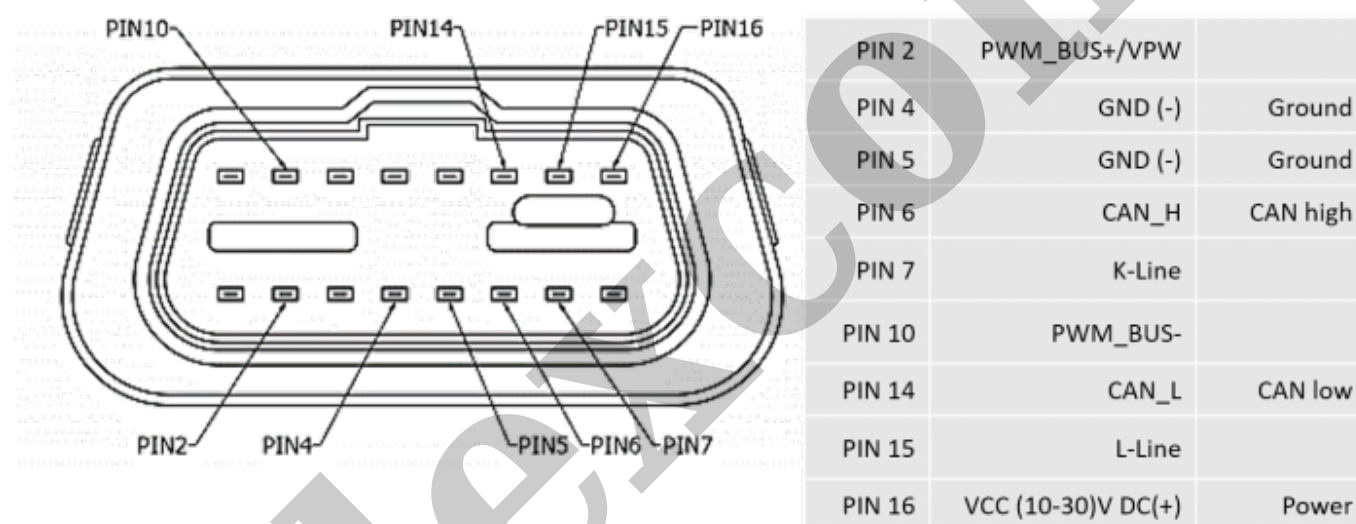
Steps:

1. Unclip the back of the device.
2. Insert the card.
3. Insert the battery.
4. Snap the cover back on.

Connecting the device

After inserting the SIM card, the device is connected to the standard OBD-II connector of the vehicle. Compatible OBD protocols:

1. SAE J1850 PWM (41.6 kbaud)
2. SAE J1850 VPW (10.4 kbaud)
3. ISO 9141-2 (5 baud init, 10.4 kbaud)
4. ISO 14230-4 KWP (5 baud init, 10.4 kbaud)
5. ISO 14230-4 KWP (fast init, 10.4 kbaud)
6. ISO 15765-4 CAN (11 bit ID, 250 kbaud)
7. ISO 15765-4 CAN (11 bit ID, 500 kbaud)
8. ISO 15765-4 CAN (29 bit ID, 250 kbaud)
9. ISO 15765-4 CAN (29 bit ID, 500 kbaud)



By extending the connecting cable (professionally), the device can be placed anywhere inside the vehicle (protected from environmental influences), usually in the passenger compartment of the vehicle (eg under the instrument panel).

Switching on and off

The device switches on automatically when it receives power when a charged internal battery is inserted and / or connected to the vehicle circuit. Its operation occurs when the external and internal power supply connections are disconnected / exhausted. When switched on, the device automatically searches for connections to the GSM / GPRS network and satellites. The LED displays inform about the process and the result.

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.

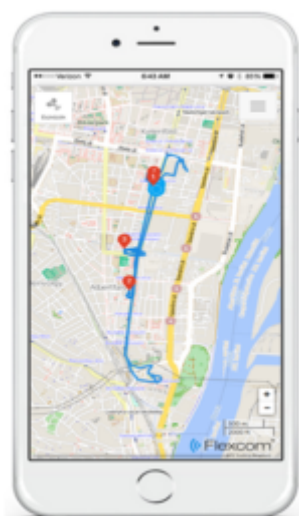
or



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

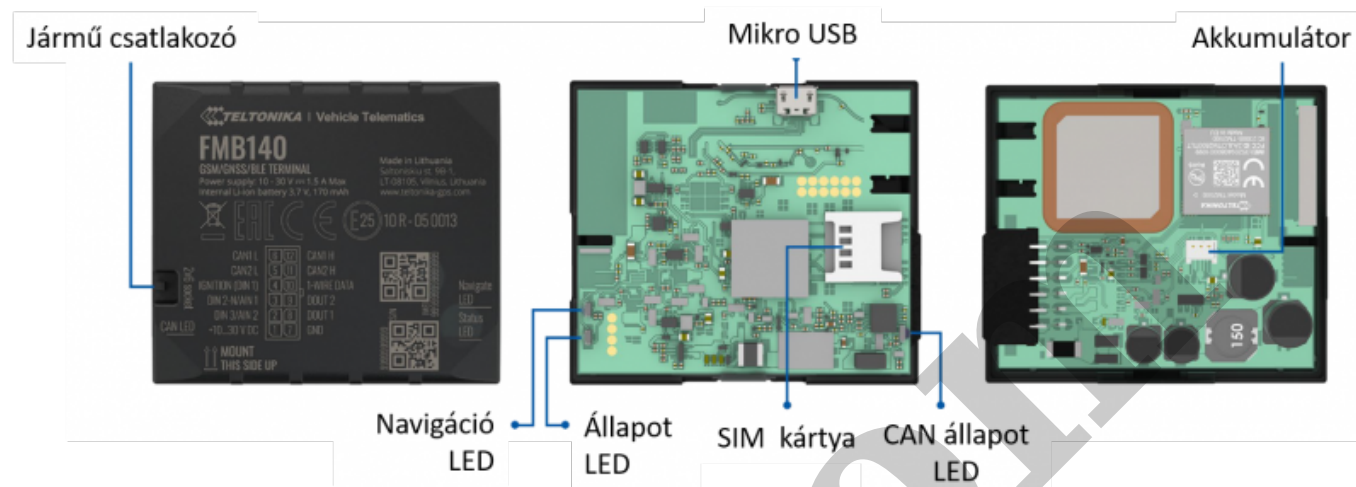
For iPhones

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



Using the product

User interface



LED display statuses

Status LED

Signal	Meaning
Flashes every 1 second	Normal mode
Flashes every 2 second	Sleep mode
Flashes quickly for a short time	Data traffic
Not lit	The device does not work or is being switched on

Navigation LED

Signal	Meaning
Constantly lit.	No satellite connection
Flashes every 1 second	Satellite connection on
Not lit	No satellite connection because the device is not working or in sleep mode
Keeps flashing fast	The device's firmware is being updated

Charging the internal battery

The device also has a built-in internal battery, which ensures short-term use and transition when disconnected from the external power source. During normal operation, the internal battery is charged by the vehicle's power source (battery) or (charged with overcharge protection).

Switching on and off

The device turns on automatically when it receives power when a charged internal battery is inserted and / or connected to the vehicle circuit. Its operation occurs when the external and internal power

supply connections are disconnected / exhausted. When switched on, the device automatically searches for connections to the GSM / GPRS network and satellites. The LED displays inform about the process and the result.

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.

In addition, it is possible to query or change the device settings using a computer (Windows 7, 8, 10) and the Teltonika Configurator software. Further information on the above can be found on the manufacturer's website:

- <https://wiki.teltonika-gps.com/view/FMB920>
- https://wiki.teltonika-gps.com/view/Teltonika_Configurator

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.

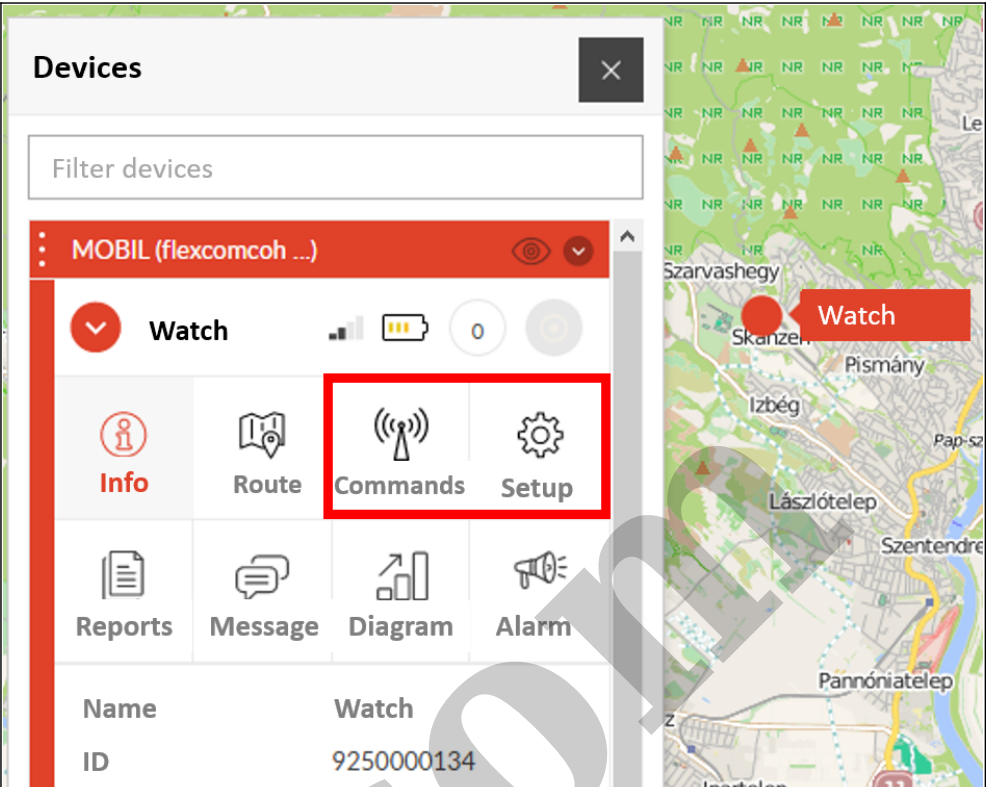


The settings and commands that can be issued depend on the type of device. See the rest of this guide for information on options for this device.

When using a desktop application:

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

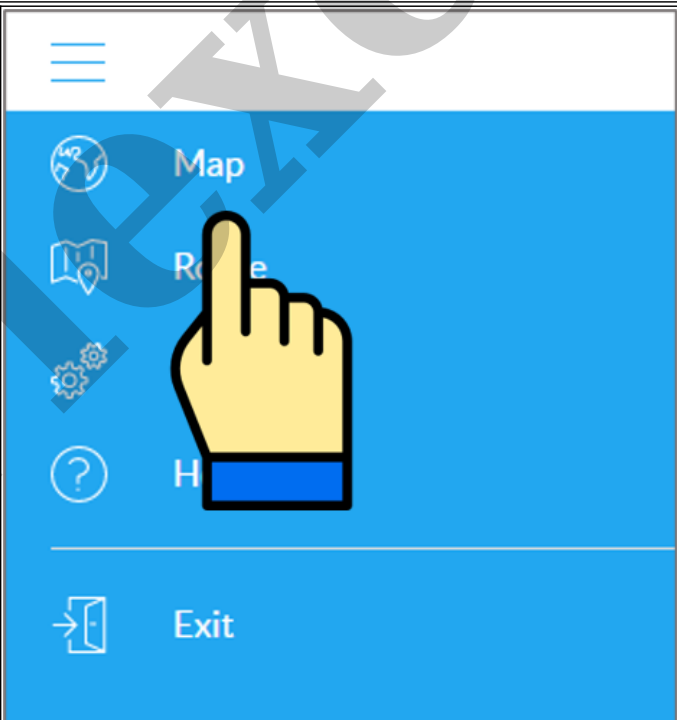
Click the Settings or Commands button to select the general setting or behavior you want.



The screenshot shows a 'Devices' window with a 'Filter devices' search bar. Below it, a device named 'MOBIL (flexcomcoh ...)' is selected. The device's status bar shows 'Watch', signal strength, battery level, and a '0' counter. A grid of buttons is displayed: 'Info', 'Route', 'Commands', 'Setup', 'Reports', 'Message', 'Diagram', and 'Alarm'. The 'Commands' and 'Setup' buttons are highlighted with a red box. To the right, a map shows the device's location near Szarvashegy, Skanzen, Pismány, Izbég, Lászlótelep, Szentendre, and Pannóniatelep. A red 'Watch' button is also visible on the map.

When using a mobile application:

From the application menu, select Map.



The screenshot shows a mobile application menu with a blue background. A hand icon is pointing to the 'Map' option. Other options visible are 'Route', 'Help', and 'Exit'.

Switch to the Tools panel.	 <p>The screenshot shows the top part of the mobile application. At the top, there's a header with a menu icon, the word 'Map', a signal strength icon, and a list icon. Below this is a tab bar with 'Map' and 'Devices'. The 'Map' tab is currently selected, showing a map of Slovakia with locations like Zilina, Trenčín, and Banská Bystrica. A large hand icon with a blue cuff is pointing at the 'Devices' tab.</p>
Find your device in the list of devices and tap the Setup icon next to the ID.	 <p>The screenshot shows the 'Devices' tab selected. At the top, there's a blue header with the text 'JÁRMŮVEK (flexcomcoh ...)' and icons for eye, edit, and expand. Below this is a list of three devices: 'ZAFIRA RDB-103 DS', 'ZAFIRA FMB920', and 'ZAFIRA FMB140 11760'. Each device entry has a signal strength bar, a battery icon, a setup icon (pencil), a status icon (0), and a target icon. A large hand icon with a blue cuff is pointing at the setup icon next to the 'ZAFIRA FMB140 11760' device.</p>
Select the desired setting or, when sending a command, select Commands.	 <p>The screenshot shows the 'Commands' menu. At the top, there's a header with 'Map' and 'Devices' tabs. Below this is a list of settings: 'ZAFIRA RDB-103 DS', 'Identification', 'Path', 'Setting time zone', 'Set up segment', 'Group name setting', and 'Commands'. A large hand icon with a blue cuff is pointing at the 'Commands' option. At the bottom, there's a blue 'Back' button.</p>

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.