FM1110 and FM1120 Sample User Guide for Recommended Configuration

1 About the document

This document contains information required for fast testing of the FM1110 and FM1120 device.

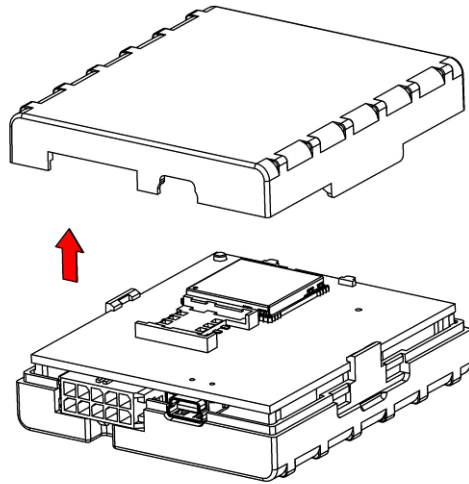### 1.1 Getting started with FM1110 and FM1120 device

This paragraph contains the information needed to successfully launch and use the FM1110 and FM1120 device. The steps below should be followed carefully to completely test the FM1110 and FM1120.
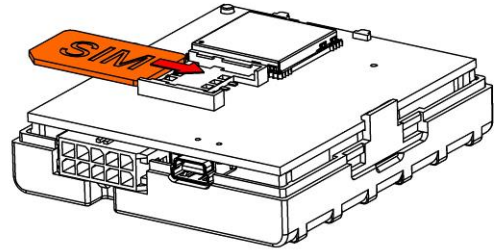
1.2 SIM card insert scheme
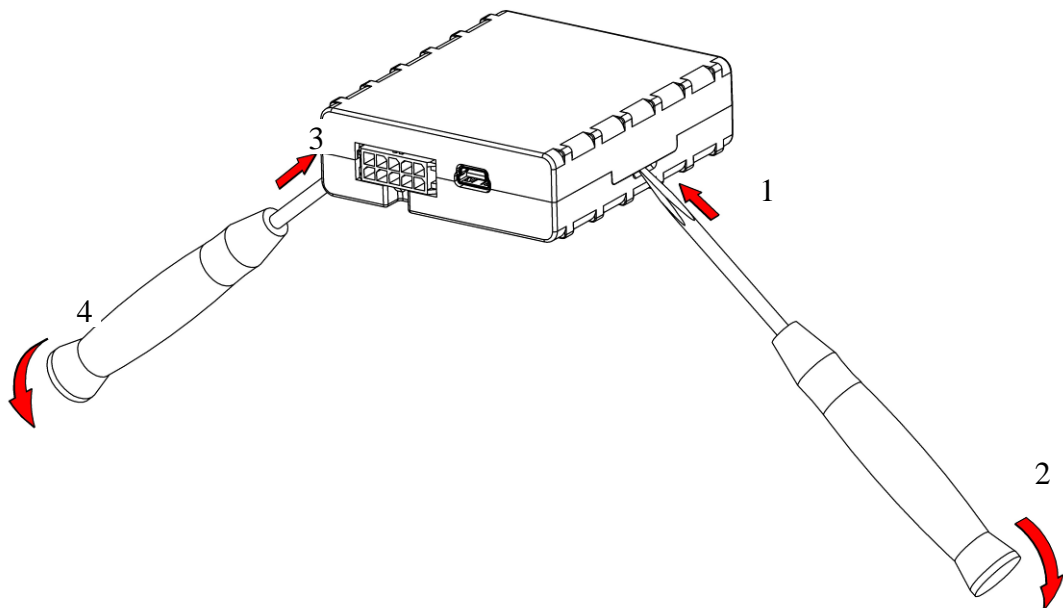
①

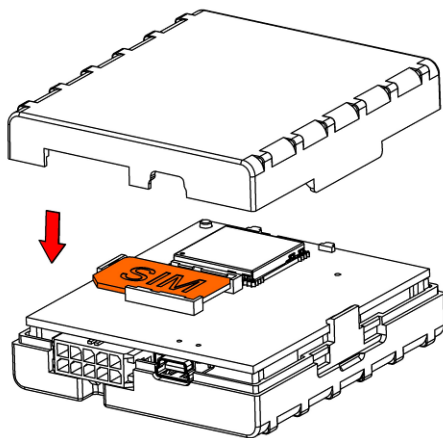Gently open FM1110 or FM1120 case using screwdrivers
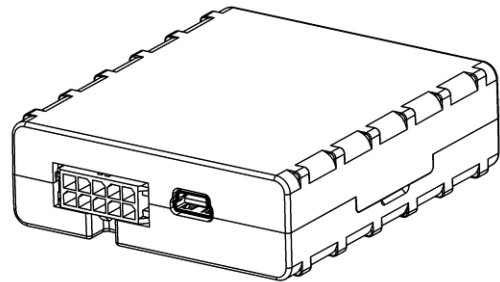
②

Remove FM1110 or FM1120 case

③

Insert SIM card as shown

④

Attach top housing cover

⑤

Device is ready

1.3 Power source connection

DIN 1 (IGNITION)	5		10		Ucc_DALLAS
DIN 2	4		9		DIN 3
DOUT 1	3		8		DATA_DALLAS
DOUT 2	2		7		AIN 1
VCC (10÷30)V DC(+)	1		6		GND(VCC(10÷30)V DC)(−)

Picture 2. 2x5 socket pin out

1.4 Installing FM1110 and FM1120 drivers

Software requirements

- Operating system 32-bit and 64-bit: Windows XP with SP3 or later, Windows Vista, Windows 7.
- MS .NET Framework V3.5 or later (http://www.microsoft.com or http://avl1.teltonika.lt/downloads/tavl/Framework/dotnetfx35setupSP1.zip).

Drivers

Please download Virtual COM Port drivers from Teltonika website:

http://avl1.teltonika.lt/downloads/FM11/vcpdriver_v1.3.1_setup.zip

Installing drivers

Extract and run VCPDriver_V1.3.1_Setup.exe. This driver is used to detect FM1110 or FM1120 device connected to the computer. Click 'Next' in driver installation window (figures below):
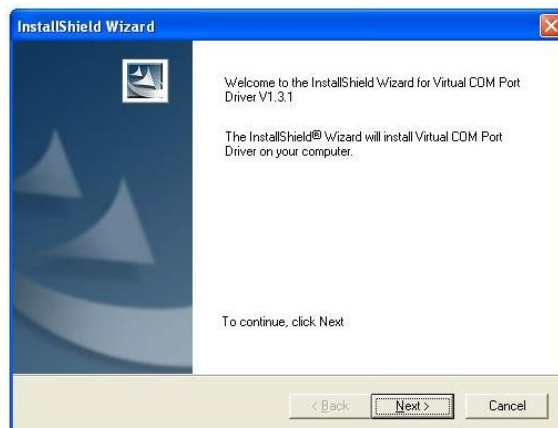

Figure 3. Driver installation window

This will launch device driver installation wizard. In the following window click 'Next' button again:

Figure 4. Driver installation window

Setup will continue installing drivers and will display a window about successful process in the end. Click 'Finish' to complete setup:

Figure 5. Driver installation window

You have now installed drivers for FM1110 and FM1120 device successfully.

Power source connection

Note, that FM1110 and FM1120 cannot be powered via USB cable, so the external 10...30 V DC (1,2 W Max) power supply must be used to power up the device.

1.5 Placing of device

- FM1110 and FM1120 must be placed sticker on TOP (please refer picture below)
- It's forbidden to place ON1110 under metal surfaces.
- It's recommended to place FM1110 and FM1120 device far from car radio, speakers or alarm systems.
- FM1110 and FM1120 must be placed so its state is as horizontal as possible

It is recommended to place FM1110 and FM1120 behind dashboard as close to the window as possible. A good example of GNSS antenna placement is displayed in a picture below (area colored green).
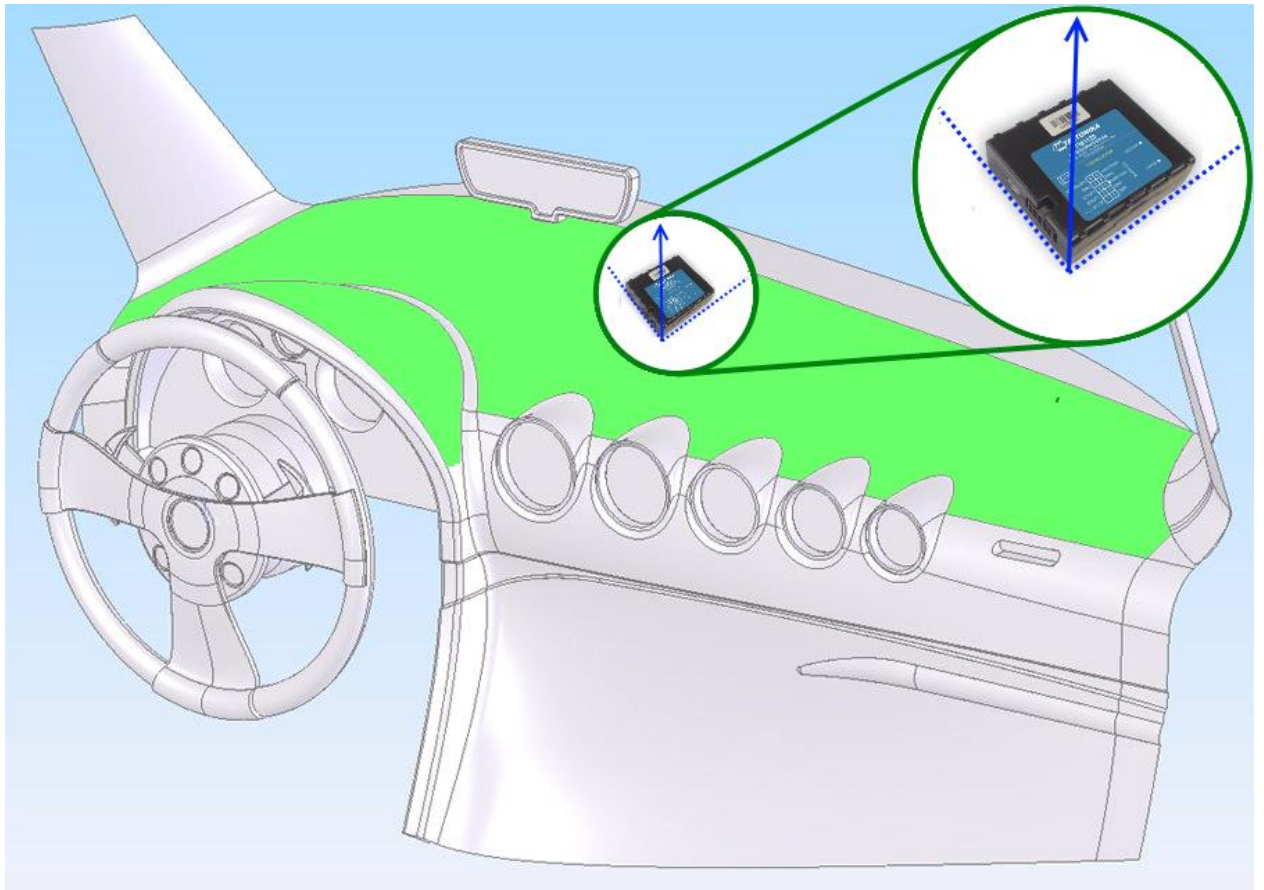
Figure 6 Correct placement of FM1110 and FM1120

1.6 Loading the Configuration into the FM1110 and FM1120 Devices

FM1110 and FM1120 Configurator must be used to configure the FM1110 and FM1120 device. The only data client is required to enter to configuration is APN data, domain and target server port.

Picture 7. Recommended configuration view

1.6.1 APN configuration

In order to FM1202 device to be able to connect to local GPRS network (and send AVL data) the following APN data (provided by local GSM services provider) must be entered into FM1202 configuration (1 selection):

- Access Point Name (APN) with authentication type CHAP or PAP (if required);
- APN login;
- APN password;

If you are not sure what APN settings should be, ask your GSM operator.

1.6.2 Domain and Port configuration

In field which is market as number 2 you have to enter your server IP address, where to send FM AVL data.

In field which is marked as number 3 you have to enter Port number. In recommended configuration mode transfer protocol - TCP. But also you can set UDP transfer protocol in advanced configuration.

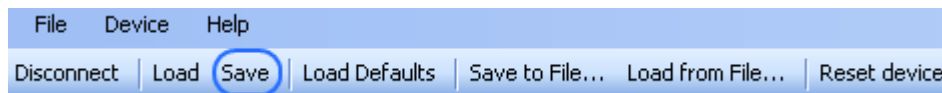### 1.6.3 Saving the Configuration into the FM1110 and FM1120 Device

Follow these steps:

1. Press connect in configurators navigation bar (make sure that your FM1202 is connected to PC and power source).
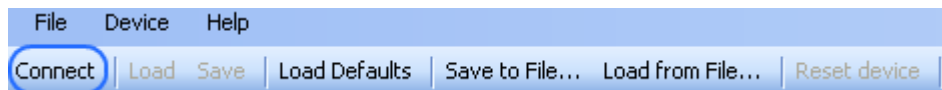
Picture 8. Connecting FM1202 to configurator

2. When device is to connected to configurator you can save your configuration by clicking Save.

Picture 9. Saving configuration to FM1202 device

1.6.4 Recommended Configuration

Recommended configuration is based on fast periodic AVL data acquisition mainly according to the change of the object's geographic angle (Min.Angle = 10 degrees). According to this configuration the FM1110 and FM1120 device will generate AVL record every time the object's angle is changed more than 10 degrees. Such AVL data acquisition is rational in cases the object mostly moves in the city. Min.Distance = 100 meters, so the additional AVL record will be generated after driving more than 100 meters in the straight line. If the object with FM1110 and FM1120 device is not moving, the AVL data records are generated periodically every 1 hour (Vehicle on STOP Min.period = 3600 s). If the object with FM1110 and FM1120 device is moving, the AVL data records are generated periodically every 300 seconds.

AVL data is sent via GPRS to the server as soon as the AVL data record is generated (Min. saved records = 1; Send period = 1 s). According to this configuration one AVL data record, containing information about the GPS position and Input/Output (I/O) parameters is sent to the server at least every 300 seconds.

Following I/O elements' vales are monitored in every AVL data record:

- DIN1 (as ignition) {values: 0 – Off; 1 – On};
- Movement {values: 0 – object is not moving; 1 – object is moving};
- Power voltage {values: from 10 V to 30 V, according to the power source).

- Speed {values: current vehicle speed in km/h}

Additional AVL data records called "events" are generated on following parameter value changes:

- If power voltage value falls to less than 11 V;

- Speed is less than 5 km/h for more than 1 minute;

- Ignition is turned ON/OFF (DIN1=1 or DIN1=0).

1.6.5   What is the purpose of testing FM1110 and FM1120 in this scenario?

The main purpose of this testing scenario is for the user to see the highly detailed track (as in the sample screenshot below) of his driven track in the city. The user will be able to see his vehicles current position as well as the position in any selected time in the past. The user will be able to see the time and points in the map in which the ignition has been turned ON/OFF, power voltage has become less than 11 V (car battery needs to be recharged). The user will be able to compare "Vehicle on STOP" and "Vehicle MOVING" modes.
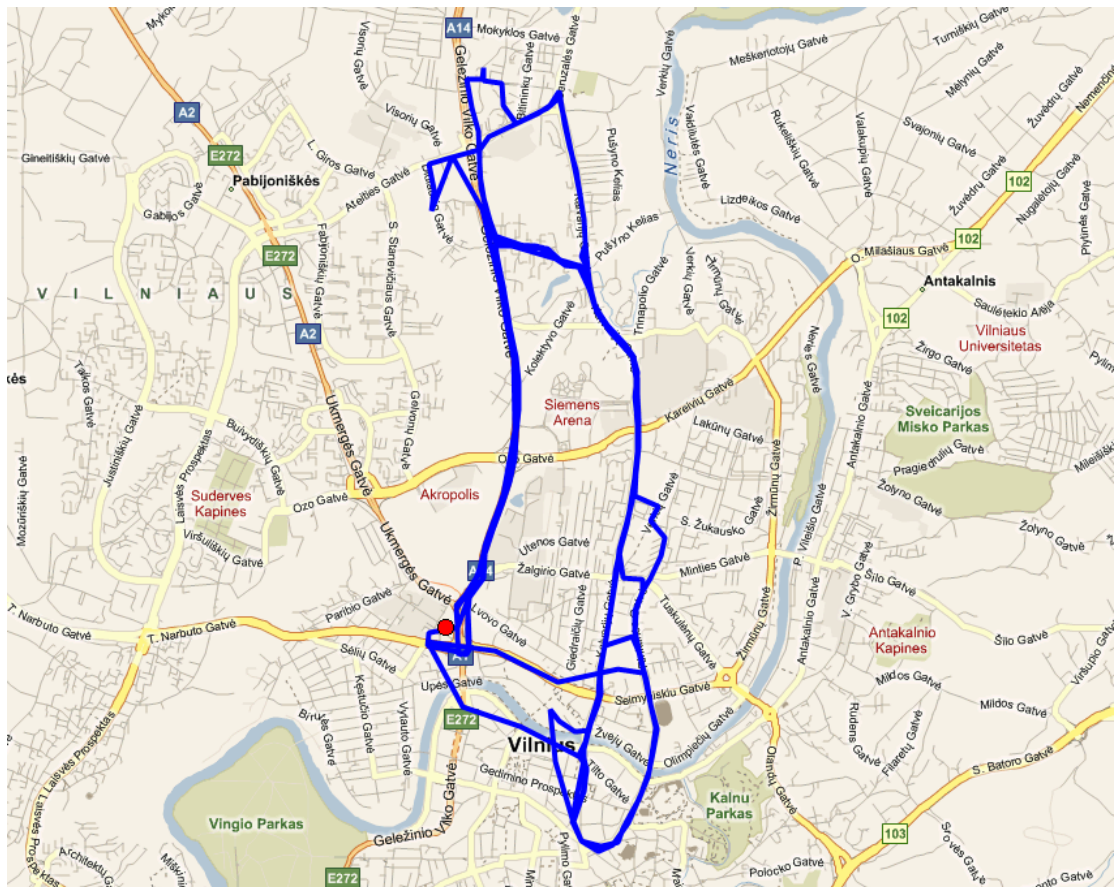
Picture 10. Track of the FM1110 and FM1120 working in "Recommended Configuration"

The track showed in the screenshot above contains the information of 3 days driving of real vehicle in the city of Vilnius, Lithuania. Using the service of local GSM service provider "Bite GSM" 1 MB of data has been transmitted through the GPRS to generate such track.

NOTE, that GPRS traffic differs from the GPRS coverage at the area and the GSM service provider's data averaging policy, so the GPRS traffic can be higher than the described in the example above.