

# FMA120 First Start

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**GNSS/GSM/Bluetooth tracker with internal GNSS/GSM antennas and internal battery**



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## How to insert micro SIM card into FMA120

1. Gently open FMA120 case using screwdrivers.
2. Remove case.
3. Insert SIM card as shown.
4. Unscrew antenna holding screw.
5. Insert battery wire to connector.
6. Attach top housing cover.
7. Device is ready.



## 2x5 socket pinout

| Pin number | Pin name                   | Description  |
|------------|----------------------------|--|
| 1          | <b>VCC</b> (10-30)V DC (+) | Power supply for module. Power supply range (10...30) V DC.    |
| 2          | OUT 2                      | Digital output. Channel 2. Open collector output. Max. 3 A DC. |
| 3          | OUT 1                      | Digital output. Channel 1. Open collector output. Max. 3 A DC. |
| 4          | DIN 2                      | Digital input, channel 2.                                      |
| 5          | DIN 1                      | Digital input, channel 1.                                      |
| 6          | <b>GND</b> (-)             | Ground pin. (10...30)V DC ( — ).                               |
| 7          | AIN 1                      | Analog input, channel 1. Input range: 0-30V/0-10V DC           |
| 8          | DATA_DALLAS                | Data channel for Dallas 1-Wire® devices                        |
| 9          | DIN 3                      | Digital input, channel 3.                                      |
| 10         | Ucc_DALLAS                 | + 3,8 V output for Dallas 1-Wire® devices. (max 20mA)          |

## Configuration (Windows)

### .NET requirements

| Operating system  | MS .NET Framework version                    | Version                                   | Links  |
|---|--|---|--|
| Windows XP with SP3 or later                            | MS .NET Framework 4 with KB2468871-v2 update | 32 and 64 bit (x86), 64 bit (x64 or IA64) | <a href="https://www.microsoft.com/en-US/Download/confirmation.aspx?id=17718">https://www.microsoft.com/en-US/Download/confirmation.aspx?id=17718</a><br><a href="http://avl1.teltonika.lt/downloads/software/Framework/.NET%20Framework%204/dotNetFx40_Full_x86_x64.exe">http://avl1.teltonika.lt/downloads/software/Framework/.NET%20Framework%204/dotNetFx40_Full_x86_x64.exe</a>                               |
| Windows Vista<br>Windows 7<br>Windows 8.1<br>Windows 10 | MS .NET Framework 4.6.2                      | 32 and 64 bit                             | <a href="https://www.microsoft.com/en-us/download/confirmation.aspx?id=53344">https://www.microsoft.com/en-us/download/confirmation.aspx?id=53344</a><br><a href="http://avl1.teltonika.lt/downloads/software/Framework/.NET%20Framework%204.6.2/NDP462-KB3151800-x86-x64-AllOS-ENU.exe">http://avl1.teltonika.lt/downloads/software/Framework/.NET%20Framework%204.6.2/NDP462-KB3151800-x86-x64-AllOS-ENU.exe</a> |

At first FMA120 device will have default factory settings set. These settings should be changed according to the user's needs.

Device can be configured to acquire and send data to server, in this case the GSM settings shall be set in regards with GSM operator's information. If device GSM is unavailable, the device will not be able to send the data and FMA120 will start storing records to flash memory. It is possible to store up to 3500 data records. It will send data over GPRS when it is available. Note that FMA120 might reach its full memory capacity. If such case happens, the device will start deleting the oldest records in order to save new ones.

FMA120 configuration is performed via FMA120 Configurator program. Contact sales manager to get the latest FMA120 Configurator version or download from <http://avl1.teltonika.lt/downloads/FM11YY/>. FMA120 configurator operates on Microsoft Windows OS and uses prerequisite MS .NET Framework.

Module configuration can be performed over USB cable. Configuration process begins by starting FMA120 Configurator software and then connecting to FMA120 device via **Connect** button located on the top left corner of configurator. FMA120 has one user editable profile, which can be loaded

from device, and saved. User can also revert to default settings, by pressing Load Defaults button. After any modification of configuration settings it has to be saved to FMA120 device using **Save** button.

FMA120 has 2 configuration modes: Recommended Configuration.



And Advanced Configuration .



FMA120 Configurator is divided into main areas: 1 - main button area, 2 - information area, 3 - settings menu, 4 - parameters and values menu, 5 - recommended configuration values. Button 6 is used to change between configuration modes.

### Main Buttons description

- **Connect** - connects device.
- **Load** - reads configuration parameters from FMA120 Flash memory.
- **Save** - saves configuration parameters to FMA120 Flash memory .
- **Load Defaults** - loads default FMA120 settings that later can be modified. This procedure must be performed before entering new parameters.
- **Save to file** - allows user to save currently entered settings to .XML file, for later usage.
- **Load from File** - allows user to load configuration saved in .XML extension file.
- **Reset device** - reboots FMA120 and displays processor firmware version.

More details on using the Configurator can be found [here](#).

## Mounting recommendations

- Connecting wires
  - Wires should be connected while the module is not plugged in.
  - Wires should be fastened to stable wires or other non-moving parts. Any heat emitting and/or moving objects should be kept away from the wires.
  - There should be no exposed wires. If factory isolation was removed while connecting the wires, the isolation material should be applied.
  - If the wires are placed in the exterior or in places where they can be damaged or exposed to heat, humidity, dirt, etc., additional isolation should be applied and the wires should not be loose.
  - Wires cannot be connected to the board computers or control units.
- Connecting power source
  - Be sure that after the car computer goes to sleep mode, power might be still available on the power wires. Depending on the car model, this may happen in 5 to 30 minutes period.
  - When the module is connected, measure the voltage again to make sure it did not decrease.
  - It is recommended to connect to the main power cable in the fuse box.
  - 3 A, 125 V external fuse shall be used.
- Connecting ignition wire
  - Be sure to check if it is a real ignition wire i. e. power does not disappear after starting

the engine.

- Check if this is not an ACC wire (when key is in the first position, most of the vehicle electronics are available).
- Check if power is still available when you turn off any of vehicles devices.
- Ignition is connected to the ignition relay output. As alternative, any other relay, which has power output when ignition is on, may be chosen.
- Connecting ground wire
  - Ground wire is connected to the vehicle frame or metal parts that are fixed to the frame.
  - If the wire is fixed with the bolt, the loop must be connected to the end of the wire.
  - For better contact scrub paint from the spot where loop is going to be connected.

**PAY ATTENTION! Connecting the power supply must be carried out in a very low impedance point of on-board vehicle network. These points in the car are the battery terminals. Therefore, we recommend connecting the power of FMA120 (GND and POWER wires) directly to the battery terminals. Another valid option is to connect the wires to the main POWER cable inside the fuse box (if there is none, then to the power supply where the fuses of vehicle's computer are), GND wire must be connected in a special point, designed to connect GND vehicle computer. Connecting the GND at an arbitrary point to the mass of the car is unacceptable, as static and dynamic potentials on the line GND will be unpredictable, which can lead to unstable FMA120 operation and even its failure.**

## Safety information

This message contains information on how to operate FMA120 safely. By following these requirements and recommendations, you will avoid dangerous situations. You must read these instructions carefully and follow them strictly before operating the device!

The device uses SELV limited power source. The nominal voltage is +12 V DC. The allowed voltage range is +10..+30 V DC.

To avoid mechanical damage, it is advised to transport the device in an impact-proof package. Before usage, the device should be placed so that its LED indicators are visible. They show the status of device operation.

When connecting the 2x5 connector wires to the vehicle, the appropriate jumpers of the vehicle power supply should be disconnected.

Before unmounting the device from the vehicle, the 2x5 connector must be disconnected.

The device is designed to be mounted in a zone of limited access, which is inaccessible to the operator. All related devices must meet the requirements of EN 60950-1 standard.

The device FMA120 is not designed as a navigational device for boats.

<https://teltonika-gps.com/product/fma120>