

# **Teltonika FOTA user manual**

## **v1.07**

## Table of Contents

1. About.....	3
2. Requirements.....	3
3. Getting started.....	3
3.1. “FotaData” database.....	3
3.2. Licensing.....	4
3.3. Security Alert.....	4
4. Configuration.....	5
4.1. Communication.....	5
4.2. Modem.....	6
4.2.1 Fota operation via GSM modem.....	6
4.2.2 Fota operation via TAVL SMS Server.....	7
4.2.3 Fota operation via FM36XX device.....	8
4.3. Database configuration.....	8
5. Creating new objects.....	9
5.1. Adding new object.....	9
5.2. Importing new objects from file.....	10
6. Managing Objects.....	12
6.1. Object editing.....	12
6.2. Deleting object.....	13
6.3. Exporting objects to file.....	14
7. Firmware updating process.....	14
7.1. Updating.....	14
7.2. Canceling update.....	17
8. Objects filtering and history information.....	17
8.1. Filtering.....	17
8.2. Object update history.....	18
9. Object remote configuration.....	18

## 1. About

Teltonika fleet management systems firmware remotely update tool. Teltonika FOTA software can update any FMXXXX device firmware.

## 2. Requirements

- Microsoft Windows or Server operating system
- .NET Framework 2.0;
- Microsoft SQL Standard or Express edition 2005/2008/2008R2/2012
  - SQL Server Management Studio
  - SQL Server and Windows Authentication mode
- TAVL SMS service or Teltonika ModemCOM/G10 GSM modem
- Internet connection with static IP address (no Proxy allowed);
- Opened TCP port to computer from outside;



*Note, that every FOTA program must have its own FOTA database. The same FOTA database can't be used by different FOTA programs.*

## 3. Getting started

### 3.1. "FotaData" database

Before FOTA program could work "FotaData" database must be created. If you do not have required SQL data engine running, please download free copy of SQL Server Express edition from Microsoft website:

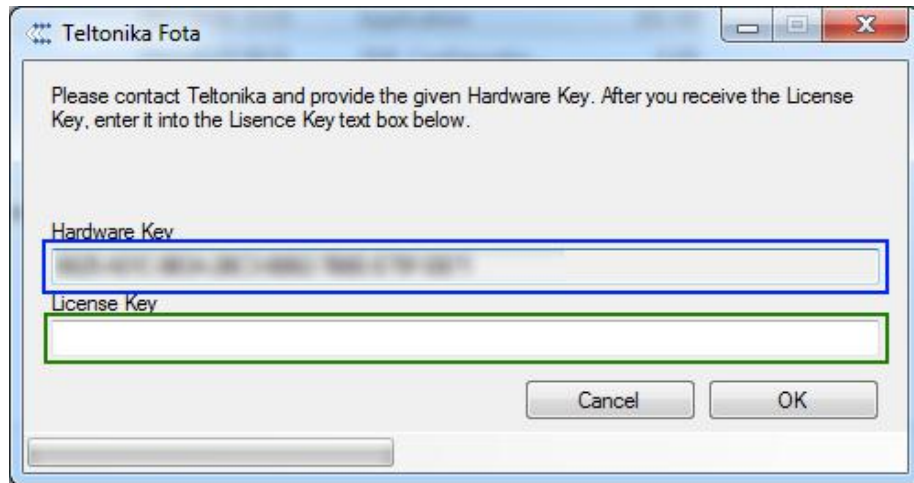
<http://www.microsoft.com/express/sql/>

And install it with default settings with one exception: change default setting from *Windows authentication mode* to *SQL Server and Windows Authentication mode*.

After installing MS SQL Server data engine, please contact Teltonika export manager for "FotaData" database creation.

### 3.2.Licensing

The first time you will start Teltonika FOTA you will be prompted to enter License Key (Fig.1).



**Fig. 1** Licensing window

In this window is displayed your *Hardware Key* (blue marker). This key must be copied and provided to your Teltonika sales manager together with external IP. Sales manager will respond to you with valid license key, which must be put in the *License Key* (green marker) field. After clicking OK, license will be assigned to your computer.

### 3.3.Security Alert

When you first time start FOTA program window like following should pop up



**Fig. 2** Security Alert

Check *Private network* as well as *Public network* and press “Allow access”.

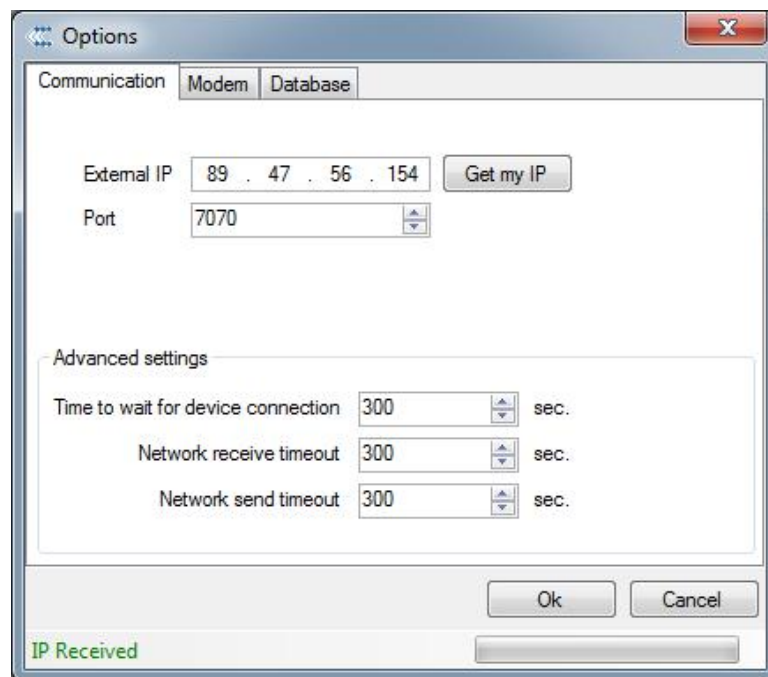


Note, that it is necessary to check Public network if your internet connection identified as Public by computer.

## 4. Configuration

### 4.1. Communication

In *Communication* section you need to set your external IP address and TCP port (Fig. 3). Note, that you can get your external IP by simply clicking *Get my IP*.



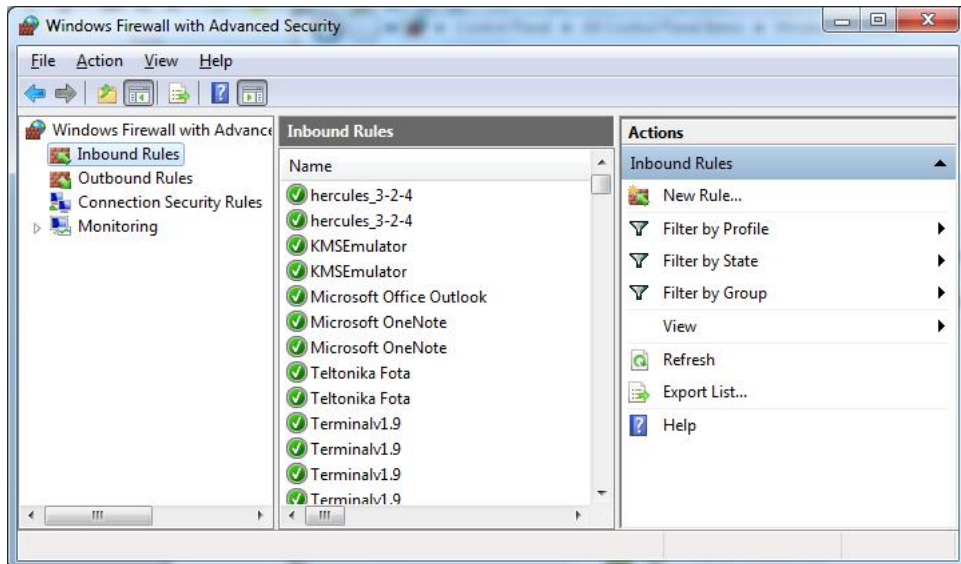
**Fig. 3** Communication tab

You must check if configured TCP port is accessible from outside. To do that:

- a) Start FOTA application and configure External IP and TCP port in communication tab options.  
Press Ok.
- b) Check if configured TCP Port is available from outside by going to <http://www.canyouseeme.org/>

If TCP port is not available you must check two points:

- a) Check Windows firewall if it is blocking current TCP port from outside and create new rule of inbound rules with needed TCP port.



**Fig. 4** Windows firewall configuration

- b) Check Gateway router configuration and forward needed TCP port directly to your computer internal IP.



*Gateway Router forwarding configuration must be done by IT administrator.*

## 4.2.Modem

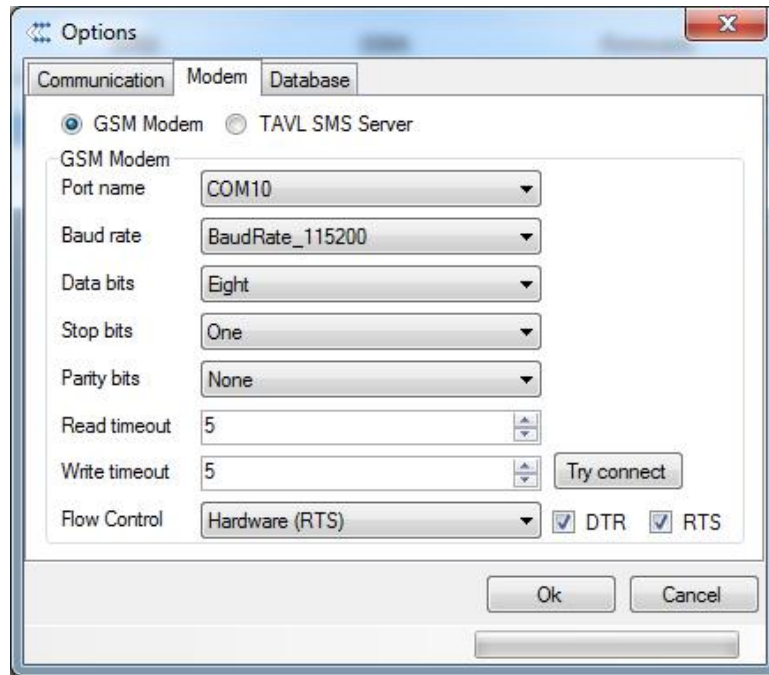
For devices updating via FOTA you can use:

- Teltonika GSM modem must
- TAVL SMS Server
- FM36XX

### 4.2.1 Fota operation via GSM modem

If you will be using GSM modem, after it will be installed, you must configure its connection with FOTA program in *Modem* tab (Fig. 4). Note, that COM port, where GSM modem connected, must not be used by other program.

Picture below shows Teltonika ModemCOM/G10 GSM modem correct configuration. Note, that COM port could be different. COM port, where GSM modem connected, could be checked in Device Manager (Right mouse click on My Computer -> Properties -> Device Manager).

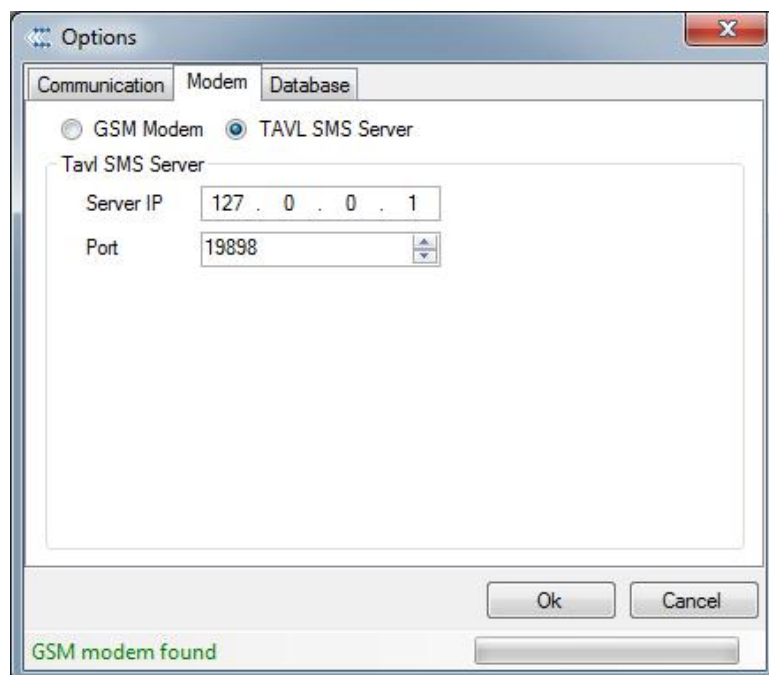


**Fig. 5** Modem tab

To check whether there is connection with GSM modem click *Try connect*. Status bar appear *GSM modem found*. If not, check the modem interface settings again.

#### 4.2.2 Fota operation via TAVL SMS Server

If you will be using TAVL SMS Server, choose TAVL SMS Server option and configure its IP (127.0.0.1 for TAVL SMS service on local system) and port number (usually 19898 for TAVL SMS service).



**Fig. 6** TAVL SMS Server option

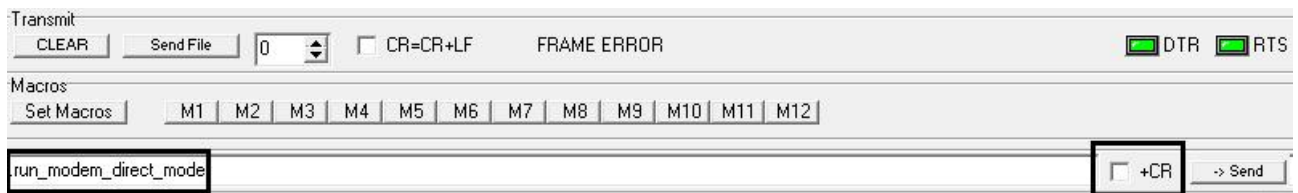
### 4.2.3 Fota operation via FM36XX device

If you are using FM36XX device as a FOTA modem you need to have these accessories:

Required Accessories	Quantity
FM36xx	1
Mini/Micro USB Cable	1
Activated 3G SIM Card	1
Power supply 12/24 Vdc	1

Below Steps Must Be Taken:

1. Insert SIM Card into FM36xx
2. Power up FM36xx, connect it to terminal.exe application, uncheck +CR and send command **.run\_modem\_direct\_mode** and immediatley disconnect terminal otherwise PC will not detect device.



3. Open FOTA, go to Tools>Options>SMS> GSM modem and select com port of your FM36xx. Click *try connect* button. If you see message **GSM modem Found**, that means FM36xx is ready to work as a modem. Now you can use FOTA and if GSM modem is not found restart FM36xx and repeat from step2.



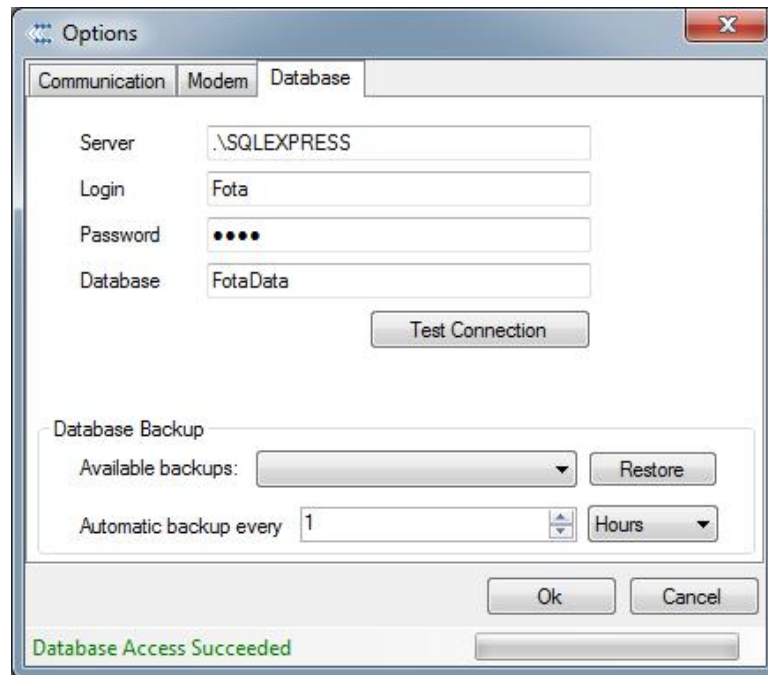
*Note, FM36XX supports 3G/GSM module. It makes this device usable worldwide, as there are countries which have only 3G network.*

### 4.3.Database configuration

You must configure the connection to the database. If you have installed MS SQL Server express with default settings leave default settings for database connection as well. If other SQL



Server used, enter its name in *Server* field, other settings must remain unchanged for “FotaData” database (Fig 7.).



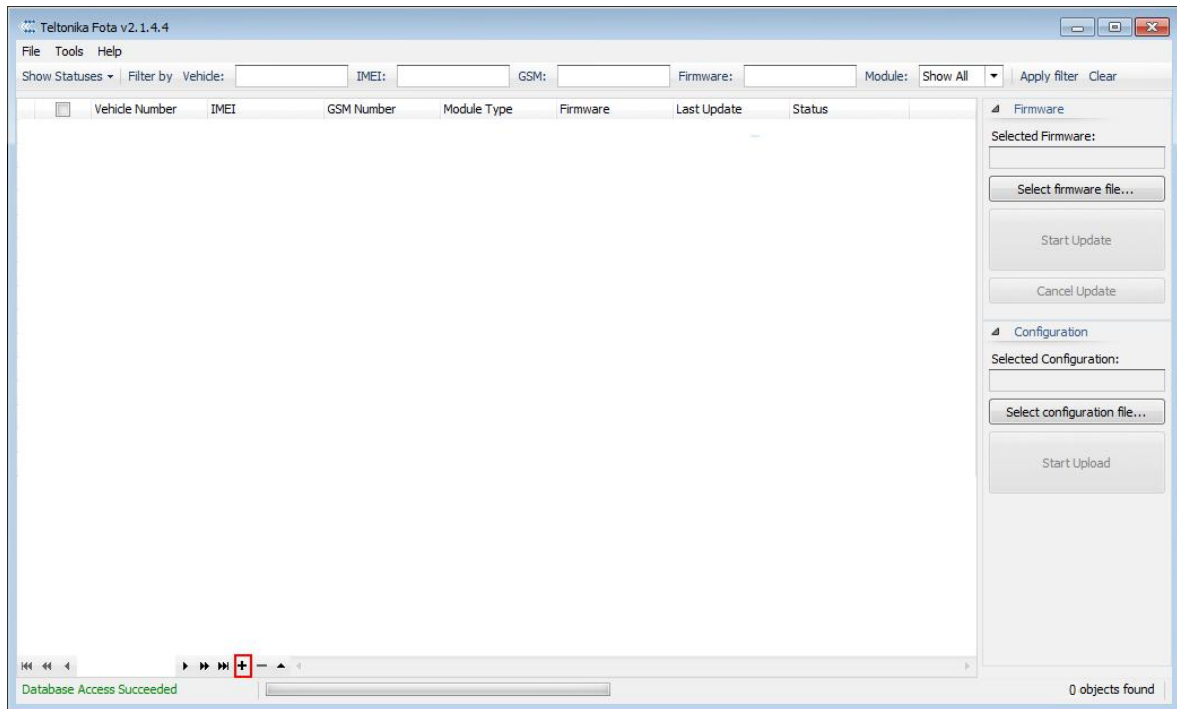
**Fig. 7** Database login

Check whether entered login information is correct by click *Test Connection*. Status bar should appear *Database Access Succeeded*.

## 5. Creating new objects

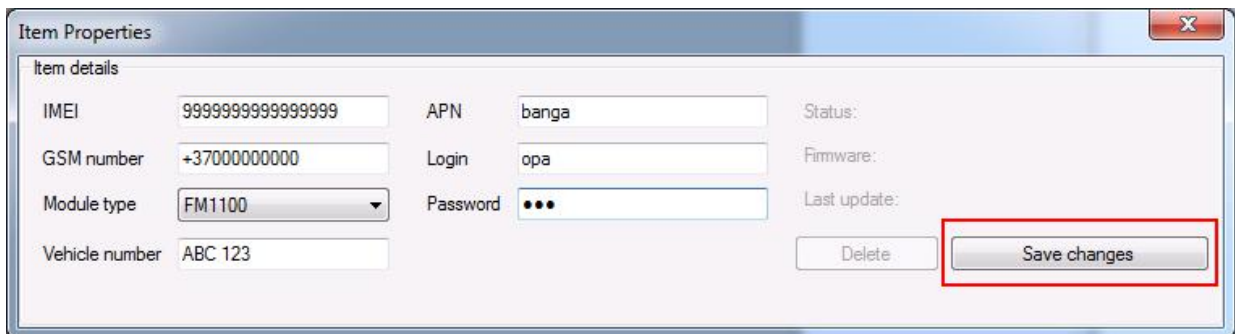
### 5.1. Adding new object

To add a new object press „+“ button in Teltonika FOTA main window (Fig.8).



**Fig. 8** Teltonika FOTA main window

Enter all reguared information and press *Save changes*.



**Fig. 9** New Item properties window

## 5.2.Importing new objects from file

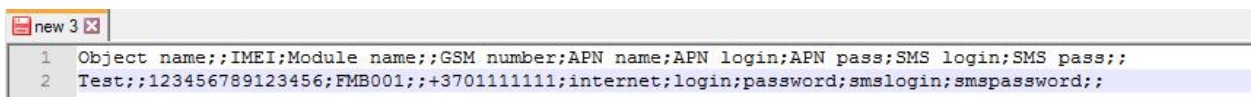
To import objects from file do the following:

1. Create a .txt file.
2. Fill .txt file with information about the devices (see pic. 10). The first line is an example of the import file structure. All the inserted parameters have to be separated with comma symbols. In the back of the line there have to be two comma symbols!

“Structure elements meaning“

1. Object name – here is the name which You will see in the Fota application
2. IMEI- in this place the unique device IMEI has to be written.
3. Module ID – in this place You have to insert device type:

- FM10
  - FM11
  - FM12
  - FMA1
  - FM22
  - FM32
  - FM33
  - FM34
  - FM36
  - FM41
  - FM42
  - FM53
  - FM55
  - FM63
  - FMB630
  - FMB010
  - FMB001
  - FMB900
  - FMB920
4. GSM number – in this place GSM number which is in the device has to be inserted
  5. APN - Your internet provider access point name
  6. APN login – Access point name login
  7. APN password – Access point name password
  8. SMS login – SMS login from configuration
  9. SMS password – SMS password from configuration



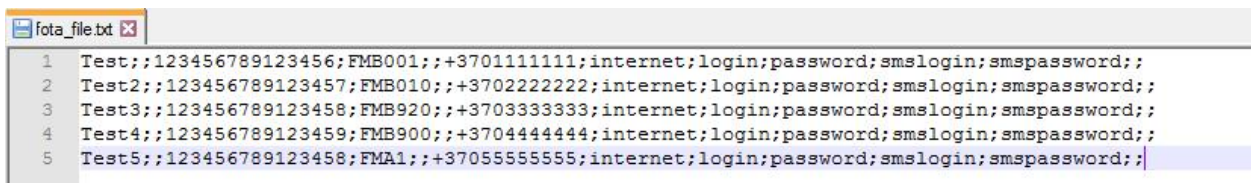
```

1 Object name;;IMEI;Module name;;GSM number;APN name;APN login;APN pass;SMS login;SMS pass;;
2 Test;;123456789123456;FMB001;;+3701111111;internet;login;password;smslogin;smspassword;;

```

**Fig. 10** Example how the structure has to be filled

3. Second line in the **Figure 10** is an example of how the line has to be filled.



```

1 Test;;123456789123456;FMB001;;+3701111111;internet;login;password;smslogin;smspassword;;
2 Test2;;123456789123457;FMB010;;+3702222222;internet;login;password;smslogin;smspassword;;
3 Test3;;123456789123458;FMB920;;+3703333333;internet;login;password;smslogin;smspassword;;
4 Test4;;123456789123459;FMB900;;+3704444444;internet;login;password;smslogin;smspassword;;
5 Test5;;123456789123458;FMA1;;+3705555555;internet;login;password;smslogin;smspassword;;

```

**Fig. 11** Example, Multiple device import to FOTA structure

4. In the **Figure 11** multiple device import to FOTA structure is shown.

5. The last step is to open FOTA, press FILE section and choose section IMPORT

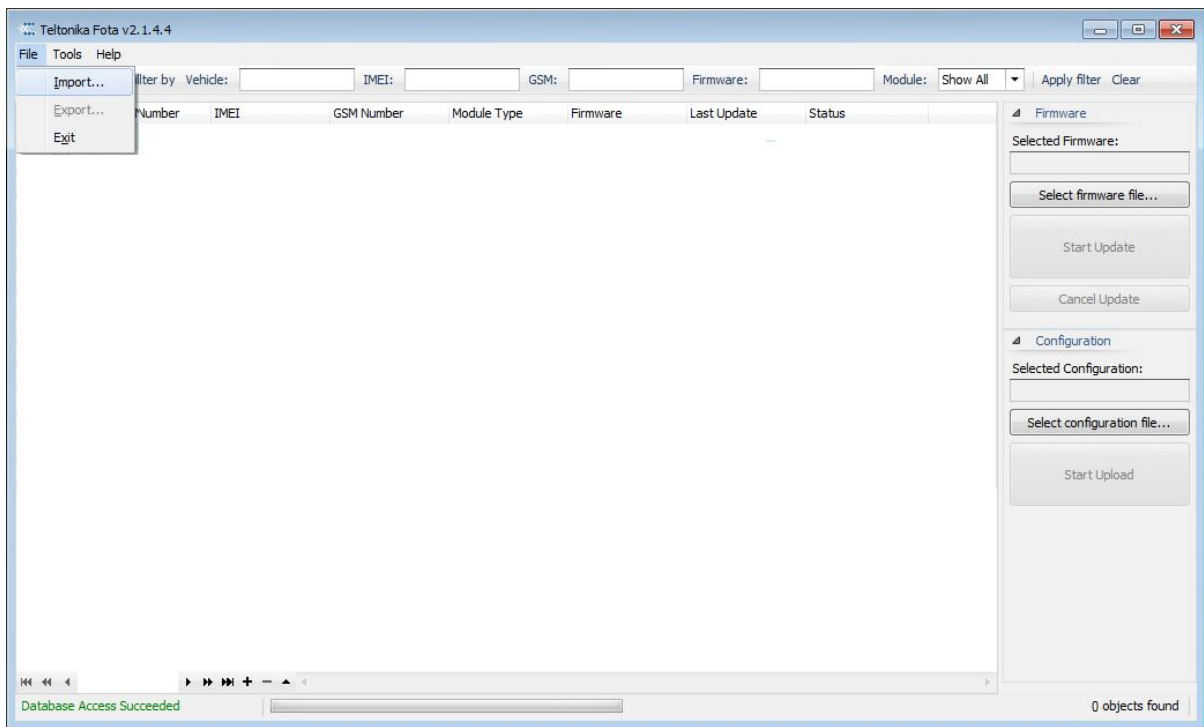
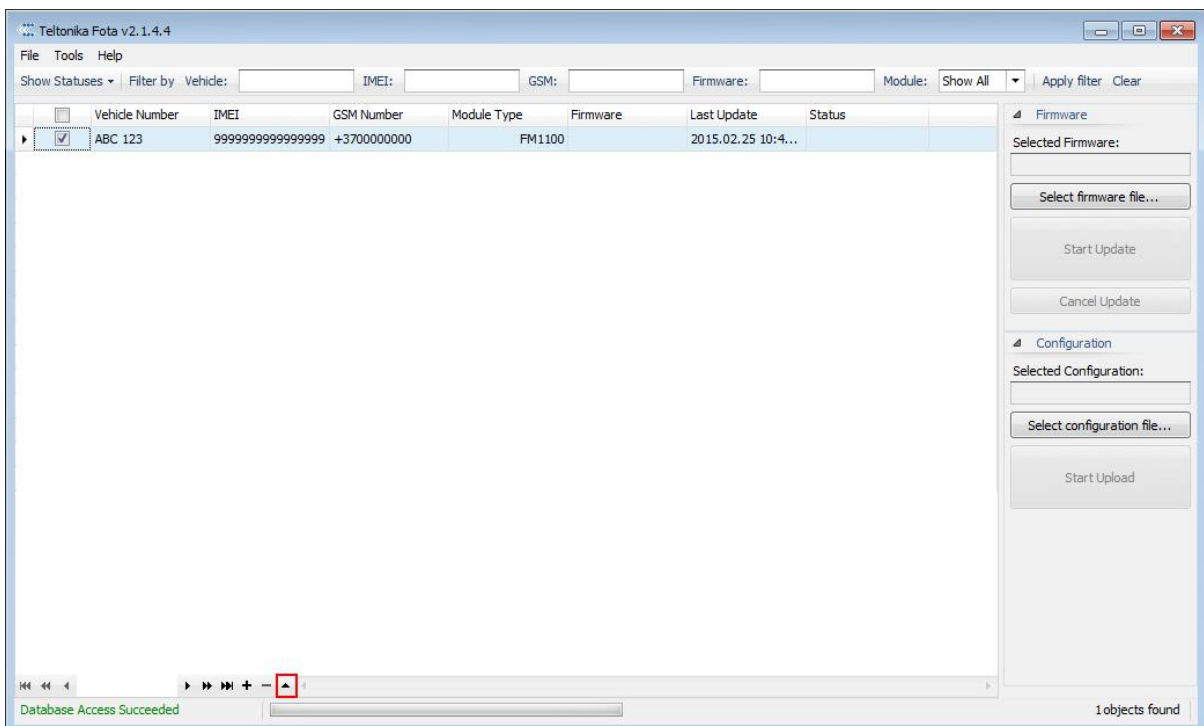


Fig. 12 Teltonika FOTA main window

## 6. Managing Objects

### 6.1. Object editing

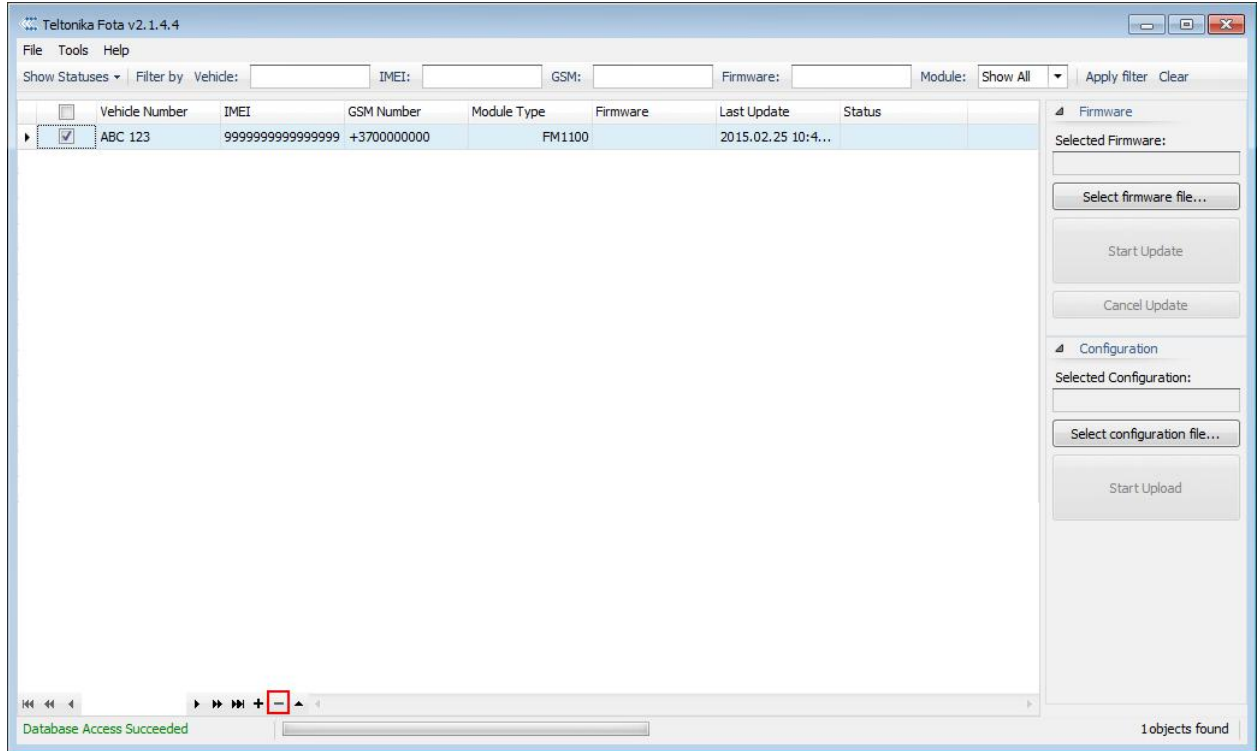
To edit existing object or view its history, select object and press “Edit” button.



**Fig. 13** Item properties window

## 6.2.Deleting object

To delete existing object, select object and press “-“ button.



**Fig. 14** Item properties window

To delete multiple objects from Teltonika FOTA, select objects to be deleted in object window and press “-“ button.

## 6.3. Exporting objects to file

To export objects from Teltonika FOTA, select objects to be exported and press File -> *Export*.

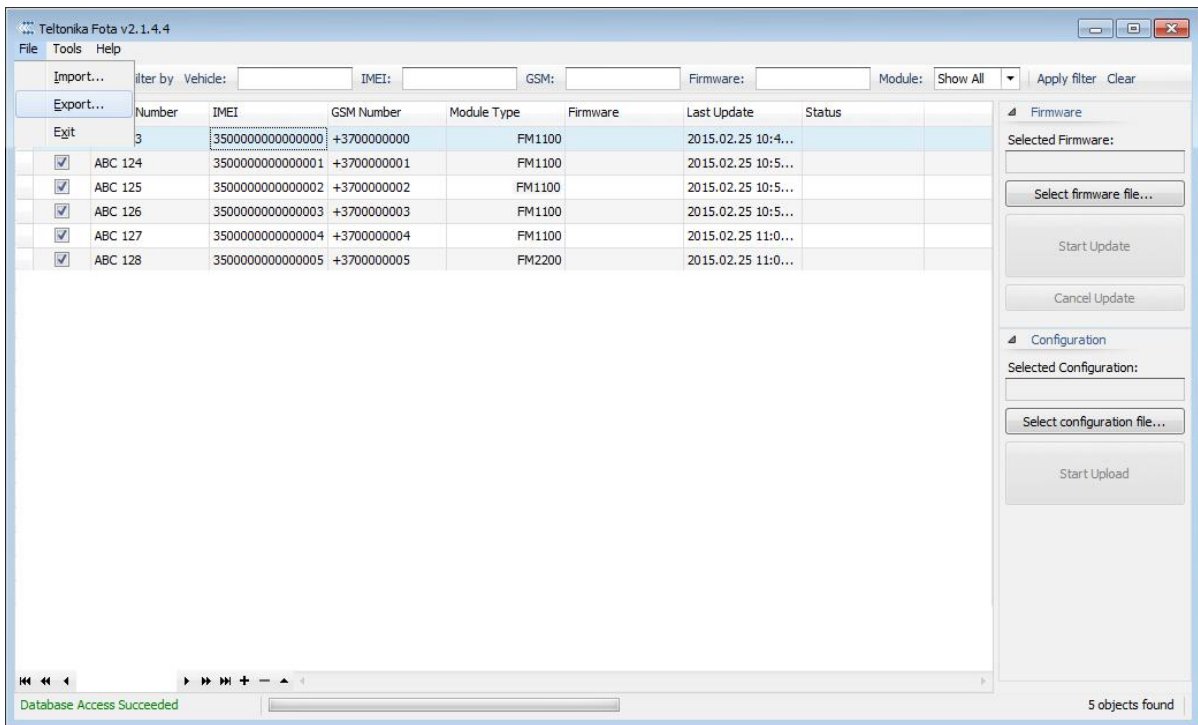


Fig. 15 Teltonika FOTA main window

## 7. Firmware updating process

### 7.1. Updating

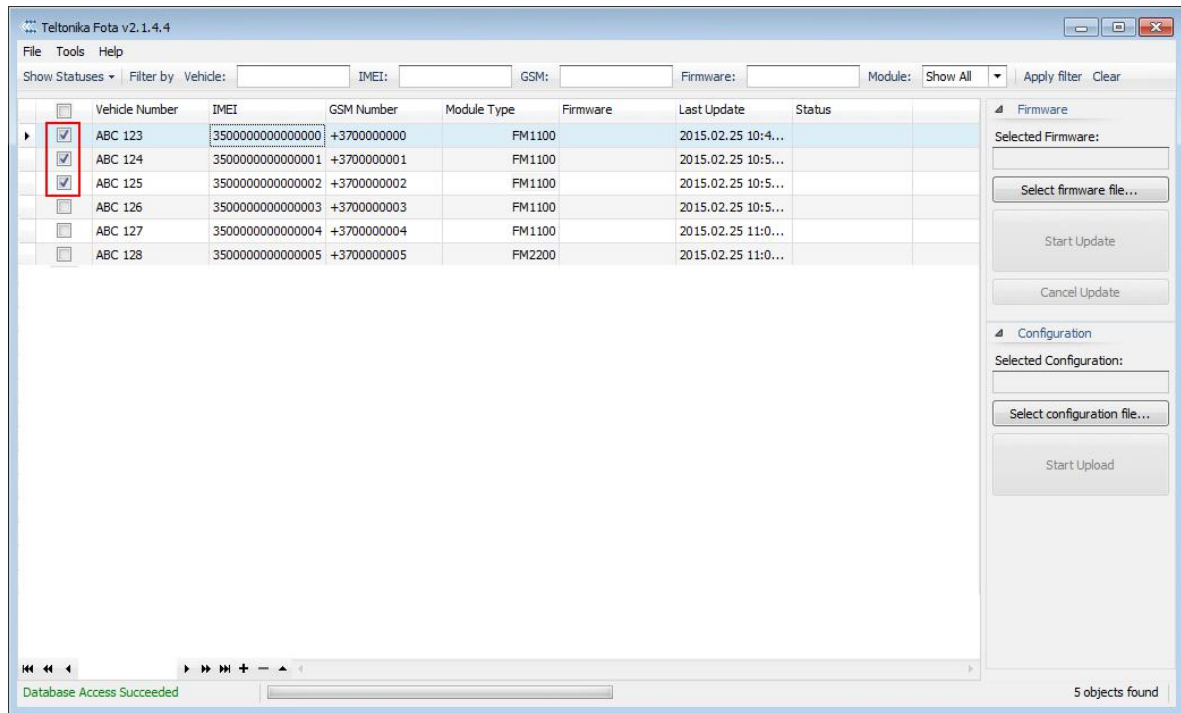


**IMPORTANT:** For update to succeed selected objects must be registered in Teltonika licensing server otherwise the update will be rejected. To register objects with licensing server you should send a list of objects to Teltonika export manager with IMEI numbers and FM type specified.

You can update several devices at the same time. However, only the same module type devices could be updated simultaneously.

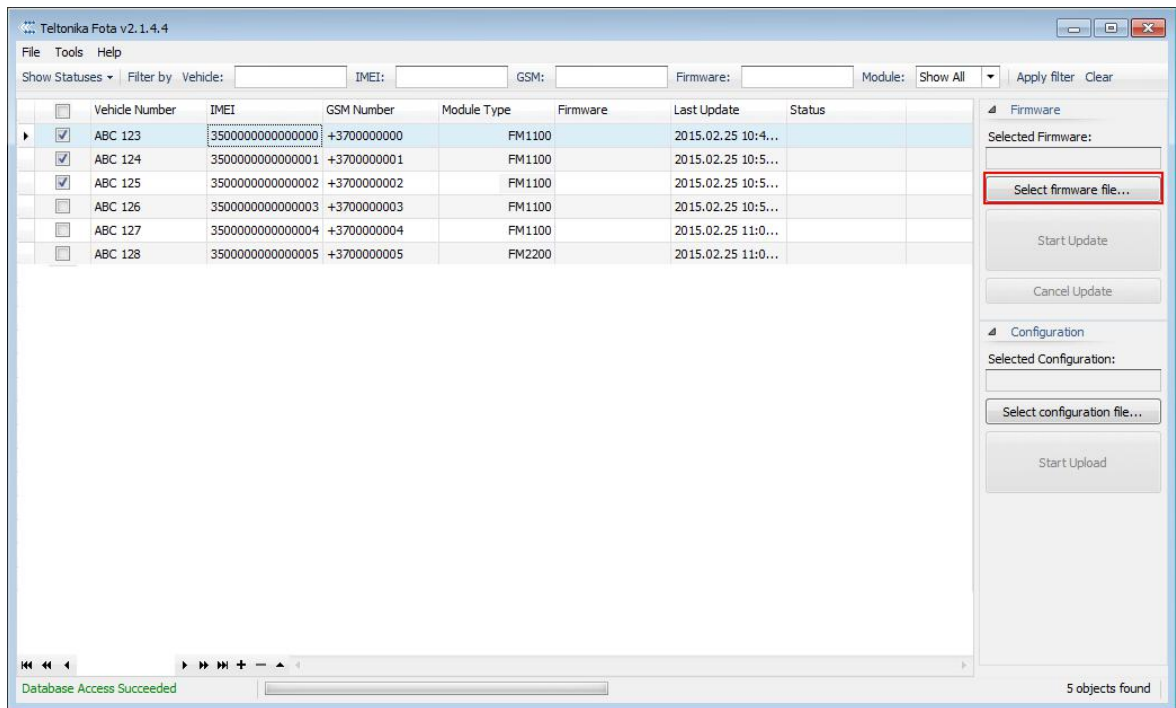
To update firmware using Teltonika FOTA:

- a) Select objects from Teltonika FOTA main window.



**Fig. 16** Teltonika FOTA main window

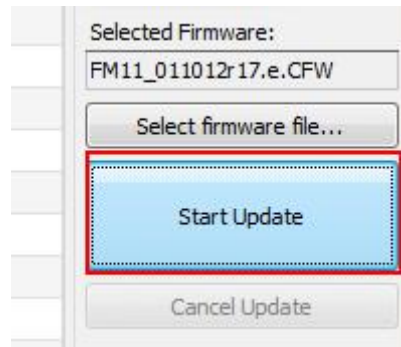
b) Select firmware file to upload by pressing *Select firmware file...* button.



**Fig. 17** Teltonika FOTA main window

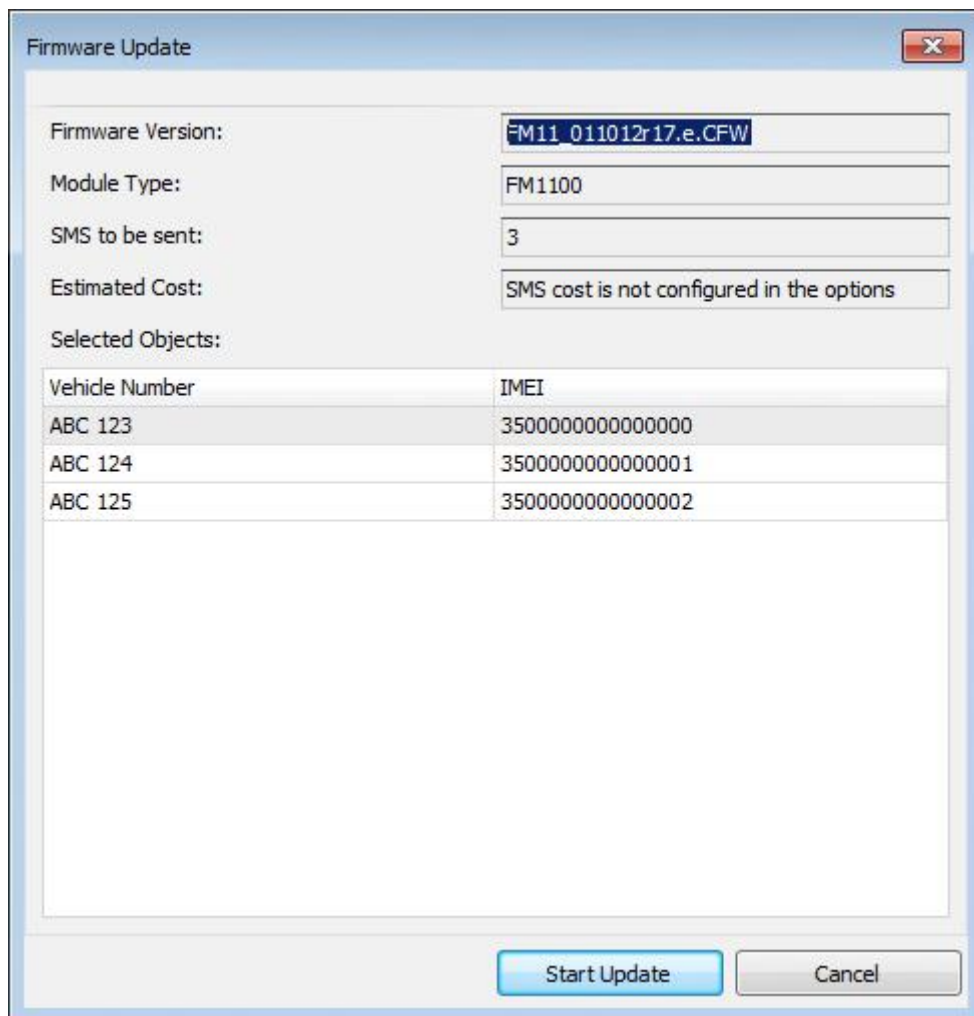
c) Press *Start Update* to review selected objects;





**Fig. 18** Start Update button

- d) After reviewing selected objects, firmware version and module type to continue with update process press *Start Update* button.



**Fig. 19** Update verification window

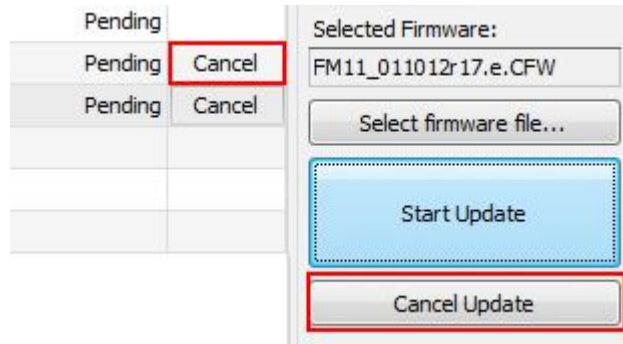
- e) In the main window, you can monitor the status of each object update process and cancel updating if necessary.



## 7.2. Canceling update

To cancel single object update press *Cancel* button next to object.

To cancel all pending updates before device connects press *Cancel Update*.

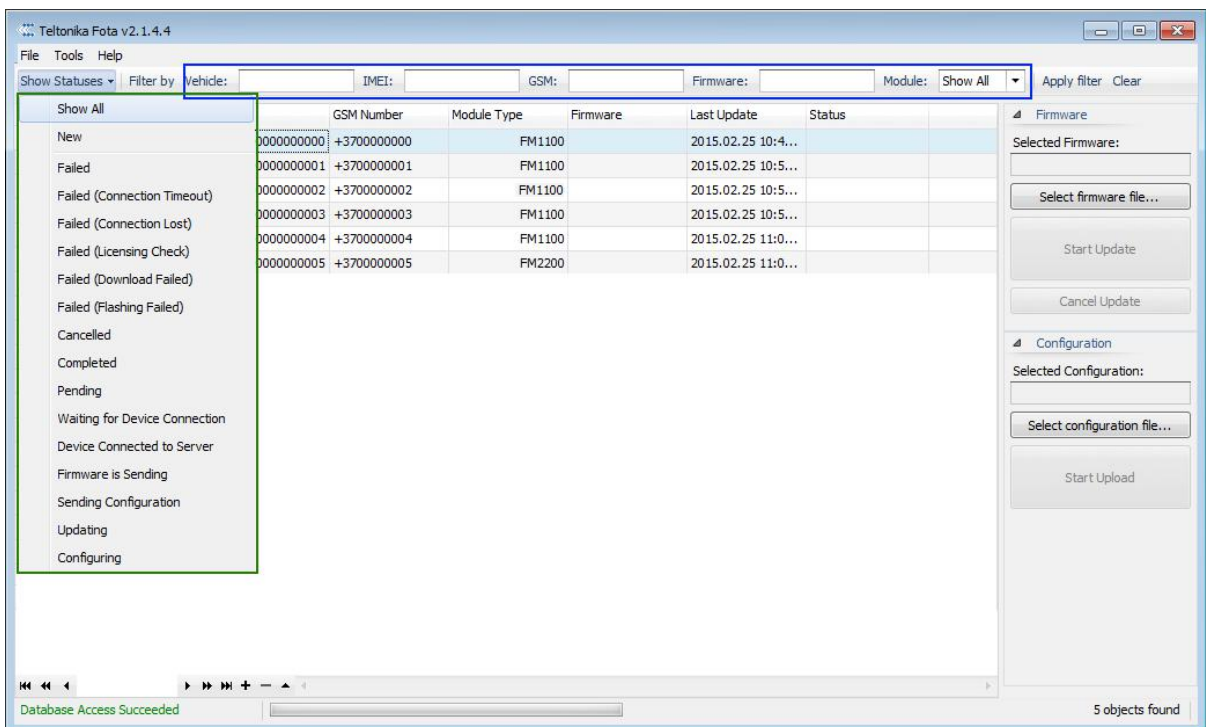


**Fig. 20** Update canceling

## 8. Objects filtering and history information

### 8.1. Filtering

You can filter the list and find the correct object. Objects can be filtered by object status (marked green) and by the vehicle information (marked blue) (Fig. 21).



**Fig. 21** Object filtering

To filter by object information, select the arguments and click *Apply*. To disable the filter click *Clear*.

## 8.2.Object update history

You can view each object update history, current firmware version and update time. In order to do that double mouse clicks on the selected object.

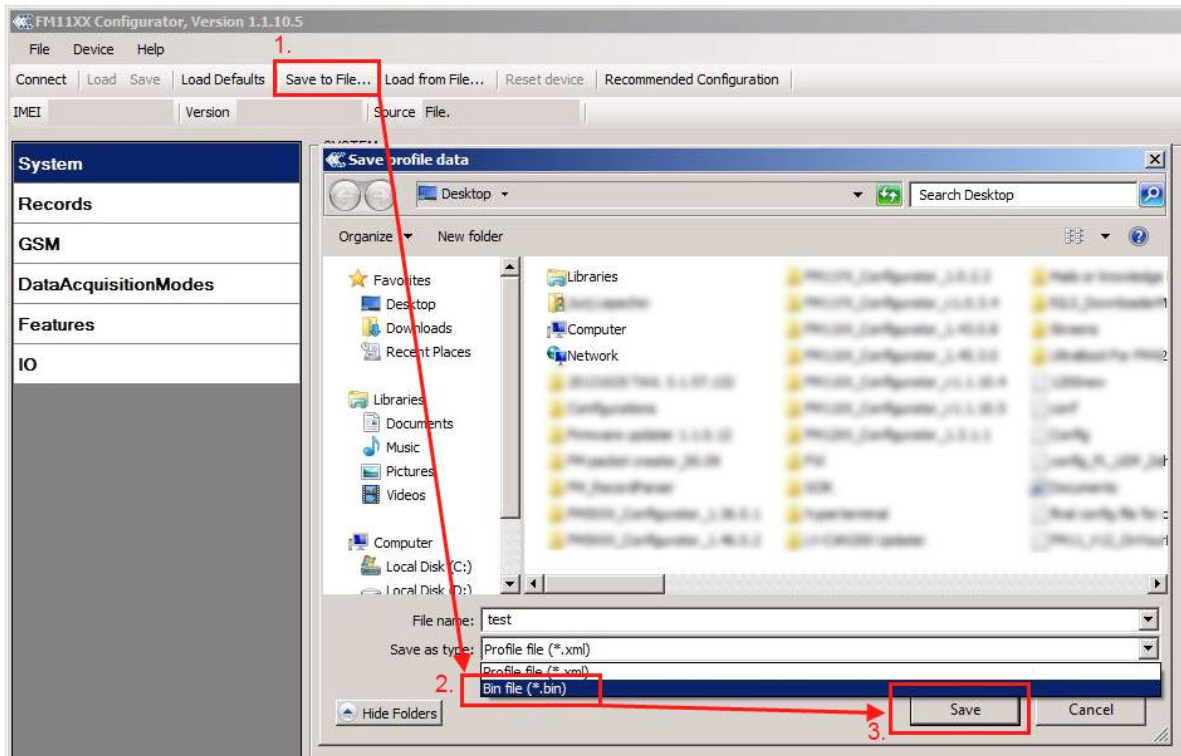
## 9. Object remote configuration

It's possible to update objects configuration via FOTA application. By default this function is disabled, contact Teltonika sales manager to enable configuration file sending. Remote configuration is supported for all our FM, FMA, FMB models with base firmware versions. Please check table below for supported firmware, configurator and Fota versions used for remote configuration update via FOTA.

**Table 1. Required firmware, configurator, FOTA version**

<b>FM module</b>	<b>Supported firmware version (or later version)</b>	<b>Required configurator version (or later version)</b>	<b>Required FOTA version (or later version)</b>
FMBOX0 (FMB010, FMB001)	v.01.00.22.Rev.12	v.0.4.20.5_C.001	2.5.3.0
FMB1YX (FMB120; FMB122; FMB125)	v.03.01.04.Rev.00	v.0.8.7.0_C.002	2.5.5
FMB9X0 (FMB900; FMB920)	v.01.00.22.Rev.12	v.0.4.20.5_C.001	2.5.3.0
FMB96X (FMB962; FMB964)	v.01.03.03	v.0.6.59.0_C.001	2.5.5
FMA1YX (FMA110; FMA120)	v.01.24.13.Rev.0	v.1.01.24.05	2.5.3.0
FMA2YX (FMA202; FMA204)	v.01.27.03.Rev.0	v1.1.27.4	2.5.5
FM63X0 (FM6300; FM6320)	v.00.02.13	v.1.00.02.07	2.02.01.03
FMB630	v.00.01.05	V.1.00.01.03	2.5.3.0
FM36YX (FM3600; FM3620; FM3622)	v. 01.00.02	v1.01.00.05	2.01.06.04
FM10X0 (FM1000; FM1010)	v. 00.06.06	v1.00.06.10	2.1.6.0
FM11YX (FM1100; FM1110; FM1111; FM1120; FM1121; FM1122)	v. 01.10.16	v1.1.10.21	1.0.0.3
FM12YX (FM1200; FM1202; FM1204; FM1206)	v. 01.03.22	v.1.1.3.18	1.0.0.3
FM5300	v.01.07.16	v1.1.7.15	1.0.0.3
FM5500	v.01.03.08	v1.01.03.07	1.0.0.3
FM2200; FM3400; FM3300; FM4100; FM4200 – Fota used just for firmware update	-	-	1.0.0.3

Also you can update objects configuration via FOTA application for a devices with special firmware. To do that you must check if configuration can be saved to .bin file (see pic.22).



**Fig. 22 Example how to save configuration to .bin format**

For instructions to objects configurations refer to document “FOTA remote configuration instructions”

## Change log

Nr.	Date	Version	Comments
1	2013.06.07	1.0	User manual released
2	2013.06.07	1.01	Minor revision
3	2013.06.11	1.02	Added static IP to requirements
4	2013.06.27	1.03	SQL database requirements and license procedure edited
5	2015.02.25	1.04	Object remote configuration added
6	2016.03.30	1.05	Object remote configuration supported firmware versions description update
7	2017.04.26	1.06	Added Fota operation via FM36XX device description. Added Importing new objects from file description. Added table „Required firmware, configurator, FOTA version“
8	2017.10.16	1.07	Updated table „Required firmware, configurator, FOTA version“