GNSS Performance Improvements

1 Introduction

1.1 About the Functionality

Numerous GNSS improvements were developed in 2019. This document explains, how to utilize these improvements for FM-Eco4 S devices that had position accuracy issues.

1.2 Legal Information

1.3 Contact Information

General enquiries

Website: ruptela.com

E-mail: info@ruptela.com

Phone: +370 5 2045188

Technical support

E-mail: support@ruptela.com

Phone: +370 5 2045030

1.4 Notations

The following notations are used in this document to highlight important information:

Bold text

Used to indicate user interface elements or for emphasis.

Italic text

Used to indicate items that belong to a list and can be selected.

Note

Used to highlight important information or special conditions.

Tip

Suggestions on how to proceed.

1.5 References

User manual: https://doc.ruptela.lt/pages/viewpage.action?pageId=2129929

Advanced configurator user manual: https://doc.ruptela.lt/pages/viewpage.action?pageId=2129929

Configurable navigation filtering: https://doc.ruptela.lt/pages/viewpage.action?pageId=2129929

2 Configuration

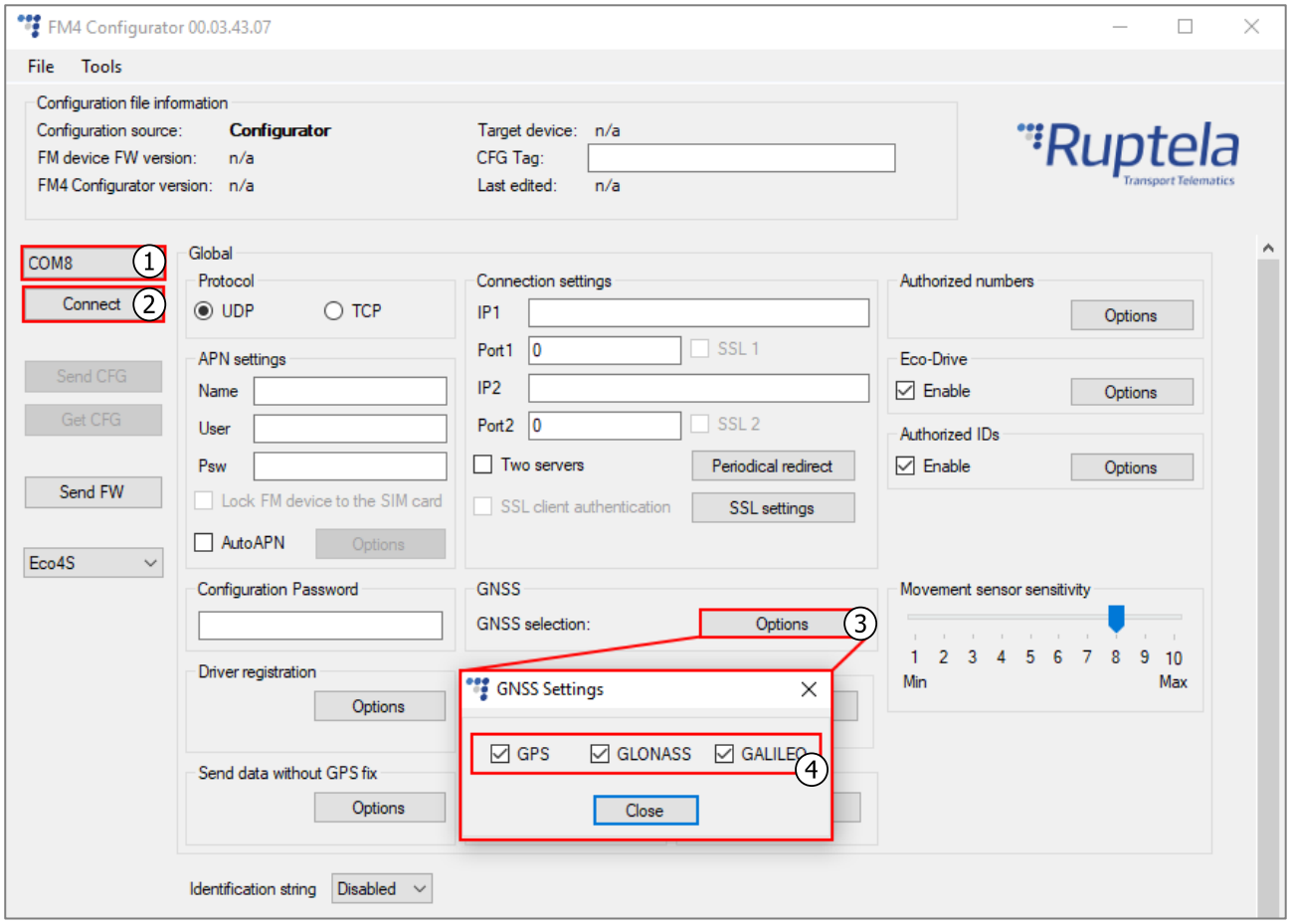
This functionality requires the use of the advanced configurator.

Instructional video available on YouTube: Click here

2.1 Starting the Configuration and GNSS Settings

To start the configuration, follow these steps:

1. Open the advanced configurator. Select the COM port to which your device is connected.
2. Click **Connect**.
3. Click **Options** in **GNSS**. A new **GNSS Settings** window will open.
4. Make sure that all 3 checkboxes are ticked.



2.2 GPS Navigation Filtering Configuration

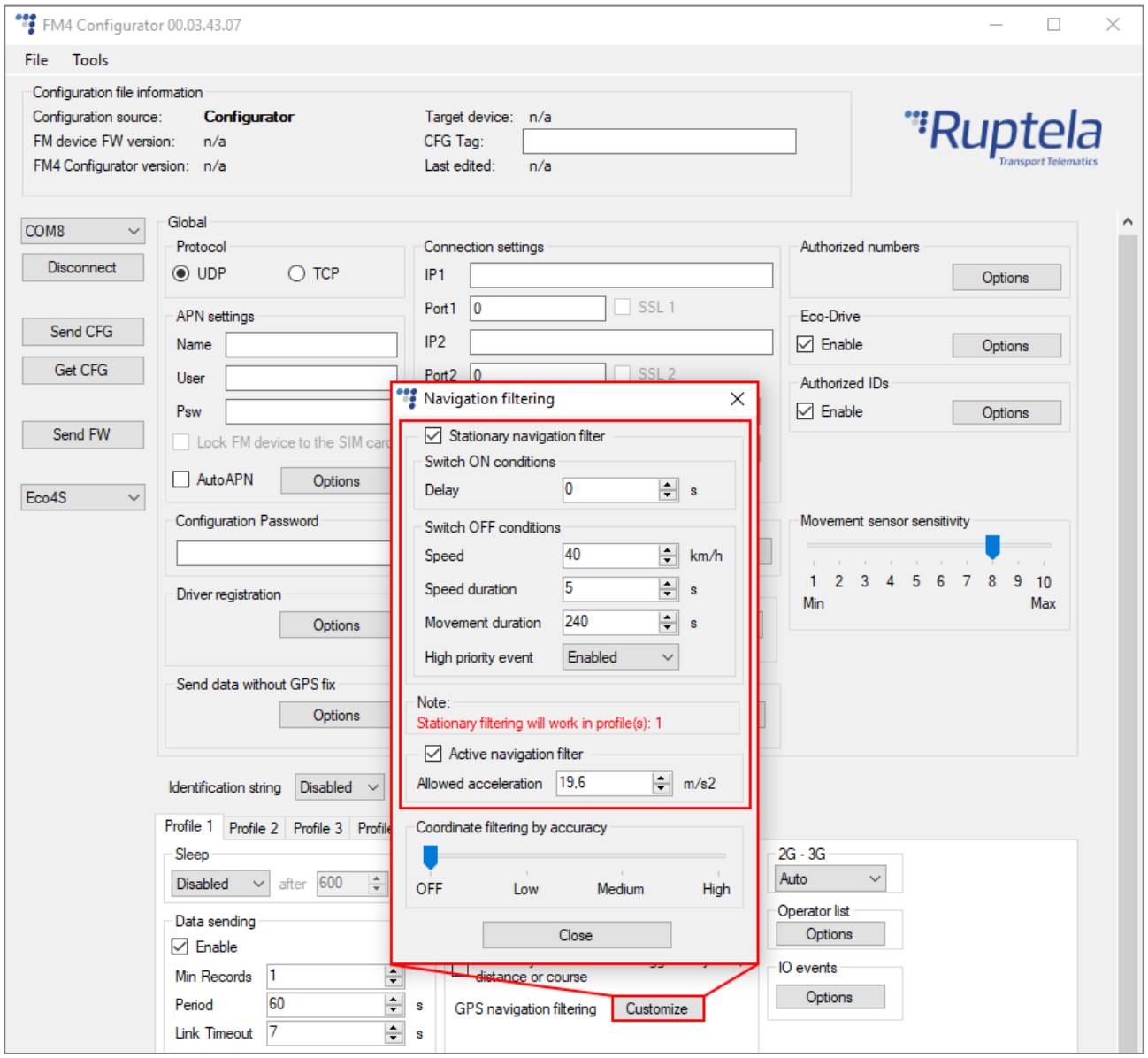
A full functionality description: Configurable navigation filtering.

Click **Customize** next to **GPS navigation filtering** in **Data collection**. A new **Navigation filtering** window will open.

Enable the stationary and active navigation filters by ticking the corresponding checkboxes.

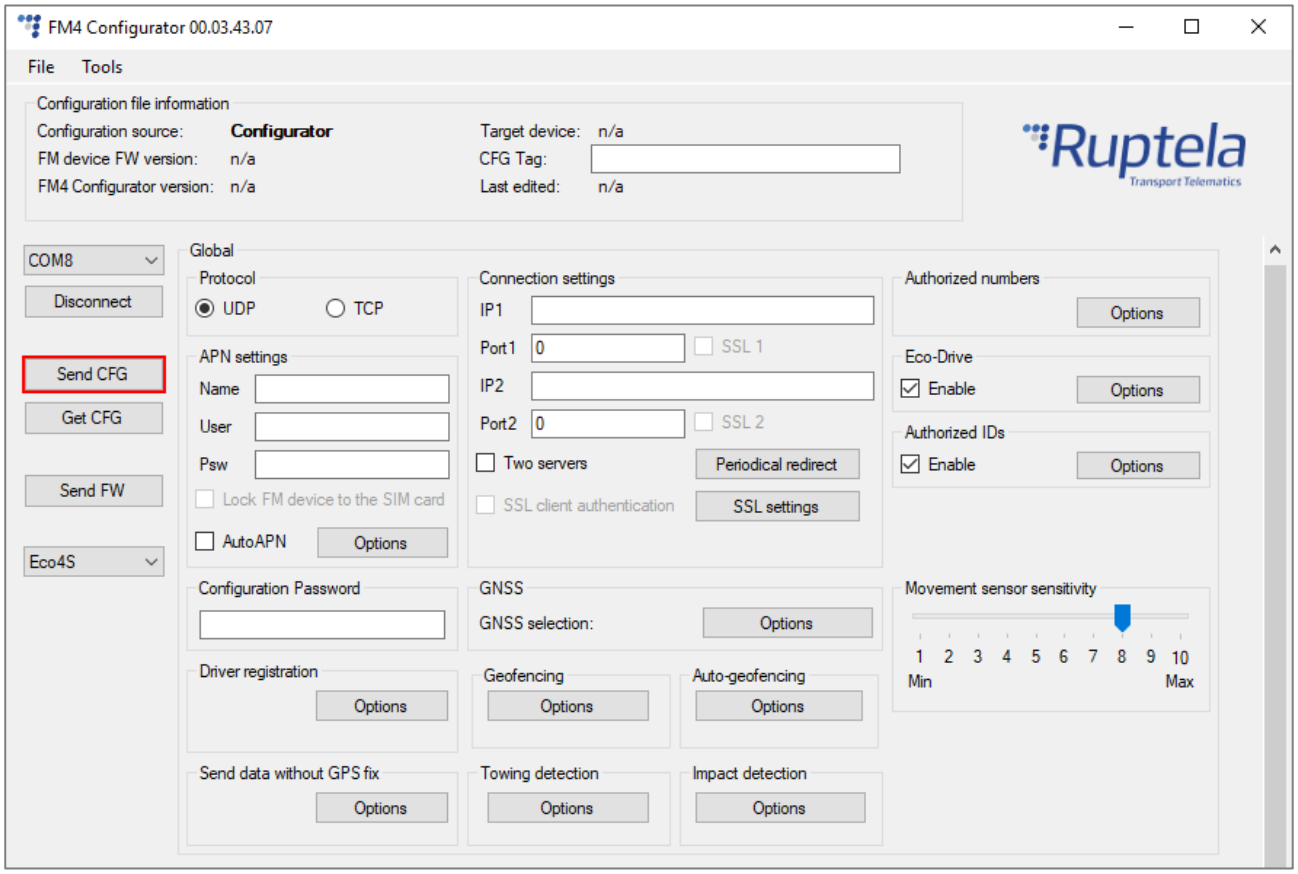
The engine source must be *Ignition (DIN4)* or *Custom*.

Configure the filters as shown in the image below.



2.3 Finishing the Configuration

To finish the configuration, close the **Navigation filtering** window. Click **Send CFG** to send the configuration to the device.



2.4 Troubleshooting

If the above configuration does not solve your positioning issues, contact our support (support@ruptela.com) to update the modem firmware. This should solve the issue.

2.5 Eco-Drive and Accelerometer Calibration

If all 3 GNSS positioning systems are used, **the Eco-Drive data source is automatically changed to the accelerometer (*ACC*)**. For this, the accelerometer needs to be calibrated. Use the *accinfo* SMS command to check if the accelerometer is calibrated.

You will receive a response, an example is shown below:

AXL state:11 *XYZo:120 -39 -945 Xc:131 -92 -94 -7 Yc:-138 97 -96 16 Zc:953 120 -39 -945*

Note the **AXL state** value. If it is 11, the accelerometer is calibrated, and no further actions are needed.

If the **AXL state** value is **not** 11, send the *accreset r* SMS command to start the calibration process. This process is automatic, you will need to drive the vehicle for about 30 minutes. Status updates will be sent throughout the calibration process:

- *Acc calibration initiated. Drive normally to autocalibrate* – the requirements for autocalibration are met and autocalibration will commence.
- *Up direction found. Drive normally to finish calibration* – the calibration is in progress.
- *Calibration successful* – the calibration process finished successfully.
- *Configuration error* – the requirements for autocalibration were not met.