TRBONET
Dispatch Systems

neocom software

TRBOnet Enterprise/PLUS

Teltonika devices

User Guide

Version 6.3

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1 Introduction

1.1 About This Guide

This document is intended for administrators setting up evaluation and proof-of-concept deployments of MOTOTRBO Dispatch over IP solutions. The document describes the minimum steps required to integrate Teltonika devices into TRBOnet software.

1.2 About TRBOnet

TRBOnet is a suite of professional applications for MOTOTRBO digital two-way radio networks. TRBOnet manages voice and data communication paths across network endpoints. It provides a unified graphical dispatcher workbench interface for the entire range of workforce fleet management tasks.

For more information about TRBOnet products, refer to our website.

1.3 Contacts

Region	Phone	Email & Support
EMEA	+44 203 608 0598	info@trbonet.com — general and commercial inquiries
Americas	+1 872 222 8726	support@trbonet.com — technical support
APAC	+61 28 607 8325	https://trbonet.com/kb/ — online knowledge base

2 Configuring Teltonika Devices

This section describes how to configure Teltonika devices using the Teltonika Configurator software.

- Connect a Teltonika device to the PC via a USB port.
- Run *Teltonika Configurator.*
- In the upper toolbar, click **Load from device**.

2.1 Status

- In the left pane, select **Status**.

Device Info

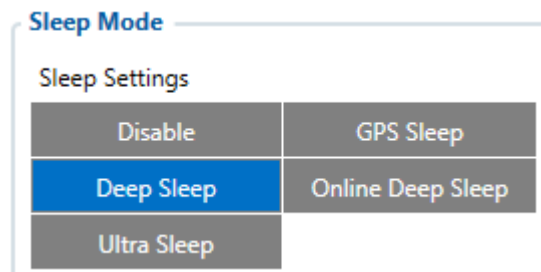| Device Name	Last Start Time	Power Voltage
GH5200	14/03/2019 13:44:38	0 mV.
Firmware Version	RTC Time	Device IMEI
03.21.03 Rev:79	14/03/2019 13:54:42	352093086500351

- In the right pane, in the **Device Info** section, you can see, among other parameters, the **Device IMEI** number.

2.2 System

- In the left pane, select **System**.
  In the right pane, specify the following settings:

  - In **System Settings > Data Protocol**, choose **Codec 8 Extended**.

    Data Protocol

Codec 8	Codec 8 Extended

  - In the **Sleep Mode** section:

    Sleep Mode

    Sleep Settings

Disable	GPS Sleep
Deep Sleep	Online Deep Sleep
Ultra Sleep	

- If you choose **Deep Sleep**, then, while in this mode, the GSM/GPRS module will be turned off. Records with last known coordinate will be saved and sent to TRBOnet Server in accordance with the time period specified in **Data Acquisition > On stop > Send Period**.

- In **Static Navigation Settings > Static Navigation**,
  - If you choose **Enable**, then, if the device is not moving, GPS data changes will be filtered.

2.3   GPRS

- In the left pane, select **GPRS**.
  In the right pane, specify the following settings:
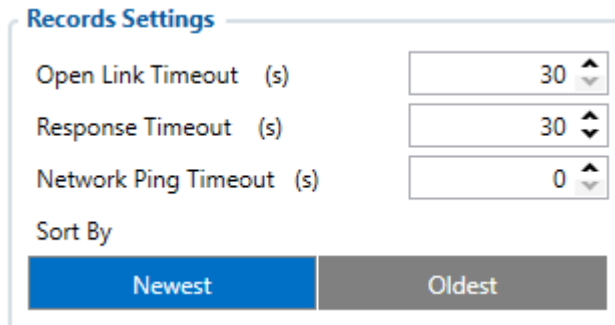 - In the **Server Settings** section, specify the following settings:

- **Domain**
  Enter the domain name of the PC where TRBOnet Server is running.
- **Port**
  Enter the port number. Note that port forwarding is required on the router.
- **Protocol**
  Choose **UDP**.

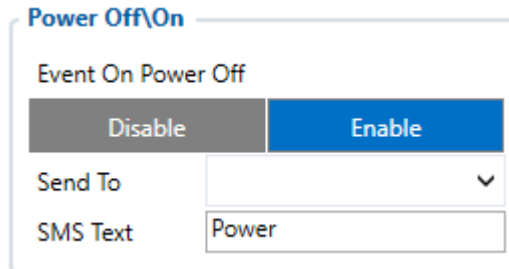- In the **Records Settings** section, specify the following settings:

- **Open Link Timeout**
  Enter the timeout that will be used to send data to TRBOnet Server. This option is useful when your mobile network operator uses a per-minute billing rate.

- **Sort by**
  Choose **Newest** to send the newest data first.

2.4   Features

- In the left pane, select **Features**.
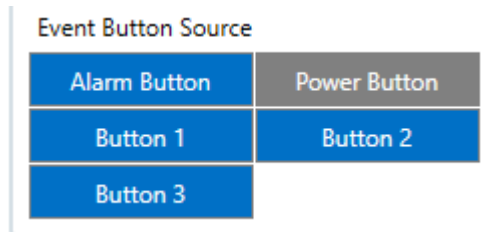 In the right pane, specify the following settings:

- In **Power Off\On > Event On Power Off**, choose **Enable**.

2.5   Keyboard

- In the left pane, click **Keyboard**.
  In the right pane, specify the following settings:

  - In **Button IO Feature > Event Button Source**, choose the buttons that will used on the Teltonik device.

  - In the corresponding button sections, select the actions that will be performed on one click, two clicks, and long-click.

Once you have finished configuring the device:

- in the upper toolbar, click **Save to device**.
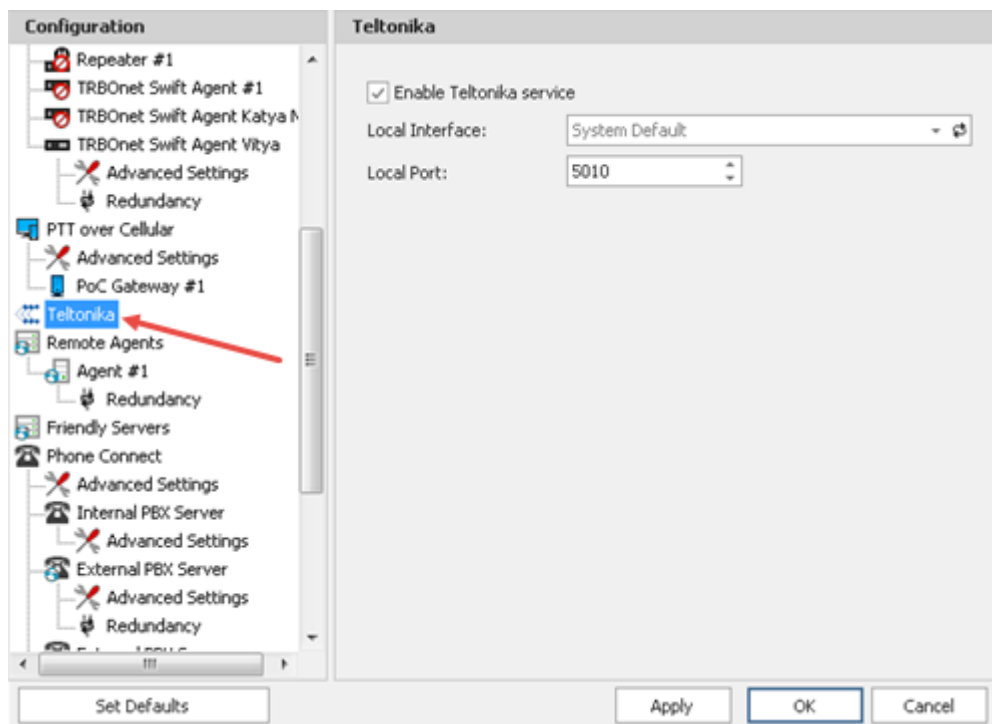
3   Configuring TRBOnet Software

This section describes how to appropriately configure TRBOnet software.

3.1   TRBOnet Server

- Run *TRBOnet Server*.

> Note: Make sure that your TRBOnet Software license includes
> Teltonika Mobile.

- In the **Configuration** pane, select **Teltonika**.

- In the **Teltonika** pane:
  - **Enable Teltonika service**
    Select this check box and specify the following Teltonika-related
    parameters.
  - **Local Interface**
    From the drop-down list, select the local network interface that will be
    used to communicate between TRBOnet Server and Teltonika devices.
  - **Local port**
    Enter the UDP port number to be used.
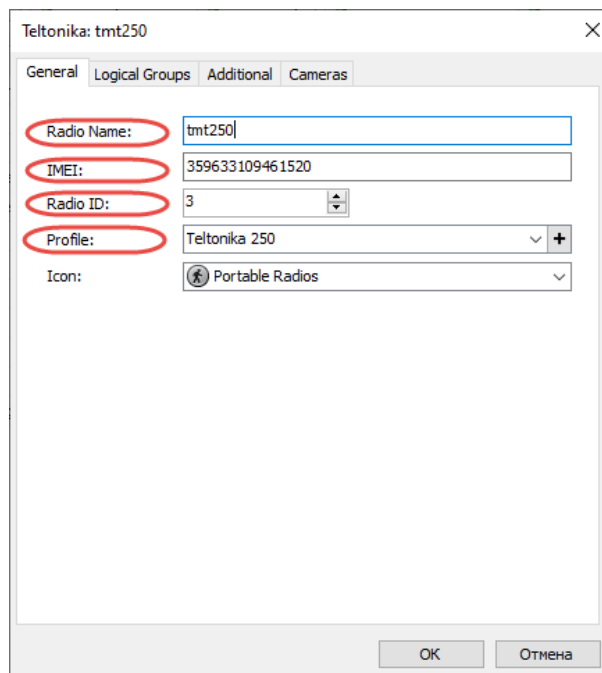
3.2 TRBOnet Dispatch Console

- Run *TRBOnet Dispatch Console*.

3.2.1 Adding Teltonika Device

- Go to **Administration** (1), **Radios** (2).
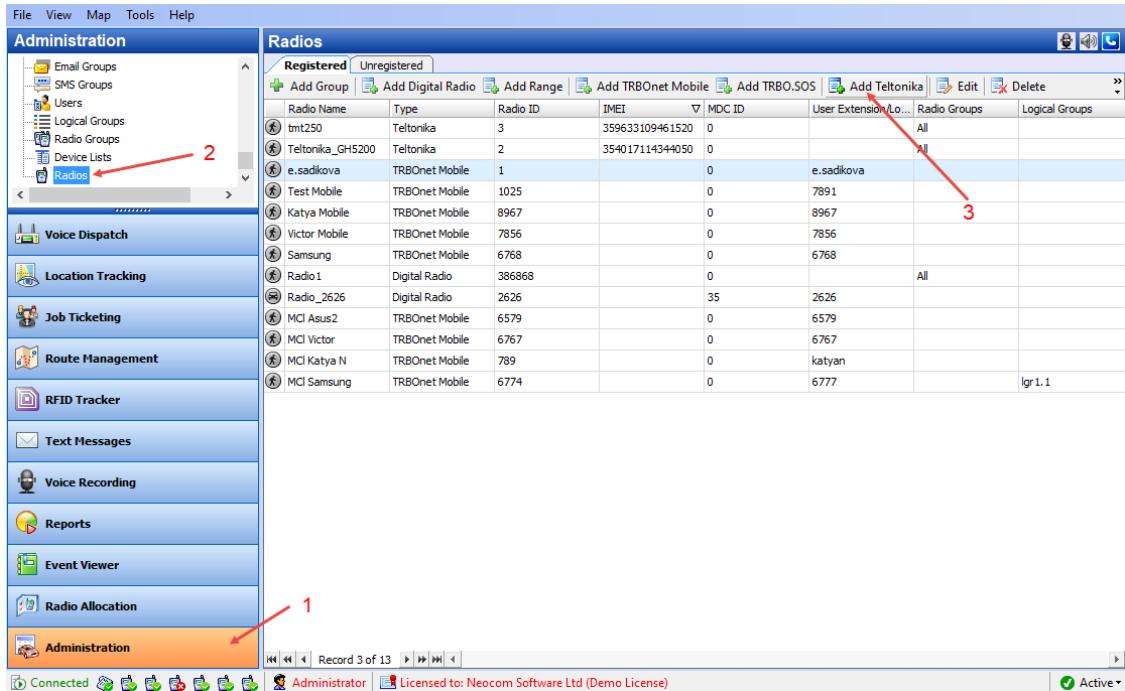
- Click **Add Teltonika** (3) to add a new Teltonika device.

  On the **General** tab, specify general settings for the Teltonika device:

- **Radio Name**
  Enter a name for the Teltonika device.

- **IMEI**
  Enter the Teltonika device's IMEI number.
  The IMEI number is on the barcode sticker next to the serial number.
  You can also see the IMEI number in Teltonika Configurator (see section 2.1, Status).

- **Radio ID**
  Enter the Radio ID of the device.

- **Profile**
  Select the profile for the Teltonika device.

To see the **IMEI** and **Teltonika Profile** columns in the table of registered devices, right-click on the table header, and from the context menu select **Column Chooser**. In the list of available columns, select the column and drag it to the desired position in the table.

You can also add a Teltonika device once it is automatically detected by TRBOnet Server:

- In the **Radios** pane, click the **Unregistered** tab.

- Select the Teltonika device and click **Register** (or double-click).

- In the dialog box that opens, enter a name for the device and click **OK**.
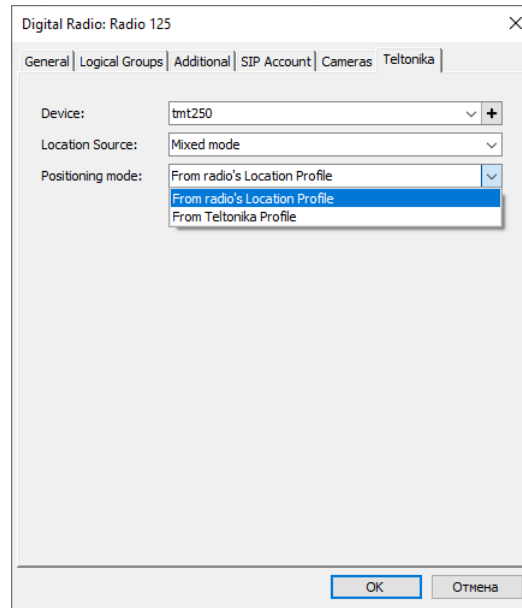
3.2.1.1 Linking Teltonika device to Radio

To link a registered Teltonika device to the radio:

- Right-click the desired radio in the list of registered radios and from the drop-down menu, select **Edit** (or, just double-click the desired radio in the list of radios).
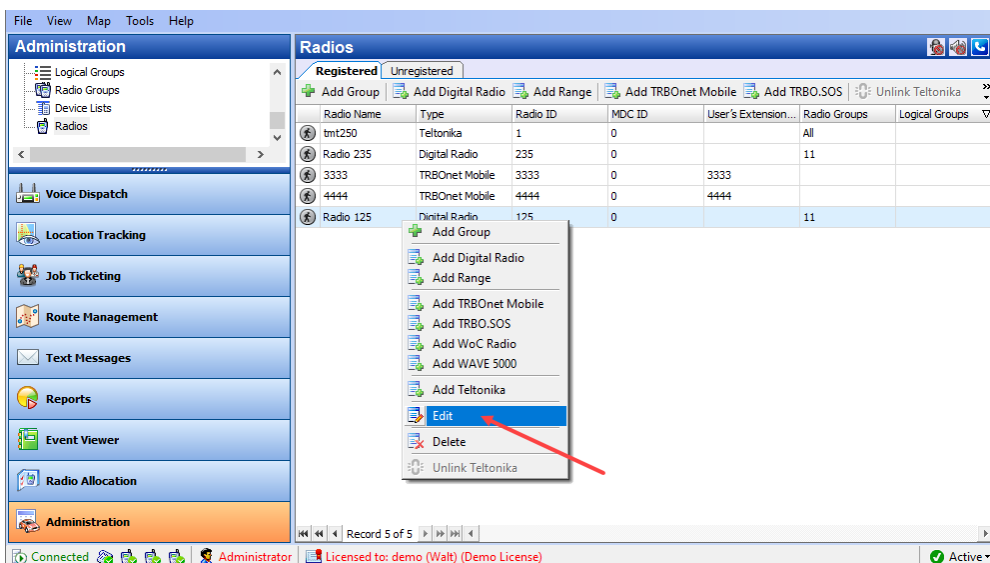
- In the dialog box that opens, click the **Teltonika** tab.

- **Device**
  From the list, select the desired Teltonika device.

- **Location Source**
  From the list, select the desired source of location data.

  - **Teltonika**
    Select this item to use only location data received from the Teltonika device. In this case, location data received from the radio will be ignored, that is, they won't be recorded to the database and so won't be used in the reports.

  - **Built-in GPS receiver (Radio)**
    Select this item to use only location data received from the radio. In this case, location data received from the Teltonika device will be ignored, that is, they won't be recorded to the database and so won't be used in the reports.

  - **Mixed mode**
    If this item is selected, location data received from both devices will be used.

- **Positioning mode**
  If **Mixed mode** is selected from the **Location Source** list, select from where the Positioning mode will be taken (radio's Location Profile or Teltonika Profile).

Once you have linked the Teltonika device, it will be grayed out in the list of registered devices.

### 3.2.1.2 Unlinking Teltonika device from Radio

To unlink the Teltonika device from the radio:

- Right-click the radio in the list of registered radios and from the drop-down menu, select **Unlink Teltonika** (or, just click the **Unlink Teltonika** button on the toolbar when the required radio is selected in the list).
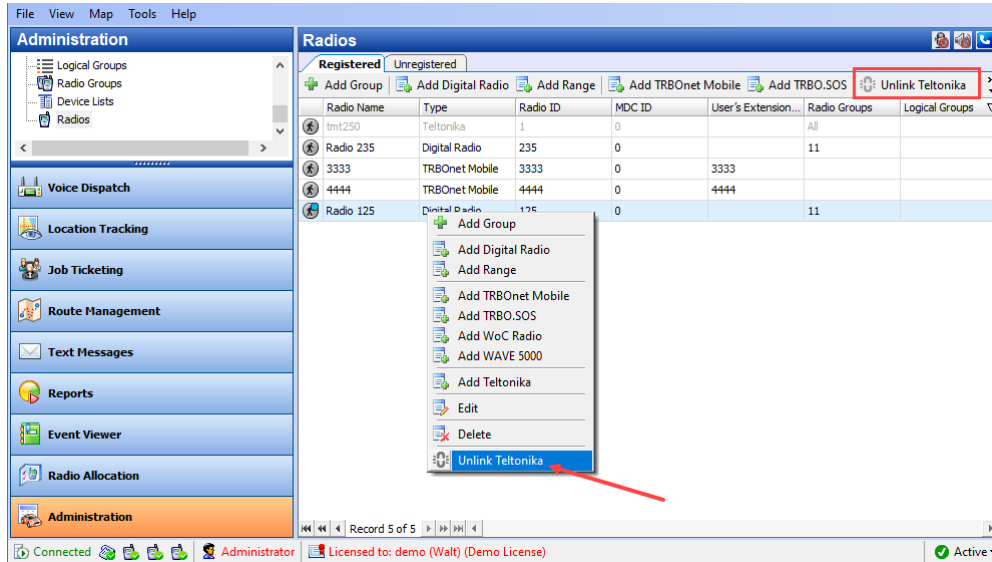
3.2.2 Adding Teltonika Profile

- Go to **Administration**, **Teltonika Profile**.

  You can see the default Teltonika Profile settings in the **Teltonika Profile** pane.

- In the **Teltonika Profile** pane, click the **Add** button.
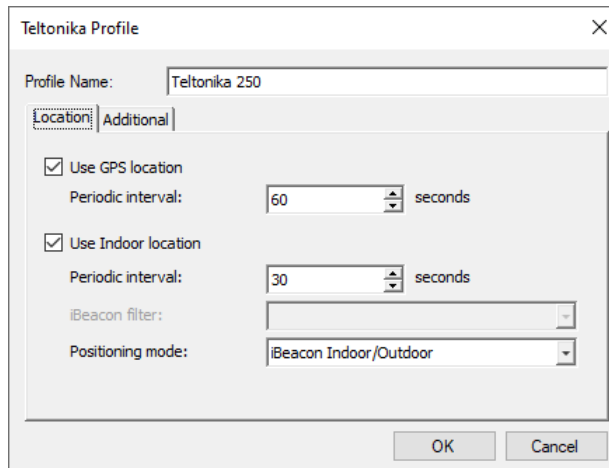
- **Use GPS location**
  Select this option to enable sending GPS data to TRBOnet Server.
  - **Periodic interval**
    Specify the time interval, in seconds, that will be used to send GPS location data.

- **Use Indoor location**

    Select this option to enable sending iBeacon data to TRBOnet Server.

    - **Periodic interval**

        Specify the time interval, in seconds, used to send iBeacon location data.

    - **Positioning mode**

        This option determines which GPS coordinates to show on the map and display in the device's movement history when TRBOnet Server receives a data packet containing both iBeacon and GPS data.

        - ✓ **iBeacon Indoor/Outdoor**

            The coordinates of the iBeacons will be positioned on the indoor and outdoor maps.
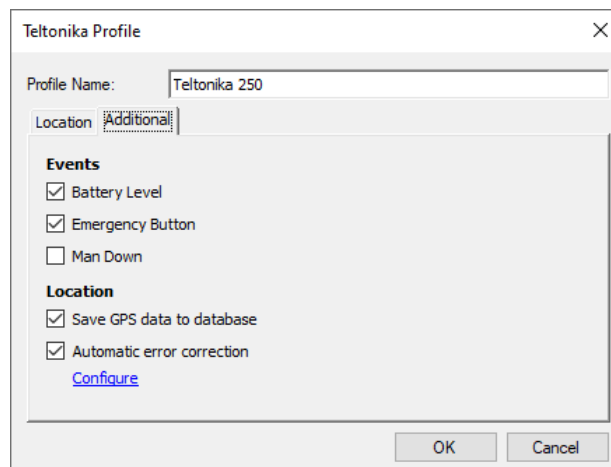
        - ✓ **iBeacon Indoor/GPS Outdoor**

            The coordinates of the iBeacons will be positioned on the indoor map while the coordinates of the device will be positioned on the outdoor map.

        - ✓ **iBeacon Indoor/No Outdoor**

            Only iBeacon-based location tracking will be used, GPS coordinates of devices and iBeacons will be ignored.

- Click the **Additional** tab.

Events

- **Battery Level**

    Select this option so that the Teltonika device's battery level will be sent to the Dispatch Console.
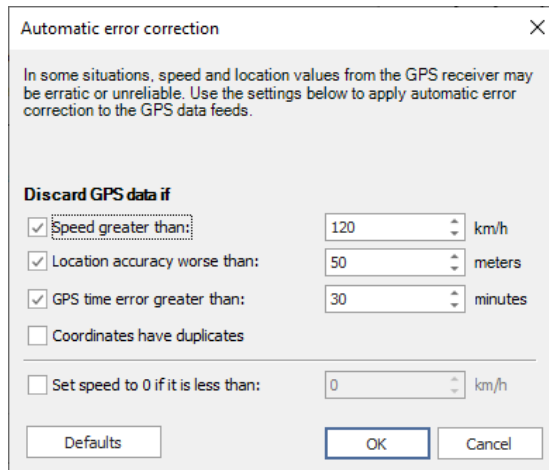
> Note: Teltonika devices send the battery information as soon as they are connected to TRBOnet. After successful connection, Teltonika devices pass the battery level to the server with every location update. Regardless of the device activity, the battery charge level will be logged on TRBOnet Server every time the level goes down to 90%, 80%, 70%, 60%, 50%, 40%, 30%, 20%, 15%, 10%, and 5%.

- **Emergency Button**
  Select this option so that the Teltonika device will be able to send Emergency Alarms to the Dispatch Console.

- **Man Down**
  Select this option to send Man Down alerts to the Dispatch Console.

Location

- **Save GPS data to database**
  Select this option so that GPS data is saved in TRBOnet database.

- **Automatic error correction**
  Select this option to enable automatic error correction to detect and correct invalid GPS data.

  Click the **Configure** link to specify the GPS parameters to be corrected:

Discard GPS data if

- **Speed greater than**
  Select this option and enter the maximum possible speed of your vehicles. As a result, the coordinates with speeds that exceed the maximum limit will be discarded.

- **Location accuracy worse than**
  Select this option and enter the largest distance for the accuracy of the GPS receiver. As a result, the coordinates with distances that exceed the maximum limit will be discarded.

- **GPS time error greater than**
  Select this option and enter the largest allowable time error, in minutes. As a result, the coordinates with time errors that exceed the maximum limit will be discarded.

- **Coordinates have duplicates**
  Select this option to remove duplicate coordinates from the GPS data.

- **Set speed to 0 if it is less than**
  Select this option and enter the low-speed threshold. Speeds below this threshold will be considered as zero by the server.