VEGA MT CONFIGURATOR

Version 1.27.84

User Manual

Contents

Introduction

This manual is designated for Vega MT Configurator software developed by Vega-Absolute OOO for working with Vega MT series GNSS trackers (hereinafter – the devices, trackers) manufactured by Vega-Absolute OOO.

This manual is intended for users of this software and equipment.

Vega-Absolute OOO reserves the right to make changes to the manual related to the improvement of equipment and software, as well as to eliminate typos and inaccuracies, without prior notice.

1. Quick start

Initial configuration is carried out through USB-port with Configurator application. To do this you should follow these steps:

1. Connect the tracker to PC via USB.
2. Run the Configurator application on the PC, press “Connect” button and choose the connection method like “Connect through USB”.
3. On the left menu choose “Settings”.

First you need to configure the connection settings, after that you can configure and change other parameters at any time remotely as needed. Connection settings include:

- monitoring server settings (protocol, IP address and port);
- network settings (access point settings of the SIM card);
- settings for transferring readings (information that will be transmitted to the server).

Pay special attention to configuring the connection parameters with the engineering server via the VEGA protocol. These parameters will be used when connecting to the device remotely through the Configurator application.

4. After setting the connection settings, click the "Save" button.
5. Disconnect the USB cable. The tracker is now ready to be installed on the vehicle.

2. Program features

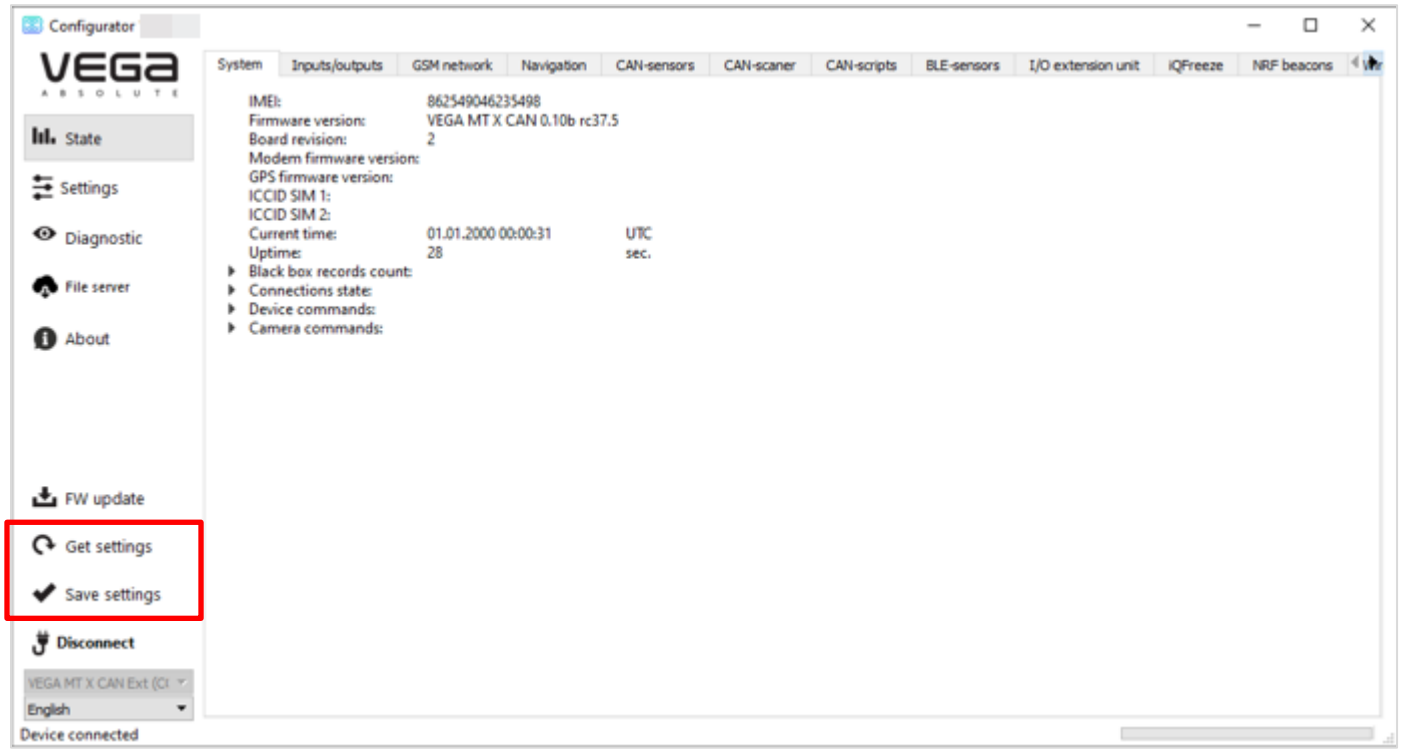
The Vega MT Configurator allows you to fine-tune many parameters. GNSS trackers can be configured either remotely via GPRS, or directly via USB connection. The “Configurator” application does not require installation and allows you to:

- Fine-tune the tracker;
- Diagnose the tracker and save result to the file;
- Update the tracker’s firmware;
- View the current state of the tracker in real time:
- Access to up-to-date information on the file server.

3. Application interface

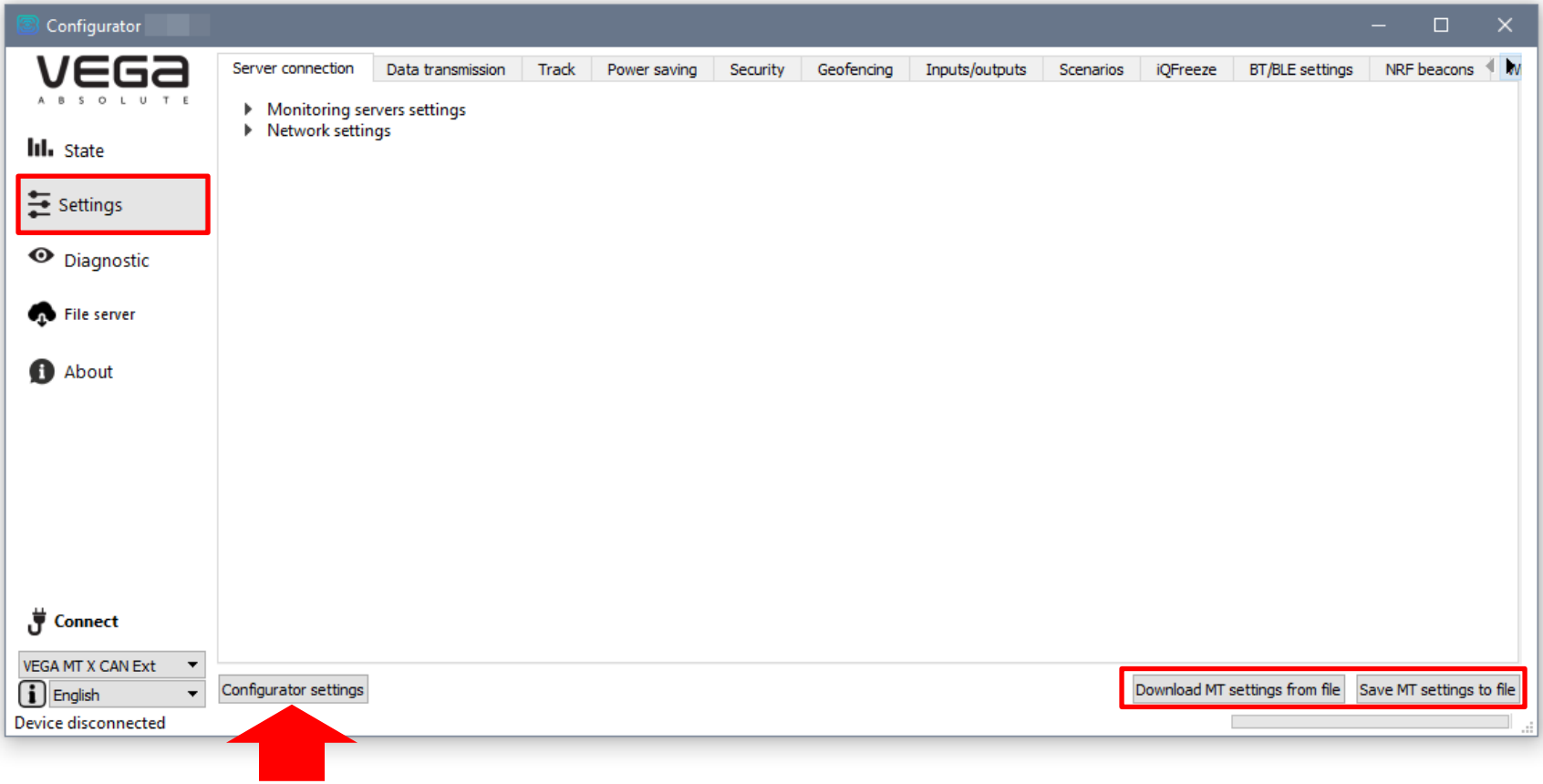
When running the “Configurator” application, you need to connect to the device, to do this click the “Connect” button in the lower left corner of the window. Further, depending on the connection method, select “Connect through USB” or “Connect through TCP”. A remote connection is always made through an engineering server using the VEGA protocol. Indicate the address and port that were specified during the initial configuration of the connection parameters for this device with the engineering server.

From the proposed list, select the desired device and click "OK." Go to the “Settings” in the menu on the left and click the “Get settings” button in the lower left corner of the window to see the current device settings.

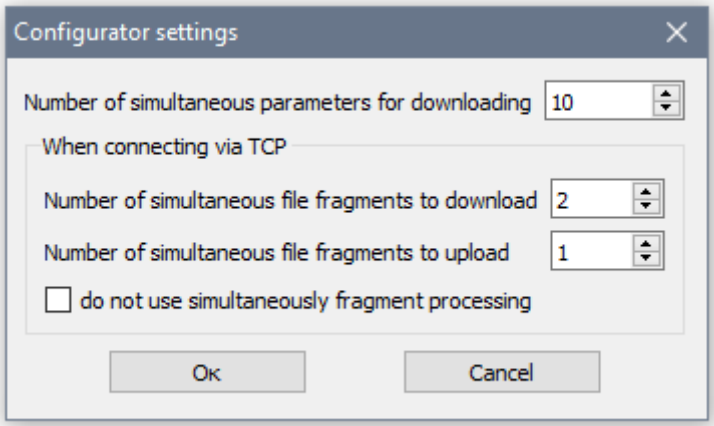


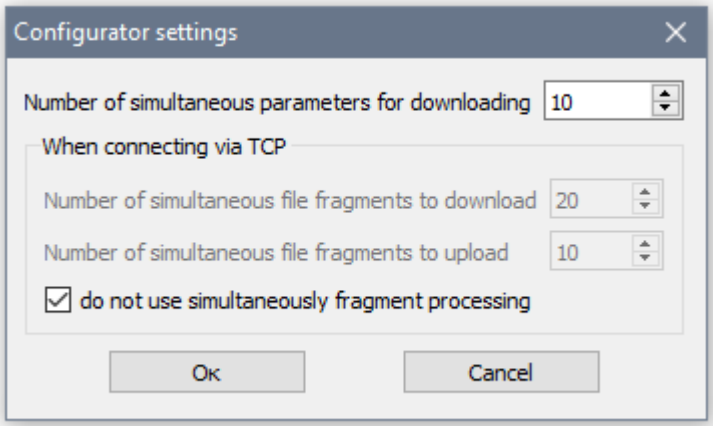
After changing the settings, click the “Save settings” button to apply the selected settings.

The "Configurator" application has the functions of saving settings to a file and loading settings from a file with the *.vsf extension. The corresponding buttons are in the lower right corner of the application window. This function can be used both to speed up the process of setting up several devices of the same type, and when contacting technical support for a more informative description of occurs.



Configurator settings allow you to set optimal conditions for remote connection to GNSS trackers.





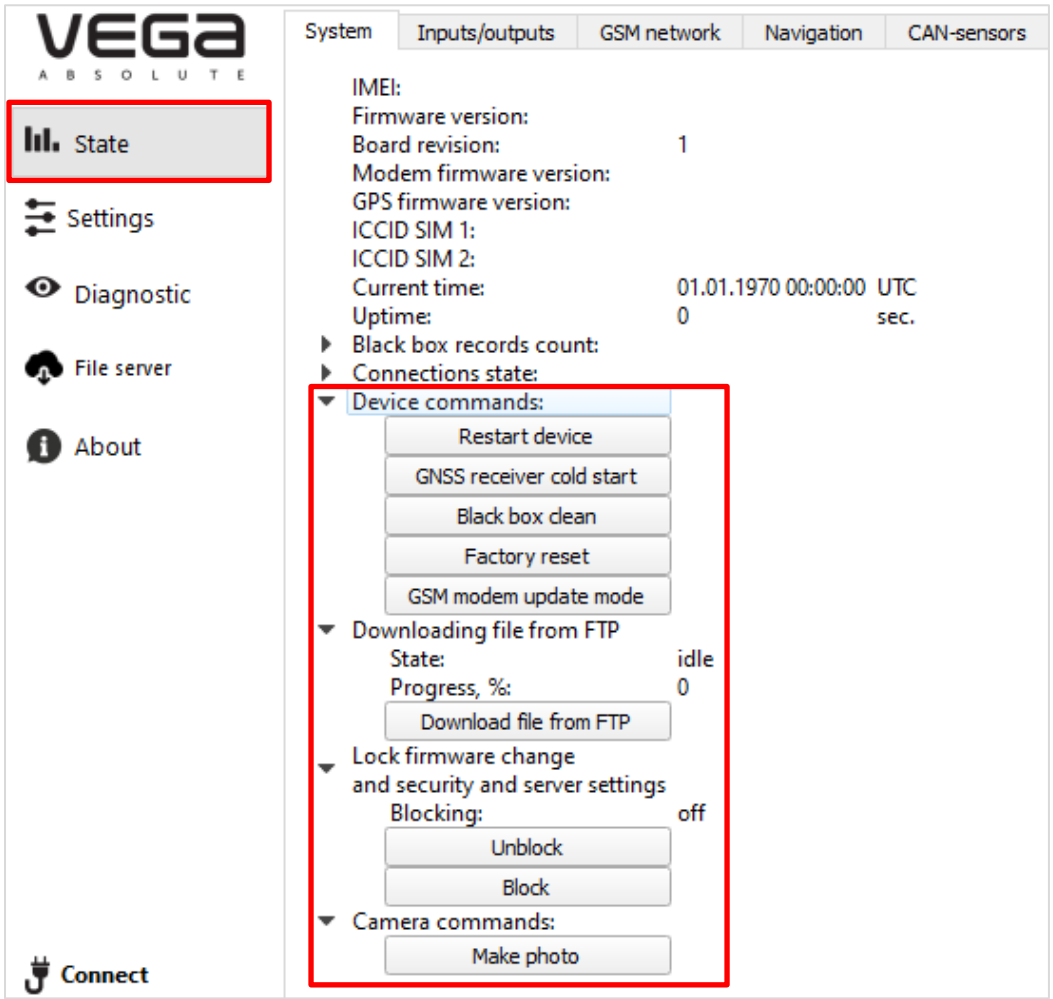
Number of simultaneous parameters for downloading - this parameter affects how many sensors will be requested from the device in parallel. For example, if the value is “10”, after sending 10 requests, the application waits for a response to each, and then requests the next 10. The number affects the speed of updating sensors, the more - the faster, but a faster connection is required. The setting is relevant for a TCP connection (if the connection is interrupted, you can reduce the value), but it also affects the USB connection.

The settings for the number of simultaneous file fragments to download and upload only work with a TCP connection. Simultaneously downloading fragments can speed up the transfer of files with a good connection. Selecting the "do not use" option deactivates the menu for choosing the number of fragments and forces the application to download and send the fragments of the file one by one.

4. State view and device control

SYSTEM

1. In the first tab "System" there are the device commands, FTP download, lock firmware change and camera commands buttons.



Restart device – forced device reload. In this case, the connection with the device will be lost and it will need to be reconnected to the "Configurator".

GNSS receiver cold start – run the cold start procedure.

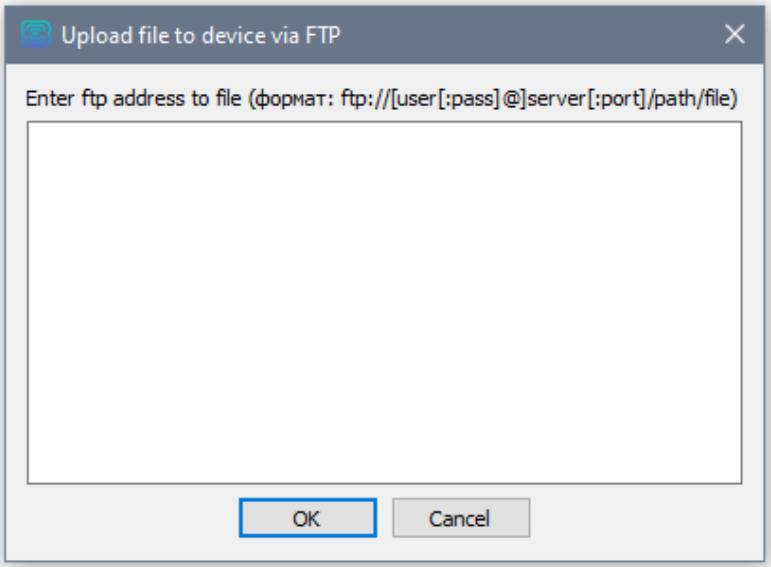
Black box clean – deletes all entries from all black boxes.

Factory reset – returns all parameters to factory.

GSM modem update mode – switches device to a special mode which allows to update GSM modem.

When you press any of these buttons, the program will ask for confirmation to send the command.

Download file from FTP –self-loading of the file from the specified link by the device. On the first click, the application warns that the device will not be available for remote connection while the file is being loaded. After that, a window for entering a link to FTP file appears indicating the input format.

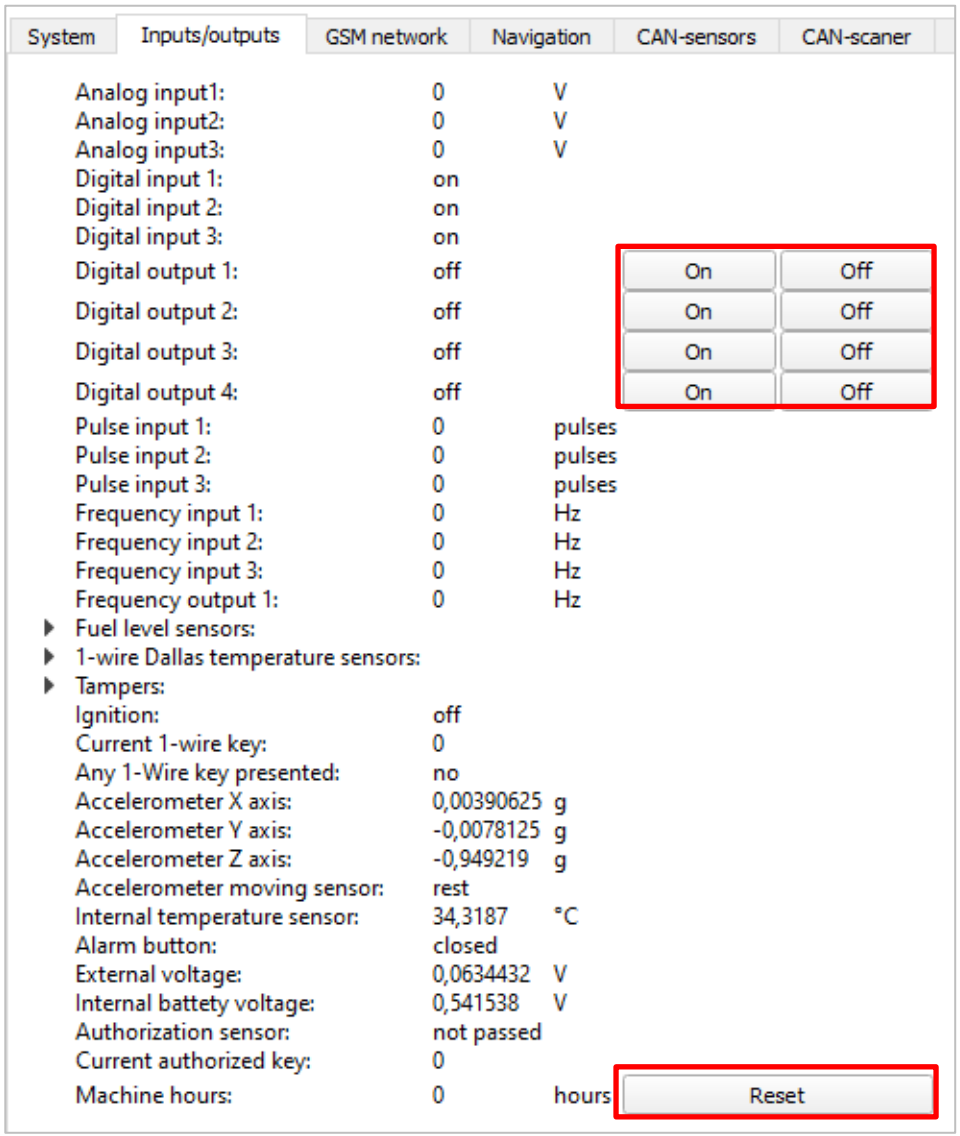


Lock firmware change and security and server settings – requires password for command confirmation.

Make photo – by the pressing takes a photo. Confirmation for that command does not require.

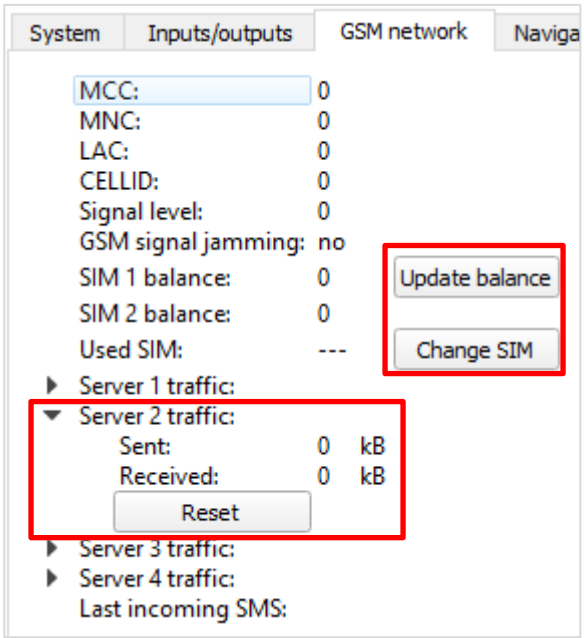
INPUTS/OUTPUTS

Several settings buttons are also in the “Inputs/Outputs” tab, which displays the status of the device I/O. These buttons enable you to turn on/off the digital outputs and reset the machine hours.



GSM NETWORK

In the "GSM Network" tab it is possible to force the change of the used SIM card. Usually the device has its own algorithm for changing the SIM card from the main to the backup and vice versa, but if necessary, you can do it manually by pressing the appropriate button.

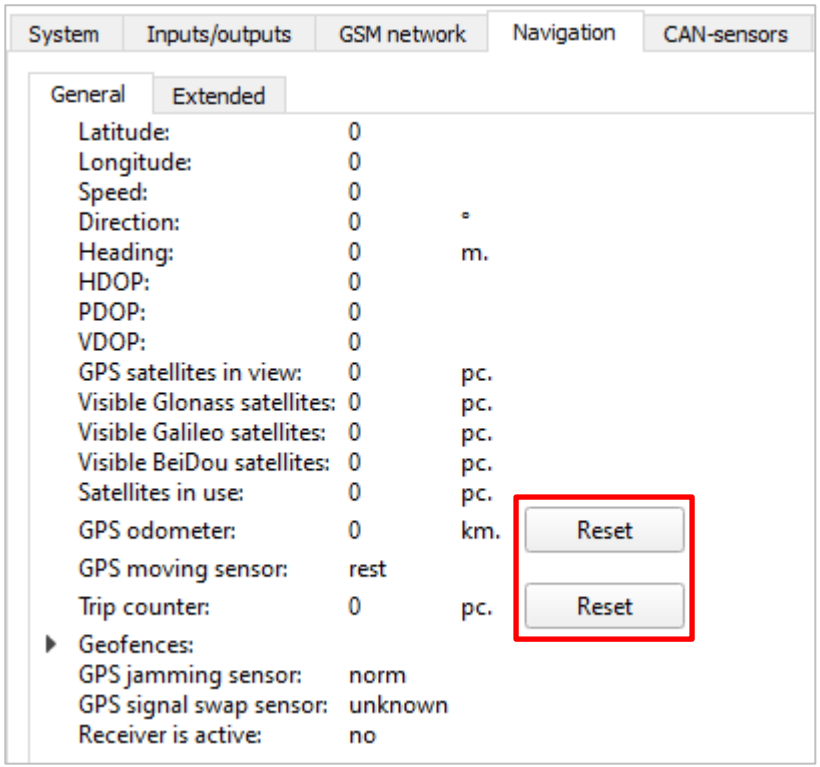


If you press the "Update balance" button, then the device updates the balance of active SIM according to the settings in the "Server connection" part.

It is possible to reset the statistics of sent/received packets from each of the servers by clicking the "Reset" button in the drop-down menu of the desired server.

NAVIGATION

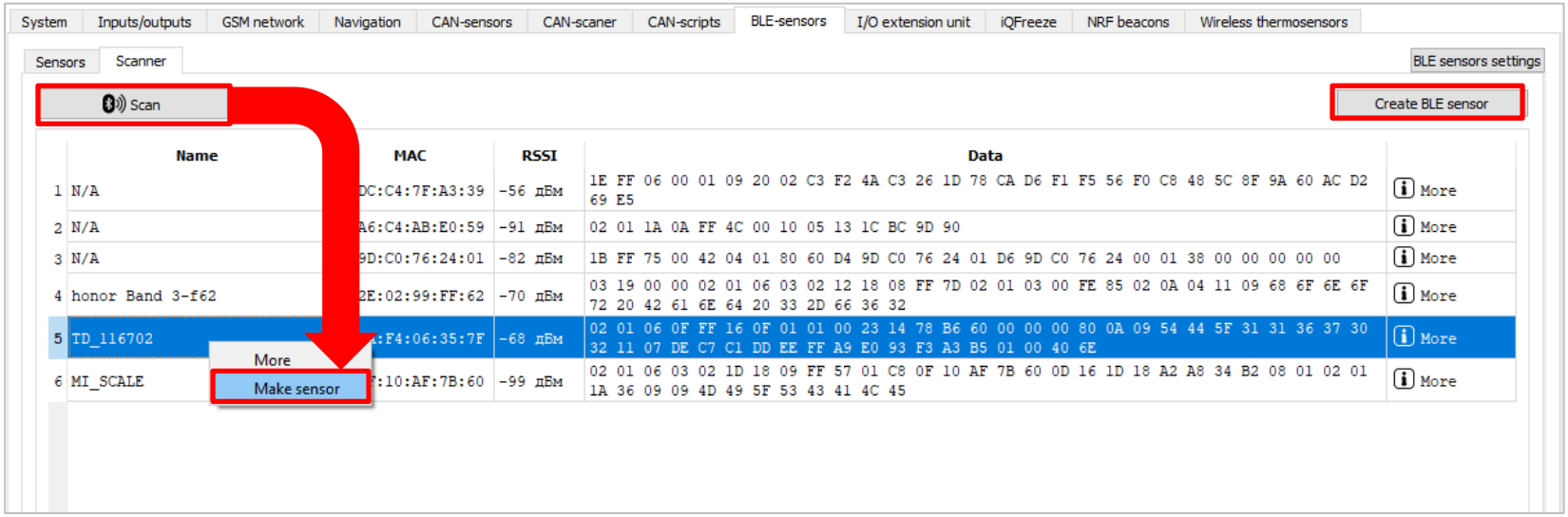
In the "Navigation" tab there are two buttons that allow you to reset the GPS odometer and reset the trip counter.



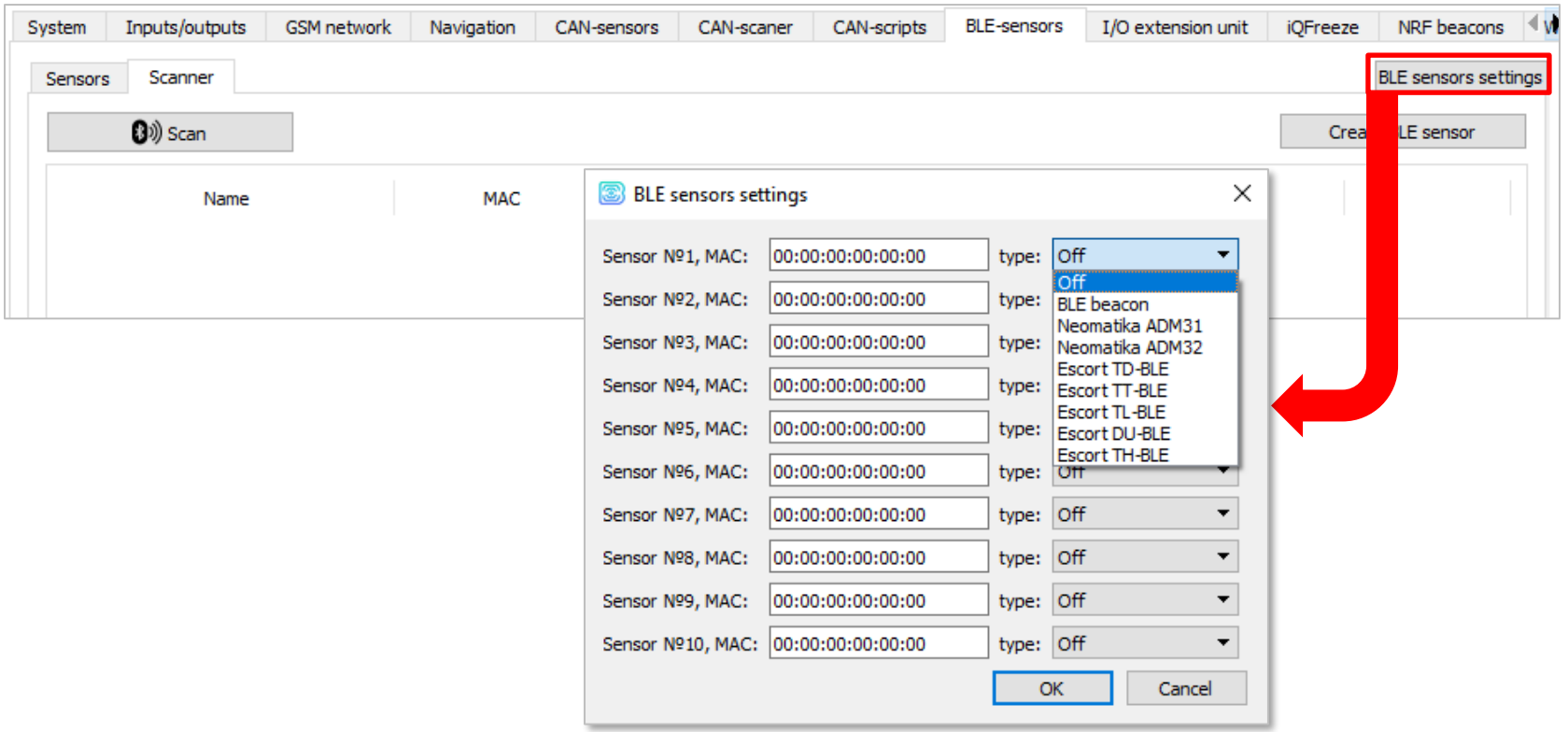
BLE-SENSORS

There are two ways to connect a BLE sensor.

First way – start Bluetooth scanning and create a sensor from those found as a result of scanning by calling the context menu or clicking the "Create BLE sensor" button.



Second way is manually to specify the MAC addresses of the connecting sensors in the settings.

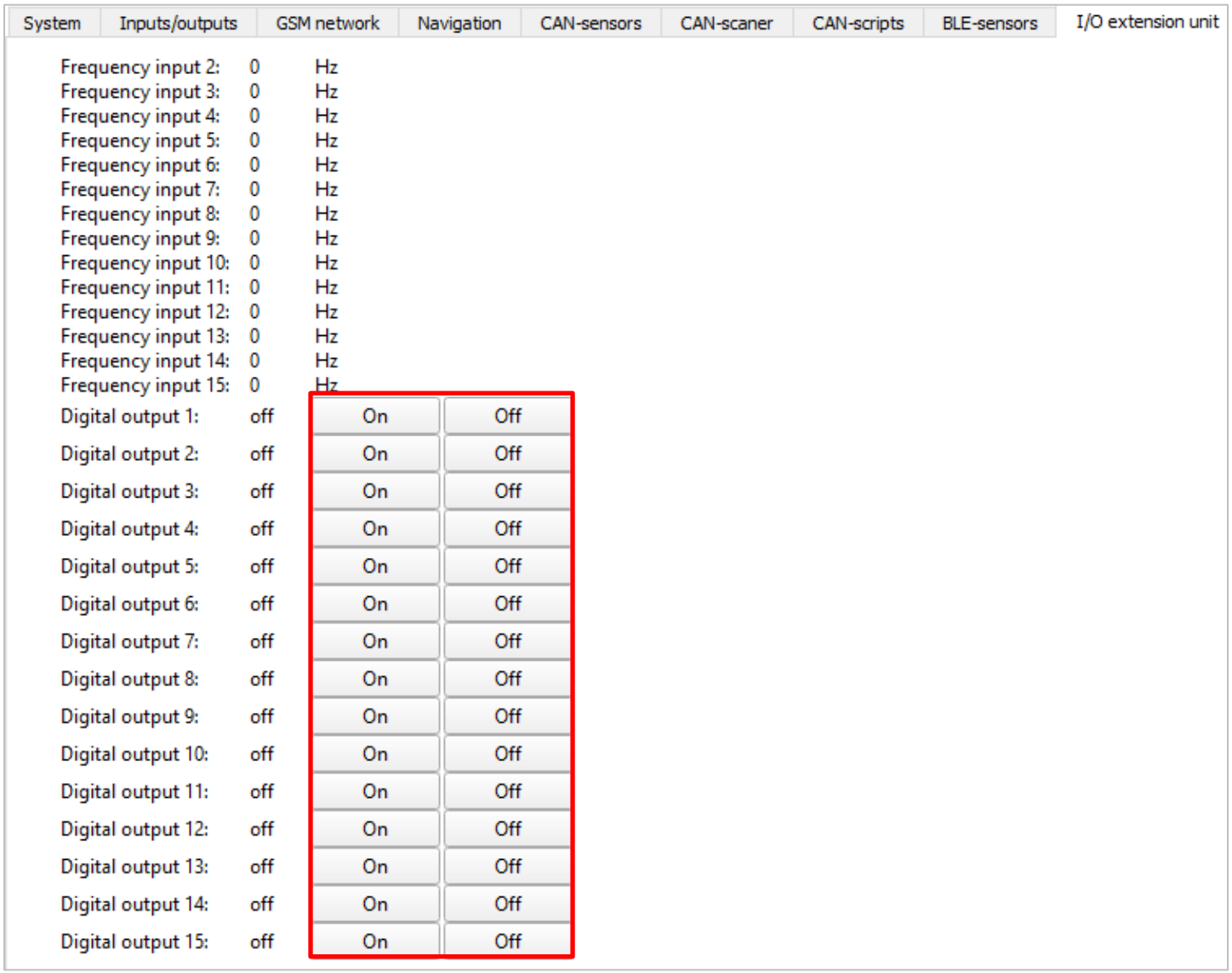


Supported BLE-sensors types are listed in the drop-down list.

After connecting the sensors, you can go to the data transmission settings in the "Data transmission" tab, as well as configure Bluetooth in the "BT/BLE" tab.

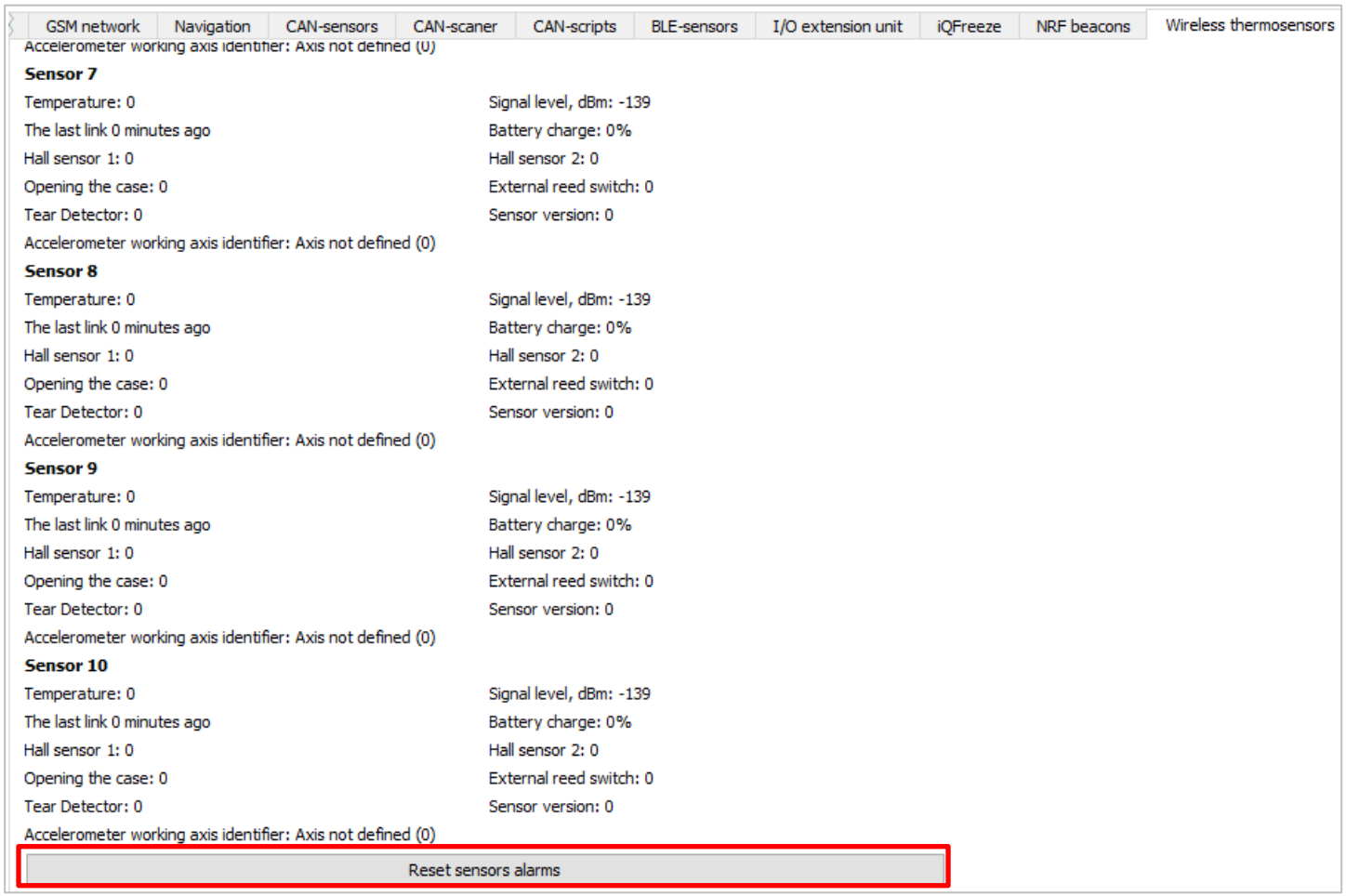
INPUT/OUTPUT EXTENSION UNIT

In the "I/O extension unit" tab, there are buttons for turning on/off the digital outputs of the expansion unit.



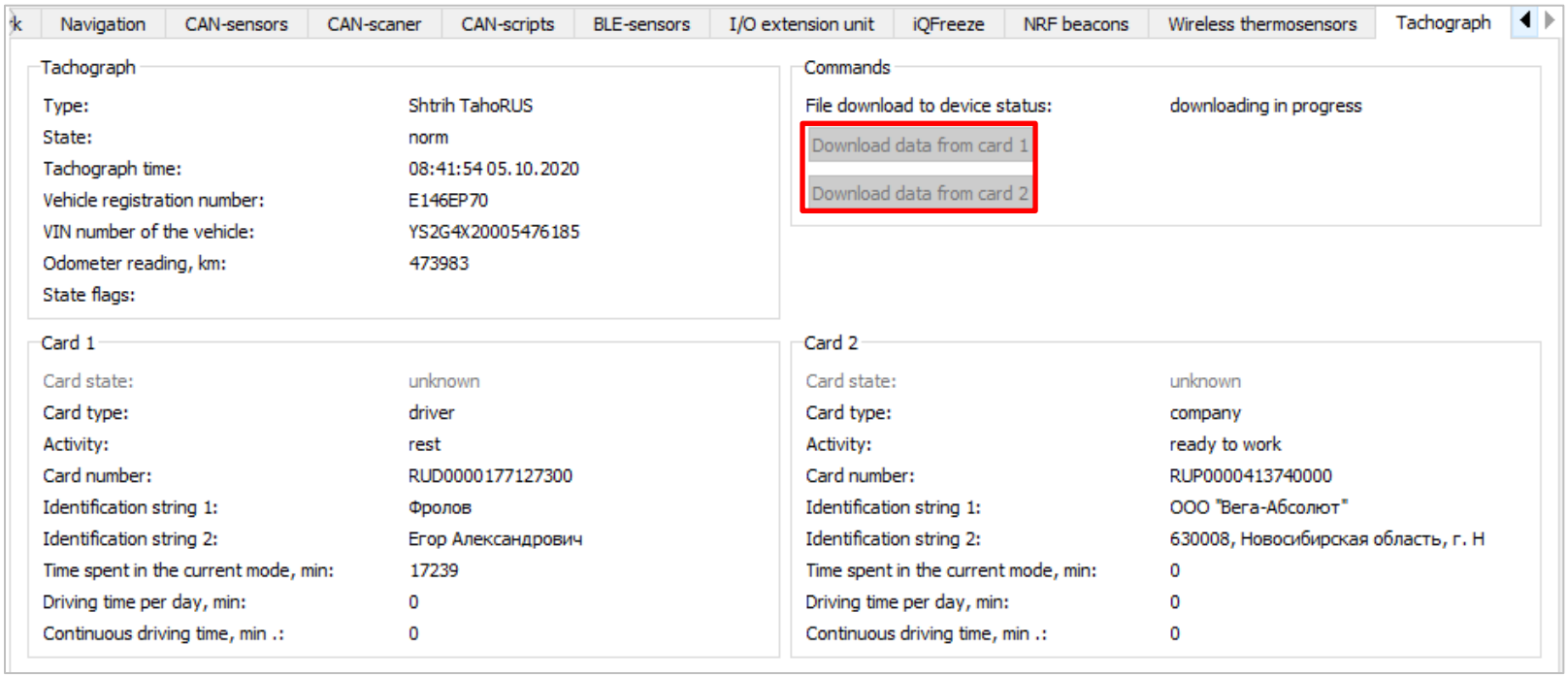
WIRELESS THERMOSENSORS

In the "Wireless thermosensors" tab you can reset the alarms of all sensors by clicking on the corresponding button at the very bottom of the tab.



TACHOGRAPH

In the “Tachograph” tab you can download the data from card 1 and 2 by pressing the corresponding button.



5. Settings

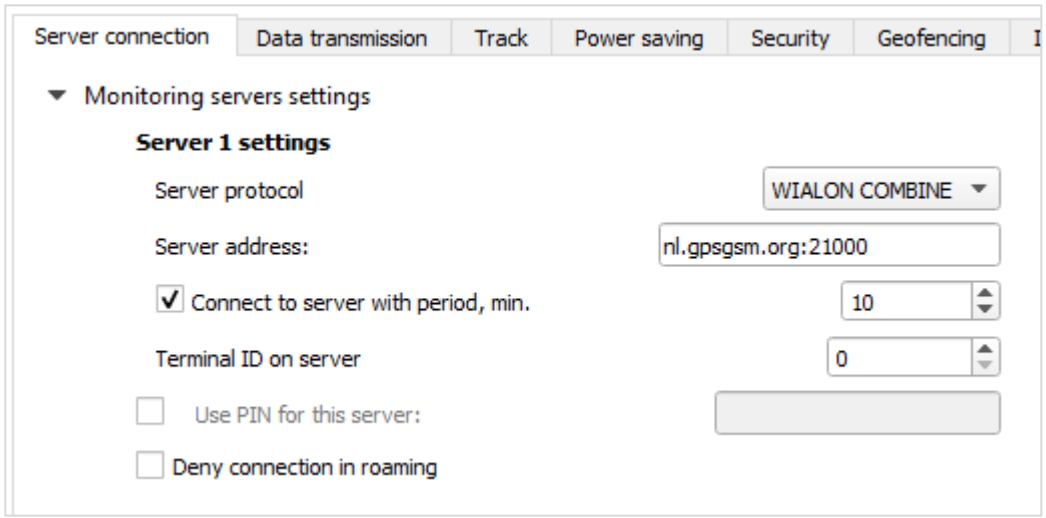
SERVER CONNECTION

The "Connection" tab has two kinds of settings: server and network settings.

1. Monitoring servers settings

The GNSS tracker can support multiple protocols by communicating with up to four servers. In this settings item, it is proposed to select a data exchange protocol, or disable data transfer. Specify the server address in the format XXX.XXX.XXX.XXX:YYYYY, where XXX.XXX.XXX.XXX is the server IP address and YYYYY is the port.

Instead of an IP address, you can specify the DNS name of the server.



Connect to server with period, min – if the checkbox is unchecked, the tracker is constantly connected to the server; if the checkbox is checked, the tracker is connected to the server with the specified period.

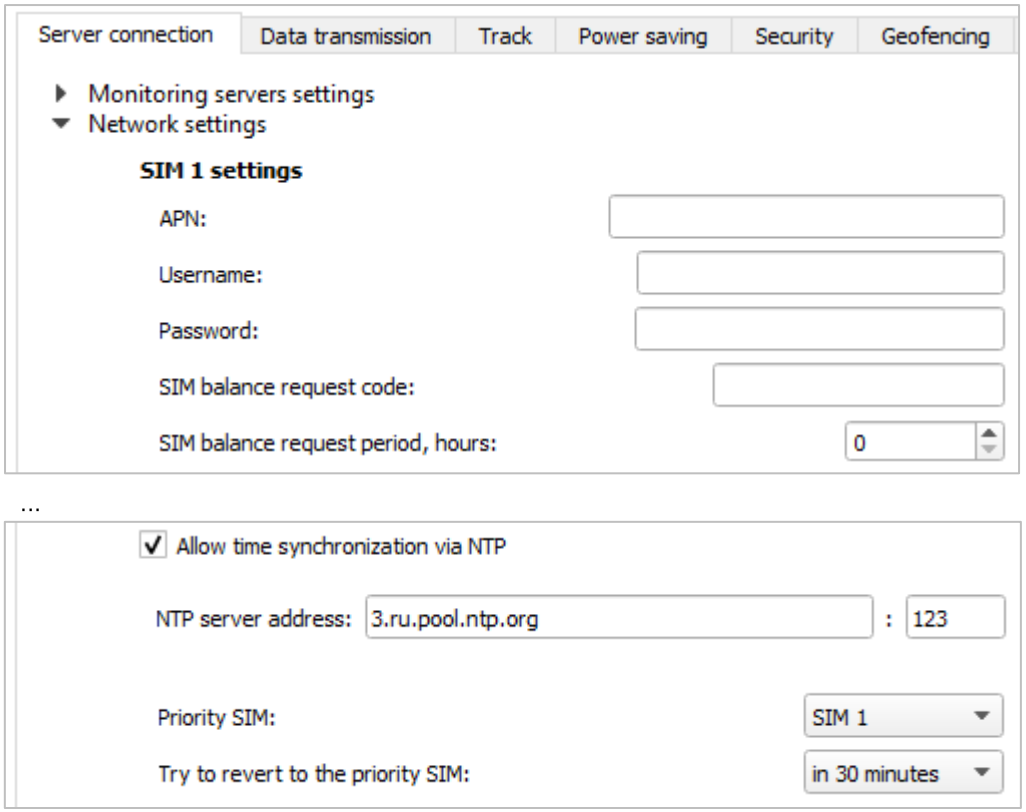
Terminal ID on server –no need to be entered for WIALON and VEGA protocols - they use the IMEI number of the device as an identifier when connecting to the server.

Use PIN for this server – if the checkbox is unchecked, communication with the server is carried out without using a PIN code, if the checkbox is checked and a PIN code is set, it is used for VEGA, WIALON IPS and WIALON Combine protocols.

Deny connection in roaming – if the checkbox is checked, then when the device leaves the "home" network, the GNSS tracker will not try to connect to this server.

2. Network settings

Network settings are the settings for the access point of the SIM card to access the GSM network. Most modern SIM cards make these settings themselves. If this does not happen, in this setting item you can do it manually by specifying the access point APN, username and password.



SIM balance request code and SIM balance request period – settings to automatically request the balance of the SIM card with a certain period or by clicking on the "Update balance" button (see the "State" section, the "GSM network" tab). For each SIM card, the settings are set separately, but the balance request occurs only for the currently active SIM card.

Allow time synchronization via NTP – to enable tracker time synchronization, you must specify the address and port of the NTP server.

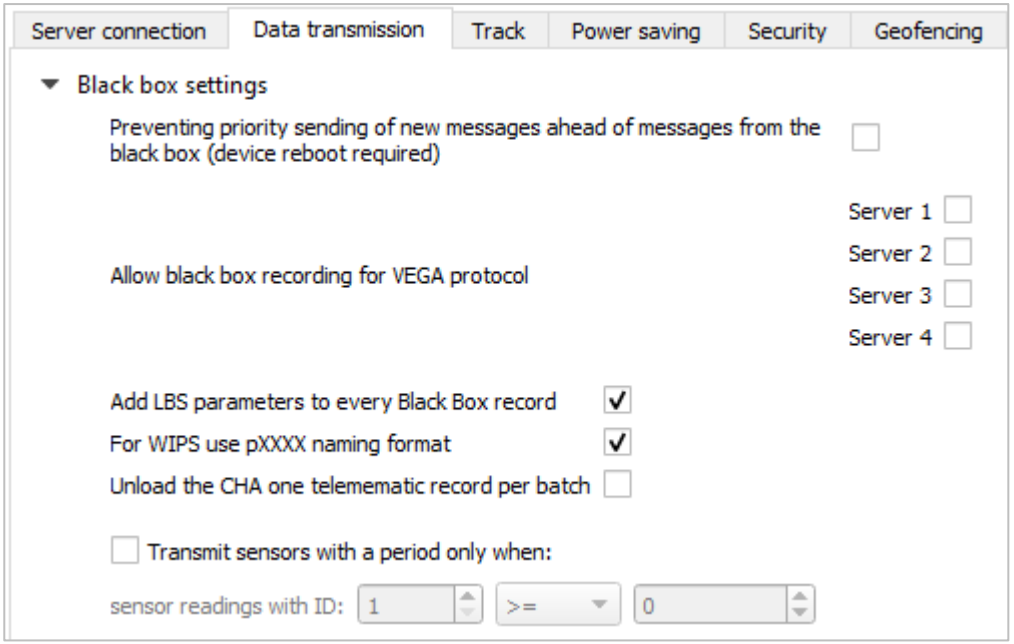
Priority SIM settings – if there are two SIM cards in the tracker, the priority is already sewn up, which can be changed using this setting. You can also set the time when the tracker will try to work again on the priority SIM after a forced transition to the backup.

DATA TRANSMISSON

This tab contains Black box settings and Transmission settings of various sensors.

1. Black box settings

By default, when transferring data from the device black box, new entries have the highest priority. Due to this, if the device did not get in touch for some time, and then the data upload started, you will most likely receive up-to-date information about the current location of the device. If you need to unload strictly in order from the old points of the track to the new ones, you should check the option: "**Preventing priority sending of new messages ahead of messages from the black box**" Thus, new messages will continue to accumulate in the black box in the meantime, as old messages will be uploaded until the queue reaches new messages.



Allow black box recording for VEGA protocol on the checked servers - here you should select the servers configured in the "Connection" tab to work on the VEGA protocol. It should be remembered that the VEGA engineering server does not work with telematic data and it does not make sense to select it for writing to the black box, although this will not lead to any negative consequences.

Add LBS parameters to every Black Box record - by default, LBS parameters are not added to every track point record to save traffic.

For WIPS use pXXXX naming format – converts all WIPS protocol sensors to a numeric format during data transfer.

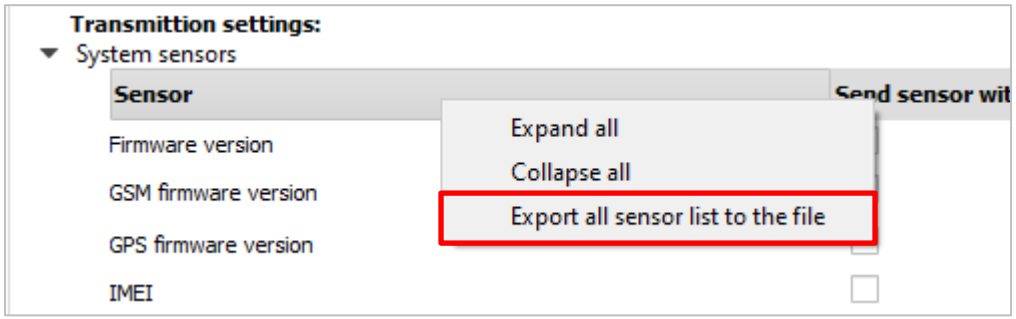
Unload che CHA one telematic record per batch – if the checkbox is unchecked, then the package contains as many records as the device buffer can currently accommodate. Applying this setting can help if, for example, there are problems on the server side when processing large packets.

Transmit sensors with a period only when – you can set a condition when the sensors configured to transmit with a specified period will be transmitted. For example, when the ignition is on or when driving.

2. Transmission settings

In this settings item, it is also proposed to **set sensors**, i. e. to choose exactly what data the device will transmit to the monitoring server, as well as events for which information will be generated for a specific indicator.

By clicking the right mouse button anywhere in the tab, you can **export the list of sensors** to the *.csv file, which then opens as a table.



Send sensor with track – means that the sensor will be added to each track point record being generated and transmitted along with it.

Send sensor with period – means that the sensor will be recorded and transmitted every N second (the period is specified in seconds).

Send sensor by change – means that the sensor will be recorded and transmitted each time it changes to the value specified in the right field.

Example of setting up the transmission of readings

Transmittion settings:

System sensors

Sensor	Send sensor with track	Send sensor with period	Send sensor by change	ID Vega/WCOMBINE	WIPS name	ID EGTS	Type
Firmware version	☐	☐	☑	2	mcu_fw	----	STRING
GSM firmware version	☐	☐	☑	3	gsm_fw	----	STRING
GPS firmware version	☐	☐	☑	4	gps_fw	----	STRING
IMEI	☐	☐	☐	5	imei	----	STRING
SIM ICCID	☐	☐	☐	8	sim_iccid	----	STRING
Uptime	☑	☐		9	uptime	3	UINT32
Current time	☐	☑ 65535		10	utc	4	UINT32
Operation mode	☑	☐	☑ 1	11	oper_mode	5	UINT8
Black box 1 message count	☐	☐		13	mess_count_1	7	UINT32
Black box 2 message count	☐	☐		14	mess_count_2	8	UINT32
Black box 3 message count	☐	☐		15	mess_count_3	9	UINT32
Black box 4 message count	☐	☐		16	mess_count_4	10	UINT32
Server 1 connection status	☐	☐	☐	17	tcp_state1	135	UINT8
Server 2 connection status	☐	☐	☐	18	tcp_state2	136	UINT8
Server 3 connection status	☐	☐	☐	19	tcp_state3	137	UINT8
Server 4 connection status	☐	☐	☐	20	tcp_state4	138	UINT8
SIM2 ICCID	☐	☐	☐	22	sim2_iccid	----	STRING
Board revision	☐	☐	☐	24	hw_vers	----	UINT8
Recording source	☑	☑	☑	25	p25	----	UINT8

In this example, with each track point generated, the following sensors will be also transmitted:

- Uptime od device operation
- Operation mode

In addition, every 65535 seconds a record with information about the current time will be generated.

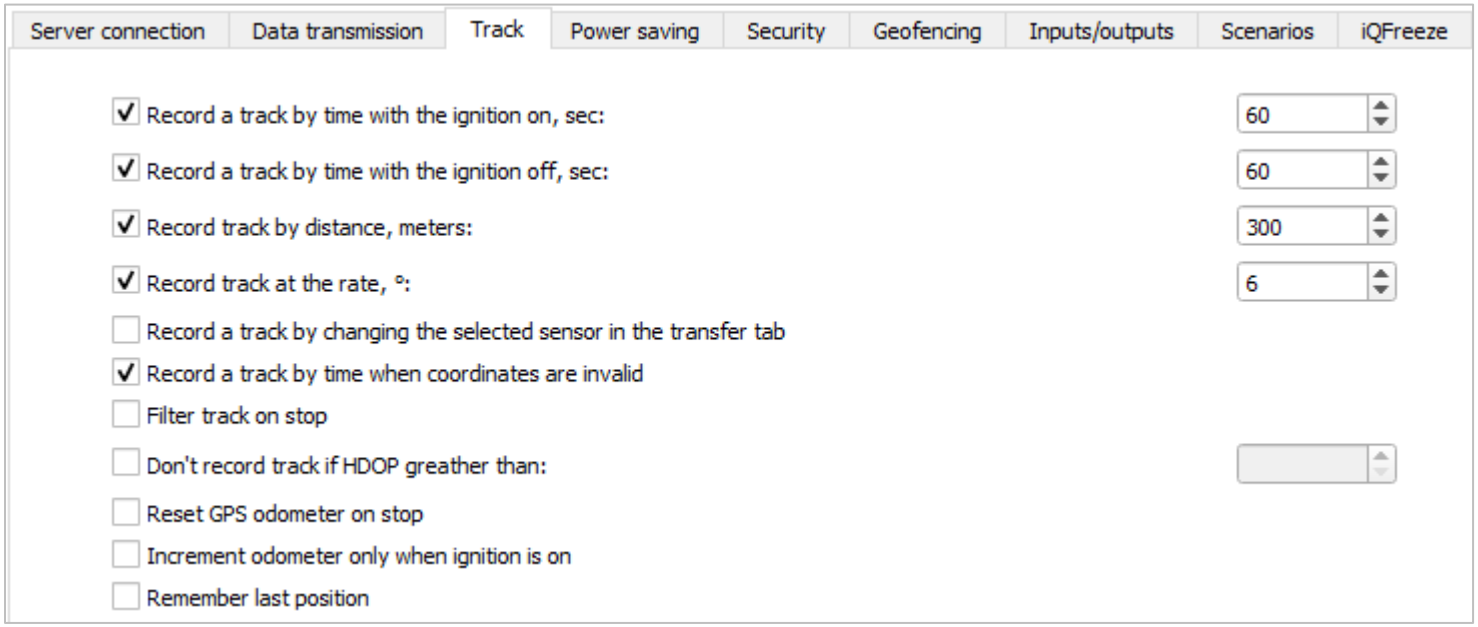
And the firmware versions of the device and its modules, as well as the operating mode, will be transmitted when changing, that is, if the firmware version changes, this information will immediately go to the server.

Opposite the “Operation mode” parameter, there is a checkmark “Send by change” and the value “1” is specified. Since the device has two operation modes - the active mode and the sleep mode - the “Operation mode” parameter is a logical parameter

that can have a value of either 0 or 1. Therefore, in the field next to the "Send by change" checkbox, there is 1, which means - if mode is change, the block will form the corresponding record and transfer it to the server.

TRACK

The "Track" tab has settings for recording, filtering a track, recording a track in roaming, and settings for navigation systems.



1. Track recording and filtering settings

Record track by time - a track point will be formed every N second.

Record track by distance - a track point will be formed every N meter.

Record track at the rate - the point of the track will be formed with each deviation of the vehicle's direction from the straight line by N degrees.

Record a track by changing the selected sensor in the transfer tab - the track point will be formed at the moment of changing any of the selected sensors in the "Data transmission" tab.

Filter track on stop – when the movement stops, the device stops redefining the coordinates of its location to avoid "star" tracks due to the error in determining the coordinates. Instead, he sends with the track those coordinates that he determined once after stopping.

Don't record track if HDOP greater than – track points determined with HDOP greater than a specified value will not be considered reliable and will not be recorded in a black box.

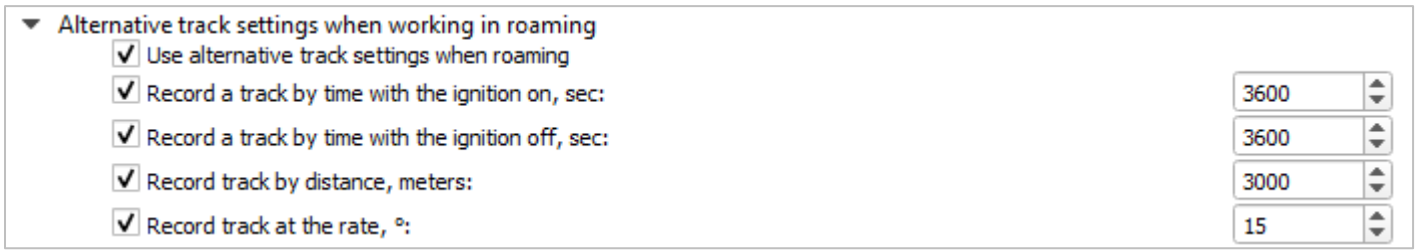
Reset GPS odometer on stop - resetting the GPS odometer after each parking fix.

Increment odometer only when ignition is on - mileage will not be considered when the ignition is off, even if the car is moving.

Remember last position - in case of loss of GNSS signals, the device will remember the last defined coordinates and will use them to form track points until communication with satellites is restored.

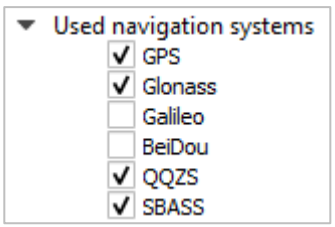
2. Alternative track settings when working in roaming

When the device leaves the home network, in order to save traffic, you can set alternative track recording settings for roaming



3. Used navigation systems

Also on the "Track" tab there are settings for the navigation systems used. Possible combinations are shown in the table below. Add-ons QQZS and SBASS can only be enabled simultaneously with GPS.



GPS	Glonass	Galileo	Beidou	Note
1	0	0	0	
0	0	1	0	Test mode only
0	1	0	0	Test mode only
0	0	0	1	Test mode only
1	0	1	0	
1	1	1	0	
1	1	0	0	Default
1	0	0	1	

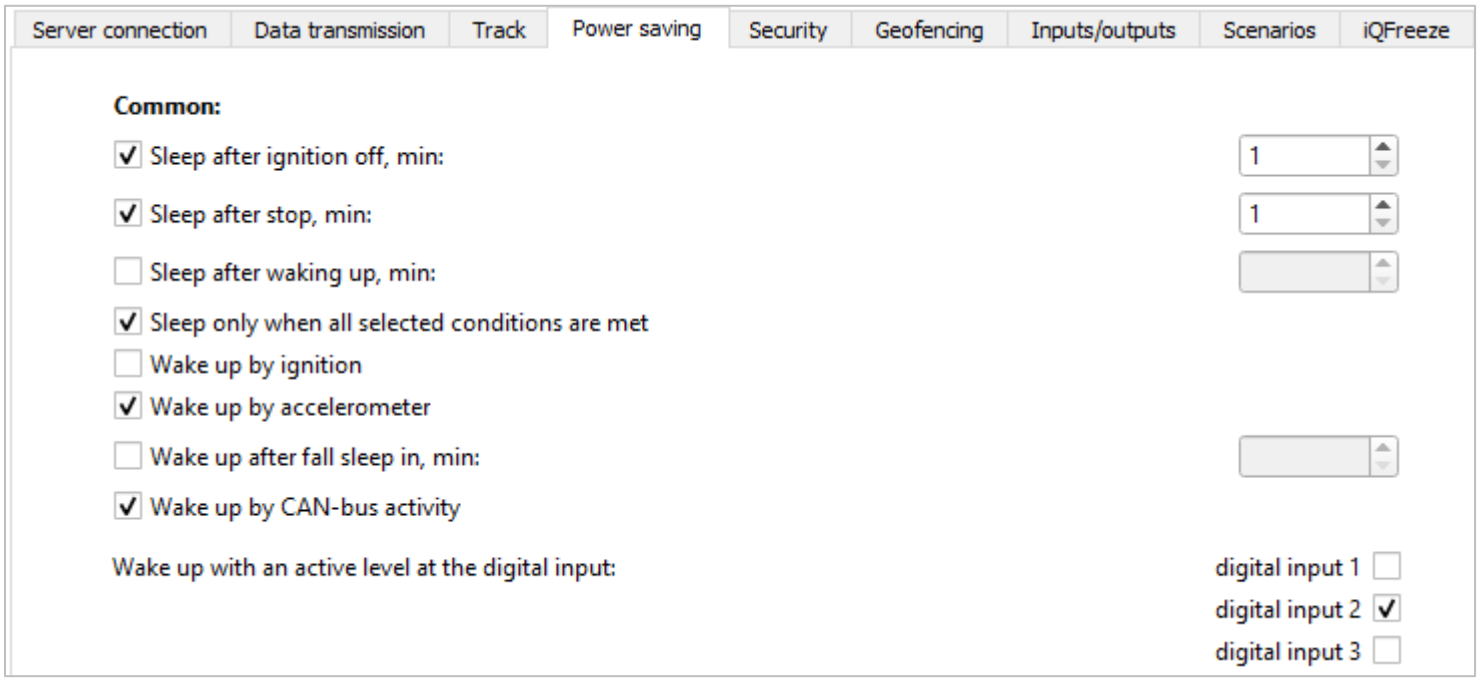
POWER SAVING

In the sleep mode, the device turns off the modem and the main power of the navigation module, only its recharge for a hot start remains. Consumption of about 2 mA. The power indicator flashes every 3-4 seconds.

The "Power Saving" tab contains the settings for switching the device to sleep mode and from it. But there are a few non-configurable options.

- The device always wakes up by connecting USB and opening the case (tamper 1 or tamper 2).
- The device does not fall asleep while USB is connected, or the case is opened.
- The device does not fall asleep if at least one tick with the awakening condition is not set.
- Battery always charging when the ignition is on, regardless of whether the device is sleeping or not.

1. Common



Sleep after ignition off, min – the device goes into sleep mode after turning off the ignition after the specified number of minutes.

Sleep after stop, min – the device goes into sleep mode after stopping the movement after the specified number of minutes.

Sleep after waking up, min – the device goes into sleep mode after the specified number of minutes after waking up.

Sleep only when all selected conditions are met – the device enters sleep mode only when all selected events occur.

Wake up by ignition – the device will wake up immediately after turning on the ignition.

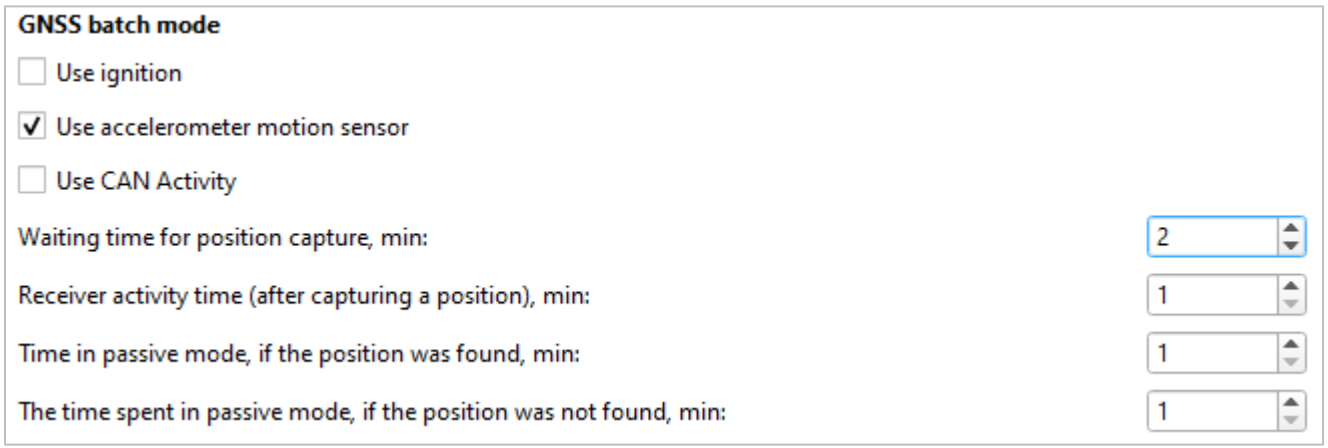
Wake up by accelerometer – the device will wake up immediately after the start of movement fixed by the built-in accelerometer.

Wake up after fall sleep in, min – the device will wake up N minutes after falling asleep regardless of external events (ignition, start of movement, etc.).

Wake up with an active level at the digital input - the device will wake up when it detects activity at the selected digital inputs.

Wake up by CAN-bus activity – the device will wake up when it detects activity on the CAN bus.

2. GNSS batch mode



If one of the "Use ..." checkboxes is selected, then the periodic mode is enabled.

GNSS batch mode — this is a power-saving mode in which the GNSS receiver turns off when it is not needed and turns on when one or more of three selectable events occur:

- Ignition on
- Accelerometer
- CAN-bus activity

When the receiver is first turned on (cold start), after power is supplied to the tracker, the timer to wait for position capture is set to at least 10 minutes, the receiver activity time is set to at least 8 minutes. This is done so that during subsequent power-up cycles, a hot start occurs faster.

There are also timers for fixing the ignition off (10 seconds) and CAN activity (30 seconds). This is done so that, for example, a short-term ignition shutdown does not lead to the receiver turning off.

SECURITY

The Security tab contains settings for access to the device by PIN and a list of authorized keys.

The PIN indicated in the field on the right will be used to connect to the device through the Configurator program, as well as when connecting to any server using the WIALON protocol. Make sure that the same password is specified in the WIALON server settings in the "Password to access the object" section. By default, PIN access is enabled, and the password is “1234”.

In the "Authorized phone numbers" section, you can specify up to 10 phone numbers for use in "Scenarios".

In the "Authorized Dallas keys" section, you can add up to ten numbers of authorization keys of the I-Button type. To use the authorization service, you must enable the authorization sensor (see the "Inputs / outputs" part).

GEOFENCING

The Geofences tab allows you to configure the sizes and position of the geofences if you plan to use them. It is necessary to set the latitude and longitude of the center of the geofence in degrees, as well as its radius in meters. After setting the required number of geofences, it will be possible to control the location of the object inside or outside the geofences, as well as to program the device's behavior when entering or exiting geofences (see the "Scenarios" section). It is possible to set up to 50 geofences at the same time.

INPUTS/OUTPUTS

The “Inputs / Outputs” tab allows you to configure inputs and sensors in a specific way.

Multifunctional input - has the settings “Input Type”: Digital, Frequency, Pulse, Analog, - and “Active Level”: Low / High.

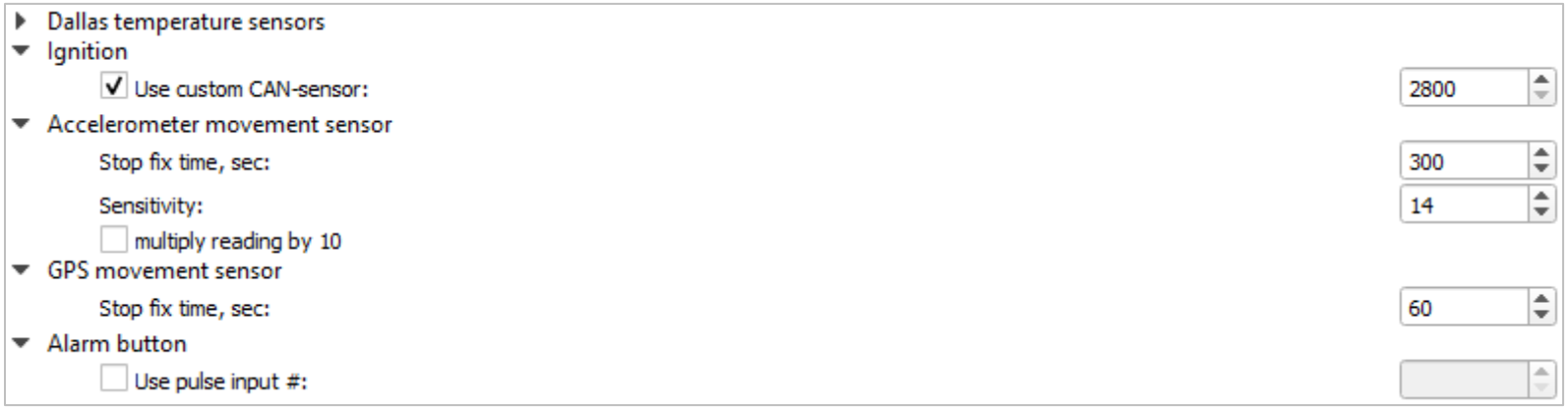
Frequency output 1 - can use the first digital output.

To enable the digital output, you must go to the “State” section to the “Inputs/outputs” tab and press the “On” button opposite the “Digital output 1” inscription.

Fuel level sensor – the ability to connect up to 4 fuel level sensors via the RS-232, RS-485 or UART interface, specifying the address on the bus and selecting the appropriate “Sensor Type”.

Dallas temperature sensors - the ability to add up to 10 temperature sensors by specifying their numbers on the 1-Wire bus.

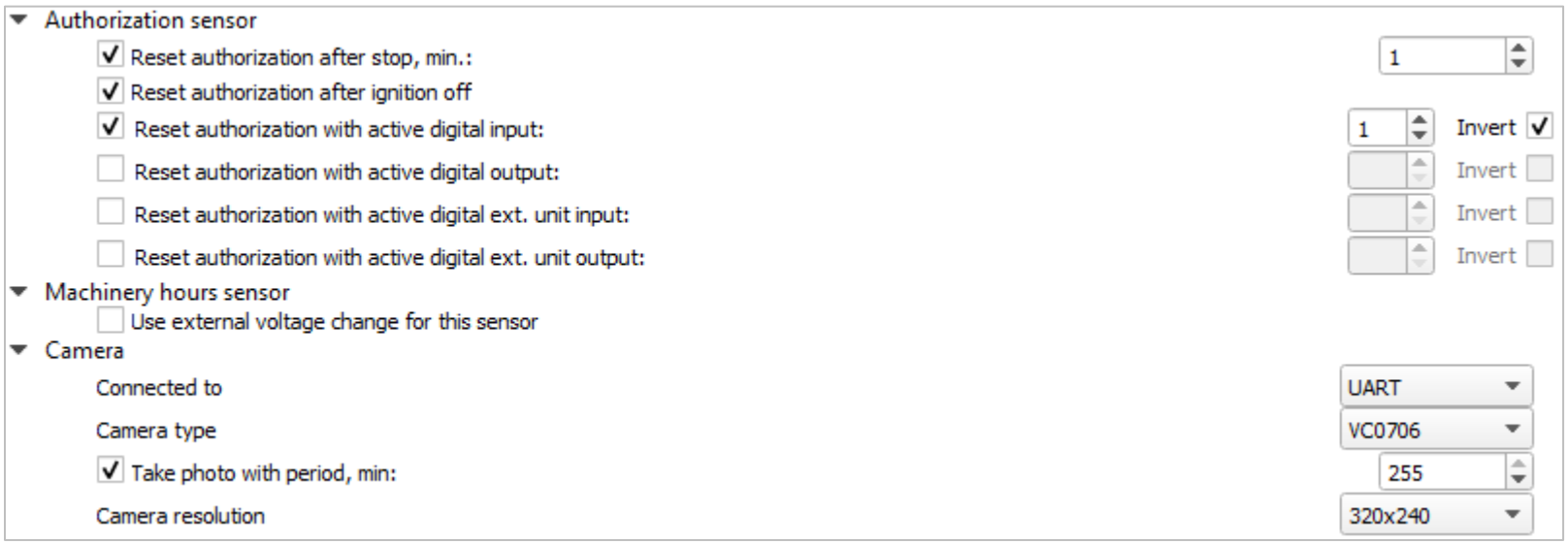
Ignition - the ability to use the readings of the custom CAN sensor as an ignition indicator.



Accelerometer movement sensor and GPS movement sensor - allow you to set the time after which the vehicle is fixed as a parked (in seconds).

Alarm button - allows you to connect the alarm button to one of the multi-function inputs (MV), for this you need to configure the corresponding MV so that the "Input Type" is Digital.

Authorization sensor - used when working with authorized I-Button keys (see "Security" part).



Machinery hours sensor - allows you to configure the work on the voltage of the onboard network.

Camera – camera connection and operation settings.

Input/output extension unit - used when connecting the VEGA BR-1 extension unit. When connecting an external board, it is possible to configure up to 15 additional multifunction inputs.

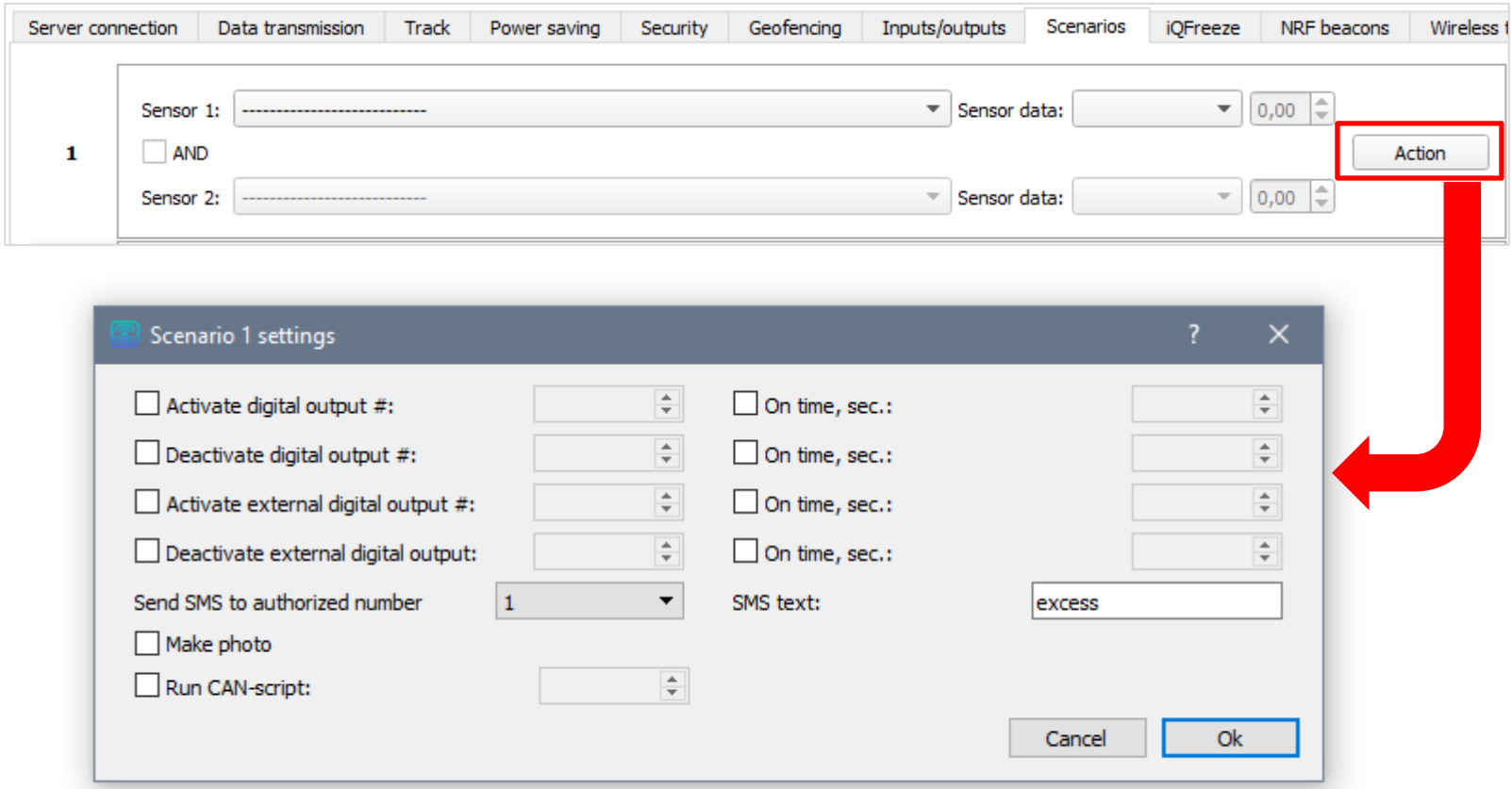
SCENARIOS

The tab “Scenarios” allows you to create up to 25 different scenarios of the device’s behavior when certain events are occurred. To create a script, you need to select a sensor from the "Sensor 1" drop-down list. Then choose what should happen to his readings to run the script. If you need to change the parameters of the two sensors, then check the box "AND" and select the second sensor from the list of "Sensor 2". Also choose how his readings should change. The scenario conditions on this are defined. Now we need to determine the behavior of the device when specified conditions occur. To the right of the customizable scenario there is a “Action” button where you can choose one or several device’s actions. After configuring these parameters, the script is ready.

When configuring "Actions", you can use prepared CAN scripts (see the "CAN scripts" section).

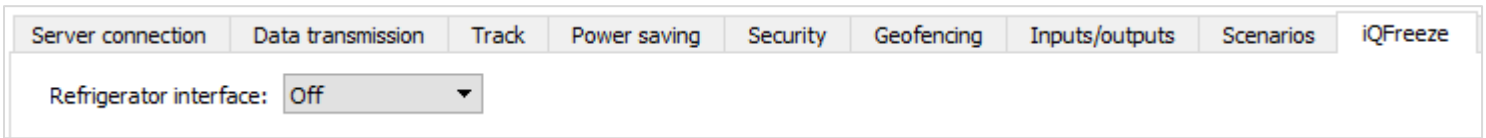
An example of creating a script "send SMS when speeding over 120 km/h"

For example, send SMS when speeding exceeds 120 km/h. To set up such a scenario, you need to select the **speed** in the “Sensor 1” list, select “Sensor data: Became more” and specify the value 120 in the field on the right. Click the “Action” button and in the window that appears, configure the settings for sending SMS messages. Thus, every time the vehicle speed becomes more than 120 km/h, the device will send SMS to the specified number. "Sensor 2" in this case does not need to be configured.



IQFREEZE

In the "iQFreeze" tab, select the interface used to connect the RS-232 or RS-485 temperature recorder. Or select "Off" if the interface is not used.

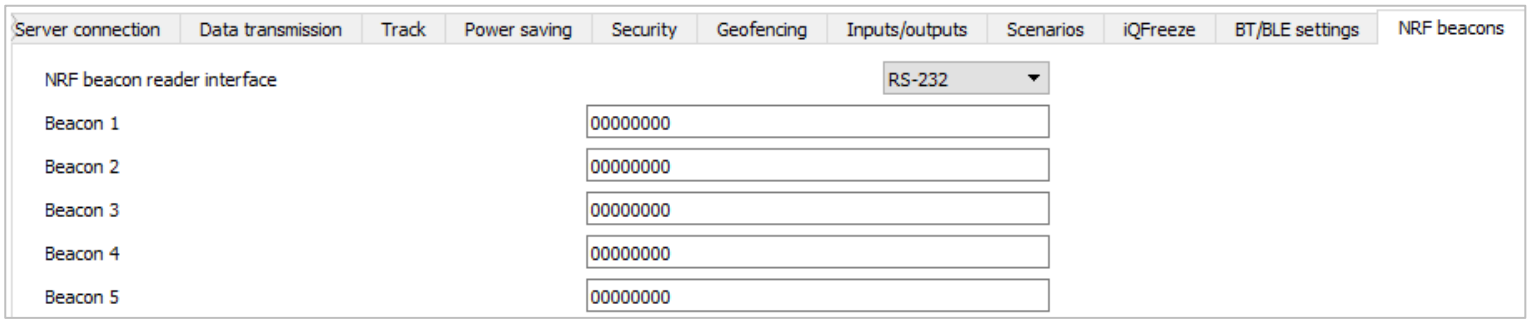


BT/BLE

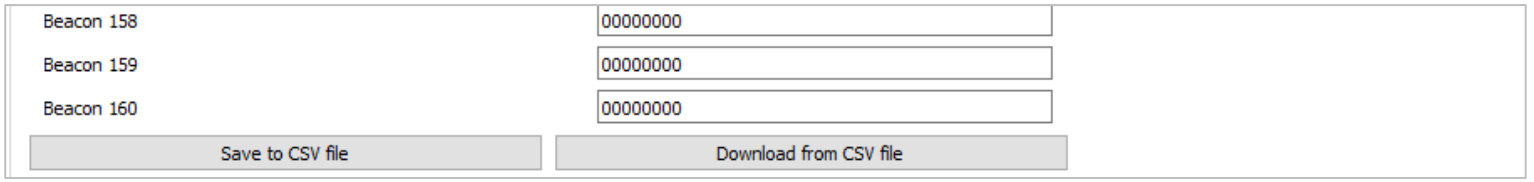
In the “BT/BLE” tab you may configure Bluetooth. It is necessary for BLE sensors operation to enable BT module and BLE device scan and set the BLE scan period on 20-30 seconds optimally. Use other settings use in depends on situation. For example, if you choose “BT visibility” other devices will see the GNSS tracker while scanning.

NRF BEACONS

In the "NRF beacons" tab select the interface used to connect the reader: RS-232 or RS-485 interface. Or select "Off" if the interface is not used. Also, here you need to enter the individual numbers of NRF beacons, in total you can set up to 160 numbers.



...



At the bottom of the tab there are buttons for automatically filling in radio tag numbers from a *.csv file or saving an existing list to a *csv file for later use.

WIRELESS THERMOSENSORS

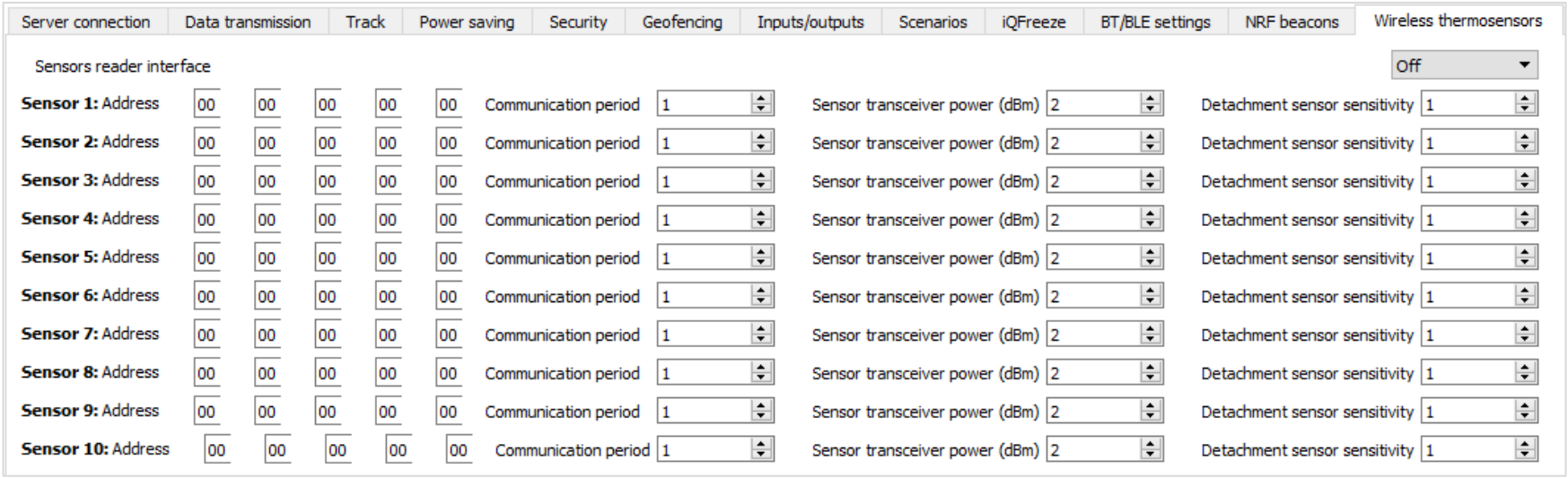
The tab "Wireless thermosensors" is used to configure temperature sensors with an integrated LoRa radio module.

Here you should select the interface used to connect the RS-232 or RS-485 temperature sensor reader. Or select “Off” if the interface is not used. Here you also need to enter the individual addresses of the temperature sensors, in total 10 addresses can be set.

Communication period – it is set in minutes for each sensor individually. This is the period with which the temperature sensor will transmit the accumulated temperature readings to the LoRaWAN network.

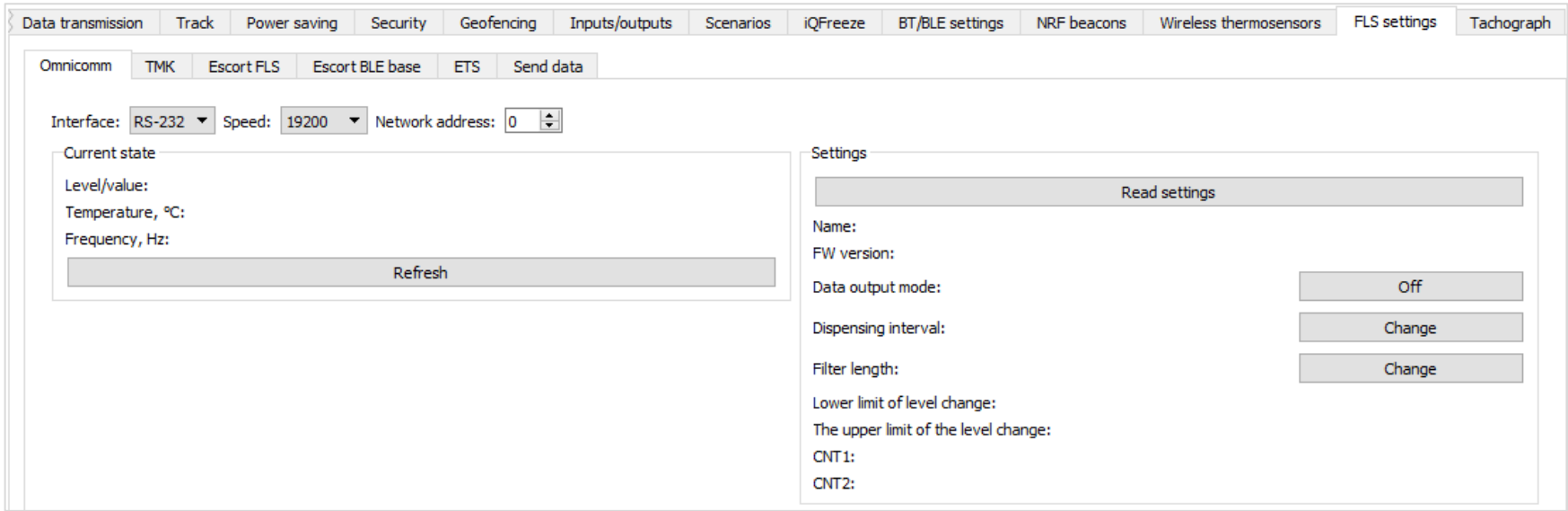
Sensor transceiver power (dBm) – varies from 2 to 20 units, the larger the value, the further the sensor will be “heard”, but the faster the battery will be discharged.

Detachment sensor sensitivity – varies from 1 to 5. When the built-in detachment sensor is triggered, the temperature sensor initiates an extraordinary communication session to transmit an alarm.



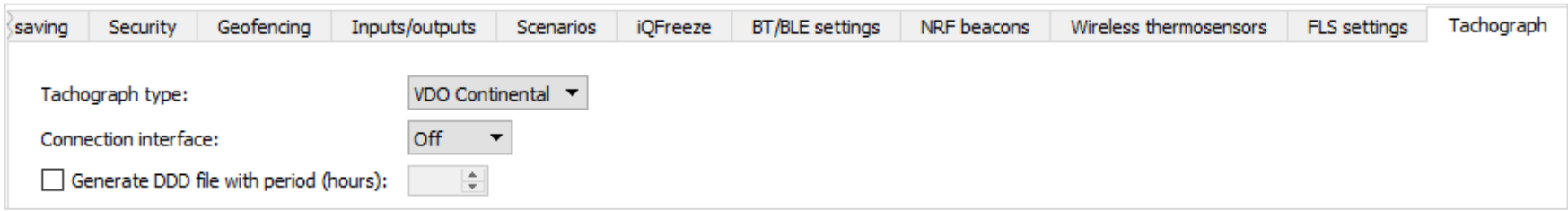
FLS SETTINGS

The "FLS settings" tab is designed to configure supported fuel level sensors. The settings data is not stored on the tracker; in the process of setting, the tracker acts only as an intermediary. To correctly configure your sensor, use the manual for the corresponding FLS model.



TACHOGRAPH

The “Tachograph” tab allows you to set up the device’s interfaces for operation with the supported tachograph models.



Here you need to specify the tachograph model, select the interface through which it is connected and set the period for generating the DDD file.

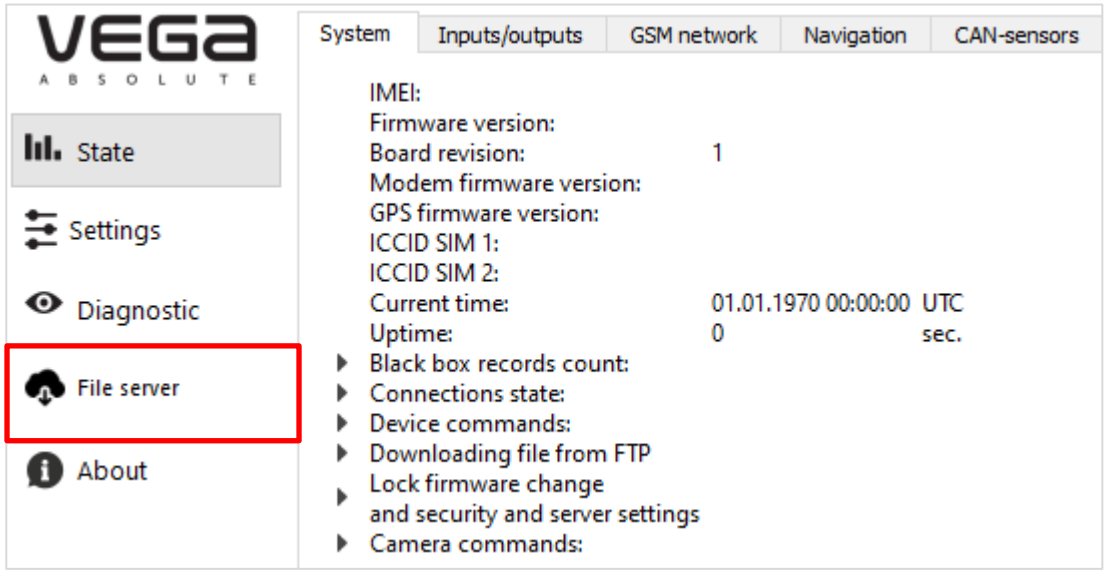
6. Diagnostic

The Configurator application allows remote diagnostics of the device and save the diagnostic results to a file for further sending to a technical support.

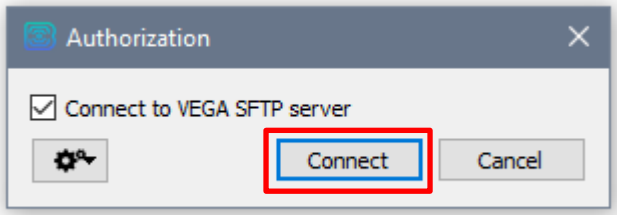
To do this, go to the "Diagnostic" section and click "Read LOG". Diagnostics can also be done by connecting to the device directly via the USB port, in which case the LOG file will be read much faster. After the download of the LOG-file is completed, it can be saved by clicking on the “Save to file” button.

7. File server

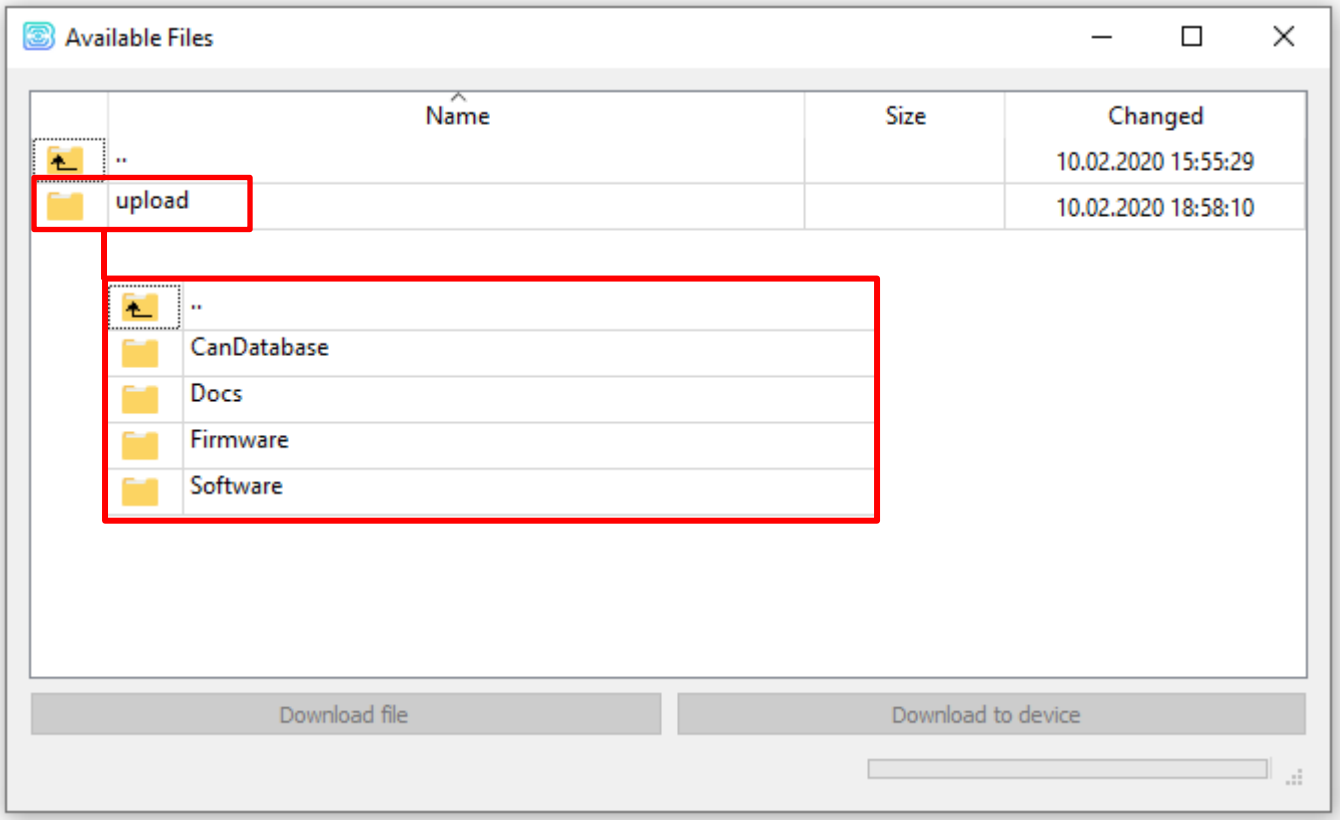
In the "Configurator" program, it is possible to download various files from the VEGA server both to a computer and directly to a connected device. To start browsing the repository, you need to log in to the server. For that, click the "File Server" button.



An authorization window will appear in which access to the Vega server is automatically selected. To access another server, uncheck this box and specify the parameters for accessing the desired server in the fields that appear.



After authorization, a window with storage appears.



In the **upload** folder there are four main folders with the following file types:

CanDatabase

- Ready-made configurations of CAN sensors ("closed") - files marked *sensors* - can be downloaded to the device
- Ready-made configurations of CAN scripts – files marked *scripts* – can be downloaded to the device
- Description for each configuration (description of CAN sensors, description of CAN scripts, CAN connection points) - files marked *manual*

Docs

- User Manual
- Exchange protocol description

Firmware

- Actual firmware - located in the root of the folder - can be downloaded to the device
- Old firmware versions - in the *Old* folder - can be downloaded to the device
- Test versions of firmware - in the *Testing* folder - can be downloaded to the device

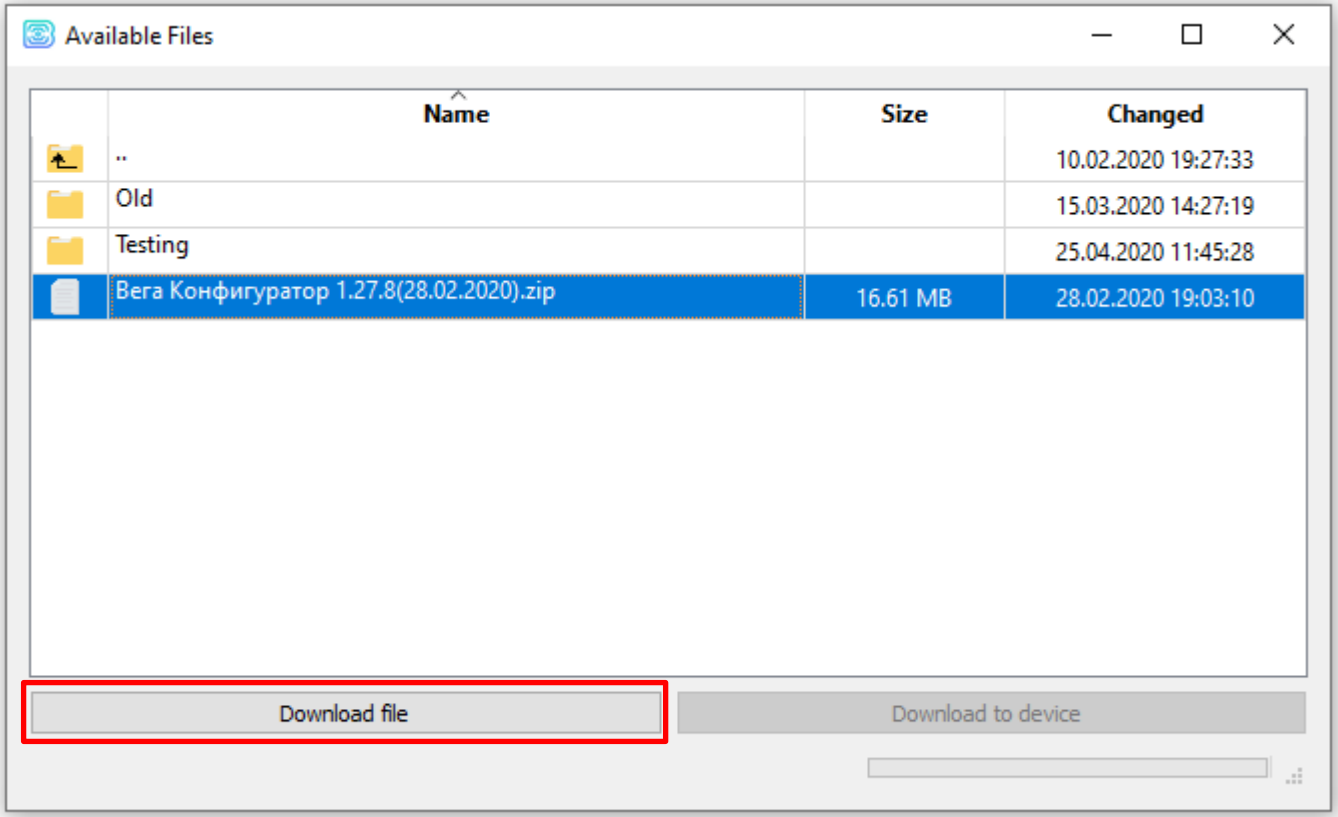
The test firmware was successfully tested in the office environment but was not tested in the field. Please report all noticed problems with the firmware for their further improvement and re-release

Software

- Required Drivers and Libraries
- Installation files for the Engineering Server
- Configurator (relevant, old and test versions)
- Utility for loading a single configuration onto multiple devices simultaneously

sWialon Templates

- Wialon templates

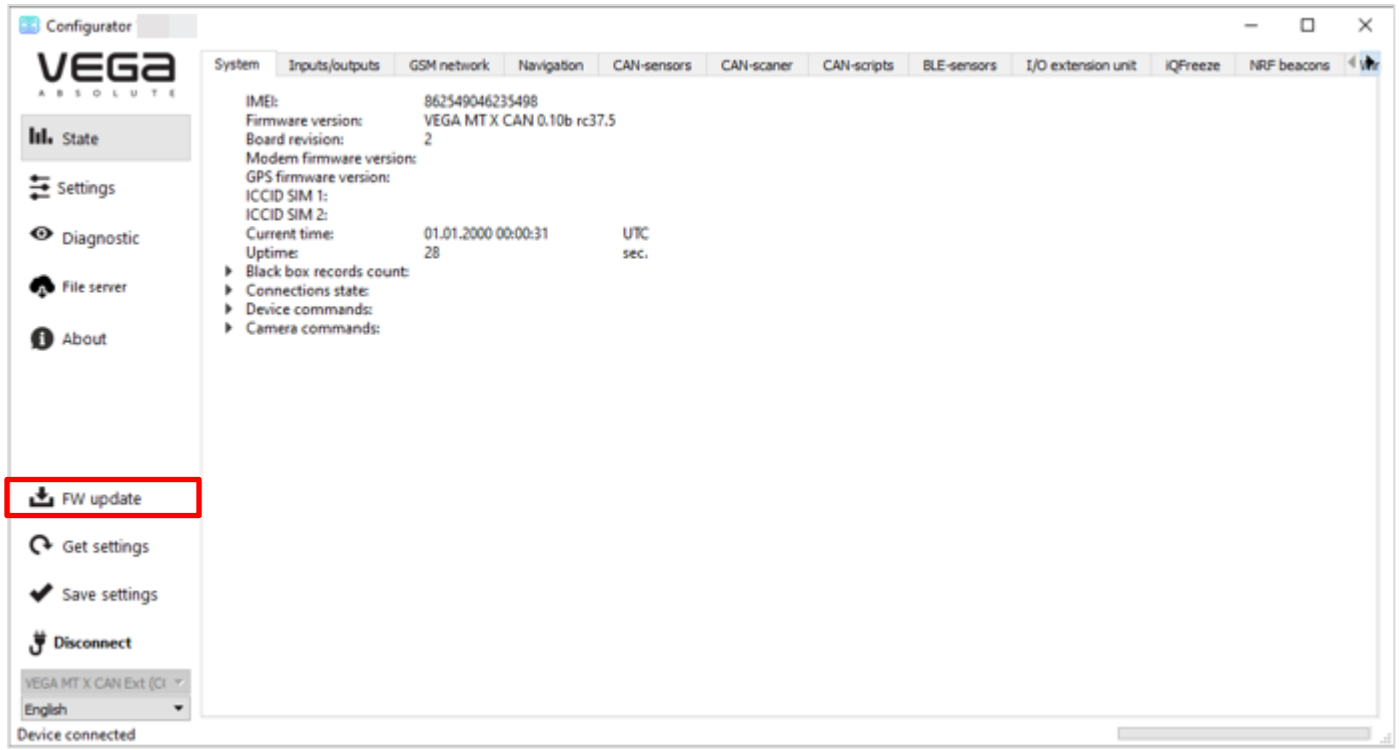


«Download file» – save file on the computer.

«Download to device» – download on the connected device (firmware and settings).

8. Firmware updating

Using the Configurator application, you can update the device firmware (remotely or via USB) using the corresponding file. To do this, click the "Update" button in the lower left corner of the window - a dialog box will appear asking you to select a file with the new firmware file. Select the file and click “OK” - the device firmware will be updated.



Do not turn off the device during a firmware update

9. Operating with CAN-bus

To operate with the CAN bus, the program has three tabs in the “State” section: CAN-sensors, CAN-scanner, and CAN-scripts. Below, each of them is considered in detail.

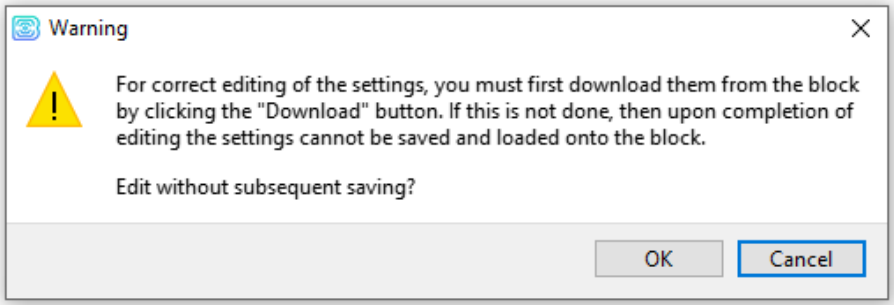
When sending random commands to the vehicle’s CAN bus, the result may be unpredictable. Vega-Absolute company is not responsible for the consequences of experiments with the CAN bus.

CAN-SENSORS

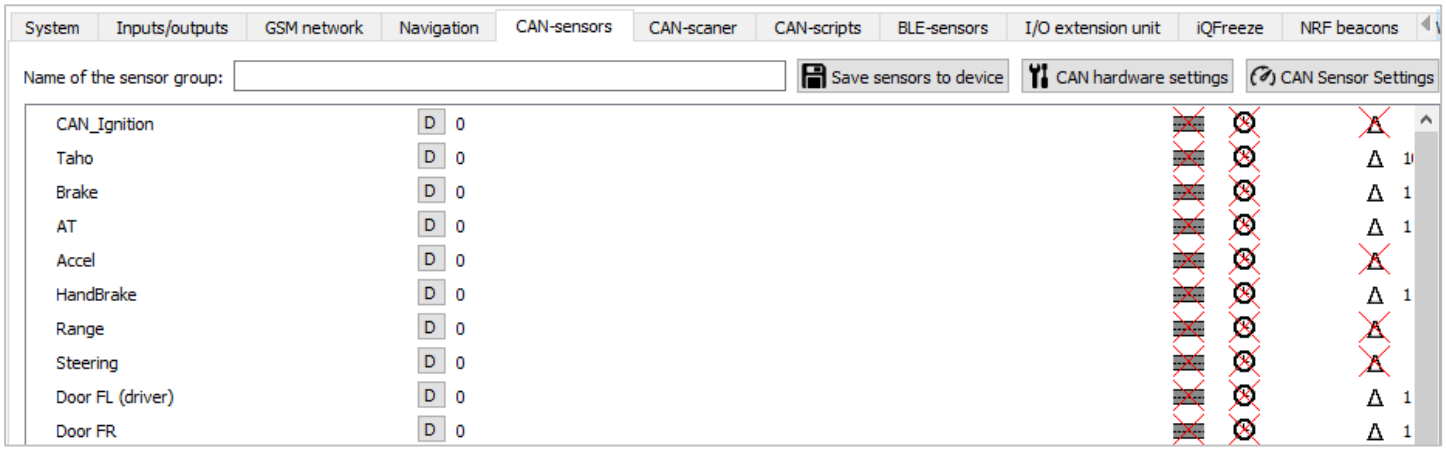
In the “CAN-sensors” tab, the CAN-bus sensors are configured.

CAN-sensors transmitted to the server only if one of the protocols VEGA, Wialon IPS or Wialon Combine used

If you do not load the settings from the device and try to change the CAN settings, a warning will appear:



It also appears if the device was not connected at all. Therefore, before configuring CAN sensors, you need to load the settings from the device by clicking the "Download" button in the left part of the window.



After that, a list of already connected sensors, their current values and transmission settings will appear in the table.

- transmit with the track;

5 c - transmit with the period (in this case with 5 second period);

Δ 3 - transmit by the changing (in this case when the value will become equal 3);

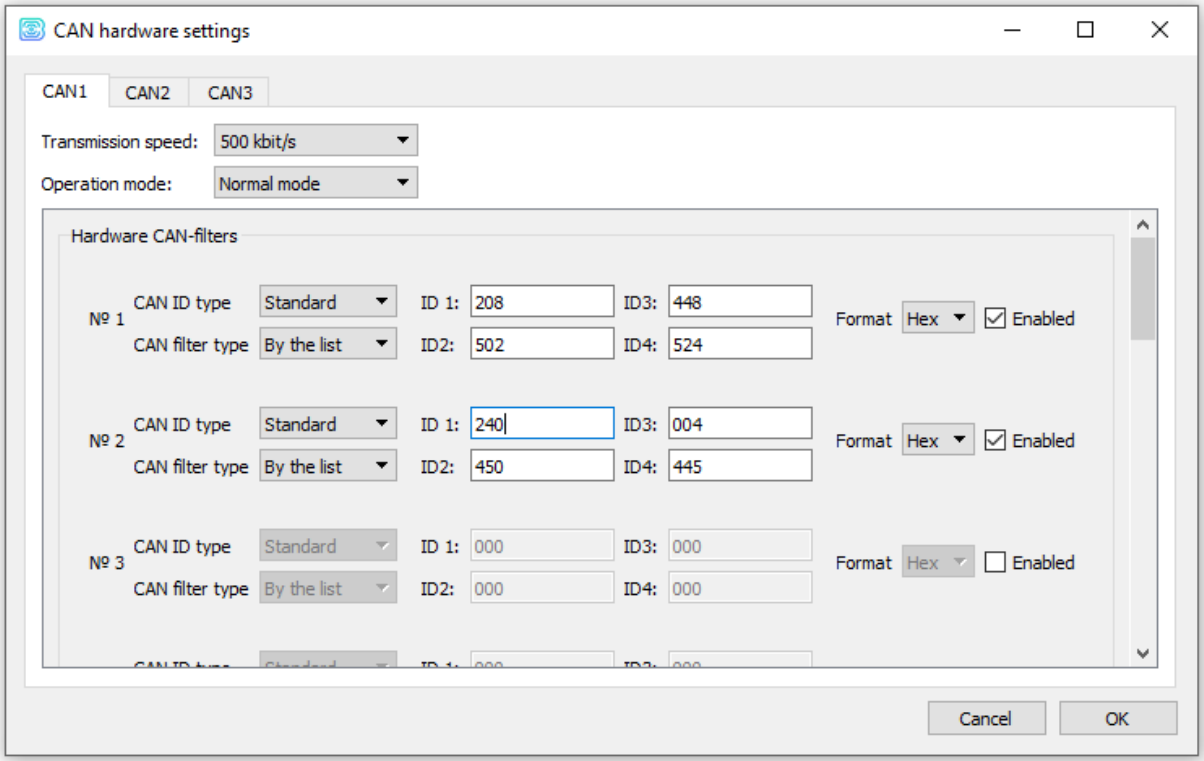
- button for calling the window with transmitting settings for that sensor;

- button for calling the individual window with settings for that one sensor (like the "CAN-sensors settings" button, only when you click on it, **all** sensors will be listed).

In the field "Name of the sensor group" you can enter any comment that will later help determine the belonging of the sensors and their settings to a specific vehicle model.

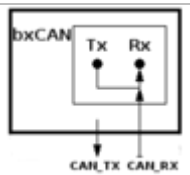
"Save sensors to device" button – all added sensors are saved in the device memory.

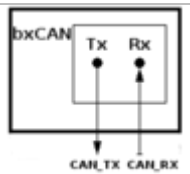
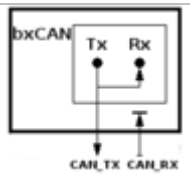
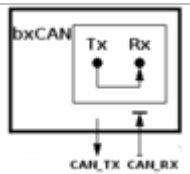
"CAN hardware settings" button – when clicking the window with settings appears. Window contains the settings of hardware CAN-filters for specific CAN-sensors or diapasons of them for every CAN bus.



Transmission speed – it is important to indicate the correct speed for the CAN bus.

Operation mode – allows to choose the operation mode with CAN bus:

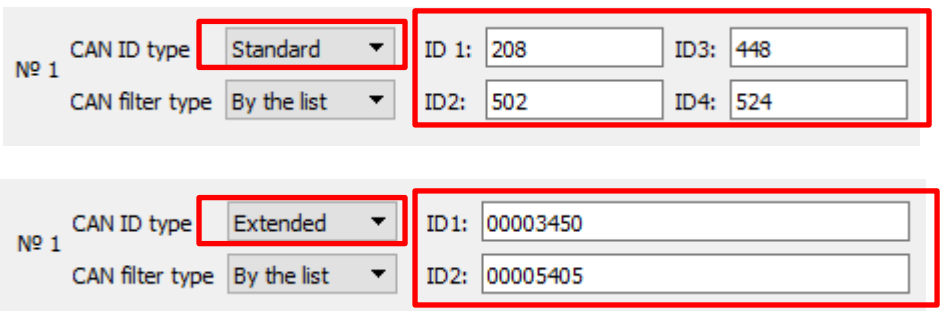
Mode	Visualization	Comments
Off	-	Exchange with the CAN bus is not conducted in any form. CAN bus disabled.
Silent mode		Packets from the device will not get into the CAN bus of the car, from the point of view of the CAN bus it is not connected. This mode is recommended in cases when it is only necessary to receive parameters from the CAN bus, and control is not required.

Normal mode		Data is transmitted and read from the CAN bus in normal mode on both sides.
Loopback mode		The device will transmit data to the CAN bus and listen to itself at the same time. Packets from the CAN bus will not reach the device. Packets from the device go to the CAN bus.
Silent loopback mode		In this mode, all packets will be returned to the device without going to the CAN bus. From the CAN bus, accordingly, no data packet will reach the device. Suitable for debugging device without physically connecting to the CAN bus.

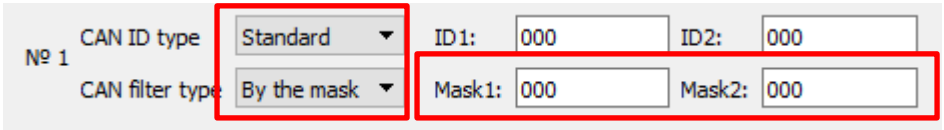
Now let us move on to the settings of **CAN filters**. Filters are needed to filter out the unnecessary data from the huge flow of information coming from the vehicle's CAN bus, thereby reducing the load on the processor.

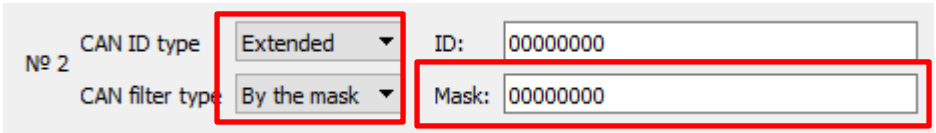
If no filter is enabled, this is equivalent to the fact that this CAN bus is disabled.

CAN ID type – 11 bits standard or 29 bits extended. In standard mode you may specify up to four sensors ID in the one filter, but in extended mode - no more than two.



CAN filter type – «By the list» or «By the mask». «By the list» means that in fields ID1, etc. specific frame IDs will simply be indicated. If you choose the type «By the mask», then the lower ID fields will turn into "mask" fields, where you can set a mask for a whole group of frames. With the selected "extended" CAN ID type, there will be only one mask.





When all the parameters are configured, you need to make sure that the "Enabled" checkbox is checked, then you must click the "OK" button in the settings window and "Save settings" button in the general window - otherwise the settings will not be saved on the device.

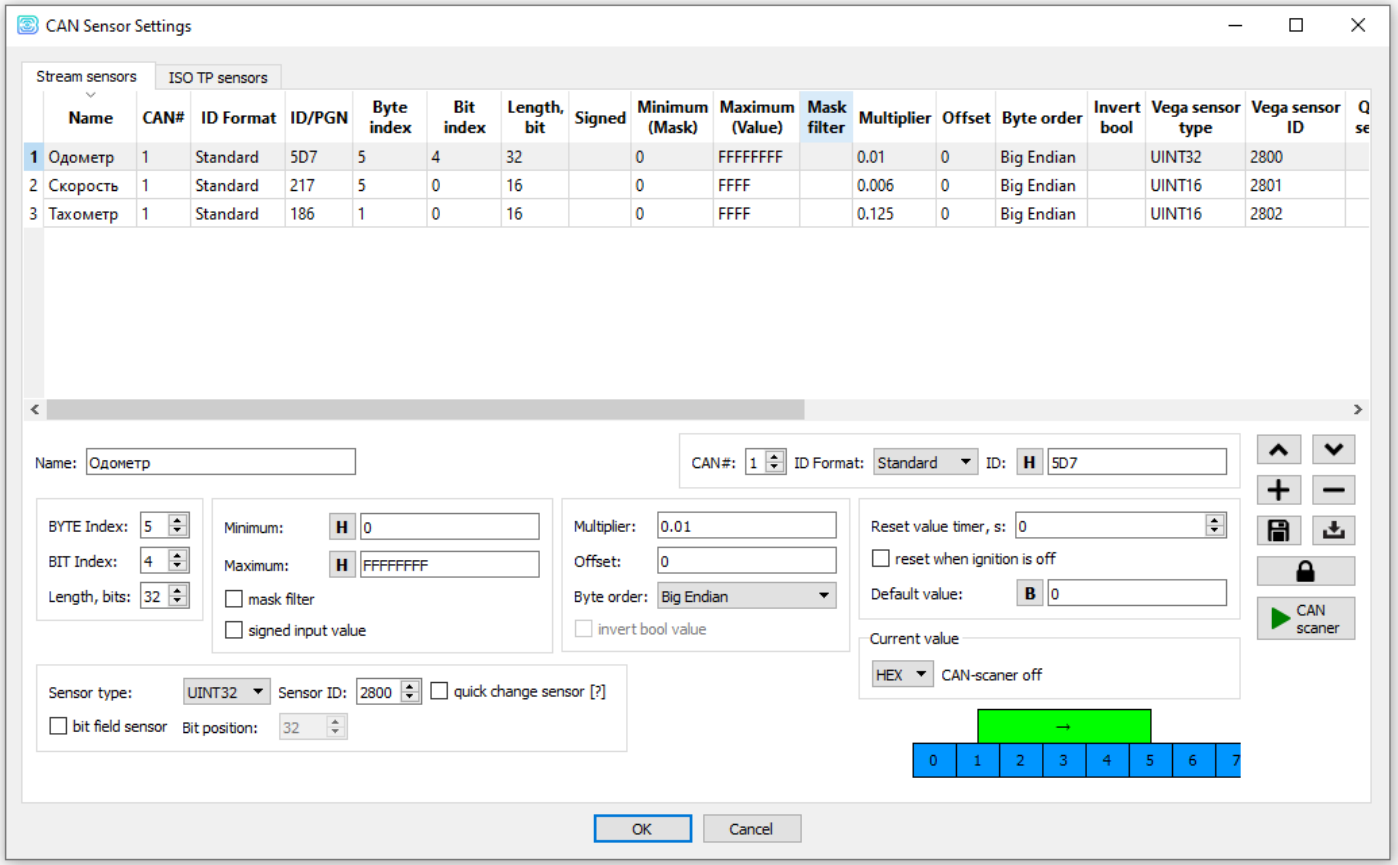
After that, you can proceed to the settings of specific CAN sensors.

"CAN sensors settings" button - when clicked, a window for editing the sensors appears.

Sensors can be of two types: "Stream sensors" and "ISO TP sensors" - they are configured in separate tabs.

STREAM SENSORS

Stream sensors are those parameters whose values enter the vehicle's CAN-bus continuously, i.e., by the *stream*, and are constantly changing. They can be seen when scanning the CAN bus.



Stream sensors can be either open or hidden (i.e. have encrypted configuration parameters, these are all sensors received from the file storage - see section 11). Hidden sensors are greyed out.

On the right side of the window are the control buttons.

 - add sensor – a new row will appear below the selected.

 - delete sensor – the selected row will delete.

 - up/down buttons – the selected row moves relative to the rest.

 - save to the file - when pressed, the program will prompt you to choose a location to save the settings file in *.vsf format.

 - load from the file - when pressed, the program will prompt you to select a settings file in *.vsf format.

Let us consider the custom parameters in order.

Name – CAN-sensor name, set arbitrarily.

CAN# – number of the CAN-bus from which the information about this sensor will getting.

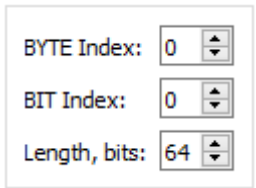
ID Format – frame type is standard (11 bit), extended (29 bit) or PGN (the number of a group of parameters J1939 type).

ID/ PGN – frame's ID when the type is standard or extended and a frame's PGN if the chosen type is PGN.

Byte Index – serial number of the byte in the frame from which the sensor value begins.

Bit Index – the serial number of the bit in the byte from which the sensor value begins.

Length, bits – sensor length in bits.



Signed – if checked then CAN data is processed as signed (two's complement).

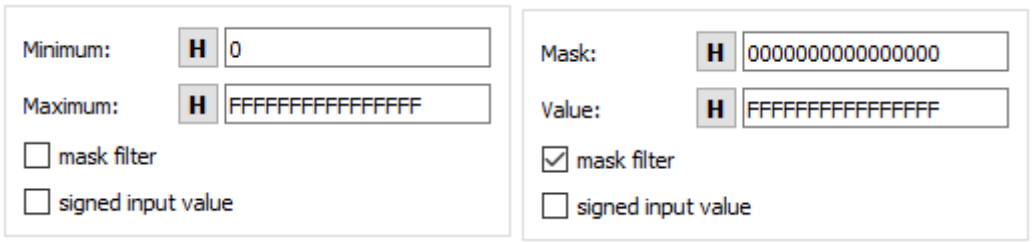
Minimum (Mask) – minimum sensor value to be processed or mask.

Maximum (Value) – maximum sensor value to be processed or values that the mask should skip.

Sensor values that will not fit within these limits will be ignored. Limitations apply to values received from the CAN bus, without processing by Multiplier, Offset etc.

Mask filter – if checked then you may enter the mask in the "Mask" field and the sensor value to be skipped in the "Value" field.

The mask is applied bit by bit (00 - filters nothing, FF - filters), so if you want to cut off bytes, then put the FF mask in the desired byte, and enter the number to be skipped in the "Value" field (see the usage example).



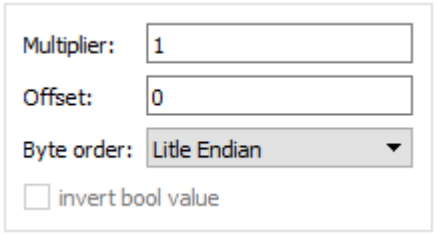
Multiplier – sensor multiplier.

Offset – sensor offset.

The total value that will be written to the sensor = value from the CAN-bus **×** Multiplier **+** Offset

Byte Order – frame byte order: little endian or big endian.

Invert bool value – inverts a value of BOOL type.



Sensor Type – sensor value type, integer, floating point, etc.

Sensor ID – sensor ID, can take values from 2800 to 2927, a total of 128 sensors can be added. When transmitting via Wialon IPS protocol, the sensor format will be pYYYY, where YYYY is the sensor ID specified in this field. When transmitting via Wialon Combine protocol, just the sensor ID specified in this field will be displayed.

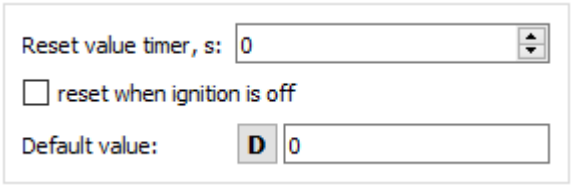
Quick change sensor – if the input value has changed for a short time upwards, then this value will be fixed for 1.5 s - applicable only to sensors of the UINT and BOOL types.

Bit Field Sensor – if checked, then this sensor is a bit and it takes no more than one bit. From a several such bit sensors you can make one ordinary. To do this, you need to create several bit sensors and specify the same "Sensor ID", and in the "Bit position" field specify where every sensor will be recorded. At the same time, it is mandatory to specify the same "Sensor Type" for all those bit sensors.

Bit position – the field is active only with a checked "Bit Field Sensor" parameter. In this case, this parameter sets the sensor bit where this value will be written.

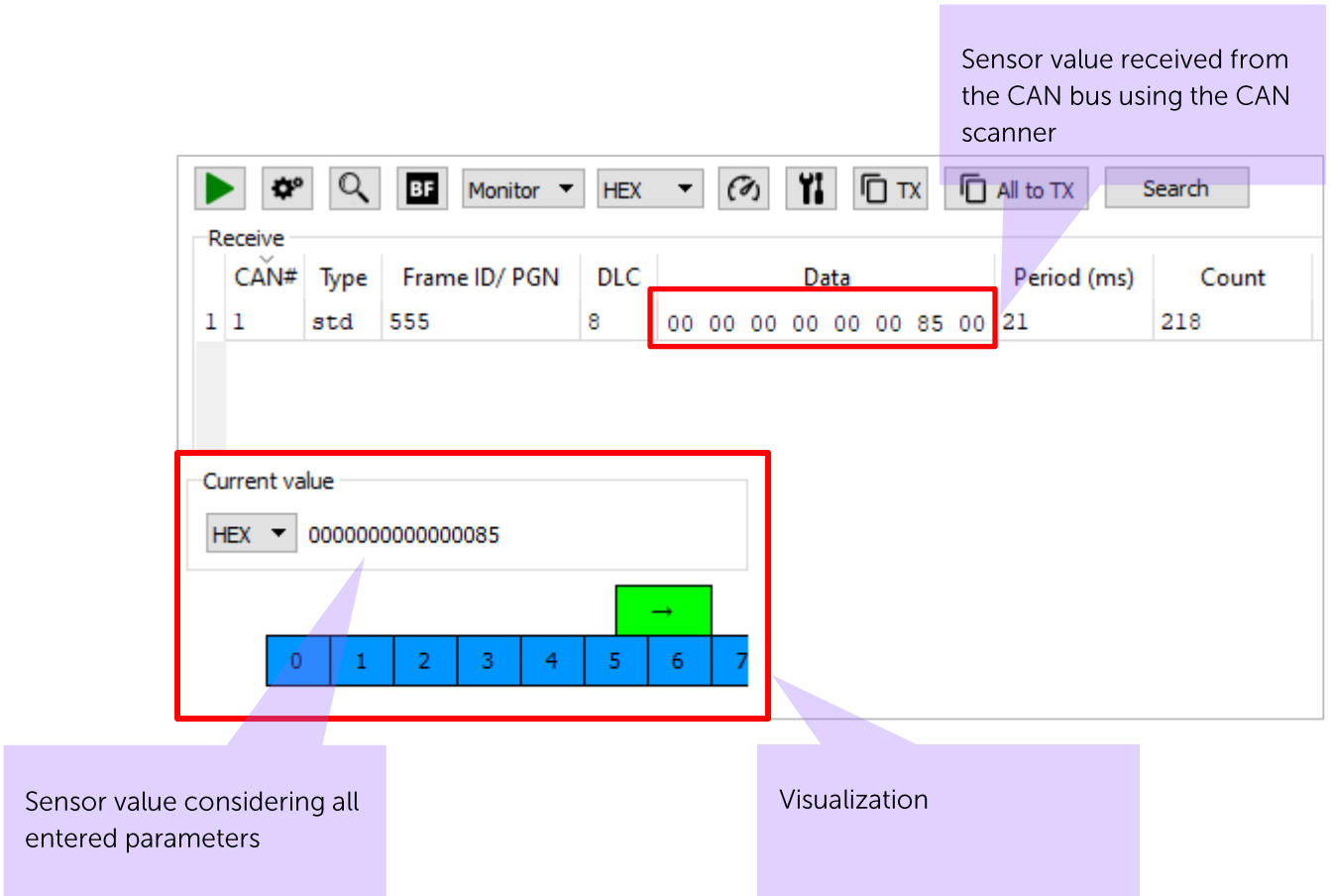
Reset value timer, s – if during the specified period this Frame ID is absent on the CAN bus, then write the default value to the sensor. It can take values from 0 to 15 seconds. At 0 the function disabled.

Reset when ignition is off – if checked, then when the ignition is turned off, the "Default value" will be written to the sensor.



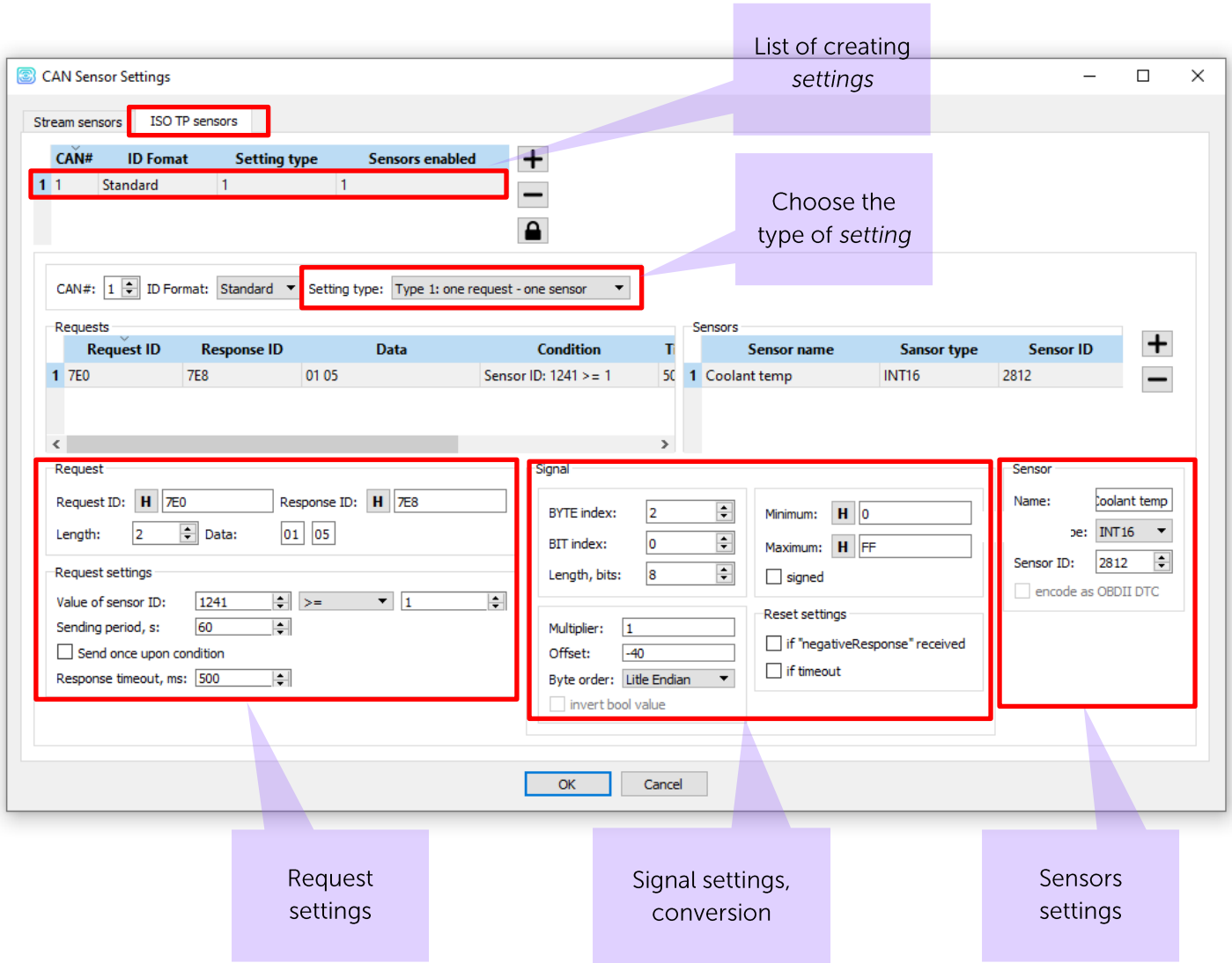
Current value – here displayed the sensor current value calculation based on data from CAN bus and with applying all of set parameters.

Below you can see visualization of tuned parameters in real time. On the diagram you may see and check whether those bits in the frame are exactly selected. Also, you can change sensor parameters and see how parameter changes affect the sensor.



ISO TP SENSORS

ISO TP sensors are those parameters whose values do not enter the vehicle's CAN-bus continuously. They can be received by the sending into CAN bus the certain request.



"Configurator" allows create two types of *setting*:

0 – one request – some sensors,

1 – one request – one sensor.

When chosen **Type 0**, the one request may be set and sent for some sensors (may be added from 1 to 4 sensors).

When chosen **Type 1**, the request is set and sent for every sensor so you have a pair "request-sensor" (may be created up to 3 pairs "request-sensor" in one *setting*).

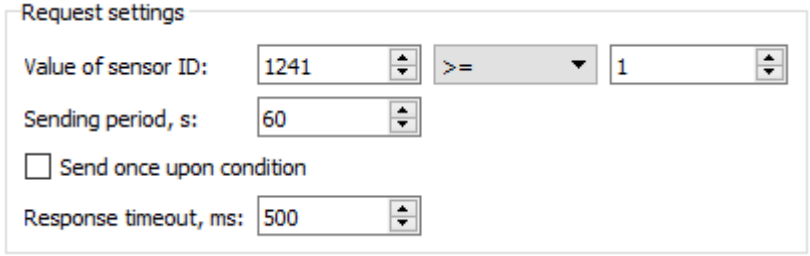
To operate with ISO TP sensors, the CAN bus should be set to Normal mode. Some settings in this tab are like those in the Stream sensors tab, but there are significant differences. Sensor and signal settings are made in similar way.

Working with ISO TP sensors requires certain knowledge and skills. Vega Absolute is not responsible for any consequences that may occur when sending data to the vehicle's CAN bus

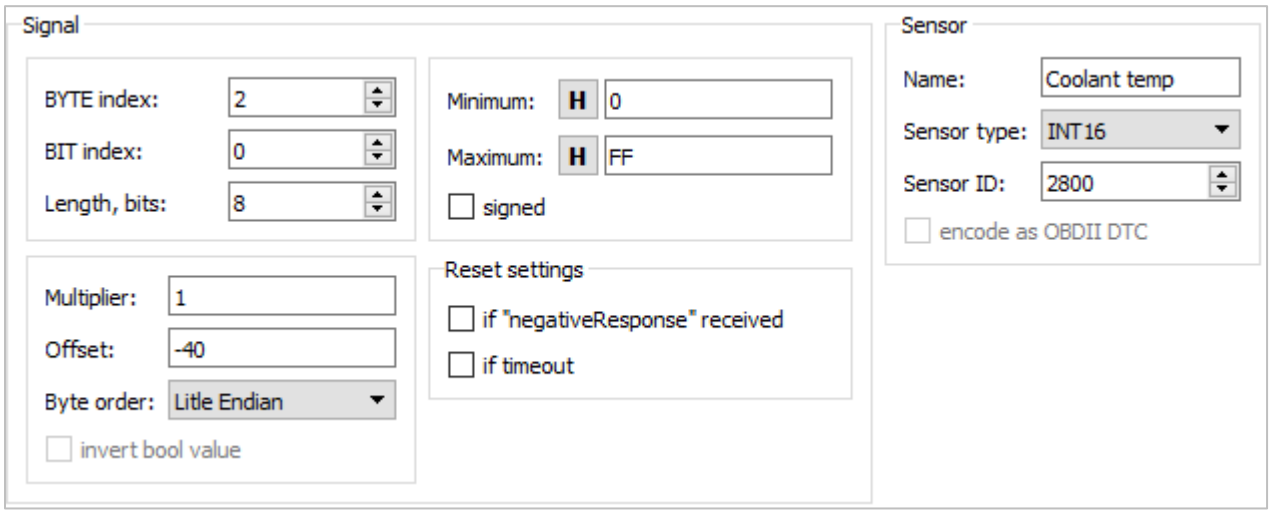
To get the correct answer, you need to know where the parameter value is located and how to formulate the request. To do this, use either the standard[1] protocol or the protocol from the car manufacturer, if you have one.

The following settings should be taken from the protocol: request and response ID, Length, Data, but the send settings make yourself.

[1] ISO 15765-4 (standard OBD-2 request and response IDs)
ISO 15765-2 (message exchange format for OBD-2)
SAE J1979 (available modes and parameters of OBD-2)

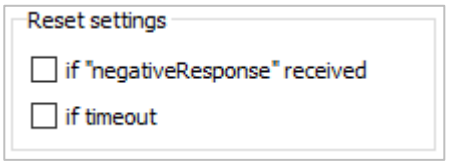


You can send a request with a specified period, or one-time when the condition is met. The sending condition is set in the first line: the readings of some sensor with the specified ID takes on some value - the request is sent. This is the recommended way to send requests. The ID sensor number is taken either from user CAN sensors (Sensor ID) or from the Wialon Combine protocol.



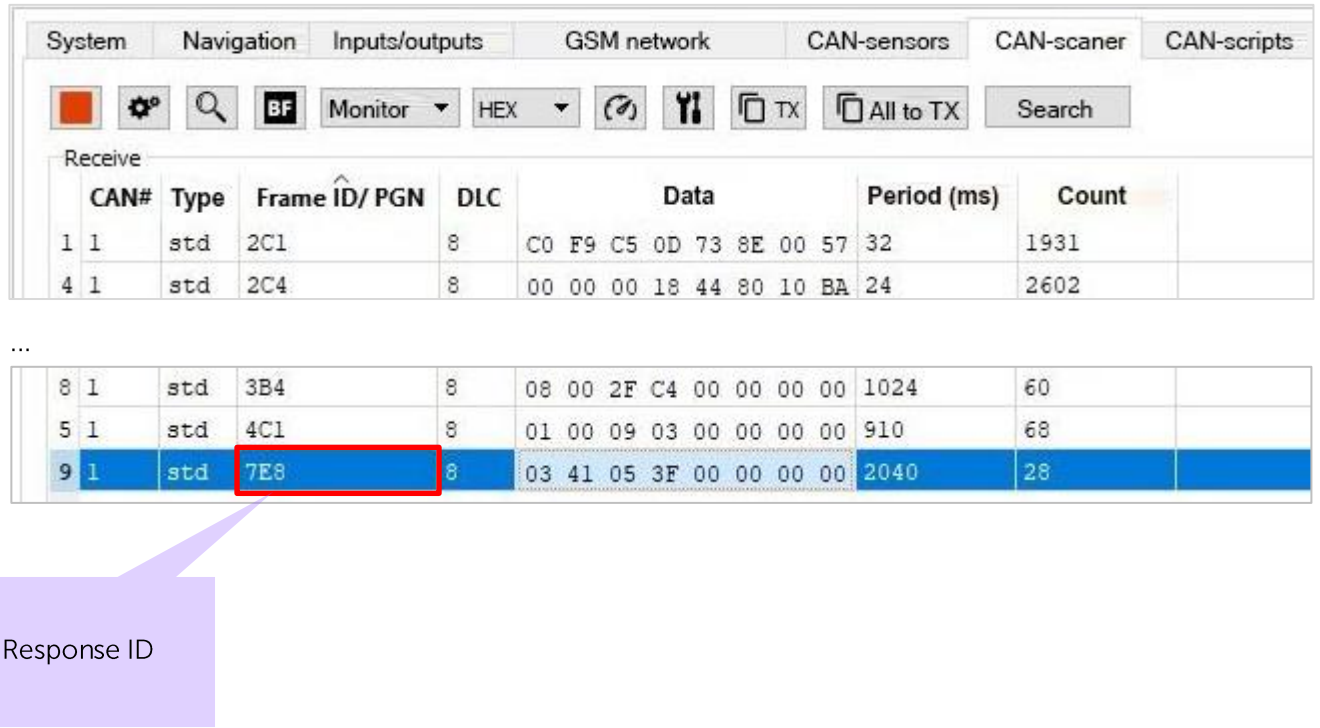
Signal settings are like those of “Stream sensors”, where their detailed description is given.

Let us dwell on the reset settings.



The sensor value is reset to zero when the conditions are met and if the corresponding checkboxes are checked: **if "negativeResponse" is received** - i.e. the response came with an error, or **if the timeout for waiting for a response has expired** - the timeout is set in the request sending settings.

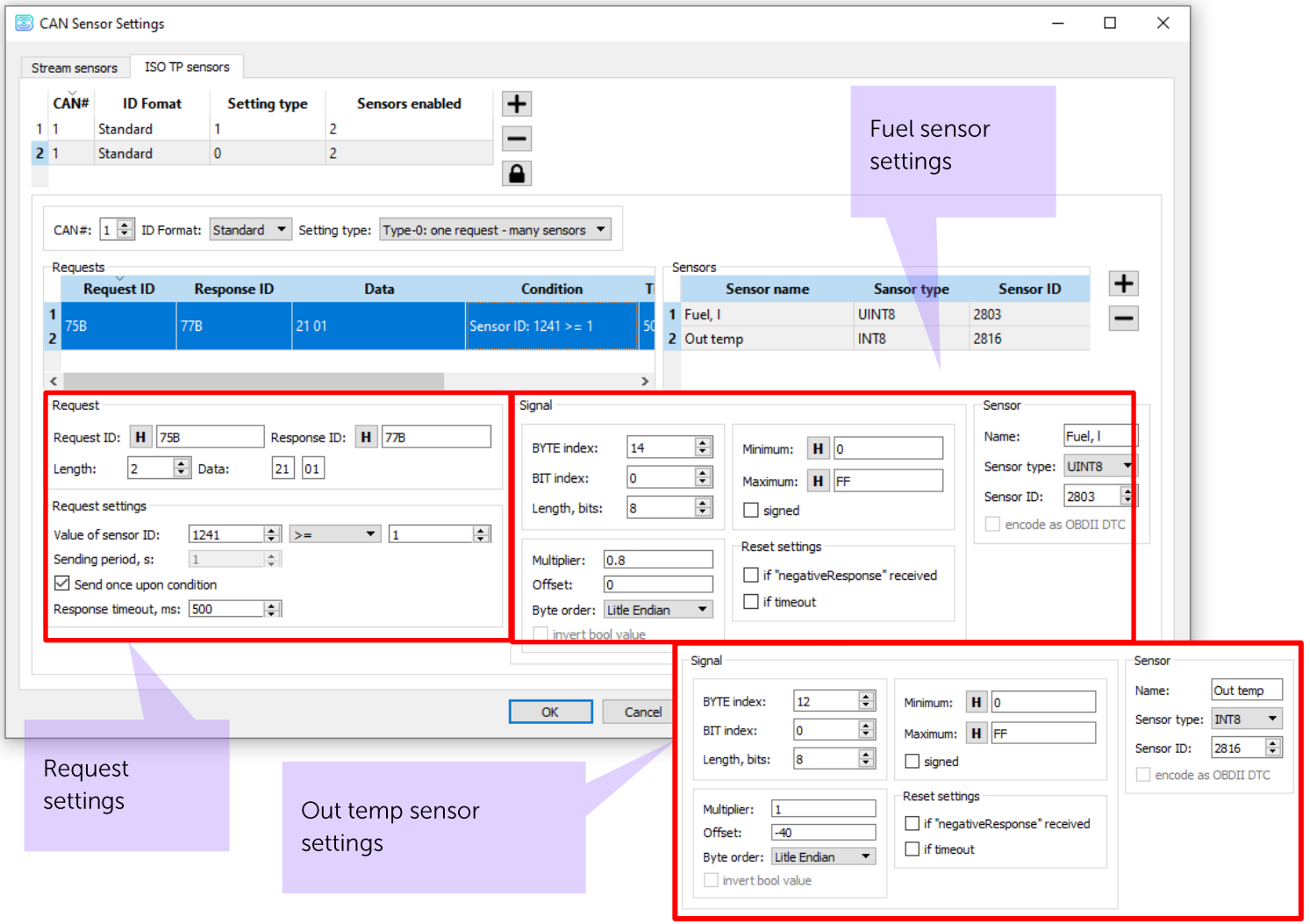
After sending the request, in the CAN scanner tab you can find the answer with the response ID.



SENSORS EXAMPLES[2]

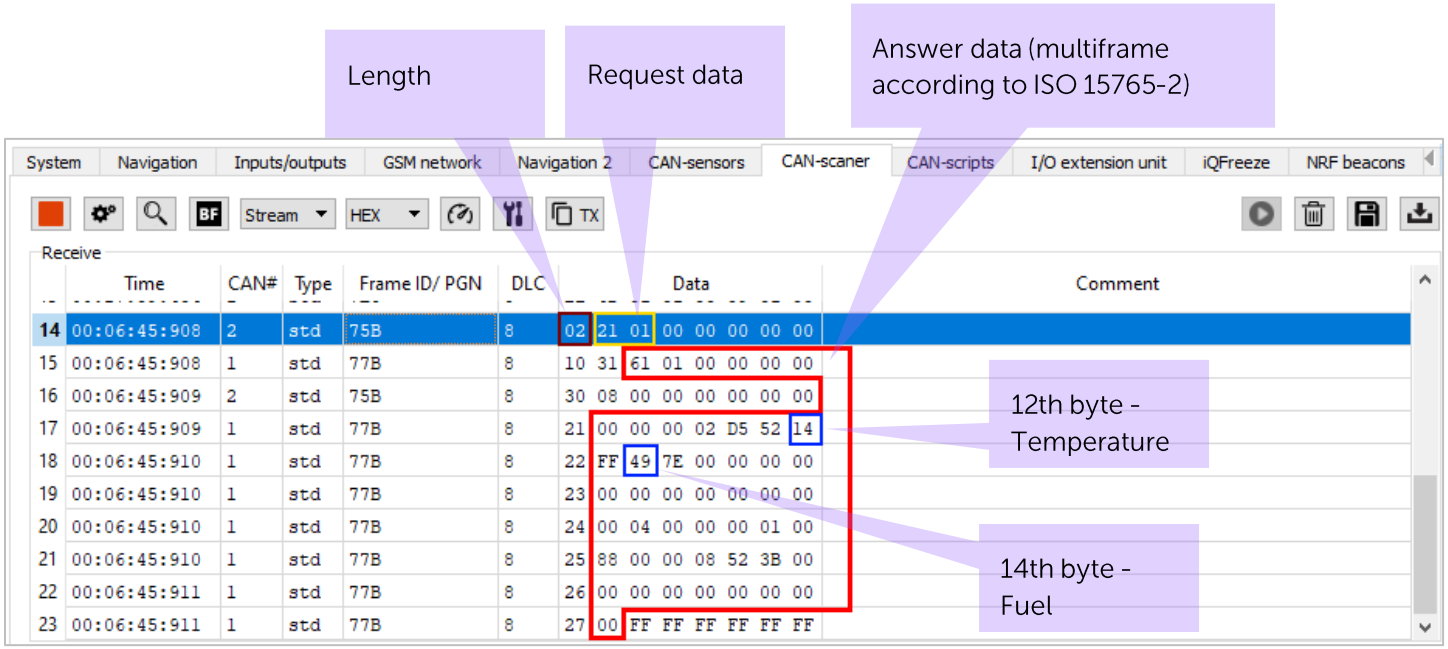
1) Example for ISO TP sensor **Type 0** (one request – some sensors).

In this example, we form a request with ID = 75B, configure it, and add two sensors to it: Fuel (Fuel, l) and Outside temperature (Out temp).

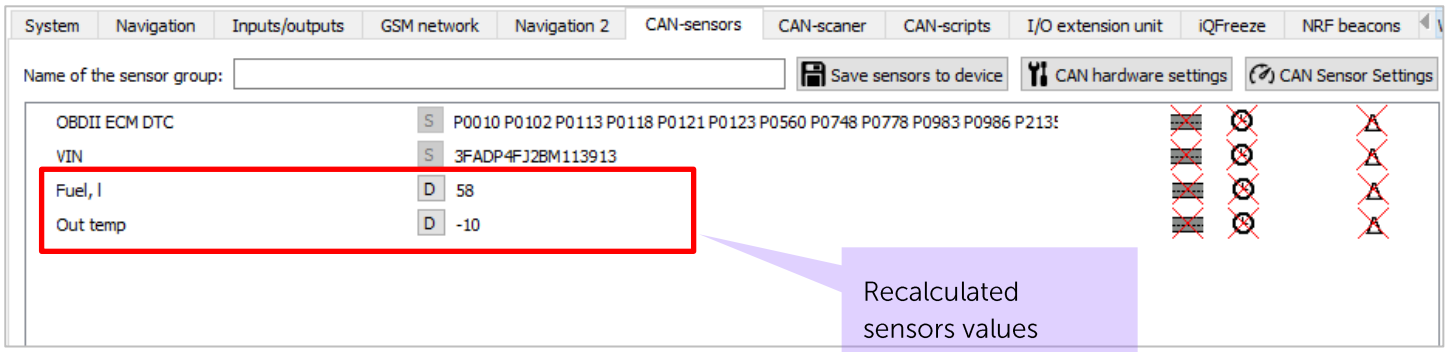


[2] request example for dashboard of Infiniti EX35, G35 2007+

As a result of this request, we will receive the following data in the scanner:

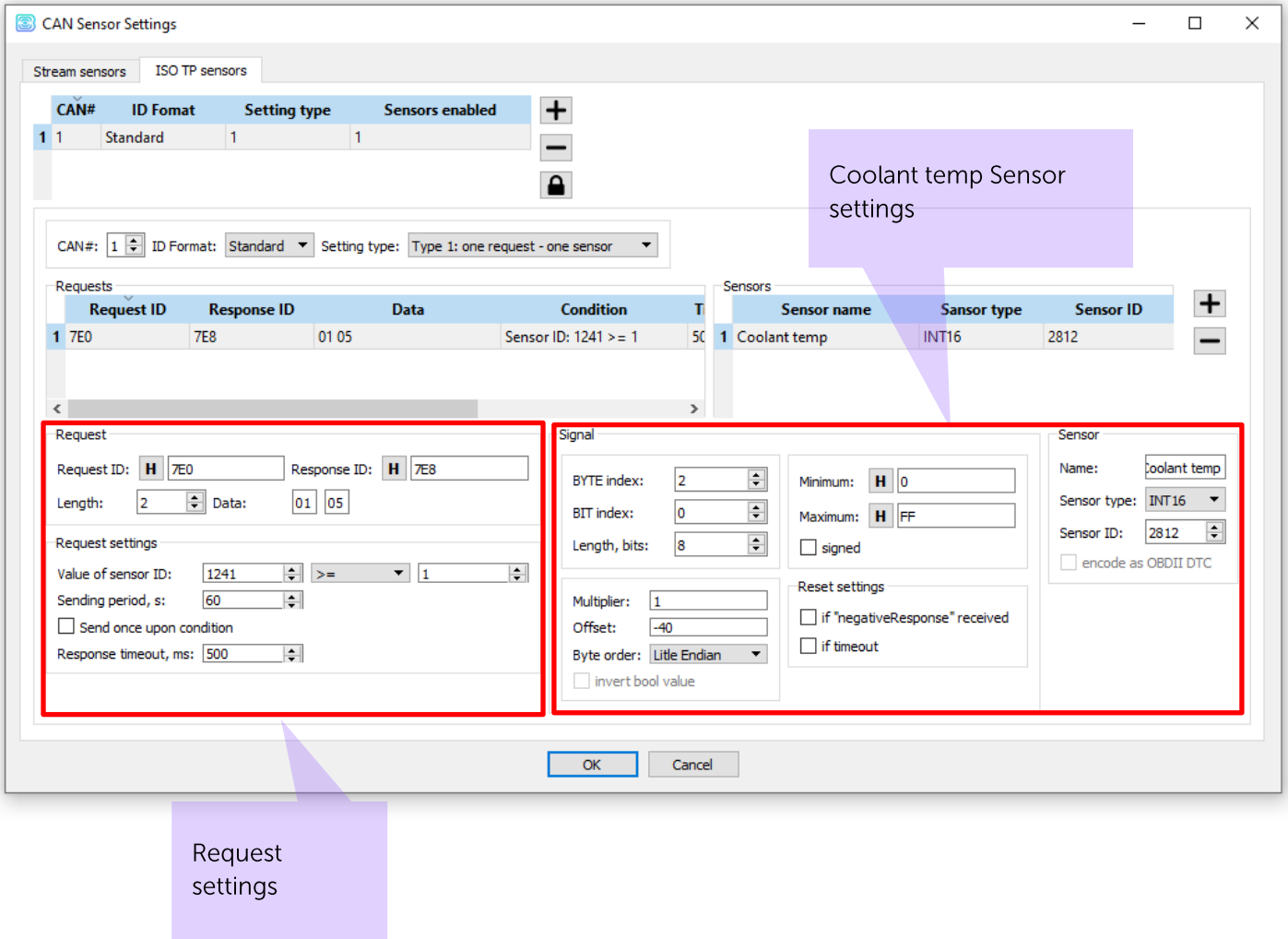


And in the CAN-sensors tab, the converted (according to the signal settings) sensor values will be displayed

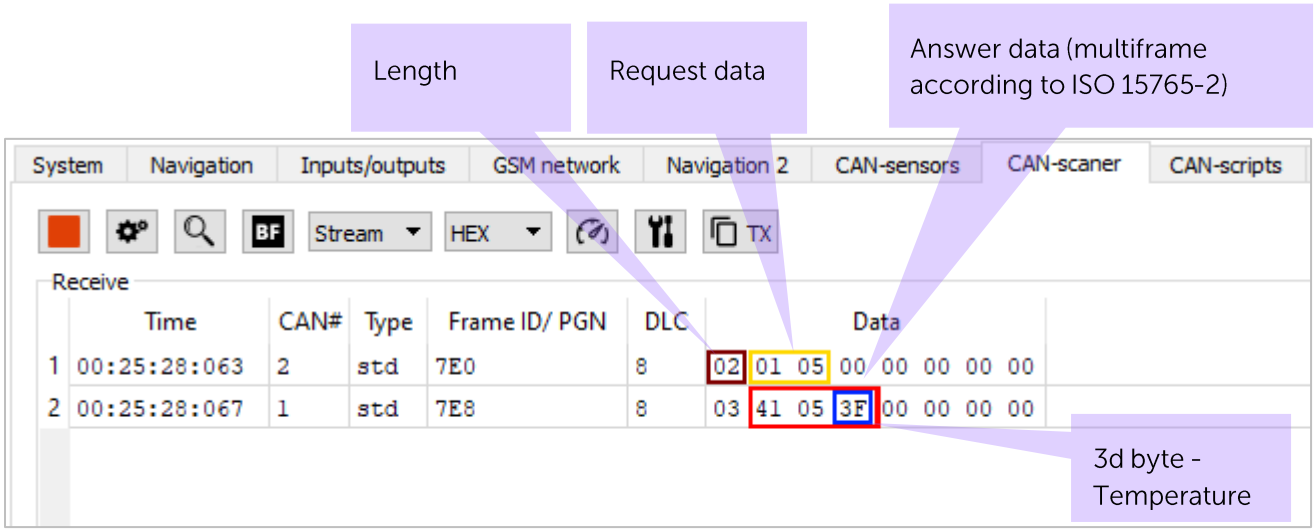


2) Example for ISO TP sensor **Type 1** (one request – one sensor).

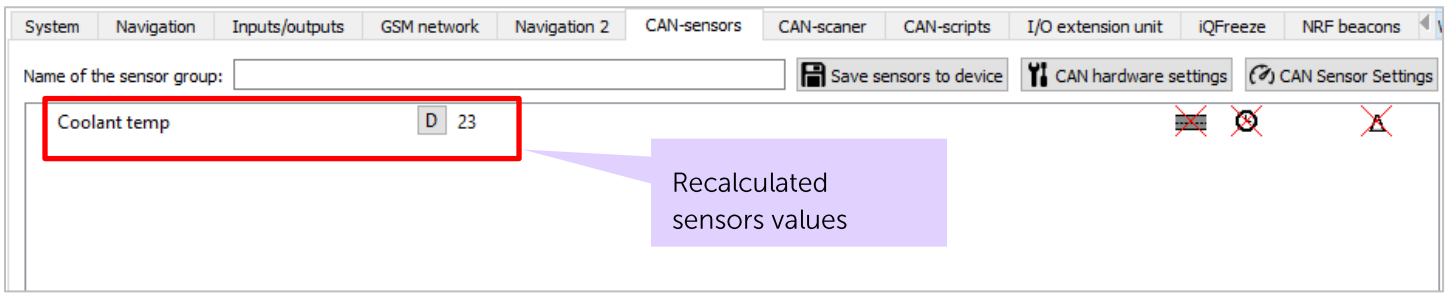
In this example, we form a request with ID = 7E0, configure it, and add one sensor to it - Coolant temperature (Coolant temp). If you wish, you can create another request and create another sensor for it, this is a feature of Type 1 requests - requests and sensors form a pair. In total, you can create up to three such pairs.



As a result of this request, we will receive the following data in the scanner:



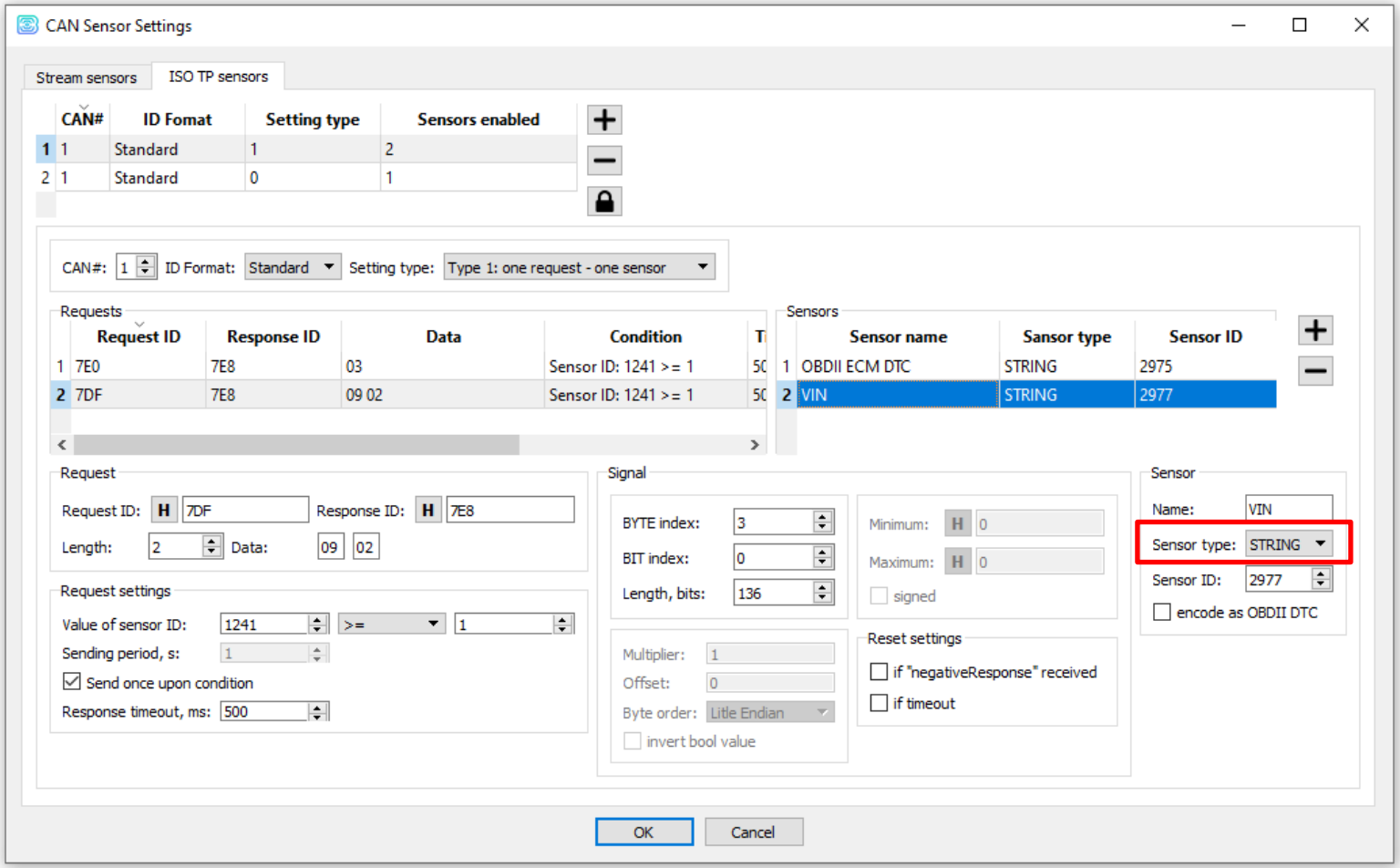
And in the CAN-sensors tab, the converted (according to the signal settings) sensor values will be displayed:



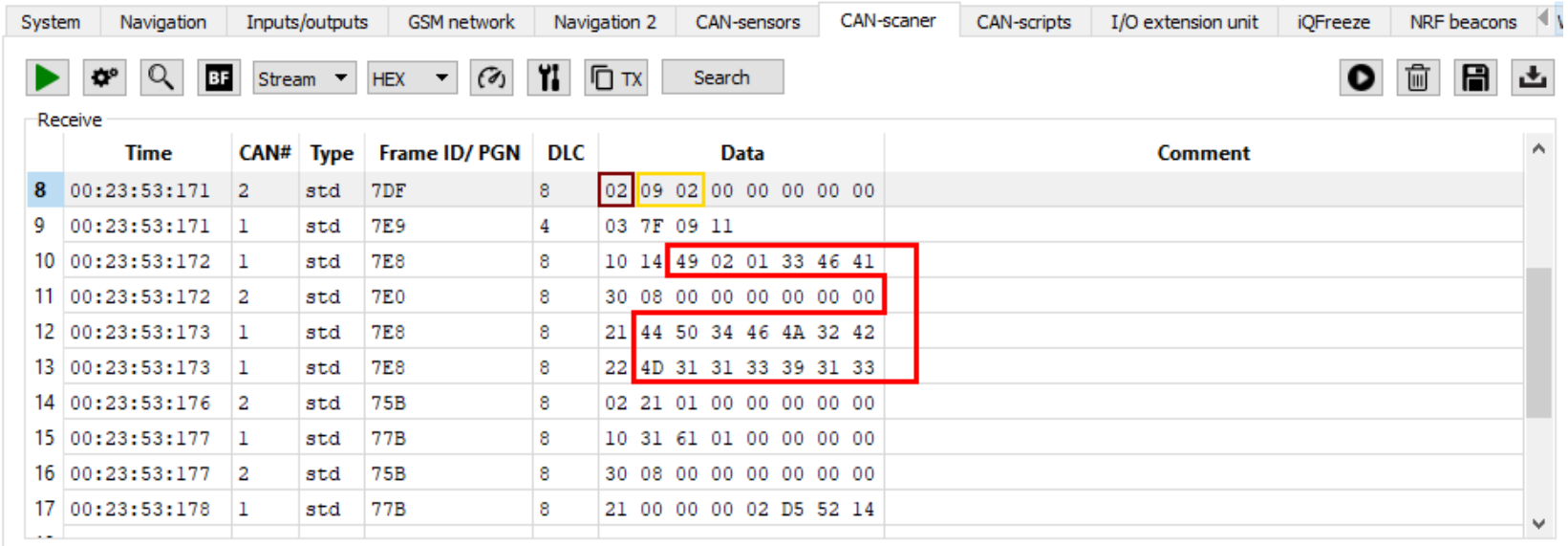
3) Example for reading the **VIN**.

There is a **STRING** type for string sensors so that a value can be output to the server as a string. The most common case of the need to output string data to the server is to request a VIN (and DTC - example 4).

To do this, create a query with a sensor and set it to type **STRING**.

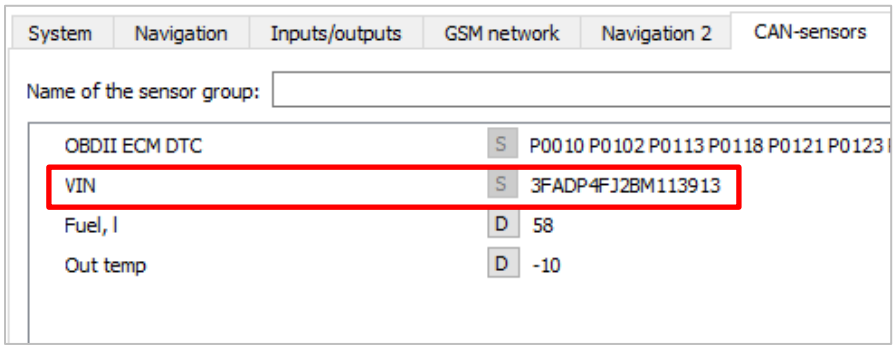


On the scanner we will see the following data:



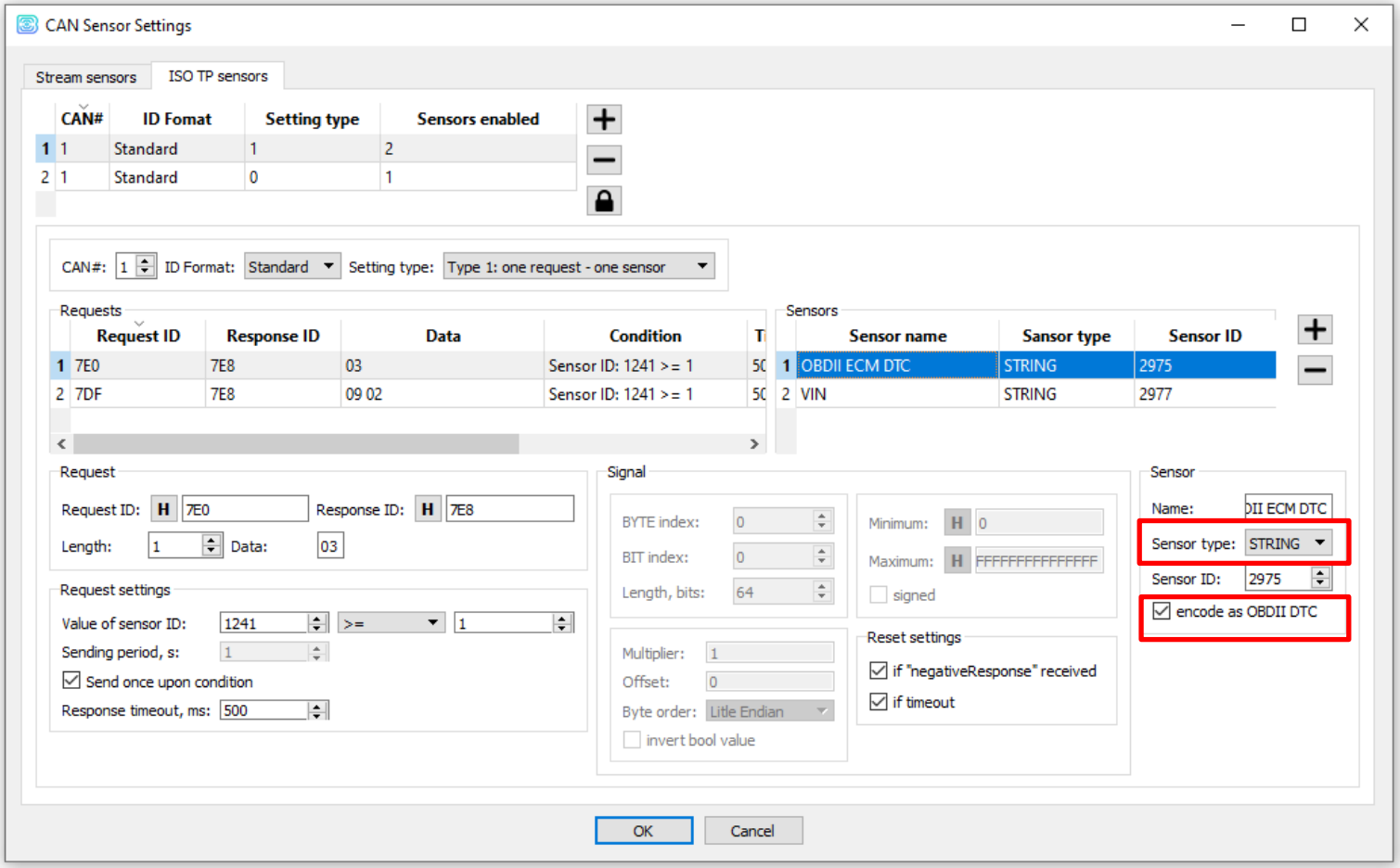
	Time	CAN#	Type	Frame ID/ PGN	DLC	Data	Comment
8	00:23:53:171	2	std	7DF	8	02 09 02 00 00 00 00 00	
9	00:23:53:171	1	std	7E9	4	03 7F 09 11	
10	00:23:53:172	1	std	7E8	8	10 14 49 02 01 33 46 41	
11	00:23:53:172	2	std	7E0	8	30 08 00 00 00 00 00 00	
12	00:23:53:173	1	std	7E8	8	21 44 50 34 46 4A 32 42	
13	00:23:53:173	1	std	7E8	8	22 4D 31 31 33 39 31 33	
14	00:23:53:176	2	std	75B	8	02 21 01 00 00 00 00 00	
15	00:23:53:177	1	std	77B	8	10 31 61 01 00 00 00 00	
16	00:23:53:177	2	std	75B	8	30 08 00 00 00 00 00 00	
17	00:23:53:178	1	std	77B	8	21 00 00 00 02 D5 52 14	

And after conversion they will be displayed as a string - VIN.

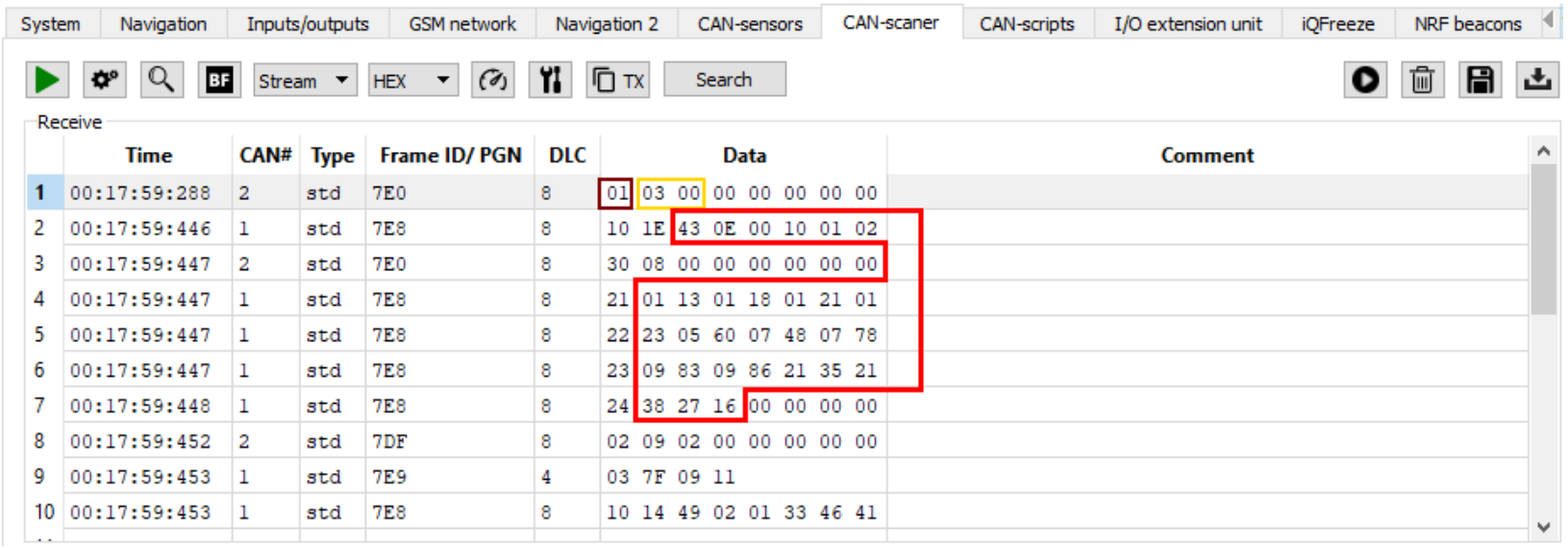


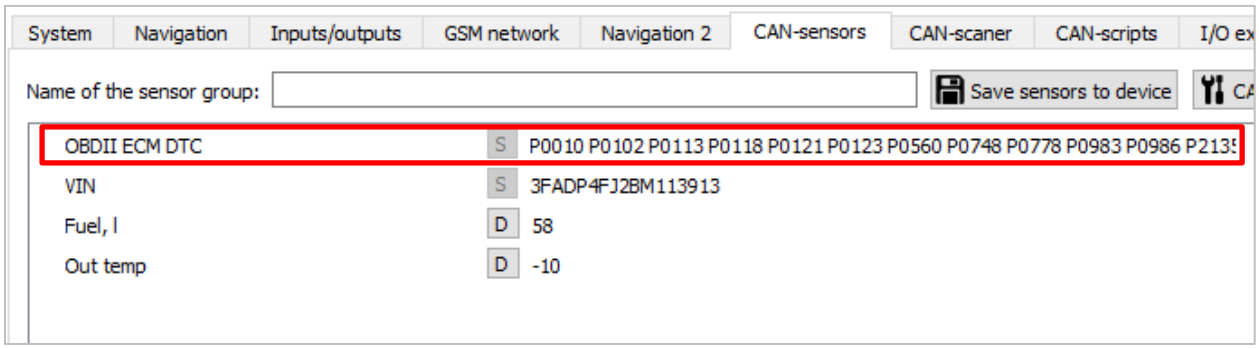
4) Example for reading the **DTC** (diagnostic trouble codes) according to the OBD-2 protocol.

In the sensor settings, select the type **STRING** and check the box "**Encode as OBDII DTC**" - the device will convert the data received from the CAN bus into DTC codes, separated by spaces.



The method of encoding messages with DTC is described in the documents regulating the OBD-2 protocol.


System
Navigation
Inputs/outputs
GSM network
Navigation 2
CAN-sensors
CAN-scaner
CAN-scripts
I/O extension unit
iQFreeze
NRF beacons
Stream
HEX
TX
Search
Receive
Time
CAN#
Type
Frame ID/ PGN
DLC
Data
Comment
1 00:17:59:288 2 std 7E0 8 01 03 00 00 00 00 00 00
2 00:17:59:446 1 std 7E8 8 10 1E 43 0E 00 10 01 02
3 00:17:59:447 2 std 7E0 8 30 08 00 00 00 00 00 00
4 00:17:59:447 1 std 7E8 8 21 01 13 01 18 01 21 01
5 00:17:59:447 1 std 7E8 8 22 23 05 60 07 48 07 78
6 00:17:59:447 1 std 7E8 8 23 09 83 09 86 21 35 21
7 00:17:59:448 1 std 7E8 8 24 38 27 16 00 00 00 00
8 00:17:59:452 2 std 7DF 8 02 09 02 00 00 00 00 00
9 00:17:59:453 1 std 7E9 4 03 7F 09 11
10 00:17:59:453 1 std 7E8 8 10 14 49 02 01 33 46 41


System
Navigation
Inputs/outputs
GSM network
Navigation 2
CAN-sensors
CAN-scaner
CAN-scripts
Name of the sensor group:
Save sensors to device
OBDII ECM DTC S P0010 P0102 P0113 P0118 P0121 P0123 P0560 P0748 P0778 P0983 P0986 P213
VIN S 3FADP4FJ2BM113913
Fuel, l D 58
Out temp D -10

5) Example of using a mask for the "Axle Load" parameter in accordance with J1939.

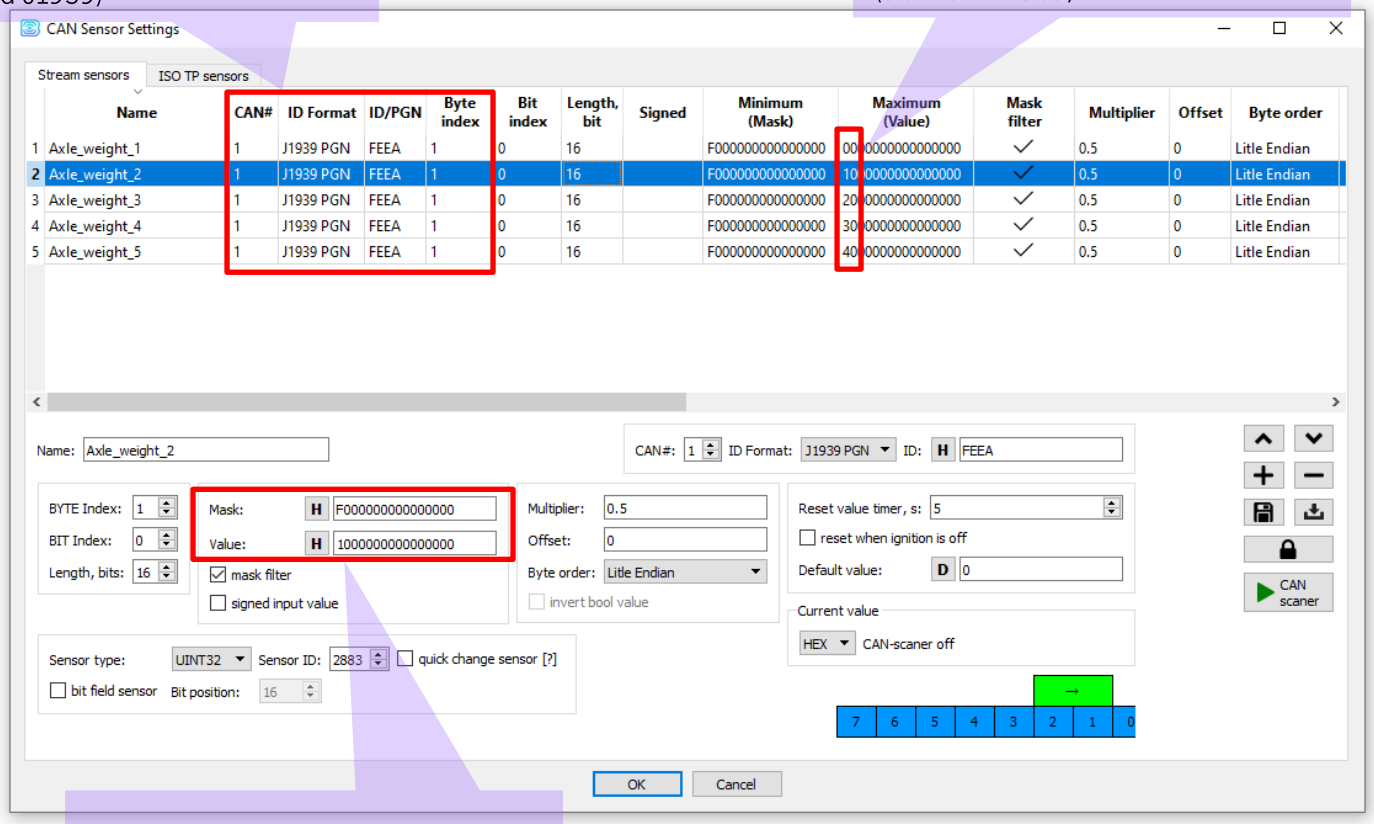
In this example, we want to filter the data from the CAN bus so that we get the load on axis 2. According to the J1939 standard, axis 2 is determined by the most significant bit of the zero byte is equal 1.

Go to the Stream sensors and configure the mask as follows:

Mask F000000000000000 – to make filter by the MSB of the zero byte (zero byte highlighted with red), **value** 1000000000000000, to make the MSB of the zero byte equal to 1.

Five parameters are transmitted under the same ID, while the load value is transmitted in the same byte (standard J1939)

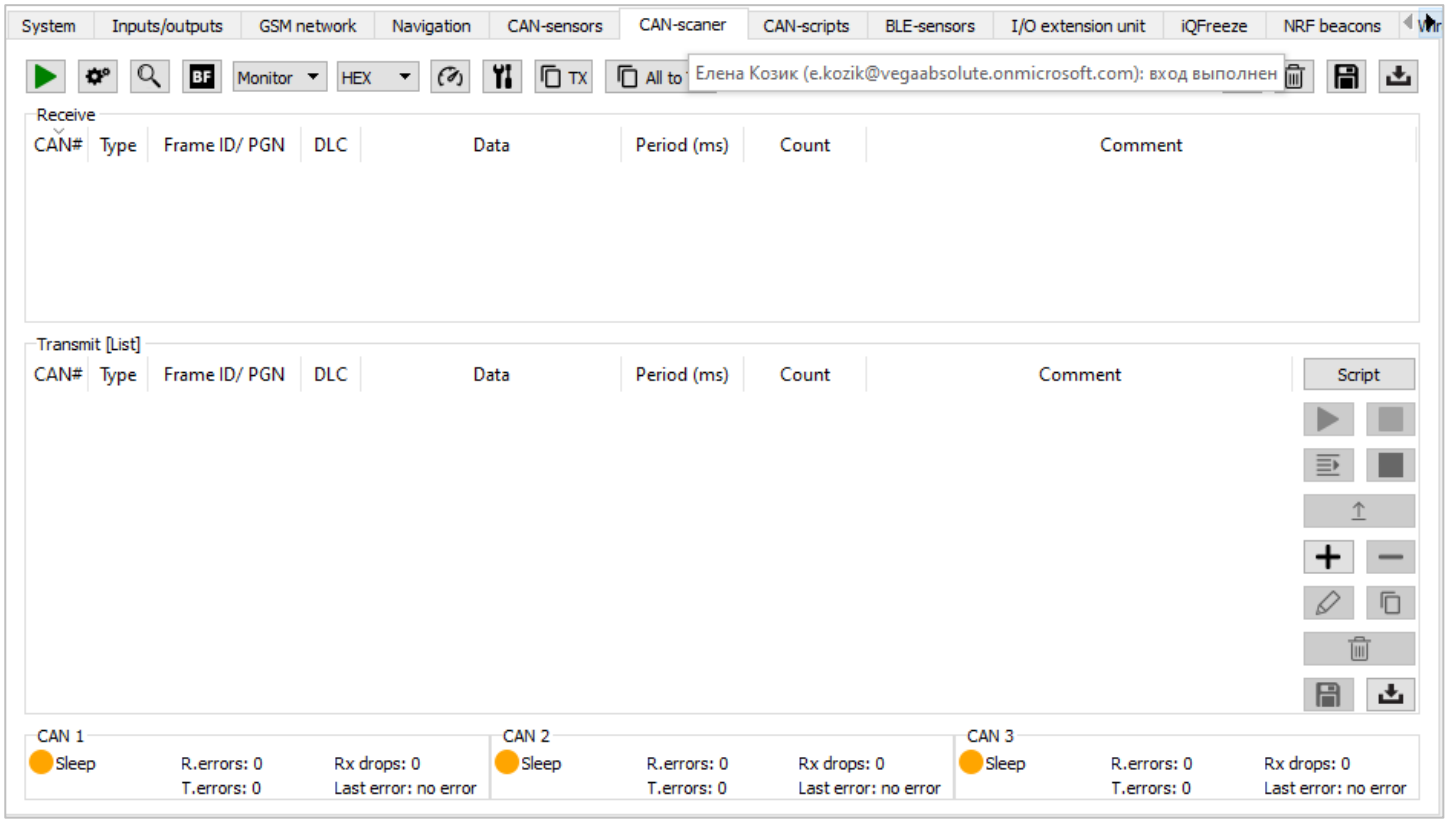
The axis is determined by the MSB of the zero byte, and the load value is transmitted in 1st and 2d bytes (standard J1939)



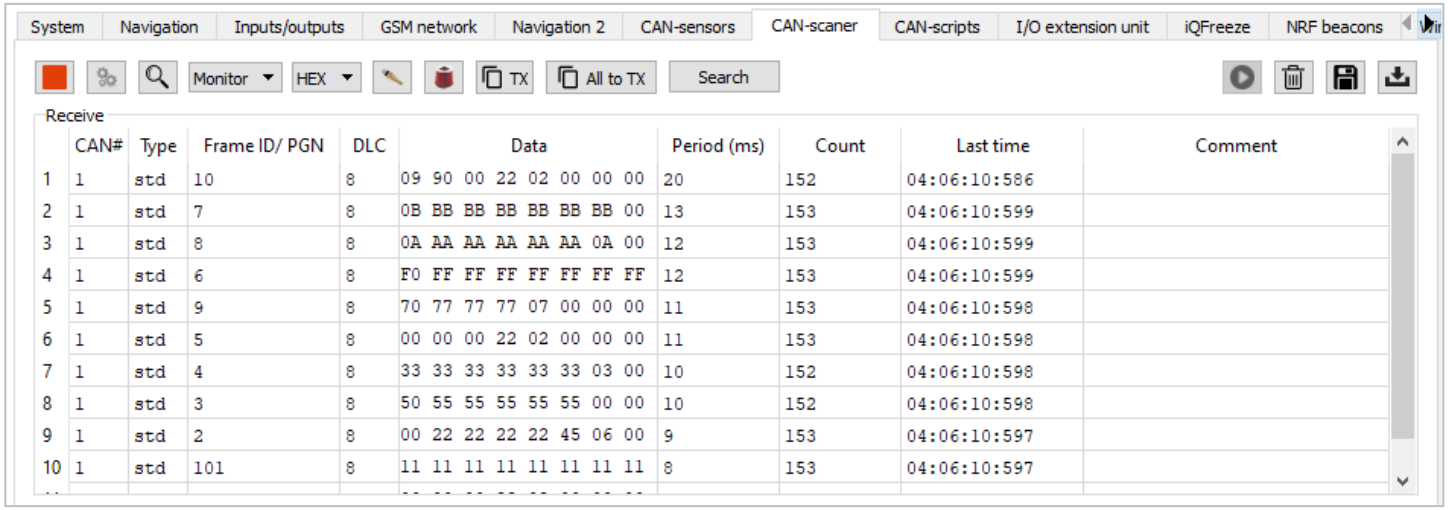
Since we need axis 2, we adjust the mask to the MSB of the zero byte and set the value to 1.

CAN-SCANNER

The “CAN-scanner” tab displays information coming from a data scanner physically connected to the CAN-bus. It is needed to determine all the information that is necessary for entering sensors in the “CAN sensors” tab.

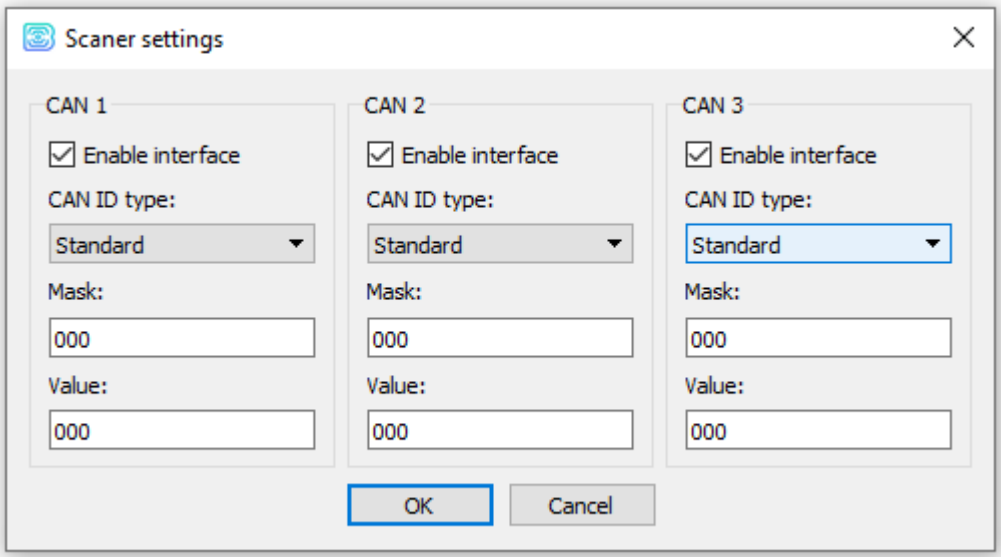


If the scanner is connected, you can press the start button “ ” and then all information from the CAN-bus will be displayed in the “Receive” field, and instead of the start button the stop button “ ” will appear. Consider the upper part of the window where the settings for displaying information from the CAN-bus are located and the information is displayed.



	CAN#	Type	Frame ID/ PGN	DLC	Data	Period (ms)	Count	Last time	Comment
1	1	std	10	8	09 90 00 22 02 00 00 00	20	152	04:06:10:586	
2	1	std	7	8	0B BB BB BB BB BB BB 00	13	153	04:06:10:599	
3	1	std	8	8	0A AA AA AA AA AA 0A 00	12	153	04:06:10:599	
4	1	std	6	8	F0 FF FF FF FF FF FF FF	12	153	04:06:10:599	
5	1	std	9	8	70 77 77 77 07 00 00 00	11	153	04:06:10:598	
6	1	std	5	8	00 00 00 22 02 00 00 00	11	153	04:06:10:598	
7	1	std	4	8	33 33 33 33 33 33 03 00	10	152	04:06:10:598	
8	1	std	3	8	50 55 55 55 55 55 00 00	10	152	04:06:10:598	
9	1	std	2	8	00 22 22 22 22 45 06 00	9	153	04:06:10:597	
10	1	std	101	8	11 11 11 11 11 11 11 11	8	153	04:06:10:597	

To reduce the amount of incoming information, you can configure filters by clicking the settings button "  " next to the start button.



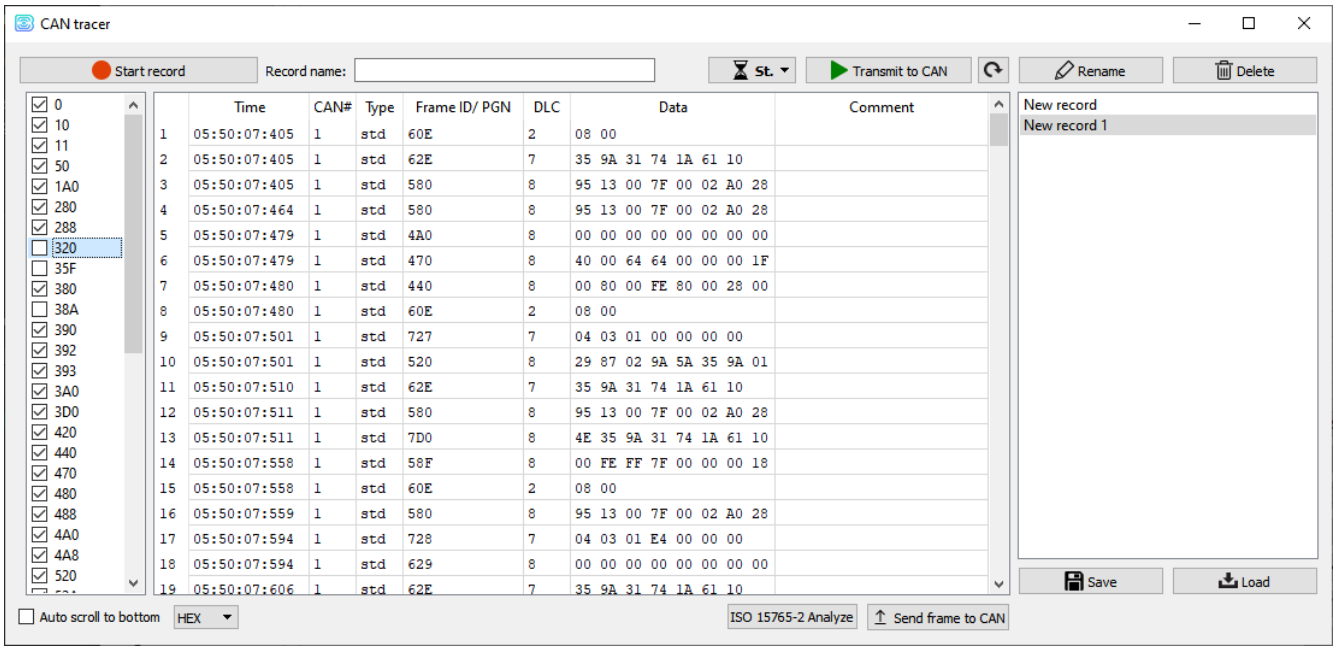
Here you can set one mask for each of the three CAN buses. If masks are not set, then all data from all buses will be displayed, regardless of the filters previously configured in the “CAN hardware settings” of the “CAN-sensors” tab.

Next is a drop-down menu for setting the bus read mode. If the “Monitor” mode is selected, the information will be displayed in the form of frames that are constant but change their values. If the “Stream” mode is selected, the information will be presented as a continuous log of values, a new line appears as soon as the frame value has changed.

If the desired sensor is found, then by clicking the button for creating a CAN-sensor "  ", you can fill in part of the information automatically: frame ID, CAN-bus number, data type. And then fill in the rest and immediately save this sensor in the device

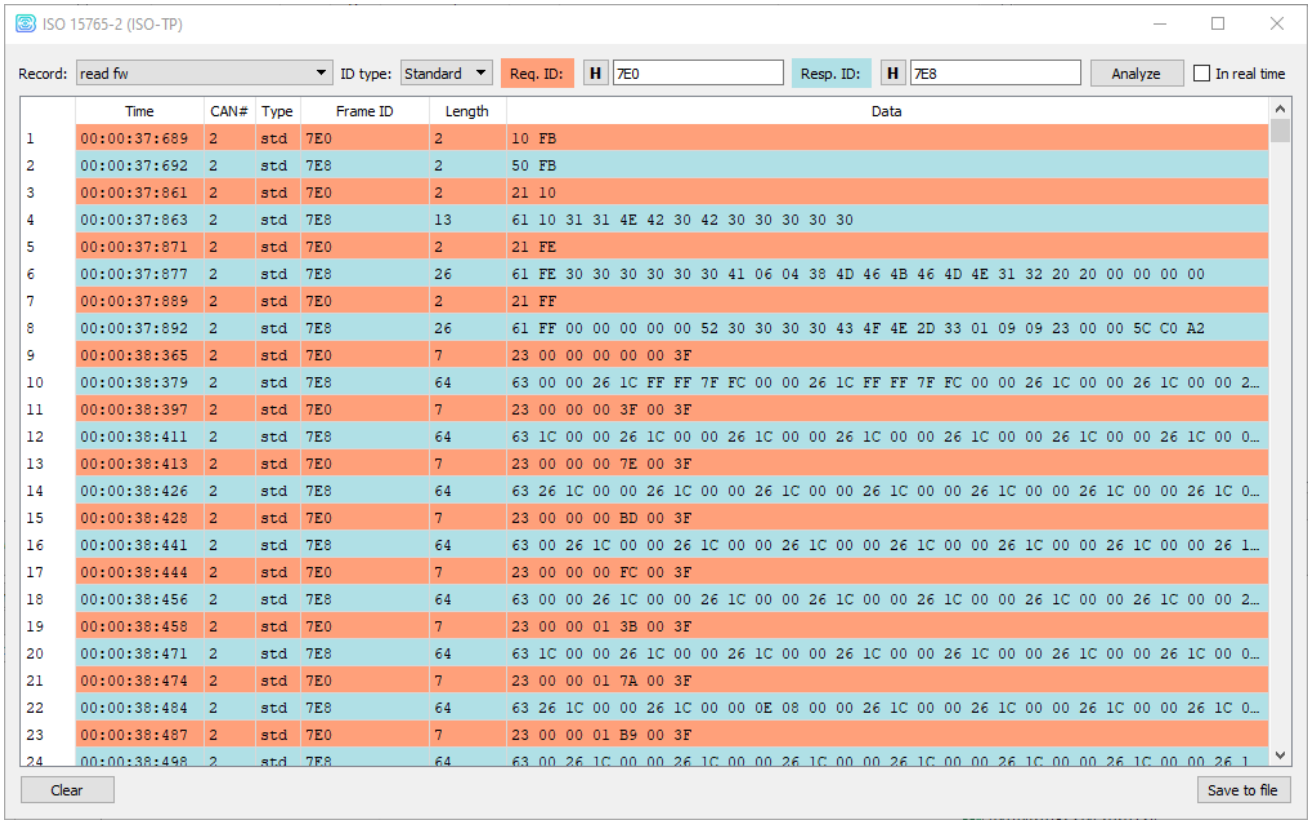
In the hardware settings "  " you need to select only the speed and the appropriate operating mode of the CAN-bus. Filters configured in this window relate to the operation of the device and will not affect the operation of the scanner.

The magnifying glass icon “  ” brings up a window for recording frames from the CAN-bus. This feature is called CAN-tracer.



When you click on the “Start Record” button, all information coming from the CAN-bus in real time will be recorded in the stream mode and displayed in the window. In this case, the “New Entry” will appear in the field on the right - the name can be changed. After the recording is completed, you can write the resulting values to a file, or immediately send the entire sequence to the CAN-bus. If you press the "Cycle" button, the sequence will be sent to the CAN-bus in a cycle mode. You can also set a delay between messages by pressing the hourglass button. Standard delay - with what interval messages arrived, with this they will be sent.

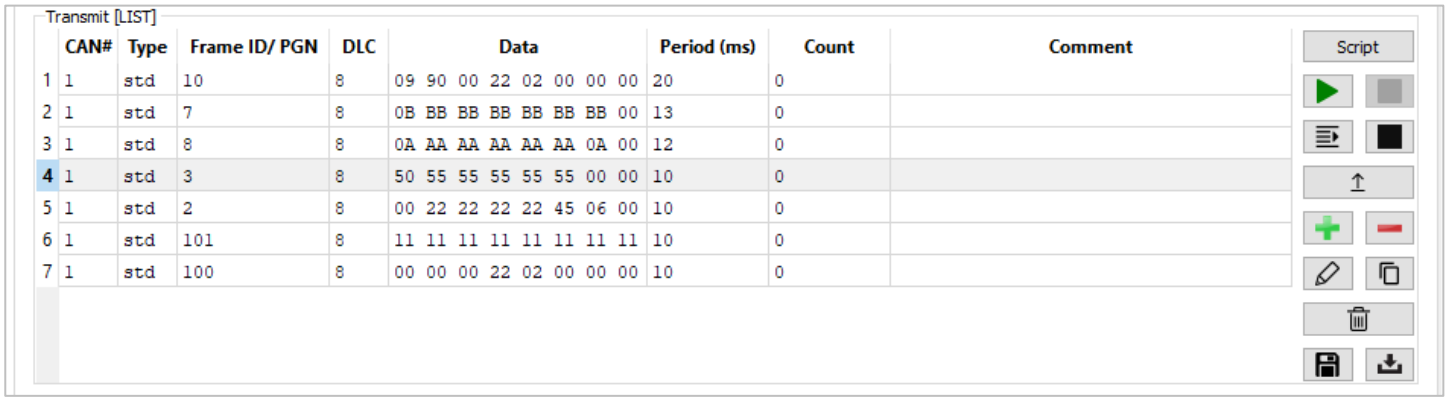
At the bottom of the CAN tracer there is a button "ISO 15765-2 Analyze", which allows you to open a window for convenient presentation of data according to the ISO-TP protocol: when specifying the ID of the request and response, the "clean" data of these requests and responses is displayed (without headers ISO-TP).



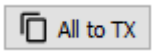
	Time	CAN#	Type	Frame ID	Length	Data
1	00:00:37:689	2	std	7E0	2	10 FB
2	00:00:37:692	2	std	7E8	2	50 FB
3	00:00:37:861	2	std	7E0	2	21 10
4	00:00:37:863	2	std	7E8	13	61 10 31 31 4E 42 30 42 30 30 30 30 30
5	00:00:37:871	2	std	7E0	2	21 FE
6	00:00:37:877	2	std	7E8	26	61 FE 30 30 30 30 30 30 41 06 04 38 4D 46 4B 46 4D 4E 31 32 20 20 00 00 00 00
7	00:00:37:889	2	std	7E0	2	21 FF
8	00:00:37:892	2	std	7E8	26	61 FF 00 00 00 00 00 52 30 30 30 30 43 4F 4E 2D 33 01 09 09 23 00 00 5C C0 A2
9	00:00:38:365	2	std	7E0	7	23 00 00 00 00 00 3F
10	00:00:38:379	2	std	7E8	64	63 00 00 26 1C FF FF 7F FC 00 00 26 1C FF FF 7F FC 00 00 26 1C 00 00 26 1C 00 00 2…
11	00:00:38:397	2	std	7E0	7	23 00 00 00 3F 00 3F
12	00:00:38:411	2	std	7E8	64	63 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 0…
13	00:00:38:413	2	std	7E0	7	23 00 00 00 7E 00 3F
14	00:00:38:426	2	std	7E8	64	63 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 0…
15	00:00:38:428	2	std	7E0	7	23 00 00 00 BD 00 3F
16	00:00:38:441	2	std	7E8	64	63 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1…
17	00:00:38:444	2	std	7E0	7	23 00 00 00 FC 00 3F
18	00:00:38:456	2	std	7E8	64	63 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 2…
19	00:00:38:458	2	std	7E0	7	23 00 00 01 3B 00 3F
20	00:00:38:471	2	std	7E8	64	63 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 0…
21	00:00:38:474	2	std	7E0	7	23 00 00 01 7A 00 3F
22	00:00:38:484	2	std	7E8	64	63 26 1C 00 00 26 1C 00 00 0E 08 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 0…
23	00:00:38:487	2	std	7E0	7	23 00 00 01 B9 00 3F
24	00:00:38:498	2	std	7E8	64	63 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1C 00 00 26 1

When the work with the scanner is finished, it is stopped, the necessary comments are added, you can save them by clicking the "  " button in the main window of the "CAN-scanner" tab. You can also download information from a file with *.frames or *.trc format.

At the bottom of the window is the workspace for working with frames. Work can be in the format of [List] or in the format of [Script]. Switching is carried out by pressing the button on the right, the current mode is displayed in square brackets on the left.



Work with [List] is constructed as follows:

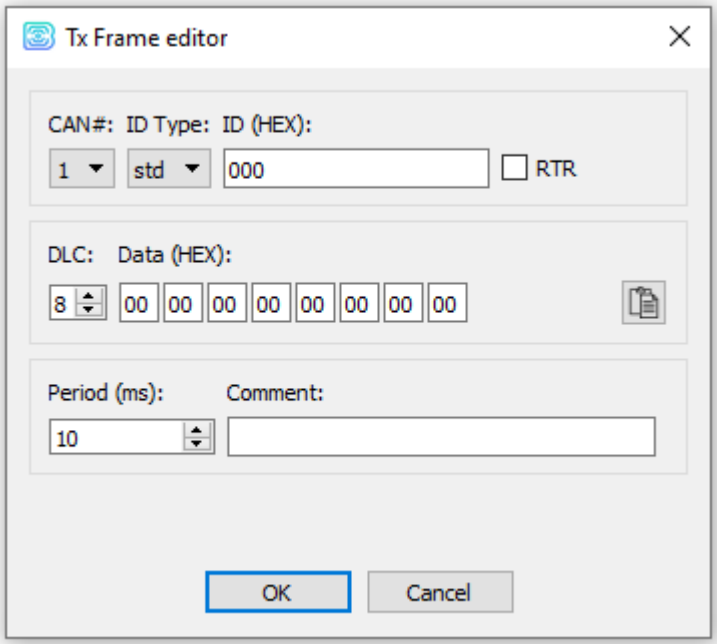
- Add frames from the top field to the list using the "  " or "  " button
- Select the desired frame in the list.
- Press the "  " button or the space bar for one-time sending, the packet counter will increase by one
- Press the "  " button for sending with the specified period, while the packet counter will increase with each sending until the "Stop" or "Stop all" button is pressed

Working with [Script] is a little different. If there are several frames in the list, then you can start their sequential execution by pressing the "  " button, this will be the execution of [Script]. At the same time, the "Count" column takes on a slightly different meaning, here you need to set the number of repetitions in advance, after which [Script] will proceed to the next frame. Other control

buttons on the right panel also differ - it becomes possible to repeat the execution of frames cyclically, move frames relative to each other (raise and lower the list), pause execution at any time.

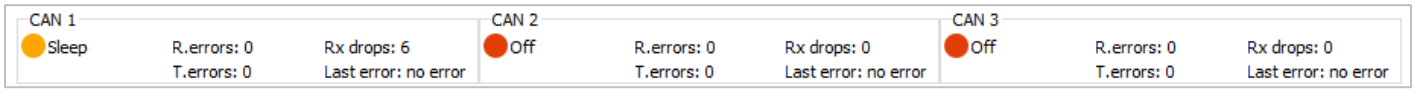
The CAN-tracer and [Script] functions are similar in meaning, but in the CAN-tracer, the entire range of values is recorded, there you cannot select individual frames and edit them as in [Scripts].

In addition, in [Scripts] (as in [List]], it is possible to create frames by manually filling in all the information. To do this, you need to click the edit button for the existing " " or add a new frame " ".



Herewith when creating a frame in the [Script] mode, it is possible to change the number of repetitions, but in the [List] mode there is no.

At the very bottom of the window is a status bar of all three CAN-buses:



In addition to the active/inactive status, parameters are displayed here:

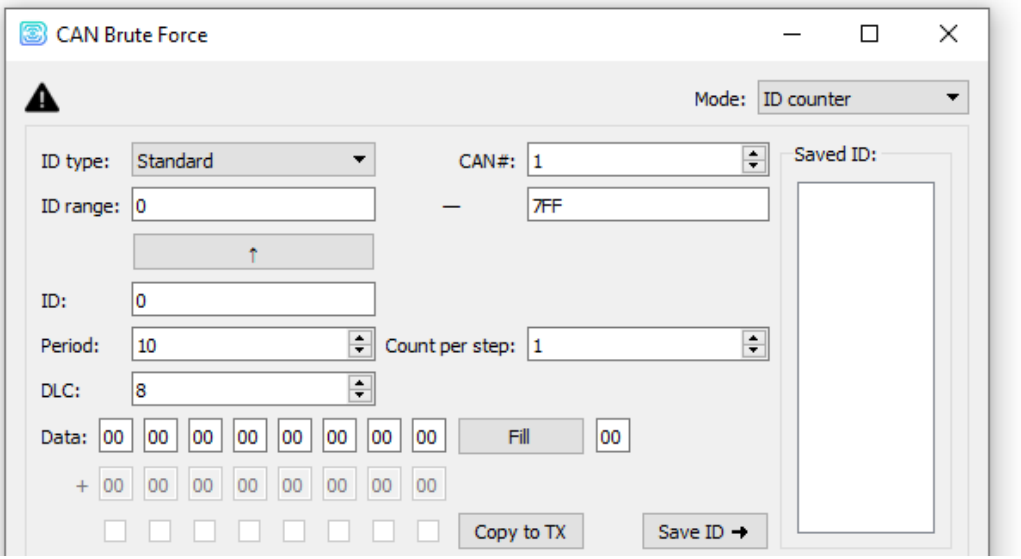
R.errors – number of wrong Rx frames;

T.errors – number of wrong Tx frames;

Rx drops – number of lost Rx frames;

Last error – a last occurs in the interface.

There is also a CAN Brute Force function to create and send messages to the CAN bus. By clicking on the "BF" button, a new window appears with the ability to select a mode and configure sending parameters.



This function works in four modes:

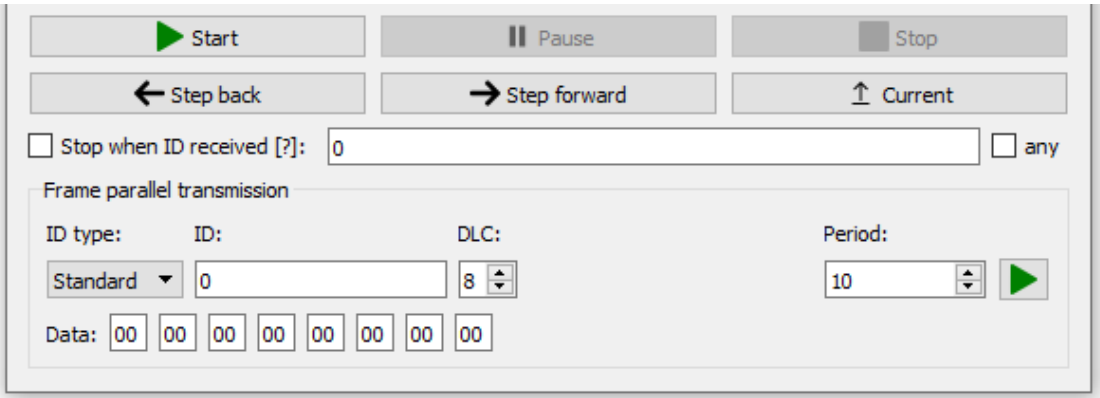
- **ID counter**: sends frames one by one from the specified ID range (you can adjust the number for each ID and sending period) with the specified data (the data does not change);

- **data counter**: sends frames with the specified constant ID, but with each step the data changes (configurable to which byte and how much to add);

- **data and ID counter**: both the first and second modes at the same time;

- **ID list**: IDs can be entered into the list on the right (by clicking the right mouse button, or by clicking the "Save ID" button), only frames with IDs from this list will be sent in turn.

Sending starts either automatically by pressing the "Start" button, or each step is sent manually (step forward, step back or current).



Stop sending either by pressing the "Pause"/"Stop" buttons (when paused, you can continue sending from the current step, if you stop only from the beginning), or when you receive a frame with the specified or any ID.

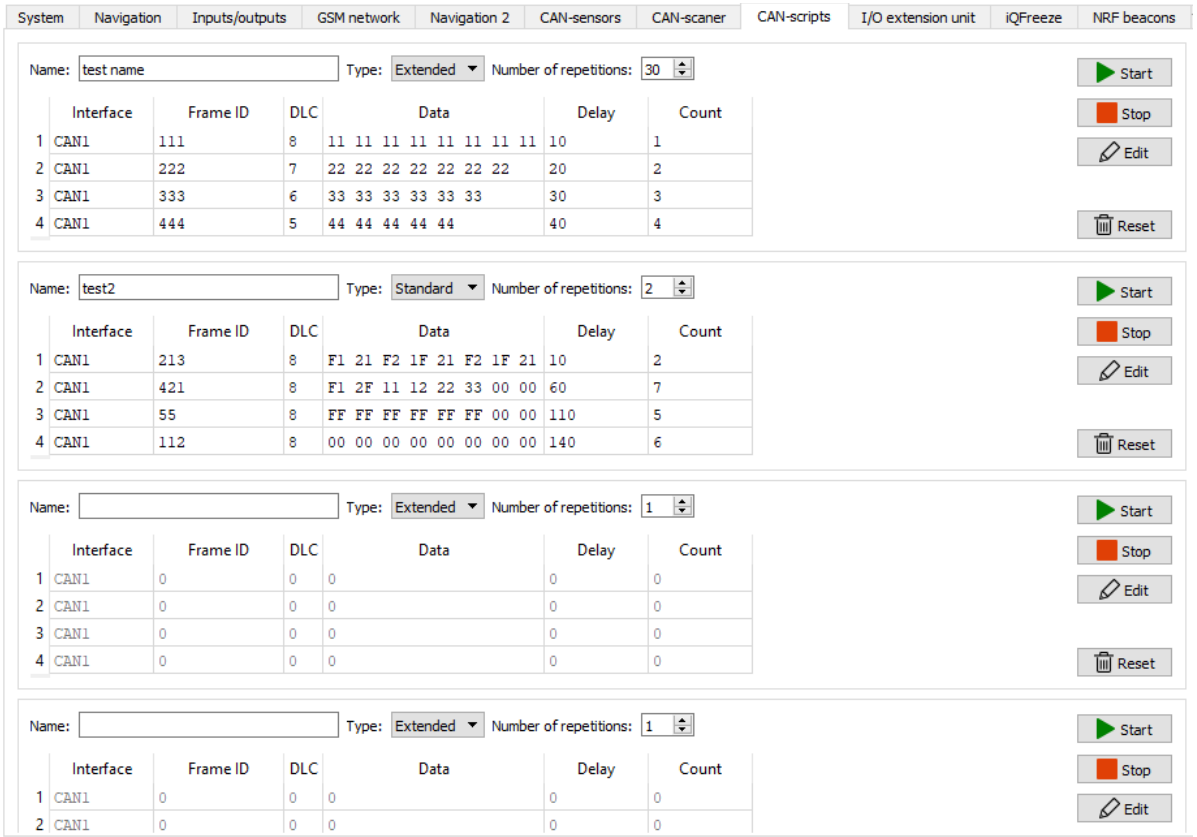
You can also enable parallel sending of a frame with the specified parameters, which will always be sent (can be used, for example, to emulate ignition).

When connecting via TCP, there may be loss of frames and mismatch in send periods. When sending random commands to the vehicle's CAN bus, the result may be unpredictable. Vega-Absolute company is not responsible for the consequences of experiments with the CAN bus

CAN-SCRIPTS

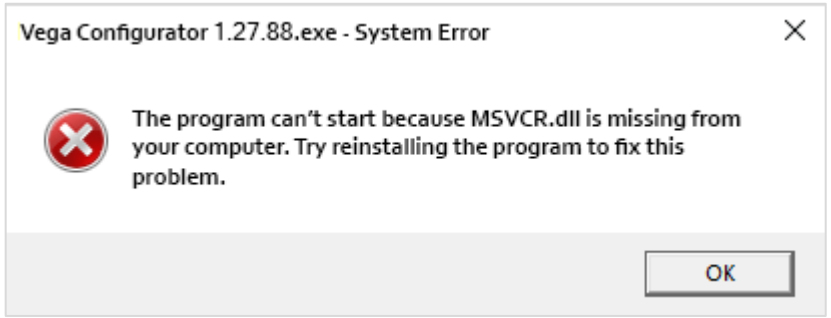
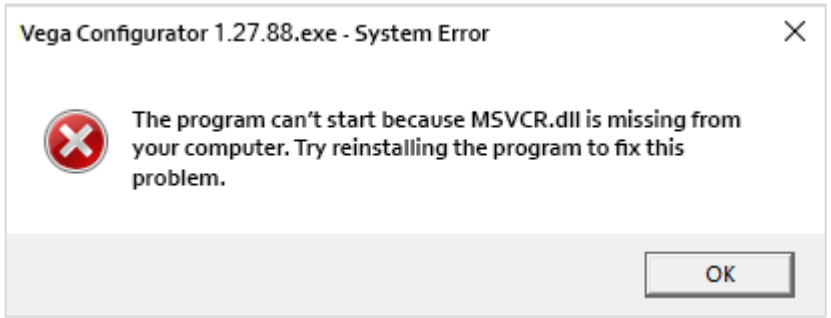
In the “CAN-scripts” tab, scripts are configured similarly to the scripts in the “CAN-scanner” tab, but at the hardware level. These scripts are saved to the device and read from there.

In total, you can specify up to 8 different scripts. They are entered completely manually.



In the future, these scripts can be run using the SMS command or the Wialon IPS and Wialon Combine. CAN scripts are also used when setting up tracker scripts (see the "Scripts" section).

10. Errors and messages from the application

Error	Possible reason	Solution
 Occurs when the Configurator application starts	Missing library	**Install vcredist_x86 library**
	An attempt to run the Configurator's executable file from an unziped archive	**Unzip the archive with the program and run the executable file**

All necessary programs can be downloaded through the "Configurator" program in the "File Server" section in the Software / Drivers folder.

DOCUMENT INFORMATION	
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01	1.27.64	05.08.2021	KEV	Document release date
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