Connecting Fuel Level Sensors to UMKa302 tracker via RS-485, RS-232, in analog and frequency modes

GLONASSsoft technical support:
portal request:http://help.glonasssoft.ru,
e-mail: support@glonasssoft.ru

Enter these parameters to register on Wialon:
1. Identifier – IMEI 0000000000000000 (EXAMPLE)2.
Server IP address: 193.193.165.165
3. Port: 21946 (UMKa302)

Contents

1. Connecting fuel level sensors in different modes

1.1 Connecting FLS via RS-485

Up to seven LSS Fuel Level Sensors (FLS) can be simultaneously connected to the tracker via RS-485 interface.

In Figure 1, find an example of FLS connection. The resistance at the end of the bus is installed to match the impedance and is equal to 120 Ω. For the RS-485 bus, the recommended cable type is a “twisted pair”.

RS-485 bus stubs should be as short as possible to match bus impedance. In order to prevent bus collisions, assign each device a unique address in advance.

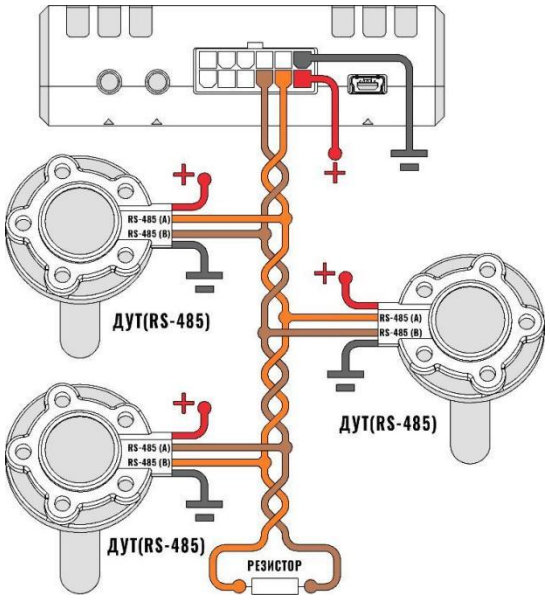

Figure 1 –Connecting via RS-485 interface

Attention! While working with fuel level sensors, one must strictly adhere to the requirements of the relevant maintenance manuals.

1.2 Connecting FLS via RS-232

There should be necessary outputs for connecting the device via RS-232. Thus, one more FLS can be connected to the terminal. Figure 2 illustrates the process of connecting via RS-232. RxD sygnal of FLS must be connected to TxD sygnal of terminal, and TxD to RxD. Interface supports FLS connection via LLS protocol.

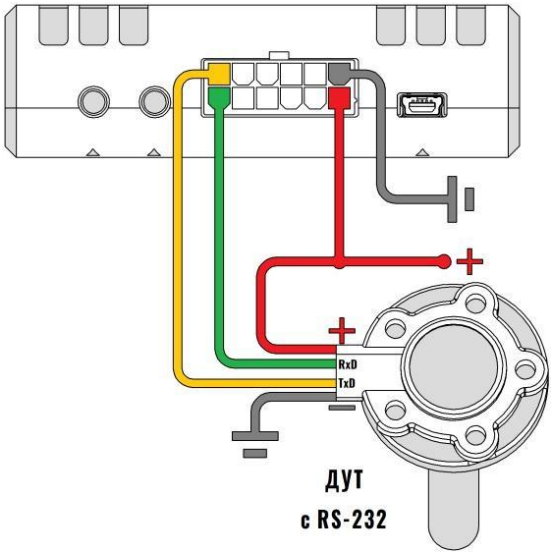

Figure 2 - Connecting via RS-232

1.3 Connecting FLS in analog mode

For control of vehicle parameters via analog data, like analog FLS, analog inputs of navigation terminal are used. Terminal has two channels for measuring external voltage inputs (AIN0 and AIN1).

Analog mode allows to connect up to two additional sensors. While connecting FLS on analog mode follow the scheme in Figure 3.

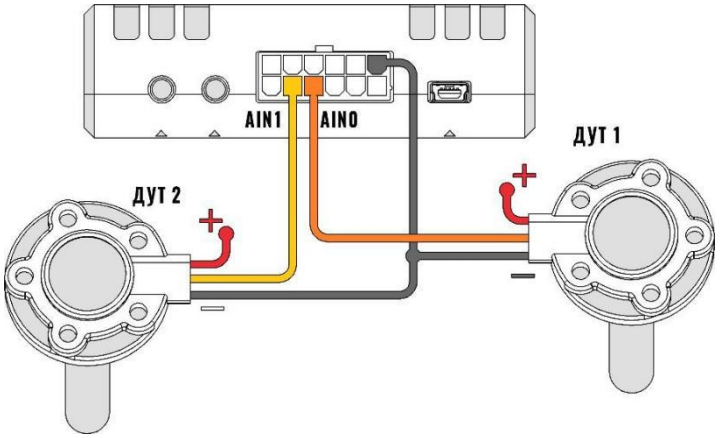

Figure 3 – Connecting FLS in analog mode

1.4 Connecting FLS in frequency mode

FLS can also be connected via discrete inputs of navigation terminal. Terminal has two discrete channels (DIN0 and DIN1) which can measure in frequency mode. Connection of up to two additional FLSs is possible.

While connecting FLS in frequency mode follow the scheme in Figure 4.

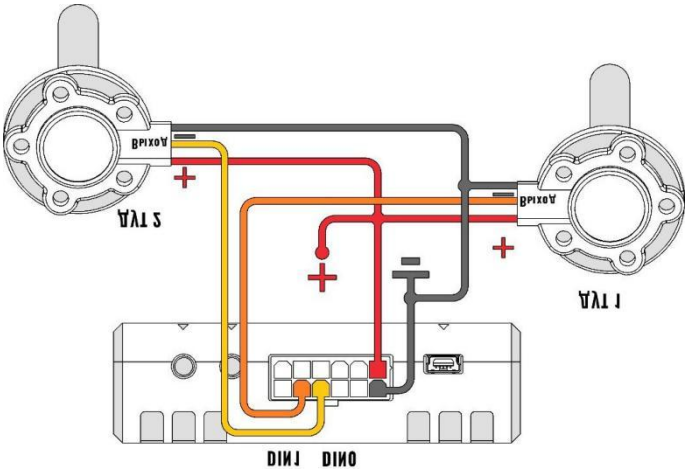

Figure 4 - Connecting FLS in frequency mode

After connection configure inputs modes in configurator (refer to “Inputs/Outputs“ tab).

2. Configuring FLS using UMKa302 configurator

Before you start configuring FLS via UMKa302 configurator:

1) Open the configurator; connect the tracker to PC.
2) Power the tracker on.
3) Wait for the tracker to boot, and, if necessary, update it up to the latest available version.
4) Start configuring FLS.

Attention! Connection of terminal to PC without supply voltage is allowed for configuring. By such connection supply voltage does not enter GSM modem, and data transmission on current location is not done.

2.1 “Interfaces” tab

In order to connect RS-485 devices to the tracker, use the “Interfaces” tab (Figure 5). If the RS-232interface does not come with your tracker, the “RS-232” field will not be available for editing.

In this tab, you can select the type of a device connected to one or another interface (e.g. FLS, CAN-log and others). In order to do so, select the mode you need in the "Mode" dropdown menu, and specify the interface operating speed in the "Speed" dropdown menu.

Attention! Use the “Transparent mode” option group to establish direct connection to the tracker device or module via the console or third-party utilities using the tracker as a USB-RS232/485 adapter.

"Transparent mode" allows to involve the following options:

"Source" option allows to choose necessary interface (from dropdown menu).

"Speed" option allows to specify operating interface speed (from dropdown menu).

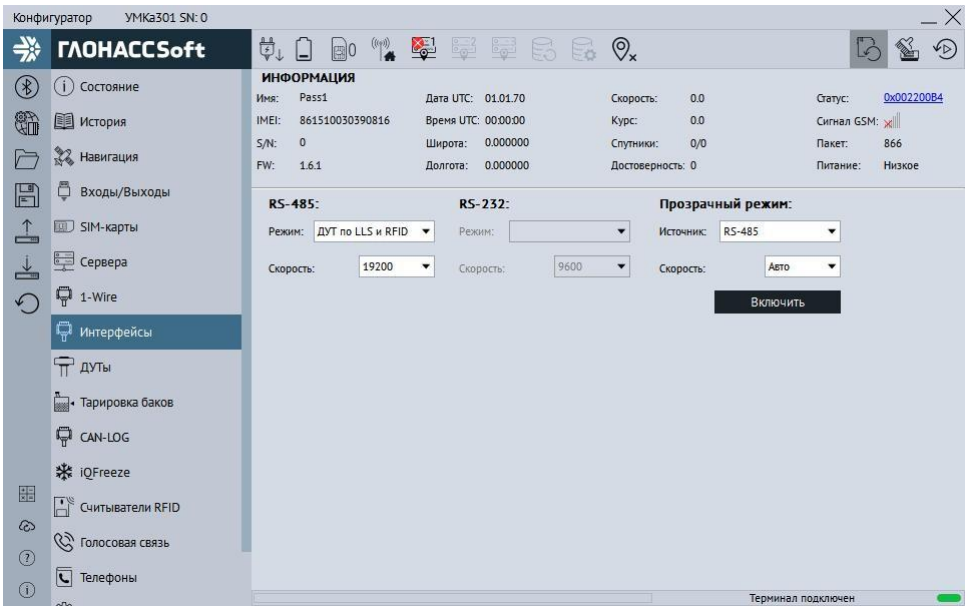

Figure 5 - "Interfaces" tab

Attention! In the “Transparent mode”, the tracker does not respond to commands but relays them to the interface. In order to exit the “Transparent mode”, disconnect the tracker from the USB port.

2.2 “FLSs” tab

In order to configure and obtain the data from the fuel level sensors with RS-485 interface, use “FLSs” tab (Figure 6), assigning addresses to each of the sensors in the corresponding field in advance.

To assign the addresses in the tracker, it takes only to enter them in "RS-485 FLS addresses setting" field and then write the configuration into the tracker. The configurator automatically displays the connected sensors and the parameters they show.

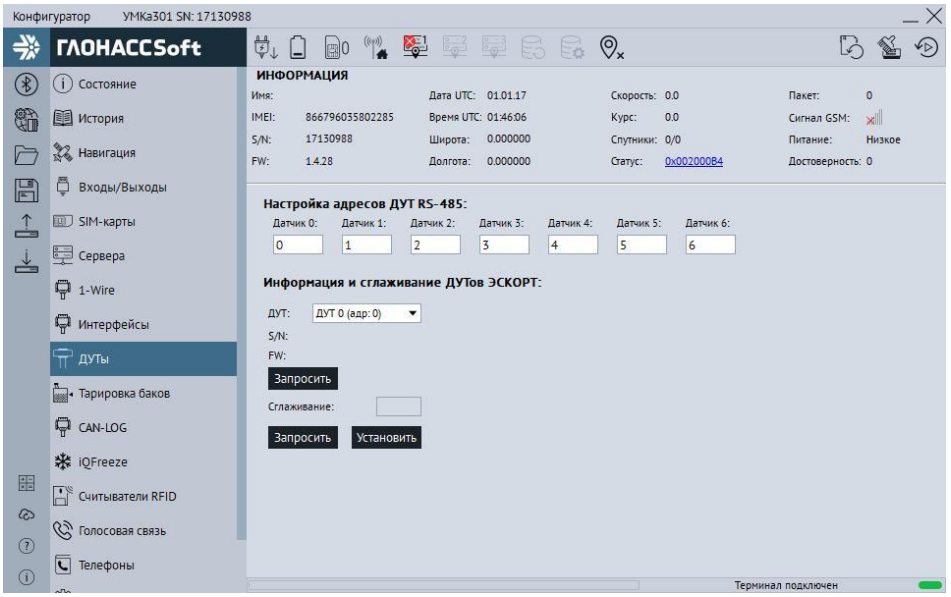

Figure 6 – "FLSs" tab

Attention! Beforehand, switch one of the available interfaces into the "FLS via LLS" mode in the "Interfaces" tab, set the "Speed" option to "19200" and write the configuration into the tracker.

2.3 "Inputs/Outputs" tab

Tab Inputs/Outputs (Figure 7) is used for configuring FLS connection via analog AIN0 and AIN1 and discrete inpurs DIN0and DIN1. Levels of logical 0 and logical 1 of analog inputs are configured within the range of from 0 to 40 000 mB. Along with this the level of logical 0 cannot be more than logical 1.

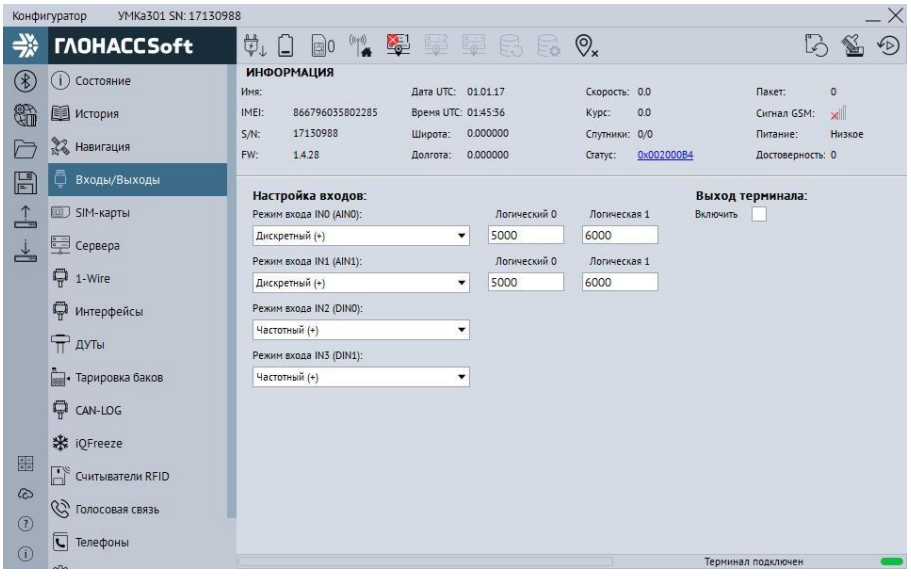

Figure 7 - Tabs "Inputs/Outputs"