TECHNOTON

TELTONIKA

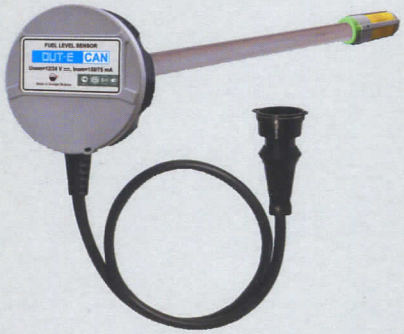
Compatibility Declaration

Technoton and Teltonika confirm:

DUT-E CAN
fuel level sensor

and

FMB640
terminal



compatible via electrical characteristics,

fuel level measurement error due to sensor error and does not exceed 1%.

JV Technoton

UAB TELTONIKA

Based on test result of 29.11.2019
Recommendations on connection and configuration - see attachment.

Recommendations on connecting and configuring Teltonika FMB640 terminal and DUT-E CAN fuel level sensor

1. DUT-E CAN connection:

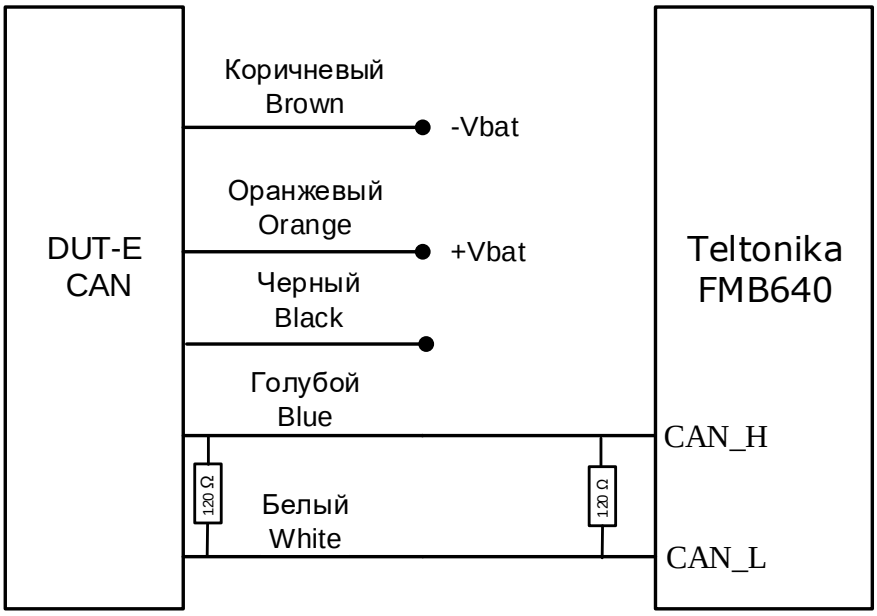
1.1. Connect white wire (CAN L) of the DUT-E fuel level sensor to the CAN1 L of the Teltonika terminal;

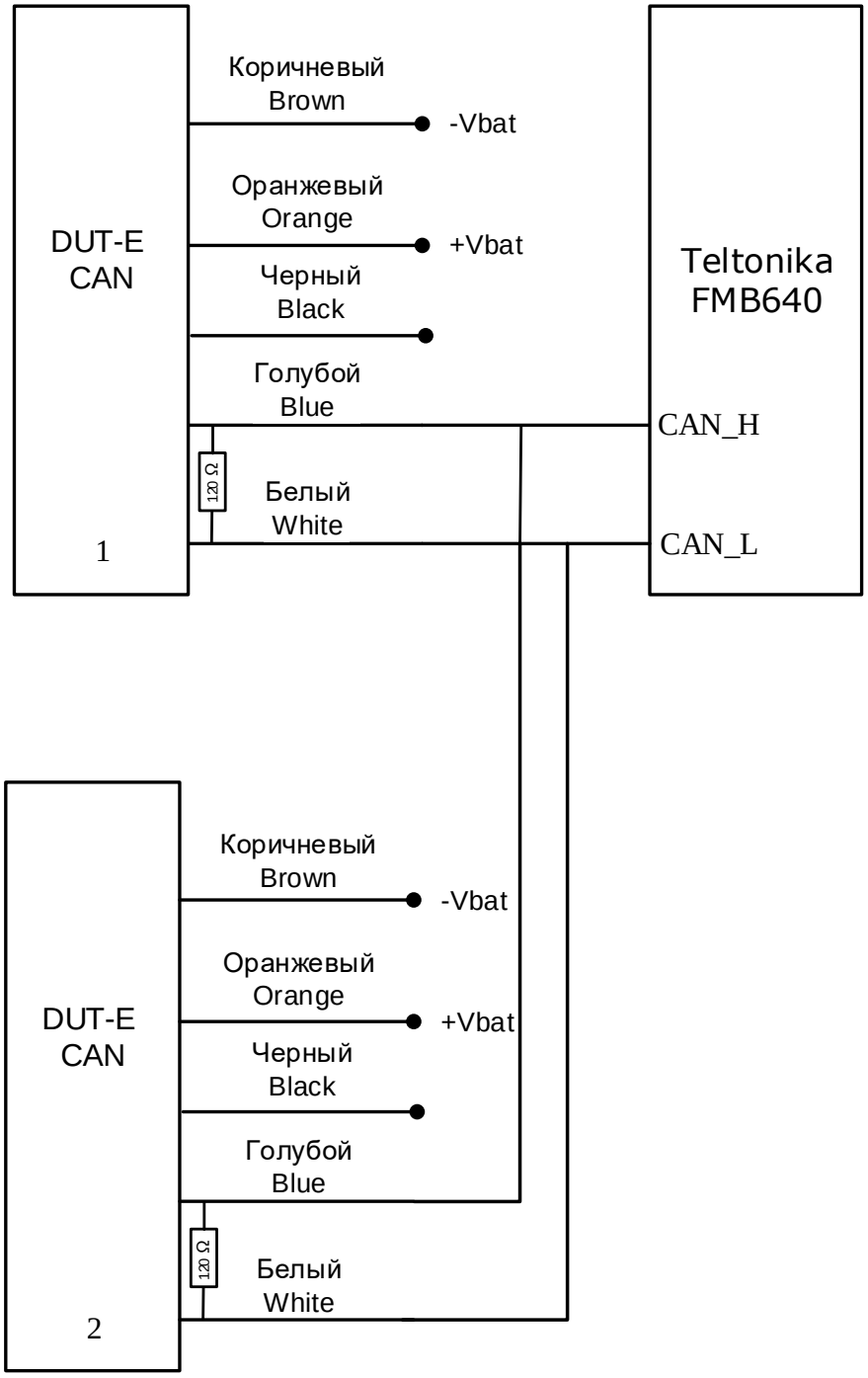
1.2. Connect the blue wire (CAN H) of the DUT-E fuel level sensor to the CAN1 L of the Teltonika terminal;

1.3. Connect the brown wire (weight) of the DUT-E fuel level sensor to "-" power supply;

1.4. Connect the orange wire (supply) of the DUT-E fuel level sensor to "+" power supply.

2. Connection scheme of 1 or 2 sensors:





*Note: The S6 SC CW 700 cable is used to organize the CAN bus. This cable has a twisted pair cable and 2 terminal resistors of 120 Ohms each. When connecting 2 sensors in the cables S6 SC CW 700, do not connect the second resistor.

3. Configuration of the equipment and calibration of the fuel level sensor:

3.1. The DUT-E CAN fuel level sensor is configured with the help of SK DUT-E or SK S6 and service program Service DUT-E v.5.4 (or higher).

Set the real length of the sensor after the cutting and calibrate it (Figure 1):

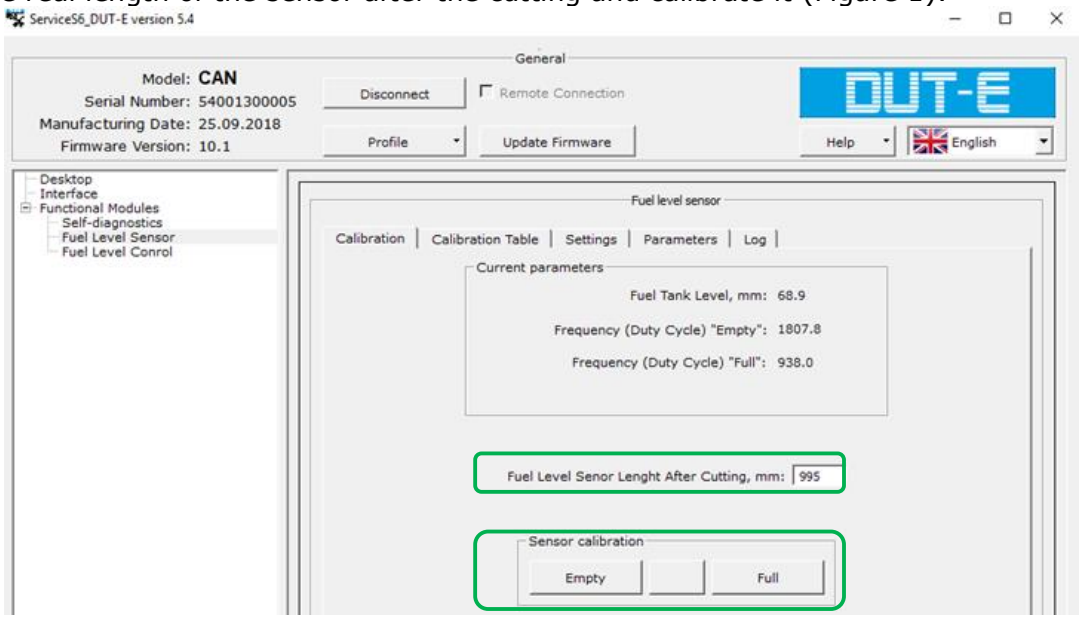


Figure 1

Set **101** for the first sensor and **102** for the second (Figures 2-3).

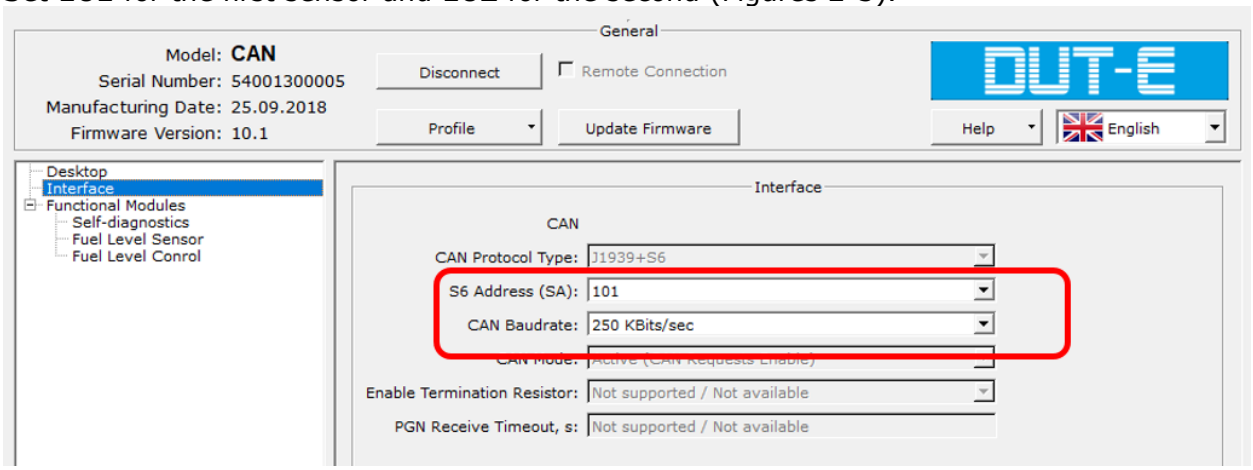


Figure 2

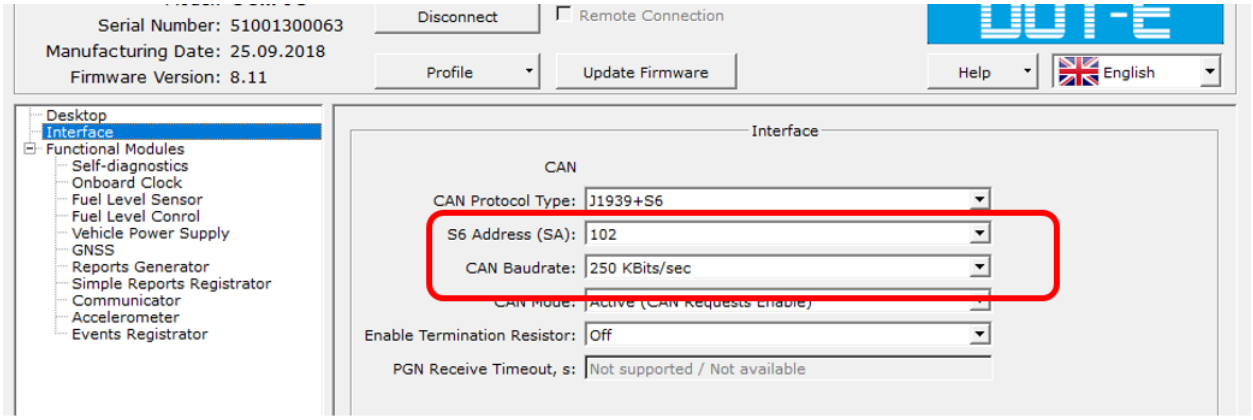


Figure 3

<u>If you want to connect 2 and more sensors in one CAN bus, keep in mind that they must have different addresses.</u>

3.2.Tank calibration

Record the known amount of the fuel poured in the tank in a special table and set the correspondent Fuel level. You will have the Calibration table like this (Figure 4).

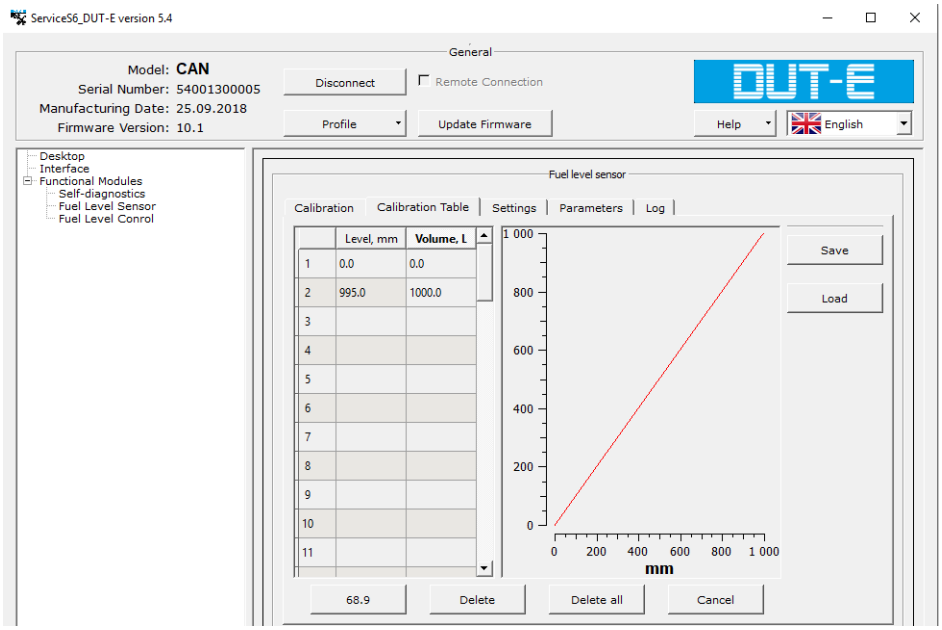


Figure 4

Save the new settings (Figure 5).

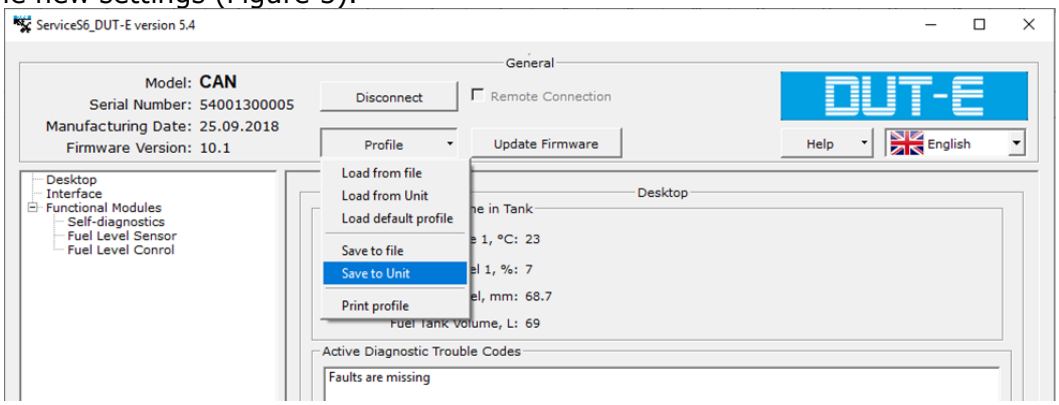


Figure 5

3.3.Terminal configuration in the Teltonika Configurator v1.3.5.22087.

Configure the terminal to transfer data the through the settings server of the mobile operator and Wialon server (Figure 6).

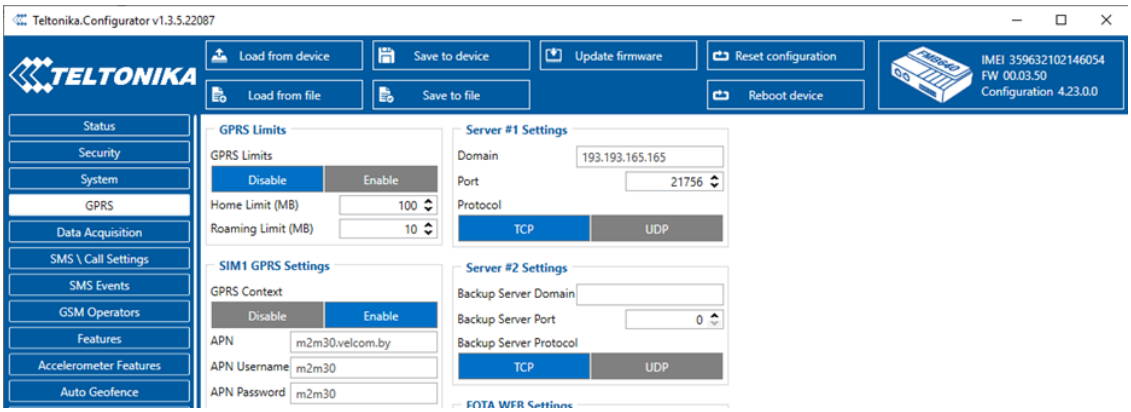


Figure 6

See *Figure 7*, it shows the terminal's settings to transfer the SPN from the sensors with the addresses 101, 102.

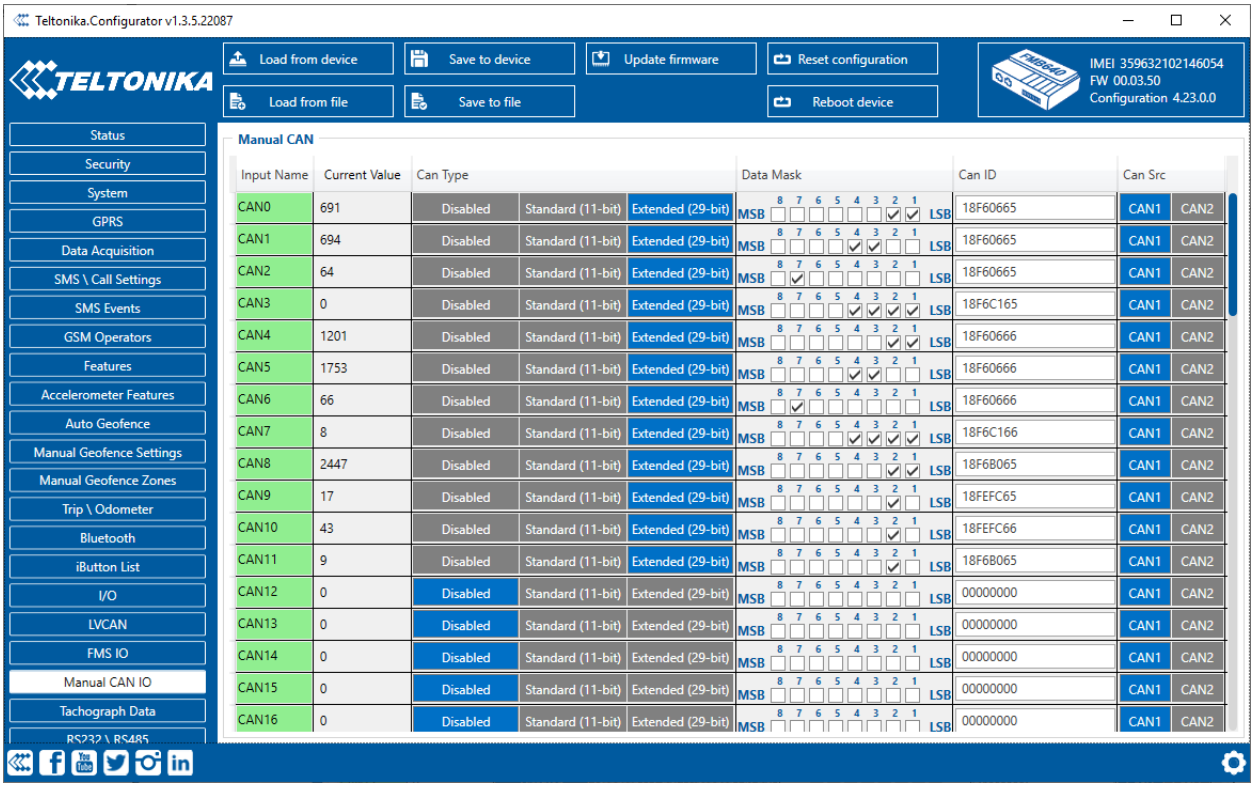


Figure 7

Correlation of the Imput Name to the parameters.

№CAN	Parameters	Resolution on the server
CAN0	Fuel Tank Level (mm) DUT1	*const0.1
CAN1	Fuel Tank Volume (L) DUT1	*const0.1
CAN2	Engine Fuel Temperature 1 (0C) DUT1	-const40
CAN3	UNIT DTCS MASK DUT1	
CAN4	Fuel Tank Level (mm) DUT2	*const0.1
CAN5	Fuel Tank Volume (L) DUT2	*const0.1
CAN6	Engine Fuel Temperature 1 (0C) DUT2	-const40
CAN7	UNIT DTCS MASK DUT2	
CAN8	Sum Fuel Tank Volume (L) DUT1, Fuel Tank Volume (L) DUT2	*const0.1
CAN9	Fuel Level 1 (%) DUT1	*const0.4
CAN10	Fuel Level 1 (%) DUT2	*const0.4
CAN11	Sum Fuel Level 1 (%) DUT1, Fuel Level 1 (%) DUT2	*const0.4

3.4 See the sensors' settings in the Wialon (Figures 8-10):

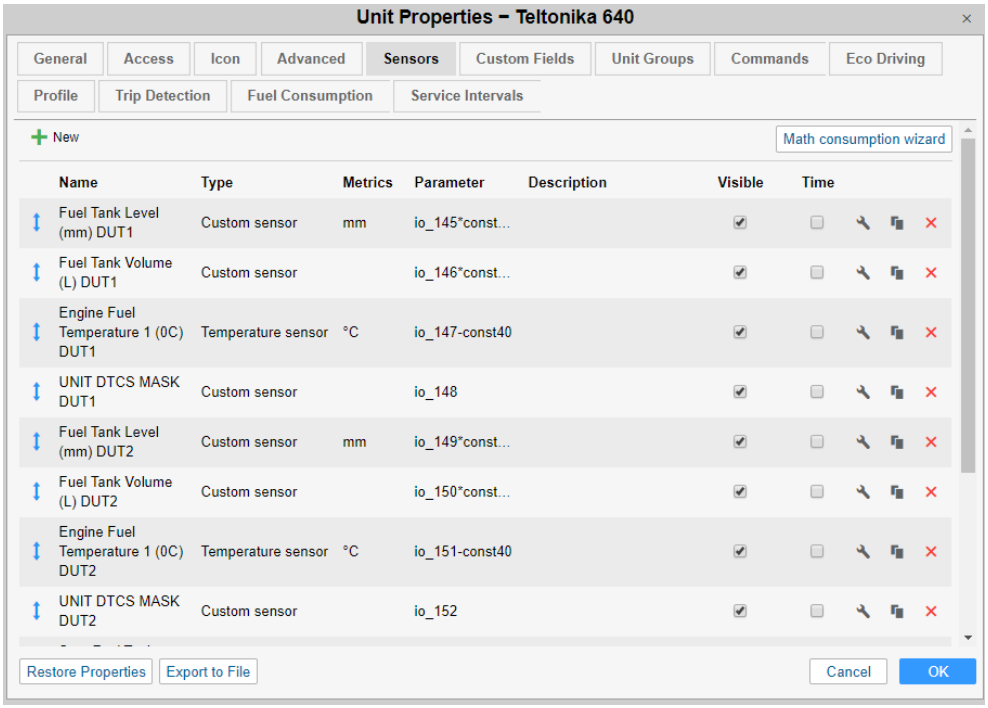


Figure 8

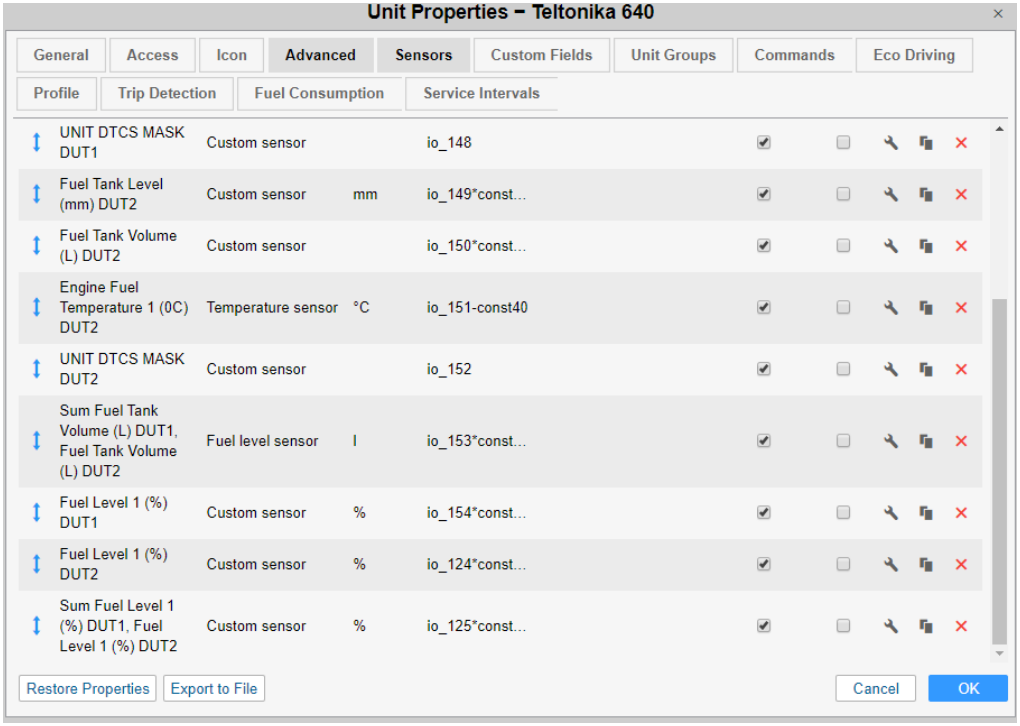


Figure 9

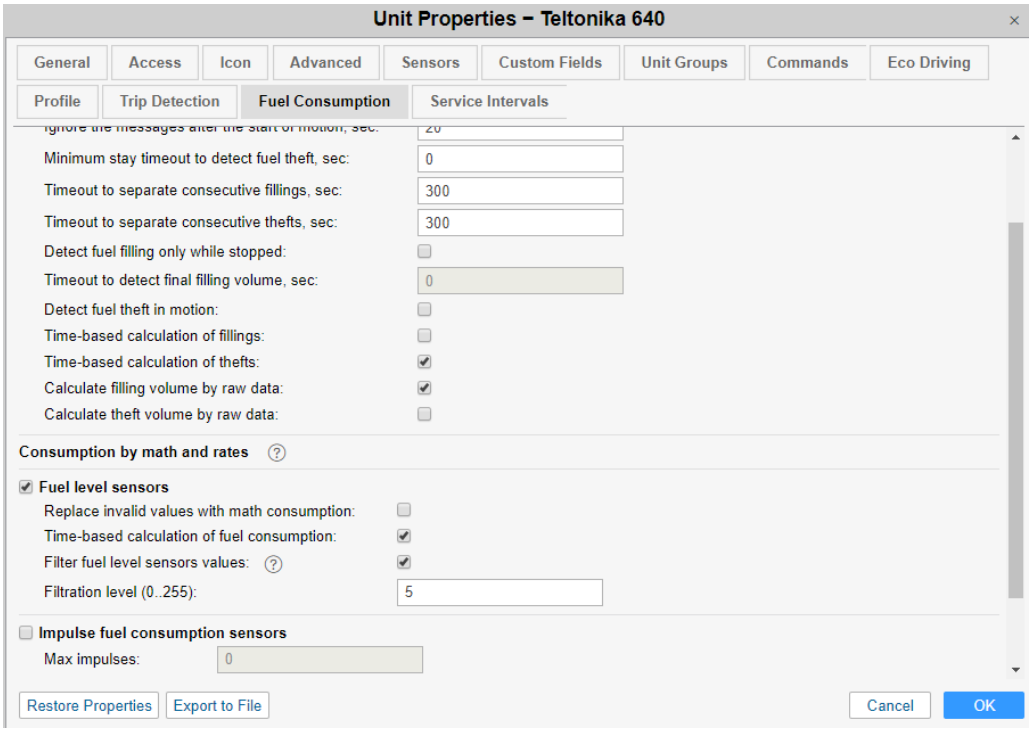


Figure 10

To display the data received from the connected sensors, follow this: Sensor Properties → Sensors → Create. Set all the required parameters (Figures 11-22).

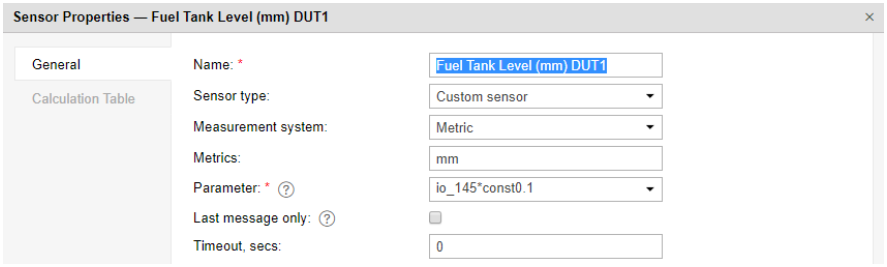


Figure 11

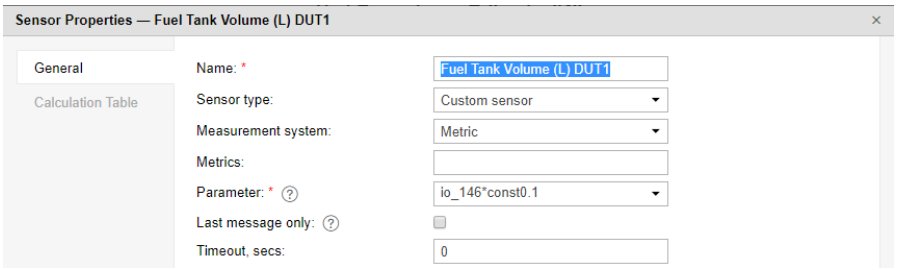


Figure 12

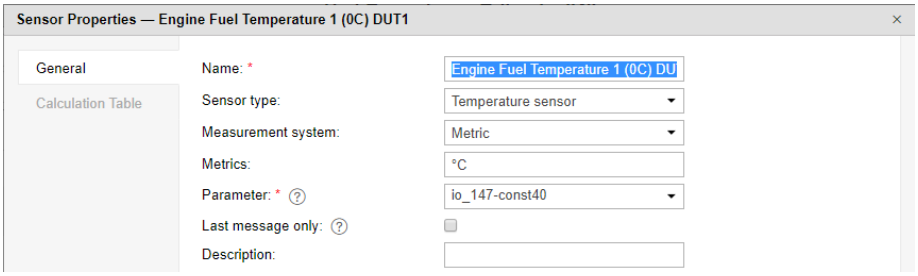


Figure 13

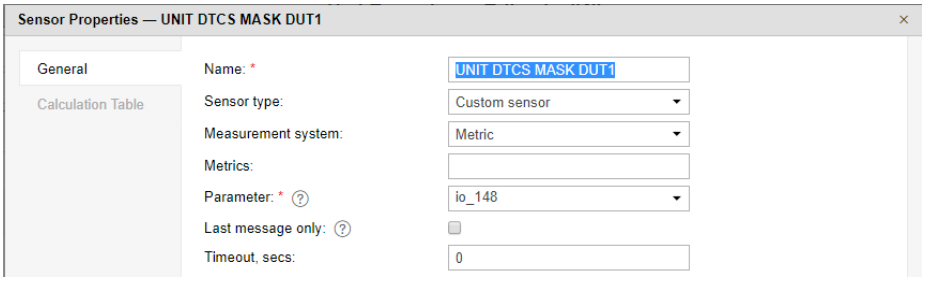


Figure 14

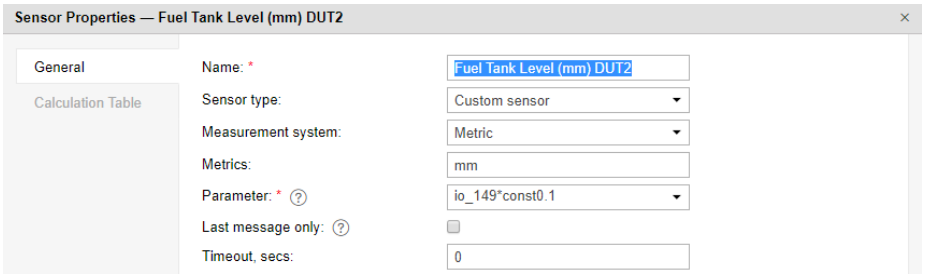


Figure 15

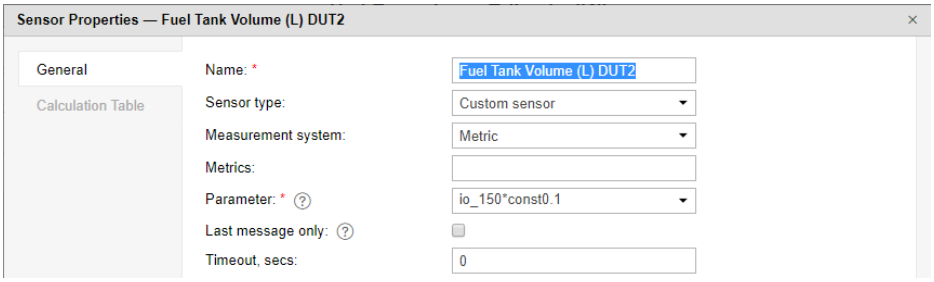


Figure 16

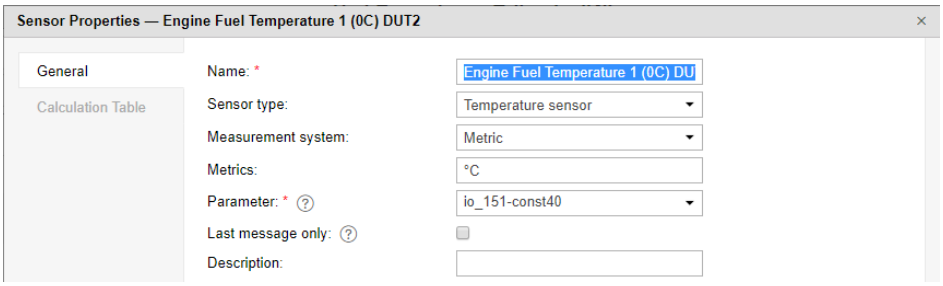


Figure 17

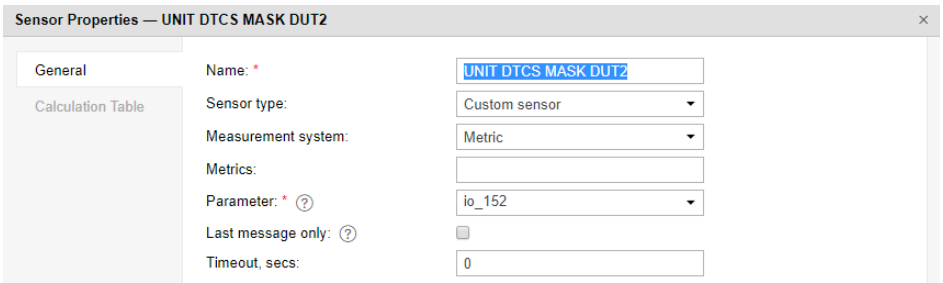


Figure 18

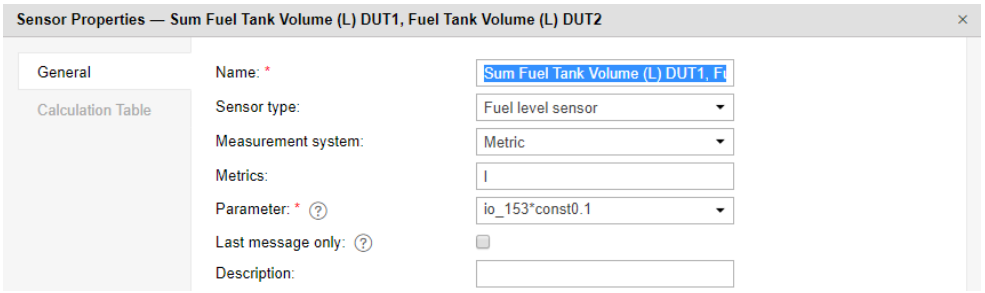


Figure 19

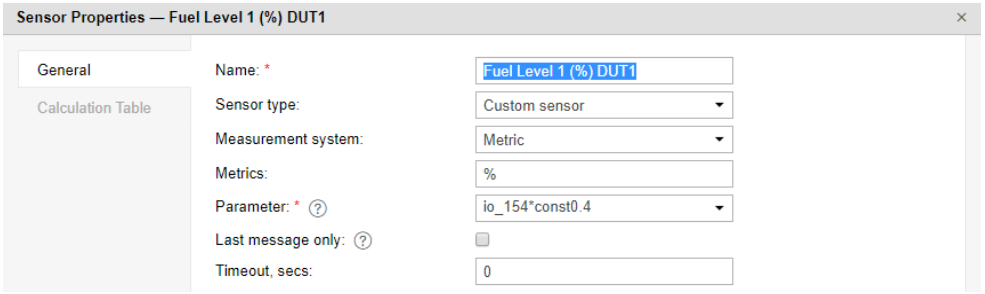


Figure 20

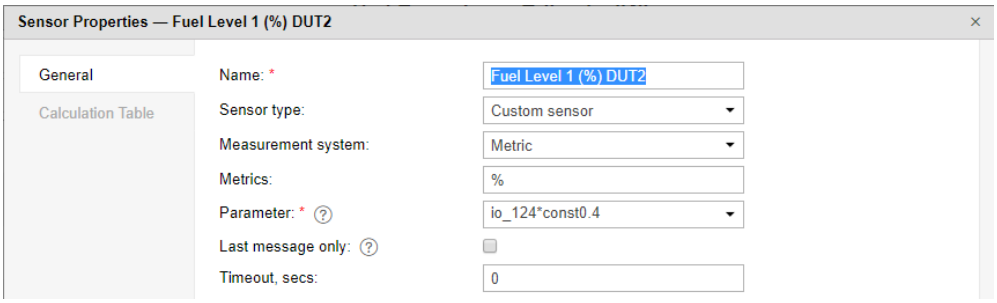


Figure 21

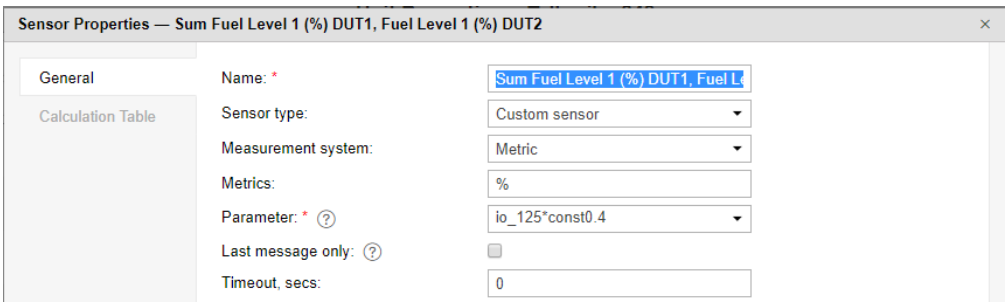
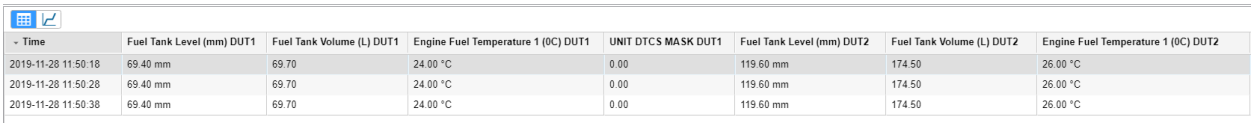


Figure 22

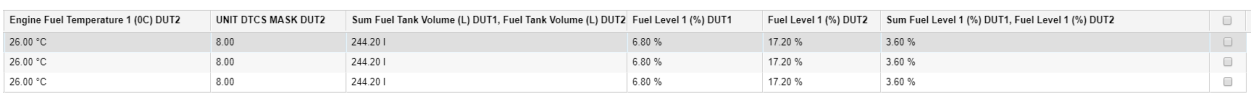
4. Control the data in the analytical SW

The configured sensors look like (Figures 23-24):



Time	Fuel Tank Level (mm) DUT1	Fuel Tank Volume (L) DUT1	Engine Fuel Temperature 1 (0C) DUT1	UNIT DTCS MASK DUT1	Fuel Tank Level (mm) DUT2	Fuel Tank Volume (L) DUT2	Engine Fuel Temperature 1 (0C) DUT2
2019-11-28 11:50:18	69.40 mm	69.70	24.00 °C	0.00	119.60 mm	174.50	26.00 °C
2019-11-28 11:50:28	69.40 mm	69.70	24.00 °C	0.00	119.60 mm	174.50	26.00 °C
2019-11-28 11:50:38	69.40 mm	69.70	24.00 °C	0.00	119.60 mm	174.50	26.00 °C

Figure 23



Engine Fuel Temperature 1 (0C) DUT2	UNIT DTCS MASK DUT2	Sum Fuel Tank Volume (L) DUT1, Fuel Tank Volume (L) DUT2	Fuel Level 1 (%) DUT1	Fuel Level 1 (%) DUT2	Sum Fuel Level 1 (%) DUT1, Fuel Level 1 (%) DUT2
26.00 °C	8.00	244.20 l	6.80 %	17.20 %	3.60 %
26.00 °C	8.00	244.20 l	6.80 %	17.20 %	3.60 %
26.00 °C	8.00	244.20 l	6.80 %	17.20 %	3.60 %

Figure 24

Compare the parameters with the parameters in the Service program DUT-E CAN.

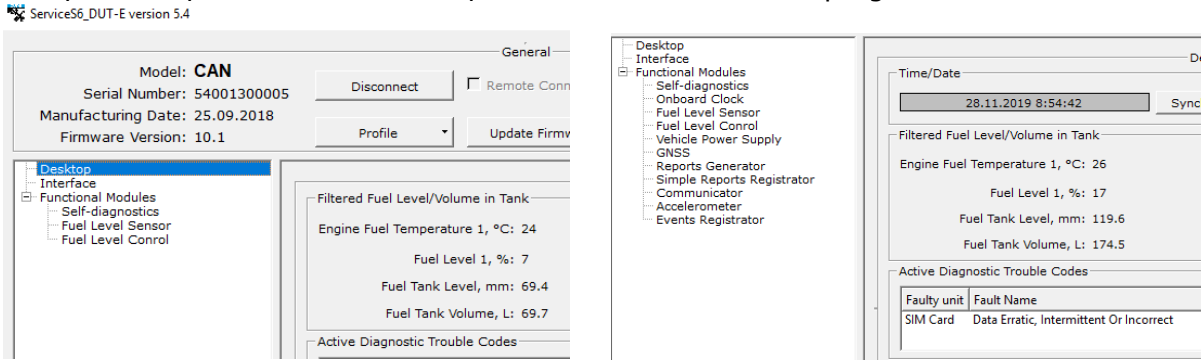


Figure 25

Configuration is finished.

Head of Technical Department V.A. Panasiyk