OMNICOMM

Omnicomm ICON Display

User Manual

30.08.2021

Contents

Omnicomm ICON Display

General Information

Omnicomm ICON display is intended to display various parameters, including:

- Fuel volume in the fuel tanks
- Refueling volume
- Temperature according to the external temperature sensor readings
- Fuel volume dispensed from the fuel-servicing truck (only in conjunction with the Omnicomm Profi terminal)
- Reading from the Omnicomm terminal universal inputs
- Driver's status
- Driver name / registration
- Vehicle speed
- Current time
- Dispatcher's message
- Engine hours

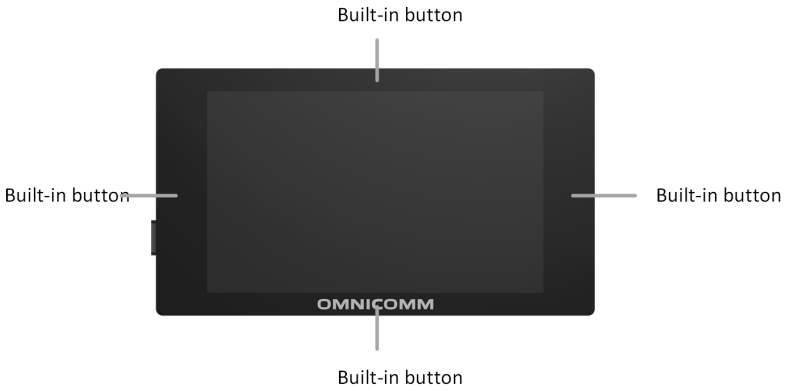
Omnicomm ICON Display is applicable:

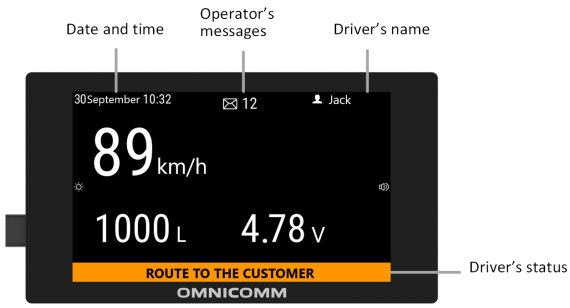
- in fleet monitoring systems, both with GPS/GLONASS terminals connection and separately with fuel level sensors
- with Omnicomm terminals 2.0 and later and with third generation built-in software (302 and later)
- with third-party terminals that support the Omnicomm ICON communication protocol
- only with fuel level sensors using the Omnicomm LLS protocol and provided with the RS-485 interface

While carrying out installation, observe the safety rules and regulatory requirements for this type of work.

Screen controls and navigation

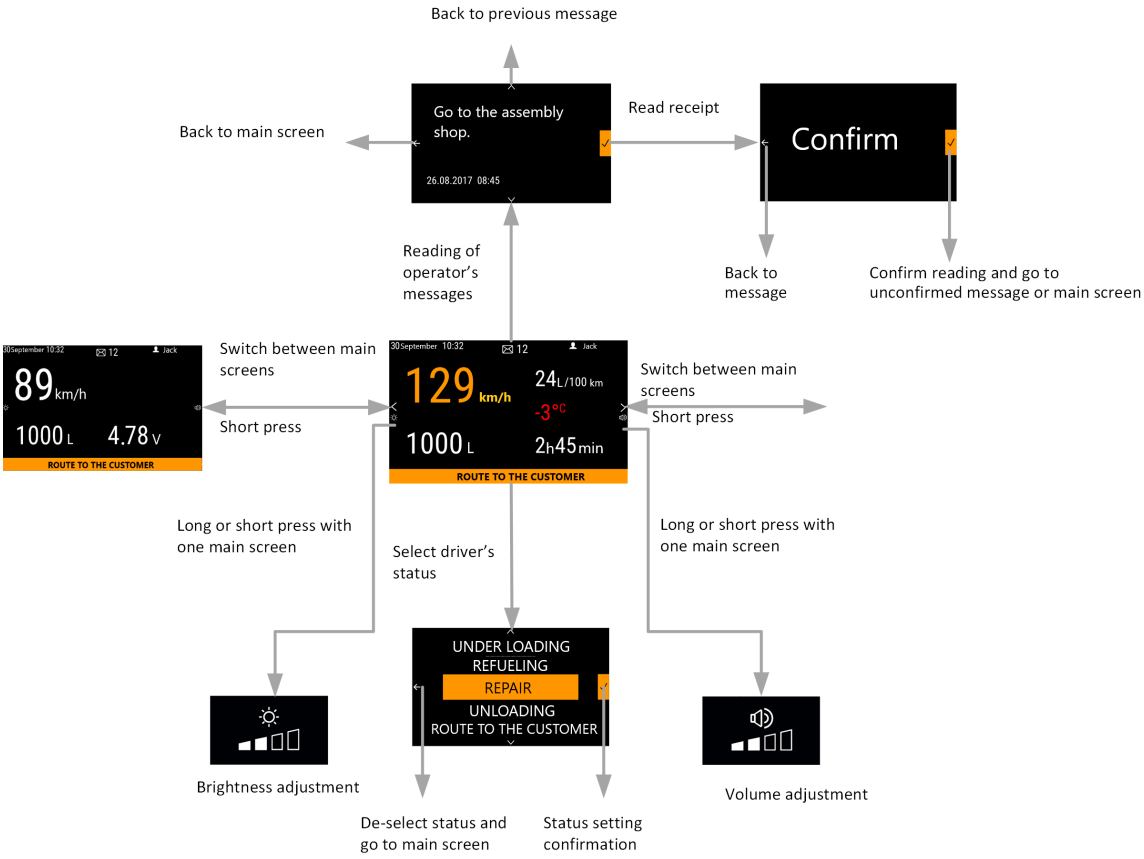
Omnicomm ICON display has 5 built-in buttons. To use the button you need, press the display body frame.





Screen chart

Main screen navigation map:



To monitor refueling, a driver's status “Refueling” is implemented (see Refueling volume monitoring).

Technical Specifications

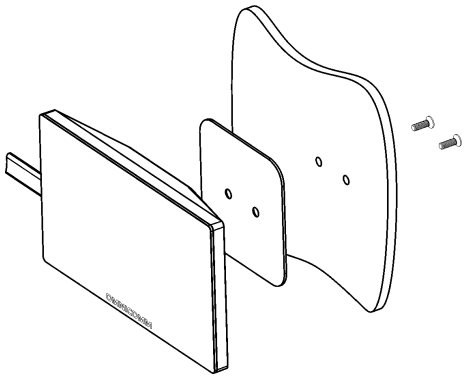
Parameter	Value
Power supply voltage, V	From +8 to +35
Power consumption, W	nominal 2 maximum 15 (when heated)
Type of output interface	RS-485
1-wire interface	iButton protocol
Omnicomm LLS sensors number	4
Baud rate through the RS-485 interface, bit/s	19,200 bit/s
Brightness	4 levels
Diagonal, inch	3,97
Resolution, dots	480 x 800
Active zone, mm	51,84 x 86,40
Sound notification volume	5 levels
Operating temperature range, °C	From -30 to +80
Ingress protection rating	IP51
Overall dimensions, mm	112,8 x 63,6 x 19,2

Installation

Parameter	Value
Weight, kg	maximum 0.2 kg
Average service life	8 years

Installation

We recommend that you install an Omnicomm ICON display on a magnetic holder or fasten it with a double-sided adhesive tape. The display may also be installed using self-tapping screws:



When identification with RFID card is used, fasten the RFID holder to the display using self-tapping screws. To do this, unscrew the self-tapping screws with a screwdriver PH1 and remove the plate.

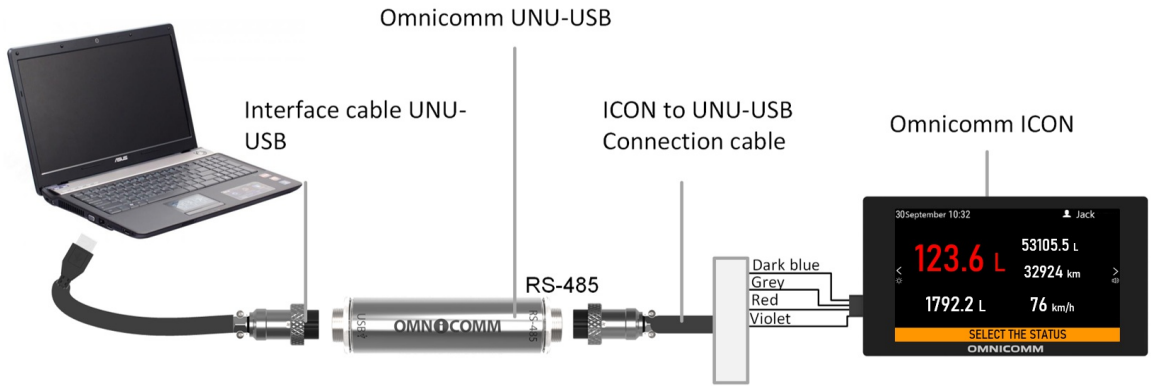
Fasten the display with the RFID holder on a magnetic holder or a flat surface using a double-sided adhesive tape.

Dismantling the Omnicomm ICON display fastened with a double-sided adhesive tape, use a knife or an equivalent tool and be very careful.

Setting

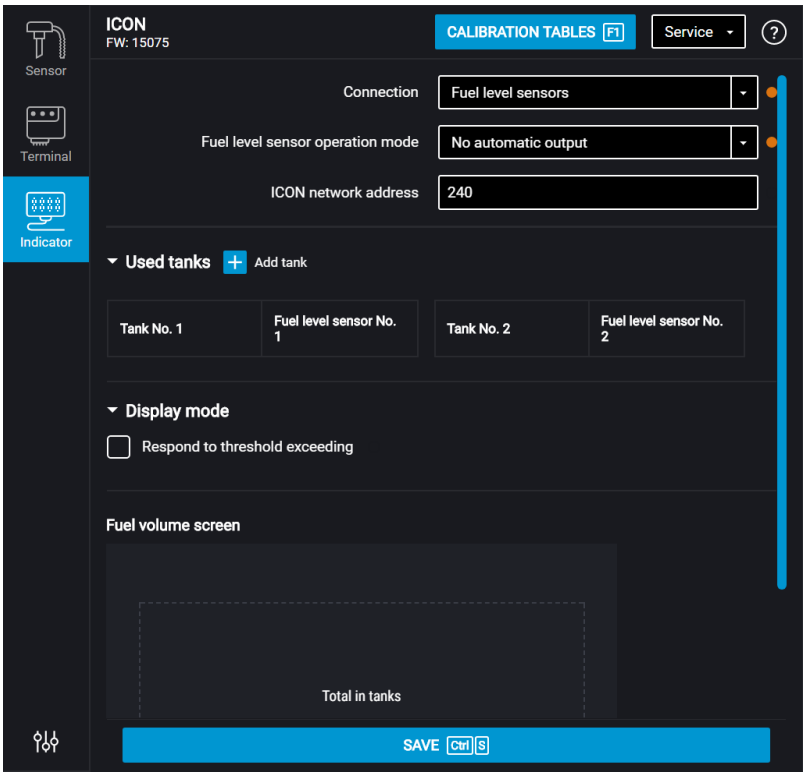
Before setting the Omnicomm ICON display, disconnect the Omnicomm LLS fuel level sensors.

Connect the Omnicomm ICON display to a PC using Omnicomm UNU-USB adapter according to the diagram:



Run Omnicomm Configurator:

Setting



Select equipment – "Indicator".

- "Connection" – select the equipment to which the Omnicomm ICON display is connected. Possible options: Fuel Level Sensor, Terminal
- "Fuel level sensor operating mode" – select the data output mode for an LLS fuel level sensor. Possible options: automatic data output, no automatic data output
- "ICON network address" – set the Omnicomm ICON display network address. Default value – 240

The "Used tanks" section is described in the Calibration subsection.

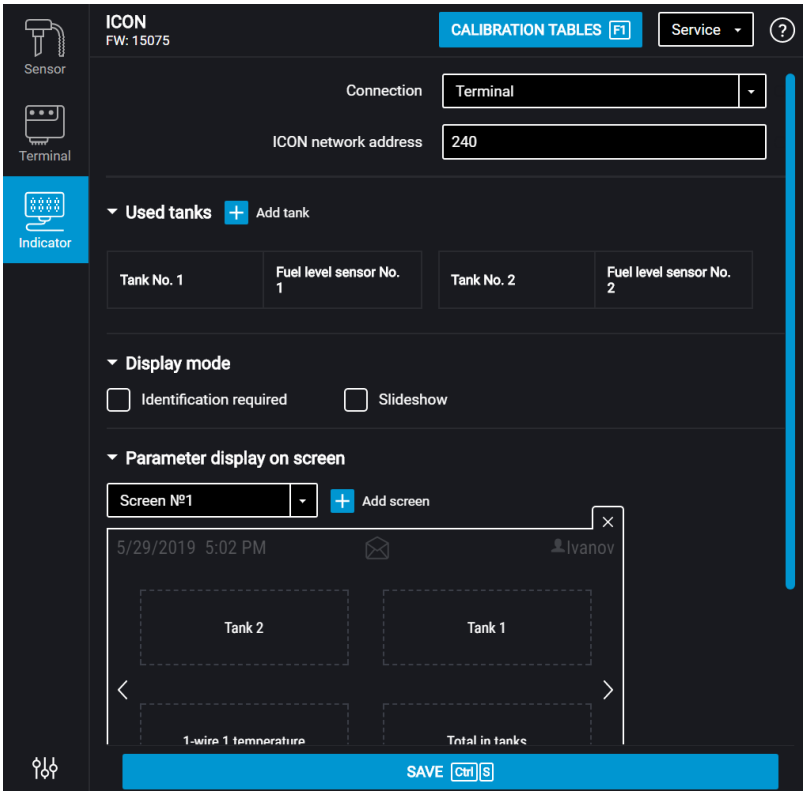
In the "Display mode" section:

- "Authorization required" – check the box to enable driver identification using the MIFARE Ultralight card. For successful identification the terminal should be configured according to the terminal user manual, the Omnicomm ICON Display section
- "Respond to threshold exceeding" – check the box to enable sound notification when registering the event set according to the Parameters display on the screen subsection
- "Slideshow" – check the box to enable automatic switching of the main screens in slideshow mode. Configure the main screens according to the Parameters display on the screen subsection

- Press the “Record into device” button

Calibration

Omnicomm ICON display supports up to 4 fuel tanks. The maximum number of Omnicomm LLS fuel level sensors is 4.

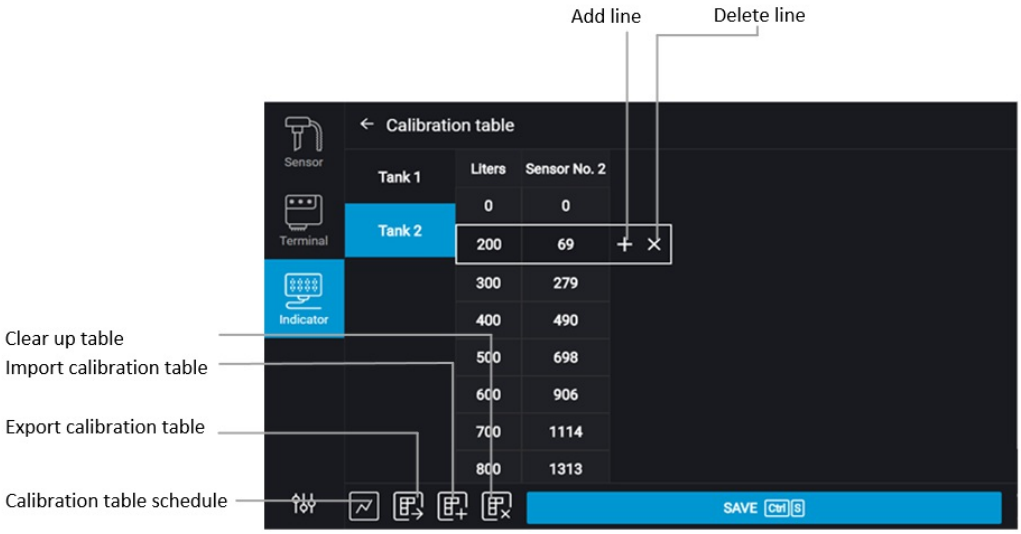


To add calibration tables for fuel level sensors, in the “Used tanks” section press the “Add tank” button.

A window will open, where you select a .ctb file with calibration tables for Omnicomm LLS fuel level sensors. The calibration tables must contain no more than 64 lines. The maximum fuel volume in the tank is 65534 liters.

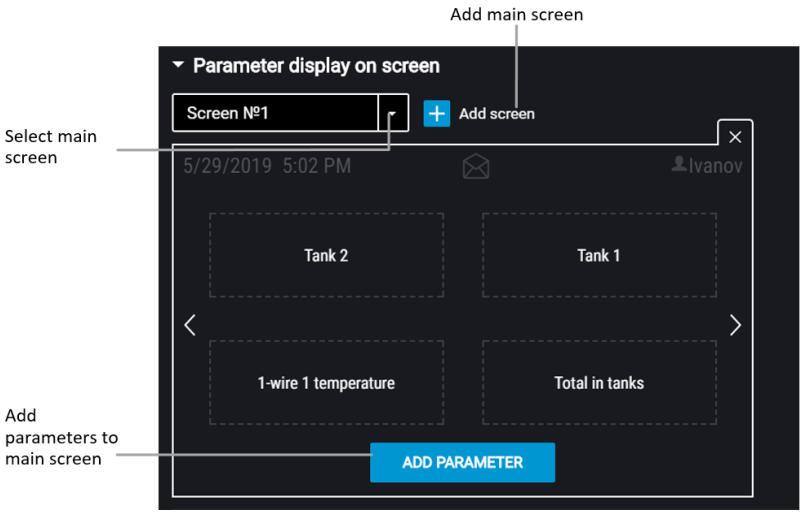
To view and edit the calibration tables, press the “Calibration tables” button.

Setting


Add line
Delete line
Calibration table
Sensor
Terminal
Indicator
Tank 1
Tank 2
Liters
Sensor No. 2
0
0
200
69
300
279
400
490
500
698
600
906
700
1114
800
1313
SAVE Ctrl S
Clear up table
Import calibration table
Export calibration table
Calibration table schedule

Parameters Display on the Screen

Omnicomm ICON display supports up to 30 main screens with different sets of parameters (only when connected to a terminal). For each main screen you can select up to 5 parameters. To display the parameters, configure the display according to the Omnicomm terminals user manual.

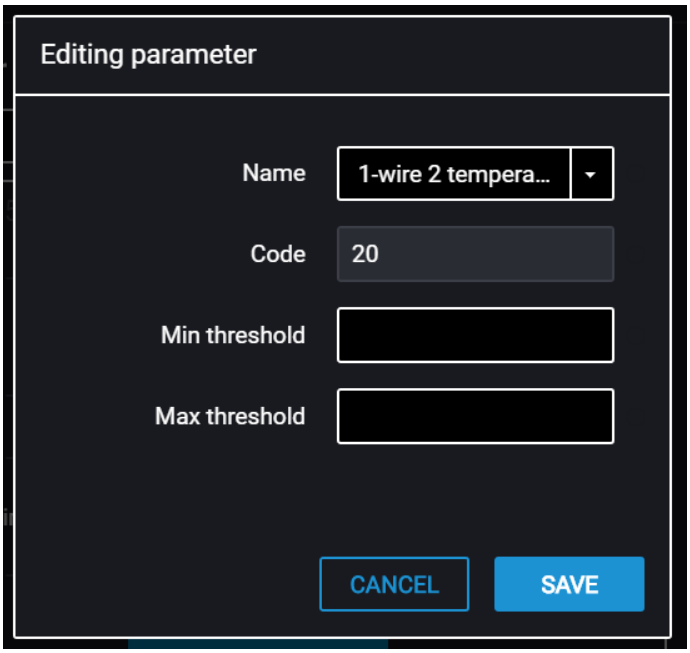


List of parameters:

- Temperature of 1-wire 1..8 – temperature from the sensors connected to the terminal. Values for 8 temperature sensors may be displayed
- UI1..6 – reading from the terminal universal input. Values for 6 universal inputs may be displayed
- Speed – vehicle speed according to the terminal readings
- Number of the tank
- Total fuel volume in the tanks
- USS – fuel volume dispensed through the dispensing gun of the fuel-servicing truck when using the PPO-USS device (only for Omnicomm Profi)
- Engine hours – value of engine hours

Press “Add parameter”.

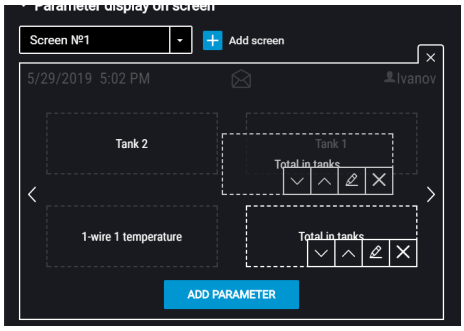
Setting



For each parameter, specify:

- Units of measurement – units of measurement for the parameter. Select the units of measurement from the list or add your own by selecting “Other”. Enter the unit of measurement in the “Unit name” field
- Measurement accuracy – select the number of digits after decimal point to display. Possible values: 1, 2, 3
- Minimum threshold – enter the minimum value of the measured parameter
- Maximum threshold – enter the maximum value of the measured parameter
- Sound notification – enable/disable sound notification if thresholds of monitored parameters are exceeded
- SMS sending – enable/disable SMS sending if thresholds of monitored parameters are exceeded

Arrange the parameters by holding down the left mouse button and moving the parameter to the desired location:



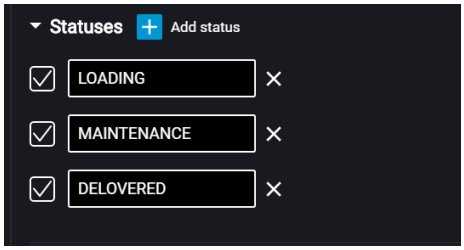
To add a main screen press “Add screen”.

If you change the connection type to the "Fuel level sensor", the configured main screens will be deleted.

Driver's Status

The Omnicomm ICON display supports up to 10 driver's statuses.

In the "States" section:



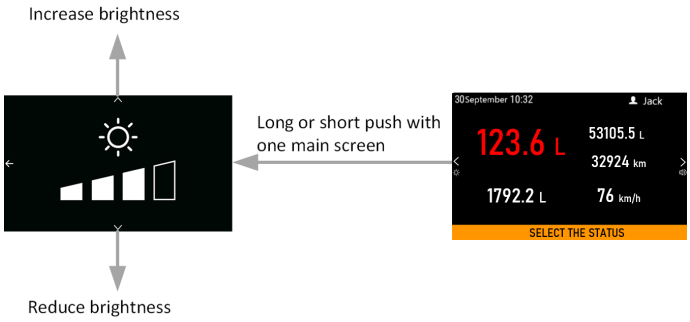
Press "Add status".

Enter the status in words and press the "Record into device" button.

The "Refueling" status is always present in the Omnicomm ICON display and used to monitor the refueling volume.

Brightness

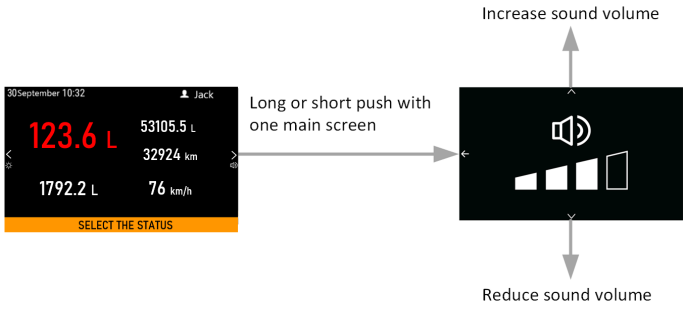
To adjust brightness when the main screen is displayed, press and hold the corresponding button:



The program finishes the brightness adjustment and switches to the main screen automatically in a few seconds, or you can do it by left-clicking the mouse.

Notification Volume

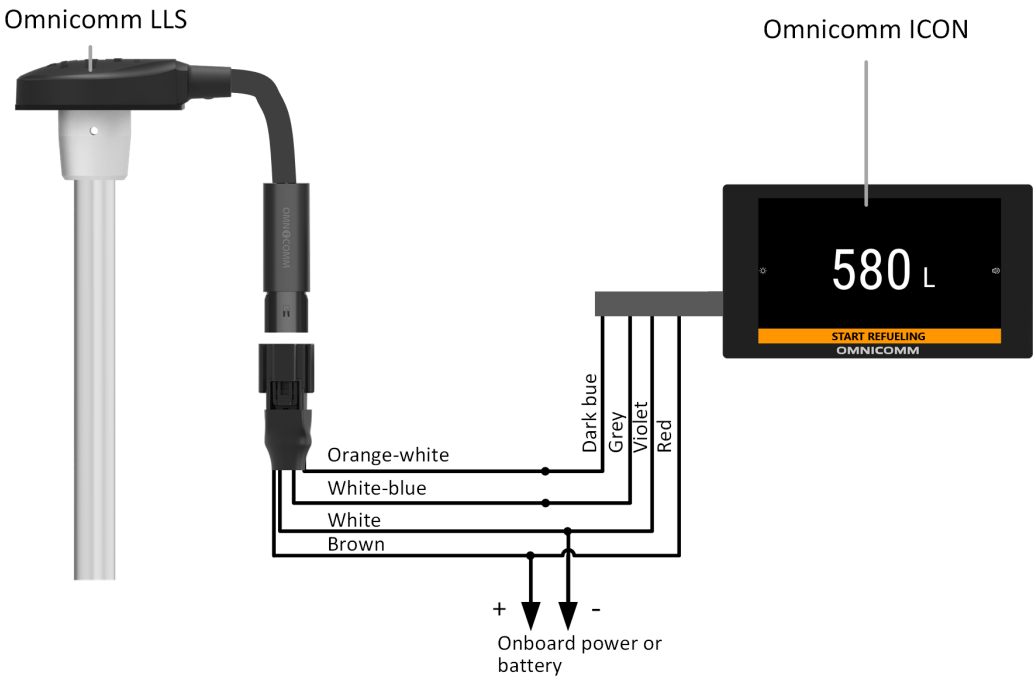
To adjust volume when the main screen is displayed, press and hold the corresponding button:



The program finishes the volume adjustment and switches to the main screen automatically in a few seconds, or you can do it by left-clicking the mouse.

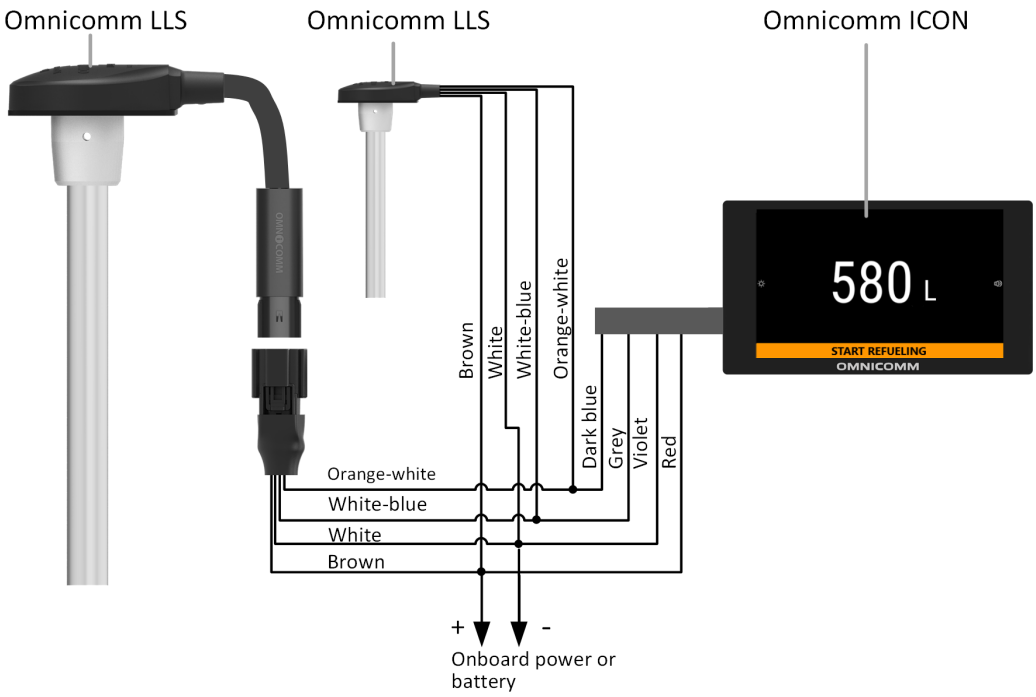
Connection

Connect an Omnicomm LLS sensor to the Omnicomm ICON display according to the diagram:

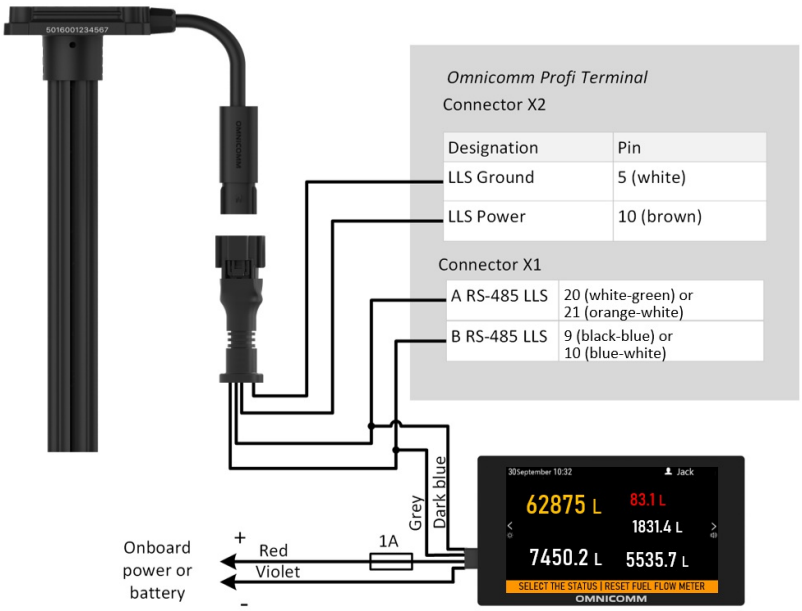


Several Omnicomm LLS sensors shall be connected in parallel via the RS-485 interface according to the diagram:

Connection

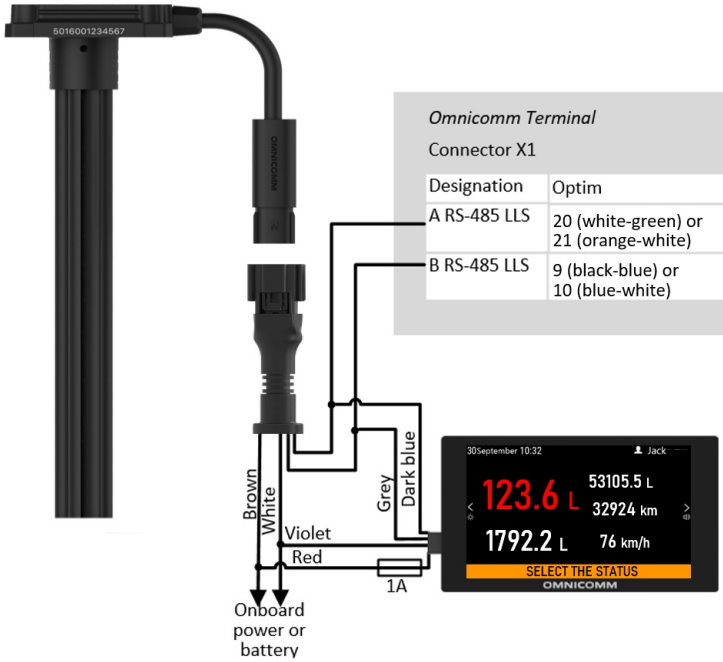


Connect an Omnicomm Profi terminal to the Omnicomm ICON display according to the diagram:



Connect an Omnicomm Optim, Light or Smart terminal to the Omnicomm ICON display according to the diagram:

Connection



Omnicomm Terminal

Connector X1

Designation	Optim	Light	Smart / Light 3.1
A RS-485 LLS	20 (white-green) or 21 (orange-white)	11(orange-white)	pink
B RS-485 LLS	9 (black-blue) or 10 (blue-white)	5 (blue-white)	brown

Connection

Functions and colors of the wires in the Omnicomm ICON display:

Name of Signal	Type of Wire
Vehicle power supply voltage	Red
Ground (negative) for power supply	Violet
Line A RS-485	Blue
Line B RS-485	Grey
Panic Button	Orange
1wire / iButton	Yellow-green

When using Omnicomm ICON to identify a driver, wire 1wire/iButton should not be connected to the terminal.

Displayed Parameters

The following parameters are displayed on the Omnicomm ICON display connected to the fuel level sensors:

- Total fuel volume in the fuel tanks

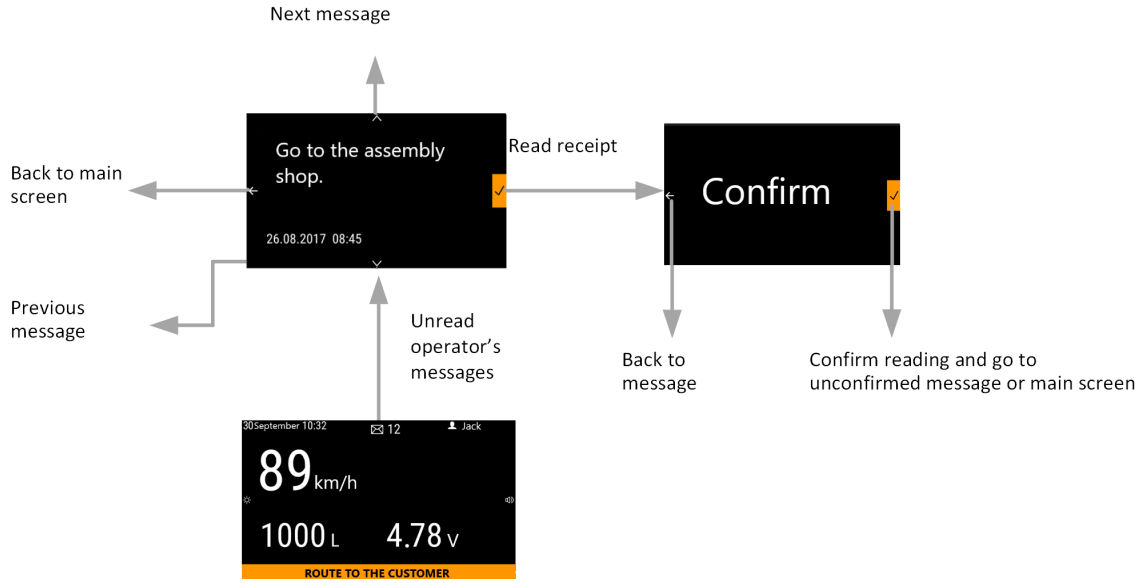
The following parameters are displayed on the Omnicomm ICON display connected to a terminal:

- Fuel volume in the fuel tanks
- Total fuel volume in the tanks
- Temperature according to the external temperature sensor readings
- Fuel volume dispensed from the fuel-servicing truck (only when connected to the Omnicomm Profi terminal)
- Reading from the Omnicomm terminal universal input
- Driver's name (upon identification)
- Vehicle speed
- Engine hours
- Current time. Date and time are displayed on the Omnicomm ICON display according to the data received from the terminal

To view the parameters, switch between the previously configured main screens (see Parameters Display on the Screen).

Operator's Messages

Omnicomm ICON display shows the dispatcher's messages sent from Omnicomm Online or via SMS.



no unread messages

12 number of unread messages

Panic Button

BOmnicomm ICON display has built-in panic button.

With power ON, if the panic button is pressed the Omnicomm ICON display sends the triggering event via the RS-485 interface.

When connected to a panic button output or a terminal universal input, the Omnicomm ICON display sends the triggering event to the terminal regardless of power ON or OFF.

Connect to a panic button output or an Omnicomm terminal universal input according to the diagram:

Operator's Messages

Violet

Orange

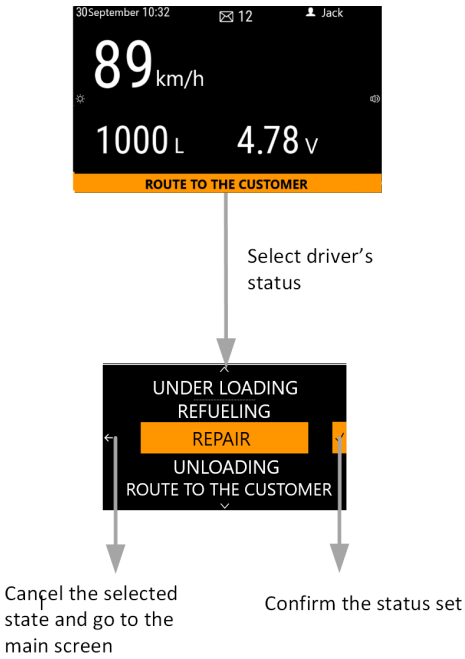
Omnicomm Terminal

Connector X1

Designation	Profi	Optim	Light	Smart
Panic button	6 (white-red)	3 (white-red)	3 (black) or 9 (black-white)	2 (black)
Ground	2 (white) or 12 (white)	1 (white) or 2 (white)	1 (white)	1 (white)

Driver's Status

To notify the dispatcher or monitor the refueling operation, select a status from the set of states created while configuring the Omnicomm ICON display. When the driver's status is changed, it is registered in Omnicomm Online and/or is sent via SMS to a dispatcher.

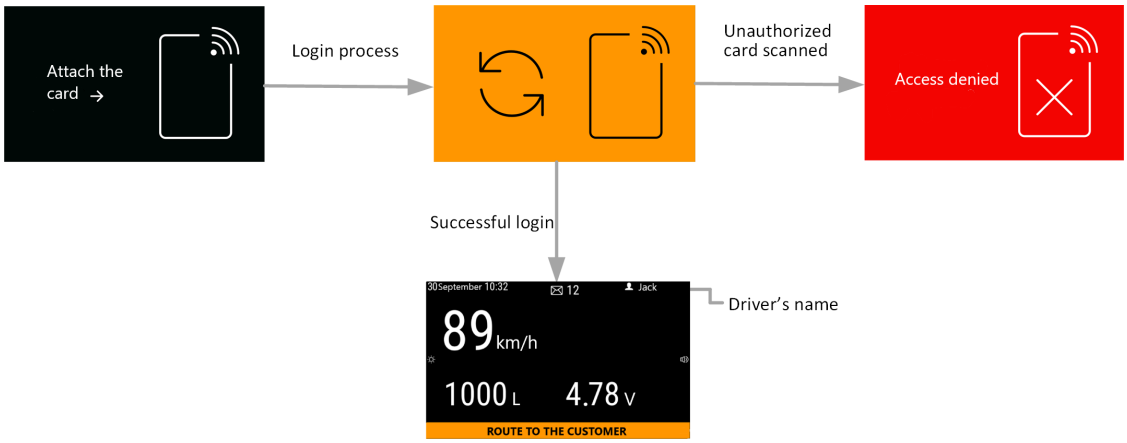


Driver Identification

When the Omnicomm ICON display is connected to a terminal, the driver identification is implemented using a MIFARE Ultralight card. For ease of identification, an RFID card holder is provided.

To provide the driver identification, enable this option in the terminal settings and specify the list of authorized cards.

After the Omnicomm ICON display is turned on, apply an RFID card:

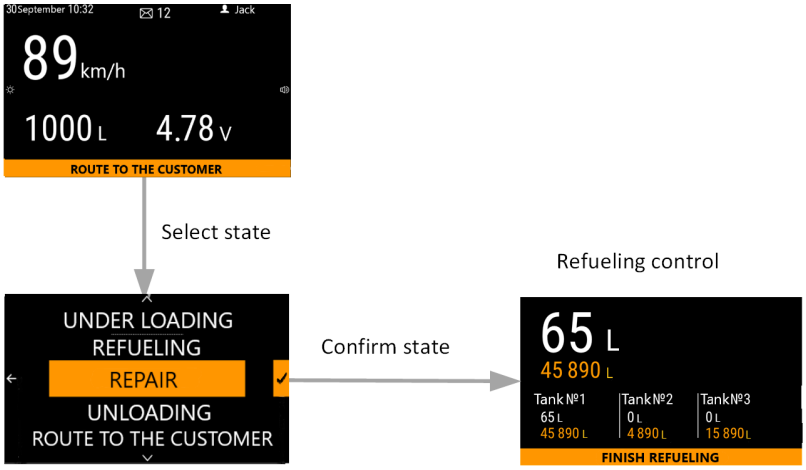


If the RFID card is not listed among the authorized cards, the message "Access denied" will appear.

To provide identification in a continuous readout mode, use an RFID card holder.

Refueling Volume Monitoring

Before starting the refueling operation, set the driver's status to "Refueling".



During the refueling, the Omnicomm ICON display will show the number of liters for each tank separately and the total number of liters refueled.

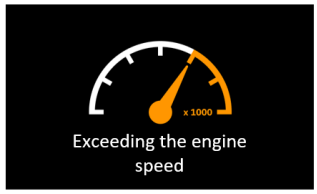
To finish monitoring of the refueling operation, select "Finish refueling".

Sound Notification

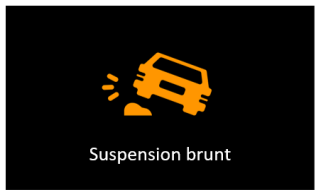
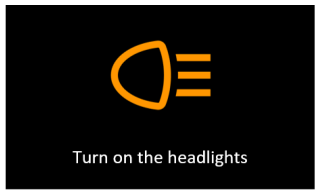
Omnicomm ICON display has a built-in speaker.

Sound notification is used when the Omnicomm ICON display is connected to an Omnicomm terminal. Sound notification is triggered upon registration of events set during configuring the displaying parameters on the screen and during the terminal setting.

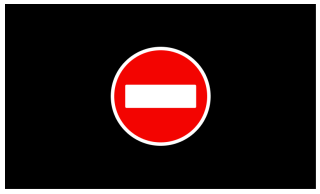
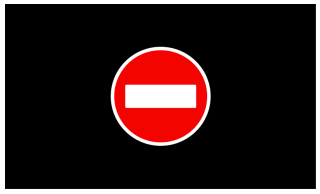
List of events and their corresponding notifications:

Event	Sound notification	Display
Overspeeding	once in 30 sec	
Exceeding the engine speed	once in 12 sec	
Sharp acceleration (>=FW15084)	once in 10 sec	
Sharp deceleration (>=FW15084)	once in 10 sec	

Sound Notification

Event	Sound notification	Display
Sharp lateral acceleration (>=FW15084)	once in 10 sec	
Sharp vertical acceleration (>=FW15084)	once in 10 sec	
Fasten seat belts	once in 20 sec	
Turn on the headlights	once in 20 sec	
Axis load exceeding	once in 60 sec	

Sound Notification

Event	Sound notification	Display
Total axis load exceeding	once in 120 sec	
Movement inside the geofence (depending on the terminal settings)	with periodicity of 12 sec	
Movement outside the geofence (depending on the terminal settings)	with periodicity of 12 sec	
Entering the Geofence (depending on the terminal settings)	occurring once	
Exiting the Geofence (depending on the terminal settings)	occurring once	
Authorization is successful	occurring once	-

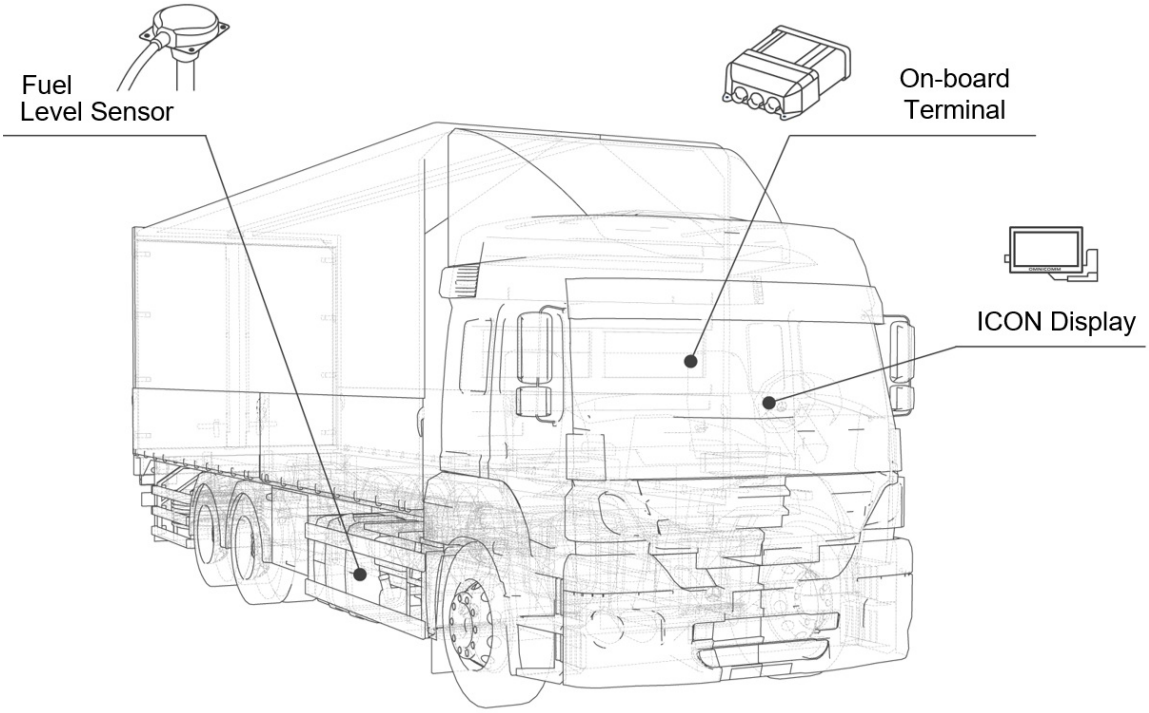
Sound Notification

Event	Sound notification	Display
Authorization is wrong	occurring once	

Use Cases

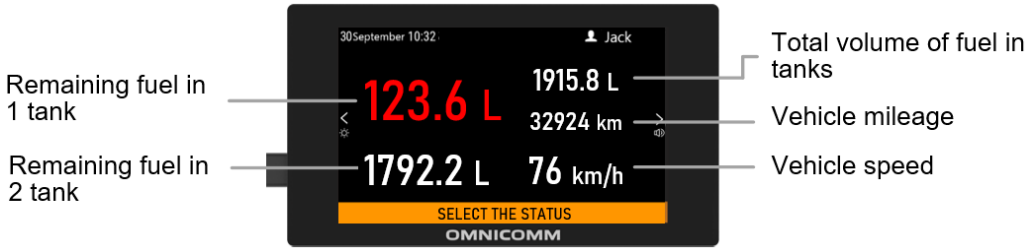
Monitoring the amount of remaining fuel, the refueling volume, and the vehicle's operation parameters

In this case, we look at the connection and configuration of equipment for monitoring mileage, speed, and remaining fuel in vehicle tanks using the Omnicomm ICON display.



Use:

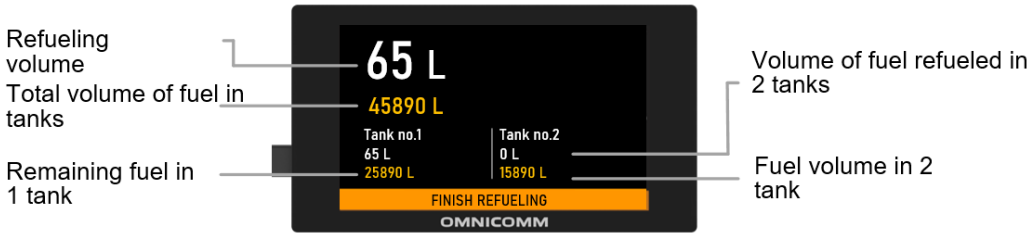
Monitoring the amount of remaining fuel and the vehicle's operation parameters



If the fuel volume goes below the threshold value, the amount of remaining fuel will be highlighted in red and a sound notification will ring.

Refueling volume monitoring

Use Cases



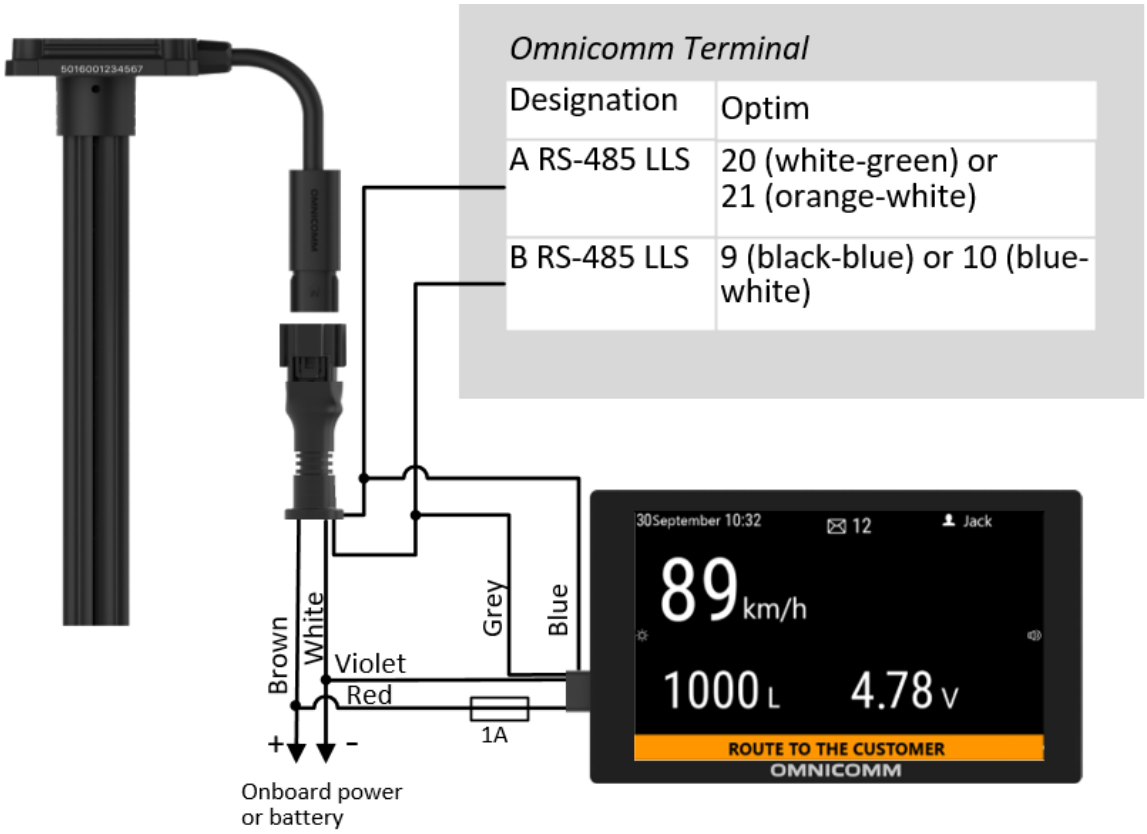
During the refueling process, the Omnicomm ICON display shows the total volume of fuel filled and the number of liters for each tank separately.

Equipment:

- Omnicomm terminal
- LLS 5 Fuel level sensors
- Omnicomm ICON Display

Connection:

The diagram example of equipment connection is given for the Omnicomm Optim terminal. To connect to an Omnicomm terminal of a different model, see diagrams in the Connection section.



Settings:

Use Cases

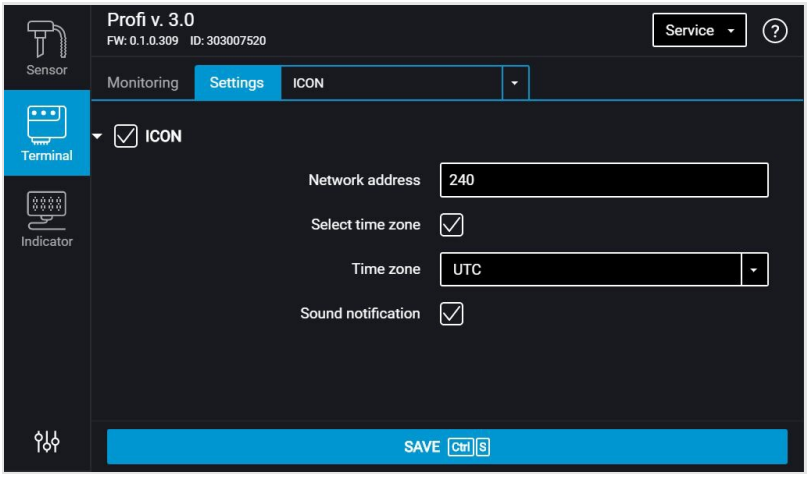
The configuration of the LLS Fuel level sensors is performed according to the user manual of each sensor.

Omnicomm Terminal configuration

Run Omnicomm Configurator.

Select equipment – Terminal.

In the “Settings” tab select the “ICON” section from the list.



“ICON” – check the box to display the data from the terminal on the Omnicomm ICON display

- “Network address” – select the display network address. Possible values: from 7 to 254
- “Select the time zone” - check the box to select your time zone relative to UTC. The time zone value is used when an automatic registration of time zones is not required

“Time zone” – select the time zone

- “Notify about status changes via SMS” - check the box to send a notification to the dispatcher's number when the driver's status changes. The notification will contain the driver's new status
- “Sound notification” - check the box to enable sound notifications when the terminal registers a new event, as specified during the terminal's setup

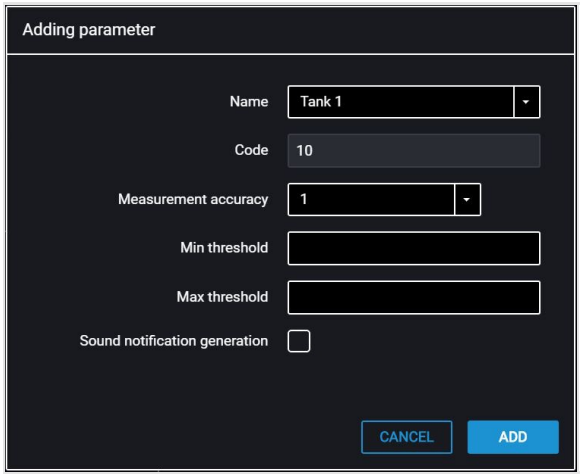
Omnicomm ICON display configuration

Run Omnicomm Configurator.

Select equipment – Indicator.

Add the parameters “Tank 1”, “Tank 2”, “Total in tanks”, “Mileage”, and “Speed” to the screen.

Use Cases



When adding the parameters, specify the following values:

- Units of measurement – units of measurement for the parameter. Select the units of measurement from the list or add your own by selecting “Other”. Enter the unit of measurement in the “Unit name” field
- Measurement accuracy – select the number of digits after decimal point to display
- Minimum threshold – enter the minimum value of the measured parameter
- Maximum threshold – enter the maximum value of the measured parameter
- Sound notification of exceeding thresholds - tick the box if a sound notification is needed when the value is below the minimum threshold or when the maximum threshold is exceeded

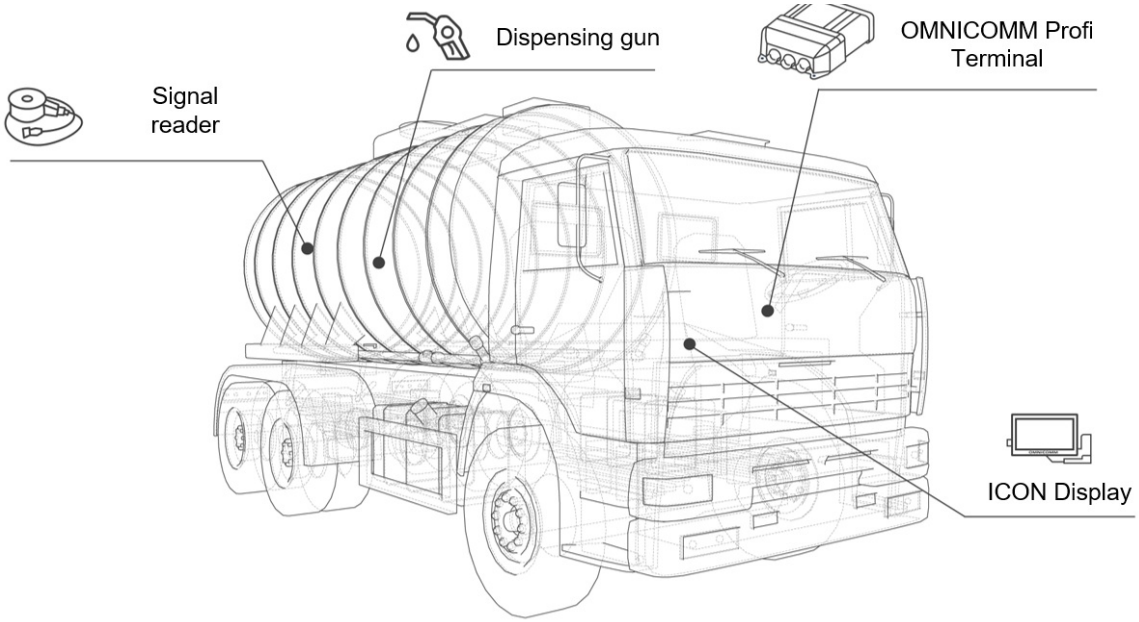
Configure the parameter display on screen as shown in the figure:

Use Cases

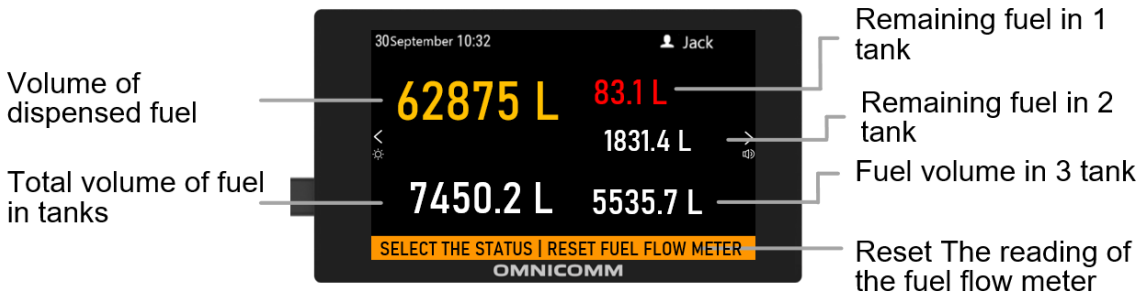
Press the “Save” button.

Monitoring the fuel dispensing by a fuel tanker

In this case, we look at the operation of a fuel tanker with an installed signal reader with a PPO fuel flow meter. The Omnicomm ICON display allows us to monitor the volume of dispensed fuel through the fuel tanker's dispensing gun and the remaining fuel in the fuel tank.



Use:



If the fuel volume goes below the threshold value, the amount of remaining fuel will be highlighted in red and a sound notification will ring.

If necessary, use the button “Reset Fuel Flow Meter” to reset the output volume.

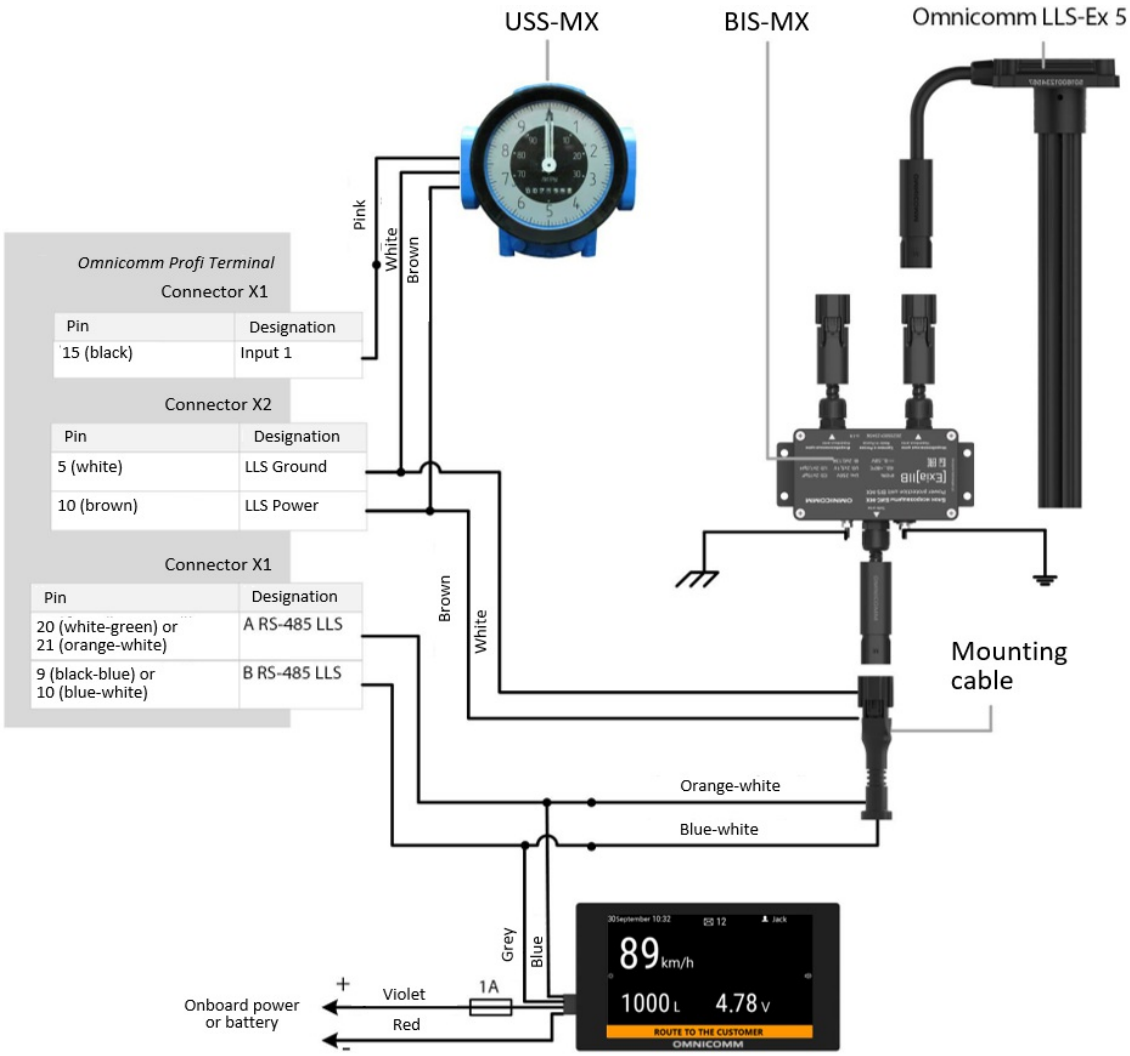
Equipment:

- Omnicomm Profi terminal
- Omnicomm LLS-Ex 5 Fuel level sensors
- BIS-MX Spark protection unit

Use Cases

- Omnicomm ICON Display

Connection:



Settings:

The configuration of the Omnicomm LLS-Ex 5 fuel level sensor is performed according to the sensor's user manual.

The BIS-MX spark protection unit does not require configuration.

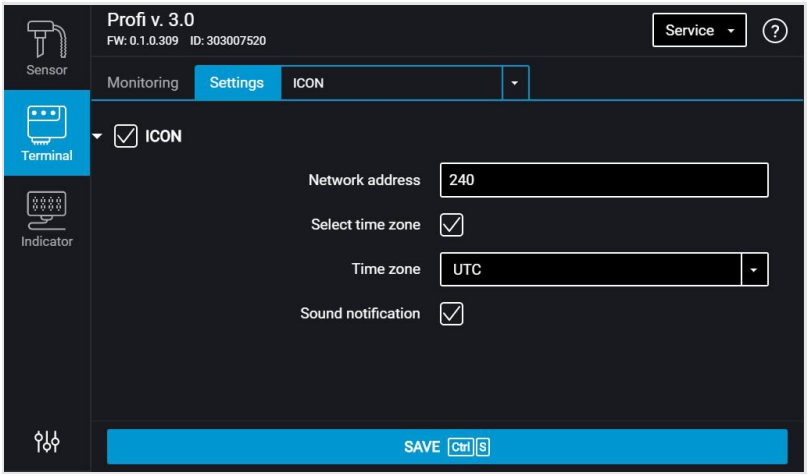
Omnicomm Profi terminal configuration

Run Omnicomm Configurator.

Select equipment – Terminal.

In the “Settings” tab select the “ICON” section from the list.

Use Cases



“ICON” – check the box to display the data from the terminal on the Omnicomm ICON display

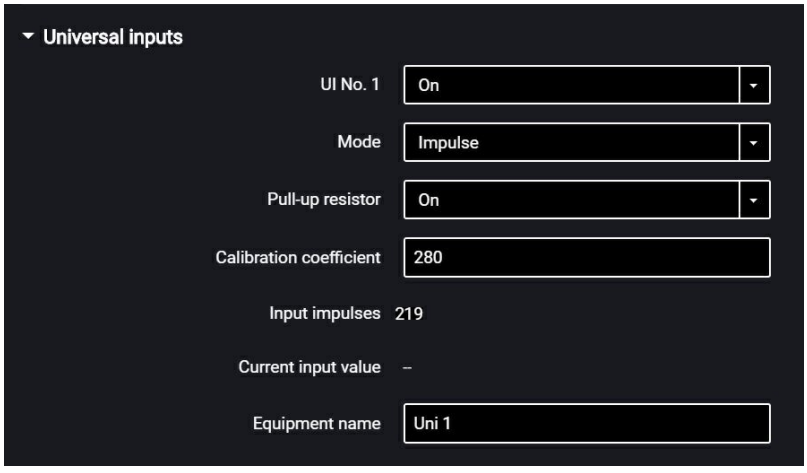
- “Network address” – select the display network address. Possible values: from 7 to 254
- “Select the time zone” - check the box to select your time zone relative to UTC. The time zone value is used when an automatic registration of time zones is not required

“Time zone” – select the time zone

- “Sound notification” - check the box to enable sound notifications when the terminal registers a new event, as specified during the terminal's setup

In the “Settings” tab select the “Inputs” section from the list.

In the “Universal inputs” section, configure the universal input No. 1:



“Universal input No. 1” – select “Enabled”.

“Operating mode” – select “Pulse”.

“Equipment name” – enter the monitored parameter name. For example, volume of fuel

dispensed.

“Pull-up resistor” – select “Enabled” when working with “open collector”-type sensors or contact sensors.

“Coefficient of pulse input calibration” – enter the calibration factor for converting the number of pulses to the determined physical quantity. Enter the value of the calibration coefficient depending on the model of the Signal pickup device and the PPO Fuel dispensing meter according to the table:

USS variations	Use as part of products	Calibration factor
USS–B–70	PPV-100-1,6; PPV-100-6,4; PPV-150-1,6; PPV-150-6,4	35,714
USS–B–70	PPO-25-1,6; ShZhU-25-1,6	1
USS–B–70	PPO-40-0,6; ShZhU-40-0,6	3,571
USS–B–25	PPV-100-1,6; ППВ-100-6,4; PPV-150-1,6; PPV-150-6,4	100
USS–B–25	PPO-25-1,6; ShZhU-25-1,6	2,8
USS–B–25	PPO-40-0,6; ShZhU-40-0,6	10

Press the “Save” button.

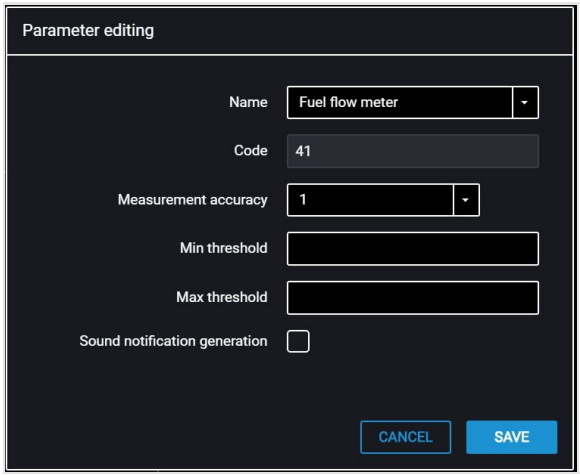
Omnicomm ICON display configuration

Run Omnicomm Configurator.

Select equipment – Indicator.

Add the parameters “Fuel flow meter”, “Tank 1”, “Tank 2”, “Tank 3”, “Total in tanks” to the screen.

Use Cases



When adding the parameters, specify the following values:

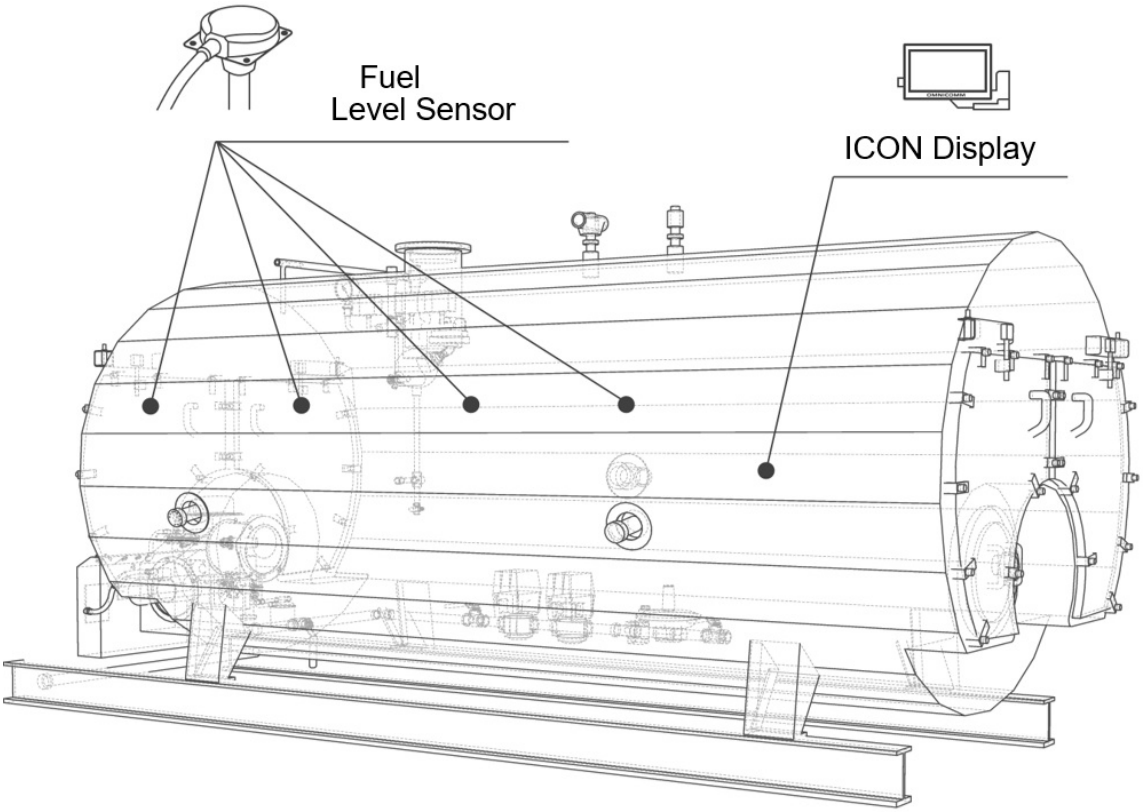
- Units of measurement – units of measurement for the parameter. Select the units of measurement from the list or add your own by selecting “Other”. Enter the unit of measurement in the “Unit name” field
- Measurement accuracy – select the number of digits after decimal point to display. Possible values: 0, 1
- Minimum threshold – enter the minimum value of the measured parameter
- Maximum threshold – enter the maximum value of the measured parameter
- Sound notification of exceeding thresholds - tick the box if a sound notification is needed when the value is below the minimum threshold or when the maximum threshold is exceeded

Configure the parameter display on screen as shown in the figure:

Press the “Save” button.

Stationary tank with four fuel level sensors

In this case, we look at monitoring fuel volume in a stationary tank when several fuel level sensors are installed. The Omnicomm ICON display is used to monitor the remaining fuel in the container.

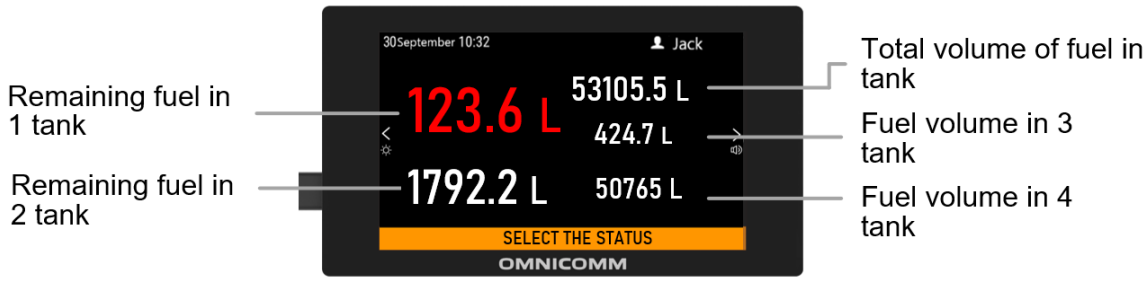


Use:

When used only with the Omnicomm LLS fuel level sensors

When used together with a terminal

Use Cases



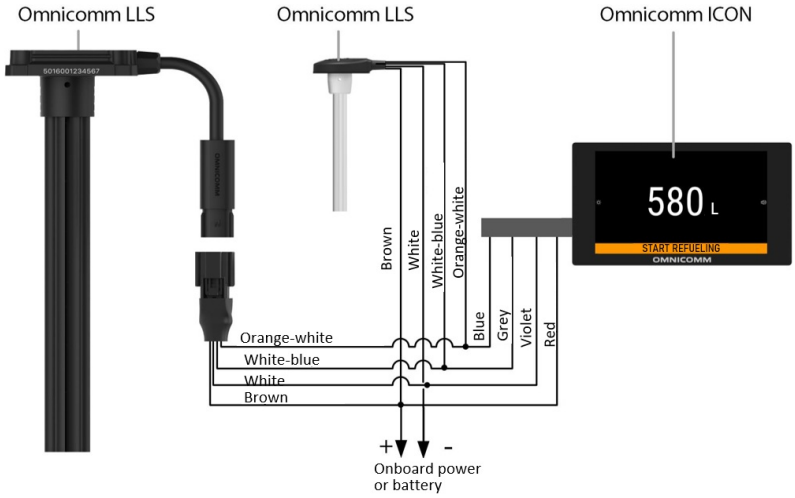
If the fuel volume goes below the threshold value, the amount of remaining fuel will be highlighted in red and a sound notification will ring.

Equipment:

- Omnicomm LLS 5 fuel level sensors
- Omnicomm ICON Display
- On-board terminal

Connection:

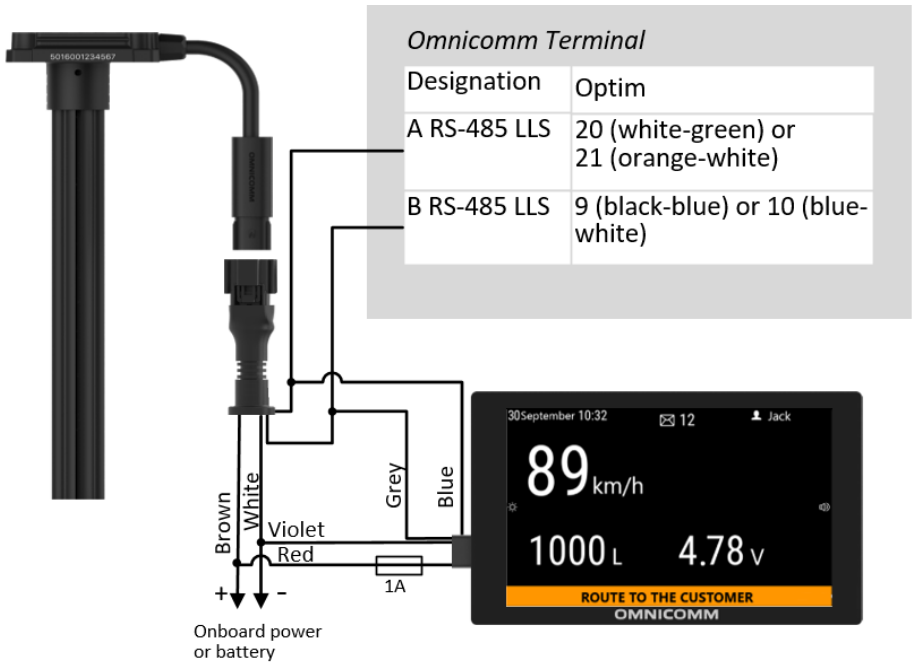
Connection to the Omnicomm LLS fuel level sensors



Connection to the terminal

The diagram example of equipment connection is given for the Omnicomm Optim terminal. To connect to an Omnicomm terminal of a different model, see diagrams in the Connection section.

Use Cases



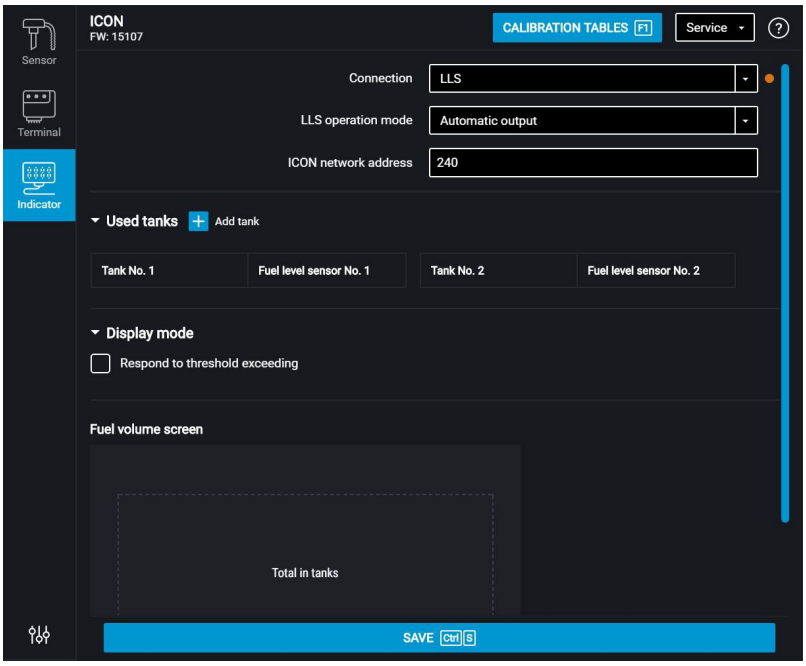
Several Omnicomm LLS fuel level sensors can be connected side-by-side via the RS-485 interface.

Settings:

The configuration of the Omnicomm LLS 5 fuel level sensor is performed according to the sensor's user manual.

ICON display configuration when used only with the Omnicomm LLS fuel level sensors

Omnicomm ICON display supports up to 4 fuel tanks. The maximum number of Omnicomm LLS fuel level sensors is 4.



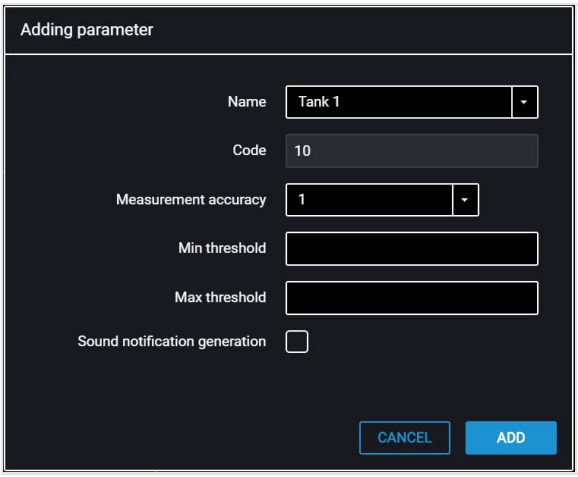
Use Cases

ICON display configuration when used together with a terminal

Run Omnicomm Configurator.

Select equipment – Indicator.

Add the parameters “Tank 1”, “Tank 2”, “Tank 3”, “Tank 4”, “Total in tanks” to the screen.

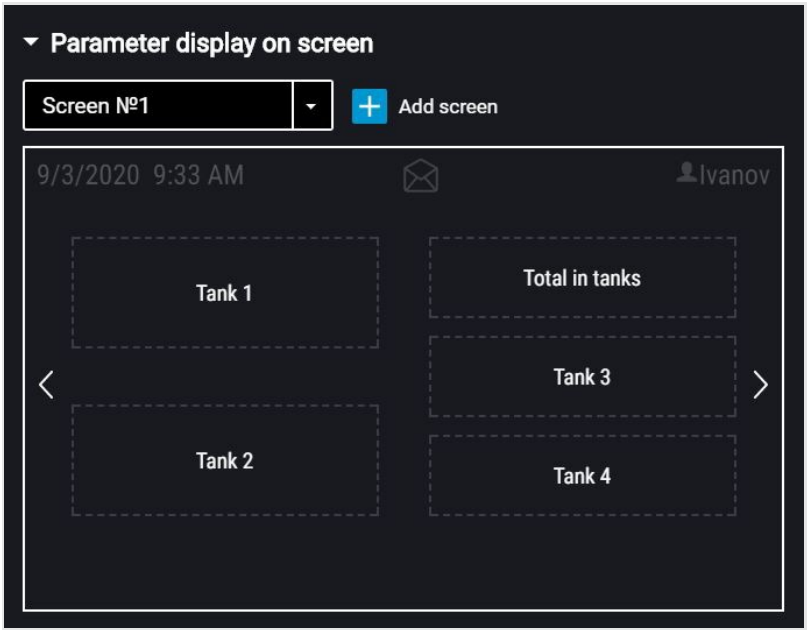


When adding the parameters, specify the following values:

- Units of measurement – units of measurement for the parameter. Select the units of measurement from the list or add your own by selecting “Other”. Enter the unit of measurement in the “Unit name” field
- Measurement accuracy – select the number of digits after decimal point to display
- Minimum threshold – enter the minimum value of the measured parameter
- Maximum threshold – enter the maximum value of the measured parameter
- Sound notification of exceeding thresholds - tick the box if a sound notification is needed when the value is below the minimum threshold or when the maximum threshold is exceeded

Configure the parameter display on screen as shown in the figure:

Use Cases



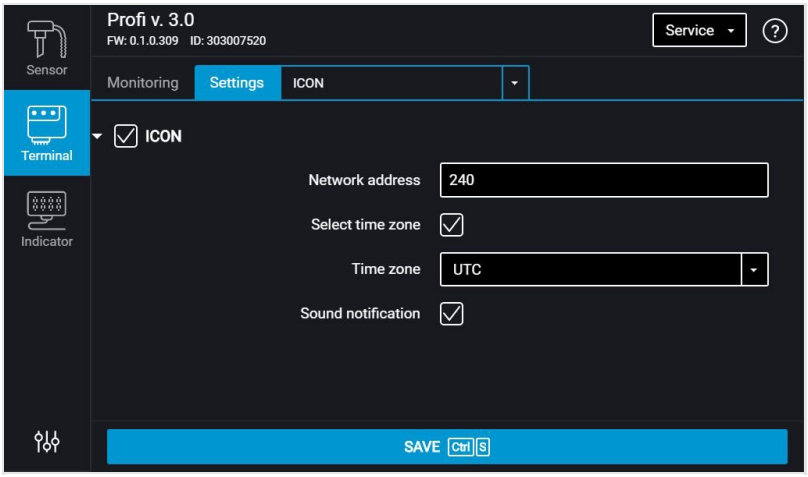
Press the “Save” button.

Terminal configuration

Run Omnicomm Configurator.

Select equipment – Terminal.

In the “Settings” tab select the “ICON” section from the list.



“ICON” – check the box to display the data from the terminal on the Omnicomm ICON display

- “Network address” – select the display network address. Possible values: from 7 to 254
- “Select the time zone” - check the box to select your time zone relative to UTC. The time zone value is used when an automatic registration of time zones is not required

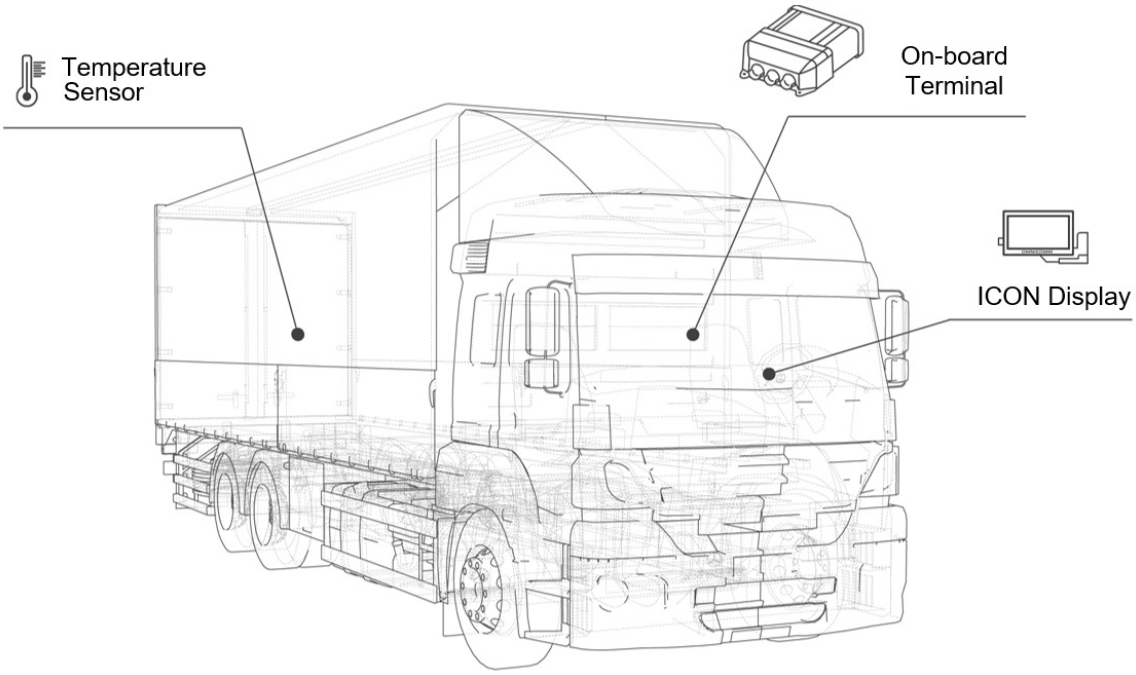
“Time zone” – select the time zone

Use Cases

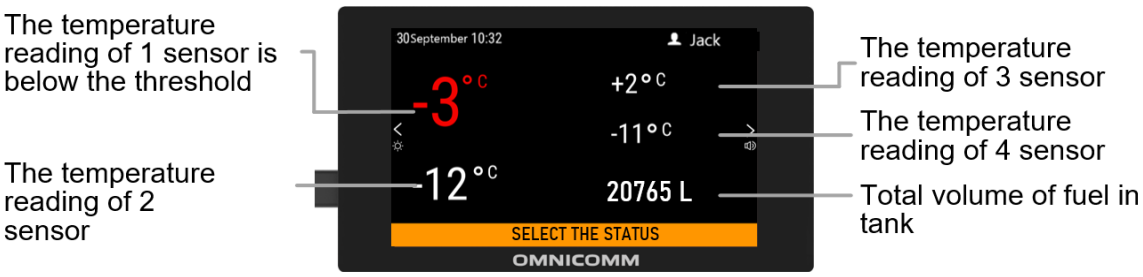
- “Sound notification” - check the box to enable sound notifications when the terminal registers a new event, as specified during the terminal's setup

Refrigerator with temperature sensors

In this case, we look at monitoring vehicles carrying food products that have strict requirements for temperature conditions during transportation and storage. The Omnicomm ICON display is used to monitor the temperature in the refrigerator sections and the fuel remaining in the tank with the help of temperature sensors and an LLS fuel level sensor.



Use:



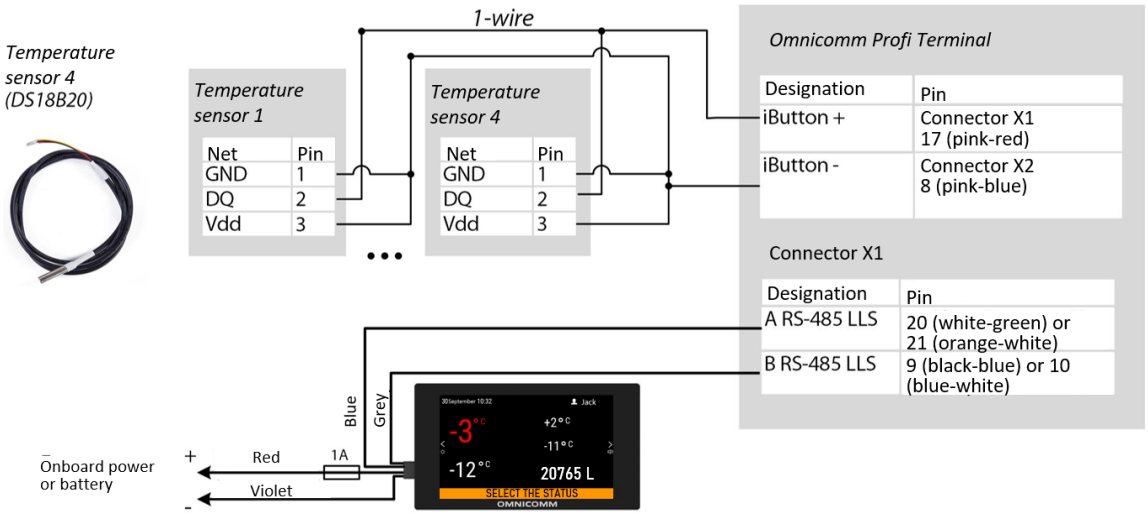
Equipment:

- Omnicomm terminal
- Omnicomm ICON Display
- Temperature sensors

Connection:

Use Cases

The diagram example of equipment connection is given for the Omnicomm Profi terminal. The connection to other models of Omnicomm terminals is performed according to the terminals' user manuals.



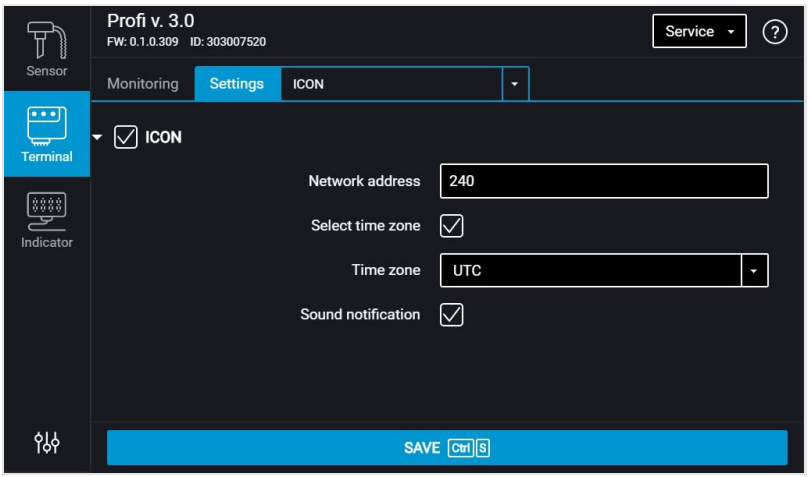
Configuration:

Omnicomm Terminal configuration

Run Omnicomm Configurator.

Select equipment – Terminal.

In the “Settings” tab select the “ICON” section from the list.



“ICON” – check the box to display the data from the terminal on the Omnicomm ICON display

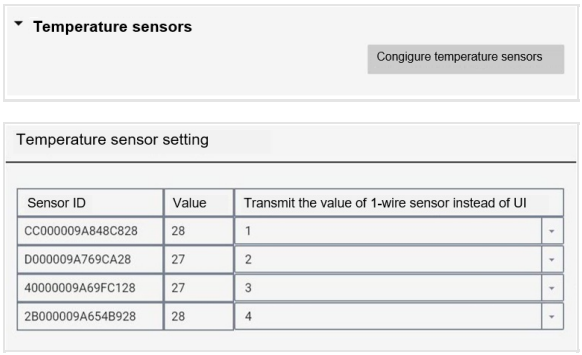
- “Network address” – select the display network address. Possible values: from 7 to 254
- “Select the time zone” - check the box to select your time zone relative to UTC. The time zone value is used when an automatic registration of time zones is not required

“Time zone” – select the time zone

- “Sound notification” - check the box to enable sound notifications when the terminal registers a new event, as specified during the terminal's setup

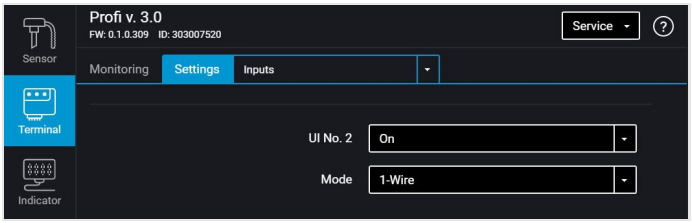
In the “Settings” tab, select the “Auxiliary equipment” section from the list.

In the “Temperature sensors” section, the temperature sensors connected to the 1-Wire interface are displayed:



“Transmit the value of 1-Wire sensor instead of UI” - select the number of the universal input for displaying the temperature values on Omnicomm Online.

In the **“Universal Inputs** section:



“Operation mode” – select 1-Wire.

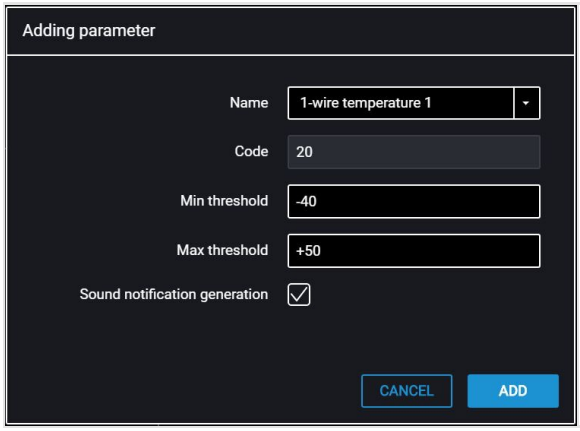
Omnicomm ICON display configuration

Run Omnicomm Configurator.

Select equipment – Indicator.

Add the parameters “1-wire temperature 1”, “1-wire temperature 2”, “1-wire temperature 3”, “1-wire temperature 4”, “Total in tanks” to the screen.

Use Cases



When adding the parameters, specify the following values:

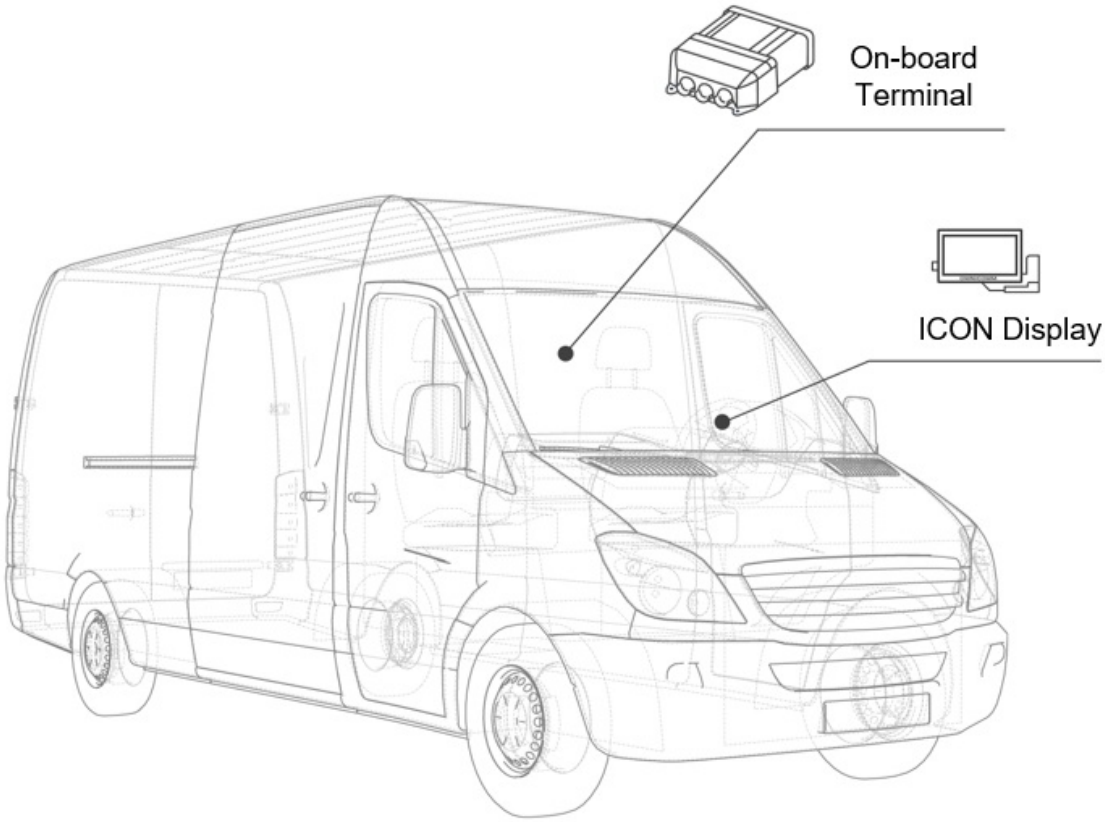
- Units of measurement – units of measurement for the parameter. Select the units of measurement from the list or add your own by selecting “Other”. Enter the unit of measurement in the “Unit name” field
- Measurement accuracy – select the number of digits after decimal point to display
- Minimum threshold – enter the minimum value of the measured parameter
- Maximum threshold – enter the maximum value of the measured parameter
- Sound notification of exceeding thresholds - tick the box if a sound notification is needed when the value is below the minimum threshold or when the maximum threshold is exceeded

Configure the parameter display on screen as shown in the figure:

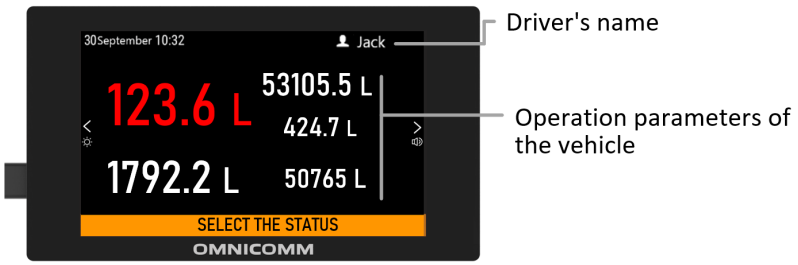
Press the “Save” button.

Vehicle fleet with driver identification

In this case, we look at vehicle monitoring. The Omnicomm ICON display provides driver identification via RFID cards. Two identification options are available: Applying or Retention of RFID cards. For identification through retention, you will need to acquire an RFID card holder.



Use:



When using a card that was not registered during the terminal configuration, access to the Omnicomm ICON display will be forbidden:

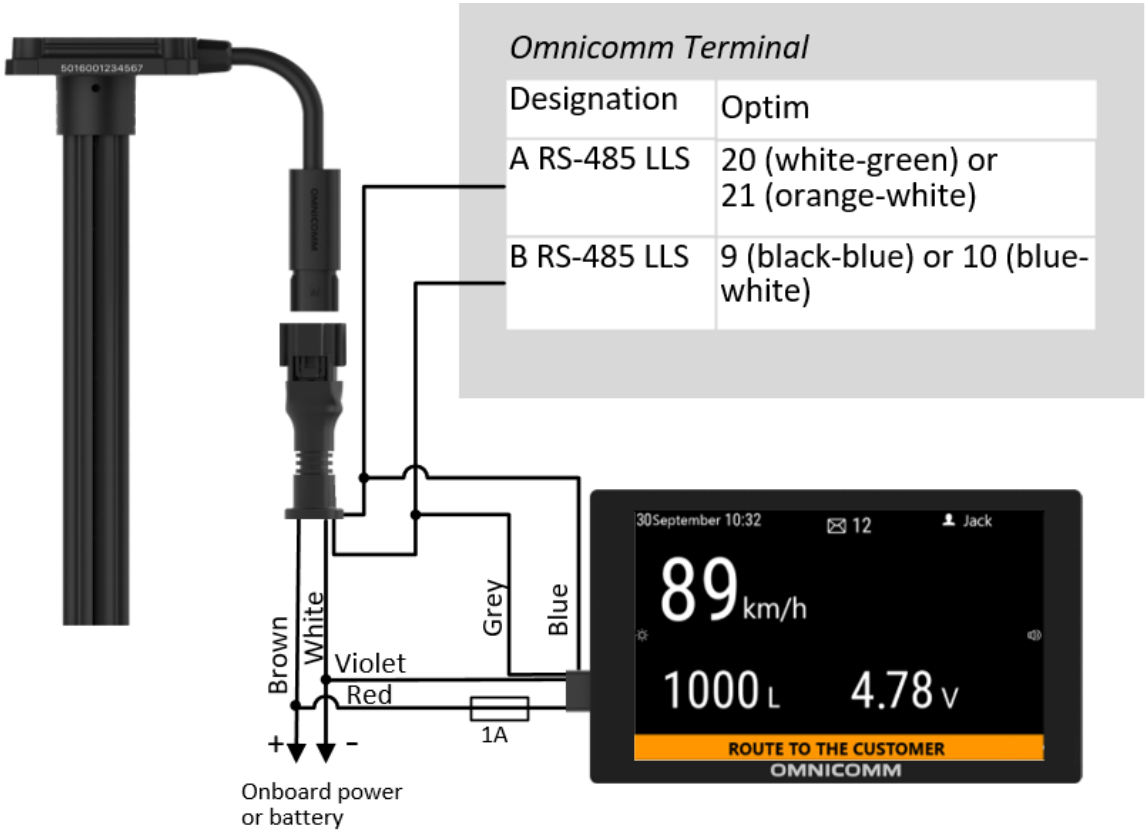
Use Cases

Equipment:

- Omnicomm ICON Display
- ID card
- On-board terminal

Connection:

The diagram example of equipment connection is given for the Omnicomm Optim terminal. To connect to an Omnicomm terminal of a different model, see diagrams in the Connection section.



Configuration:

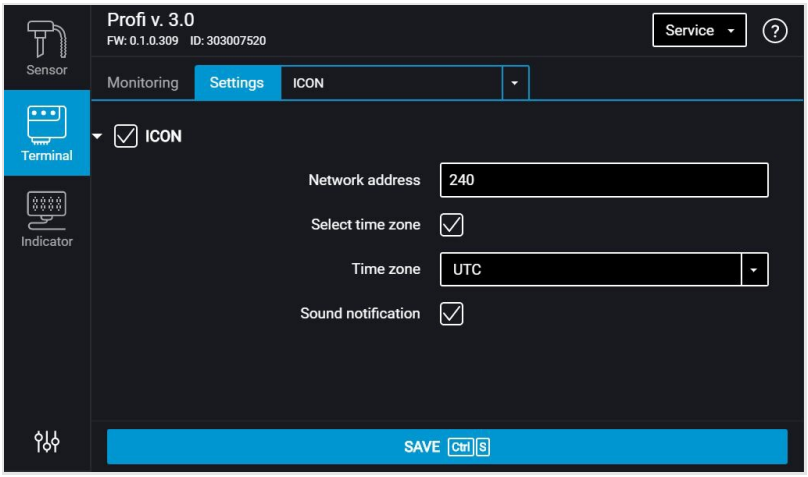
Omnicomm Terminal configuration

Use Cases

Run Omnicomm Configurator.

Select equipment – Terminal.

In the “Settings” tab select the “ICON” section from the list.



“ICON” – check the box to display the data from the terminal on the Omnicomm ICON display

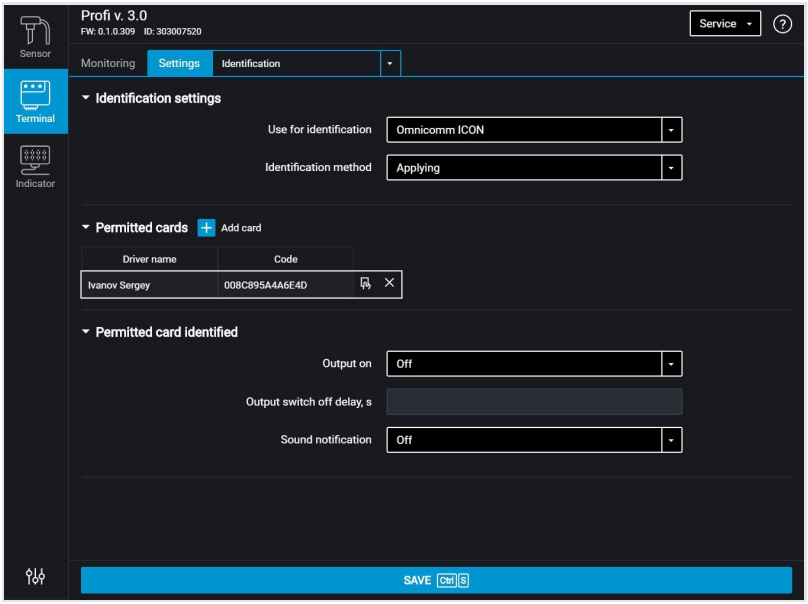
- “Network address” – select the display network address. Possible values: from 7 to 254
- “Select the time zone” - check the box to select your time zone relative to UTC. The time zone value is used when an automatic registration of time zones is not required

“Time zone” – select the time zone

- “Sound notification” - check the box to enable sound notifications when the terminal registers a new event, as specified during the terminal's setup

In the “Settings” tab select the “Identification” section from the list.

Use Cases



“Use for identification” – select the identification method “Omnicomm ICON”.

“Identification method” – select the method of identification. Possible options:

- “Applying” – the identification is performed when a card is applied for the period of time specified in the parameter “Key/card identification time”.
- “Retention” – identification is performed by holding the card on the reader. This method is applied for identification via Omnicomm ICON display using the cardholder.

“Card identification duration” – specify the time value when a card is applied, after which will be enabled the second digital output of the terminal. Possible values: from 0 to 60 seconds.

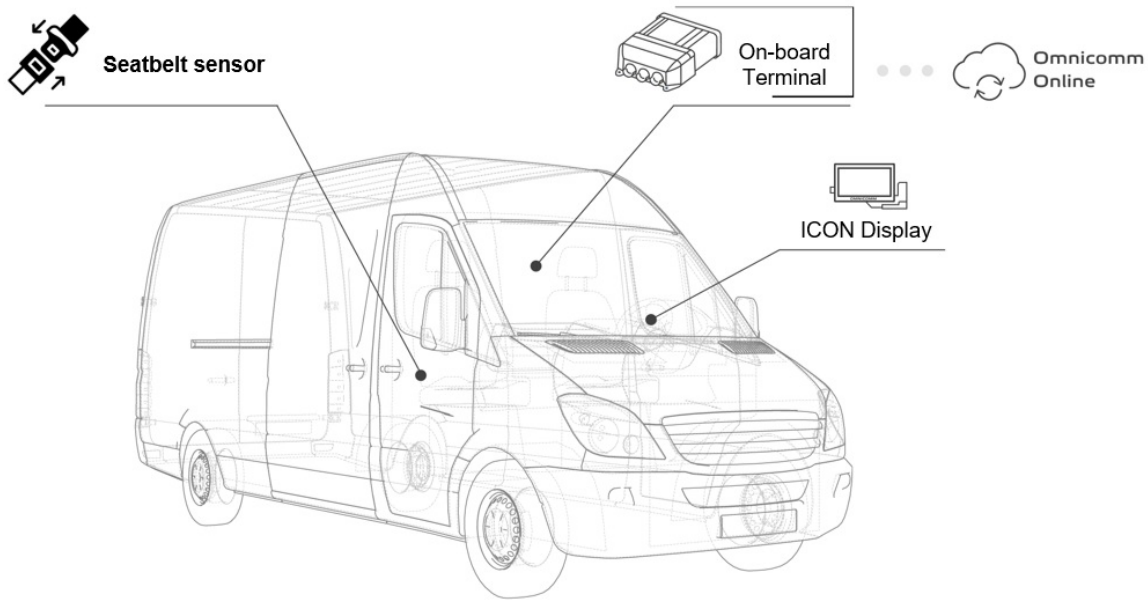
In the **“Permitted cards”** section, click on **“Add card”** and enter the numbers of the cards which, when applied, will turn on the second discrete output. For automatic reading of the card number, connect Omnicomm ICON display to the terminal, switch on the readout mode and apply card.

Enter the identification number of the RFID card without the last two digits.
For example, for the card no. 8C895A4A6E4D80 the number 8C895A4A6E4D is indicated.

Driving Safety Control

The Omnicomm ICON display is used in driving safety control:

- warning about an open door, unfastened seatbelt, headlights off, entering/leaving a geofence sent to the display
- synchronization of events with Safe Driving reports in Omnicommm Online



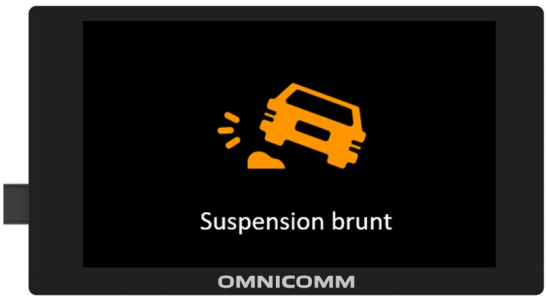
Use:

Driving safety control through the display:

Notification about an unfastened seatbelt and vehicle speed greater than the value specified during terminal configuration:

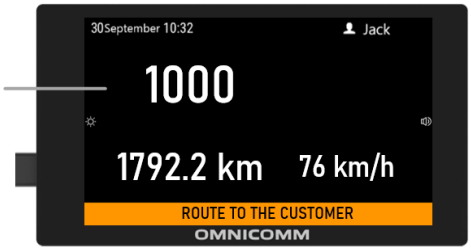
Notifications when the acceleration thresholds are exceeded (suspension deceleration - vertical acceleration; sharp braking - braking):

Use Cases



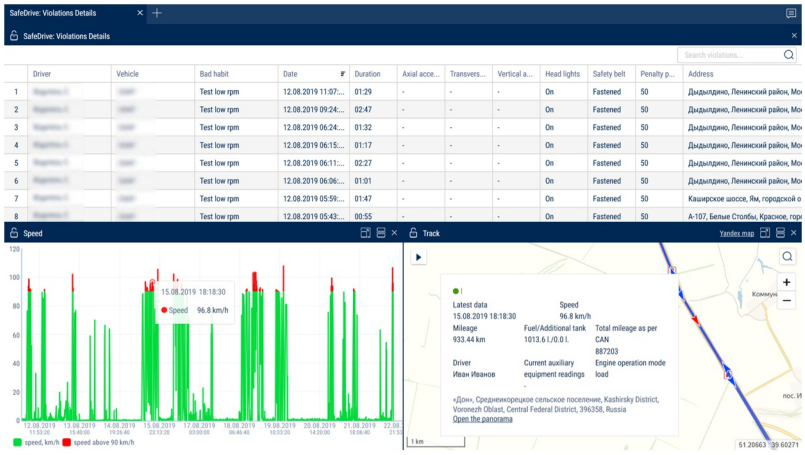
Universal input status on the Omnicomm ICON display:

Universal input value:
0 - unfastened belt
1000 - seatbelt fastened

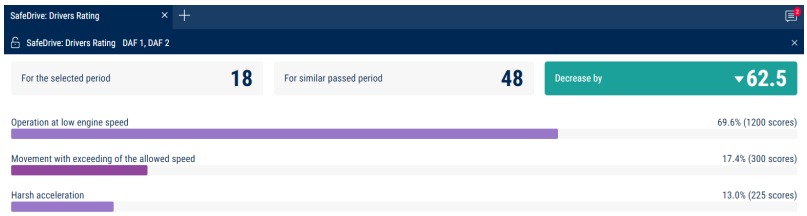


Driving safety control in Omnicomm Online reports:

The “SafeDrive: Violation details” report:



The “SafeDrive: Driver rating” report:



A detailed description of the reports can be found in the Omnicomm Online User Manual (see the "SafeDrive: Violation details" report and the "SafeDrive: Driver rating" report).

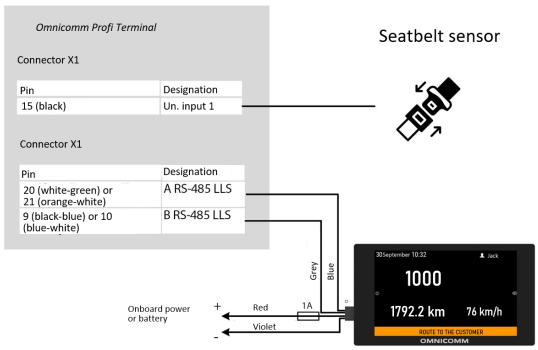
Use Cases

Hardware and software:

- Omnicomm terminal
- Omnicomm ICON Display
- Omnicomm Online

Connection:

Settings:

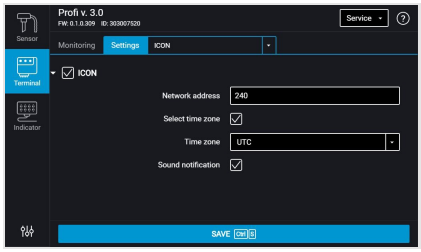


Omnicomm Terminal configuration

Run Omnicomm Configurator.

Select equipment – Terminal.

In the “Settings” tab select the “ICON” section from the list.



“ICON” – check the box to display the data from the terminal on the Omnicomm ICON display

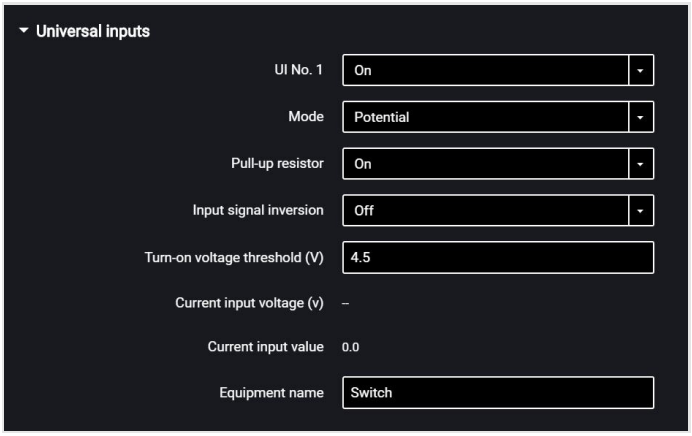
- “Network address” – select the display network address. Possible values: from 7 to 254
- “Select the time zone” - check the box to select your time zone relative to UTC. The time zone value is used when an automatic registration of time zones is not required

“Time zone” – select the time zone

- “Sound notification” - check the box to enable sound notifications when the terminal registers a new event, as specified during the terminal and display configuration.

In the **“Universal Inputs”** section:

Use Cases



“Universal input No. 1” – select “Enabled”.

“Operating mode” – select “Direct-current”.

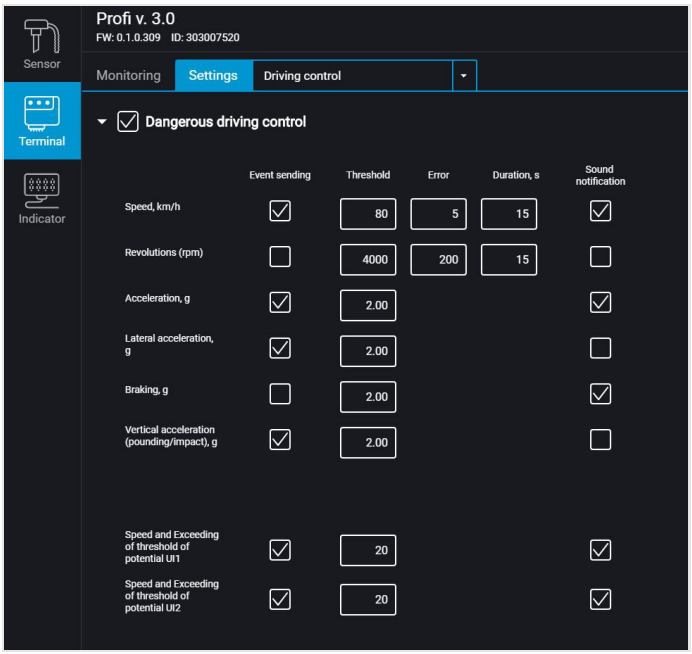
“ON voltage threshold” – set the value of voltage threshold after which the terminal will register the seatbelt fastening.

“Pull-up resistor” – select “Enabled” when working with “open collector”-type sensors or with dry contact sensors.

“Input signal inversion” – set “Enabled” for sensors with default open contacts or for contacts which close after the seatbelt is fastened.

“Equipment name” – enter the monitored parameter name. For example, Seatbelt.

In the **“Driving control”** section:



“Speed and Exceeding of threshold of potential UI1”:

Threshold - enter the threshold value which, if exceeded, will trigger the registration of a

fastened/unfastened seatbelt event.

> The notification for the event "Speed and Exceeding of threshold of potential UI1, UI2" is generated only when the selected speed source for the terminal is "GPS" (see Omnicomm terminals 3.0. User Manual. The "Selection of Speed Source" section).

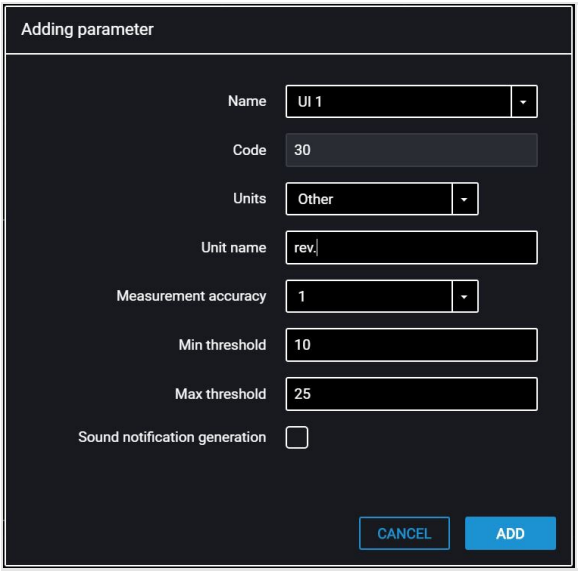
To set up notifications for suspension impact and sudden braking, specify the threshold values of vertical acceleration and breaking.

Omnicomm ICON display configuration

Run Omnicomm Configurator.

Select equipment – Indicator.

Add the parameters “UI 1”, “Mileage”, “Speed” to the screen.



When adding the parameters, specify the following values:

- Units of measurement – units of measurement for the parameter. Select the units of measurement from the list or add your own by selecting “Other”. Enter the unit of measurement in the “Unit name” field.
- Measurement accuracy – select the number of digits after decimal point to display.
- Minimum threshold – enter the minimum value of the measured parameter
- Maximum threshold – enter the maximum value of the measured parameter
- Sound notification of exceeding thresholds - tick the box if a sound notification is needed when the value is below the minimum threshold or when the maximum threshold is exceeded.

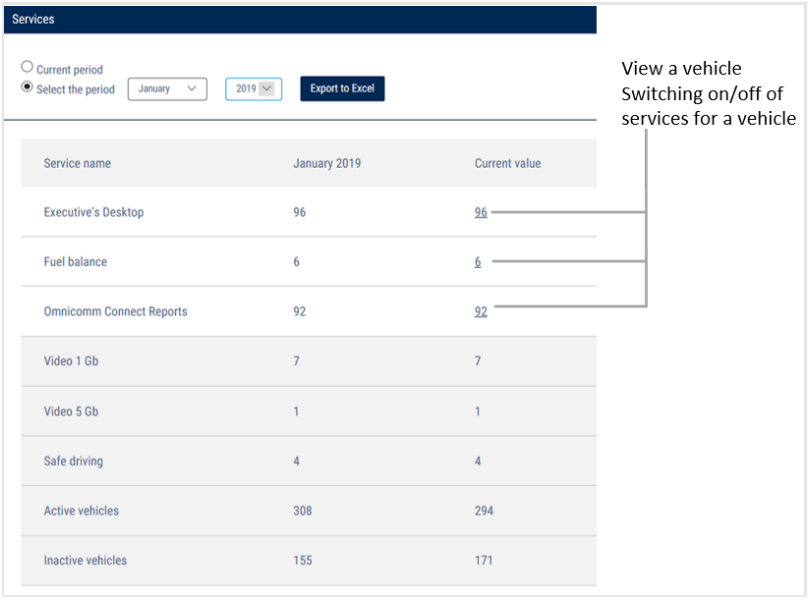
Use Cases

Configure the parameter display on screen as shown in the figure:

Press the “Save” button.

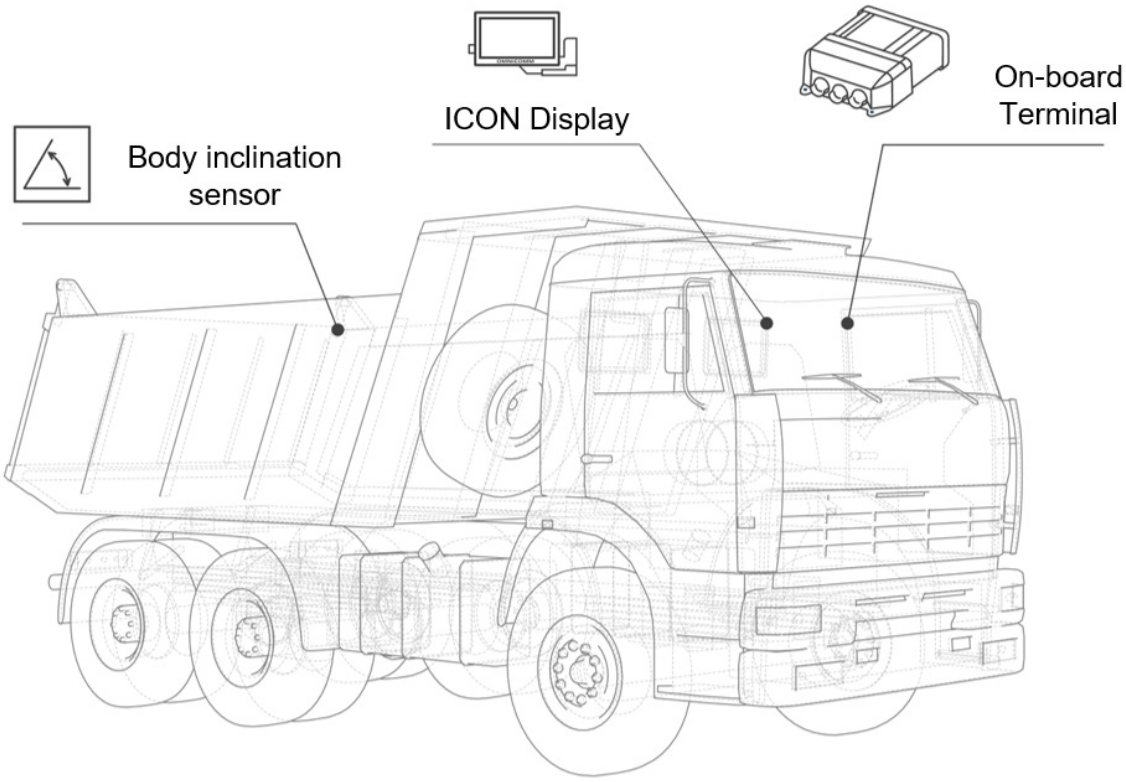
Settings in Omnicomm Online

- Open the browser and enter the address http://online.omnicomm.ru. Enter your login and password in the window that opens
- Enable the “Safe driving” service for the vehicle
- Select the vehicle or the driver
- Select the time period for report generation



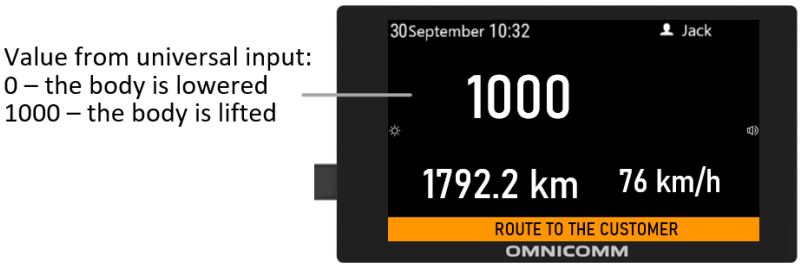
Construction Machinery

The Omnicomm ICON display allows you to control a wide range of construction equipment, such as the position of the dozer blade or tractor attachments, or the speed of the cement mixer. In this case, let's look at the monitoring of the position of a dump truck body and the rotations of a cement mixer truck.



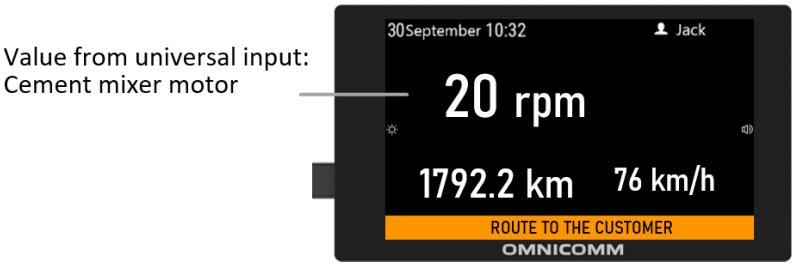
Use:

The dump truck body position shown on the display:



The rotations of a cement mixer truck shown on the display:

Use Cases

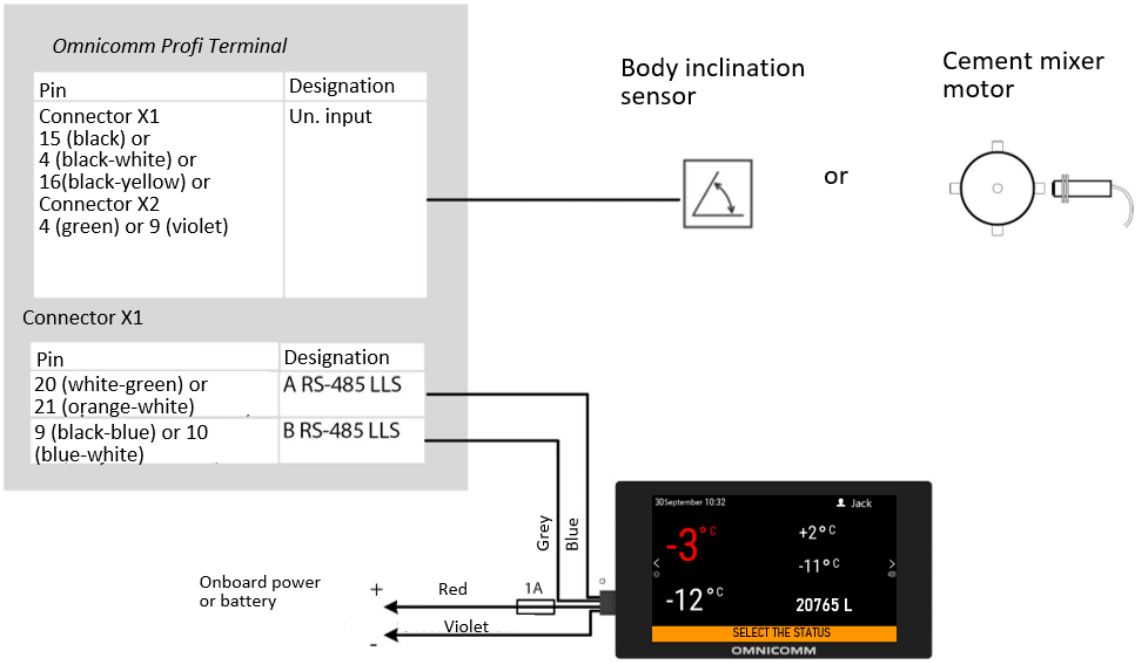


Equipment:

- Omnicomm terminal
- Omnicomm ICON Display

Connection:

The diagram example of equipment connection is given for the Omnicomm Profi terminal. To connect to an Omnicomm terminal of a different model, see diagrams in the Connection section.



Settings:

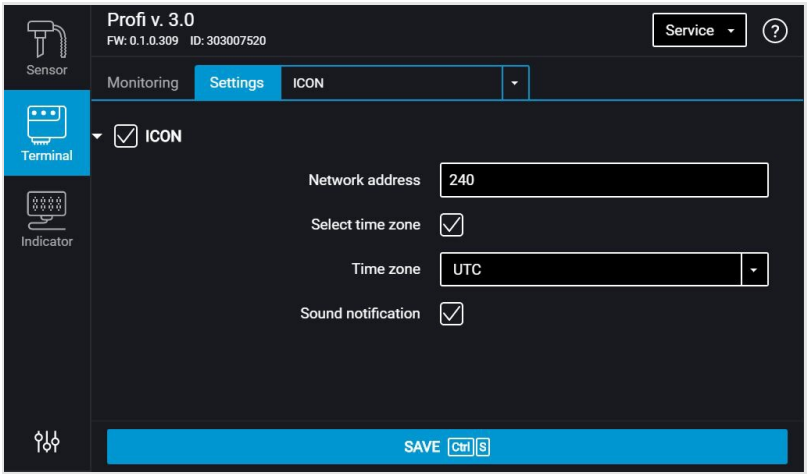
Omnicomm Terminal configuration

Run Omnicomm Configurator.

Select equipment – Terminal.

In the “Settings” tab select the “ICON” section from the list.

Use Cases



“ICON” – check the box to display the data from the terminal on the Omnicomm ICON display

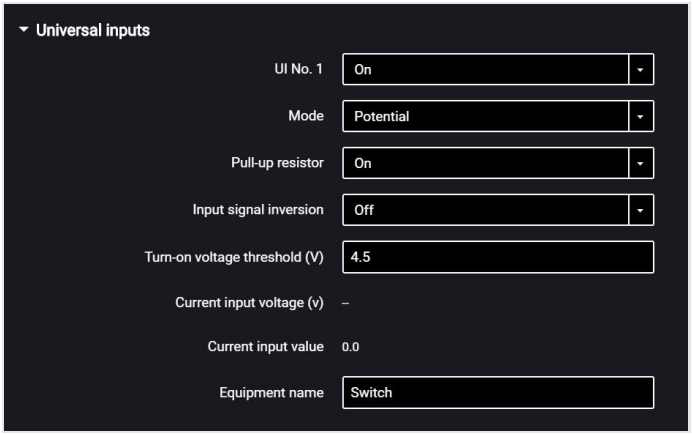
- “Network address” – select the display network address. Possible values: from 7 to 254
- “Select the time zone” - check the box to select your time zone relative to UTC. The time zone value is used when an automatic registration of time zones is not required

“Time zone” – select the time zone

- “Sound notification” - check the box to enable sound notifications when the terminal registers a new event, as specified during the terminal's setup

In the **“Universal Inputs”** section:

- • Universal input configuration when connecting to a body tilt sensor:



“Universal input No. 1” – select “Enabled”.

“Operating mode” – select “Direct-current”.

“ON voltage threshold” – set the value of voltage threshold after which the terminal will register truck body lifting.

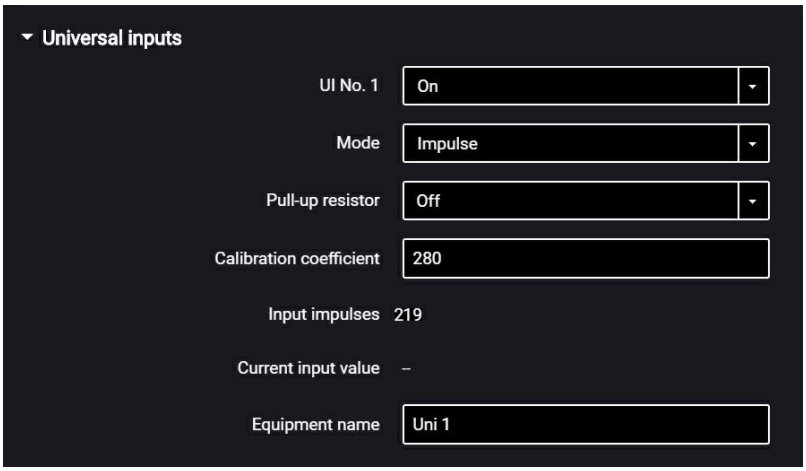
“Pull-up resistor” – select “Enabled” when working with “open collector”-type sensors or with dry contact sensors.

“Input signal inversion” – set “Enabled” for sensors with default open contacts or for contacts which close after the truck body is lifted.

“SMS sending upon triggering” – select “Enabled” to send an SMS when the truck body is lifted.

“Equipment name” – enter the monitored parameter name. For example, Body.

- Universal input configuration when connecting to a cement mixer motor:



“Universal input” – select “Enabled”.

“Operating mode” – select “Pulse”.

“Equipment name” – enter the monitored parameter name.

“Pull-up resistor” – select “Enabled” when working with “open collector”-type sensors or contact sensors.

“Coefficient of pulse input calibration” – enter the calibration factor for converting the number of pulses to the determined physical quantity.

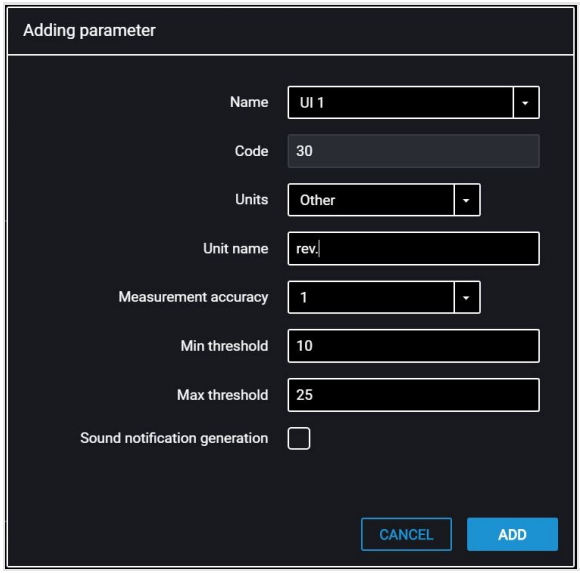
Omnicomm ICON display configuration

Run Omnicomm Configurator.

Select equipment – Indicator.

Add the parameters “UI 1”, “Engine hours”, “Mileage” to the screen.

Use Cases



When adding the parameters, specify the following values:

- Units of measurement – units of measurement for the parameter. Select the units of measurement from the list or add your own by selecting “Other”. Enter the unit of measurement in the “Unit name” field
- Measurement accuracy – select the number of digits after decimal point to display
- Minimum threshold – enter the minimum value of the measured parameter
- Maximum threshold – enter the maximum value of the measured parameter
- Sound notification of exceeding thresholds - tick the box if a sound notification is needed when the value is below the minimum threshold or when the maximum threshold is exceeded

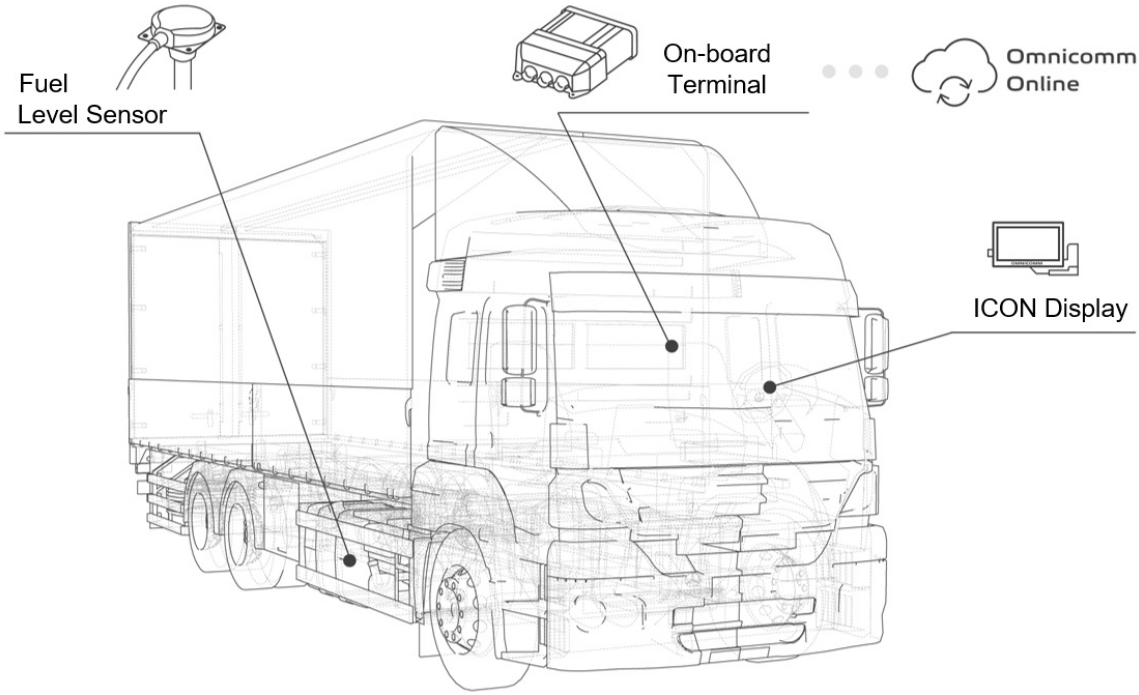
Configure the parameter display on screen as shown in the figure:

Use Cases

Press the “Save” button.

Driver Statuses in Omnicomm Online

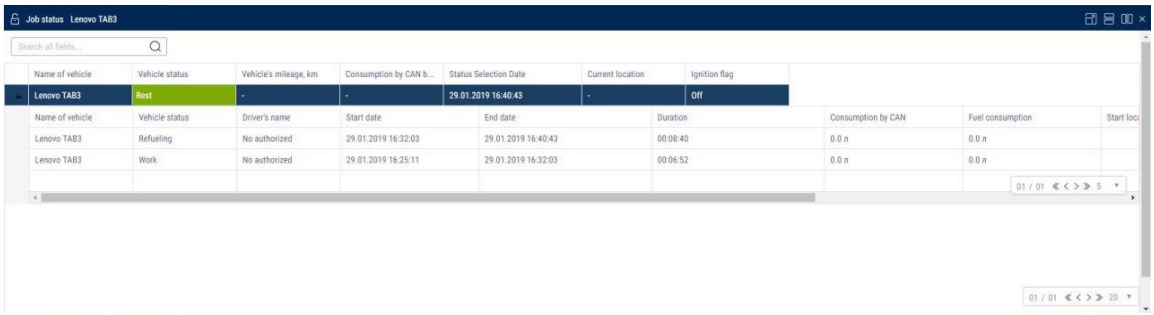
In this case, we look at monitoring driver activity through statuses. On the Omnicomm ICON display, the driver can set a status that corresponds to the activity that is being carried out. To analyze a driver's activity in Omnicomm Online, you can use the report “Task status”. Also, when the status changes, an SMS is sent to the dispatcher's number (indicated during terminal configuration). The Omnicomm ICON display supports up to 10 driver statuses.



Use:

- Open the browser and enter the address http://online.omnicomm.ru. Enter your login and password in the window that opens
- Select the vehicle or the driver
- Select the time period for report generation
- Press the “Add report” button and select “Task status”

Use Cases



The report contains the following information on statuses for the report period:

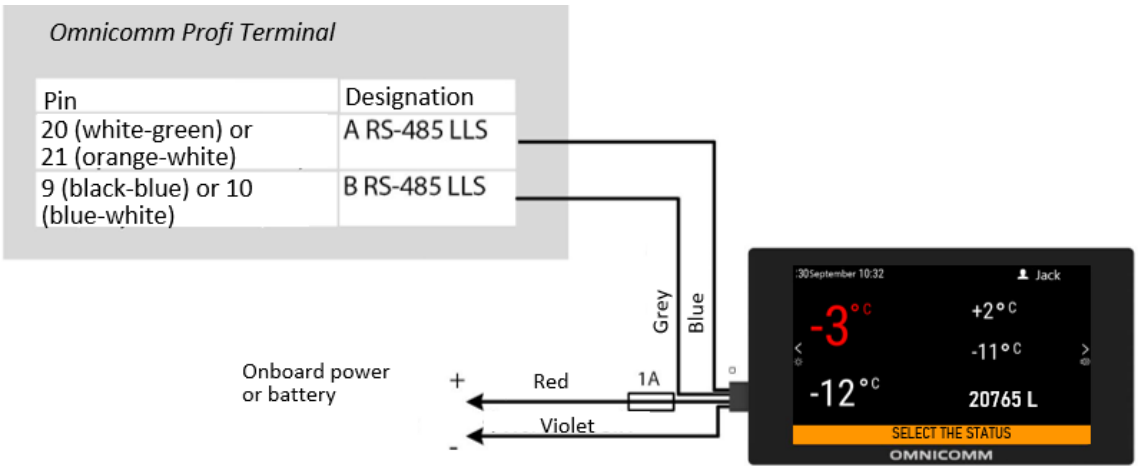
- Driver's name
- Date when the status became effective
- Status expiry date
- Duration of the status
- Fuel consumption per CAN, l
- Fuel consumption, l
- Location where the status became effective
- Status expiry location
- Mileage at the beginning of status activation
- Mileage at status expiry
- Mileage during the period of status activation as per CAN, km
- Mileage during the period of status activation according to GPS, km

Equipment:

- Omnicomm terminal
- Omnicomm ICON Display

Connection:

Use Cases



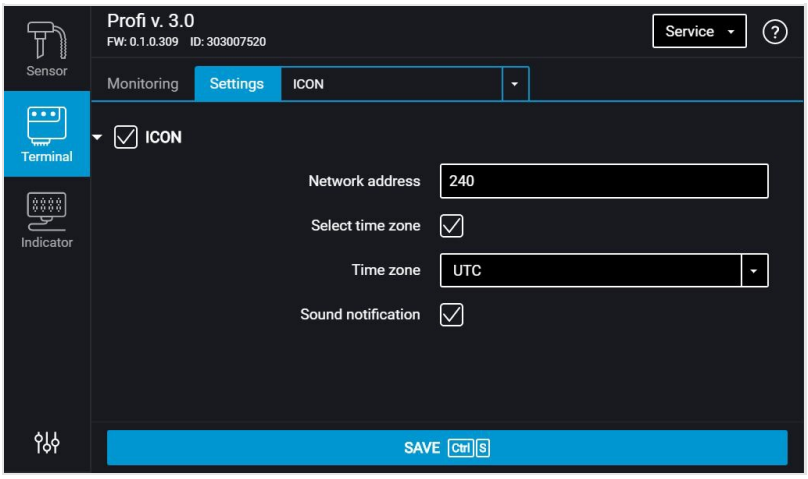
Settings:

Omnicomm Terminal configuration

Run Omnicomm Configurator.

Select equipment – Terminal.

In the "Settings" tab select the "ICON" section from the list.



"ICON" – check the box to display the data from the terminal on the Omnicomm ICON display

- "Network address" – select the display network address. Possible values: from 7 to 254
- "Select the time zone" - check the box to select your time zone relative to UTC. The time zone value is used when an automatic registration of time zones is not required

"Time zone" – select the time zone

Use Cases

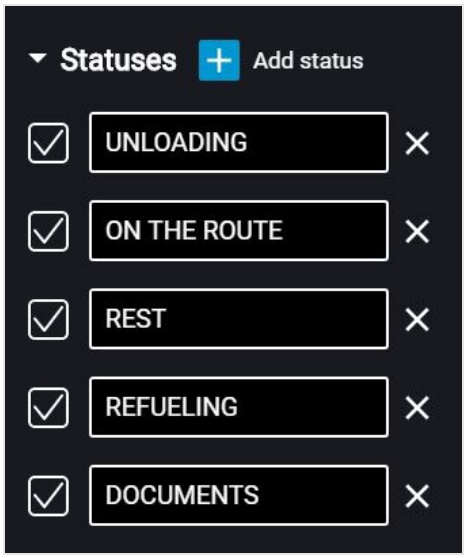
- “Notify about status changes via SMS” - check the box to send a notification to the dispatcher's number when the driver's status changes. The notification will contain the driver's new status.
- “Sound notification” - check the box to enable sound notifications when the terminal registers a new event, as specified during the terminal and display configuration.

Omnicomm ICON display configuration

Run Omnicomm Configurator.

Select equipment – Indicator.

In the “Statuses” section:

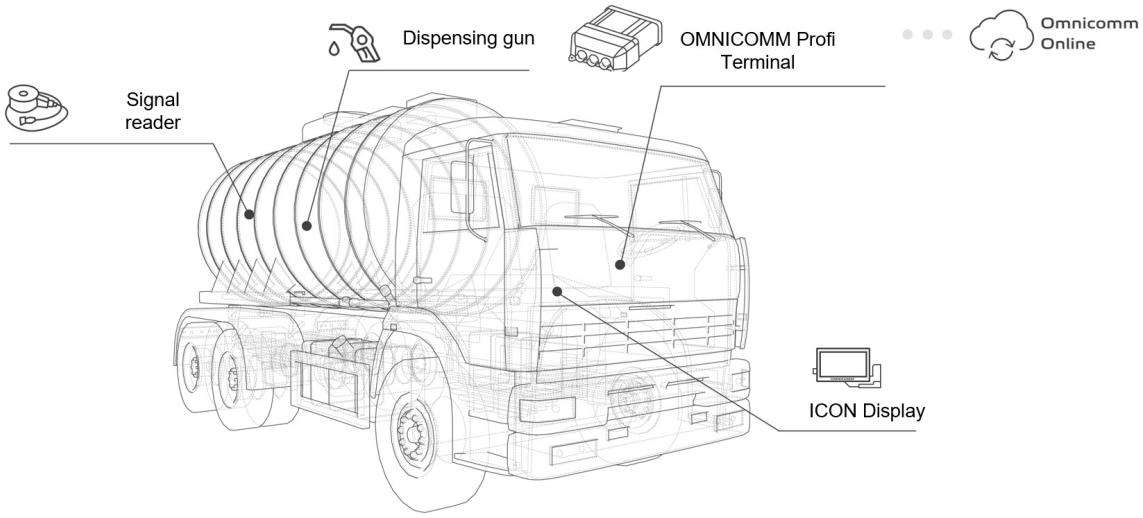


Press “Add status”.

Enter the status in words and press the “Write to device“ button.

Monitoring dispensing operations in Omnicomm Online

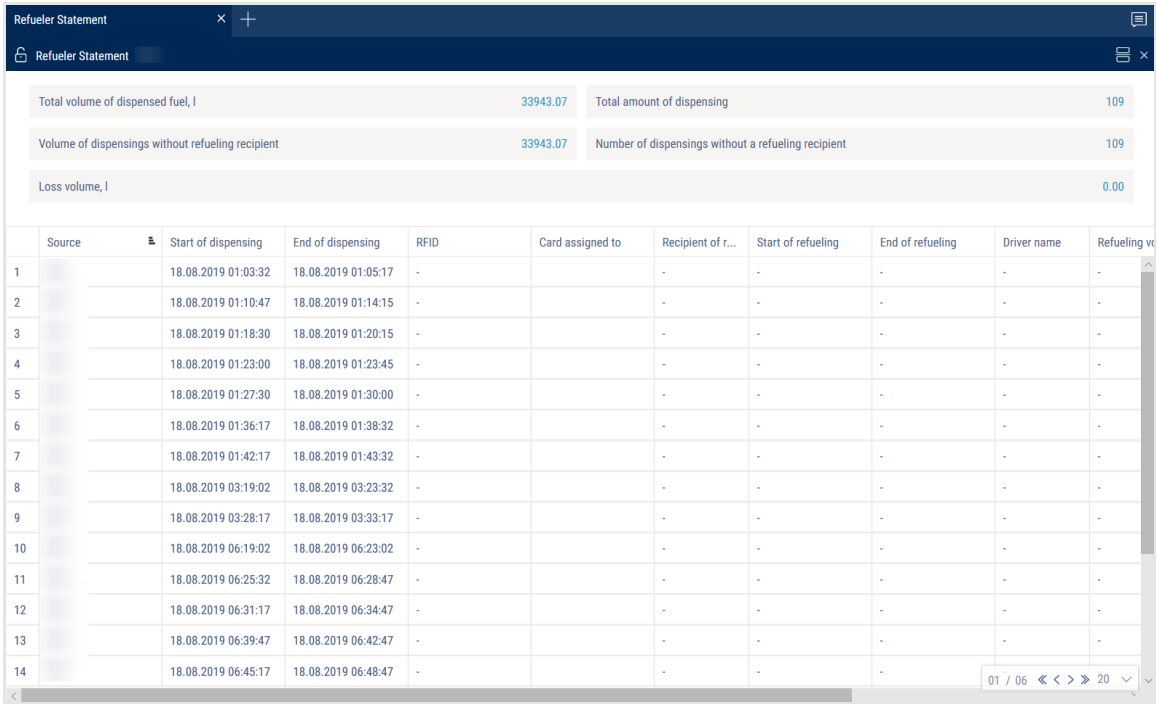
In this case, we look at monitoring fuel dispensing by a fuel tanker using the report “Refueler Statement” in Omnicomm Online. Before refueling, the driver applies the RFID card to the ICON display. Omnicomm Online will register a fuel dispensing event linked to the driver or the vehicle.



Use:

- Open the browser and enter the address http://online.omnicomm.ru. Enter your login and password in the window that opens
- Select the vehicle or the driver
- Select the time period for report generation
- Press the “Add report” button and select “Refueler Statement”

Use Cases



The report contains the following information:

- Dispensing source - name of the fuel tanker
- Start of dispensing - date and time of the start of the fuel dispensing operation
- End of dispensing - date and time of the end of the fuel dispensing operation
- RFID – the number of the RFID card applied at the fuel tanker:

  no earlier than 60 seconds before the start of fuel dispensing

  within the allowed interval of time for fuel dispensing set in the vehicle profile (see Administration Guide. Omnicomm Online)

  before the RFID card is removed

- Card assigned - full name of the key holder
- Receiver - name of the vehicle that is being refilled
- Refueling start - date and time of the start of refueling
- Refueling end - date and time of the end of refueling
- Match type - the method used to match the source of dispensing and the refueled vehicle. Possible options: coordinates and time, iButton key, RFID card, fuel card, document.

Use Cases

- Driver's name - full name of the driver of the refueled vehicle. The driver's name is displayed depending on the type of match:

  iButton key, RFID card - full name of the key or card holder

  coordinates and time - full name of the driver registered on the refueled vehicle

- Refueling volume - the volume of the fuel filled in the vehicle
- Dispensing volume - the volume of the fuel dispensed by the fuel tanker
- Deviation, l - the difference between the refilled volume and the dispensed volume in liters
- Deviation, % - the difference between the refilled volume and the dispensed volume in percentage
- Refueling source address - the address at which the start of fuel dispensing was recorded
- Refueling receiver address - the address at which the start of vehicle refueling was recorded
- Source group - a group of vehicles to which the fuel tanker belongs
- Receiver group - a group of vehicles to which the refueled vehicle belongs

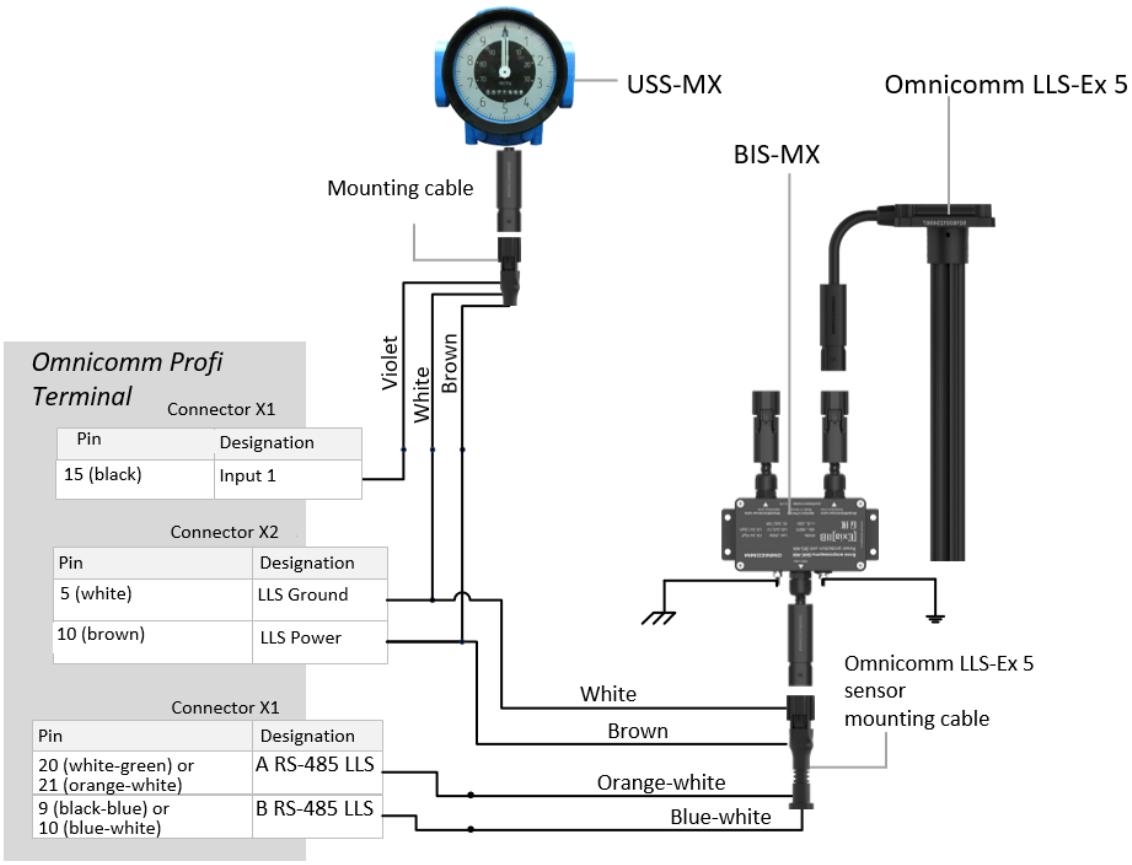
The data on the refueled vehicle (receiver) will be displayed only if the driver, who applied the RFID card, is registered on the vehicle (receiver). Driver registration can be done in Omnicomm Online or using the Omnicomm ICON display installed on the vehicle (receiver).

Equipment:

- Omnicomm Profi terminal
- Omnicomm LLS-Ex 5 Fuel level sensors
- BIS-MX Spark protection unit
- Omnicomm ICON Display
- Omnicomm Online

Connection:

Use Cases



Settings:

The configuration of the Omnicomm LLS-Ex 5 fuel level sensor is performed according to the sensor's user manual.

The BIS-MX spark protection unit does not require configuration.

Omnicomm Profi terminal configuration

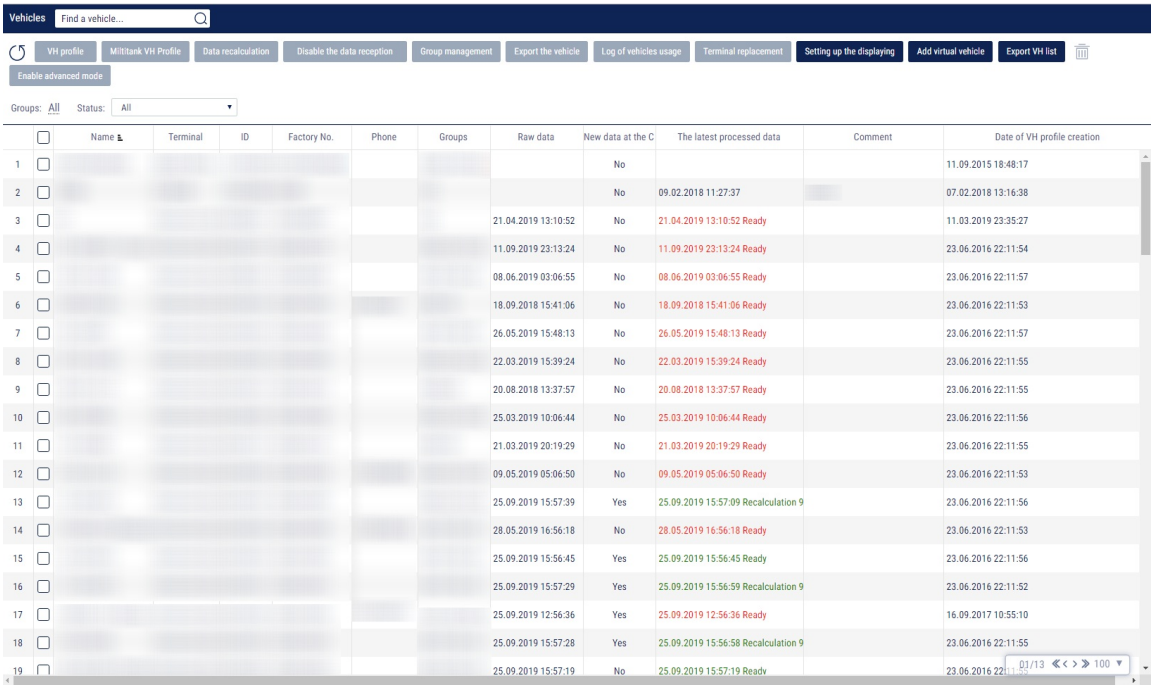
The terminal is configured similarly to the procedure for Monitoring the fuel tanker dispensing operations.

Settings in Omnicomm Online

Log in to Omnicomm Online.

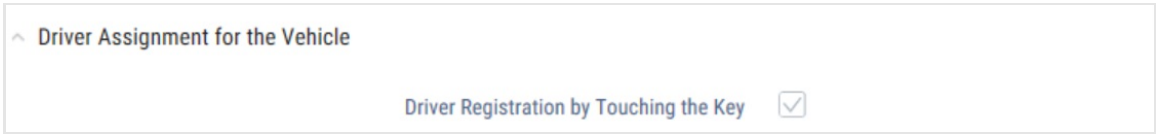
In the “Administration” section, open the “Vehicles” tab. A window will open:

Use Cases



Select “Fuel tanker” from the list and click the “Vehicle profile” button.

In the “Driver sign in on a vehicle” section:



“Driver sign in by tag reading” - uncheck the box to disable driver registration when an RFID card is applied at the fuel tanker.

OMNICOMM

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