OMNICOMM

# Omnicomm OBDII Terminal

User Manual

24.05.2019

# Contents

# Omnicomm OBDII Terminal

# General information

Omnicomm OBDII terminal is an on-board equipment designed to gather information on the vehicle parameters and transmit data to Omnicomm Online or a third-party fleet monitoring system.

Main functions:

- determining a vehicle's location, speed, and movement direction
- determining the current status of the vehicle through the OBDII connector
- driver sound alert
- VH impact logging
- driving safety control
- data storage in non-volatile memory
- transferring data to Omnicomm Online or to third-party software

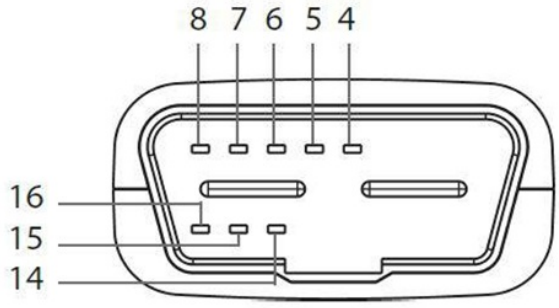
# Installation

## SIM Card Inserting

> Before SIM card inserting, disable PIN request at activation. To this end insert the card in any cell phone and disable PIN request, according to the cell phone operating instruction.
>
> If using commands in SMS messages, enable the Short Message Service.

Insert the SIM card into the connector, contacts down, until it clicks.

# Connector Pin Assignment




| No. of pin | Designation |
|---|---|
| 4 | Vehicle body grounding |
| 5 | Signal grounding |
| 6 | CAN-High wire of the high-speed bus CAN Highspeed (ISO 15765-4, SAE-J2284) |
| 7 | K-Line (ISO 9141-2, ISO 14230) |
| 8 | Not used |
| 14 | CAN-Low wire of the high-speed bus CAN Highspeed (ISO 15765-4, SAE-J2284) |
| 15 | K-Line (ISO 9141-2, ISO 14230) |
| 16 | Battery power supply, +12 / + 24 V |

# Terminal Connection

Connect the terminal to the connector of vehicle's OBDII.

To achieve the high accuracy of VH geolocation and the faster search for satellites after turning on the ignition, the location of the OBDII terminals should ensure a good radio coverage of the horizon. If necessary, use an OBD extension cable.

# Setting Overview

Omnicomm terminals may be configured in three ways:

1. In the Omnicomm Configurator when the terminal is connected to a PC
2. In the Remote Configuration Server (RCS) – remotely
3. By SMS commands

# Default Settings

| Setting name | Default value | User manual section |
|---|---|---|
| Access point name (APN) | Not specified | GPRS Connection |
| Phone number | Not specified | GPRS Connection |
| “Login (APN)” and “Password (APN)” | Not specified | GPRS Connection |
| CS 1 IP address or domain name | cs.dc2.omnicomm.ru | Connection to Communication Servers |
| Port | 9977 | Connection to Communication Servers |
| Data collection timer | 30 sec | Data Collection |
| Operation mode with ignition off and power on | Collect data at jolting Collection all data is disabled | Data Collection |
| Data sending interval to CS in roaming | 60 min | Data Transmission to a Communication Server |
| Adaptive data collection at cornering | Enabled | Data Collection |
| Collecting data on the travelled distance | Enabled | Data Collection |
| Distance traveled | 100 m | Data Collection |

**Setting Overview**

| Setting name | Default value | User manual section |
|---|---|---|
| Coordinate drift filtering | Disabled | Data Collection |
| Data sending interval to CS in the home network | 2 min | Data Transmission to a Communication Server |
| GSM and SMS communication parameters | Disabled | Data Transmission to a Communication Server |
| Roaming parameters | Allowed | Data Transmission to a Communication Server |
| Data packet size to send to the CS in the home network | 300 kB | Data Transmission to a Communication Server |
| The criterion for the connection of the terminal to the CS | Data packet size to send to the CS | Data Transmission to a Communication Server |
| Data packet size to send to the CS in roaming | 300 kB | Data Transmission to a Communication Server |
| Data packet size to send to the CS in roaming | 300 kB | Data Transmission to a Communication Server |
| Ignition key status | Voltage<br>Threshold voltage - 13,5 V | Selection of Ignition Source |
| Vehicle speed | GPS | Selection of Speed Source |
| Engine RPM | OBD bus | Engine RPM |

**Setting Overview**

| Setting name | Default value | User manual section |
|---|---|---|
| Fuel level sensors | OBD bus<br>Fuel tank volume - 100 l | Fuel Level Sensors |
| Parameters of the internal battery | Disabled | Internal Battery |
| Password setting | Not set | Setting Password on Configuration Changing |
| Accelerometer | Disabled | Driving Safety Control |
| Safe driving. Speed | 80 | Driving Safety Control |
| Safe driving. Speed. Deviation | 5 | Driving Safety Control |
| Safe driving. Speed. Duration | 15 | Driving Safety Control |
| Safe driving. RPM | 4000 | Driving Safety Control |
| Safe driving. RPM. Deviation | 200 | Driving Safety Control |
| Safe driving. RPM. Duration | 15 | Driving Safety Control |
| Sound notification | Disabled | Driving Safety Control |
| Send SMS for selected events | Disabled | Driving Safety Control |
| Dangerous driving. Acceleration threshold | 0, 2 g | Driving Safety Control |
| Dangerous driving. Deceleration threshold | 0, 2 g | Driving Safety Control |

**Setting Overview**

| Setting name | Default value | User manual section |
|---|---|---|
| Dangerous driving. Lateral acceleration threshold | 0, 2 g | Driving Safety Control |
| Dangerous driving. Vertical acceleration threshold | 0, 4 g | Driving Safety Control |
| Accident. Acceleration threshold | 4 g | Driving Safety Control |
| Accident. Deceleration threshold | 4 g | Driving Safety Control |
| Accident. Lateral acceleration threshold | 4 g | Driving Safety Control |
| Accident definition | Disabled | Driving Safety Control |
| AUTOTILT | Disabled | Driving Safety Control |
| OBDII parameters | Not selected | OBD Bus |

# Primary Activation

Activate the OBDII terminal before the usage.

For terminal activation:

- set the owner's phone to the terminal using SMS command *pass tel +yyyyyyyyyy#

or

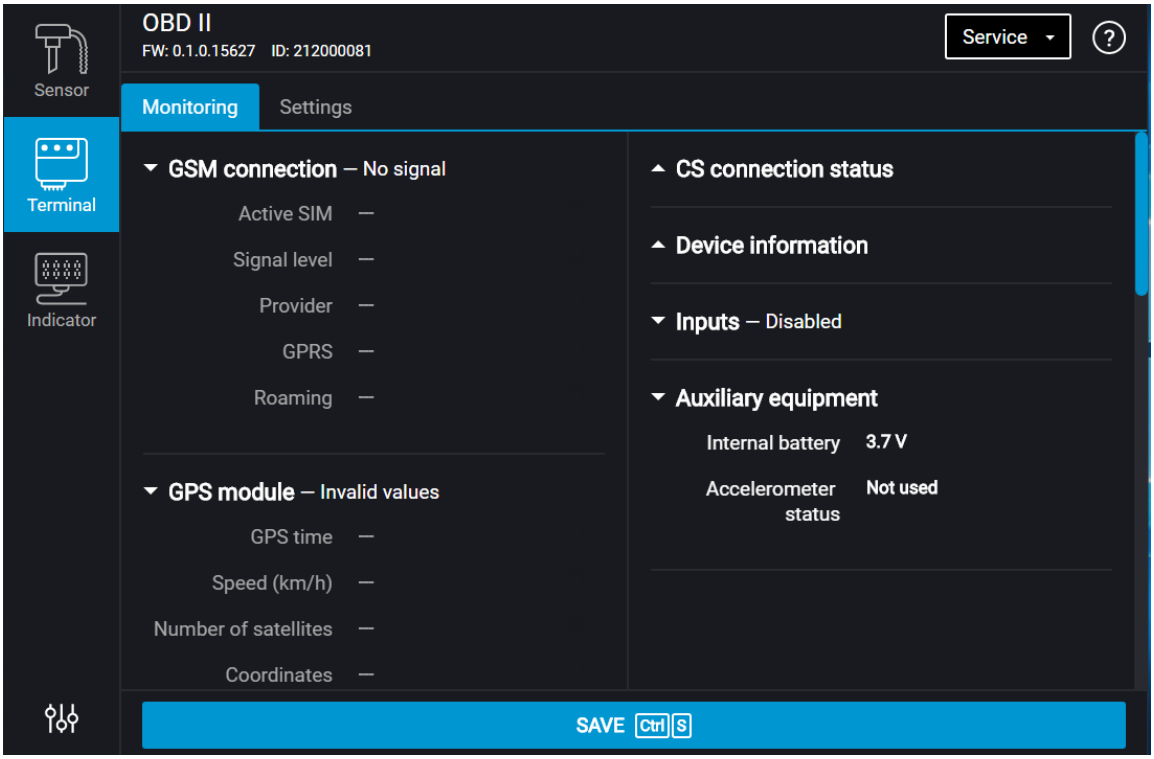
- switch on the usage of the internal battery and accelerometer in Omnicomm Configurator

Switch off the usage of the internal battery and accelerometer before long transportation and storage of the terminal.

# Omnicomm Configurator

1. Connect the terminal to a PC using a USB cable

2. Install and run Omnicomm Configurator. A window will open:




3. Select equipment – “Terminal”.

List of parameters shown in advanced mode only:

In the “Communication” section:

- Data acquisition and transmission blocking
- Communication Server No. 2 connection settings
- GSM and SMS communication parameters
- Roaming connection parameters
- Roaming parameters

In the “Auxiliary Equipment” section:

- Accelerometer parameters

In the “OBD” section:

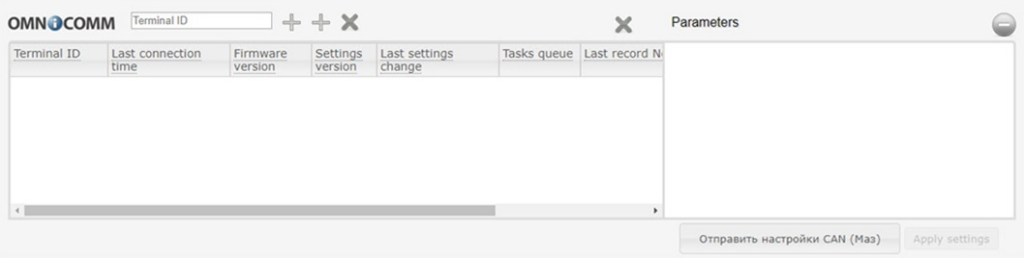
- Service IDs (SIDs) and parameter IDs (PIDs) defined by SAE J1979

The “Driving control” section.

> After setting OBDII to ensure IP52 protection, apply the OBDII protective sticker, including in the delivery set.

# Remote Configuration Server (RCS)

To connect to the configuration server, open the browser and in its address bar enter the address http://config.omnicomm.ru. A window will open:




To add terminals:

1. In the “Terminal ID” field enter the terminal identification number
2. In the “Password” field enter the password set in the terminal during its setting using Omnicomm Configurator
3. Press the “+” button

# SMS Commands

## Commands Format

> All commands sent not from the owner number, must start with a password.

1. The commands must be typed in Latin characters (case-insensitive)

2. Command parameters must be listed separated by space
3. Only one command must be send in one message
4. All system commands must start with a password
5. Primary terminal setting must start with the owner telephone setup with the use of Omnicomm Configurator or SMS

**Command format:**

| Command head | Password | Command | Command parameters | Command end |
|---|---|---|---|---|
| * | not-mandatory field | mandatory field | not-mandatory field | # |

Command example: *3245 channel sms#

| Command head | Password | Command | Command parameters | Command end |
|---|---|---|---|---|
| * | 3245 | channel | sms | # |

# System Commands

## Owner telephone number change

To setup or change the owner telephone number, the password will be required. Default password: 0000. The response is sent to the number which the command had been sent from.

| Command text in SMS | Comments | Example |
|---|---|---|
| ***pass tel +yyyyyyyyyy**# | pass — password<br>+yyyyyyyyyy is the new number (international format, 20 characters maximum) | *1234 tel +79099091122# |

**Setting Overview**

| Response to command | Comments |
|---|---|
| **tel changed** | telephone number was changed |
| Potential Errors | Comments |
| tel. Wrong pass | Wrong password |
| tel. Wrong number. Start from '+',⇐20digits | invalid number format |

## Changing Password

Password can be changed only from the owner telephone.

| Command text in SMS | Comments | Example |
|---|---|---|
| ***pass xxxx**# | xxxx — new password. Max 8 characters (Latin letters, numbers). Password is case-insensitive. Default value – 0000 | *pass 12345# |

| Response to command | Comments |
|---|---|
| **pass changed** | password was changed |
| Potential Errors | Comments |
| pass. Wrong owner number | invalid owner number |

**Setting Overview**

| Response to command | Comments |
|---|---|
| pass. Wrong pass. Only digits,⇐8digits | invalid password format |

## Changing Device Name

| Command text in SMS | Comments | Example |
|---|---|---|
| * **** **name NAME DEVICE**# | **** – password<br>DEVICE NAME – device name up to 20 characters no spaces (Latin letters, digits, symbols) | *1234 name SuperOBD_22# |

| Response to command | Comments |
|---|---|
| **name changed** | device name was changed |
| Potential Errors | Comments |
| name. Wrong pass | Wrong password |
| name. Wrong name. Only ASCII,⇐20 symbols | invalid name format |

## Setting Date and Time

| Command text in SMS | Comments | Example |
|---|---|---|
| * **** time DD-MM-YYYY HH:mm# | DD-MM-YYYY HH:mm – day / month / year / hours / minutes | *1234 time 21-07-2018 12:50# |

| Response to command | Comments |
|---|---|
| **time changed to DD-MM-YYYY HH:mm** | date and time were changed |
| Potential Errors | Comments |
| time. Wrong pass | Wrong password |
| time. Wrong args | invalid date and time format |

## Enabling/Disabling SMS Notifications

| Command text in SMS | Comments | Example |
|---|---|---|
| * **** **SMS on**#<br>* **** **SMS off**# | on — enabled<br>off — disabled | *1234 SMS on# |

| Response to command | Comments |
|---|---|
| **SMS on**<br>**SMS off** | on — enabled<br>off — disabled |

**Setting Overview**

| Response to command | Comments |
|---|---|
| Potential Errors | Comments |
| SMS. Wrong pass | Wrong password |
| SMS. Wrong args | invalid command format |

## Configuring Network

| Command text in SMS | Comments | Example |
|---|---|---|
| * **** **net APN login password**# | depends on mobile operator login, password are optional | *1234 net internet.mts.ru mts mts#, *1234 net internet.mts.ru# |

| Response to command | Comments |
|---|---|
| **APN changed to XXX** | XXX – set APN |
| Potential Errors | Comments |
| net. Wrong pass | Wrong password |
| net. Wrong args | invalid command format |

## Configuring CS

| Command text in SMS | Comments | Example |
|---|---|---|
| * **** **server CS address port protocol**# | default values: cs.omnicomm.ru 9977 Omnicomm | *1234 cs.omnicomm.ru 9977 Omnicomm# |

| Response to command | Comments |
|---|---|
| **server changed to CS address: port, protocol** | settings were changed |
| Potential Errors | Comments |
| server. Wrong pass | Wrong password |
| server. Wrong args | invalid command format |

## Terminal Reboot

| Command text in SMS | Comments | Example |
|---|---|---|
| * **** **restart**# | terminal reboot | *1234 restart# |

| Response to command | Comments |
|---|---|
| restart OK | terminal was restarted |

**Setting Overview**

| Response to command | Comments |
|---|---|
| Potential Errors | Comments |
| restart. Wrong pass | Wrong password |

## Connecting to the Remote Configuration Server

| Command text in SMS | Comments | Example |
|---|---|---|
| * **** **update**# | connecting to the RCS | *1234 update# |

| Response to command | Comments |
|---|---|
| update started | |
| Potential Errors | Comments |
| update. Wrong pass | Wrong password |

## Resetting to Defaults

| Command text in SMS | Comments | Example |
|---|---|---|
| * **** **default settings**# | | *1234 default settings# |

**Setting Overview**

| Response to command | Comments |
| --- | --- |
| reset settings OK | reset to default settings is completed |
| Potential Errors | Comments |
| reset settings. Wrong pass | Wrong password |

# Settings

## Setting the Data Sending Interval

| Command text in SMS | Comments | Example |
|---|---|---|
| ***period XXXX YYYYZ#** | XXXX — sending interval for data within the home network, min. Default value: 10.<br>YYYY – sending interval for data in roaming<br>0 – sending is not performed.<br>Z: min – sending data in roaming (by time), k – sending data in roaming (by package size). Default values: XXXX – 10 min,<br>YYYYmin – 0 min | *period 100 150k#, *period 50 150min#, *period 1000 0# |

**Setting Overview**

| Response to command | Comments |
|---|---|
| **period changed to XXXX YYYY min**<br>**period changed to XXXX YYYY kb**<br>**period changed to XXXX. Roaming disabled** | XXXX – data sending interval in the home network, min; YYYY – data sending interval in roaming, min<br>XXXX – data sending interval in the home network, min; YYYY – data package size to be sent in roaming, kB<br>XXXX – data sending interval in the home network, min; roaming disabled |
| Potential Errors | Comments |
| period. Wrong pass | Wrong password |
| period. Wrong args | invalid command format |

## Setting the Data Collection Interval

| Command text in SMS | Comments | Example |
|---|---|---|
| ***interval XXXX**# | XXXX – data collection, sec<br>0 – collection/sending blocking (timer value remains unchanged). Possible values: from 15 to 240 sec | *interval 100# |

**Setting Overview**

| Response to command | Comments |
|---|---|
| **interval changed to XXX**<br>**interval. Block enabled** | XXX – data collection interval, sec<br>blocking is enabled |
| Potential Errors | Comments |
| interval. Wrong pass | Wrong password |
| interval. Wrong args | invalid command format |

## Setting Fuel Tank Volume

| Command text in SMS | Comments | Example |
|---|---|---|
| ***volume XXX**# | XXX – tank volume, l. Possible options: from 0 to 65000 | *volume 100# |

| Response to command | Comments |
|---|---|
| **volume changed to XXX** | XXX – tank volume, l |
| Potential Errors | Comments |
| volume. Wrong pass | Wrong password |
| volume. Wrong args | invalid command format |

## Selecting OBD Parameters Sent

The parameter selection command starts with 'obd' and then list parameters, values of which must be sent in SMS.

The current fuel volume is calculated at the terminal based on the data acquired via the OBD bus, and the set tank volume.

| Command text in SMS | Comments | Example |
|---|---|---|
| ***obd speed voltage rpm fuel rate temp key engine**# | speed – speed<br>voltage – voltage of the on-board power supply<br>rpm – engine RPM<br>fuel – volume of fuel in the tank (l)<br>rate – fuel consumption rate<br>temp – oil temperature<br>key – ignition<br>engine – error indications Check Engine<br>off – disable sending of all parameters | *obd speed fuel# and *obd off# |

| Response to command | Comments |
|---|---|
| **obd. speed on, fuel on**<br>**obd. Disable all** | only those parameters are listed, data of which will be sent data<br>Data of all parameters are parameters |

**Setting Overview**

| Potential Errors | Comments |
|---|---|
| obd. Wrong pass | Wrong password |

## Enabling / Disabling Message Sending when Removing the OBD Terminal

| Command text in SMS | Comments | Example |
|---|---|---|
| ***remove on**#<br>***remove off**# | on — enabled<br>off — disabled | *remove on#, *remove off# |

| Response to command | Comments |
|---|---|
| **remove on**<br>**remove off** | on — enabled<br>off — disabled |
| Potential Errors | Comments |
| remove. Wrong pass | Wrong password |
| remove. Wrong args | invalid command format |

## Enabling Automatic Message Sending in Case of a Vehicle Position Change

Autotilt — enables tilt mode 2 minutes after ignition off without an SMS sent. Disables tilt upon ignition on. SMS is sent to the user with a two-minute delay, if the ignition was not on during this time.

> The command is sent with the only one parameter.

| Command text in SMS | Comments | Example |
|---|---|---|
| ***autotilt X**# | X – sensitivity<br>off – no sending performed<br>on – sending enabled<br>1 – low<br>9 – high.<br>If the command is sent without parameters, the mode will be enabled with the present sensitivity.<br>Default value: 5 | *autotilt on# |

| Response to command | Comments |
|---|---|
| **autotilt on X**<br>**autotilt. SMS on**<br>**autotilt. SMS off** | X – sensitivity<br>off – no sending performed<br>on – sending enabled<br>1 – low<br>9 – high |

## Enabling Message Sending During Dangerous Driving

Dangerous Driving is the consequence of accelerations and decelerations, as well as in the direction perpendicular to the vehicle movement trajectory, caused by swift lane switches or a sharp movement direction change.

The command is sent with the only one parameter.

| Command text in SMS | Comments | Example |
|---|---|---|
| ***danger on**#<br>***danger off**#<br>***danger sms on**#<br>***danger sms off**#<br>***danger acc 5 or acc on or acc off**#<br>***danger turn 5 or turn on or turn off**#<br>***danger brake 5 or brake on or brake off**#<br>***danger vertacc 5 or vertacc on or vertacc off**# | activation of dangerous driving control<br>disabling dangerous driving control<br>enabling SMS notifications by preset parameters<br>disabling SMS notifications by preset parameters<br>setting acceleration threshold<br>setting lateral acceleration threshold<br>setting braking threshold<br>setting vertical acceleration threshold<br>threshold values: from 1 (low) to 9 (high) | *danger on#, *danger sms off#, *danger acc 1#, *danger turn 1#, *danger brake 1#, *danger vertacc 1# |

**Setting Overview**

| Response to command | Comments |
|---|---|
| **danger on**<br>**danger. sms on**<br>**danger. sms off**<br>**danger. acc on - 5**<br>**danger. brake off** | dangerous driving control enabled<br>SMS notifications enabled<br><br>SMS notifications disabled<br>acceleration threshold control enabled and set equal to 5<br>braking threshold control disabled |

## Enabling Message Sending in Case of Emergency

Emergency is a harsh braking or acceleration that may be caused by an accident (crash)

The command is sent with the only one parameter.

| Command text in SMS | Comments | Example |
|---|---|---|
| ***crash on**#<br>***crash off**#<br>***crash sms on**#<br>***crash sms off**#<br>***crash acc X**#<br>***crash turn X**#<br>***crash brake X**# | enabling crash control<br>disabling crash control<br>enabling SMS notifications by preset parameters<br>disabling SMS notifications by preset parameters<br>setting acceleration threshold<br>setting lateral acceleration threshold<br>setting braking threshold<br>X – threshold values: from 1 (low) to 9 (high) | *crash on#, *crash sms off#, *crash acc 1#, *crash turn 1#, *crash brake 1# |

**Setting Overview**

| Response to command | Comments |
|---|---|
| **crash on**<br>**crash. sms on**<br>**crash. sms off**<br>**crash. acc on - 5**<br>**crash. brake off** | crash control enabled<br>SMS notifications enabled<br><br>SMS notifications disabled<br>acceleration threshold control enabled and set equal to 5<br>braking threshold control disabled |

# Parameter Setting Request

## Requesting Device Info

| Command text in SMS | Comments | Example |
|---|---|---|
| ***info?**# | | *info?# |

| Response to command | Comments |
|---|---|
| **info**:<br>**SW Dev XXXXXXX**<br>**HW Dev YYYYYY**<br>**time DD-MM-YYYY HH:mm** | XXXXXXX – firmware version<br>DD-MM-YYYY HH:mm – device time |

## Requesting Command Info

| Command text in SMS | Comments | Example |
|---|---|---|
| ***?**# | Requesting Command List | *?# |

| Response to command | Comments |
|---|---|
| **help**:<br>info, period, interval, volume, obd, remove, autotilt, danger, crash, balance, dervice, gps | list of commands without parameters |

## Requesting Present Data Sending Interval in the Home Network and in Roaming

| Command text in SMS | Comments | Example |
|---|---|---|
| ***period?**# | | *period?# |

| Response to command | Comments |
|---|---|
| **period**:<br>**home XXXXmin**<br>**roam YYYYmin** | XXXX – data sending interval in the home network, min<br>YYYY – data sending interval in roaming, min |

## Requesting Preset Data Collection Interval

| Command text in SMS | Comments | Example |
|---|---|---|
| ***interval?**# | | *interval?# |

| Response to command | Comments |
|---|---|
| **interval: XXXX** | XXXX – data collection interval, s |

## Requesting Preset Fuel Tank Volume

| Command text in SMS | Comments | Example |
|---|---|---|
| ***volume?**# | | *volume?# |

| Response to command | Comments |
|---|---|
| **volume: XXX** | XXX – fuel tank volume, l |

## Requesting OBD Parameters Sent

| Command text in SMS | Comments | Example |
|---|---|---|
| ***obd?**# | | *obd?# |

| Response to command | Comments |
|---|---|
| **obd**<br>**speed X**<br>**voltage X**<br>**rpm X**<br>**fuel X**<br>**rate X**<br>**temp X**<br>**key X**<br>**engine X** | X – on (enabled) / off (disabled) |

# Current Values Request

## Requesting Balance

| Command text in SMS | Comments | Example |
|---|---|---|
| ***balance,*100##** | *100# – balance request code that depends on operator | *balance,*102## |

| Response to command | Comments |
|---|---|
| **balance: XXX** | XXX – current balance of the active SIM |

## Mileage After Error Reset, km

| Command text in SMS | Comments | Example |
|---|---|---|
| ***service**# | | *service# |

| Response to command | Comments |
|---|---|
| **service**:<br>**distance XXXX**<br>**time YYYY** | XXXX – mileage after error reset, km |

## Requesting Current GPS Parameters

| Command text in SMS | Comments | Example |
|---|---|---|
| ***gps**# | | *gps# |

| Response to command | Comments | Example |
|---|---|---|
| **gps**<br>**sats X**<br>**speed YYY**<br>**point ZZZZ,NNNN** | X – number of satellites<br>YYY – speed<br>ZZZZ,NNNN – coordinates in the URL form | GPS: sats - 5, speed - 69, point: http://google.com/maps?q=55.7885,37.5891 |
| Potential Errors | Comments | |
| **GPS. No valid data** | GPS data not obtained | |

## Requesting Current OBD Parameters

| Command text in SMS | Comments | Example |
|---|---|---|
| ***obd**# | | *obd# |

**Setting Overview**

| Response to command | Comments |
| --- | --- |
| **obd: current values** | current values are displayed depending on settings. Fuel volume (% of the fuel tank volume). Volume format depends on the vehicle type |

## Event Notifications

Messages are sent to the owner telephone once the event is logged.

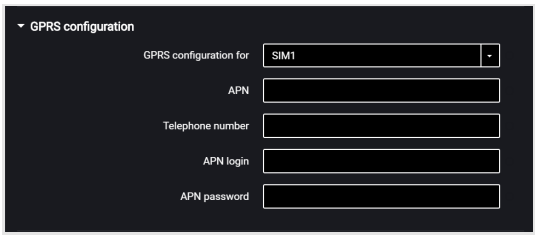
| Event | SMS Content | Event Description |
|---|---|---|
| remove | **remove**<br>**current date and time**<br>**GPS coordinates in the URL form** | terminal removal |
| danger | **danger**<br>**current date and time**<br>**GPS coordinates in the URL form** | dangerous driving |
| crash | **crash**<br>**current date and time**<br>**GPS coordinates in the URL form** | accident (crash) |

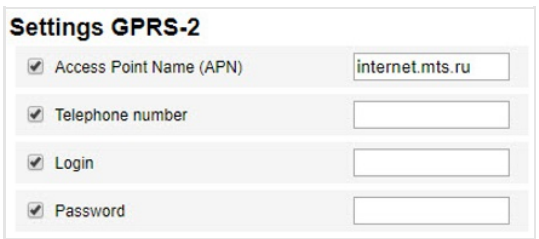
# Operation Parameters Setting

## GPRS Connection

In the **«Settings»** tab select the **«Connection»** section from the list.

In the **«GPRS Settings»** section:




«Access Point Name (APN)» – enter the GPRS access point name:

- «VimpelCom» (Beeline) – internet.beeline.ru

- «MTS» – internet.mts.ru
- «MegaFon» – internet

For GPRS access point names of other operators, refer to the mobile network operator, whose SIM card is inserted in the terminal.

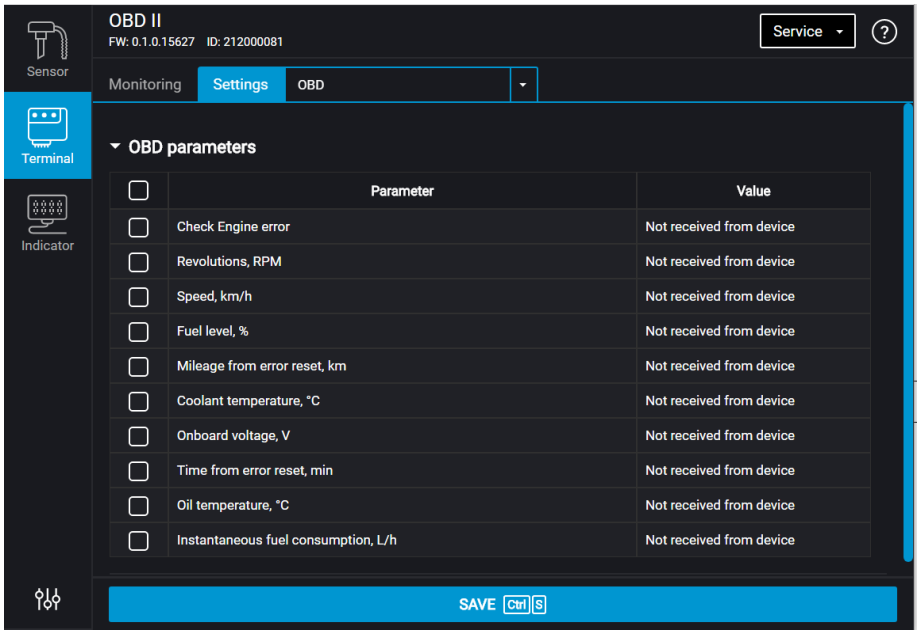
«Phone number» – number of the SIM card inserted in the terminal.

«Login (APN)» and «Password (APN)» – if necessary, enter login and password for APN access point. Login and password are provided with the SIM card of a number of mobile network operators.

# OBD Bus

In the **«Settings»** tab select the **«OBD»** section from the list.

In the **«OBD Parameters»** section:




Default OBDII parameters are not selected.

From the list of parameters, choose the ones you wish to display the value of in Omnicomm Online and check the corresponding boxes.

List of parameters:

- Check Engine Error
- Revolutions, rpm

**Operation Parameters Setting**

- Speed, km/h
- Fuel volume, %
- Mileage after Maintenance, km
- Coolant temperature,°C
- Voltage, V
- Time to Maintenance, min
- Oil temperature,°C
- Instant fuel consumption, L/h

Value — parameter value obtained from the terminal.

## OBD parameters tab to SAE J1979, SAE J1939

| Parameter | Protocol | | | |
|---|---|---|---|---|
| | SAE J1979 | | SAE J1939 | |
| | SID | PID | PGN | SPN |
| Check Engine Error | 0*01 | 0x01 | FECA | 1213 |
| Revolutions, rpm | 0*01 | 0x0C | F004 | 190 |
| Speed, km/h | 0*01 | 0x0D | FEF1 | 84 |
| Fuel volume, % | 0*01 | 0x2F | FEFC | 96 |
| Mileage after Maintenance, km | 0*01 | 0x31 | - | - |
| Coolant temperature,°C | 0*01 | 0x05 | FEEE | 110 |
| Voltage, V | 0*01 | 0x42 | FEF7 | 168 |

**Operation Parameters Setting**

| Parameter | Protocol | | | |
|---|---|---|---|---|
| | SAE J1979 | | SAE J1939 | |
| | SID | PID | PGN | SPN |
| Time to Maintenance, min | 0*01 | 0x4E | - | - |
| Oil temperature,°C | 0*01 | 0x5C | FEEE | 175 |
| Instant fuel consumption, L/h | 0*01 | 0x5E | FEF2 | 183 |

SID – Channel ID by SAE J1979.

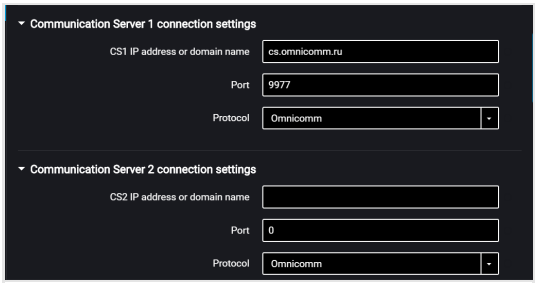
PID – Parameter ID to SAE J1979.

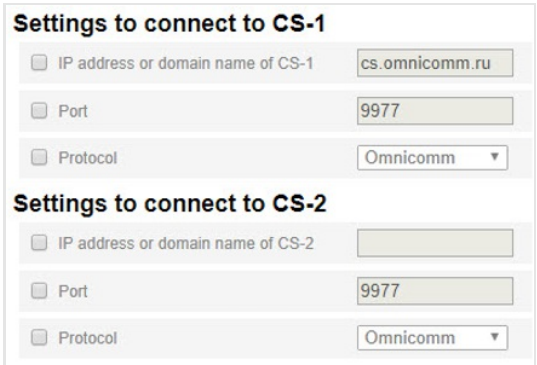
PGN – No. of parameters group, defining the contents of the corresponding message according to SAE J1939.

SPN – code of the parameter according to SAE J1939.

# Connection to Communication Servers

In the **«Settings of connection to the communication server»** sections:




«CS 1 IP address or domain name» – enter IP address or domain name of the communication server: cs.dc1.omnicomm.ru.

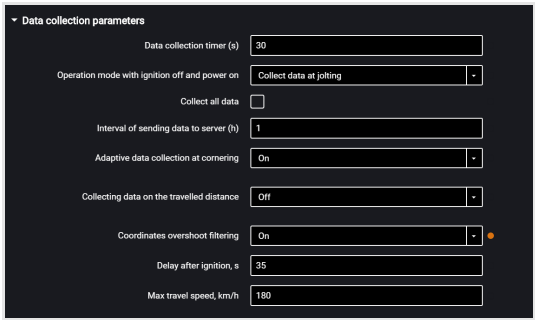
«Port» – enter port to be used by terminal to connect to the communication server: 9977

«Protocol» – select data transmission protocol to the CS. Possible options: Omnicomm.

# Data Collection

In the **«Settings»** tab select the **«Connection»** section from the list.

In the **«Data collection parameters»** section:





«Data collection timer» – set the value of the period of Terminal requesting modules and external devices connected to it. Value range: from 15 to 240 s. Default value — 30 s.

«Operation mode with ignition off and power on» select:

- «Collect all data» – data collection and transmission same as with ignition turned on
- «Collect all except GPS» – collection and transmission of data selected during configuration of the terminal, except for the GPS module data
- «Collect data at jolting» – monitoring the status of the accelerometer. If the accelerometer reading changes by more than 0.2 g, the terminal switches to the “Collect all data” and performs data transmission to the Communication Server in 5 minutes

Selecting «Collect data at jolting» set the following configuration:

- «Collect all data» – when this parameter is enabled, the terminal upon expiration of the time specified in the “Interval of sending data to the server” switches to the “Collect all data” mode and performs data collection and transmission to the communication server. After the data transmission the terminal switches to the “Collect data at jolting” mode.
- «Interval of sending data to the server» – the time interval between the terminal connections to CS. Possible values: 1 to 6 hours, at intervals of 1 hour.

Depending on the set mode, the data are collected from the particular modules and external devices. Default value: “Collect data at jolting”.

«Adaptive data collection at cornering» – enable/disable adaptive data collection at cornering, which allows increasing the accuracy of displaying turns on the map by additional data collection from the GPS module more frequently than set in the “Data collection timer” parameter. Default value — enabled.

«Collecting data on the travelled distance» – allows increasing the accuracy of displaying the vehicle location on the map by additional data collection from the GPS module over the distance traveled between the events with registered coordinates. Default value — enabled.

«Distance traveled» – enter the mileage traveled from the moment of the last registered event with coordinates, upon achieving which the data will be collected. Possible values: 10 to 1000 meters. Default value – 100 meters. Default value — disabled.

«Coordinate drift filtering» – enable to eliminate drift of coordinates during the “Track” report generation.

When enabling the “Coordinate drift filtering” the following settings are available:

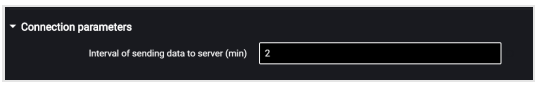
- “Delay after ignition on, s”. Default value – 35 s. Possible values: 0 to 900.
- “Maximum travel speed, km/h”. Default value - 180 km/h. Possible values: 5 to 360.

The default values allow elimination of drifts for most cases and do not require correction.

# Data Transmission to a Communication Server

In the **«Settings»** tab select the **«Connection»** section from the list.

In the **«Parameters of output for connection»** section:

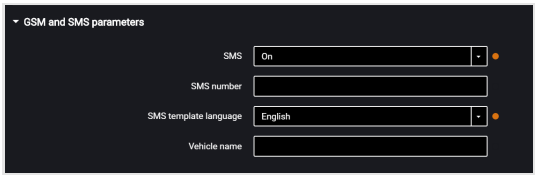


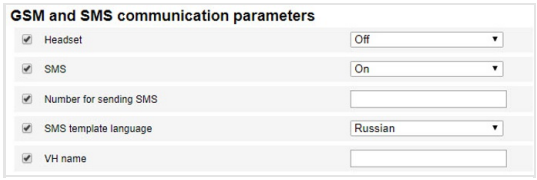


«Data submission period to CS» – enter the number of minutes, upon expiration of which the Terminal must establish connection with the communication server, while being in the mobile operator's home network. Recommended value – 10 min. Default value – 2 minutes.

In the **«GSM and SMS communication parameters»** section:

**Operation Parameters Setting**



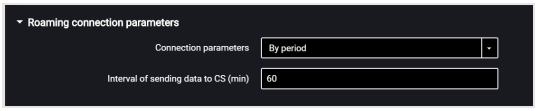

«SMS» – enable/disable the commands reception via SMS and sending the information messages by the Terminal. Default value — disabled. When the "SMS" parameter is enabled:

«SMS destination number» – enter the phone number, to which the SMS will be sent with information about the status of the Terminal and the vehicle.

«SMS template language» – select the language of the SMS template. Possible options: Russian, English, Portuguese, Spanish.

«Vehicle Name» – enter the name of the vehicle. The "Vehicle Name" field is mandatory.

In the **«Roaming connection parameters»** section:



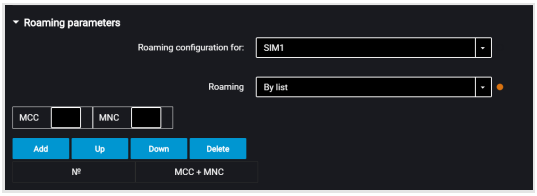


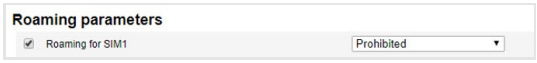
Select the criterion for the connection of the terminal to the CS: "By time period" or "By packet size". Default value — "Interval of sending data to the CS".

«Interval of sending data to the server» – enter the number of minutes, upon expiration of which the terminal must establish connection with the communication server, while being in roaming. Recommended value – 180 minutes. Default value – 60 min.

«Data packet size to send to the CS» – enter the data packet size, upon achieving which the terminal must establish connection with the communication server, while being in roaming. Recommended value – 100 Kb.

In the **«Roaming parameters»** section:




«Roaming» – select the option of SIM card using while in roaming. Default value — allow. Possible options:

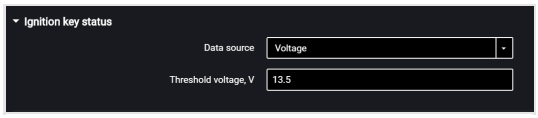
- «Permitted» – the terminal will transmit data using the available cellular networks
- «Prohibited» – the terminal will not transmit data while roaming
- «In roaming as at home network» – the terminal will transmit data following the same settings of output parameters as for the home network
- «According to the list» – the terminal will only transmit data using the cellular networks stated in the list. Enter the MCC and MNC of the required cellular networks in the table

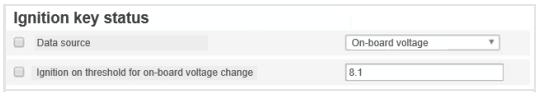
When the terminal operates in roaming, the data transmission is carried out only to the communication server no. 1. To transfer data to two communication servers, select "In roaming as at home".

# Selection of Ignition Source

In the **«Settings»** tab select the **«Inputs»** section from the list.

In the **«Ignition key status»** section:




«Data source» – select the data to register ignition on/off.

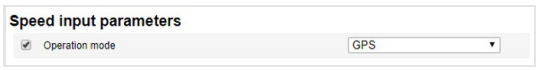
«Onboard voltage» – the ignition on is registered upon reaching the vehicle network power supply threshold voltage.

«Threshold voltage» value: when this value is reached, the ignition will register as switched on. Ignition off is registered, when the voltage drops to 0,5 V below the threshold. Default value – 13,5 V.

# Selection of Speed Source

In the **«Settings»** tab select the **«Inputs»** section from the list.

In the **«Vehicle speed»** section:


«Data source» – select the data to process the speed values. Possible options: “GPS”, “OBD bus”.

# Engine RPM

In the **«Settings»** tab select the **«Inputs»**section from the list.

In the **«Engine RPM»** section:

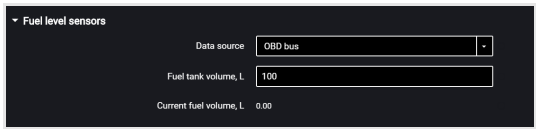


«Data source» – select the signal type. Possible values: “Disabled”, “OBD bus”

# Fuel Level Sensors

In the **«Settings»** tab select the **«Inputs»** section from the list.

In the **«Fuel Level Sensors»** section:





«“Data source» – select the signal type. Possible values: “Disabled”, “OBD bus”. Default value — OBD bus.

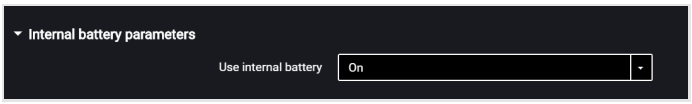
«Fuel tank volume, L» – enter the fuel tank volume. Default value — 100 L.

«Current fuel volume, L» – displays the current volume of fuel in the tank. The current fuel volume is calculated at the terminal based on the data acquired via the OBD bus, and the set tank volume.

# Internal Battery

In the **«Settings»** tab select the **«Auxiliary equipment»** section from the list.

In the **«Internal battery parameters»** section:

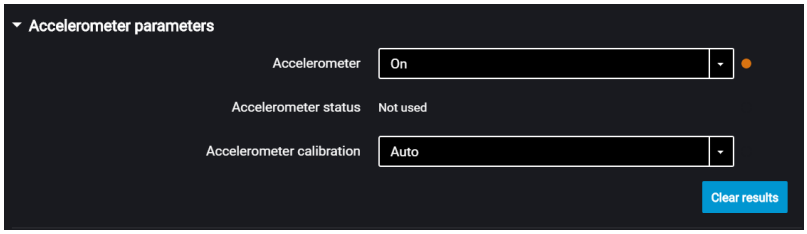



«Use internal battery» – enable/disable use of internal battery when the main power supply is turned off and the terminal is operating in the “Collect data during pounding” mode.

# Driving Safety Control

In the «**Settings**» tab select the «**Auxiliary equipment**» section from the list.

In the «**Accelerometer parameters**» section:




“Accelerometer” – enable/disable the use of accelerometer for measuring the vehicle acceleration. Default value — enabled.

“Accelerometer status” – accelerometer condition. Possible options: not used, calibration, calibrated, calibration error.

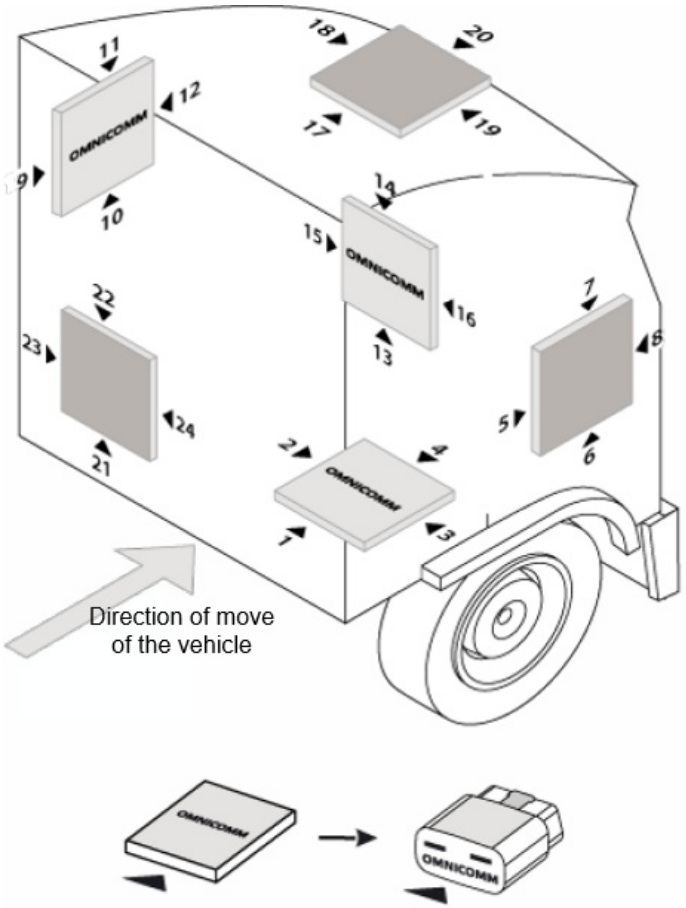
“Accelerometer calibration” – select the accelerometer calibration mode. Possible options: automatic calibration, manual calibration.

> Prior to performing the calibration, firmly fix the terminal and do not change its position during operation.

Automatic calibration is recommended for vehicles that are operated mainly at speeds above 50 km/h. Automatic calibration takes between 2 minutes and 24 hours, depending on the frequency of acceleration and braking on straight sections of the road.

When selecting manual calibration, in the “Terminal position” field, select one of 24 positions as shown in figure:

**Operation Parameters Setting**

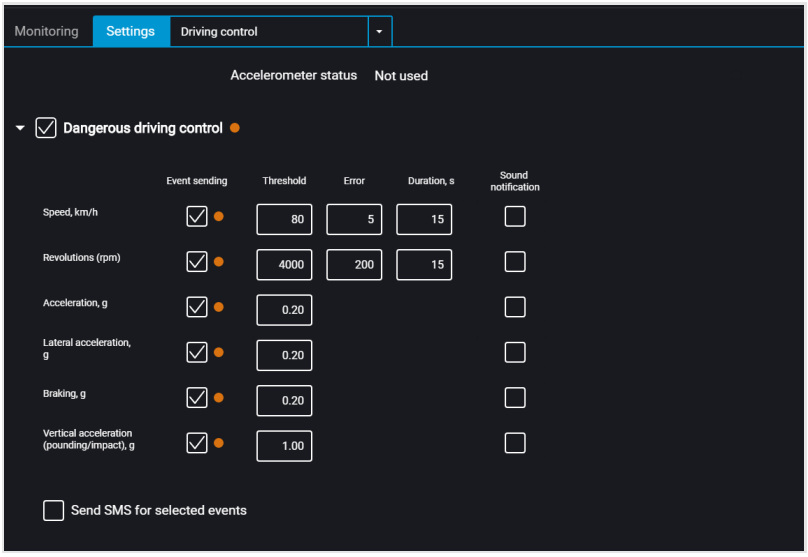



Deflection of the terminal from the axes during manual calibration should not be more than 5 degrees.

In the **«Settings»** tab select the **«Driving Control»** section from the list.

**«Dangerous driving control»** – enable/disable registration of dangerous driving when exceeding the set values of monitored parameters.

**Operation Parameters Setting**




Select monitored parameters:

**«Sending an event»** –enable/disable event sending to Omnicomm Online.

- «Speed» – vehicle speed control

Threshold – enter the maximum permissible speed, upon exceeding which dangerous driving will be registered. Possible values: 0 to 150 km/h. Default value: 80 km/h.

Deviation – enter the speed value that can be exceeded maximum permissible speed without triggering dangerous driving. Possible values: 0 to 50 km/h. Default value: 5 km/h.

Duration – enter the period of time allowed to exceed maximum permissible speed without triggering dangerous driving. Possible values: 0 to 300 s. Default value: 15 s.

- «Engine speed (RPM)» – engine RPM monitoring

Threshold – enter the maximum permissible engine RPM, upon exceeding which dangerous driving will be registered. Possible values: 0 to 10,000 rpm. Default value: 4,000 rpm.

Deviation – enter the RPM value that can be exceeded by maximum permissible RPM without registration of violation.Possible values: 0 to 1000 rpm. Default value: 200 rpm.

Duration – enter the period of time allowed to exceed maximum permissible engine RPM without registration of dangerous driving. Possible values: 0 to 300 s. Default value: 15 s.

- «Acceleration» – acceleration control during vehicle speeding up

Threshold – enter the value of acceleration while speeding up, which exceeding will trigger registration of dangerous driving

- «Lateral acceleration» – acceleration control during vehicle turning

Threshold – enter the value of acceleration while turning, which exceeding will trigger registration of dangerous driving

- «Braking» – acceleration control during vehicle braking

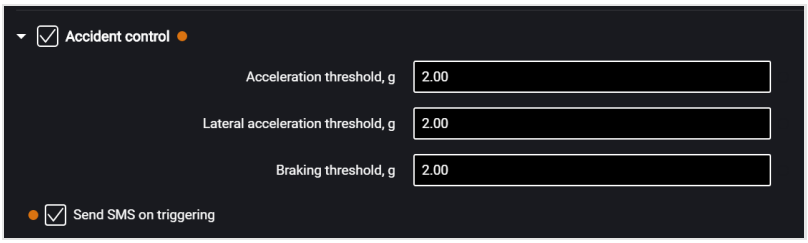
Threshold – enter the value of acceleration while braking, which exceeding will trigger registration of dangerous driving

- «Vertical acceleration (pounding / bumping)» – acceleration control during vehicle pounding

Threshold – enter the value of acceleration while pounding or bumping, which exceeding will trigger registration of dangerous driving

- "Send SMS for selected events" – enable SMS sending upon registration of dangerous driving

**«Determine accidents»** – enable / disable accident registration upon exceeding the set values of monitored parameters.




- «Speeding up threshold» – value of acceleration while speeding up, which exceeding will trigger registration of accident
- «Lateral acceleration threshold» – value of acceleration while turning, which exceeding will trigger registration of accident
- «Braking threshold» – value of acceleration while braking, which exceeding will trigger registration of accident
- «Send SMS upon triggering» – enable SMS sending upon registration of accident

# Service Functions

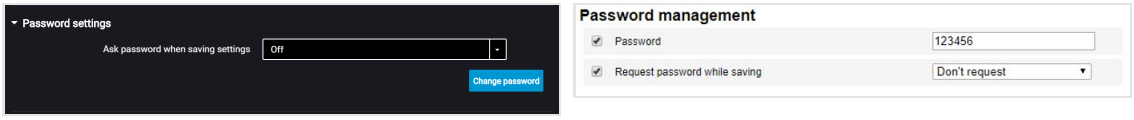
# Terminal Reboot

In the “Service” menu select “Restart Terminal”.

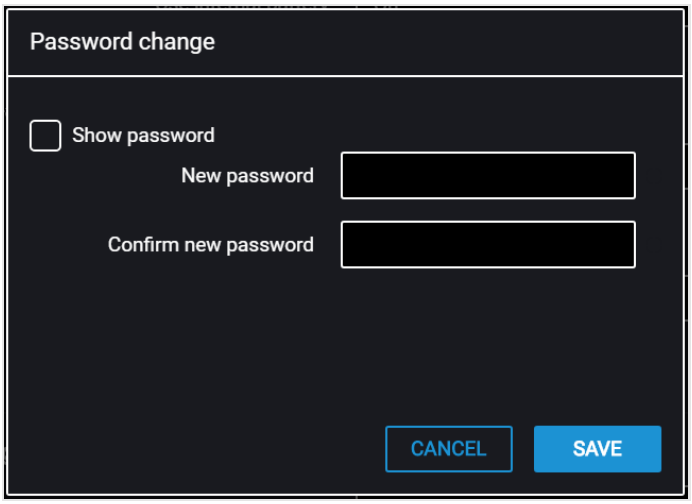
# Setting Password on Configuration Changing

In the **«Settings»** tab select the **«Auxiliary equipment»**section from the list.

In the **«Password settings»** section:

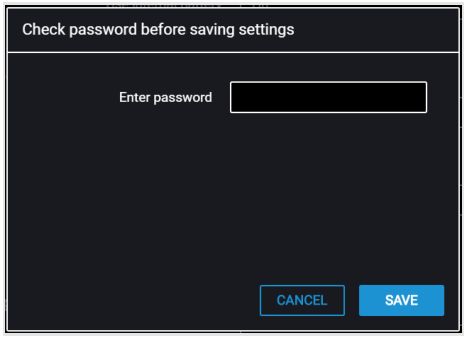



If you need to use a password to configure the terminal settings, in the field “Ask for password when saving settings” select “Enabled”. Default value — disabled. Press the “Record into device” button. A window will open:




“New password” and “Confirm new password” – enter a new password that will be used to get access to settings configuration. The password shall contain 8 characters maximum.

Press the “Save” button. A window will open:




Press the “Save” button.

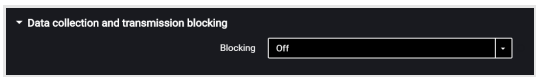
Press the “Record into device” button.

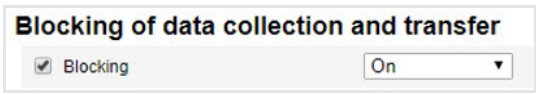
# Data Collection and Transmission Blocking

In the «**Settings**» tab select the «**Connection**» section from the list.

In the «**Data collection and transmission blocking**» section:

To block the terminal data collection and transmission in the “Lock” field select “Enabled”:




To unlock data collection and transmission use Omnicomm Configurator or send SMS command *UNBLOCK# to the SIM card, inserted in the terminal.

# Remote Configuration Server Operation Setting

Set password on terminal settings modification by either of the following ways:

- When configuring the terminal using Omnicomm Configurator set password on settings modification that is different from the password set by default. Default password – 0000
- Send SMS command to change password set by default: *SETPWDID 212009988 12345#

where: 212009988 – terminal ID; 12345 – password to be set. The password shall contain 8 characters maximum and may include any digits and letters.

> The previously set password cannot be changed in this way.

After 6 hours, the terminal will be authorized on the Remote Configuration Server and will be available for operation via the Remote Configuration Server.

# Terminal SIM Card Number Identification

The terminal SIM card telephone number is automatically displayed in the Remote Configuration Server after the second connection to the RCS.

> SMS sending shall be enabled for the SIM card.

# Installation of a Protective Sticker

After installation of the SIM card and setting up the terminal, apply the OBDII protective sticker according to the picture:


# Sealing

Stick the sealing sticker on the connector so that the terminal cannot be switched off without breaking the sticker.

# Specifications

| | Omnicomm OBDII |
|---|---|
| Communication | |
| Satellite Navigation Systems | GLONASS/GPS |
| Data transmission channel | GPRS |
| Number of SIM cards and SIM chips | 1 SIM card |
| SIM chip available | No |

**Installation of a Protective Sticker**

| | Omnicomm OBDII |
|---|---|
| Communication | |
| Power source | |
| Power supply voltage, V | 8…30 |
| Overvoltage protection | Yes |
| Data collection and transmission | |
| Data collection period, s | 15…240 |
| Non-volatile memory capacity, events | 150 000 |
| Interfaces | |
| CAN interfaces | Protocols ISO 15765-4, SAE-J2284, J1939, J1979 |
| USB interfaces | Yes |
| Built-in accelerometer | Yes |
| Design | |
| Dimensions, mm | 50,8 x 46,5 x 23,5 |
| Degree of enclosure protection | IP52 (only when using a protective sticker) |
| Operating temperature range, C | – 40…+85 |
| Capabilities | |

**Installation of a Protective Sticker**

| | Omnicomm OBDII |
|---|---|
| Communication | |
| Remote control through GPRS | Yes |
| SMS notifications | Yes |

OMNICOMM

info@omnicomm-world.com
www.omnicomm-world.com