



DOT i3

USER MANUAL

Firmware version 0.47 or later

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GENERAL INFORMATION

The DOT i3 navigation controller (hereinafter referred to as the “tracker”) has built-in GSM and navigation antennas.

The tracker is designed for remote monitoring of moving objects and can be used in conjunction with any compatible software package.

Supported data transfer protocols to the server:

- DOT(INTERNAL) – own open protocol available for integration
- EGTS

Discrete (on/off), analog and pulse/frequency sensors can be connected to monitor the vehicle and its equipment, including fuel consumption, passenger presence and temperature.

It is possible to connect digital sensors via 1-WIRE, RS485 or RS232 interfaces (optional).

A programmable open-drain output enables remote control of functions such as remote engine start and engine immobilization.

A backup battery (purchased separately) ensures autonomous operation of the device when the car battery is disconnected with notification of this event - this function is widely used for security and anti-theft purposes.

The built-in motion (acceleration) sensor is used in intelligent energy saving algorithms, and can also be used to determine vehicle parking locations.

The tracker can record the GSM signal level, identify base stations and the reliability of navigation data at the time of recording each coordinate point.

Firmware can be updated over the GSM network without removing or physically accessing the device.

The case is plastic, made in accordance with the requirements of European electrical and fire safety standards.

The tracker is capable of operating in the temperature range from -40 to +80 degrees Celsius (storage temperature from -45 to +85 degrees Celsius) and is suitable for installation on passenger vehicles with an on-board voltage of 12 volts, heavy-duty vehicles with a 24-volt on-board network, as well as on any other vehicles.

The permissible supply voltage ranges from 10 to 44V. There is protection against polarity reversal, against short-term voltage surges of no more than 300V, as well as protection for the built-in battery against overcharging.

For information on connecting external sensors, contact technical support at support@edvado.com.

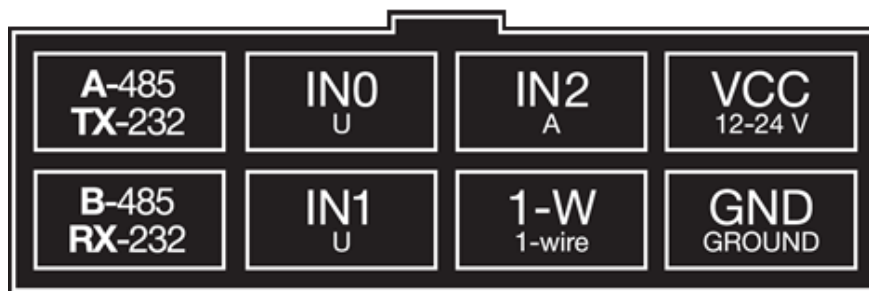
1. TECHNICAL CHARACTERISTICS

The main technical characteristics of the tracker modifications are given in Table 1.

Table 1 - Main technical characteristics

Specifications	Note	Value
Device dimensions, mm	Excluding mounting features	70 x 53 x 22
Weight, g	Excluding harness	52
Supply voltage, V	Excluding transient voltage spikes	10 - 40
Operating temperature range, °C	Excluding battery	-40...+80
Analog input, pcs.	Measuring range 0-33 V, resolution 12 bits. Discrete mode available	1
Discrete input, pcs.	Internal pull-up 3.3V. Level “log.1” is less than 1.3V.	2
Discrete output, pcs.	Open drain. Switching current up to 540 mA	2
Motion/tilt sensor	Built-in	Yes
RS232 interface	Optional	Yes
RS485 interface		Yes
1-WIRE interface	Temperature sensors, iButton keys	Yes
USB interface	Diagnostics, update	Yes
GSM module	GSM / GPRS	SIM868
Navigation module	GPS / GLONASS	SIM868
GSM antenna		internal
Navigation antenna		internal
Number of SIM card slots	nano-SIM	1
Number of SIM-chip slots		1
Backup battery, mAh	Li-Pol	100-1000
Non-volatile memory, MB	400,000 events	32

2. PINOUT OF THE MAIN CONNECTOR AND APPEARANCE OF THE DEVICE



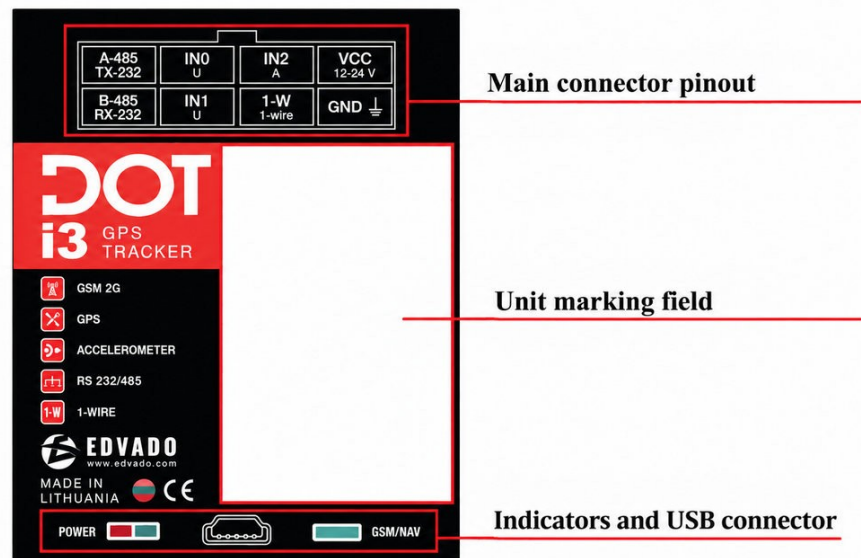
Main connector pinout

Table 2 — Pinout of the main connector

№	Designation	Purpose	Application/connection
1	GND	Power supply negative	Negative supply terminal
2	1-W	1-WIRE interface	Digital temperature sensors, identification keys
3	IN1	Output Discrete –	Switching current up to 540 mA Discrete / frequency / pulse sensors
4	B-485 RX-232	RS485 interface RS232 interface	RS485 sensors RS232 sensors
5	VCC	Power supply positive	Positive supply terminal
6	IN2	Analog +	Analog sensors, discrete
7	IN0	Output Discrete –	Switching current up to 540 mA Discrete / frequency / pulse sensors
8	A-485 TX-232	RS485 interface RS232 interface	RS485 sensors RS232 sensors



Appearance of the device



Main connector pinout

Unit marking field

Indicators and USB connector

Device label

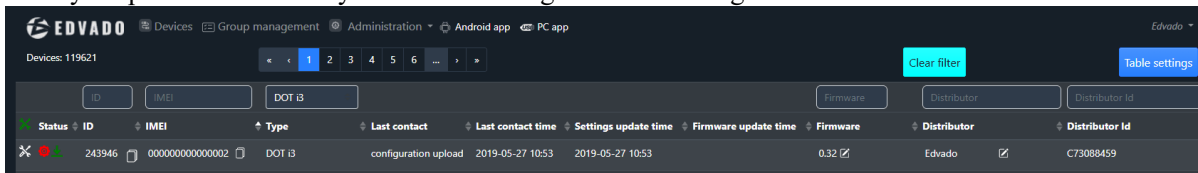
TRACKER SETUP

1. WEB CONFIGURATOR

WEB configurator is a cloud service that allows you to remotely configure or update the software of a selected device or group of devices without physically connecting to them.

To work with the WEB configurator, an account (login / password) is used, which can be obtained from the support@edvado.com support service.

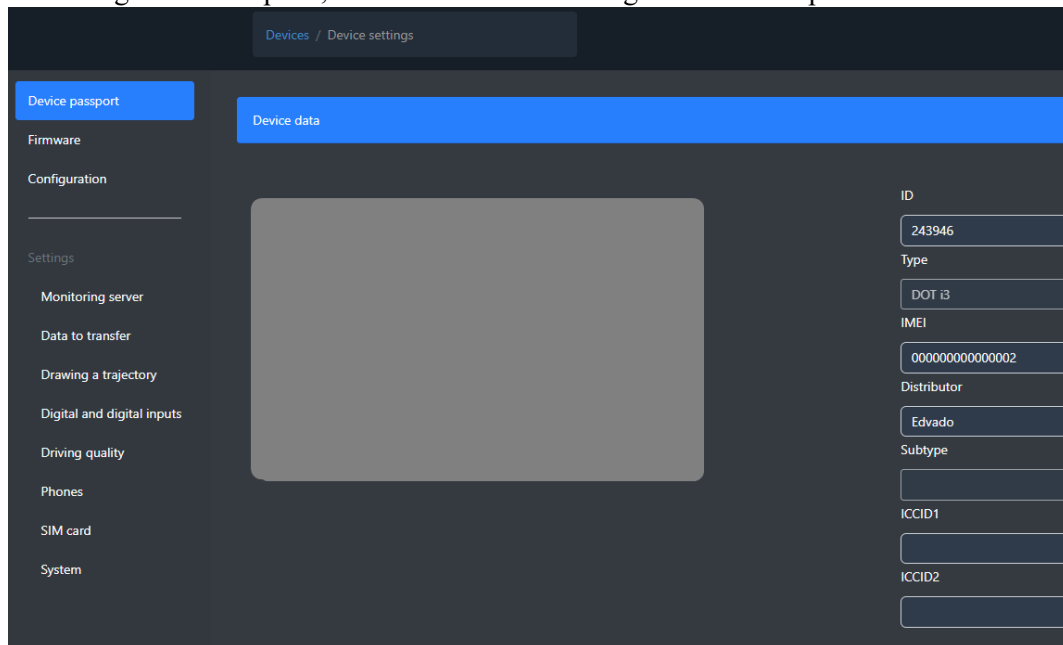
On the <https://dot.edvado.com/> website you must enter your username and password. You can find the required device in your personal account by ID or IMEI using the search strings:



When you click on the icon, the tracker settings open. 

"Device" section

The section contains general information: ID, IMEI, device type, software version. Here you can also apply a pre-prepared configuration template, or save the current settings as a new template.



Section "Monitoring Server"

The tracker can transmit data simultaneously to two monitoring servers. To configure, you need to set the address and port of the monitoring server, select the protocol type (INTERNAL or EGTS) for one or two monitoring servers.

	#1 Server settings	#2 Server settings
DNS / IP	95.163.120.190	
Port	20144	0
Protocol	INTERNAL	INTERNAL
ID(SN) for server	0	0
Password for server		

Section "Data to be transferred"

To effectively transfer data to the server, taking into account traffic compression, it is necessary to select a set of data that should be transferred to the server.

“CAN bus data” will only be transmitted when an external CAN reader is connected.

Note: in case of setting up the device only for the purpose of determining the location of a moving object (vehicle) without using inputs/outputs and other interfaces, it is enough to select only the first two items of the “Package Structure”: GPS / GLONASS coordinates and GPS / GLONASS parameters. In this case, data transfer traffic from the device to the server will be minimal, which will have a positive effect on cellular communication costs

The screenshot shows the DOT i3 configuration interface. On the left is a sidebar menu with the following items: Device passport, Firmware, Configuration, Settings, Monitoring server, Data to transfer (highlighted in blue), Drawing a trajectory, Digital and digital inputs, Driving quality, Phones, SIM card, and System. At the top right of the main area is a blue 'Save' button. Below the 'Configuration' menu item is a blue bar labeled 'Common parameters'. The main content area lists various data transfer options with checkboxes:

- ☒ Navigation: latitude, longitude
- ☒ Navigation: speed, altitude, satellites, course
- ☐ Navigation: HDOP Accuracy
- ☐ GSM modem: signal strength, operator parameters
- ☐ GSM modem: base station parameters (LAC, CID)
- ☒ System: errors, statuses, etc.
- ☒ System: inputs / outputs, module statuses
- ☒ System: external and internal voltage, mV

Section "Track recording"

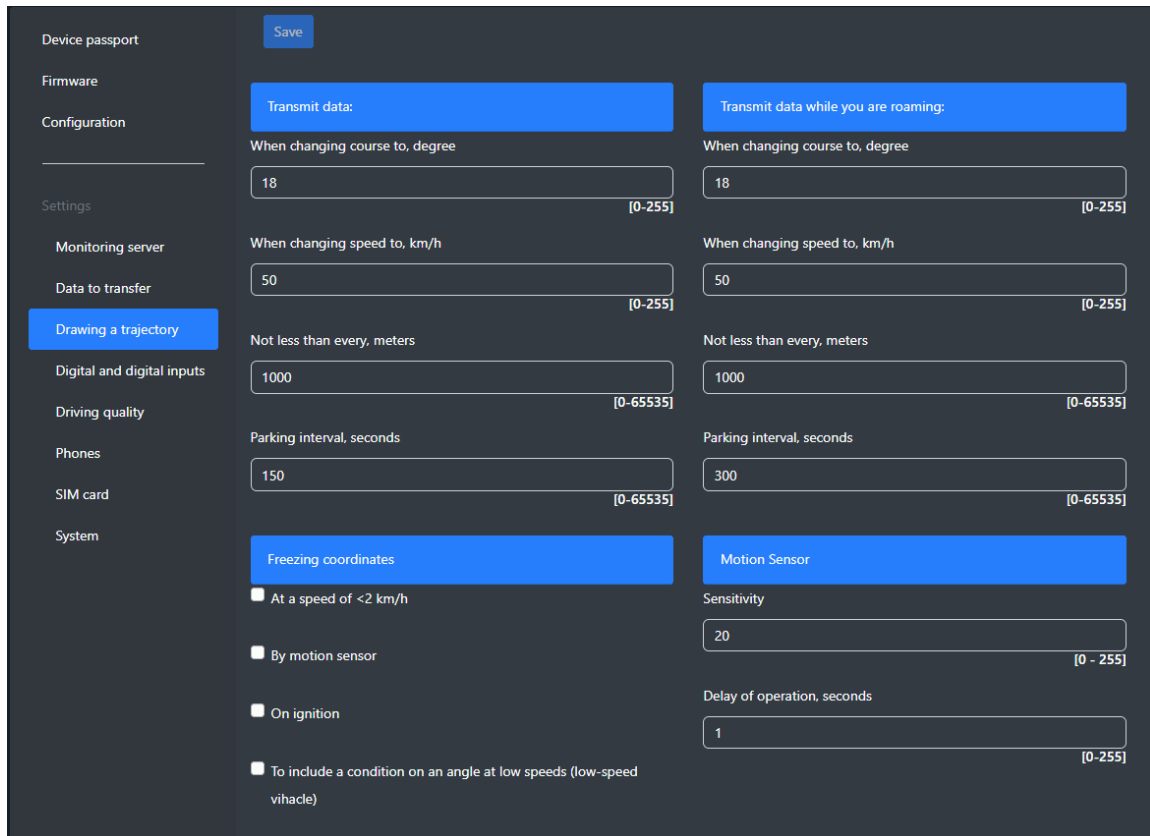
Track recording parameters determine the balance between track detail and data traffic.

<Course change - angle> - If the change in the angle between the course of the last position sent to the server and the current course exceeds the specified value, then the current position will be sent to the server.

<Speed change - speed> - If the change between the speed at the time the last position sent to the server was determined and the current speed exceeds the specified value, then the current position will be sent to the server.

<At least every - distance> - If the distance between the last position sent to the server and the current position exceeds the specified value, then the current position will be sent to the server.

<Parking interval - time> - Time interval between the last sending of data to the server and the next sending of data to the server, when stopped. The unit of measurement is second.



The screenshot shows the DOT i3 configuration interface. On the left is a sidebar menu with options: Device passport, Firmware, Configuration, Settings, Monitoring server, Data to transfer, Drawing a trajectory (highlighted), Digital and digital inputs, Driving quality, Phones, SIM card, and System. The main area is divided into two columns. The left column has a 'Save' button at the top. Below it are sections for 'Transmit data:' and 'Transmit data while you are roaming:'. Each section has a 'When changing course to, degree' field (set to 18) and a 'When changing speed to, km/h' field (set to 50). Below these are 'Not less than every, meters' (set to 1000) and 'Parking interval, seconds' (set to 150). The 'Freezing coordinates' section has four checkboxes: 'At a speed of <2 km/h', 'By motion sensor', 'On ignition', and 'To include a condition on an angle at low speeds (low-speed vehicle)'. The right column has a 'Motion Sensor' section with a 'Sensitivity' field (set to 20) and a 'Delay of operation, seconds' field (set to 1). All fields have range indicators in brackets, such as [0-255] or [0-65535].

ATTENTION: SENDING EVENTS BY ANGLE, SPEED AND DISTANCE WILL OCCUR ONLY DURING THE VEHICLE MOVEMENT, I.E. WHEN THE CONDITIONS FOR “FREEZING COORDINATES” ARE NOT MET.

Freezing coordinates:

Freezing coordinates - Conditions under which the location coordinates will be fixed and remain unchanged - parking. Conditions can be combined.

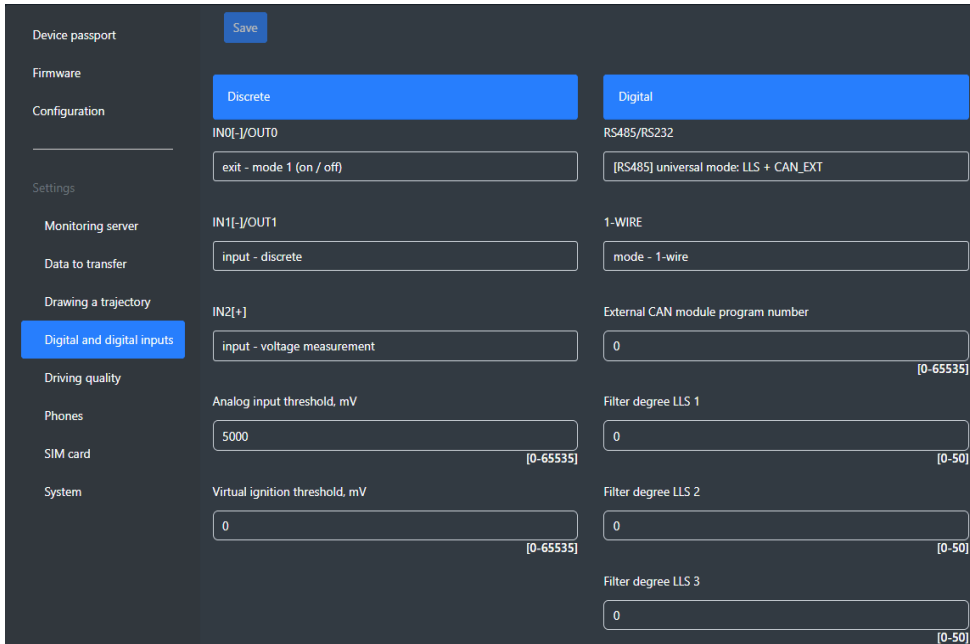
Filter values from sensors – Additional software filtering for fuel level sensors.

Setting up a motion sensor. Sensitivity – the higher the value, the more sensitive the sensor. Trigger delay – time of continuous movement in seconds to detect movement.

ATTENTION: FREEZING COORDINATES WHEN STANDING BY IGNITION - FOR THIS, THE IGNITION MUST BE CONNECTED TO INPUT IN2, WHICH IS CONFIGURED TO DISCRETE MODE.

Section "Discrete and digital inputs"

DOT i3 supports the connection of various additional equipment using digital interfaces and discrete inputs/outputs. For detailed information, see the “Connection Recommendations” section.



Section "Driving style"

DOT i3 implements 2 ways to control driving styles:

1. If the fields in the driving style are not filled in with values, the tracker transmits the maximum acceleration values on three axes, recorded between messages.
2. If at least one line is filled in, the tracker switches to sending packets adding ONLY accelerations that fall within the given thresholds in the settings.

Detailed description in the chapter DRIVING STYLES.

Transfer data from the accelerometer – transfer acceleration values to the server in accordance with the specified method of controlling driving style.

Send exceedance reset events – send an event about the end of exceeding the threshold to the server.

Transmit trigger status (bit mask) – transmit the status for each threshold exceeded to the server.

Accelerometer value averaging depth - allows you to smooth out accelerations. The number in the configurator 100 will correspond to an average of 10 seconds.

Each acceleration threshold has three settings:

- Acceleration threshold value;
- Duration for recording the excess;
- Pause before removing the excess.

☐ System: data transfer from the accelerometer

☐ Send Excess Reset Events

☐ Send state of failures (bit mask)

Depth of averaging accelerometer value

10

[0-255]

Acceleration

Threshold, mg

0

Duration of hanging, ms

0

Delay before excess overrun, ms

0

Braking

Threshold, mg

0

Duration of hanging, ms

0

Delay before excess overrun, ms

0

Angular acceleration

Threshold, mg

0

Duration of hanging, ms

0

Delay before excess overrun, ms

0

Vertical Acceleration

Threshold, mg

0

Duration of hanging, ms

0

Delay before excess overrun, ms

0

Section "Phones"

DOT i3 allows you to record up to 5 numbers with various functions into the tracker's memory (Info SMS, SMS with location, device restart, software update, settings update). When a call is made from the specified phone to the tracker number, the call will be dropped, after which the function will be completed.

Info SMS – in response to a call, an SMS will be sent with the software version, IMEI, external voltage and battery voltage.

SMS with location - in response to the call, an SMS with coordinates and a link to the map will be sent.

Phone №1	Phone №2
International format number	International format number
Mode	Mode
info SMS	info SMS

Section "SIM cards"

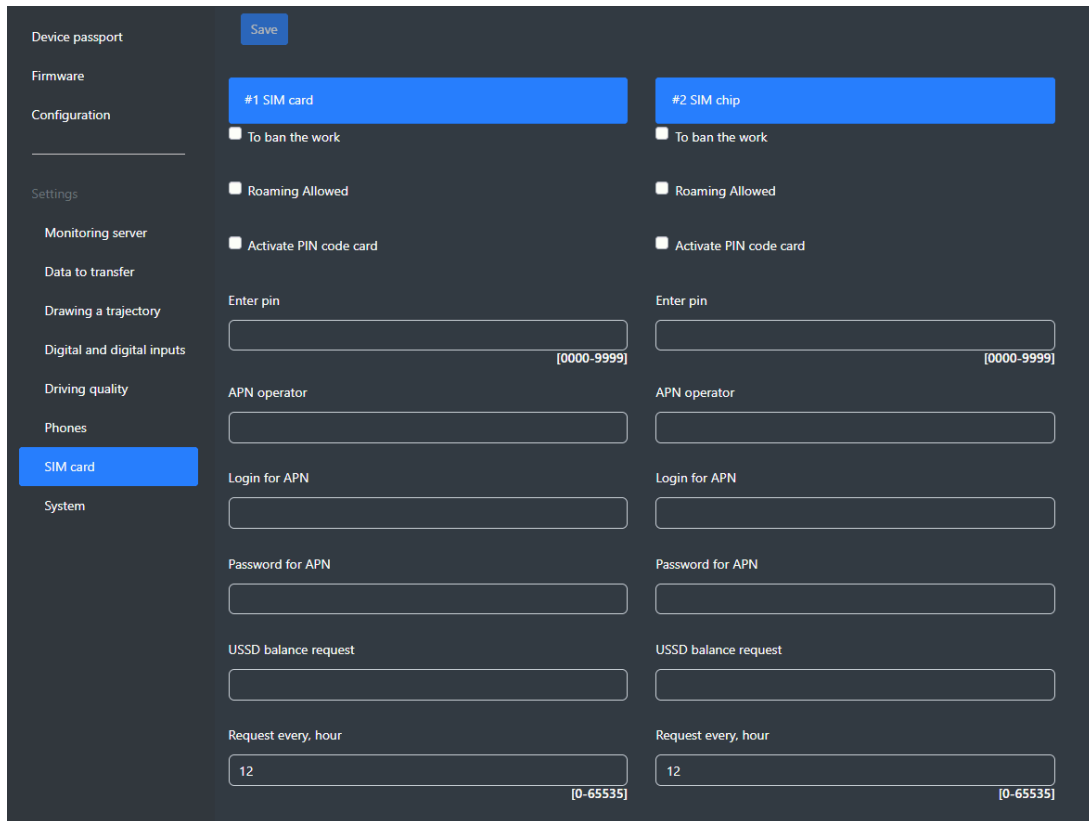
The board has a holder for a SIM card, and an optional heat-resistant SIM chip (defined as SIM-2) is installed.

Roaming is allowed – use this SIM card in roaming.

Activate card PIN – when prompted for a PIN code, the tracker will try to enter the specified PIN. ATTENTION: This setting saves the PIN code to the device memory and DOES NOT enable/change the PIN code on the SIM card. Therefore, if the PIN code entry function is already enabled on the SIM card, then specifying an incorrect value in this parameter will lead to the card being blocked.

APN, login, password - APN settings. Empty fields mean APN is running in automatic mode.

USSD balance request – USSD balance request command, for example *100#. The balance is requested and sent to the server at the specified interval in hours.



Saving settings

After changing the settings, you need to save them. In the “Device Data” section, click the “Save Settings” button.

Next, in the general table of devices, the “settings” entry will appear in the “Status” field, which shows that the device has new settings, but they have not yet been applied to the device. To apply new settings, you must send a command to the device in one of the following ways: SMS,

by calling the number SIM cards, command from server of commands in section

“CONTROL COMMANDS”) or through the local configurator.

Software update

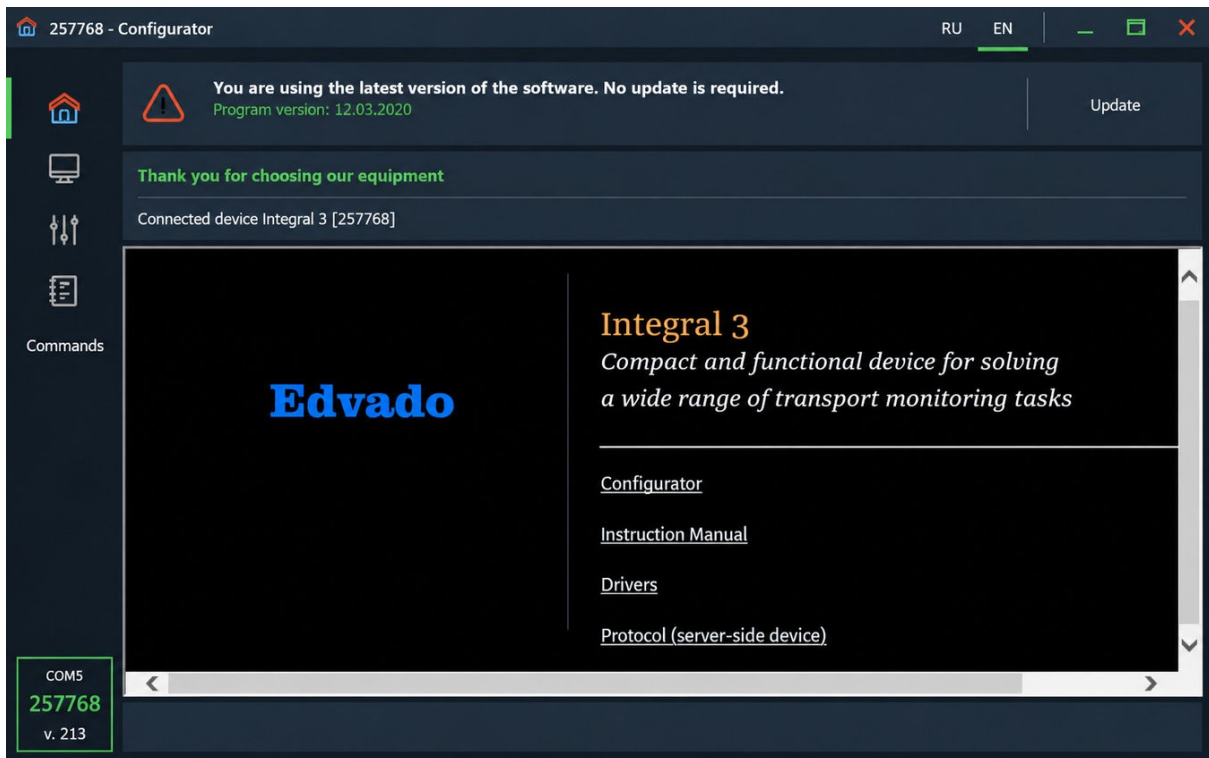
To update the tracker software you need:

- Select a device (check the box or select it)
- Open the “Install firmware for selected devices” tab
- Select the device type, firmware version and click “Apply”

In the general table of devices in the “Status” field, the “firmware” entry will appear, which shows that the device has been assigned new firmware, but the update has not yet occurred. To update the software, send an SMS or TCP command. If the command was not sent, the update will occur during the next scheduled update check.

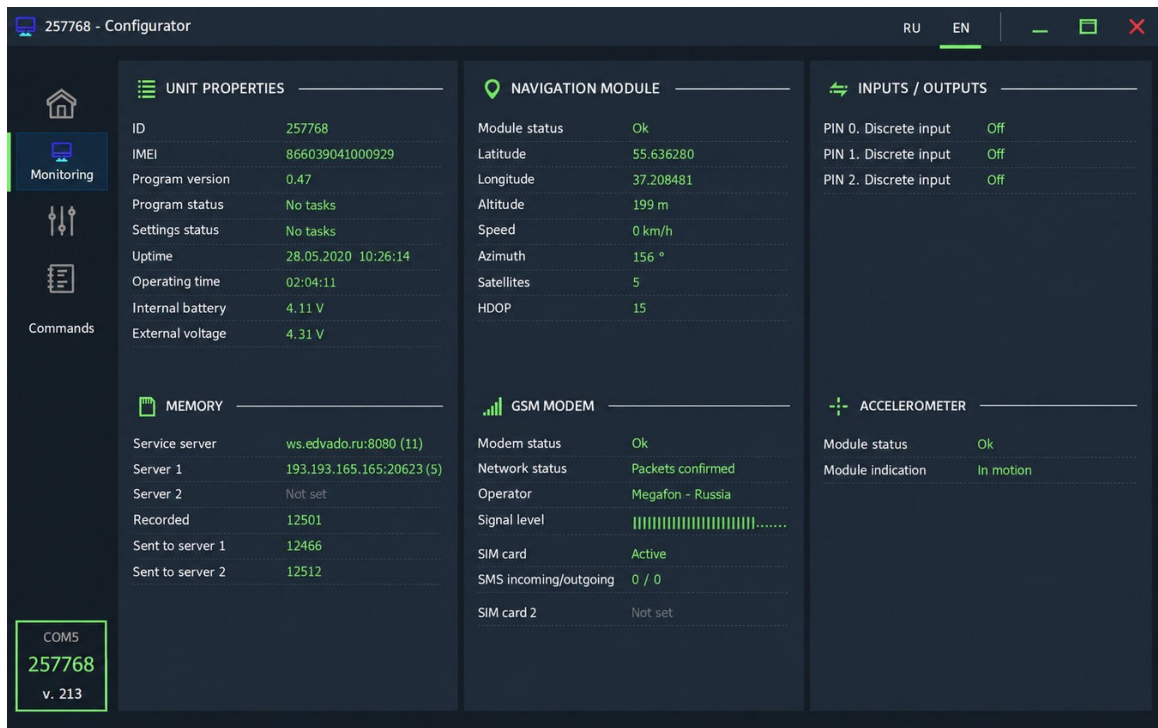
2. DIAGNOSTIC PROGRAM

The “DOT Configurator” application is designed for local diagnostics and configuration of the tracker (via a wired USB connection). The configurator displays in real time all parameters characterizing the operation of the device at the moment. Also, in the application you can download additional materials, such as: instructions, drivers for DOT equipment, etc.

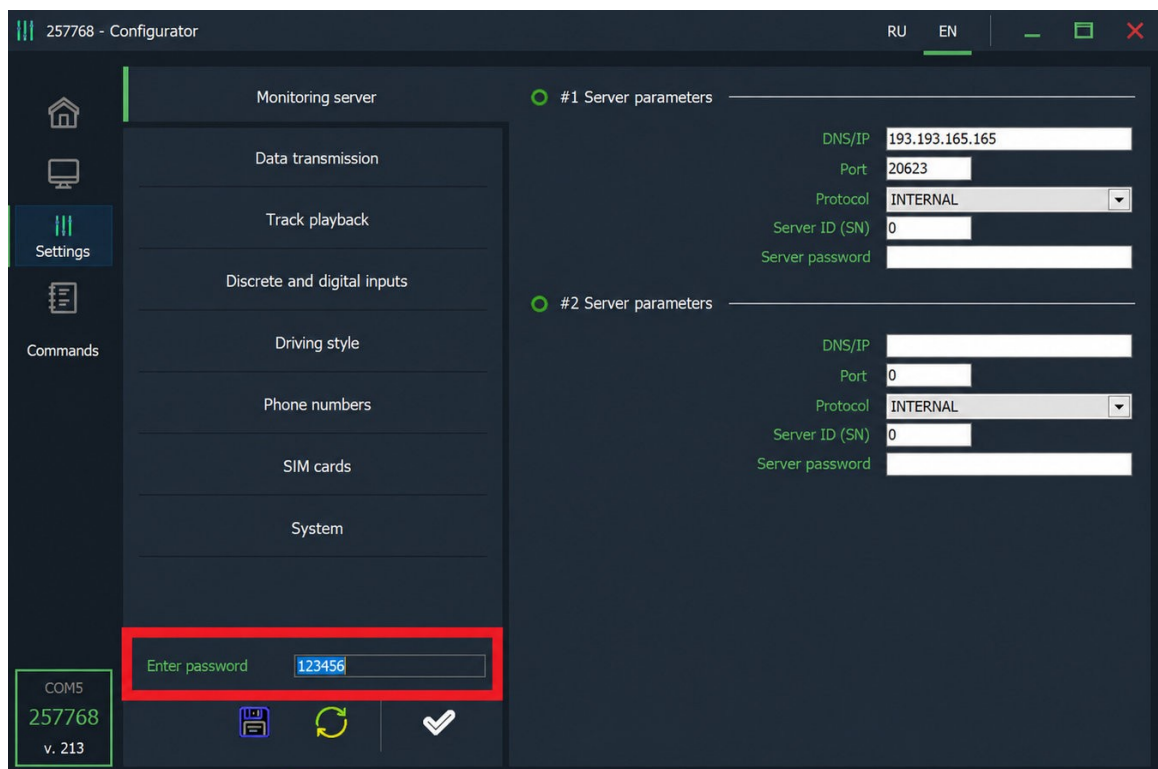


Main sections of the configurator:

- Welcome – General device information and downloadable resources.
- Monitoring – Real-time display of the status of the device and connected peripherals.
- Settings – Device configuration menu. Its structure is similar to the Web Configurator. See the “WEB Configurator” chapter for details. Changing settings may require the device **password**.
- Commands – Menu for sending service commands to the device.



“Monitoring” section



Section "Settings"

3. FORCED UPDATE OF DEVICE SOFTWARE AFTER FAILURE OF THE UPDATE PROCESS

To force a device software update after the update process fails, proceed as follows:

1. Completely de-energize the device: disconnect external power, battery and USB.
2. Connect pin 2 (1-W) to pin 1 (GND), they are adjacent.
3. Connect only USB.
4. The blue GSM/NAV LED should light up. While it is lit, pin 2 (1-W) and pin 1 (GND) should be connected.
5. Once the LED goes off, disconnect 1-W from GND.
6. After this, the device will be detected as a flash drive on the PC.
7. Copy the firmware file (extension dfw).
8. The GSM/NAV LED will be on during the update. Do not disconnect USB - an update is in progress.
9. Once the update is complete, the LED will turn off. The process is completed, the device will start automatically.

4. SETUP VIA SMS

The structure of the message with the command to change settings is as follows:

<access_password>*SETP*<parameter_list>

By default, the <access_password> field has the value 123456

Field <parameter_list> contains the number and value of one or more parameters to be changed.

Each element from the list of changeable parameters has the following structure:

#<parameter_number> = <value>

<parameter_number> - numerical index of the parameter.

<value> - new parameter value, can be simple or compound.

A composite value is a sequence of simple values separated only by a comma:

<value_1, value_2, value_N>.

List elements are transmitted without delimiters: the end of one element is indicated by the beginning of the next (# sign).

When sending messages via SMS, it is necessary that the length of the message does not exceed 160 characters, and the message contains letters only of the Latin alphabet.

If the SMS command was accepted, an SMS with the current device settings will be sent in response.

The device automatically synchronizes settings with the WEB configurator, so the WEB configurator always contains the actual current settings of the device.

An example of changing several parameters in one message:

*123456*SETP*#1= hosting.wialon.com,20623#5=400,18,20,150#9=F,D,D#11=0,30*

*123456*SETP*#1=193.193.165.165,20623,0,0#2=send.ee.,#4=#5=1000,15,50,150,1000,18,50,150#6=3,360,5#7=send.ee.,#8=#9=D,D,D#10=1#11=5,30#12=0#15=1,1#16=5000,0#19=0,0,0,0#21=10,0#26=0,0,0*

If you have any difficulties forming the “SETP” command, you can use the response to the “GETP” command as a hint.

Table 3 – List of Setting Parameters for the SETP Command

Parameter number	Description
#1	Monitoring server settings 1
#2	SIM card 1 mobile operator APN parameters
#3	Device access password
#4	PIN code of SIM card 1 (if activated)
#5	Track recording parameters
#6	Setting the Power Saving Mode
#7	Mobile operator APN parameters of SIM card 2
#8	SIM card PIN 2 (if activated)
#9	Input/output operating modes
#10	Data from the CAN bus for transmission to the server
#11	Operating modes of digital interfaces
#12	External CAN reader program number
#15	Operating mode in roaming
#16	Analog input threshold
#19	Filtration level of LLS sensors
#20	Speed limit
#21	Motion sensor operating parameters
#26	Monitoring server settings 2

Monitoring server parameters 1 - Parameter number: 1

Command format: #1=<server_address>,<server_port>,<protocol>,<ID>

Arguments:

<server_address> - a string up to 32 characters long. Contains the DNS name or IP address of the server.

<server_port> - a number from 1 to 65535. It is not a required parameter: if there is no need to change the server port, the parameter can be omitted.

<protocol> - Protocol type. 0 – DOT, 4 – EGTS.

<ID> - identifier for the monitoring server. The default is IMEI. If an alternative identifier is required, set a value other than zero.

Examples:

123456*SETP*#1=193.193.165.165,20629,4 – set IP address, server port, protocol type - EGTS

123456*SETP*#1=hw.geliospro.ru,20144 – set the DNS name and server port

123456*SETP*#1=hw.geliospro.ru – change only the server address, leave the server port unchanged

SIM card cellular operator APN parameters - Parameter number: 2

Command format: #2=<APN>,<username>,<password>

Arguments:

<APN> - a string up to 32 characters long. Contains the access point name

<username> - a string up to 32 characters long. Contains the username of the access point

<password> - a string up to 32 characters long. Contains the access point password

Examples:

123456*SETP*#2=internet,gdata,gdata – set the APN parameters of the Megafon operator

123456*SETP*#2=,, – clear the APN parameters

Device access password - Parameter number: 3

Command Format: #3=<new_access_password>

Arguments:

<new_access_password> - a string up to 8 characters long. Contains the new password to access the device. An empty line means that the device will be accessed without a password.

Examples:

123456*SETP*#3=13571 – set access password 13571

SETP*#1=193.193.165.165,20629,4 – example of an SMS command when the password is disabled.

SIM card PIN - Parameter number: 4

Command Format: #4=<PIN_code>

Arguments:

<PIN_code> - a string up to 8 characters long. Contains the code that will be entered if the SIM card is set to require a PIN code.

ATTENTION: THIS COMMAND SAVES THE PIN CODE IN THE DEVICE MEMORY AND DOES NOT ENABLE/CHANGE THE PIN CODE ON THE SIM CARD. THEREFORE, IF THE PIN CODE ENTRY FUNCTION IS ALREADY ENABLED ON THE SIM CARD, THEN SPECIFYING AN INCORRECT VALUE IN THIS PARAMETER WILL LEAD TO BLOCKING THE CARD. AN EMPTY LINE MEANS THAT THE PIN CODE IS NOT SET.

Examples:

123456*SETP*#4=2468 123456*SETP*#4=

– when the SIM card requests a PIN code, 2468 will be entered – erase the PIN code

Track recording parameters - Parameter number: 5

Command Format:

#5=<distance_home>,<angle_home>,<speed_home>,<interval_home>,<distance_roaming>,<angle_roaming>,<speed_roaming>,<interval_roaming>

Home – settings for home network mode

Roaming – settings for roaming mode

Arguments:

<distance> - a number from 100 to 65535 or 0. If the distance between the last position sent to the server and the current position exceeds the specified value, then the current position will be sent to the server. The unit of measurement is meter. An optional parameter: if there is no need to change the distance, the parameter can be omitted. A value of 0 disables the distance condition for sending to the server.

<angle> - a number from 0 to 180. If the angle change between the course of the last position, sent to the server, and the current course exceeds the specified value, then the current position will be sent to the server. The unit of measurement is degrees. An optional parameter: if there is no need to change the angle, the parameter can be omitted. A value of 0 disables the condition of sending to the server by angle.

<speed> - a number from 5 to 65535 or 0. If the change between the speed at the moment when the last position was recorded and the current speed exceeds the specified value, the current position is sent to the server. Units: km/h. This parameter is optional; omit it to retain the current setting. A value of 0 disables reporting based on speed changes.

<interval> - a number from 5 to 65535 or 0. If the interval between the last time coordinates were sent to the server and the current time exceeds the specified value, then the current position will be sent to the server. The unit of measurement is second. Not required parameter: if there is no need to change the sending interval, the parameter can not be sent. A value of 0 disables the condition of sending to the server by interval.

Examples:

*123456*SETP*#5=400,18,20,150 – set all parameters for trajectory processing*

*123456*SETP*#5=,,35,300 – change only the speed and interval, leave the distance and angle unchanged*

*123456*SETP*#5=,15 – change only the angle, leave other parameters unchanged*

*123456*SETP*#5=400,18,20,150, 1000,25,40,360 – various modes for home and roaming.*

SIM chip operator APN parameters (SIM2) - Parameter number: 7

Command Format: #7=<APN>,<username>,<password>

Arguments:

<APN> - a string up to 32 characters long. Contains the access point name

<username> - a string up to 32 characters long. Contains the username of the access point

<password> - a string up to 32 characters long. Contains the access point password

Examples:

123456*SETP*#7=internet,gdata,gdata – set the APN parameters of the Megafon operator

123456*SETP*#7= , , – clear APN parameters

SIM chip PIN (SIM2) - Parameter number: 8

Command Format: #8=<PIN_code>

Arguments:

<PIN_code> - a string up to 8 characters long. Contains the code that will be entered if the SIM the card is set to require a PIN code.

ATTENTION: THIS COMMAND SAVES THE PIN CODE IN THE DEVICE MEMORY AND DOES NOT ENABLE/CHANGE THE PIN CODE ON THE SIM CARD. THEREFORE, IF THE PIN CODE ENTRY FUNCTION IS ALREADY ENABLED ON THE SIM CARD, THEN SPECIFYING AN INCORRECT VALUE IN THIS PARAMETER WILL LEAD TO BLOCKING THE CARD. AN EMPTY LINE MEANS THAT THE PIN CODE IS NOT SET.

Examples:

123456*SETP*#8=2468 123456*SETP*#8=

– when the SIM card requests a PIN code, 2468 will be entered – erase the PIN code

Input/Output Modes - Parameter Number: 9

Command Format: #9=<IN0_mode>,<IN1_mode>,<IN2_mode>

Arguments:

<IN0_mode> is a symbol indicating the operating mode IN0:

<IN1_mode> - symbol indicating the operating mode of IN1:

N – not used;

O – output mode 1 (open drain) with state saving in non-volatile memory; L – output - indication; D – discrete; C – pulse; F – frequency;
 G – ground monitoring; P – pulse non-zero; S – “overspeed” output; Z – “safe blocking” output;
 U – auto start output; K – output “deactivation by key”.

A detailed description of the modes is in the “Discrete inputs/outputs” section.

When connecting the ignition to input IN2, D is selected – discrete mode.

<IN2_mode> - symbol indicating IN2 operating mode: N – not used;
 D – discrete; A – analog.

WARNING: INPUT IN2 IS RESERVED FOR IGNITION DETECTION (DISCRETE MODE).

Examples:

*123456*SETP*#9=O,D,D – set the operating mode IN0 - output mode 1, IN1 and IN2 - discrete*

*123456*SETP*#9=,C,A – change mode IN1 to counting, IN2 to analog*

*123456*SETP*#9=F – change the IN0 mode to frequency, leave the modes of the other inputs unchanged.*

Operating modes of digital interfaces - Parameter number: 11

Command Format: #11=<RS485/RS232_mode>,<1-WIRE>

Arguments:

<RS485/RS232_mode> is a number indicating the RS485 or RS-232 interface mode, depending on the modification:

0 – not used;

5 – fuel level sensor LLS 485 (up to 8 sensors inclusive; sensors must have network addresses from 1 to 8);

This is an optional parameter: if there is no need to change the RS485 interface mode, the parameter need not be transmitted.

<1-WIRE> - number indicating the operating mode of the communication interface with built-in modules:

29 - discrete input mode

30 – 1-WIRE operating mode (thermal sensors, identification keys)

Examples:

*123456*SETP*#11=0,30 – disable the RS485 interface, set the operating mode to 1-wire*

*123456*SETP*#11=5,30 – set the LLS 485 mode, leave the 1-wire mode unchanged.*

External CAN adapter program number – Parameter number: 12

Command Format: #12=<program_number>

Arguments: <program_number> - value from 0 to 3000.

Examples: 123456*SETP*#12=8

Operating mode in international roaming - Parameter number: 15

Command Format: #15=<SIM_card_mode>,<SIM_chip_mode>

Arguments:

<SIM_card_mode> - operating mode in international roaming

<SIM_chip_mode> - operating mode in international roaming:

0 – data transfer while roaming is prohibited; when returning to the home network, all data will be downloaded;

1 – data transfer while roaming is allowed.

Examples:

*123456*SETP*#15=0,0 – disable data transfer when the device is in international roaming.*

Analog input threshold - Parameter number: 16

Command Format: #16=<IN2_threshold>,<external_power_threshold>

Arguments:

<IN2_threshold> - voltage threshold in mV at the corresponding input:

If the voltage value at the input is higher than the specified threshold, then the input is considered activated (logic 1).

If the voltage value at the input is below the specified threshold, then the input is considered deactivated (log. 0).

<external_power_threshold> - ignition threshold in mV at the external power input. If the value is 0, ignition is determined by IN2.

Examples:

*123456*SETP*#16=5000,0 – ignition threshold is 5V, ignition source IN2.*

123456*SETP*#16=5000,20000 – ignition threshold is 20V, ignition source – external power input.

Filtration degree LLS – Parameter number: 19

Command Format: #19=<LLS1>,<LLS2>,<LLS3>,<LLS4>

Arguments:

<LLS1> - Additional filtering value for FLS with network address 1. <LLS2> - Additional filtering value for FLS with network address 2. <LLS3> - Additional filtering value for FLS with network address 3. <LLS4> - Additional filtering value for FLS with network address 4.

Examples: 123456*SETP*#19=0,0,0,0

Overspeed threshold – Parameter number: 20

Command Format: #=<speed>

Arguments:

<speed> - Speed threshold value in km/h from 0 to 255

Examples: 123456*SETP*#20=90

Motion sensor operating parameters – Parameter number: 21

Command format: 123456*SETP*#21=<sensitivity>,<delay>

Arguments:

<sensitivity> - the amount of acceleration that must be applied to the car in order for the fact of movement to be recorded. The lower the value, the greater the sensitivity of the accelerometer. Range from 0 to 127.

<delay> - response delay - time of continuous movement in seconds to detect movement. Range 0-127s. Recommended value 0-3 sec.

Examples: 123456*SETP*#21=10,1

Monitoring server parameters 2 - Parameter number: 26

Command format: #1=<server_address>,<server_port>,<protocol>,<ID>

Arguments:

<server_address> - a string up to 32 characters long. Contains the DNS name or IP address of the server.

<server_port> - a number from 1 to 65535. It is not a required parameter: if there is no need to change the server port, the parameter can be omitted.

<protocol> - Protocol type. 0 – DOT, 4 – EGTS.

<ID> - identifier for the monitoring server. The default is IMEI. If an alternative identifier is required, set a value other than zero.

Examples:

123456*SETP*#1=193.193.165.165,20629,4 – set IP address, server port, protocol type - EGTS

123456*SETP*#1=hw.geliospro.ru,20144 – set the DNS name and server port

123456*SETP*#1=hw.geliospro.ru – change only the server address, leave the server port unchanged

Request device settings

Similar to the SETP command (setting settings), the GETP command allows you to receive the current device settings in an SMS message.

Command Format:

<access_password>*GETP*<recipient_phone_number>

Examples: ‘123456*GETP*+79261234567’

You don’t have to explicitly specify a phone number, then a response SMS will be sent to the number from which the request was sent

Examples: ‘123456*GETP’

Example device response:

‘#1=193.193.165.165,20623#2=,#4=#5=1000,18,50,150#6=0,360,5#9=F,D,D #11=5,30#15=0’

Phone book setup command

<access_password>*SETT*<parameter_list>

Field <parameter_list> contains:

#<entry_number>=<phone_number>,<function_number>

Command Format:

*123456*SETT*#<entry_number>=<phone_number>,<function_number>*

Arguments:

<entry_number> - telephone book serial number from 1 to 5 *<phone_number>* - telephone number. Valid characters: "+", 0-9.

<function_number> - function that will be executed after a call from the specified number 0 – Sending an information SMS to the specified number

1 – Send SMS with location and map link

4 – Reboot the device

5 – Software update

6 – Updating settings

7 – No action

Examples:

123456*SETT*#1=+79051234567,1

Information SMS messages

The device is capable of transmitting a set of SMS messages with information about work. To receive an information message, you must send the appropriate request:

*<access_password>*SMST*<recipient_phone_number>* - receive SMS with IMEI;

*<access_password>*SMSK*<recipient_phone_number>* - receive an SMS with coordinates and a link to the map;

*<access_password>*SMSW*<recipient_phone_number>* - receive an SMS with the numbers and addresses of temperature sensors on the I-wire bus.

To receive information messages, the SMS messaging function must be enabled on the device's SIM card.

CONNECTION RECOMMENDATIONS

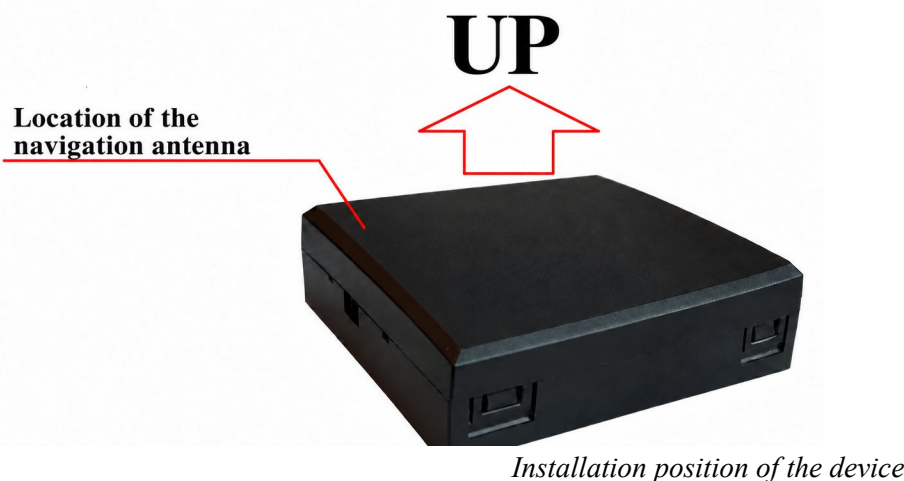
Recommended sequence of actions when connecting a device:

1. Install SIM card
2. Connect the internal battery of the device
3. Close the case
4. Connect power to the device (red and black wires of the main harness)

ATTENTION: THE POSITIVE CONSTANT POWER WIRE IS CONNECTED LAST AND ALWAYS THROUGH A 2A FUSE, WHICH IS PLACED AS CLOSE AS POSSIBLE TO THE POINT OF CONNECTION TO THE ON-BOARD NETWORK OF THE OBJECT

1. The remaining wires of the harness are connected according to the required functionality.

In order not to interfere with the GPS antenna signal, the device must be installed with the information side up as shown in Figure 4. It is not recommended to install the device upside down.



Install the device inside the passenger compartment or luggage compartment of the vehicle, where reception and operation will not be impaired. Depending on the vehicle, suitable positions include under the dashboard, behind the instrument panel, center console or glove box, behind securely fastened luggage-compartment trim, beneath cabin carpeting, or under a seat.

ATTENTION: AFTER INSTALLING THE DEVICE, YOU MUST CHECK HIGH-QUALITY SATELLITE RECEPTION (≥ 15) IN THE INSTALLED LOCATION

1. DIGITAL INPUTS/OUTPUTS

The device has the following discrete inputs/outputs:

- ✓ two universal discrete inputs/outputs – IN0, IN1; ✓ one analog input IN2
- ✓ one discrete input IN3

Digital input IN3 is also a 1-Wire digital input. When using the IN3 input in discrete mode, the ability to connect keys and temperature sensors via the 1-Wire interface is lost.

ATTENTION! It is unacceptable to apply voltage more than 5V to IN3. Digital input IN3 is used only for short circuit to minus power supply.

Each input/output has several operating modes. List of available operating modes: Table 4

№	Universal IN0(U0), IN1(U1)	Analog IN2(A2)	Discrete IN3 (1-W)
1	Discrete	Discrete	Discrete
2	Pulse	ADC mode	
3	Frequency	Pulse	
4	Ground monitoring		
5	Pulse non-zero		
6	Output mode 1		
7	Output-indication		
8	Overspeed output		
9	Safe immobilization		
10	Deactivation by key		

1.1. DIGITAL INPUTS

The device has two discrete inputs – IN0 and IN1.

The screenshot shows the DOT i3 configuration interface. On the left is a sidebar menu with options: Device passport, Firmware, Configuration, Settings, Monitoring server, Data to transfer, Drawing a trajectory, Digital and digital inputs (highlighted in blue), Driving quality, Phones, SIM card, and System. The main area displays settings for digital inputs. At the top is a 'Save' button. Below it, the 'Configuration' section shows 'Discrete' selected. The 'Settings' section includes:

- IN0[-]/OUT0: A dropdown menu currently showing 'exit - mode 1 (on / off)'.
- IN1[-]/OUT1: A dropdown menu currently showing 'input - discrete'.
- IN2[+]: A dropdown menu currently showing 'input - voltage measurement'.
- Analog input threshold, mV: A text input field containing '5000' with a range indicator '[0-65535]'.
- Virtual ignition threshold, mV: A text input field containing '0' with a range indicator '[0-65535]'.

The negative inputs support several operating modes for connecting the corresponding sensors:

“Not used” mode - no event processing when the input is triggered

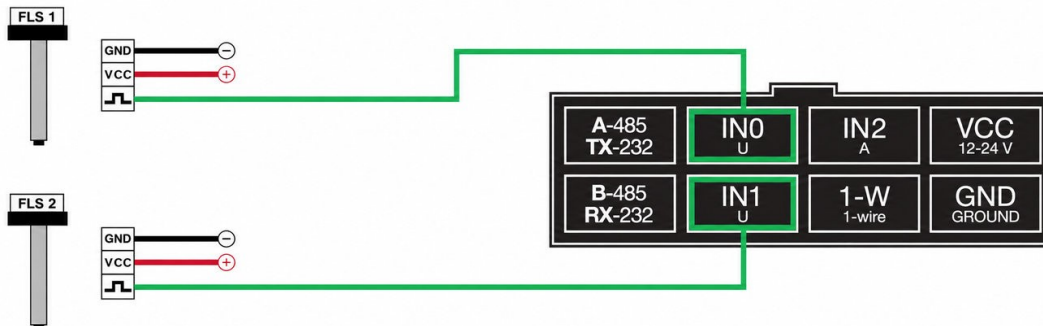
Discrete mode reports the input state: connected to ground = 1; floating/open = 0. Discrete input states are transmitted in the I/O parameter.

In the Wialon monitoring system, inputs are counted from 1, i.e. in0 in wialon is in1, etc.

“Pulse” mode - sensors with pulse output can be connected (flow fuel sensors, various counters). You can simultaneously connect up to two negative trigger sensors (IN0 and IN1).

For correct operation, it is necessary to set the pulse operating mode of the discrete input (IN0 and IN1) in the tracker settings.

“Frequency” mode - FLS with frequency output can be connected. You can simultaneously connect up to two frequency sensors, which allows you to monitor fuel consumption on vehicles with several fuel tanks (Fig. 5).



Connection diagram for frequency FLS

In the frequency FLS settings, you must set the following parameters:

- Output signal type – frequency
- Frequency range: 30 – 4000 Hz
- Activate the pull-up resistor (FLS LS-2DF / OmnicommLLS-AF 20310)

When connecting frequency FLS from other manufacturers, a resistor pull-up for power supply may be required. The resistor value is selected based on the on-board voltage and the output parameters of the FLS.

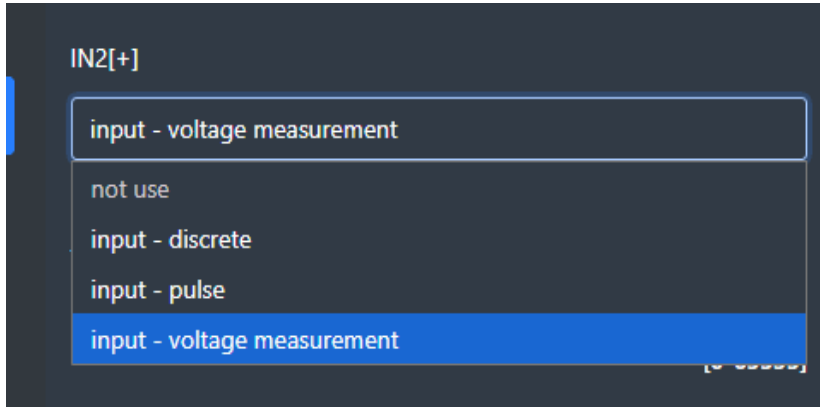
For correct operation, it is necessary to set the frequency mode of operation of the discrete input (IN0, IN1) in the tracker settings.

Ground monitoring mode is intended for vehicles with a battery ground disconnect switch and ignition connected to the tracker. After ground is disconnected, residual voltage in the ignition circuit may be interpreted as ignition on. Connect IN0 to the negative circuit after the ground disconnect switch, and connect the tracker ground directly to battery negative (before the switch) to ensure correct ignition detection.

“Pulse non-zero” mode - the mode is similar to “pulse”. If there is no frequency at the input, the zero value is not sent to the server in order to save traffic.

1.2. ANALOG INPUTS

The device has one analog input IN2.



The positive input supports several operating modes for connecting appropriate sensors:

“Not used” mode - no event processing when the input is triggered

Discrete mode reports the input state: connected to positive supply = 1; floating/open = 0. Discrete input states are transmitted in the I/O parameter.

The positive input thresholds can be configured via command #16

When connecting the ignition to input IN2, discrete mode is selected.
In the Wialon monitoring system, inputs are counted from 1, i.e. in0 in wialon is in1, etc.

ADC mode - sensors with analog output can be connected (temperature sensors, analog FLS, standard FLS, ignition).

Connect analog sensors to analog input IN2.

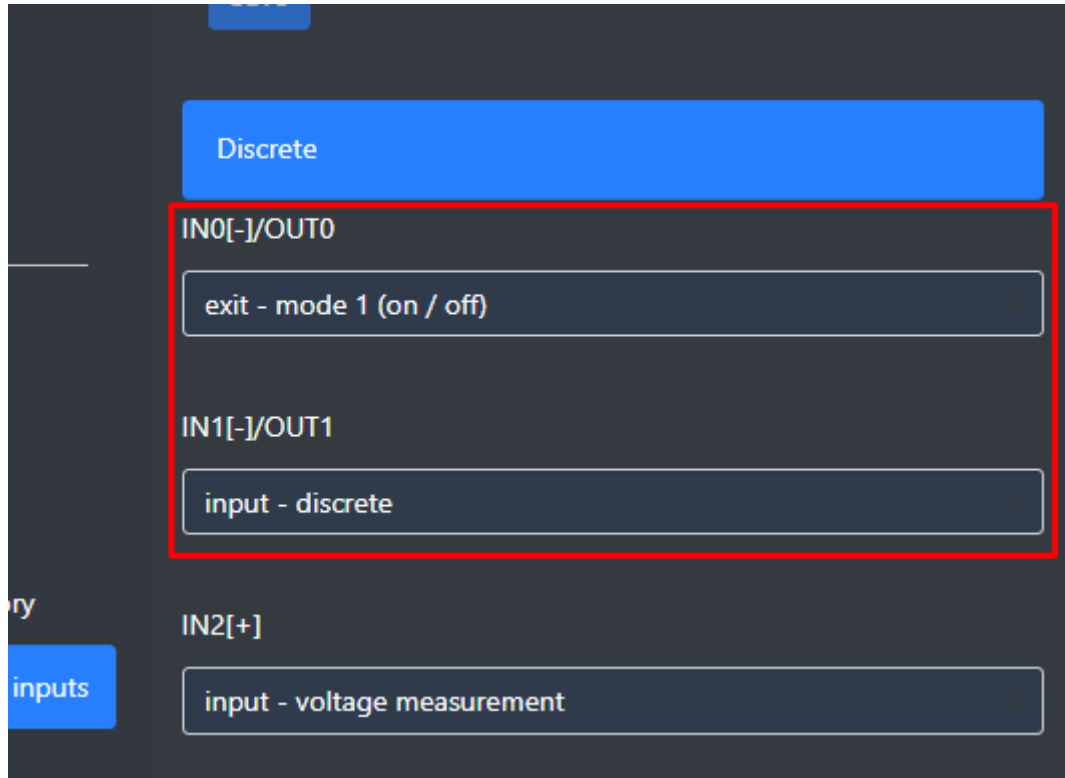
Input ADC resolution: 12 bits

Voltage measurement range: 0 – 33 V

For correct operation, select ADC mode for this input in the tracker settings.

1.3. OUTPUTS

The tracker supports control of two external actuators, which are connected to the universal contacts IN0 and IN1.

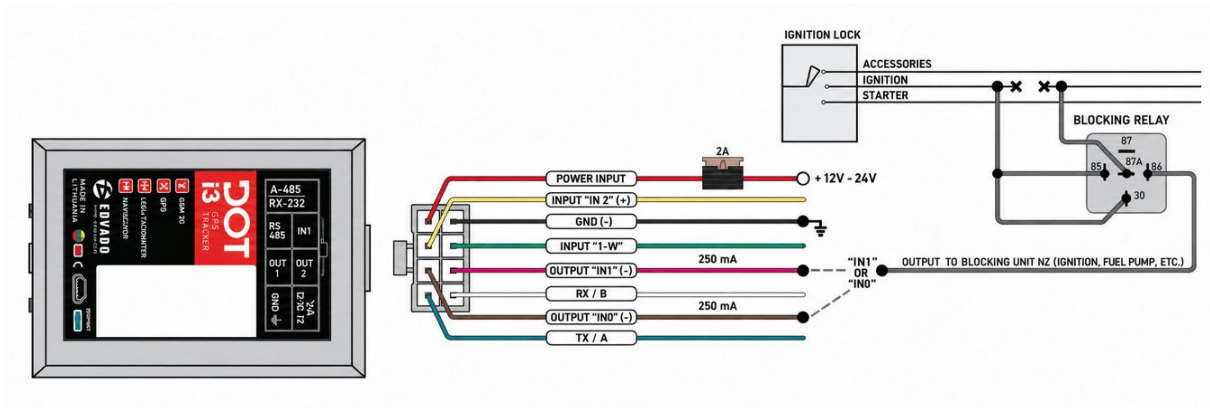


When active, the outputs switch to ground to operate external devices. Each output supports a load of up to 540 mA.

To switch more powerful devices, they should be connected via external relays (the relay coil is connected between the on-board network and the device output, and the contacts are connected to the load).

An example of using the device outputs to control the engine blocking relay is shown in Figure 6.

The relay is connected to one of the device outputs IN0 (OUT0) or IN1 (OUT1).



Connection example: engine immobilization relay

For correct operation, you must set the output mode in the device settings.

“Output mode 1” mode is the normal operating mode of the output with saving the state into non-volatile memory and restoring it after the device is restarted.

The output status is changed by a command from the server or SMS.

For commands to control outputs, see the CONTROL COMMANDS section.

“Output - indication” mode – Connecting an external (duplicate) indication of the tracker’s performance (GSM | NAV LED).

To configure operating modes of discrete inputs/outputs via SMS or monitoring server, see the command format:

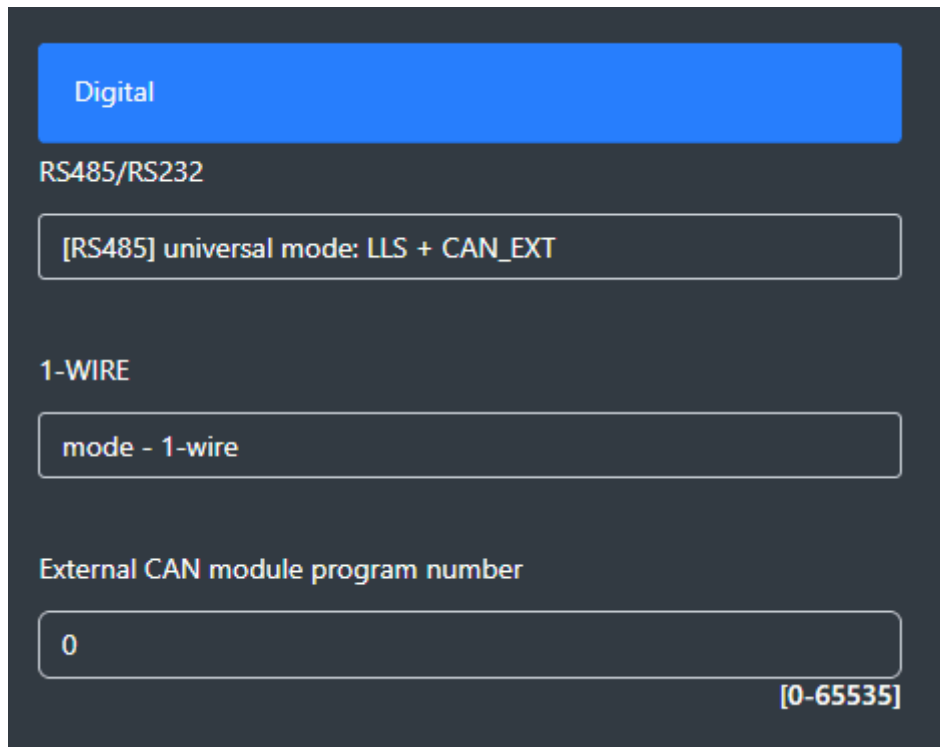
#9 – sets the operating mode of digital interfaces

Overspeed output mode activates the output when the configured speed threshold is exceeded. Set the threshold using a text command (parameter #20).

“Safe blocking” mode - the output will be activated only after the vehicle has come to a complete stop.

2. DIGITAL INPUTS

The device has a set of digital interfaces for connecting external sensors, as well as for scalability of the device's capabilities



The screenshot shows a configuration interface for digital inputs. It features a blue header bar labeled "Digital". Below this, there are three sections: "RS485/RS232" with a dropdown menu set to "[RS485] universal mode: LLS + CAN_EXT", "1-WIRE" with a dropdown menu set to "mode - 1-wire", and "External CAN module program number" with a text input field containing "0". A range indicator "[0-65535]" is positioned to the right of the input field.

Digital

RS485/RS232

[RS485] universal mode: LLS + CAN_EXT

1-WIRE

mode - 1-wire

External CAN module program number

0

[0-65535]

2.1. INTERFACE RS485 / RS232 (OPTIONAL)

RS485 interface supports multiple operating modes

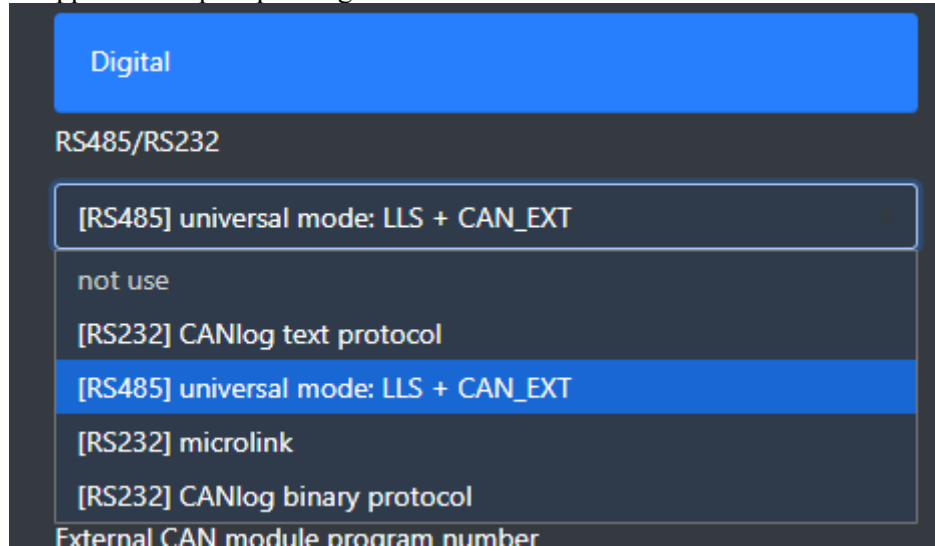


Figure 27

“LLS 485” mode – to control consumption, as well as fuel fillings and drains, the device supports work with external digital (RS-485 interface, 12 bits) fuel level sensors (capacitive, ultrasonic, etc.), which support the Omnicomm LLS protocol.

The sensors are connected to pins “4” and “8” of the main connector (see Fig. 7).

You can simultaneously connect up to 8 (possibly more) sensors to the device, which allows you to monitor fuel consumption on vehicles with several fuel tanks. Sensors are connected to the device in parallel.

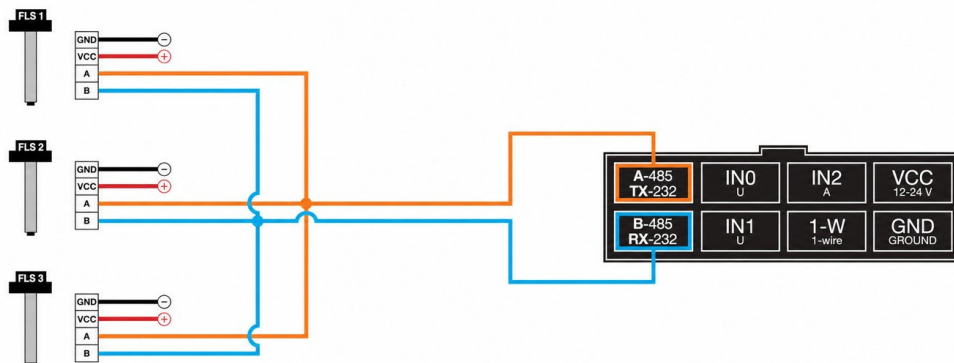


Figure 28 – Connection diagram for several FLS via RS485

Connected FLS are distinguished by the device by their network address (the device polls sensors with addresses 01, 02, 03, 04, 05, 06, 07, 08). Therefore, when connecting several sensors to one device, each sensor must have a unique network address in the range from 1 to 8 (see the level sensor user manual), the exchange rate is 19200 baud.

For correct operation, it is necessary to set the operating mode of the digital input RS485 - LLS 485 in the tracker settings

To configure LLS 485 mode via SMS or monitoring server, see the command format:

#11 – sets the operating mode of digital interfaces

Connecting an external CAN module via RS485 interface

For correct operation, it is necessary to set the operating mode of the digital input RS485 - LLS 485 in the tracker settings.

Through the configurator you can set the program number for CAN in the CAN field.

In the "Package structure" section, mark the necessary parameters for transfer to the server

CAN bus data

- ☐ Operating statuses
- ☐ Total engine operating time
- ☐ Total vehicle mileage
- ☐ Total fuel consumption
- ☐ Fuel level in tank
- ☐ Engine speed (RPM)
- ☐ Engine temperature
- ☐ Vehicle speed
- ☐ Axle pressure (1,2,3,4,5)
- ☐ Fault controllers
- ☐ Instantaneous fuel consumption
- ☐ AdBlue level

Figure 29

To configure LLS 485 and CAN mode via SMS or monitoring server, see the command format:

#11 – sets the operating mode of digital interfaces

#10 – structure of a CAN data packet to the server

#12 - changing the CAN program number

2.3. 1-WIRE INTERFACE

Connecting digital sensors via 1-WIRE interface

Temperature sensors using the 1-wire interface monitor the temperature of equipment or other objects. Up to 8 sensors can be connected simultaneously to one data bus.

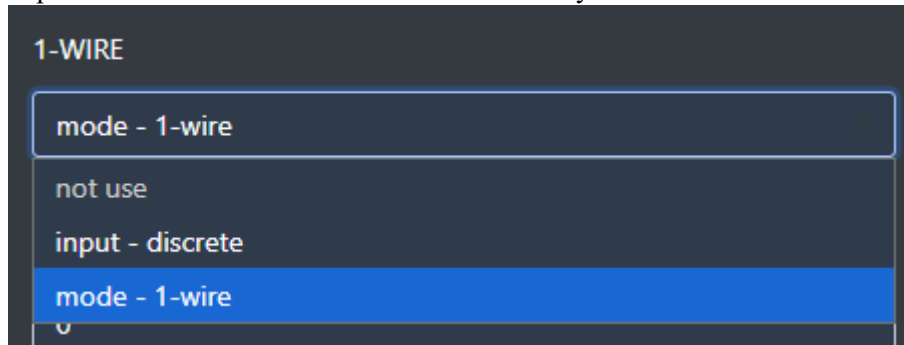
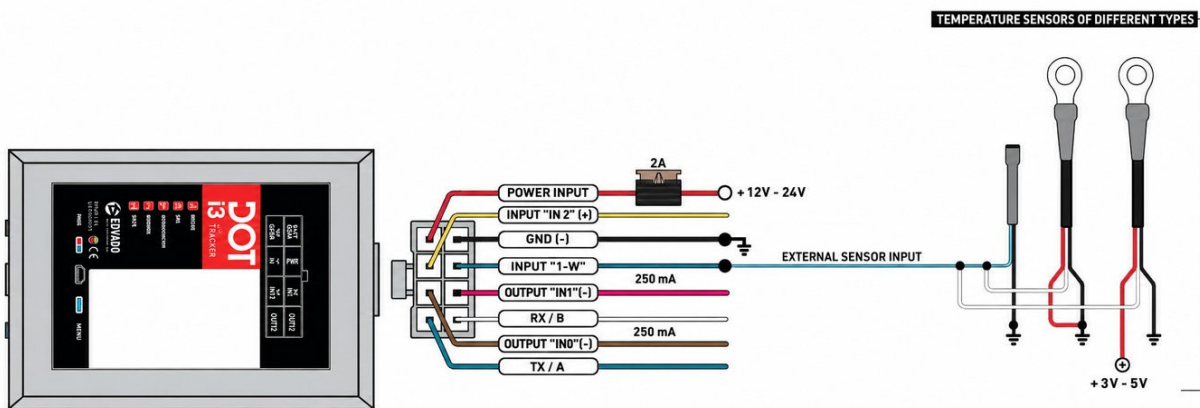


Figure 8 shows a diagram of connecting several temperature sensors of various types.



Thermal sensor connection diagram

1-wire mode does not require special settings, everything works automatically.

When new temperature sensors are connected, they are automatically assigned indexes from 0 to 7, under which they are transferred to the server.

There is no need to register the temperature sensor number anywhere.

ATTENTION: WHEN CONNECTING SENSORS USING PARASITIC POWER SUPPLY (TWO-WIRE CONNECTION DIAGRAM), THE OPERATION OF UP TO 3 SENSORS ON THE BUS IS GUARANTEED.

To request the numbers of connected temperature sensors, you can use the SMS command:
 <access_password>*SMSW*xxxxxxxxxxxx - SMS, which contains the numbers of connected temperature sensors.

xxxxxxxx - telephone number in international format (via "+") to which the information will be sent.

If you need to delete one of the temperature sensor numbers that is not used, you should send an SMS command:

<access_password>*SERV*37.x – remove the temperature sensor,

x = 0...7 – temperature sensor number from the temperature sensor table

<access_password>*SERV*37 – delete all registered temperature sensors

Connect a Dallas key to 1-W (pin 2) and GND (pin 1). The unique key number is sent to Wialon in the avl_driver= parameter.

If the device requires an additional discrete negative input, but 1-WIRE mode is not required, then pin 2 (1-W) can also be configured to operate as a discrete input.

WARNING: DO NOT CONNECT SENSORS WITH A VOLTAGE PULL-UP TO THIS INPUT. CONNECT ONLY DRY-CONTACT SENSORS THAT SWITCH TO GROUND (GND).

The status of this input (triggering) will be transmitted in tag 9 Device status - bit 20 (st1 - SOS mode monitor / alarm mode protection).

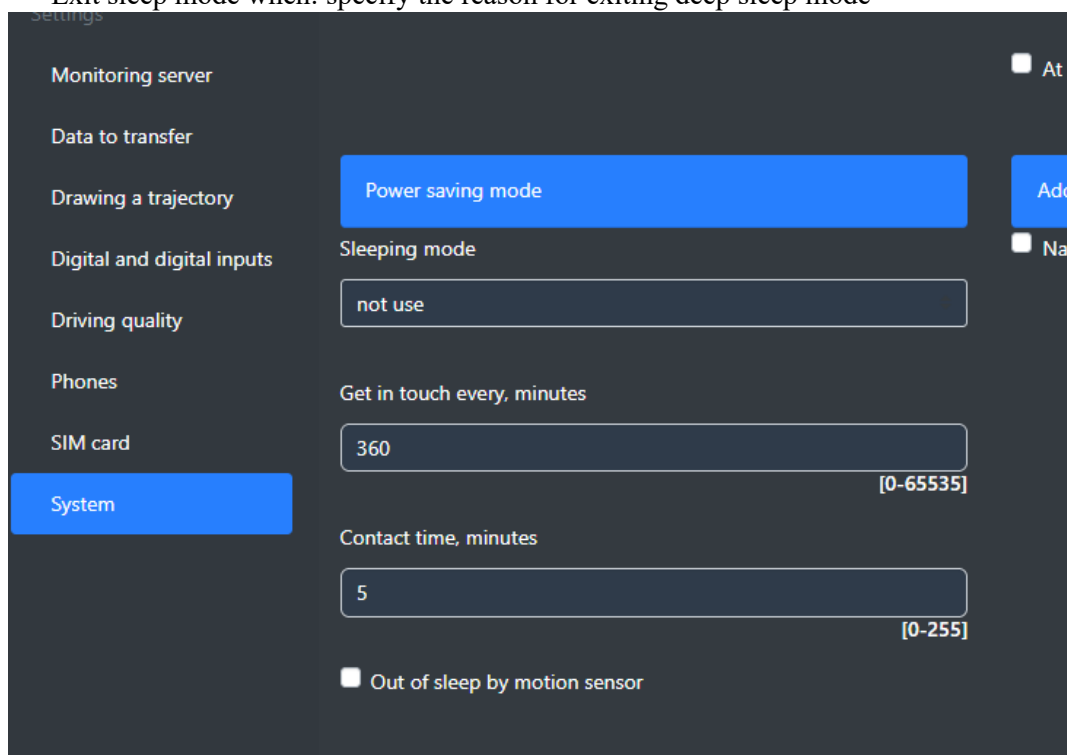
To configure the 1-WIRE mode via SMS or monitoring server, see the command format: #11 – sets the operating mode of the digital interfaces.

FUNCTIONALITY

1. ENERGY SAVING MODE (DEEP SLEEP MODE)

To configure the deep sleep mode, you need to specify the following items in the device settings on the WEB configurator (highlighted in red):

- Energy saving mode: deep sleep
- Get in touch every: specify the time interval in minutes
- Time spent in touch: indicate the time in minutes
- Exit sleep mode when: specify the reason for exiting deep sleep mode



Other parameters do not affect the operation of this mode.

This mode can be configured via SMS or monitoring server, see command format: #6 – sets the energy saving mode

Examples:

*'123456*SETP*#6=1,60,5' – turn on sleep mode, set the wake-up time to 1 hour, switch to sleep mode 5 minutes after stopping the impact on the accelerometer.*

*'123456*SETP*#6=1,0,10' – enable sleep mode, disable exit from sleep mode by timer (exit from sleep is possible only when the accelerometer is triggered), switch to sleep mode 10 minutes after the accelerometer is stopped.*

*'123456*SETP*#6=,3' – change the time of transition to sleep mode after stopping the influence on the accelerometer, leave the parameters 'mode' and 'sleep_time' unchanged.*

*'123456*SETP*#6=0' – turn off sleep mode*

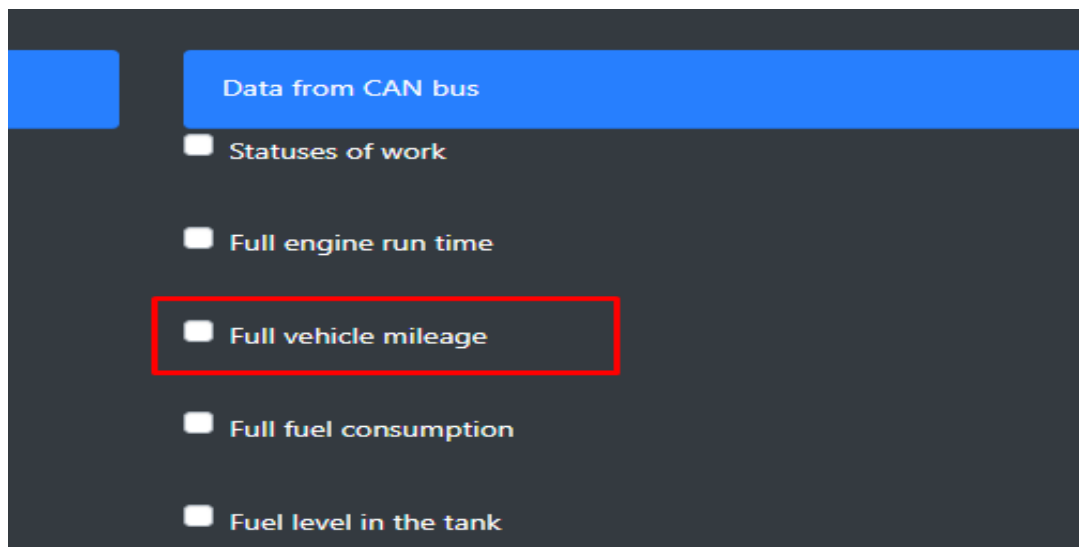
2. BUILT-IN ODOMETER

The built-in odometer is a tracker function whose main task is to constantly count the mileage, starting from the first installation of the device.

This function can be useful in monitoring systems that are not able to calculate mileage using coordinates from the tracker.

The built-in odometer function works by default; no additional activation is required.

To transfer the parameter to the server, you need to enable the “Full vehicle mileage” checkbox in the package structure as shown in the picture below (highlighted in red).

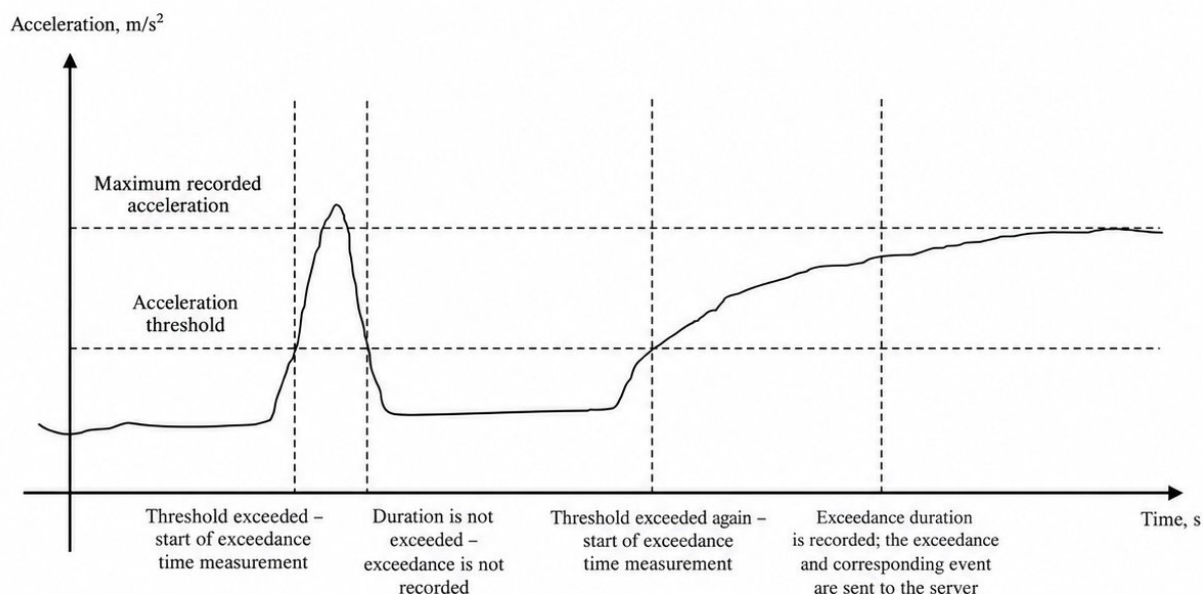
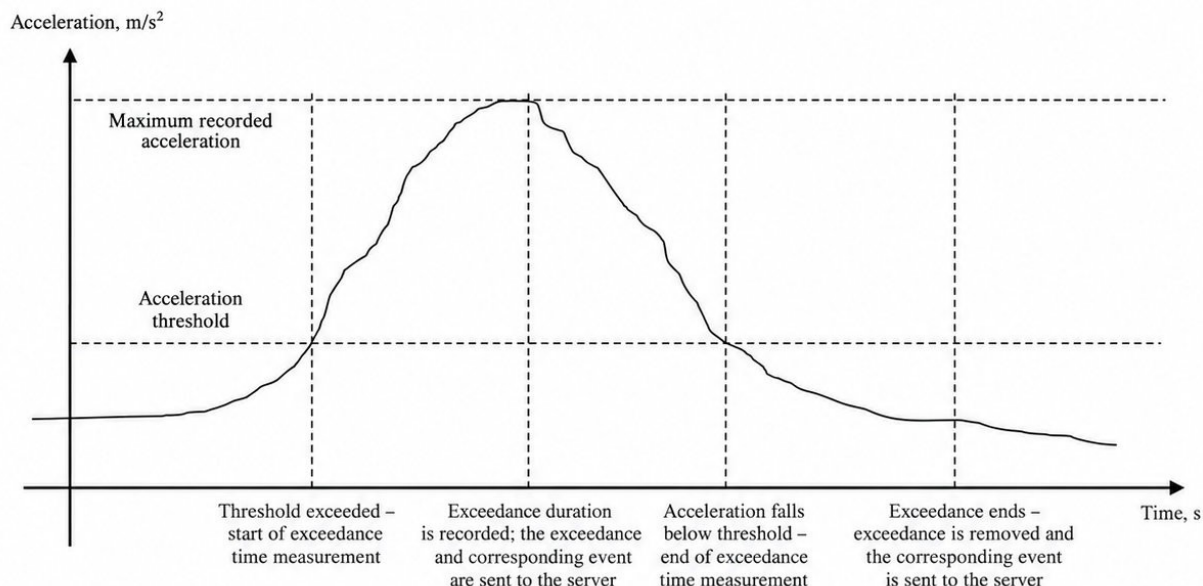


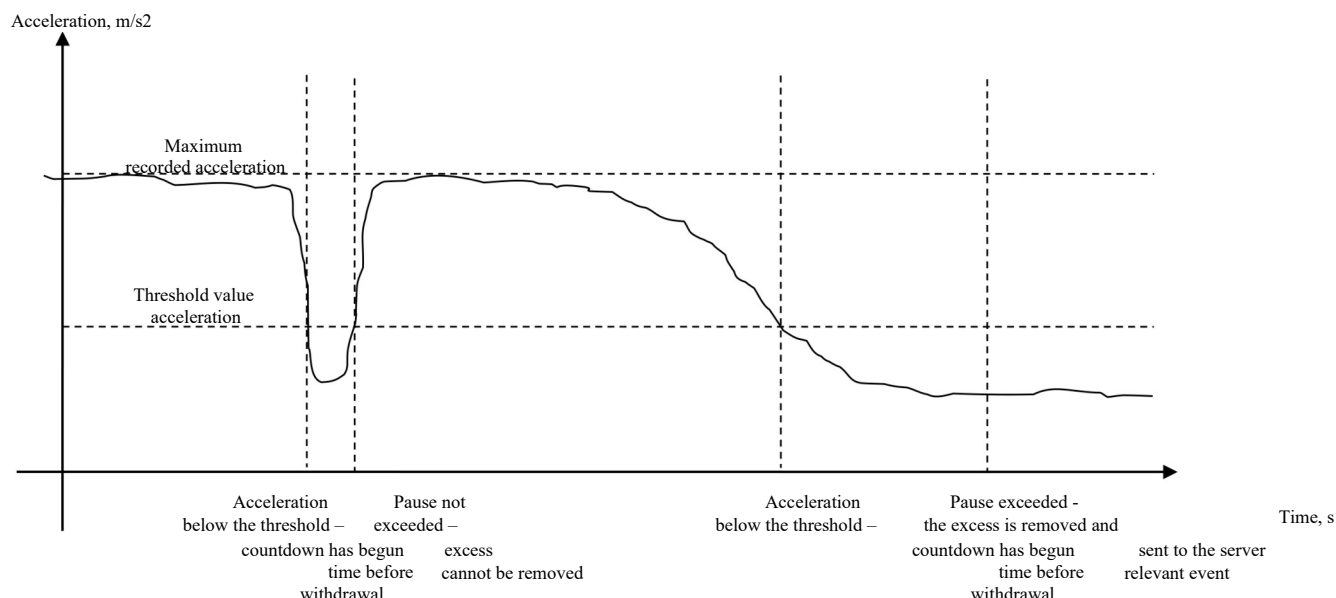
The built-in odometer is transmitted in tag 150.

3. DRIVING STYLES

DOT i3 monitors acceleration along three axes and recognizes driving parameters such as acceleration, braking, angular acceleration, vertical acceleration, and overspeeding. For each parameter, you can set up to 4 thresholds (up to 20 thresholds in total for all parameters), violation of which will be recorded and transmitted to the server.

The operation of each threshold is shown in the figures below.





When the acceleration threshold is exceeded, the violation time starts counting. If the acceleration falls below the threshold, the time counting stops and the excess is not recorded. In this case, if the time is exceeded again, the time count starts again.

If acceleration remains above the threshold for longer than the configured duration, an exceedance is recorded and the corresponding event is sent to the server.

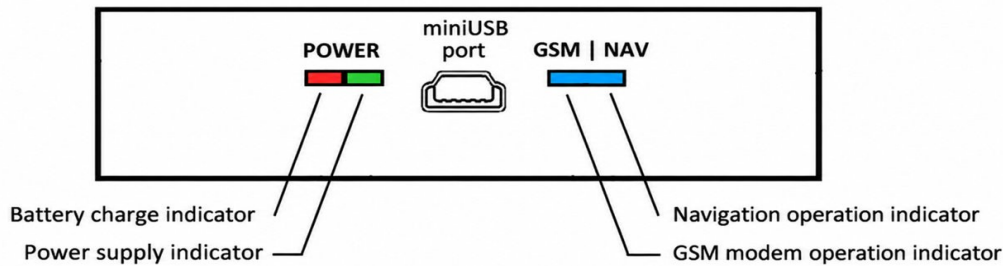
After an exceedance is recorded, acceleration falling below the threshold starts the reset-delay timer. If acceleration rises above the threshold again, the timer stops and the exceedance remains active. The timer restarts when acceleration next falls below the threshold.

If the pause time before removing the excess has expired, then the recording of the excess acceleration is removed and the corresponding event is sent to the server.

Setting up driving styles is described in the chapter “Setting via WEB configurator”.

OPERATION INDICATION

To reflect the work process, the tracker has two light indicators: POWER and GSM | NAV (Fig. 9).



Rear panel view (schematic)

POWER LED

- Green light – external power is connected
- Green and red on together (appearing yellow): external power is connected and the internal battery is charging.

GSM LED | NAV (blue LED)

Long flashes - GSM modem operating mode:

- off - modem is turned off (power saving mode or modem restart)
- 1 flash - modem is on, registered in the GSM network
- 2 flashes - connection to the server is established
- 3 flashes - successful data transfer to the server

Short flashes - operating mode of the navigation module:

- does not light - the module is turned off (energy saving mode when parked)
- 1 flash - the module is turned on, searching for satellites
- 2 flashes - satellites found, acceptable reception quality (sees from 5 to 8 satellites)
- 3 flashes - excellent reception quality (sees more than 8 satellites)

After some time (1-2 min) GSM LED | NAV should switch to a periodic series of flashes - 3 long flashes and 3 short flashes, which indicates that the device has entered normal mode - i.e. everything works correctly.

If this does not happen, then this fact may indicate a malfunction of the device; you need to check the correct connection, otherwise contact the support@Edvado.ru support service.

LIST OF SMS AND TCP COMMANDS

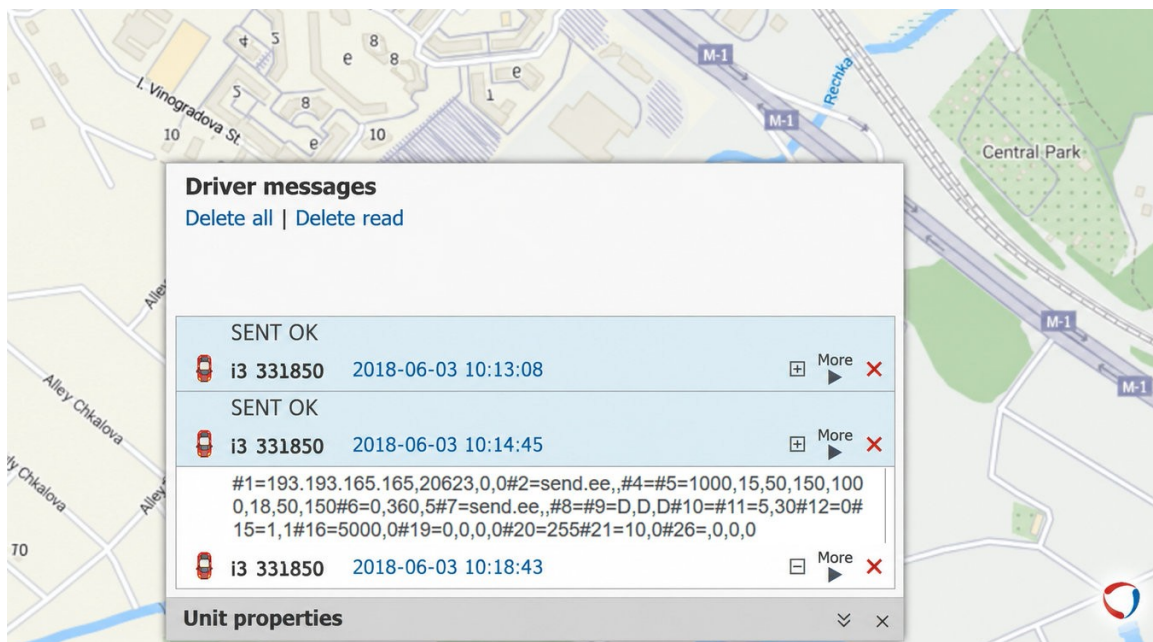
The tracker supports receiving and processing SMS and TCP commands. Description of all available commands presented in tables 6 - 8.

Table 5 – SMS and TCP text commands:

Format	Command Description
Setup Commands	
<access_password>*SETP* <parameter_list>	Tracker configuration command. A detailed description of the command is in the “Configuration via SMS” section.
<access_password>*SETT* <parameter_list>	Command for setting up the tracker phone book. Detailed description of the command in the section “Setting via SMS.”
Control commands	
<access_password>*SERV*1.1	Send a packet with coordinates to the server immediately.
<access_password>*SERV*1.4	Update software via the web configurator, even if the assigned and current versions are the same.
<access_password>*SERV*1.5	Update the software via the web configurator if the assigned version is different from the current one.
<access_password>*SERV*1.6	Clear black box
<access_password>*SERV*1.7	Reboot
<access_password>*SERV*1.8	Download settings from the web configurator
<access_password>*SERV*1.9	Send current settings to the web configurator
<access_password>*SERV*8.x.y	Transfer output X to state Y
<access_password>*SERV*9.x	Transfer output 0 to state X
<access_password>*SERV*10.x	Switch output 1 to state X
<access_password>*SERV*24.x.y.k	Activate output X for Y minutes and K seconds
<access_password>*SERV*37	Delete all registered temperature sensors
<access_password>*ODOM.x	Set the internal odometer value in meters
<access_password>*SERV*48.x	Idatalink command, (X – command code)

<access_password>*SERV*49.x.y.k	Webasto command
<access_password>*SERV*50.x	Remote start command (X = command code)
Information commands	
<access_password>*GETP	Get the current tracker configuration
<access_password>*GETT	Get current phone book configuration
<access_password>*SMSI	Receive SMS with IMEI, ID and monitoring server address 1
<access_password>*SMSK	Receive an SMS with coordinates and a link to the map
<access_password>*SMSW	Receive an SMS with the numbers of connected temperature sensors

All of the above information commands, configuration commands and control commands can be sent both via SMS and as TCP text commands (function “driver message” in Wialon). The response from the device will also return to the server:



In the case where the request contains the recipient's phone number and is sent as a TCP command, the response to the request will be sent to the specified phone number.

In addition, there are a number of short TCP commands (custom message function in Wialon). TCP commands are presented in Table 7.

Table 6 – TCP commands from the server

Format	Command Description
0101	Send a packet with coordinates to the server immediately
0104	Update software via the web configurator, even if the assigned and current versions are the same
0105	Update software via the web configurator if the assigned version is different from the current one
0106	Clear black box
010550	External CAN reader software update
0107	Restarting the device
0108	Download settings from the web configurator
0109	Send settings to web configurator
080X0Y(ZZ)	Activate / Deactivate output X – output number (0 – IN0 (U0), 1 – IN1 (U1), 2 – IN2 (U2), 3 – IN3 (U3)), Y – new state (1 – activate, 0 – deactivate), ZZ – (optional) output activation time in seconds, from 01 to 99 (01 = 1 second; 10 = 10 seconds).

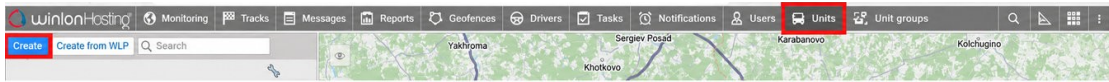
DESCRIPTION OF PARAMETERS IN THE WIALON SYSTEM

Table 7

Wialon parameter	Description	Comments
pwr_ext	External supply voltage	
pwr_int	Internal battery voltage	
hdop	Horizontal dilution of precision	
cell_id	GSM base station code	
lac	GSM local area code	
mnc	GSM mobile network code	
mcc	GSM mobile network code	
gsm	GSM signal strength	Range from 1 to 31 (99 – no GSM network)
gsm_st	GSM chip operation status	0 – not running, 1 – running, 2 – AT Ok, network search, 3 – GPRS test, 4 – GPRS OK
nav_st	GPS/Glonass chip operation status	0 – not launched, 1 – launched, 2 – search for satellites, 3 – satellites captured
mw	Motion sensor (accelerometer) status	0 – no movement, 1 – movement
sim_t	SIM card/SIM chip	0 – SIM card, 1 – SIM chip
sim-in	Availability of SIM	
st0	Tamper sensor	
st1	1-Wire digital input	
st2	Ignition	
freq_0	Frequency sensor IN0	
freq_1	Frequency sensor IN1	
info_messages	Service value	Reason for recording a new data packet
lls1_val	RS-485 fuel level	
lls1_temp	RS-485 temperature from FLS	
adc3	IN2 voltage value	
I/O	Bitwise parameter (inX/outX)	
ID		
text		
balance_sim1		
balance_sim2		
gps_full_milleage		
avl_driver		
wln_brk_max		
wln_accel_max		
wln_crn_max		
can_eng_full_time	CAN engine hours	
can_full_mileage	CAN mileage	
can_fuel_level_cons	CAN fuel consumed	

Wialon parameter	Description	Comments
can_fuel_level	CAN fuel level (%)	
can_fuel_level	CAN fuel level (liters)	
can_rpm	CAN engine speed	
can_eng_temp	CAN engine temperature	

To add a tracker in Wialon, open the Units tab and click Create.



In the window that appears, enter its IMEI in the Unique ID field and select the DOT device type.

Unit properties –

General | Icon | Additional | Sensors | Log | Custom fields | Groups

Trip detector | Fuel consumption | Maintenance

Name *: from 4 to 50 characters

Device type : DOT selecting the DOT type

Unique ID: 863071014143702 entering the IMEI

Phone number:

Access code to unit :

Mileage counter: GPS km ☐ Auto

Engine hours counter: Ignition sensor h ☐ Auto

GPRS traffic counter: [Reset counter](#) KB ☐ Auto

To create commands, open the Commands tab in the unit properties and click + Create.

Unit properties – DOT_test

General | Access | Icon | Additional | Sensors | Custom fields | Groups | Commands

Driving quality | Characteristics | Trip detector | Fuel consumption | Maintenance | Service

+ Create

In the window that appears, fill in the required fields. In the “Message” field, enter the command number and click “OK”

Command properties — example

Command name:

Command type:

Channel:

Phone number:

Specify the access rights for the user who must be able to execute this command:

- ☒ View element and its main properties
- ☐ View detailed properties
- ☐ Manage access to element
- ☐ Delete element
- ☐ Rename element
- ☐ View custom fields
- ☐ Manage custom fields
- ☐ View administrative fields
- ☐ Manage administrative fields
- ☐ Edit non-standard properties
- ☐ Change icon
- ☐ Request messages and reports
- ☐ Edit recursive elements
- ☐ Manage log
- ☐ Edit connection settings (device type, unique ID, phone number)
- ☐ Create, edit and delete sensors

☐ Without parameters

Message:

The new command appears in the unit properties. Click OK to save the unit properties.

Unit properties – 868325023239819

General Access Icon Additional Sensors Custom fields Groups **Commands**

Driving quality Characteristics Trip detector Fuel consumption Maintenance

+ Create

Command name	Command type	Phone number	Channel	Parameters	
Example	Send custom message (custom_msg)	-	Auto	0105	

WARRANTY

The equipment is designed for a long service life with unattended operation (except for the internal rechargeable battery).

The initial installation date and installer details must be entered on the warranty card and certified with the installer's stamp.

Warranty obligations do not apply to batteries.

To maintain the specified tracker performance, replace the battery every two years.

THE PRODUCT IS NOT SUBJECT TO WARRANTY REPAIR/REPLACEMENT IN THE CASES OF:

- violations of product operating rules;
- presence of mechanical damage (external or internal);
- malfunctions caused by foreign objects getting inside, insects, liquids;
- presence of chemical, electrochemical, electrostatic, extreme thermal damage;
- damage caused by non-compliance with state standards power, communication, cable networks;
- damage caused by the installation of components that do not comply with manufacturer's technical requirements;
- repairs or maintenance during the warranty period performed by persons not authorized by the manufacturer;
- in case of violation of the manufacturer's seals on the equipment;
- equipment faults resulting from external influences on the equipment or on the electrical circuit to which the equipment is connected;
- in case of violations caused by the actions of third parties or other unforeseen circumstances not related to the obligations of the equipment manufacturer.

DELIVERY SET

The tracker is supplied in the configuration presented in Table 5. Table 3 – Tracker configuration

№	Name	Qty	Note
1	Navigation controller “DOT i3”	1	monitoring device
2	Main harness	1	Comes with individual pins
4	Product data sheet	1	

All the latest technical information and software can always be found on the corresponding page of the manufacturer's website: <http://www.Edvado.ru>

Note: The manufacturer reserves the right to change the configuration of the device without compromising consumer characteristics.