Galileosky

First connection of Galileosky Boxfinder

User Manual

Contents

Necessary Tools, Equipment and Materials

To connect Galileosky Boxfinder tracking device (hereinafter-device) you should have:

1. microSIM-card with activated «GPRS» и «SMS» services
2. A computer with Windows-based operating system and an installed configuration program for Galileosky tracking units– «Configurator». It is recommended to install the last version from the site https://galileosky.com/podderzhka/programmyi.html
3. Mini USB B to connect a device to a computer (USB2.0 USB A (m) – mini USB B (m)).

Preparing Galileosky Boxfinder for Operation

General information

Galileosky Boxfinder is an autonomous satellite tracking device used for monitoring of vehicles, valuable shipment, railroad transport and other objects. Its service life is 10 years without battery changing, on condition of sending messages 2 times per day.

You can see the case of Galileosky Boxfinder in Picture 1.

The package includes a supply battery that should be connected to the device.

ATTENTION! The battery cannot be charged, in case it is completely uncharged, replace the battery with a new one.

Pic. 1

Galileosky Boxfinder case

Galileosky Boxfinder devices are equipped with built-in GSM and GPS/GLONASS aerials. There are 2 modifications:

1. Boxfinder GSM V.1.0
2. Boxfinder GSM V.1.0 with connector – it has a built-in bistable relay and a universal input.

A built-in bistable relay keeps its status, no matter whether a bobbin is powered or not. A universal input can operate in one of the following modes:

1. Analog-discrete and pulse-frequency mode;
2. Digital mode (1-Wire).

All modifications of Galileosky Boxfinder devices have the following contacts (Pic.2):

1. A slot for a microSIM card;
2. A mini USB B connector, that is used for connection to PC and for further settings;

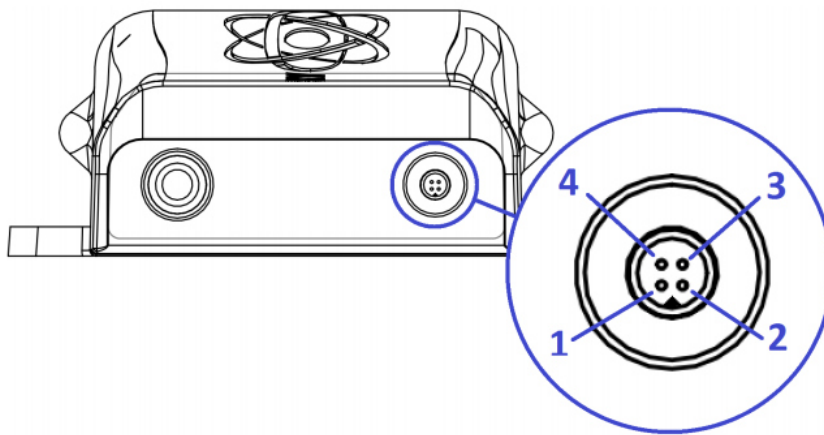# First connection of Galileosky Boxfinder (version 6 dates from June 25, 2018)

3. An opening sensor;
4. A connector for a battery.
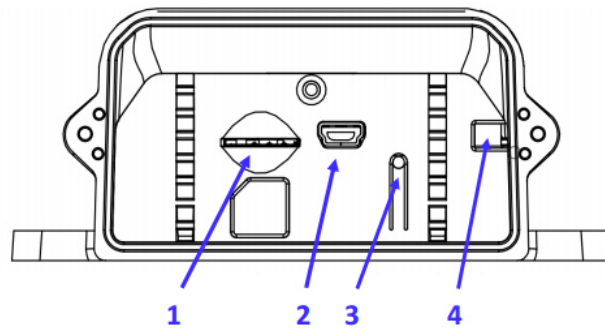
Galileosky Boxfinder V.1.0 with connector has an additional slot for external sensors (Pic.3)

Description of contacts:

1. R1 – first relay contact;
2. GND – 1-Wire ground;
3. IN – a universal input;
4. R2 – second relay contact.

Installation of microSIM-card

The order of SIM-card installation is the following:

1. Use a cross screwdriver and unscrew bolts that fix the case;
2. Take the battery out;
3. Install a microSIM in accordance with the scheme under slot 1 (Pic. 2).

ATTENTION! A microSIM card is inserted correctly, when you hear a crack, press a microSIM card to eject it.

Battery connection

The order of battery connection is the following:

1. Use a cross screwdriver and unscrew bolts that fix the case (if you have not done it earlier);
2. A battery is equipped with a slot. Connect it to slot 4 (Pic. 2).

Setting of the Device via "Configurator" Software

General information

Setting of a device via "Configurator" program (hereinafter – Configurator) is possible without a connected battery. Connect the device to PC and run Configurator.

Tab "Device" contains the following information (Pic. 4):

1. Information about the device:
    −   Device number;
    −   IMEI;
    −   Firmware;
    −   Type.
2. Battery voltage Vbat, in case the battery is connected.
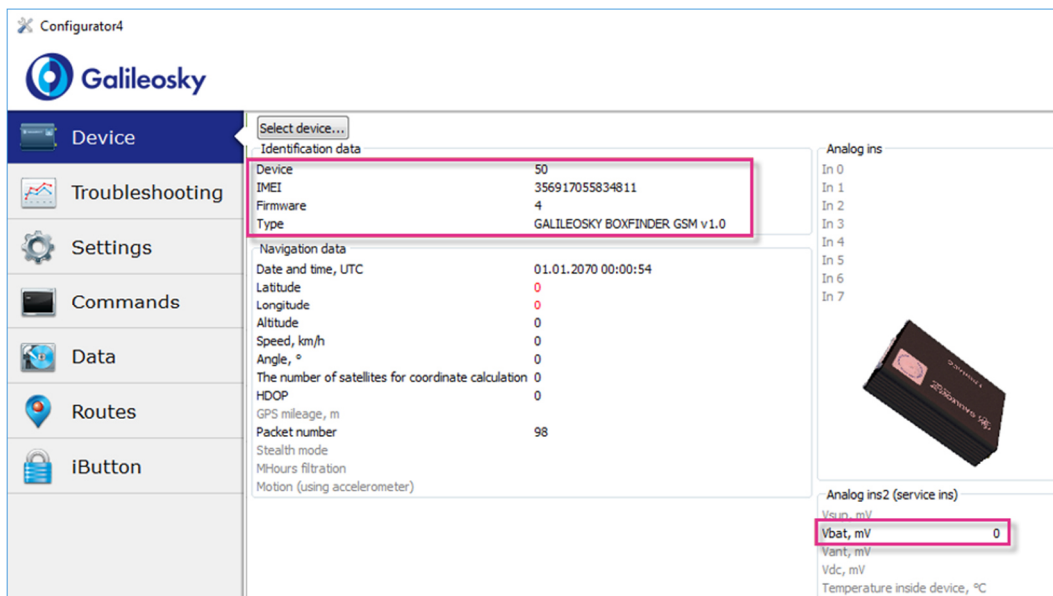

Pic. 4

"Device" tab

Setting of security parameters

To set up security parameters, run the following actions:

1. Go to tab "Settings" -> "Security" in Configurator (Pic. 5);
2. If it is needed, enter PIN and password in corresponding fields to authorize telephone numbers;
3. Enter up to 4 telephone numbers in field "Authorized phones";
4. If it is needed, enable remote configuration by ticking "Enable remote configuration" field.
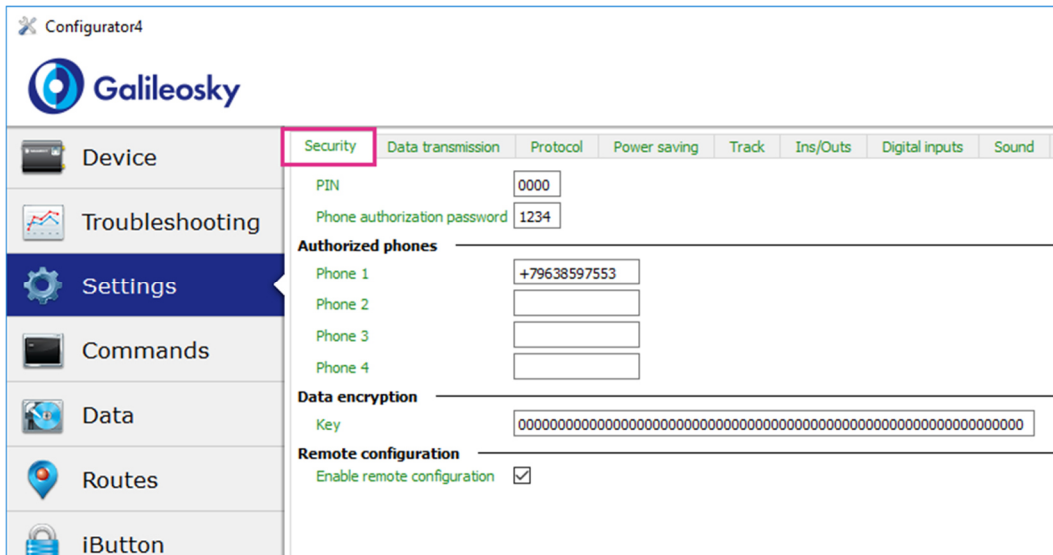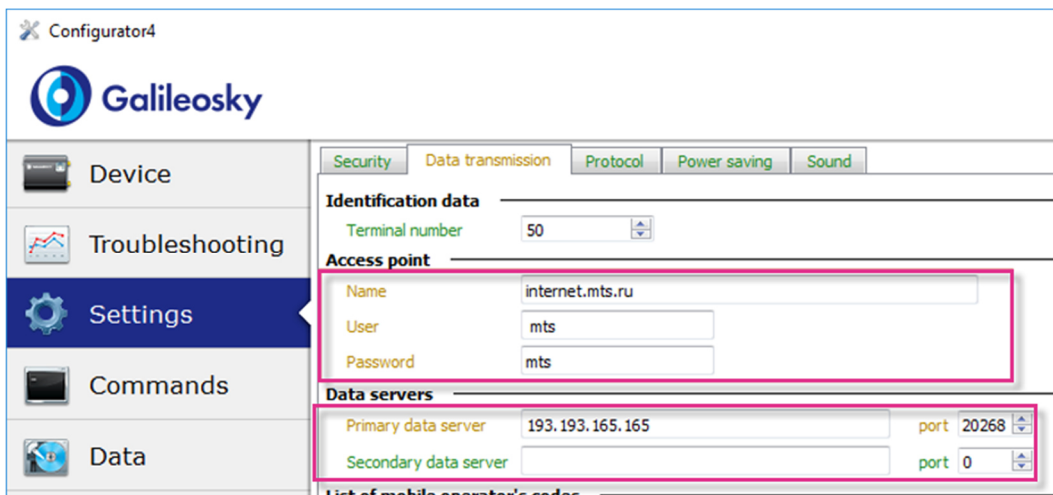
Setting of data transmission parameters

The order of setting data transmission parameters via Configurator is the following:

1. Go to tab "Settings" -> Data transmission" (Pic. 6);
2. Set up access point of selected service provider;
3. Enter a server of processing monitoring data and a port, that will receive data from the device in "Primary data server" field;
4. If it is needed, enter address and port of an additional server in "Secondary data server" field. If both servers are entered, the device will first transmit data to the primary server, then to the secondary one;
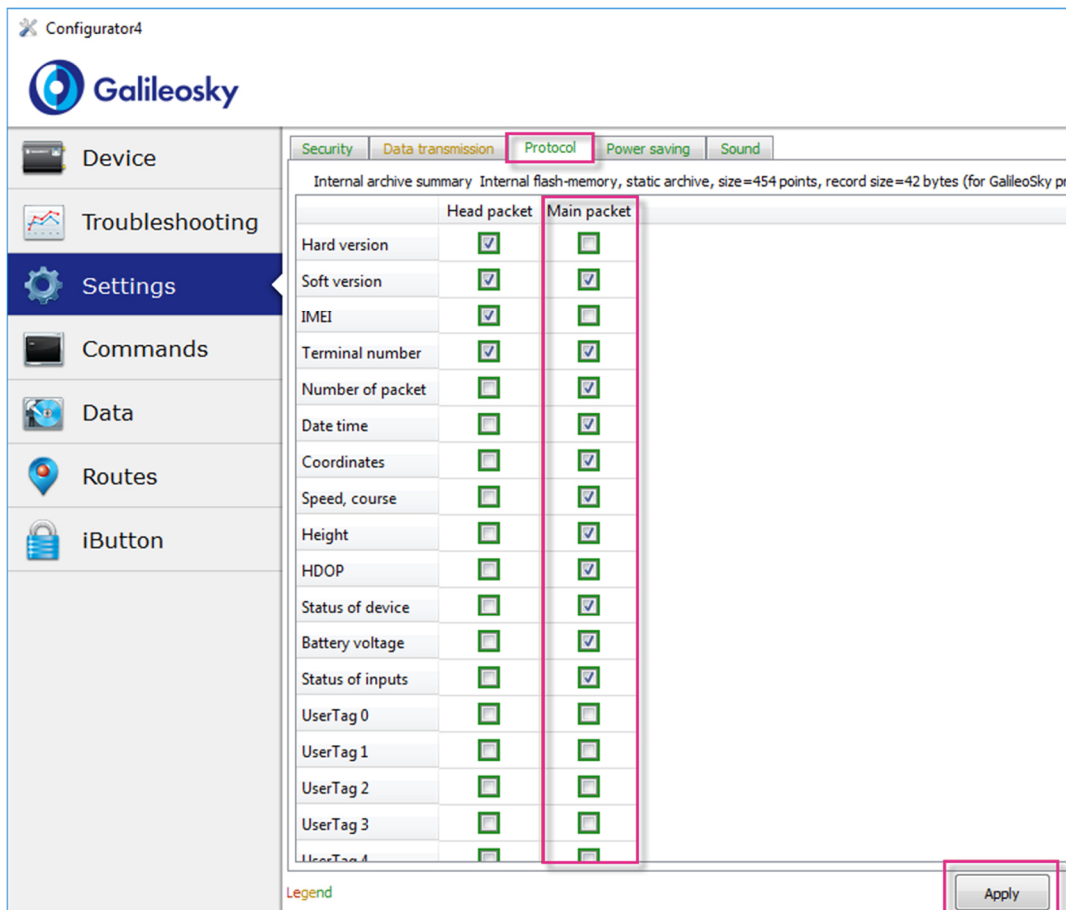
5. Go to tab "Protocol" and tick necessary parameters in the "Head packet". The device will transmit selected parameters in the head packet (Pic. 7) – version of the tracking device, version of firmware, IMEI, number of the tracking device;
6. Tick parameters, that should be sent to the monitoring server in the "Main packet" (Pic.7);
7. Click "Apply" button.

Setting of power saving mode

Galileosky Boxfinder is intended to operate in autonomous mode for a long time. When you first set it up, set parameters of device activation after sleep mode, so that its location can be detected and data can be sent to the monitoring server.

The order of setting sleep mode parameters is the following:

1. Go to tab "Settings" -> "Power saving" in Configurator;
2. Enter time in minutes in "Amount of time to stay in sleep mode" field (Pic. 8). When the time finishes, the device will leave sleep mode, will read sensors, detect coordinates and send data to the monitoring server.
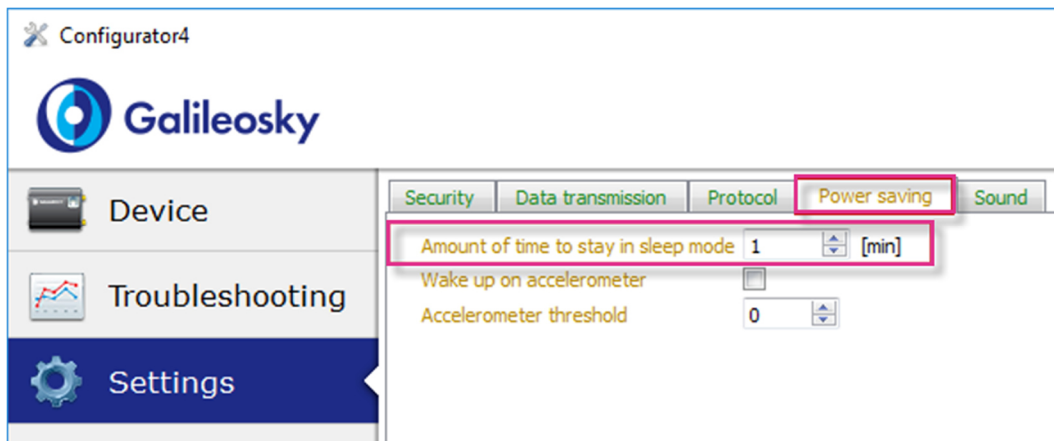
Setting of leaving sleep mode in case of events

In addition to a set up schedule, the device can leave sleep mode in case of the following events:

1. Activation of opening sensor – additional settings are not required, if the case is opened, the sensor will be activated and the device will leave sleep mode;
2. A strike detected by accelerometer. To activate this function run the following actions:

   – Go to tab "Settings" -> "Power saving";
   – tick "Wake up on accelerometer" field;
   – enter a necessary value in Accelerometer threshold.

3. activation on analog input (used for modification with connector.).

To set up leaving sleep mode by activation on analog input see "Setting of a universal input" part of the current manual.

Acoustic search of the device

Galileosky Boxfinder has a function of an acoustic search. It allows to hear the environment, when a phone call is made. This function can be used for searching of the tracking devices by producing loud sounds and evaluating their amplification and attenuation (if the device is nearby, sounds in a phone receiver will repeat produced sounds).

To set up an acoustic search run the following actions:

1. Go to tab "Settings" -> "Sound" (Pic. 9);
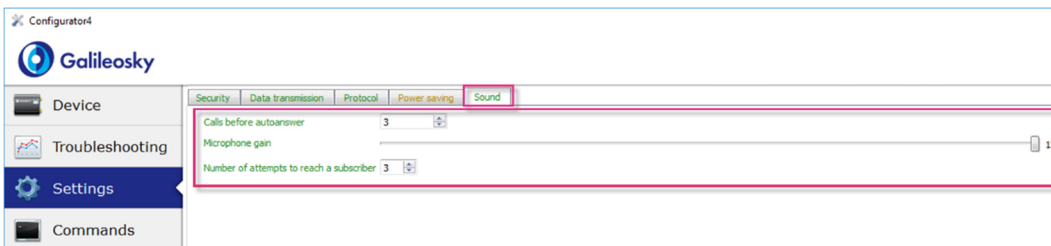
2. Enter an amount of calls, that should be made before the device can answer in "Calls before autoanswer" field;
3. Enter a necessary value in "Microphone gain" field;
4. Enter an amount of attempts that should be made by the device, in case of an outgoing call in "Number of attempts to reach a subscriber" field.

ATTENTION! Boxfinder can receive incoming calls and answer them automatically only when it is in operating mode. That is why, we recommend using command RingTo for an acoustic search. This command triggers an outgoing call made by the device. It can be sent anytime. When the device leaves sleep mode, it will receive and process the command, after that, it will make an outgoing call to a set number.

You can see a format of RingTo command in Appendix 1.

Setting of device modification with connector

Galileosky Boxfinder device with connector allows to connect external devices:

1. A built-in bistable relay provides connection of external operating devices;
2. A universal input operates in one of the modes:

– Analog mode allows to connect analog and frequency sensors;
– Digital mode allows to connect 1-Wire readers.

Use of bistable relay

Different operating devices can be connected to contacts R1 and R2 of a built-in bistable relay. You can control their operation by switching a relay state. You can see a connection scheme in Picture 10.
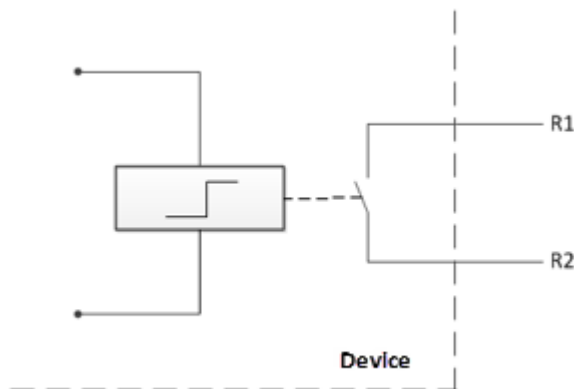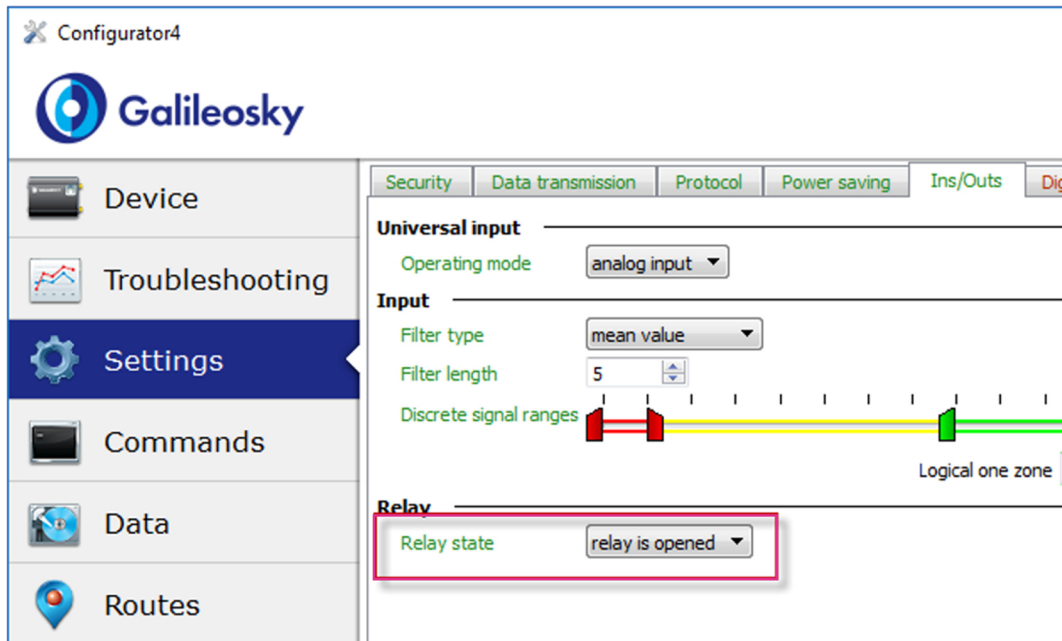

Pic. 10

Scheme of connection to bistable relay contacts

To set up an initial state of a relay run the following actions:

1. Run "Configurator";
2. Go to tab "Settings" -> "Ins/Outs";
3. Select an initial state of a relay - "Relay is opened" in "Relay state" field (Pic. 14);

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4. Click "Apply" button.

If it is needed, relay state can be changed by command sent to the device. As soon as the device leaves sleep mode in accordance with a set schedule or in case of events, it will process a command and apply changes in relay state.

Description of command is provided in Appendix 1.

Setting of device universal input

To set up a universal input to operate with an analog or frequency sensors run the following actions:

1. Go to tab "Settings" -> "Ins/Outs";
2. Select "Analog input" operating mode in "Universal input" field (Pic. 12);
3. Select "Mean value" in "Filter type" field;
4. Enter necessary values in fields "Filter length" and "Discrete signal ranges";
5. Click "Apply" button.

To set up a universal input to operate with frequency sensors run the following actions:

1. Go to tab "Settings" -> "Ins/Outs" and select "Analog input" operating mode;
2. Select "Frequency count" in "Filter type" field.

ATTENTION! Boxfinder is not intended for continuous frequency monitoring and reads sensors only in operating mode.

To set up a universal input to operate with temperature or temperature and humidity sensors run the following actions:

1. Go to tab "Settings" -> "Ins/Outs" and select "1-Wire" operating mode (Pic. 12);
2. Click "Apply" button.
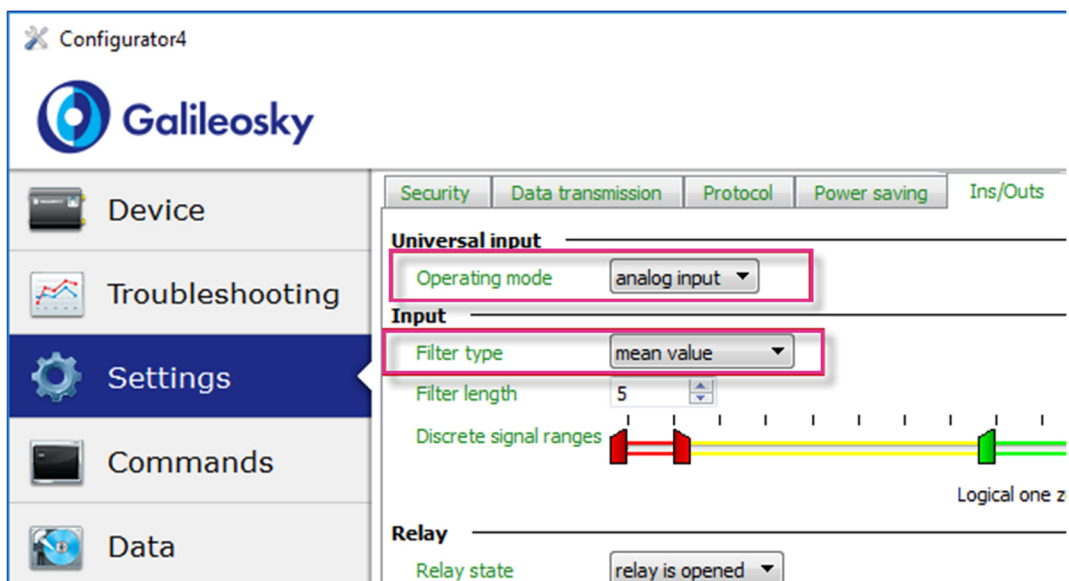
Pic. 12

Setting of a universal input on tab "Ins/Outs"

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Recommendations on Device Installation

When device settings are applied, install it to a monitoring object.

Possible places are (Pic. 13):

– Engine and luggage areas;
– Inside structural parts;
– Under cover of passenger compartment or seats;
– On any surface.

ATTENTION! It is not recommended to install the device close to working parts of a vehicle.

Setting of Galileosky Boxfinder is completed, the device is ready for use.

RSA "Galileosky", LLC produces satellite monitoring equipment for GPS and GLONASS real time vehicles monitoring. The tracking devices determine the mobile object location recording the time and route as points with geographical coordinates and send the data to the server to be further processed and sent to the traffic controller panel.

In addition, a number of other vehicle parameters are recorded: the state of analog and discrete inputs of the tracking device and the state of digital interfaces.

The tracking devices can be used in any vehicle.

Appendix №1

Additional commands

Command format
RingTo N

Parameters
N – phone number
Explanation
An outgoing call to a set phone number made by the device.

Example
Request: RingTo 89119988899
Response: RINGTO=89119988899

Command format
Out 0,s

Parameters
N – phone number
Explanation
Relay control.

Example
Request: Out 0,1
Response: OUT = 1