DAI. Connection of passenger flow sensor

User Manual
Contents

Necessary Tools, Devices, Materials .......................................................... 3
General Information .................................................................................. 4
Connection of a Passenger Flow Sensor ................................................. 5
Necessary Tools, Devices, Materials

To connect a Galileosky device (hereinafter – tracking device) you should have:

1. Electrical tools.
2. Multimeter.
3. Set of connecting wires with fuses.
General Information

Galileosky devices have a function of counting of analog impulses. Source impulse passenger flow sensors of different manufacturers can be used as an impulse (Pic. 1).
Connection of a Passenger Flow Sensor

Connection of a passenger flow sensor to a Galileosky device should be done in accordance with the scheme of Picture 2 of this manual. One contact of the relay of the sensor is to be connected to discrete and analog input (hereinafter - DAI) of the device, the second contact of the relay of the sensor is to be connected to «+» power supply of the sensor via a resistor of 10kOhm. Negative sides of power supply of the device and the sensor have to be common.

To set DAI to operate with a passenger flow sensor it is necessary to connect the device to the Configurator, go to the “Settings” tab–> “Inputs/Outputs” (Pic. 3) and perform necessary activities for every custom input.

1. Stage 1, to measure the average amplitude of a frequency signal:
   
   – Set the filter type as “middle value”;
   – Set the filter length as “50”;
   – Run the engine of a vehicle;
   – Move to the “Device” tab and slightly increasing the engine speed for one minute detect the average value of the signal amplitude, which comes to the custom input (Pic.3).

2. Stage 2, filter setting to operate with a passenger flow sensor (Pic. 4):

   Pic. 2
   Passenger flow sensor connection scheme
   Pic. 3
   Measurement of the average amplitude of frequency signal
DAI. Connection of passenger flow sensor
(version 4 dated from July 4, 2018)

- Set the filter type as “impulses counting”;
- Set the filter length as “1”, if the terminal counts some extra impulses, it is necessary to increase the filter length by 1 and estimate the correctness;
- Use sliders to set discrete signal limit to the value, calculated at the first stage.
- Set or remove the tick in the field “Clear the impulses after points recording”:
  a) If there is a tick the impulse counter (passengers counter) is reset and restarted at the moment of writing the next point;
  b) If there is no a tick impulses (passengers) are counted cumulatively. Impulse counter (passengers counter) is reset and restarted upon reaching the maximum value of 65535;

- Go to the “Settings” tab -- “Protocol” and in main packet settings tick the fields of those discrete and analog inputs, to which the passenger flow sensors are connected (Pic. 5);
- Click “Apply” button.

Values of DAI, which are set to count impulses, are displayed in the “Device” tab -- “Analog inputs” of the Configurator (Pic. 6).
After analog inputs setting has been completed monitoring software should be configured so that it can receive the measured values and mathematically calculate the number of transported passengers.

When the passenger flow sensor connection is completed you should check if the signal comes to the monitoring server correctly. To check the correctness of the signal you may compare the input values, which are displayed in the “Device” tab to the messages which come to the monitoring server (Pic. 7).

Connecting of the passenger flow sensor to the Galileosky device is completed; the device is ready to operate.

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.