RS485/RS232. Connection and Setting CAN-log with 4.0 Protocol

User Manual
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Necessary tools, devices, materials

To connect CAN-LOG devices to Galileosky tracking devices (hereinafter - tracking device) one should have:

1. A computer running Windows with the installed service program of configuration of Galileosky tracking devices-"Configurator". We recommend you install the latest version of the service program in our site https://galileosky.com/podderzhka/programmyi.html
2. Electrical tools.
3. Set of connecting wires.
4. UART>485 adapter, if Farvater CAN-log is used.
General Information

CAN-LOG device (Pic. 1) is intended for controlling the technical operational parameters of modern vehicles equipped with CAN bus, and transmitting these parameters to the interfaced device. Thanks to CAN-LOG you can receive the following information:

1. total operation time of the engine;
2. total mileage of the vehicle;
3. total consumption of fuel from the moment of car production;
4. fuel level in a tank in percent or litres;
5. engine speed;
6. coolant temperature;
7. vehicle speed;
8. load per axle;
9. state of vehicle units and emergency situation messages;
and some other data transmitted via CAN-bus.

Attention! This user’s manual is applicable only for the renewed CAN-log devices, that use protocol 4.0 to receive and process data from a vehicle’s CAN-bus.

Connection of CAN-log by Farvater to Galileosky tracking device is carried out via RS485 interface.

Connection of CAN-log by SEO Electronics is carried out via RS232 interface.

More detailed information is provided on the manufacturers’ sites:

http://farvater-can.ru/all/log/ - Farvater


Attention! This functionality is implemented by means of Easy Logic technology (https://galileosky.com/products/easylıgıc.html). To connect CAN-log to Galileosky devices, you need to use versions Galileosky 7.0 or Base Block with firmware 17.1 or higher.
Connection of CAN-log to the tracking device via RS485

In order to connect CAN-log by Farvater to Galileosky devices via RS485 interface it is necessary to use a special adapter UART→RS485 (Pic. 2). More detailed description of this adapter you can find here: http://farvater-can.ru/all/log/dokumentaciya_485/

CAN-log connection to Galileosky tracking devices is carried out in accordance with the schemes, provided in pictures 3 and 4.
Attention! Grounds of the tracking device (GND) and the UART adapter must be connected, RS485 contacts must be connected strictly according to the scheme: RS485A of UART to RS485A of the device, RS485B of UART to RS485B of the device. Power supply to UART - RS485 is provided separately.
Setting the tracking device to operate with CAN-log via interface RS485

Connect the tracker to PC and launch Configurator service program, go to tab "Commands" and run command "script galileosky/can_log_40_485" (Pic. 5).

After sending the command wait for confirmation of algorithm scheduling (Pic. 6).

Attention! The algorithm is downloaded from Galileosky information resources that's why a working SIM-card with supported GPRS should be inserted into the device.

Go to tab "Device" and make sure the algorithm is downloaded (Pic. 7). Note that the loading can take up to 20 minutes.
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Go to tab Settings - Digital inputs and select "Disabled" for "RS485 peripheral type" (Pic. 8).

After that go to tab Settings - CAN and for “filter type” select “CAN disabled” (Pic. 9). Click Apply button.

After completing the script downloading and settings performing, make sure, that CAN-bus data, received from the CAN-log, are displayed on Device tab (Pic. 10).

You can also get messages from CAN-log in "Troubleshooting" tab and tick the parameter "Algorithm and script diagnostics" (Pic. 11).
Pic. 11
CAN-bus data via CAN-log displaying in "Troubleshooting" tab.
Connection of CAN-log to the tracking device via RS232

Connection of CAN-log by SEO Electronics to Galileosky tracking devices via RS232 interface is carried out in accordance with the schemes provided in Pictures 12 and 13.

Pic. 12
RS232. Connection to Galileosky 7
Attention! Grounds (GND) of the tracking device and CAN-log should be connected, RS232 contacts should be connected strictly according to the scheme: TX of the tracker to RX of CAN-log and RX of the tracker to TX of the CAN-log. Power to CAN-log is provided separately.
Setting the tracking device to operate with CAN-log via interface RS232

Connect the tracker to PC and launch Configurator service program, go to tab "Commands" and run command "script galileosky/can_log_40_232" (Pic. 14).

After sending the command wait for confirmation of algorithm scheduling (Pic. 15).

**Attention!** The algorithm is downloaded from Galileosky information resources that's why a working SIM-card with supported GPRS should be inserted into the device.

Go to tab "Device" and make sure the algorithm is downloaded (Pic. 16). Note that the loading can take up to 20 minutes.
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Go to tab Settings - Digital inputs and for "RS232 peripheral type" select "Nothing" for the necessary input (Pic. 17).

After that go to tab Settings - CAN and for "filter type" select "CAN disabled" (Pic. 18). Click Apply button.

After completing the script downloading and settings performing, make sure, that CAN-bus data, received from the CAN-log, are displayed on Device tab (Pic. 19).

You can also get messages from CAN-log in "Troubleshooting" tab if you tick the parameter "Algorithm and script diagnostics" (Pic. 20).
Setting the Monitoring Software

After configuring the tracking device, you should set the monitoring software. If you monitoring software does not support data from CAN-LOG, you need to develop and install your own software in the monitoring server, that would process data in accordance with the data exchange protocol between the tracking device and the server. Data exchange protocol of tracking devices and the server is given in the document "Galileosky data exchange protocol" which can be found in our site https://galileosky.com/podderzhka/dokumentacziya.html.

Galileosky tracking devices allow to transmit the following parameters to the monitoring software:

<table>
<thead>
<tr>
<th>Tag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN_A0</td>
<td>Full fuel consumption since the creation of a car</td>
</tr>
<tr>
<td>CAN_A1</td>
<td>Fuel level; coolant temperature; engine speed</td>
</tr>
<tr>
<td>CAN_B0</td>
<td>Vehicle mileage</td>
</tr>
<tr>
<td>CAN8BITR0</td>
<td>Vehicle speed;</td>
</tr>
<tr>
<td>CAN16BITR0</td>
<td>Load per the first axle</td>
</tr>
<tr>
<td>CAN16BITR1</td>
<td>Load per the second axle</td>
</tr>
<tr>
<td>CAN16BITR2</td>
<td>Load per the third axle</td>
</tr>
<tr>
<td>CAN16BITR3</td>
<td>Load per the fourth axle</td>
</tr>
<tr>
<td>CAN16BITR4</td>
<td>Load per the fifth axle</td>
</tr>
<tr>
<td>CAN32BITR0</td>
<td>Total operation time of the engine;</td>
</tr>
<tr>
<td>CAN32BITR1</td>
<td>Fuel level in the tank in litres</td>
</tr>
</tbody>
</table>

Flags of security state:

| CAN8BITR1 | third byte of prefix S                           |
| CAN8BITR2 | second byte of prefix S                           |
| CAN8BITR3 | youngest byte of prefix S                         |

Flags of control state:

| CAN8BITR4 | third byte of prefix P                           |
| CAN8BITR5 | second byte of prefix P                           |
| CAN8BITR6 | first byte of prefix P                            |
| CAN8BITR7 | youngest byte of prefix P                          |

You can choose the necessary parameters in the tab Settings - Protocol, ticking the needed values in the column Main packet (Pic. 21).
Transmission results of information about events can be displayed in the following way in the monitoring software (Pic. 22):

Connection of CAN-LOG to Galileosky tracking devices is completed, the tracking 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.
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The tracking devices can be used in any vehicle.