RS485. Connection of Dosimeter «DBG-S11D»

User Manual

www.galileosky.com
Contents

Necessary Tools, Equipment and Materials .......................................................... 3
General information ................................................................................................. 4
Connecting Dosimeter «DBG-S11D» via RS485 Interface ................................. 5
APPENDIX № 1 ........................................................................................................ 8
 Necessary Tools, Equipment and Materials

To connect dosimeter «DBG-S11D» to Galileosky tracking device (hereinafter – tracking device), you should have:

1. Electrical-installation tools.
2. A set of connecting wire.
3. A computer with Windows-based operating system and an installed configuration program for Galileosky tracking devices— «Configurator 4.0» or a more advanced version. It is recommended to install the last version from the site https://galileosky.com/podderzhka/programmyi.html
General information

Dosimeter «DBG-S11D» (hereinafter – dosimeter) is intended to measure ambient equivalent dose rate of gamma emission (ADER) continuously (Pic. 1). The tracking device allows to get current ADER indications in Sv/h, dosimeter state and send these data to the server. Operation of only one dosimeter is supported. Dosimeter can be simultaneously connected with fuel level sensors and Galileosky photo camera.

ATTENTION! For connecting a dosimeter via RS485 interface, Galileosky tracking devices v.5.X, v.4.0 should have firmware not less than 206. Operation of the dosimeter with Galileosky tracking devices Base Block and 7.0 is possible if requested.
Connecting Dosimeter «DBG-S11D» via RS485 Interface

Connecting a dosimeter to the tracking device can be carried out in accordance with the scheme in Picture 2.

ATTENTION! Grounds (GND) of the tracking device and tachograph must be connected! Power supply is provided separately.

Tracking device settings for dosimeter connection are carried out via Configurator:

1. connect dosimeter to the tracking device;
2. connect the tracking device to PC;
3. run Configurator program on PC;
4. go to “Settings”, tab “Track”, set dynamic structure of archive storage (Pic. 3);
5. go to tab “Protocol” in Configurator, set the main packet for data transmission to the server, for this tick parameter «Dosimeter DBG-S11D» (Pic. 4);
RS485. Connection of dosimeter «DBG-S11D»
(version 5 dated from August 9, 2018)

6. go to tab “Digital inputs”, select “Photocamera and FLS, dozometer DBG-S11D” for “RS485 peripheral type” parameter (Pic. 5);

7. apply settings by clicking “Apply” button;

8. to check operation of the dosimeter, go to tab “Troubleshooting” in Configurator, tick parameter “RS485” and check troubleshooting messages (Pic. 6):

To complete connection of dosimeter, check correctness of data transmission to the monitoring server (Pic. 7):
RS485. Connection of dosimeter «DBG-S11D»
(version 5 dated from August 9, 2018)

If your software doesn’t support receiving information from dosimeter «DBG-S11D» through Galileosky tracking device, you should individually develop and install software to the monitoring server, processing data in accordance with the protocol of exchange between the tracking device and the server (Appendix 1).

Connecting dosimeter «DBG-S11D» to Galileosky tracking device 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.

The tracking devices can be used in any vehicle.
APPENDIX № 1

Instruction on developing monitoring server software for operating with dosimeter «DBG-S11D»

Data from dosimeter are transmitted in the tag from the table below (bytes order is little-endian):

<table>
<thead>
<tr>
<th>Tag name</th>
<th>Size in bytes</th>
<th>Bits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosimeter «DBG-S11D»</td>
<td>3</td>
<td>2 lower bytes</td>
<td>ADER, Sv/h, real unsigned (xxxxxxyyyyyyyyy – x-order, y- mantissa)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Higher byte:</td>
<td>State of dosimeter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 – 2</td>
<td>Value of dose rate and its ambiguity: 000 – 2 channels weight mean value is deduced; 001 – value of channel 1 is deduced; 010 – value of channel 2 is deduced; 101 – false value is deduced (device is in testing mode).</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>State of channel 1: 0 – off, 1 – on.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>State of channel 1: 0 – OK, 1 – failure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>State of channel 2: 0 – off, 1 – on</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>State of channel 2: 0 – OK, 1 – failure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Economical mode: 0 – off, 1 – on</td>
<td></td>
</tr>
</tbody>
</table>

RS485. Connection of dosimeter «DBG-S11D»
(version 5 dated from August 9, 2018)