RS485. Connection and Operation with Dixell Prime CX Monitor

User Manual

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Necessary Tools, Devices, Materials

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

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

Dixell Prime in CX format (hereinafter – temperature monitor) — is a selection of products that Dixell (http://www.emersonclimate.com) presents for both - heating systems and middle and low-temperature refrigeration systems. These systems can be applied to trucking, for example, refrigerators that carry medicine or food.

Usage of temperature monitors together with Galileosky tracking devices allows a user to establish online-monitoring of temperature regime, providing transmission to the monitoring software of telemetric data with reference to the world timing.

**ATTENTION!** Such functionality is implemented in the tracking devices by means of Easy logic technology (https://galileosky.com/products/easylogic.html). It is necessary to use tracking devices with support of Easy Logic. You can find out whether the tracking device supports Easy Logic or not in the following ways:
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- in tracking device’s specification there should be abbreviation (AI) or sticker on the back of the device should have abbreviation (2) near IMEI (Pic.2).
- send Hardversion command to the tracking device, if you receive numbers different from zero after comma in response, algorithms are supported (example of reply: HARDVERSION=21,8243)

To work with Dixell Prime CX monitor minimal firmware version for Galileosky v.5.X, v.4.0 tracking devices should be 231 or higher. Galileosky Base Block and 7.0 can cooperate with Dixell Prime CX monitor with any firmware version installed.
Connection of Dixell Prime CX

In order to connect a temperature monitor to Galileosky tracking device, use adapter Dixell XJ485CS and carry out the connection via digital input RS485 (pic. 3).

Dixell XJ485CS (hereinafter - adapter) – is an adapter that has a serial interface XJ485CX for «CX» controllers, it converts TTL-output into RS485 signal.

In order to receive and process the signal from the monitor, it is necessary to carry out the connection of the adapter and the monitor to the tracking device:

- connection to Galileosky v5.X and Galileosky 7.0 is executed in accordance with the scheme in Picture 4;

- connection to Galileosky v4.0 is executed in accordance with the scheme in Picture 5;
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- connection to Base Block of any modification is executed in accordance with the scheme in Picture 6;

ATTENTION! Grounds (GND) of the tracking device and temperature monitor must be connected.
Setting the Tracking Device for operation with Monitor Dixell Prime CX

In order to set the tracking device to operate with a temperature monitor carry out the following actions:

1. Network address of the temperature monitor should be set as value 1;
2. run “Configurator” program and go to tab “Settings” -> “Digital inputs”;
3. select “Disabled” in “RS485 peripheral type” field (pic.7);
4. click “Apply” button;
5. go to tab “Commands” in Configurator and execute «script galileosky/frigo» command (pic. 8);

ATTENTION! Algorithm is downloaded from the remote server; therefore, the tracking device should have an activated SIM-card with support of data transmission via GPRS.

6. Go to Device tab and check the Easy Logic parameter and make sure it includes information on the algorithm (Pic. 9);
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7. Go to tab “Troubleshooting” and select “Data transmission” parameter, wait for confirmation of algorithm downloading: «GPRS.c.7gis.ru.Script download. Complete» (pic. 10);

8. Go to tab “Device” and reset the tracking device by clicking “Reset device” button;

9. After resetting go to tab “Troubleshooting” and tick “Algorithm and script diagnostics”;

10. If the tracking device is connected to the adapter, you will see temperature value transmitted from the monitor (pic. 11).
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Data transmission to Monitoring Software

Let us consider parsing of transmitted data on temperature e.g. in Wialon Hosting software.

The order of actions to set Configurator for data transmission:

1. Go to tab “Settings” -> “Protocol” in Configurator;
2. Tick Main packet of “User tag 0” (pic. 12);
3. For Galileosky v 5.X or Galileosky v 4.0 go to tab “Settings” -> “Track” and select a dynamic structure of the internal archive (pic. 13). There are no such settings required for Base Block, they are set by default.

ATTENTION! For tracking devices Galileosky Base Block and 7.0 versions the setting of dynamic structure mode is not needed.

4. Click “Apply” button.

The order of actions to set monitoring software to view data:

1. Go to tab “Messages” in monitoring software and set a unit and parameters for the report:
   - a monitoring unit;
   - an interval;
   - select “Data messages” in “Message type” field;
   - select “Raw data” in “Parameters” field;
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2. click “Execute” button (pic. 14);
3. Make sure data are received in monitoring software (pic. 15). Raw data on temperature are displayed in fields:

   user_d0
   
   -0, can_r25=0, user_d0=203, valid=15
   0, can_r25=0, user_d0=220, valid=15
   -0, can_r25=0, user_d0=282, valid=15
   -0, can_r25=0, user_d0=245, valid=15
   -0, can_r25=0, user_d0=228, valid=15

ATTENTION! Real temperature value is 10 times less than it is transmitted to the server. Calculation parameters are set in monitoring software.

Thus, temperature monitor can be further used for identification of temperature.

Setting of Galileosky tracking device to operate with Dixell Prime CX monitor 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.