

The "VTS-3D" software is designed to view the vibration parameters recorded by the VTS-3D sensor, as well as to configure the sensor parameters and the Modbus RTU protocol.

The software allows you to connect to the sensor both via the Modbus RTU protocol and via the Modbus TCP protocol.

In the current software version, for a new connection to another device with different connection settings (for example, to another sensor with a different Modbus ID), you must close and restart the software.

1. Device connection

When you open the program, a connection window appears.

First of all, you need to select the connection protocol in the drop-down list: Modbus TCP or Modbus RTU.

To connect to the device via the Modbus TCP protocol, you must specify the IP address and port of the server, as well as enter the device address in the Modbus network, after which you must click the "Connect" button.

To connect via the Modbus RTU protocol, select the COM port to which the RS-485 interface converter is connected in the drop-down list, enter the device address in the Modbus network, select the data transfer rate, the number of stop bits, the parity check method in the drop-down lists, and then click "Connect" button.

By default, the sensors have the following settings Modbus: Modbus ID – 1, baudrate – 57600, noneparity, 1 stopbit.

The connection window also contains the "Search" button, which opens the window for searching for the device address in the Modbus network. This menu implements the function of sequential enumeration of ModbusID until the device answers.

2. Main screen

On the main screen of the program, all parameters measured by the sensor are displayed: RMS vibration acceleration, RMS vibration velocity, RMS vibration displacement, signal amplitude, peak factor, as well as temperature values measured by the accelerometer sensor and temperature sensors at the bottom and top of the device. The main screen also displays the serial number and software version of the device.

2.1. Side menu

In the upper left corner there is a button to open the side menu, in which the program settings are located.



The "Parameters" tab contains check-boxes for selecting the displayed parameters in the main program window.

The "Axes" tab contains checkboxes for selecting the displayed measurement axes in the main program window.



On the "Data recording" tab there is a drop-down list for selecting the period for recording data to a ".csv" format file.

On the “Theme” tab there are checkboxes for choosing the color theme of the program design.

2.2. Notifications


The VTS-3D has a self-diagnosis function for faults. The presence of malfunctions is indicated by the notification icon located at the top of the program. In the absence of malfunctions, the icon looks like: . If the device detects any malfunction by means of self-diagnostics, the icon will take the form: . By clicking on the indicated symbol, a window with a text description of the cause of the malfunction will appear at the top of the main screen.

2.3. Data recording

At the bottom of the main screen is the icon for writing data to a file: . When you click on the specified icon, data recording starts. Stop recording by clicking on the icon  or when closing the program.

The data is recorded in a “.csv” format file and stored in the “RecordedData” folder, which will be automatically created in the folder with the installed program when the data is first recorded. The names of the csv files contain the date, time, and serial number of the device from which the parameters are fixed. The file itself in tabular form contains all the parameters registered by the device, regardless of those selected for display on the main screen, as well as the date and time of registration of the parameters. The data recording period is set in the side menu of the main screen on the “DataRecording” tab.

3. Device settings screen

The device settings screen opens when you click on the icon  in the main program window.

The following device settings are available to the user:

- device addresses on the Modbus network – 1...247;
- data transfer rate (baudrate): 2400, 4800, 9600, 19200, 38400, 57600, 115200;
- parity: none parity, parity odd, parity even;
- number of stop bits: 1 Stopbit, 2 Stop bit;
- format for representing numbers float: ABCD, CDAB, BADC, DCBA.

To save the settings to the device memory, click the “Save” button. To apply the settings, reboot the device by pressing the “Reboot” button. If you change the settings for baud rate, parity and/or the number of stop bits, the program will automatically restart. In the connection window that opens, you will need to specify new sensor connection parameters.