

VDTControl Center VDTControl Server

User manual



Rev: 20160315.1ENG

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2 Basic description and SW architecture

The VDTControl set is software developed by ViDiTech for remote access, operation, monitoring and evaluation of VDT instrument measurements. It is compatible with the following types:

- VibroDiag
- 2500CV / 3000CV
- 2500RV / 3000RV
- 2500AP / 3000AP
- 2500VS / 3000VS
- 2500VSLF / 3000VSLF

The whole set is based on a client-server model. Module of the server constitutes of VDTControl Server and client part is the VDTControl Center programme. It is possible to use these two programmes to control instruments from any place with net connection (Ethernet, WiFi, mobile network etc.).

On a PC, to which VDT instruments are connected (using convertor USB/Modbus), the VDTControl Server must be running, and on any other PC in the world the monitoring part, VDTControl Center, must be running. The architecture also does not exclude operation of VDTControl Server and VDTControl Center on a single PC, this combination is actually very often used. VibroDiag instrument does not need connection to server.

3 System requirements

3.1 Requirements for VDTControl Server application

- CPU – 300 MHz better
- RAM – 40 MB and more
- Free HDD space – 20 MB and more
- OS – Windows XP, Windows Vista, Windows 7

3.2 Requirements for VDTControl Center application

- CPU – Pentium 1 GHz or equivalent (for .NET Framework)
- RAM – recommended 256 MB
- Free HDD space – 15 MB and more
- OS – Windows 7, Windows Vista, Windows 2003 Server, Windows XP, Windows 2008 Server

4 Software installation

The installation CD supplied by ViDiTech contains the following structure:

- Manual – folder with manuals
- VDTControl Server
- VDTControl Center
- Drivers – drivers for instruments
- .NET
- WindowsInstaller

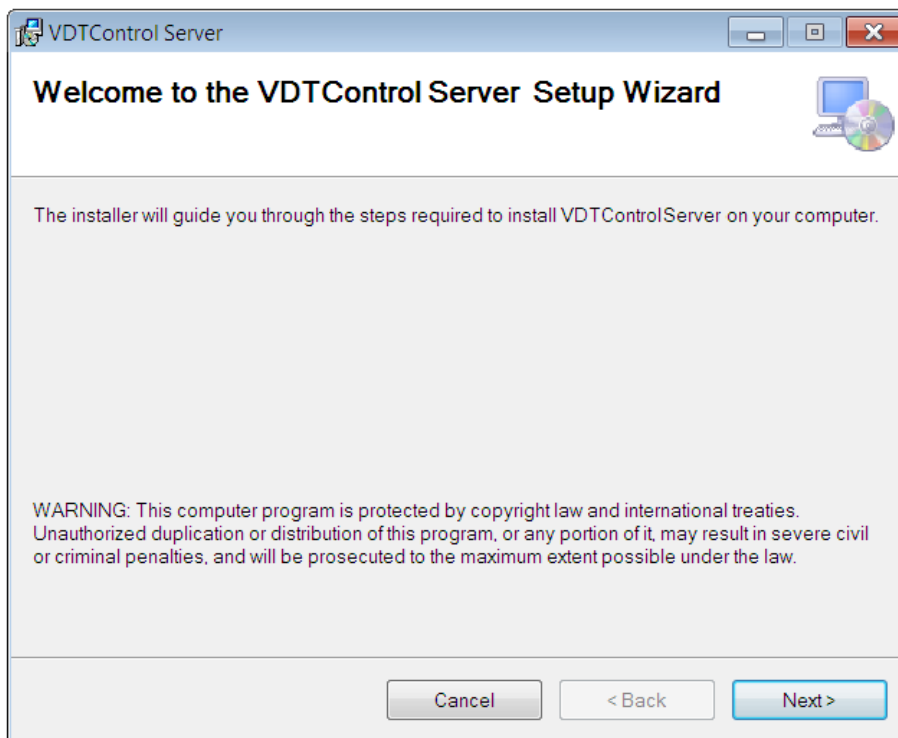
4.1 Software installation

The installation wizard will guide you through the installation of VDTControl Server and VDTControl Center.

Before installing VDT programmes, please check you have .NET framework already installed.

4.1.1 Installation of VDTControl Server

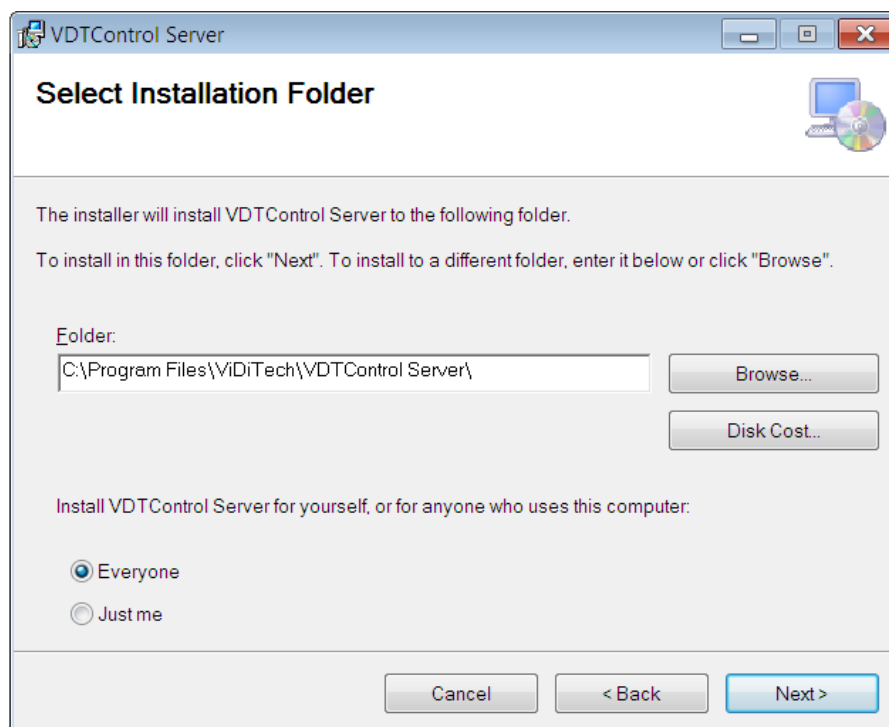
A window will appear with information about initiation. Start the installation by clicking **Next >**.



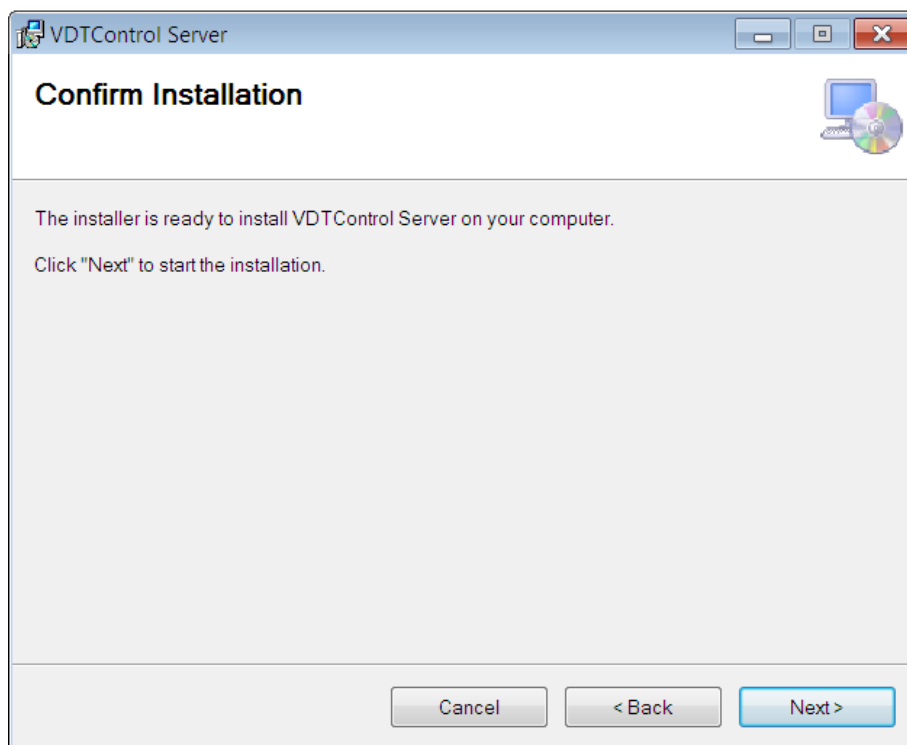
After clicking **Next>** a window is displayed with information where the programme will be installed. For installing in default folder, click **Next>**, to change the installation folder of VDTControl Server, click **Browse** and choose another one.

The installation can be aborted during any step using **Cancel**.

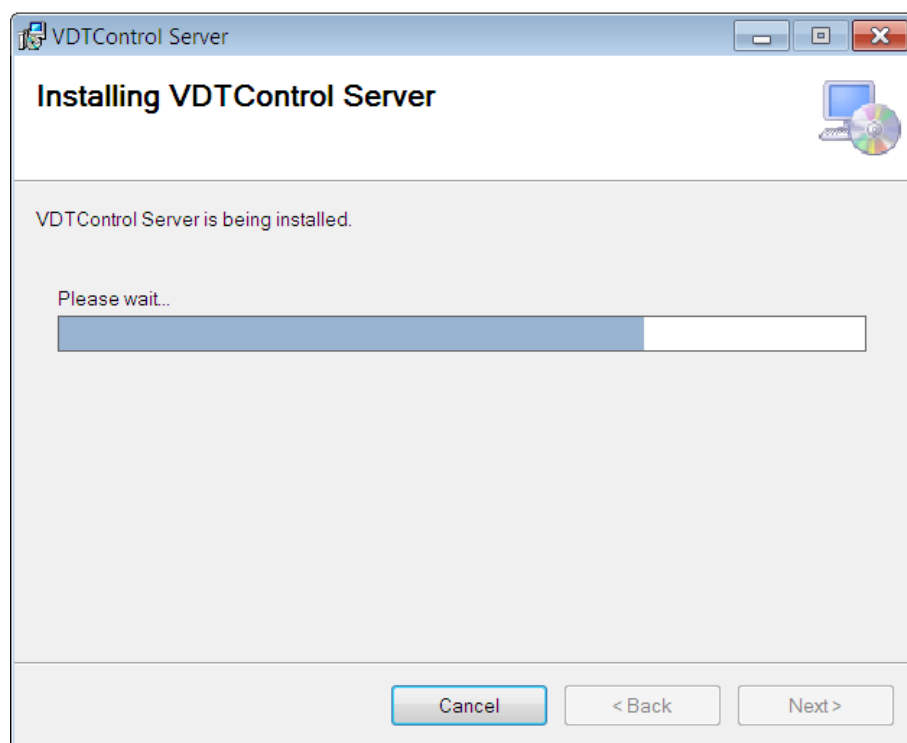
In case you want to be the only person to use the programme on the computer, select option **Just me**.



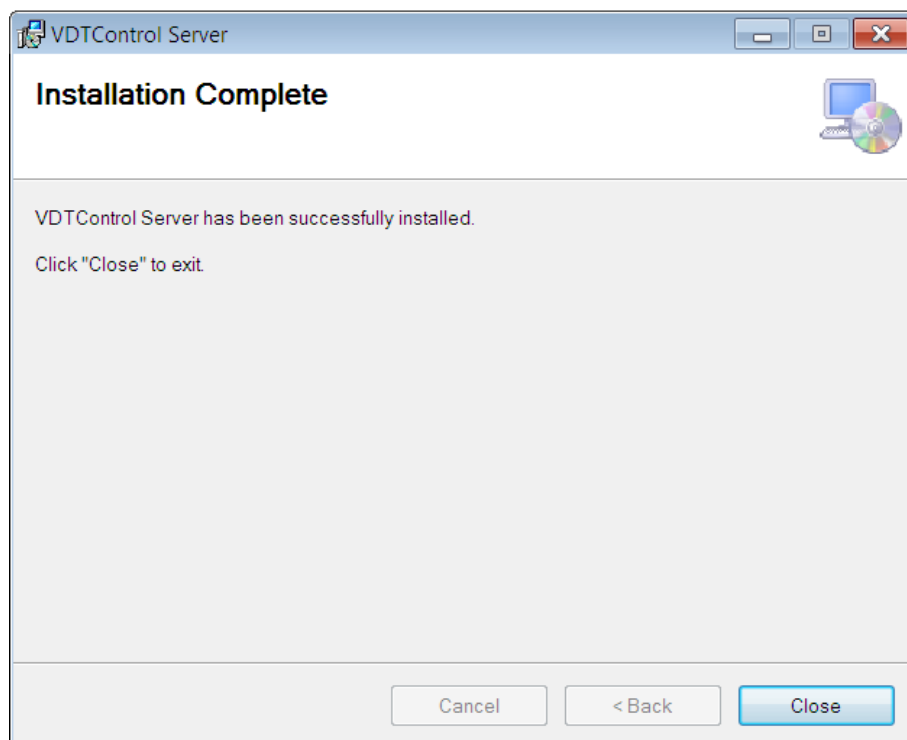
To confirm installation specifications and to start the installation, click **Next>**. If you would like to return and change the setup, click **<Back**.



The installation may take a while, a few minutes at the most. Please be patient.

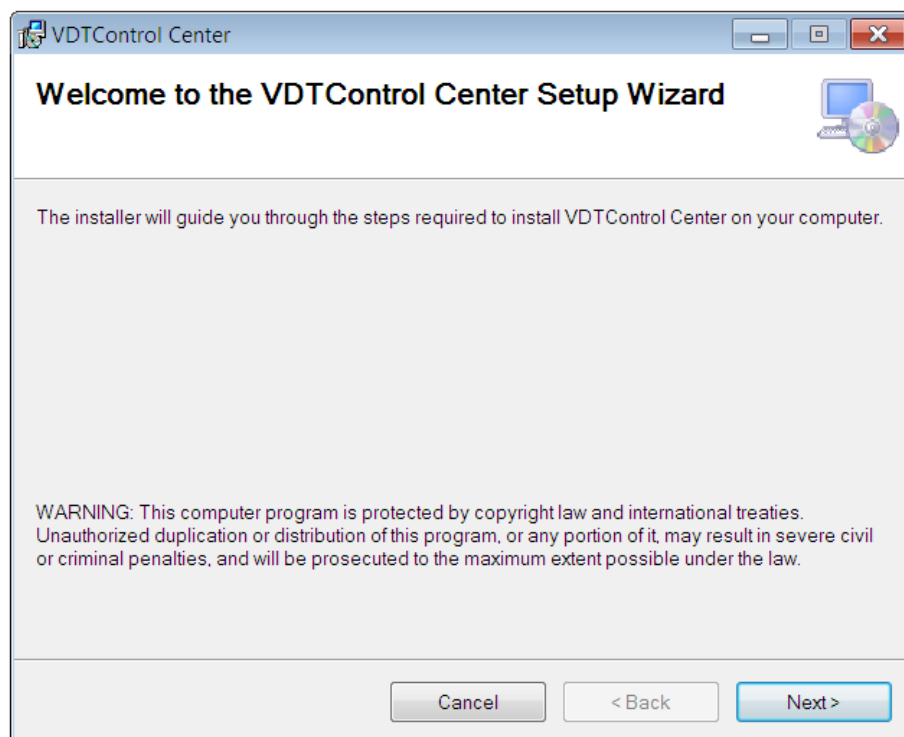


Installation was successful. Close the window using **Close**.

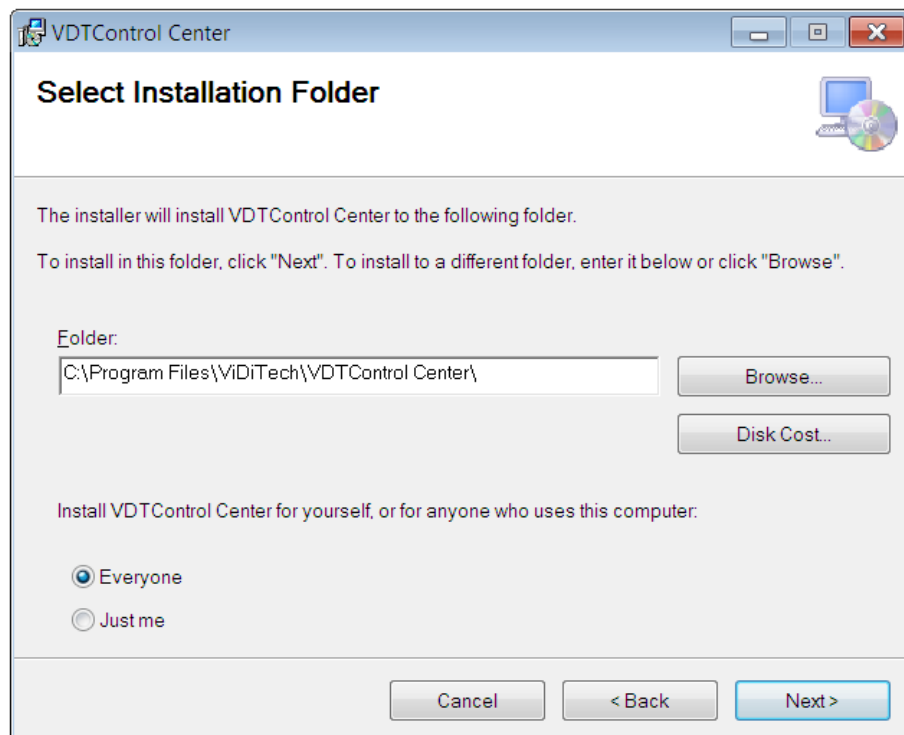


4.1.2 Installation of VDTControl Center

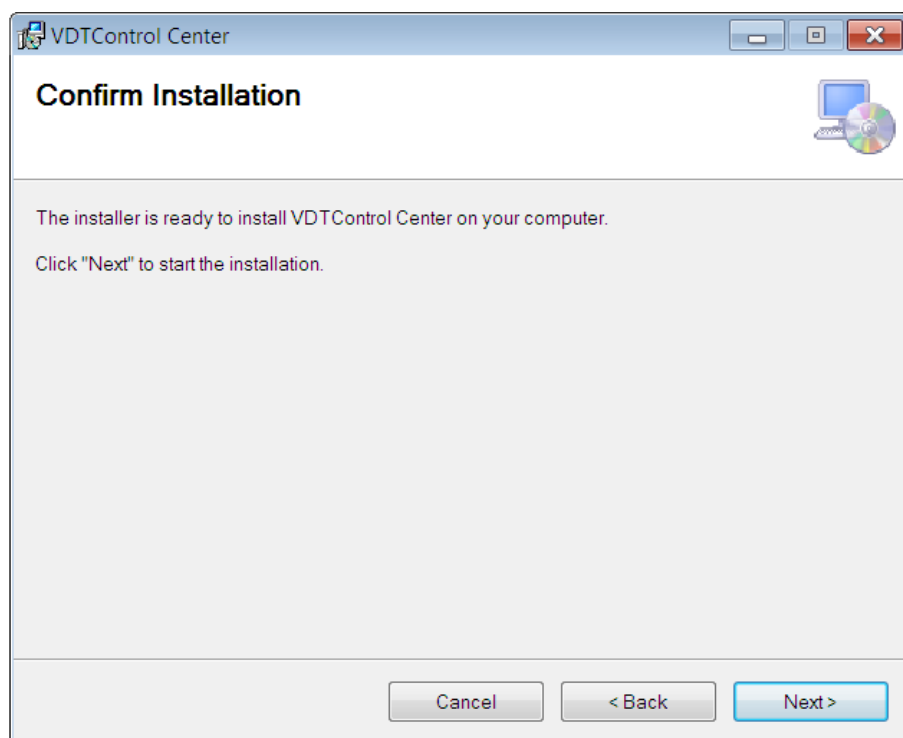
The installation of VDTControl Center is similar to the one of VDTControl Server. Start by clicking **Next>**.



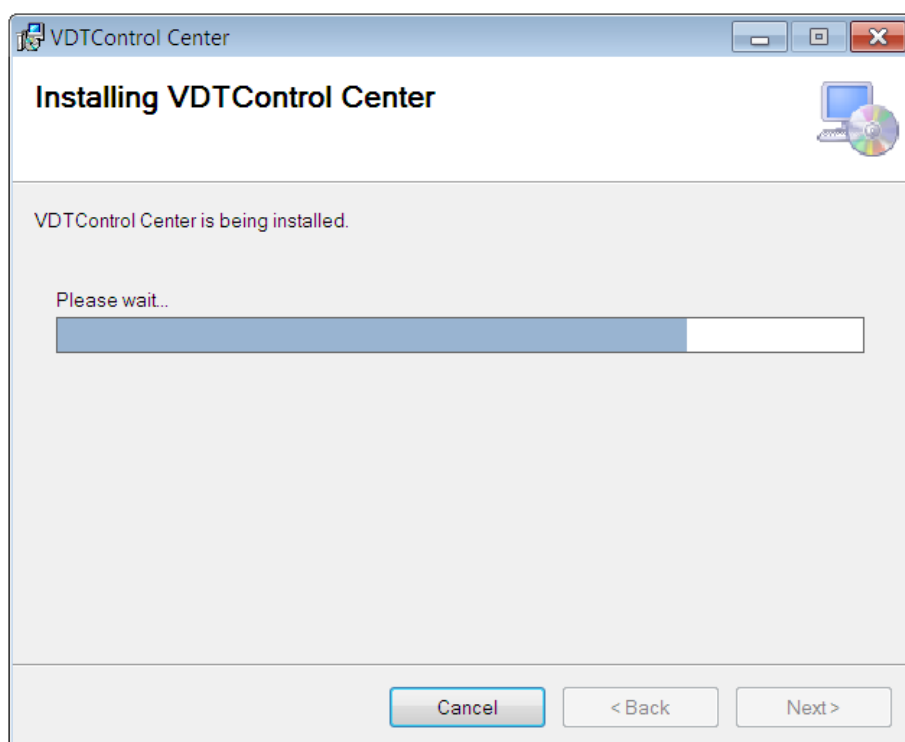
Choose the appropriate folder, confirm using **Next>**.



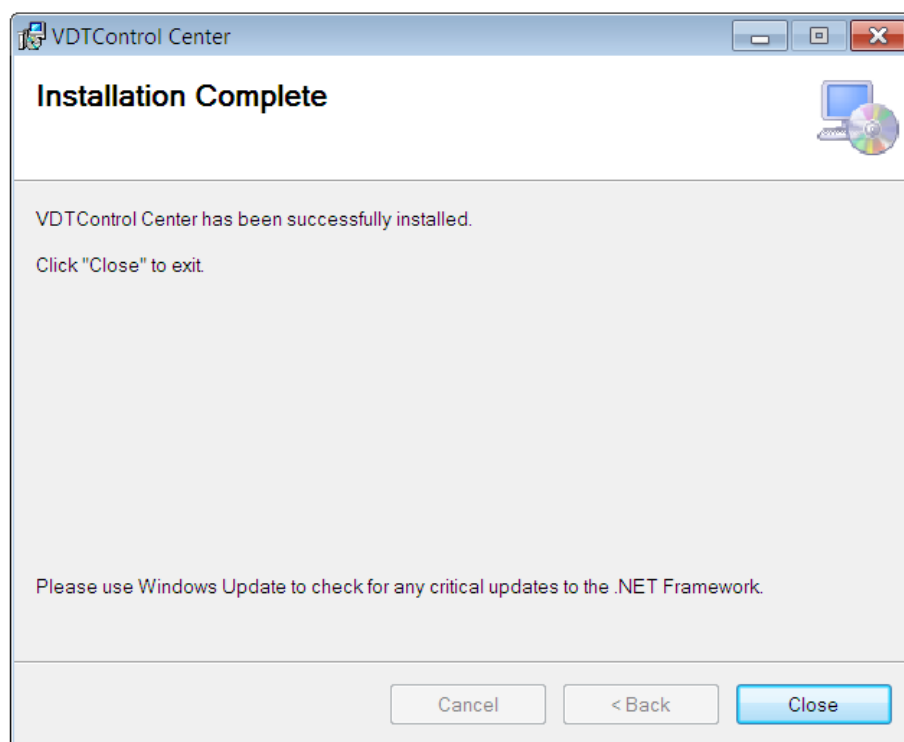
Clicking on **Next>** you confirm and start the installation.



The installation may take a while, please be patient.



Confirmation, that installation was successful. You can close the window using **Close**.



Now you have successfully installed the VDTControl Server and VDTControl Center.

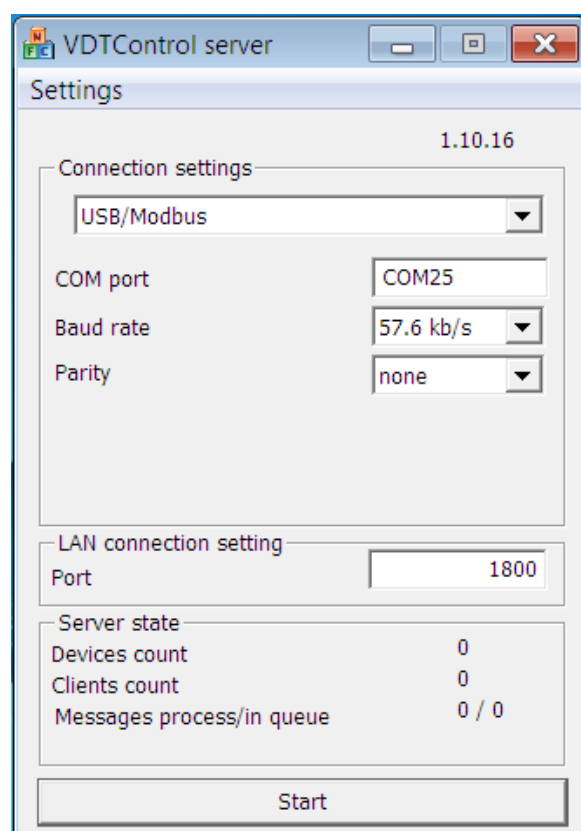
5 Description of work with VDTControl Server

To work with instruments of the 2500/3000 series it is necessary to connect to VDTControl Server. VibroDiag instrument does not need this connection.

Instruments of the 2500/3000 series use the RS485 bus with ModBus protocol for communication. It is possible to use the **USB-RS485** convertor for connection, eventually any other convertor for the RS485 bus.



After starting VDTControl Server an initial window appears:



Initial window with information and settings for server connection.

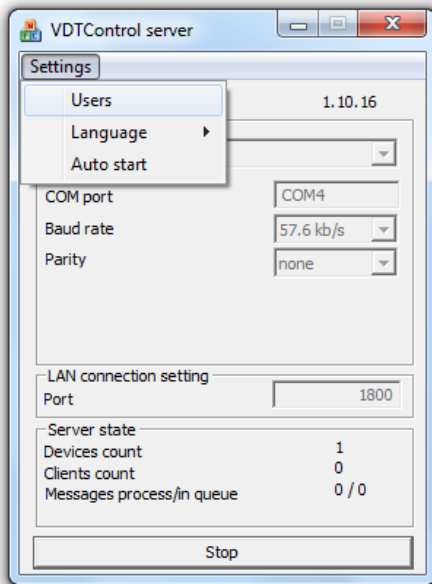
If a server is running, an icon is displayed in the toolbar, eventually in the taskbar with launched programmes. Red, if connection with instrument is not active, green, if communication is in progress.

Server state announcement



5.1 VDTControl Server setup

Settings (setting server users)

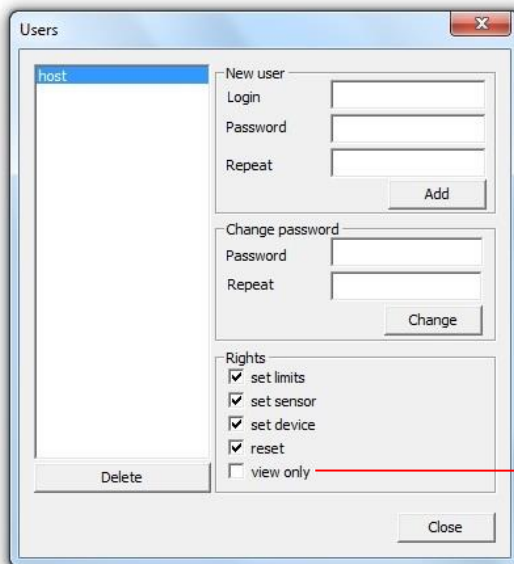


Users – list of users and their administration

Language – language that will be used in VDTControl Server application

Auto start – after launching VDTControl Server, the system automatically attempts to connect, like clicking the Start button.

Users – Here you have an option to add new users, their rights, passwords.



Window for managing server user accounts. You can add new users, change passwords, change rights of individual users.

The profile host is created by default after installation.

If you do not want the user to change settings, restart the instrument, etc., check option **View only**. He will be able to view results, without the option to change anything.

Connection settings (instrument connection settings)

- choose **USB/Modbus** from the pop-up menu (set as default)
- **COM port** – number of COM port, used for communication using RS485 bus. If a default is not found, procedure for its setup can be found in chapter 9 – Problem solving.
- **Baud rate** – the value must be the same in all connected instruments, if instrument was not found, please check that this value matches.
- **Parity** – according to instrument setup

Lan connection settings (net connection settings)

– **Port** – 1800 (default value, matches most instruments)

Server state (state of server)

– **Devices count** – number of found instruments

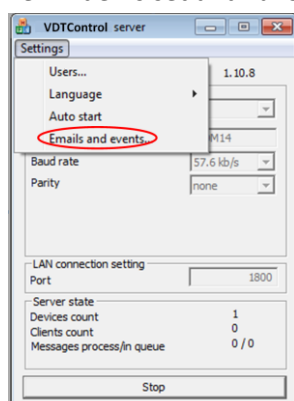
– **Clients count** – number of connected clients to server

– **Messages process/in queue** – number of messages in process/in queue

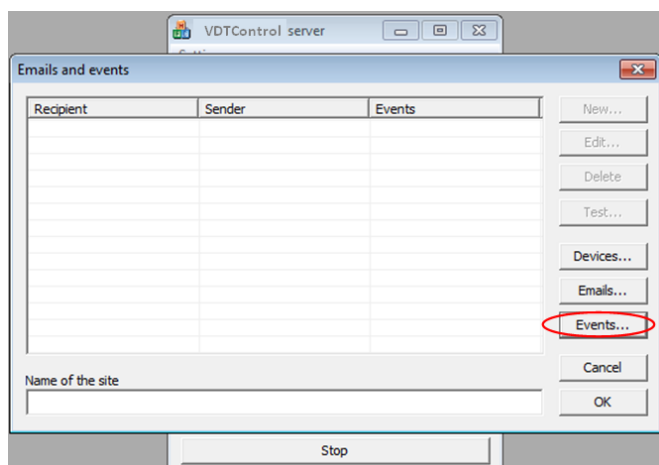
If you experience any problem with VDTControl Server functionality after setting all values, possible causes and solutions can be found in chapter 9 – Problem solving.

5.2 E-mail informer setup

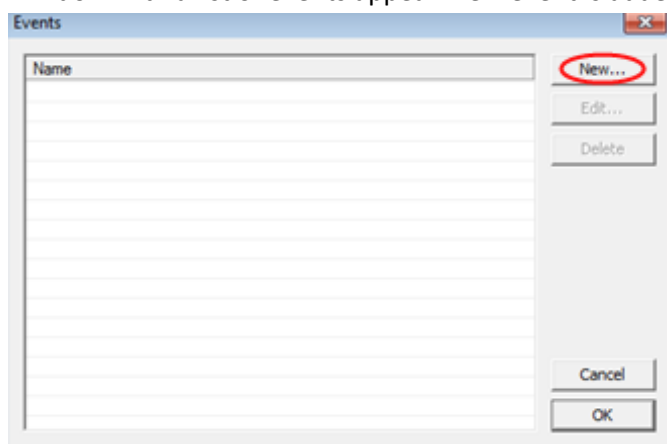
Reminder is set and runs in the server - setup (emails and events).



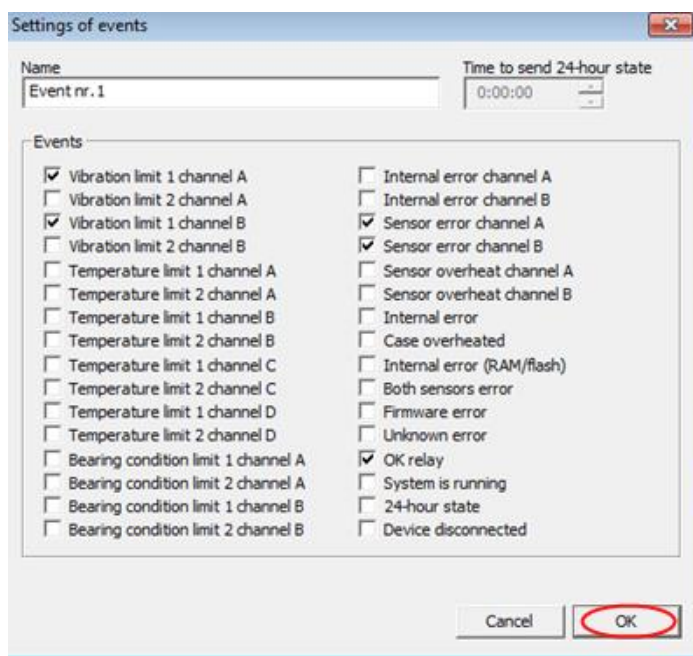
Window with a list of active events and their sender and receiver appears. You must define the events by Events button at first.



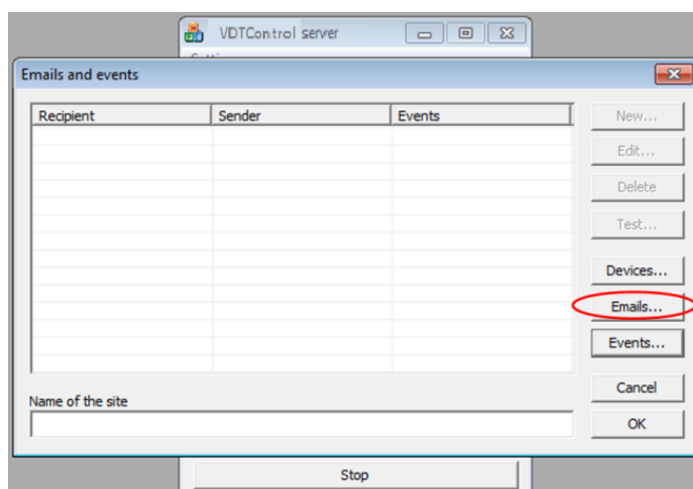
Window with a list of events appeal. New event is added via the button New.



You can select time for 24hours status sending. You have to give a name of the event group (select the events) and confirm.

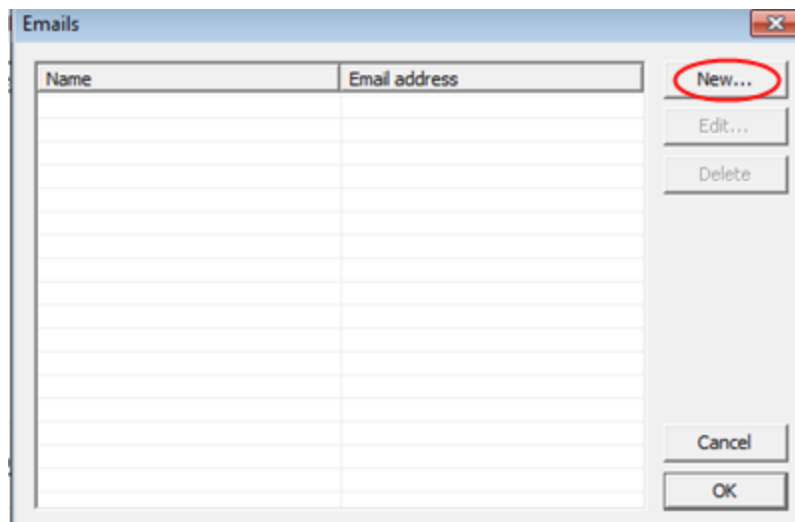


The event is created and now you have to set the recipient and the sender. In the main window, click the button



Emails.

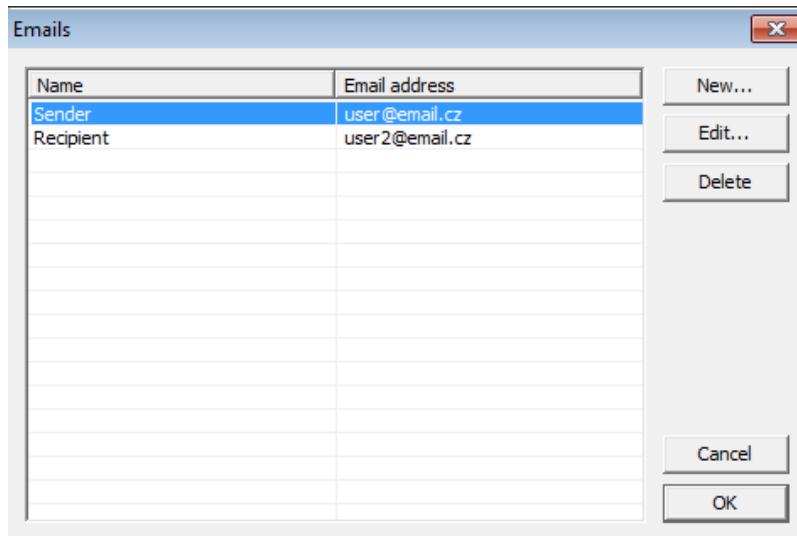
By clicking on the button New you can add the new address of the sender or recipient. For proper function both (sender and recipient) are necessary.



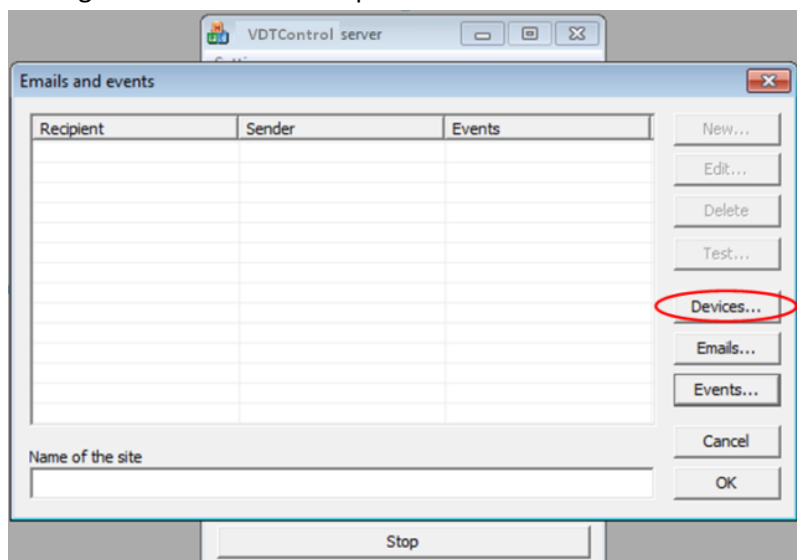
When creating the sender is required to select, that a sender, enter the name, email address, as well as smtp server address (get by e-mail provider or ISP) and authentication using a login name and password to the email.

When creating recipient is required just name and address.

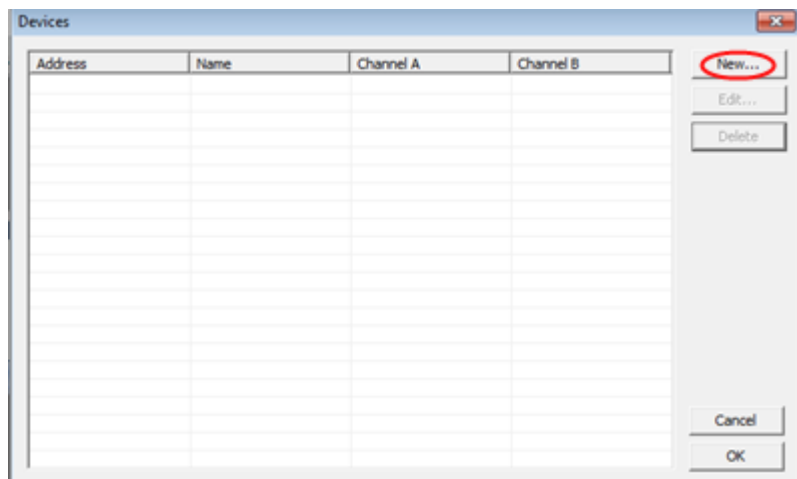
After confirming with the OK button the table with a list of email addresses is displayed.



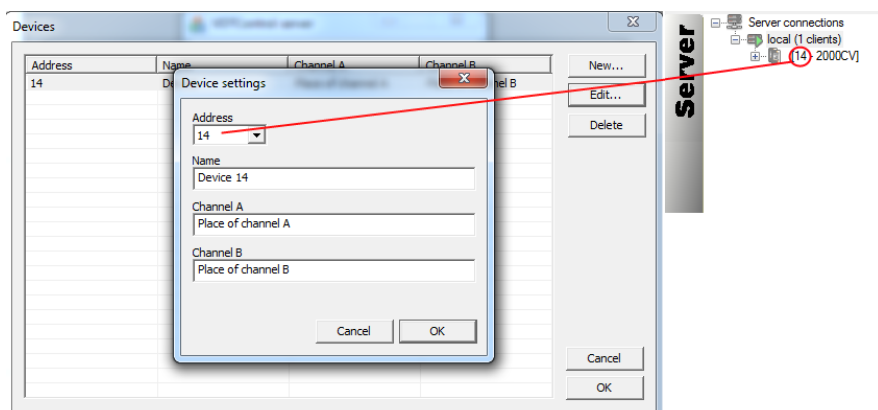
Adding a devices is a next step. It is also done from the main window by pressing Devices button.



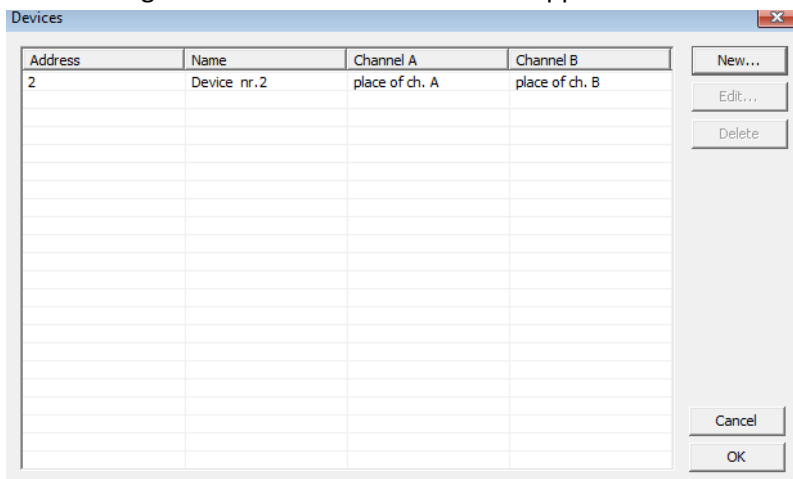
Click to the button New to add a new device.



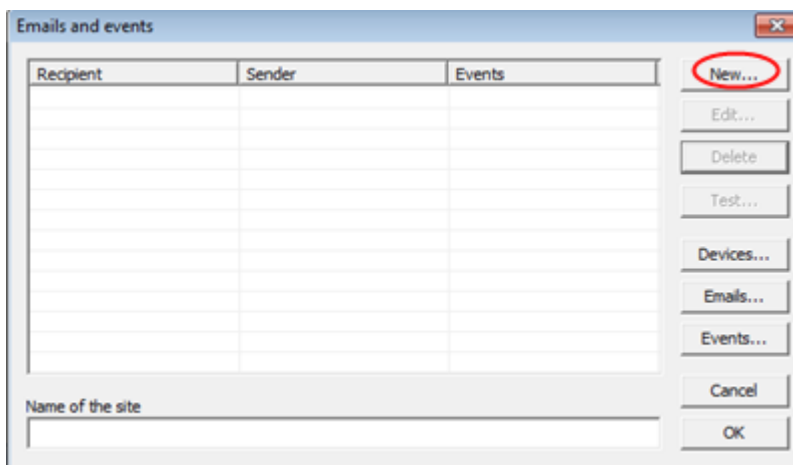
Item Address indicates the ID number of the device (ModBus ID), Name indicates title of the instrument, Channel A and B are labels for the location of each channel.



After adding a window with a list of devices appears.



When the events, recipients, senders and devices are filled in, button “New” in the main window is enabled. Button “New” serves for new notice adding.



You combine all parts together while creating new.

Adding a new reminder combine all the parts into a whole. They can choose from the drop down list.

Assignment of events

Recipient
Recipient (user2@email.cz)

Sender
Sender (user@email.cz)

Events
Event nr. 1

Cancel OK

After selecting the recipient, sender and events, the main window with a list of generated reminders appears. Reminders can be deleted, edit. You can also send a test email to verify the functionality of the connection (recommended).

Emails and events

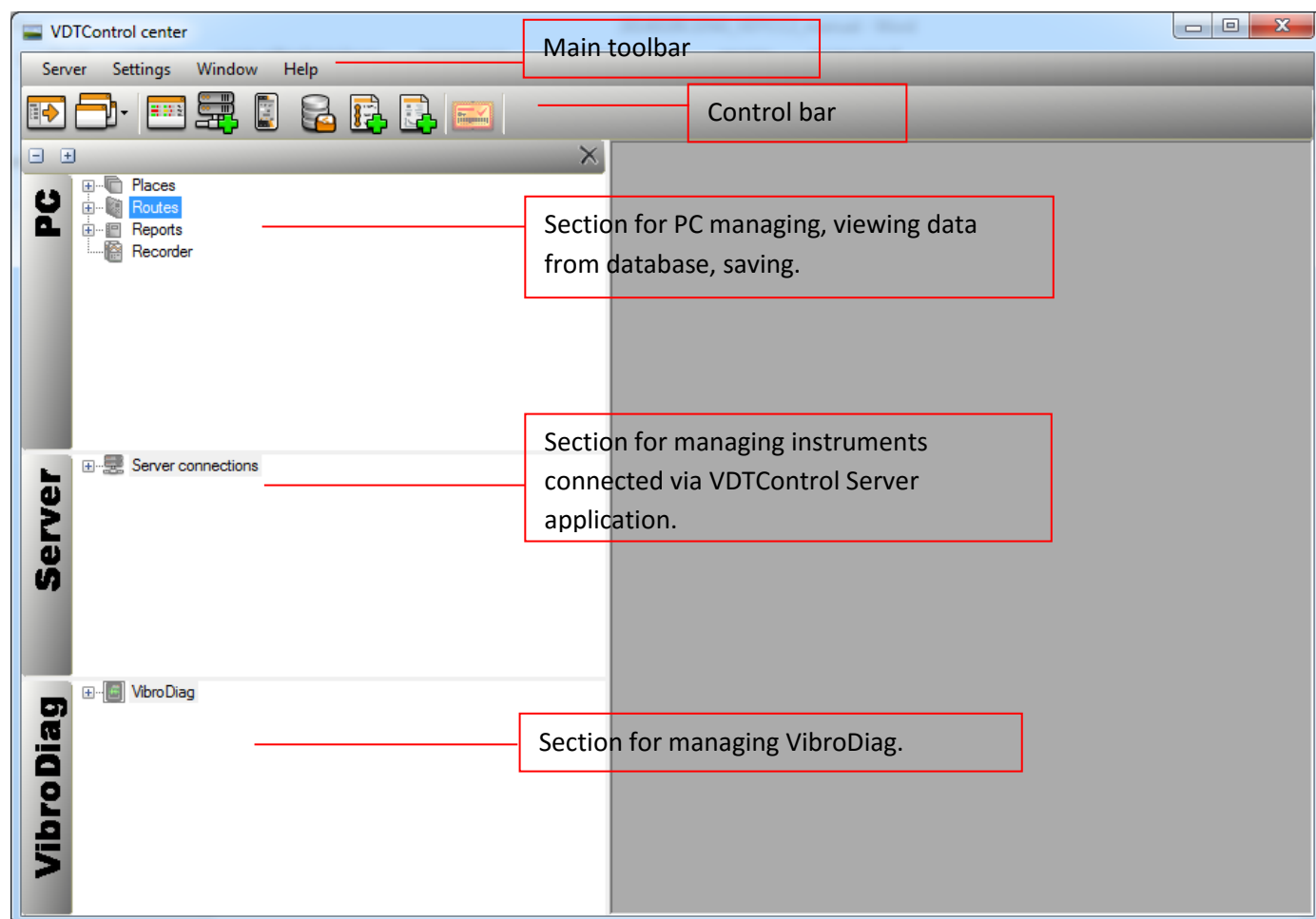
Recipient	Sender	Events
Recipient (user2@email.cz)	Sender (user@email.cz)	Event nr. 1

New...
Edit...
Delete
Test...
Devices...
Emails...
Events...
Cancel
OK

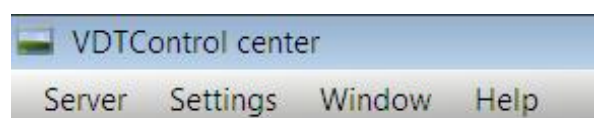
Name of the site

6 Description of work with VDTControl Center

After starting the programme an opening screen appears.

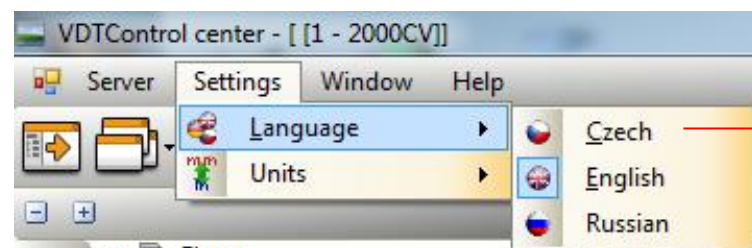


6.1 Main toolbar



6.1.1 Settings – settings

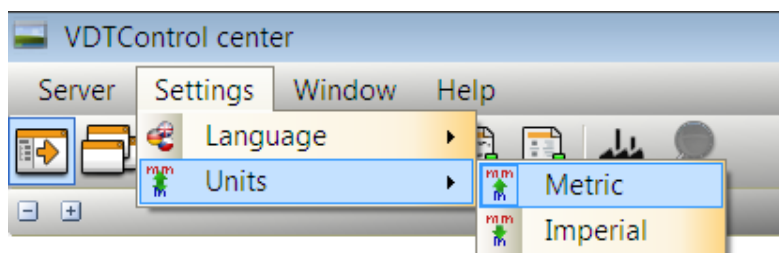
6.1.1.a Language – setting the programme language



You can change the language.

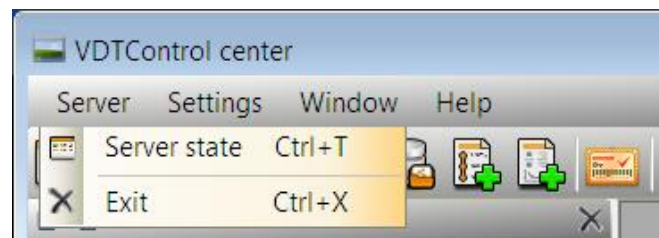
Default language is English, this can be changed to Czech or Russian.

6.1.1.b Units – setting units



Metric system is set by default, can be changed to imperial and back. This is only for viewing units in the programme, units are set separately in the instrument.

6.1.2 Server



6.1.2.a Server state

– displays the state of instruments connected to server, to which the client is currently connected.

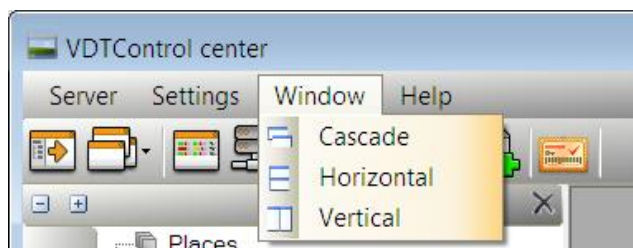
– values of vibrations and temperatures in individual channels are displayed, condition of bearing and place to which the channel is assigned.

	Channel A	Channel B	Temperatur...	Temperatur...	Temp...	Temp...	Bearing val...	Bearing val...	Place A	Place B
2000CV										
1	0,0 mm/s	0,0 mm/s	OFF	Out of range	OFF	OFF	0,0 (0,0)	0,0 (0,0)	Bearing	

6.1.2.b Exit application

– closes the window and exits the VDTControl Center application.

6.1.3 Window



Enables setting the window lay-out for your comfort and better overview.

6.1.4 Help

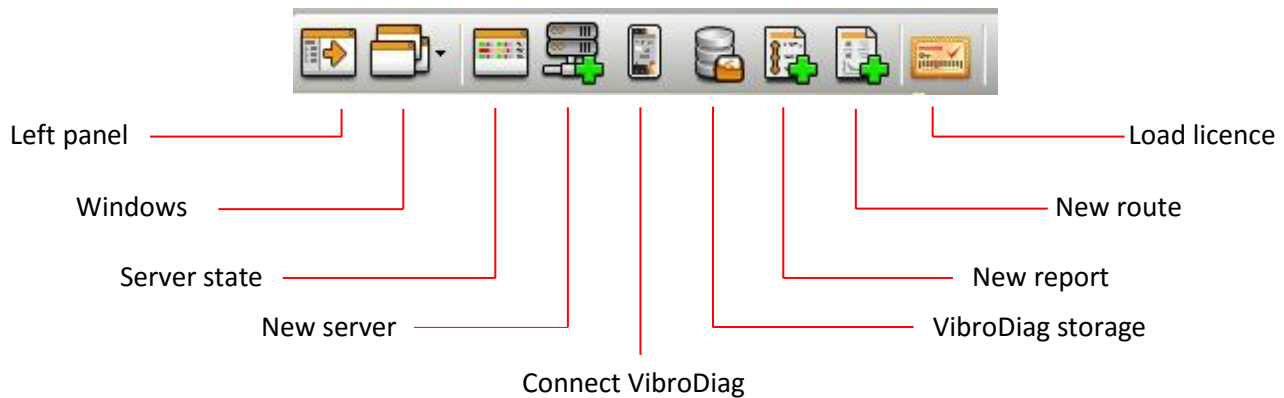


Displays information about the development company, application version.

6.2 Control bar

The control bar is divided into two sections. The section on the left remains the same, icons and functions do not change. The right section changes according to the currently displayed instrument and its options.

Control bar



Left panel – shows or hides the left side panel for controlling instruments and database in PC

Windows – options for displaying windows in the programme, size and layout

- cascade – windows are variously over the screen, user can manipulate them, change size
- horizontal – windows fill the whole screen, they are divided horizontally
- vertical – windows fill the whole screen, they are divided vertically

Server state – displays summary state of chosen instrument (velocity in channels, temperature, location, ...)

New server – adds new server for connection to stationary instrument

Connect VibroDiag – establish connection with VibroDiag instrument connected in USB port

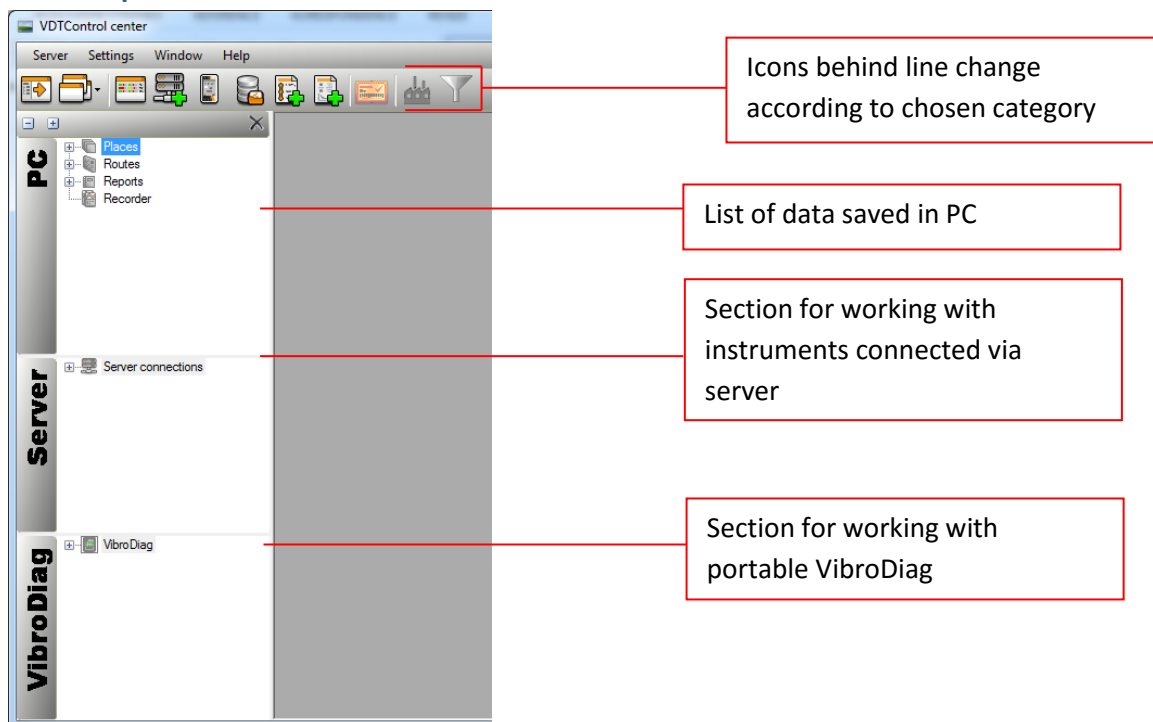
VibroDiag storage – choose PC folder, from which to extract data saved from VibroDiag

New report – creating new report

New route – creating new route

Load licence – loads licences for given instruments

6.3 Side panel



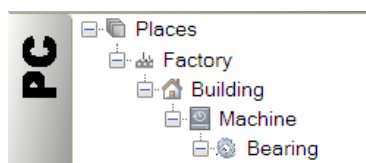
6.3.1 PC

- database of saved data
- icons in toolbar change according to selected category

6.3.1.1 Measurement places

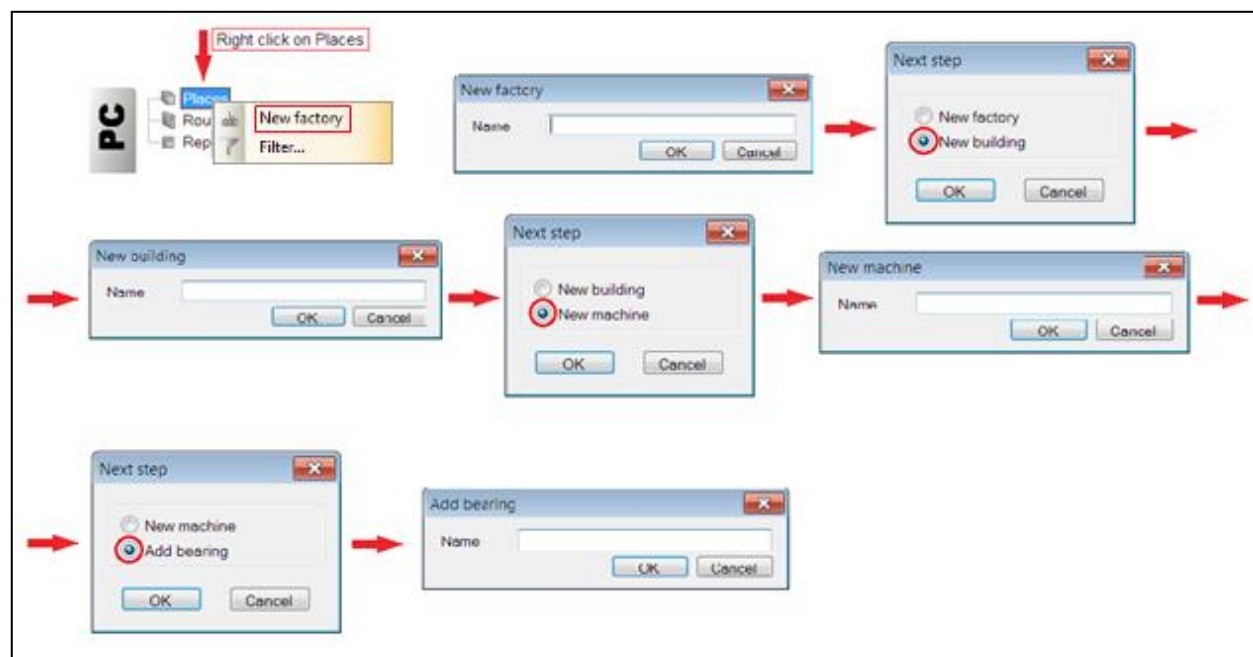
- list of factories, where measurements are to be performed
- which factory, building, which machine, which machine bearing

– a new place is added by a right click on **Measurement places** and selecting option **New factory**. Then a wizard will guide you through creating a new building, machine, bearing. In each category one or several places can be added.



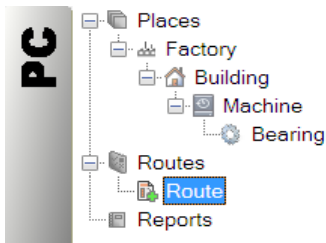
Detailed procedure is displayed in the following picture:

Detailed schematic description of adding new place of measurement to database.



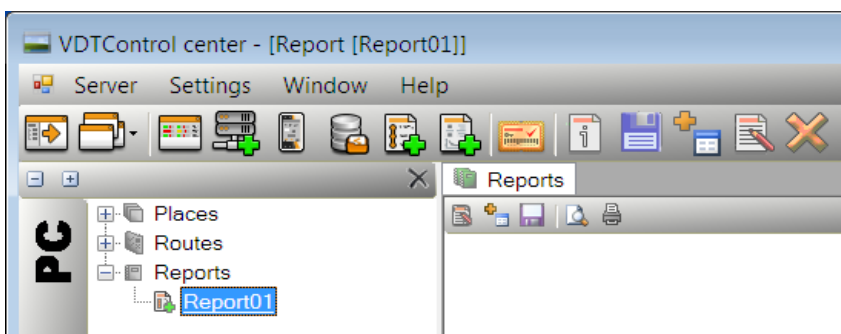
6.3.1.2 Routes

- list of places, where measurements will be performed (planned route)
- individual measured places are assigned to route, they can be from different buildings and machines
- new route is created by right clicking on **Routes** and choosing option **New route**.



6.3.1.3 Reports

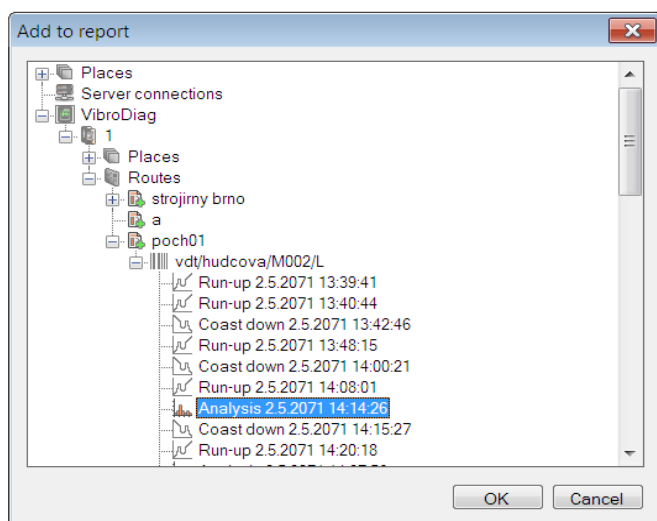
- creating reports from measurements
- report is one of the forms of saving and publishing measured data. It is possible to add several analyses and trends into the report, graphs are displayed.
- report is suitable for printing
- report is created by right clicking on **Reports** and choosing **New report**.



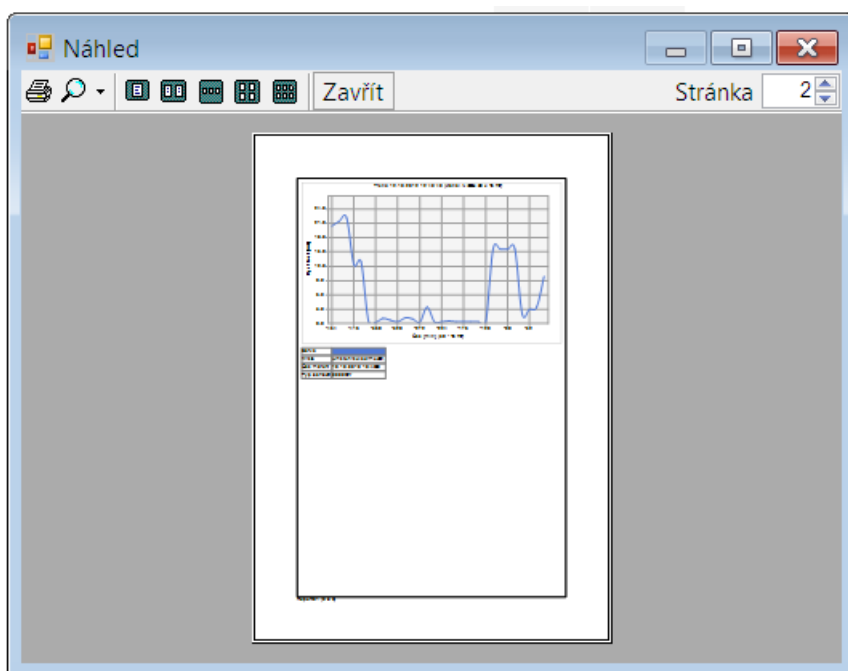
After clicking on selected report an active window of the report is displayed.



Description of adding graph to report



Report preview



6.3.1.4 Recorder

- periodical measurement recording
- setup day of a week and time during day for recording
- events settings (vibration, temperature, bearing value, position, amplitude, vibration analysis, bearing analysis)
- recorded values setup

Metering

Name: Recorder
Description:
Server: ViDiTech

Time
☐ Always ☒ Select

Mo	Tu	We	Th	Fr	Sa	Su	From	To
							11:00	14:00
							10:00	11:00

Events

Event	Long
<input type="checkbox"/> Connected	1 second
<input type="checkbox"/> Limits settings changed	1 second
<input type="checkbox"/> Sensor settings changed	1 second
<input checked="" type="checkbox"/> Vibration A (0 -> L1)	1 second
<input type="checkbox"/> Vibration A (L1 -> L2)	1 second
<input checked="" type="checkbox"/> Vibration B (0 -> L1)	1 second

Recording values

Device	Data type	Channel	Analysis type	Window type	Averages count	Period (h:m:s)
[1 - 2500CV]	Analysis	A	Velocity	Rectangular	1	00:00:05

Save Cancel

1) Time for recording setup

Time interval

☒ Mo ☐ Tu ☒ We ☐ Th ☐ Fr ☐ Sa ☐ Su

From: 11:00:00 To: 14:00:00

OK Cancel

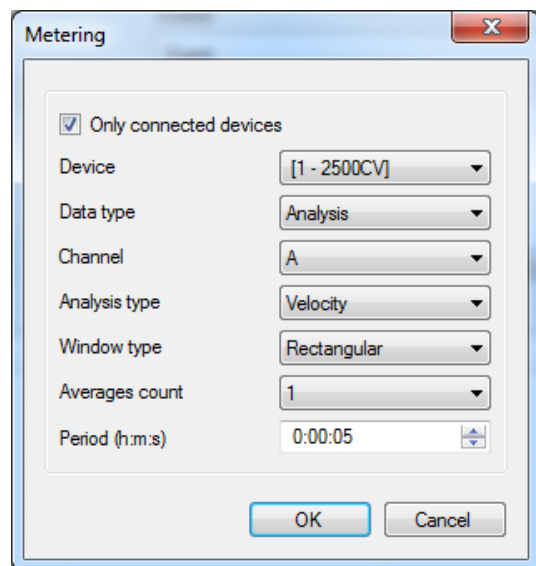
2) Event setup (second, minute, hour, day)

Set time

Time: 1 second

OK Cancel

3) Recorded values setup (available options depends on data type)



6.3.2 Server

- used for connecting instruments of the 2500/3000 series
- connection is established using connector Modbus, for which a USB convertor RS485 is necessary
- if you are unable to connect, please read chapter 9 – Solving problems.

6.3.2.1 Connecting to server

If you are connecting to the server for the first time, proceed according to the following instructions. **In case of already defined functioning connection, skip to part 2.**

Part 1: creating first connection with server

Right click on Connect to server, choose option Add new.



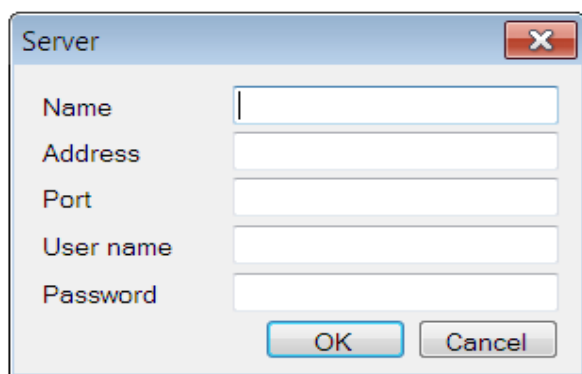
If you do not have a defined server, which you want to use, choose option Add new.

Consequently a screen is displayed, where you fill in login data, sent by the server administrator.

Name of server. Choice is up to you.

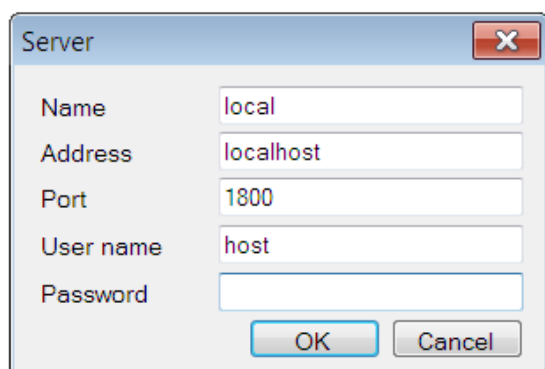
IP address, to which you are connecting.

Port, to which you are connecting. Usually 1800.



A screenshot of a Windows-style dialog box titled "Server". It contains five input fields: "Name", "Address", "Port", "User name", and "Password". The "Name" field has a cursor in it. At the bottom are "OK" and "Cancel" buttons.

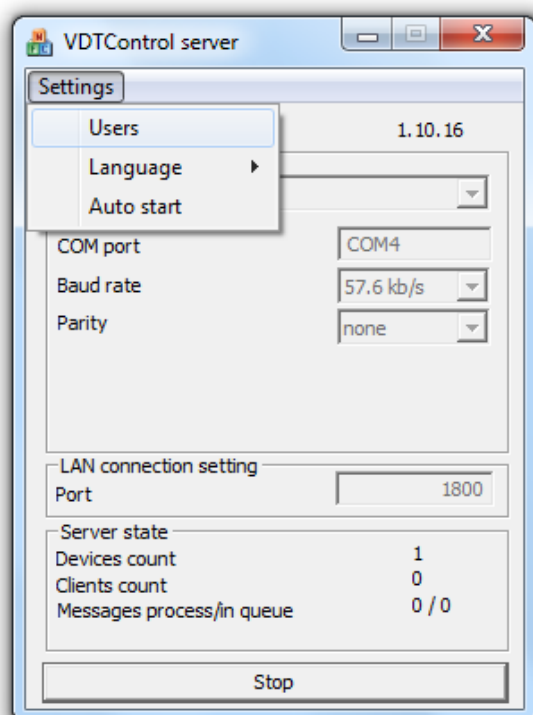
If you are running VDTControl Center and VDTControl Server on one computer, fill in the default settings.



A screenshot of the "Server" dialog box with the following default values filled in: "Name" is "local", "Address" is "localhost", "Port" is "1800", and "User name" is "host". The "Password" field is empty. "OK" and "Cancel" buttons are at the bottom.

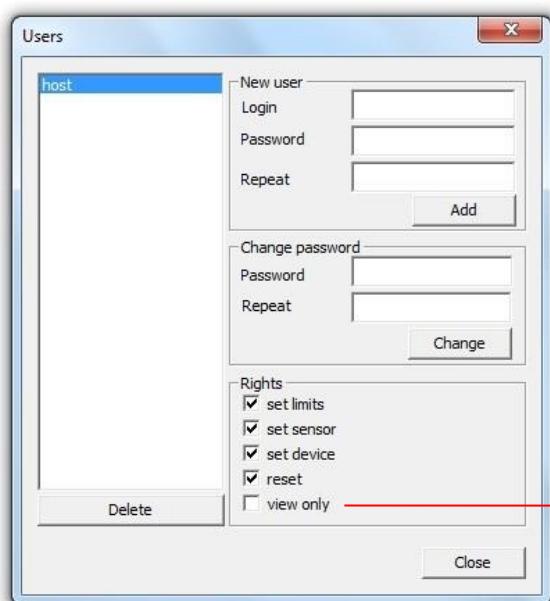
Settings, when running server and client application on one computer.

Default settings can be found after clicking on Settings – Users, in VDTControl Server.



After clicking on Settings and option Users, you can display settings for user accounts on your server.

You also have an option to add new users, their rights, passwords.



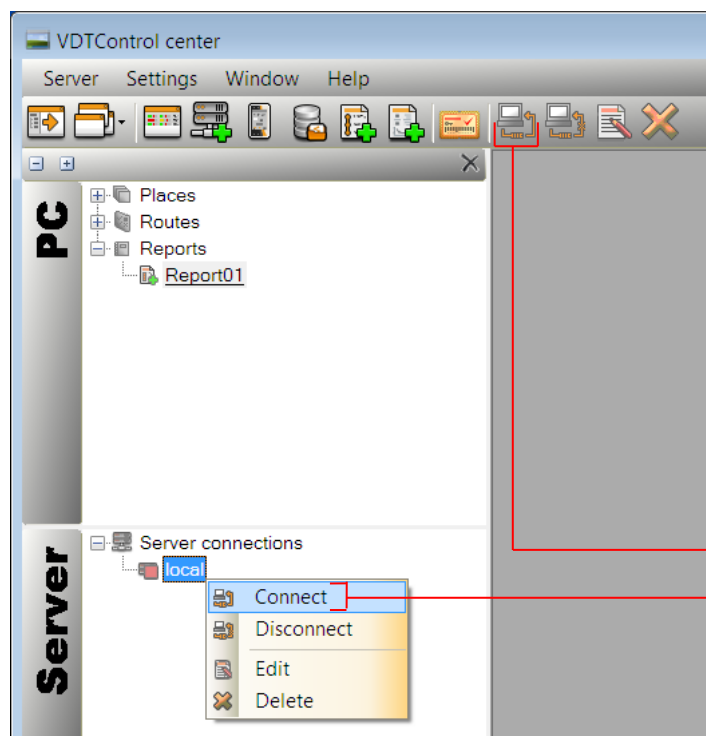
The profile host is created by default after installation.

Window for managing user accounts on server. You can add new users, change passwords, change rights of individual users.

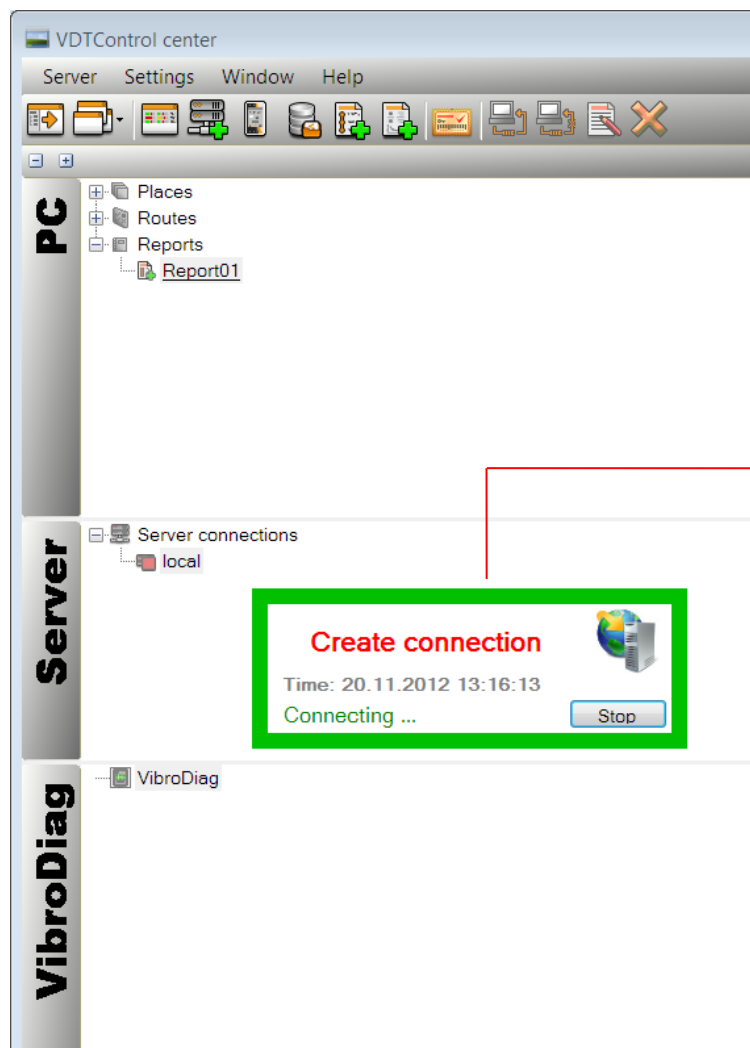
If you do not want the user to change settings, restart the instrument, etc., check option **View only**. He will be able to view results, without the option to change anything.

Part 2: connecting to server

If you have created a server, but would like to connect after application start or after disconnecting from server.



Connect using icon or right click on server name and choose option Connect.

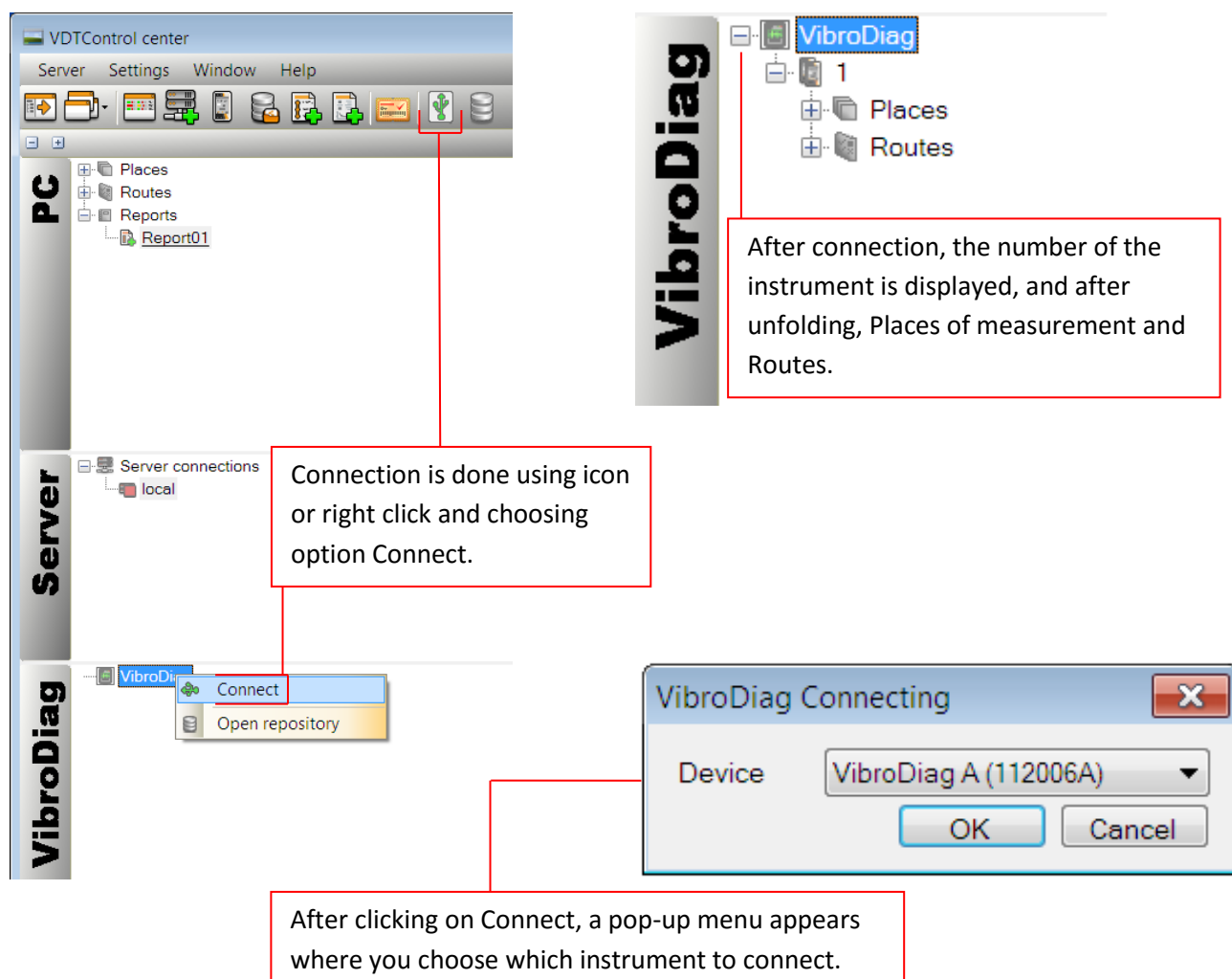


The instrument will try to connect, the following window will be informing you. If a countdown of seconds appears, the instrument was unable to connect, the process will be repeated. What to do in this case is mentioned in chapter 9 – Solving problems.

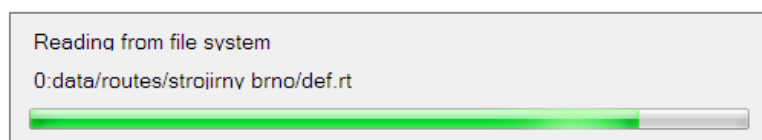
Working with instrument, see chapter 8

6.3.3 VibroDiag

- used for working with VibroDiag instrument
- instrument is connected using USB port
- instrument must be connected in USB (we also recommend to connect the power supply cable) and instrument turned on, for the connection to establish (,USB connected' appears on the instrument screen)
- if you are unable to connect, most common errors are described in chapter 9 – Solving problems

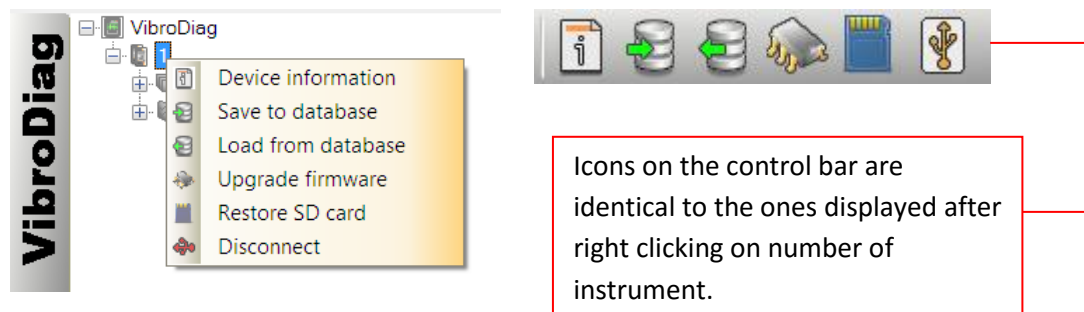


Connecting takes a while, due to loading of all data from instrument. Please be patient. The progress of loading is displayed in another window.



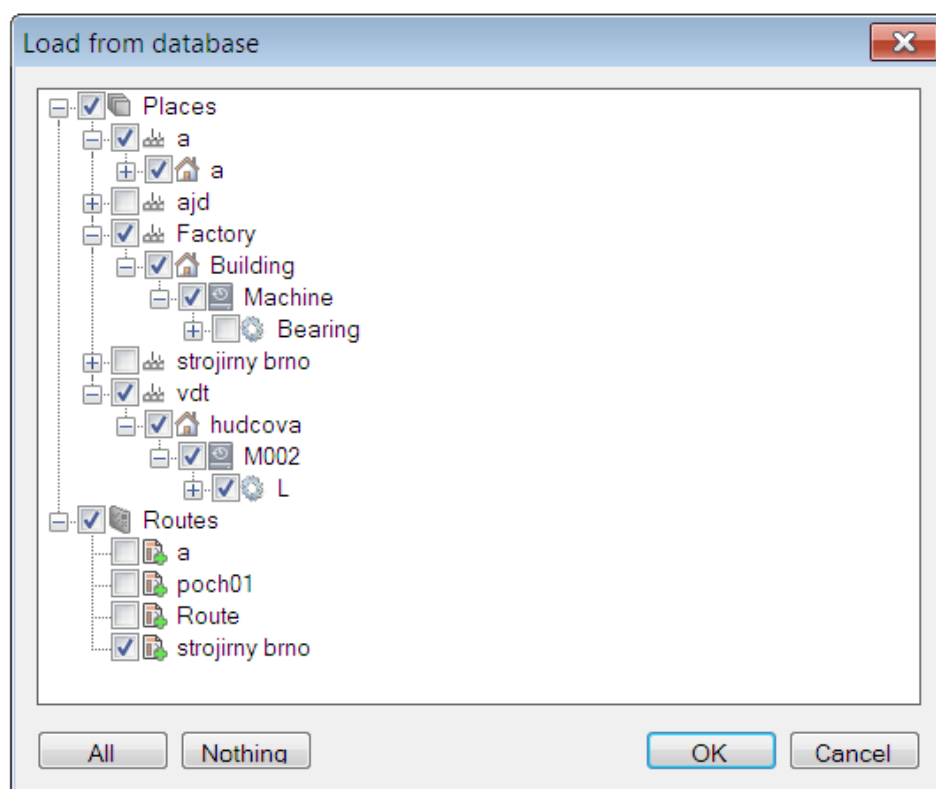
6.3.3.1 Number at instrument icon – ID

- displays, what instrument is connected, its ID in the database
- information about the connected instrument
- window appears after right click, information is available also on control bar



Information about instrument – displays serial number, hardware version, firmware, time in instrument and your bought licences

Save to database / load from database – save / load data from VibroDiag to PC
– you can choose, what to save / load to PC / VibroDiag



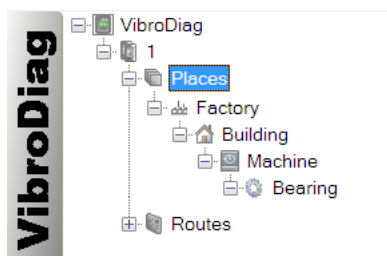
Upgrade firmware – uploads new version of firmware
– the procedure is displayed step by step after clicking on the upgrade icon

Restore SD card – function, which will restore SD card data, if you made a backup at the beginning of use - work in progress

Disconnect – ends connection between VibroDiag and VDTControl Center

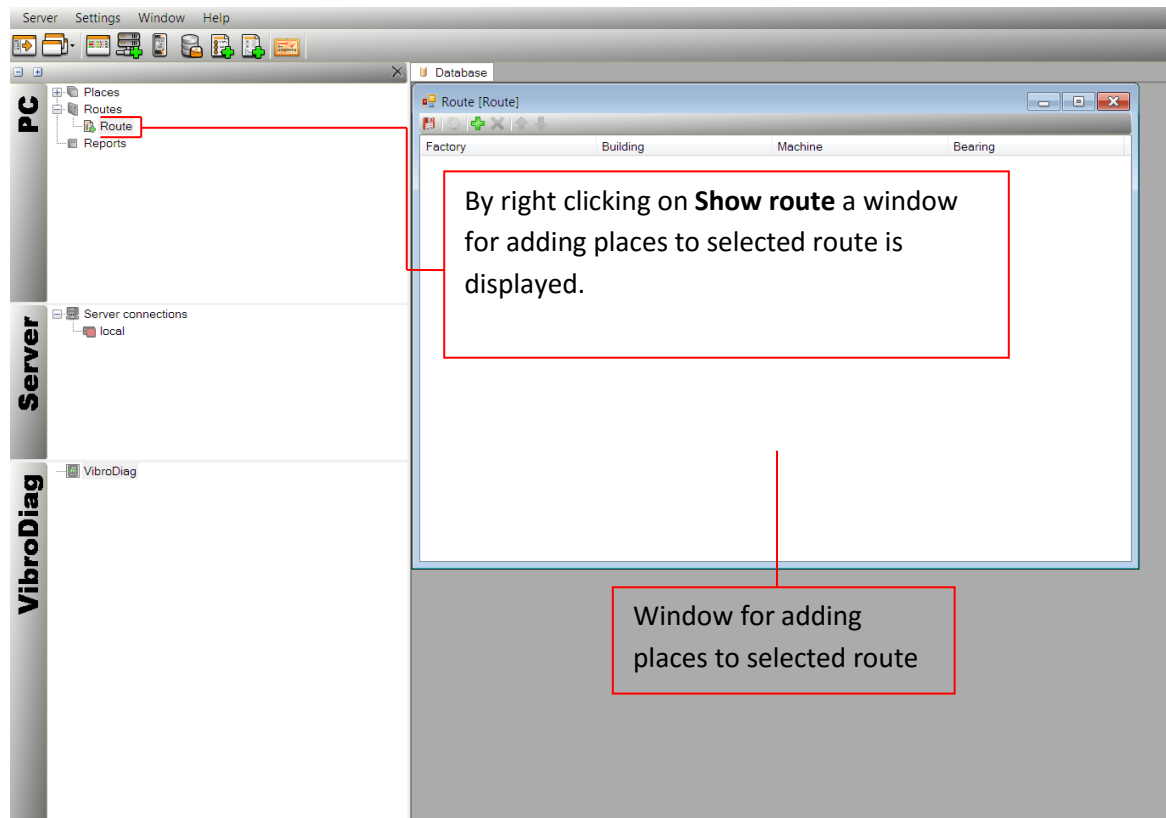
6.3.3.1.1 Places

- saved data about measurements and places in VibroDiag database
- structure and settings are the same as in Measurement places under **PC**

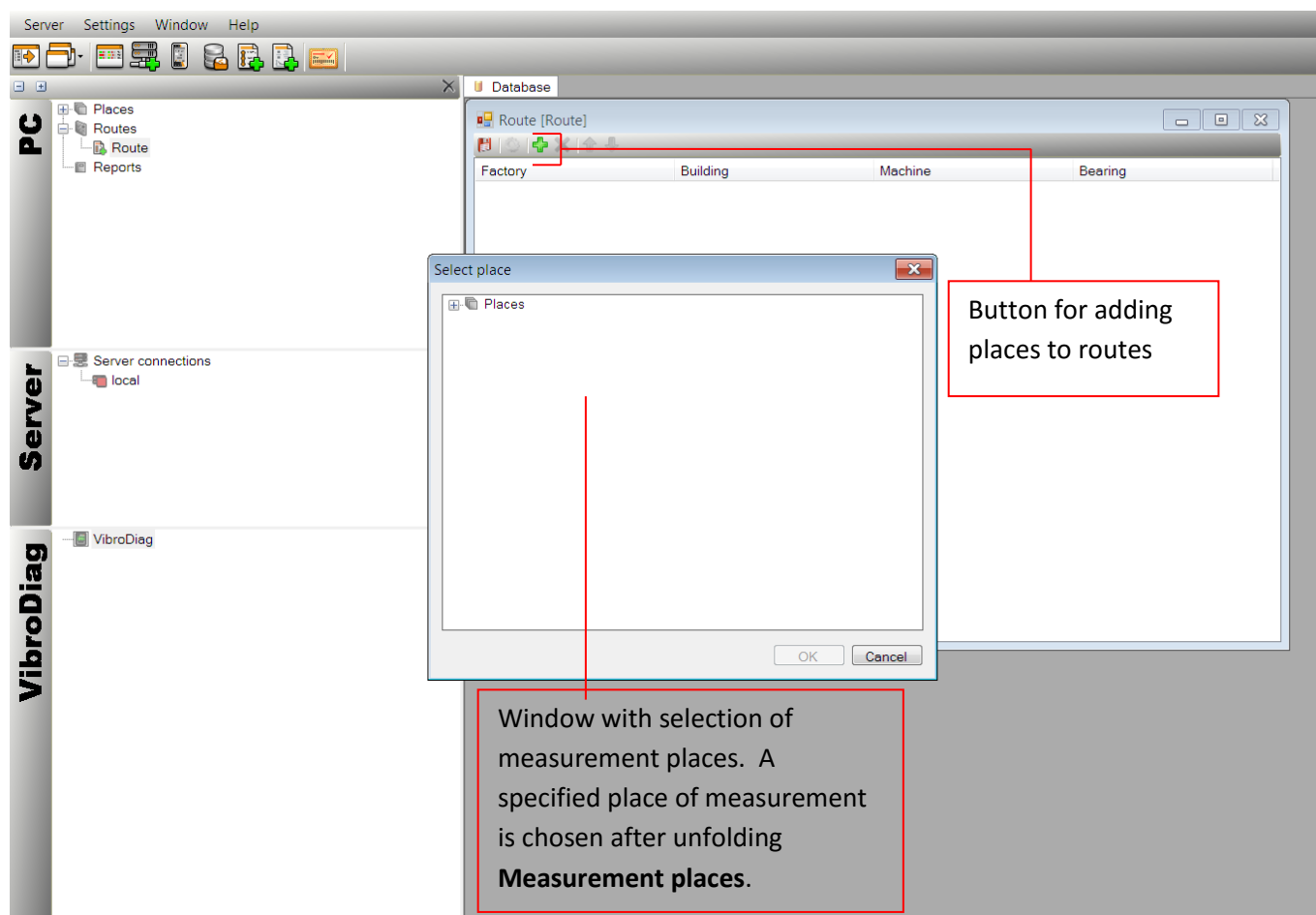


6.3.3.1.2 Routes

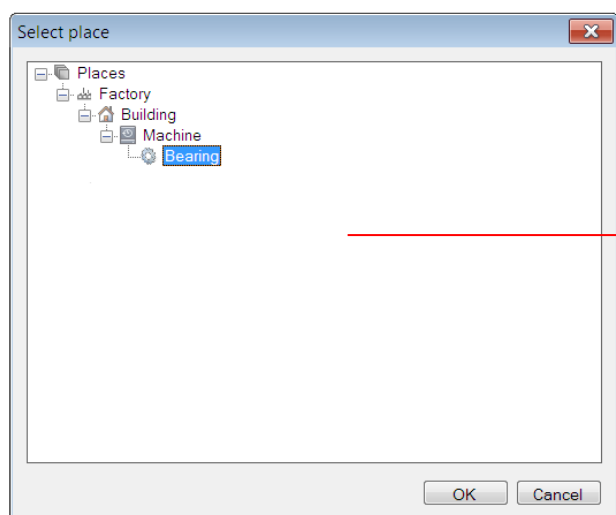
- list of routes saved in the database, including measured data
- you can define an route in both PC and VibroDiag section – right click on routes and option New route. After an route is created a window is displayed automatically for adding places to route.
- after right clicking on a created route and choosing option **Display**, a window is opened. Here you can add and delete places of a selected, previously defined, route. These defined places are in individual factories, buildings, machines. Measurement places from different buildings, machines, etc. can be added to one route.




After clicking on green **+** for adding places to route a window with a cascade selection of measurement places is displayed.

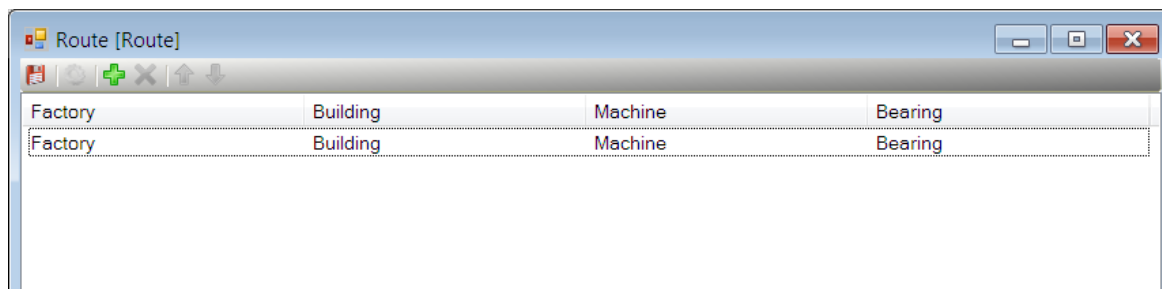


Selected place of measurement is added to route by clicking on **OK**.

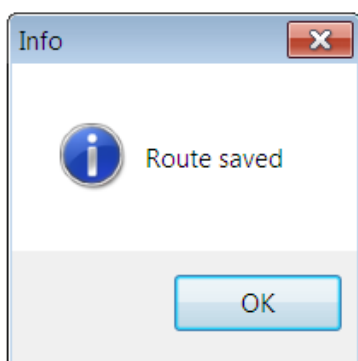


In cascade selection it is always possible to add only one place of measurement at a time, you can repeat the procedure until the route is filled with all places you would like to measure. After clicking on OK, again click on the 'green plus' icon to add another place of measurement. Each place can be added to the route more than once.

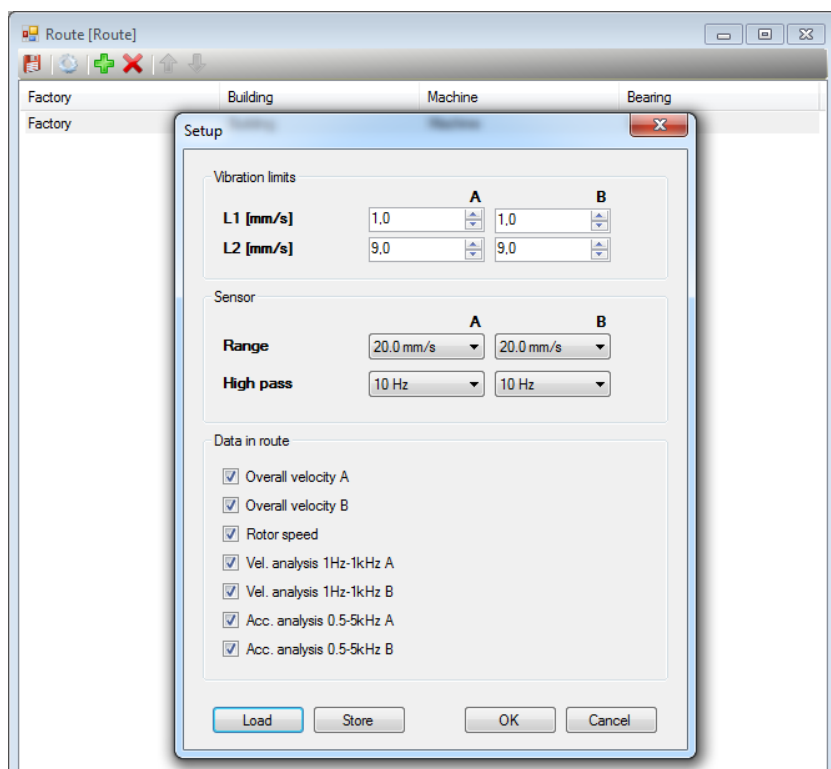
Route with added places of measurement must be saved. This is done by clicking on 



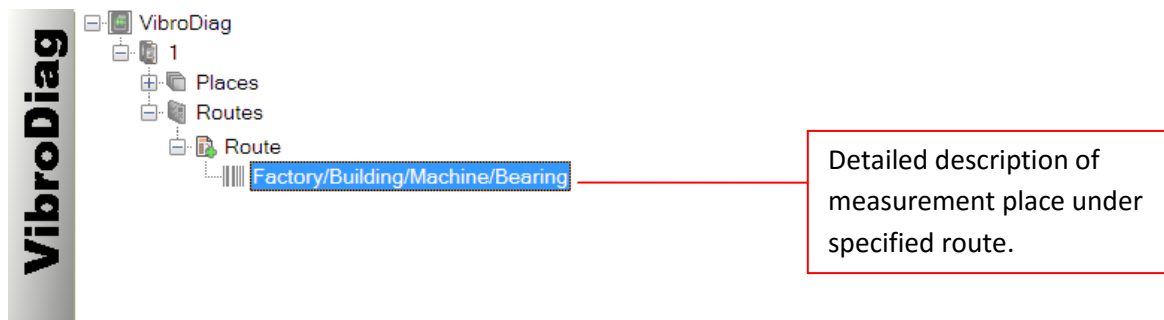
After successful saving a pop-up window is displayed.



By clicking on the route settings icon, you have an option to set limits, sensors and measured data for the specified route.



After unfolding a specified route in the main selection menu, the saved measurement places are displayed.



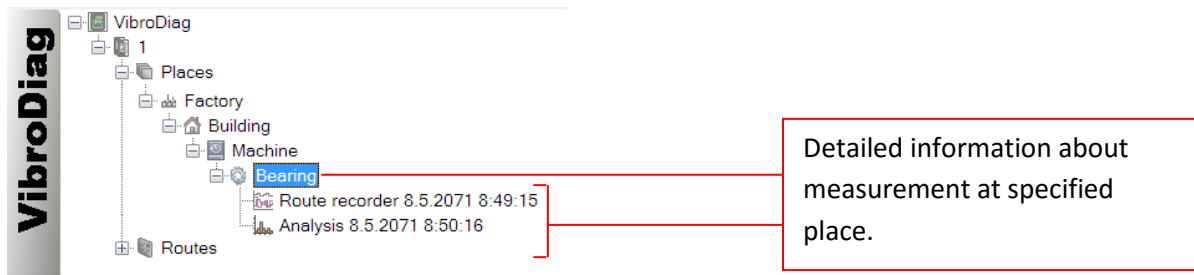
So far no measurements have been performed in the route and specified place. Measurements are added to the specified route and place in the instrument – before or during measurement, more details about this further.

7 Description of measurements using VibroDiag

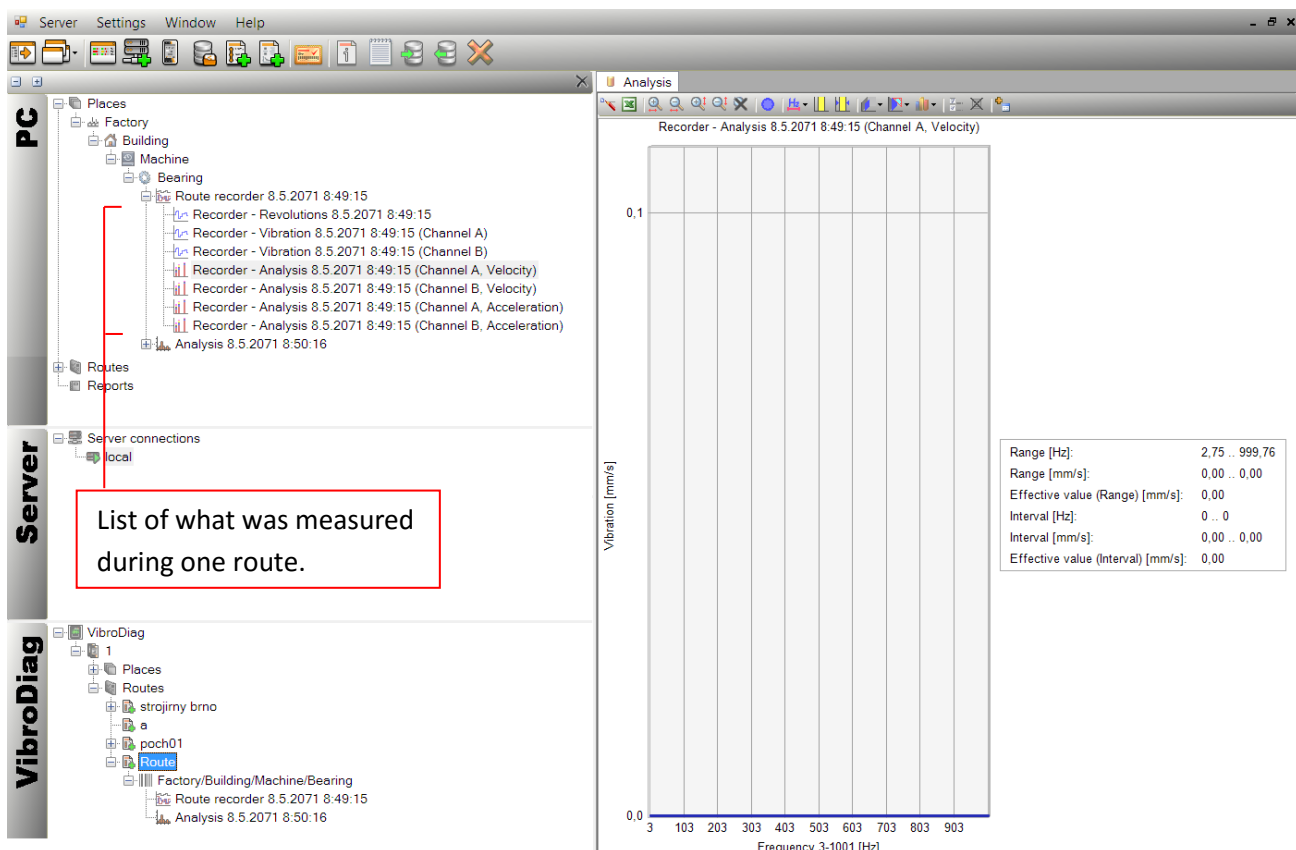
7.1 Displaying measurements in VDTControl Center

After measuring selected data, you can display and save them in the PC.

Single route measurements on bearings are displayed after the instrument is connected to PC and data are successfully loaded. Unfold **Measurement places** or **Route**, and at each measured place data of what and when was measured are shown.



By double clicking on a chosen analysis, trend or route recording a window with graph and detailed information is displayed.



Route recording is saved to database by right clicking on **Save to database**. It will be displayed in **PC**, all measured values are shown separately after unfolding.

8 Description of measurements using instruments of the 2500/3000 series

Stationary instruments of the 2500/3000 series are designed to be mounted to specified places without relocating, they are therefore bound to one measuring place.

8.1 Connecting to server

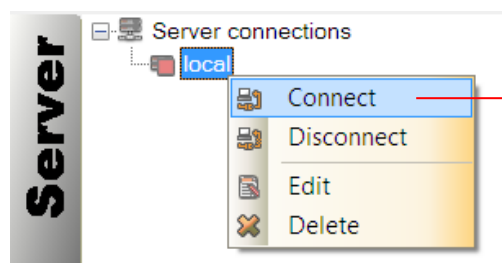
First connect the instrument using a USB convertor. VDTControl Server will not start-up without this connection.

Then start VDTControl Server and connect using button **Start**.

Finally start the VDTControl Center.

In Control Center you will be working in the side panel, section **Server**. To connect the instrument, right click on **name of defined server** and choose option **Connect**.

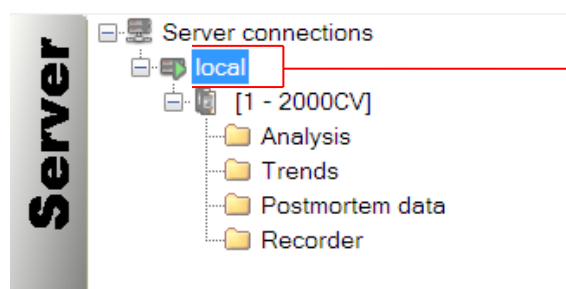
If a server is not yet defined a procedure how to create one is on page 16.



After clicking on **Connect**, the PC will attempt to connect with the server. If no connection is established, an error message is displayed. On how to solve, see chapter 9 – Problem solving

After successful connection, the icon at **name of server** turns green and an unfolding option is shown, where the connected instrument is displayed with all its functions.

After double clicking on selected instrument, information about the connected instrument is displayed.



Connection was successful. Icon at the name of server is green and the name of connected instrument appears. After unfolding, options of what can be measured are displayed.

8.2 Description of measurement

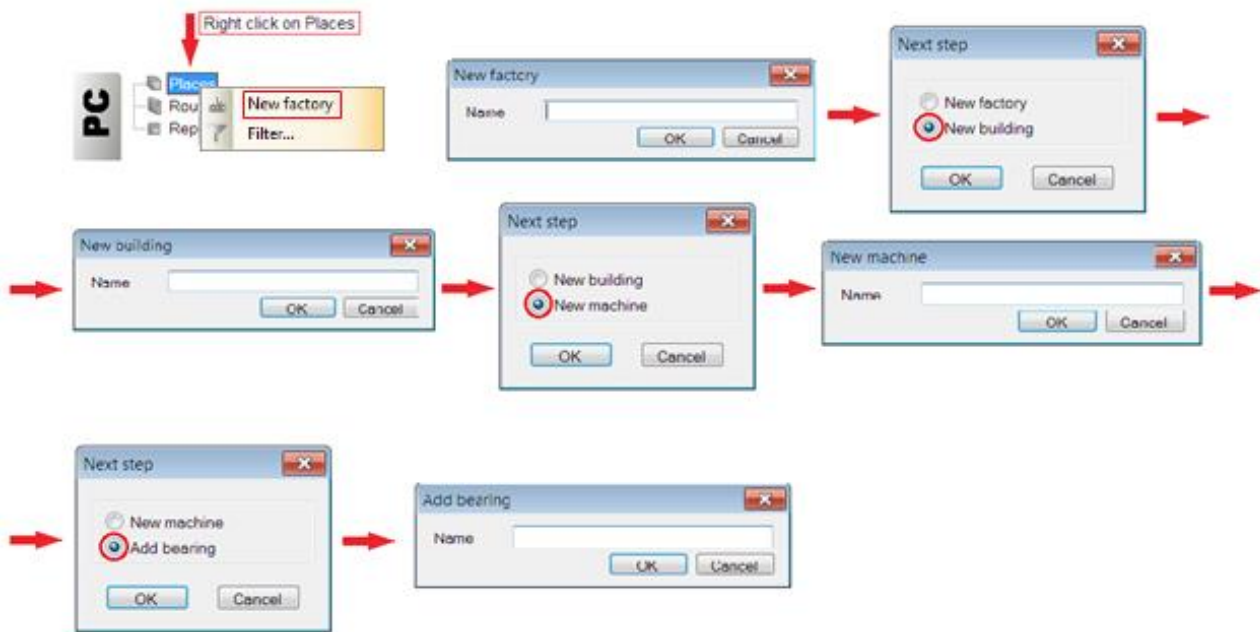
After unfolding name of instrument, see figure above, options of what can be measured are displayed.

8.2.1 Analysis, trends, final print-out

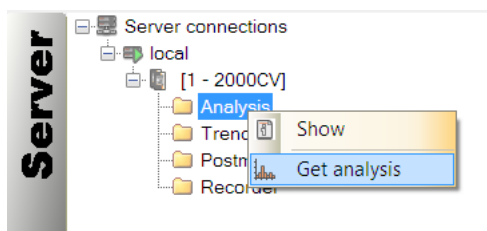
– here the measured analyses, trends and final print-outs are displayed. Displaying and showing them is similar.

8.2.1.1 Creating new analysis

Before starting a new analysis you must create, or already have created, measurement places in **PC** section, so that the analysis can be assigned to them. If you have not created, proceed according to these instructions:



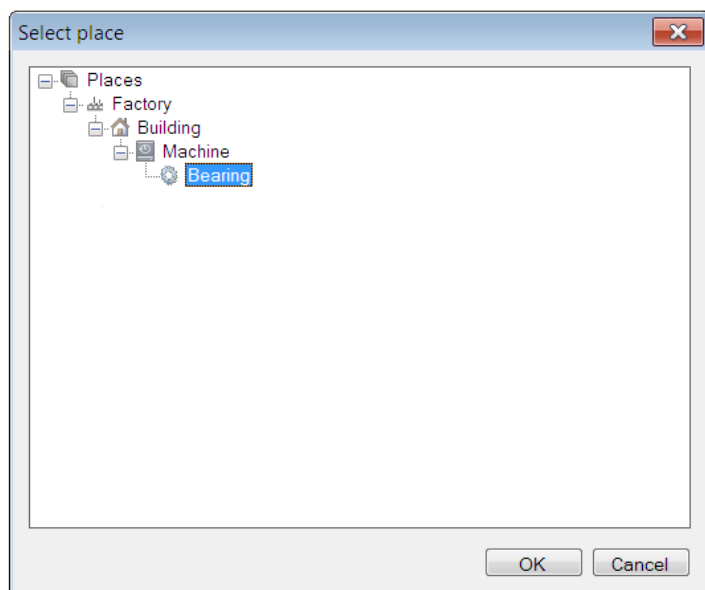
– new analysis is started by right clicking on **Analysis** and choosing option **Load analysis**



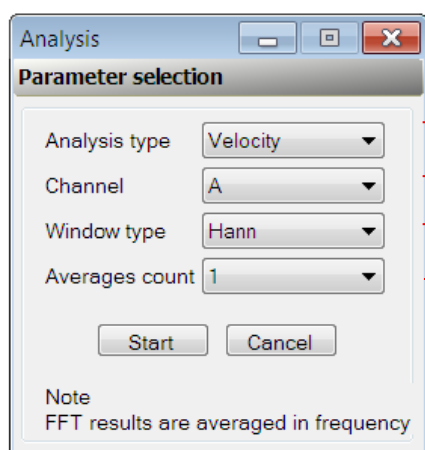
During first analysis start-up, on each channel a window with selection to which place the analysis should be assigned is displayed. When you run an analysis and choose channel A, then the channel will be assigned to one place, when running analysis on channel B, it will also be assigned to one place, it can be the same one, but you must select it during the first run.

Since this is a static instrument, intended for one specific measurement place, this place cannot be changed for another measurement!

Chosen measurement place is confirmed by clicking on **OK**



After choosing place of measurement a window with parameters, which you set with every newly started analysis, appears.



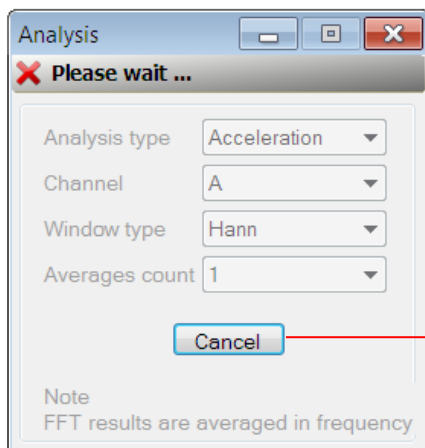
Type of analysis (velocity or acceleration)

Choosing channel for measurement

Window type (Hann, rectangular)

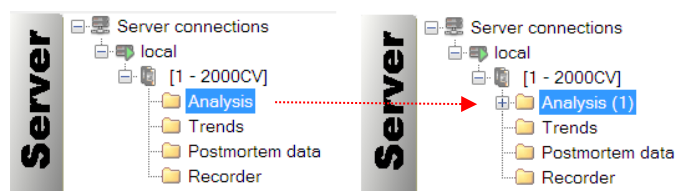
Number of measurement averages (1, 4, 8, 16)

After selecting all parameters press **Start**, the analysis will take a while, a few minutes at the most.

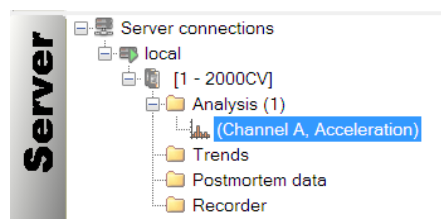


It is possible to abort the analysis at any time by pressing **Cancel**.

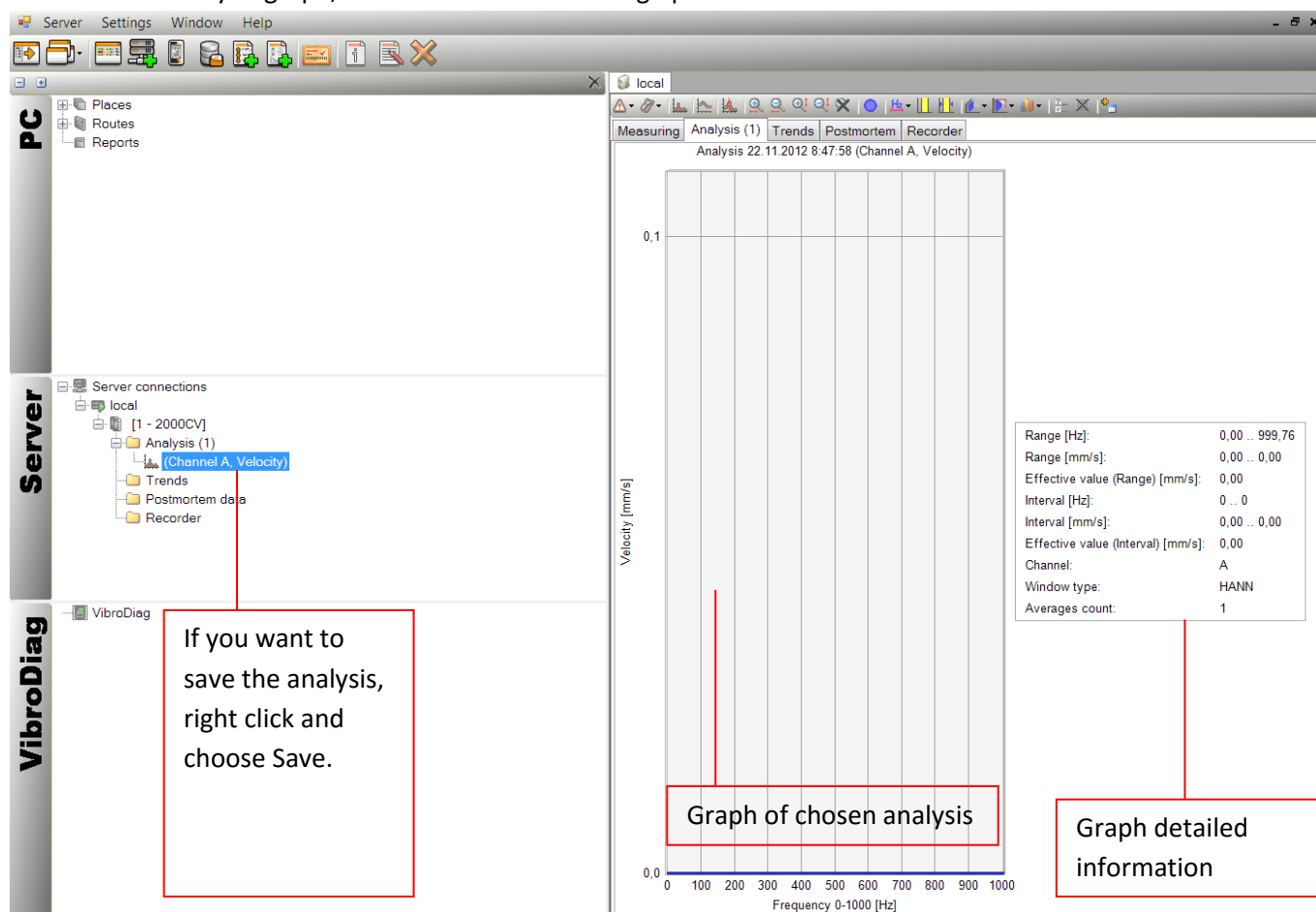
After a successful analysis the number at Analysis (number) increases by one.



After clicking on chosen analysis a graph with detailed information is displayed.



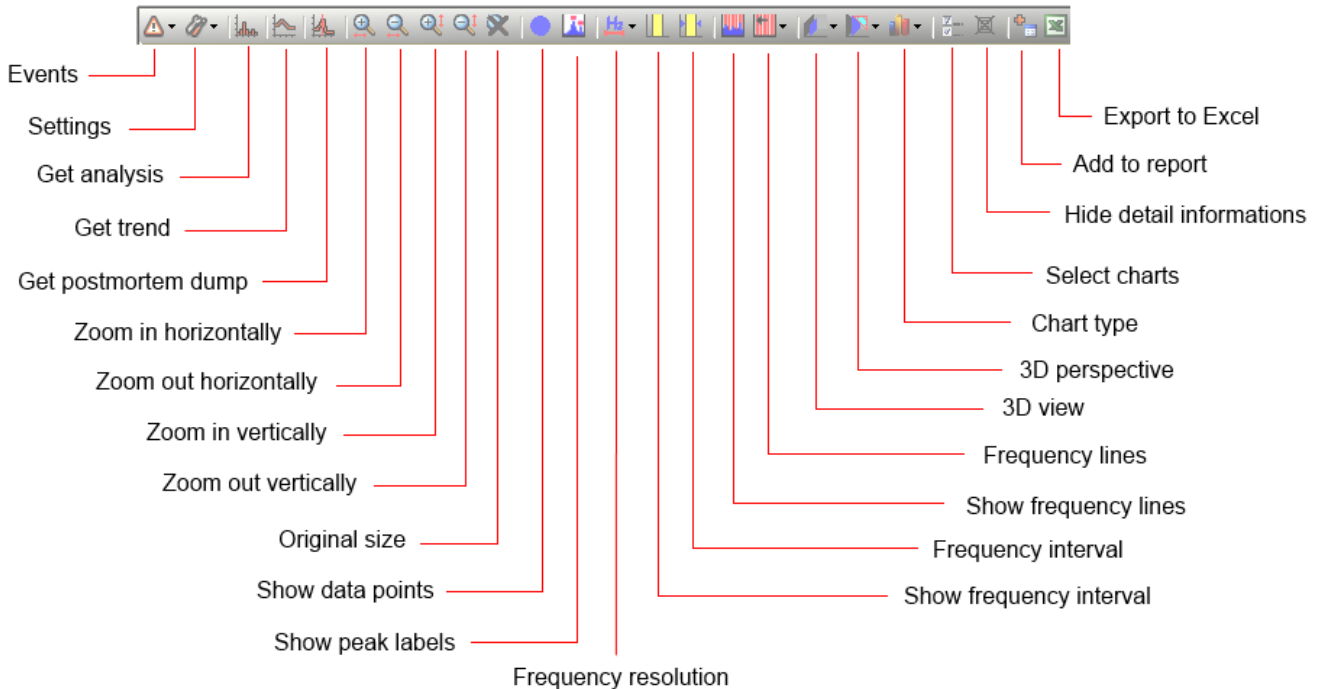
Window with analysis graph, all information and setting options. More information below.



Selected analysis can be saved to PC database. After right clicking choose option **Save**. The analysis will automatically be assigned to the place (in **PC** section), which is selected as default for given channel.

8.2.1.2 Viewing analysis results

Above each graph is an options bar, displaying what can be performed with the graph.



Events – displays or hides system notices about changes in vibrations, temperature, all settings, disconnection from server

Settings – identification – name and description of instrument

– place on channel A/B – position of instrument

– instrument control – enables to reset the system, trends, reference values of bearings, set time

Get analysis – creates a new analysis

Get trend – creates new trend

Get postmortem dump – creates new postmortem dump

Zoom in – zooms in horizontally or vertically

Zoom out – zooms out horizontally or vertically

Original size – returns to default scale

Show data points – displays individual points on graph

Show peak labels – displays peaks on graph

Frequency resolution – value the graph is capable to differentiate

Show frequency interval – displays a section of the graph in a specified interval, which you want to illustrate

Frequency interval – sets a specified frequency interval

Show frequency lines – displays frequency lines

Frequency lines – sets harmonic or specific lines

3D view – view of graph (front, side, perspective)

3D perspective – transforms graph to 3D

Chart type – displays type of graph (column, curve, line)

Select charts – option to select more graphs in one view (for comparison)

Hide detail information – hides graph details

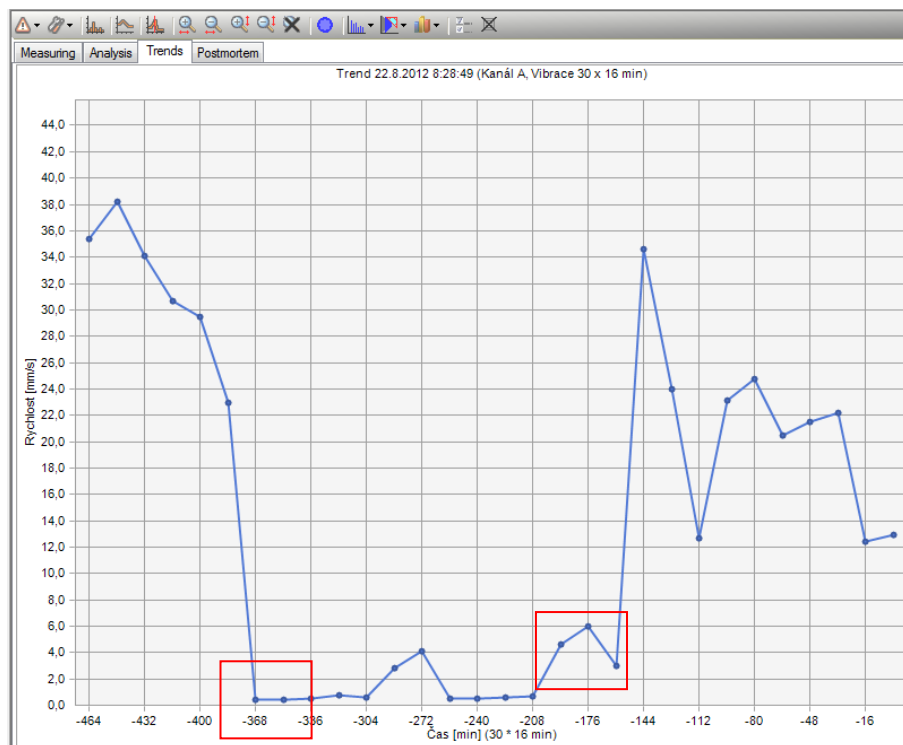
Add to report – adds graph to the report

Export to Excel – exports data to Excel

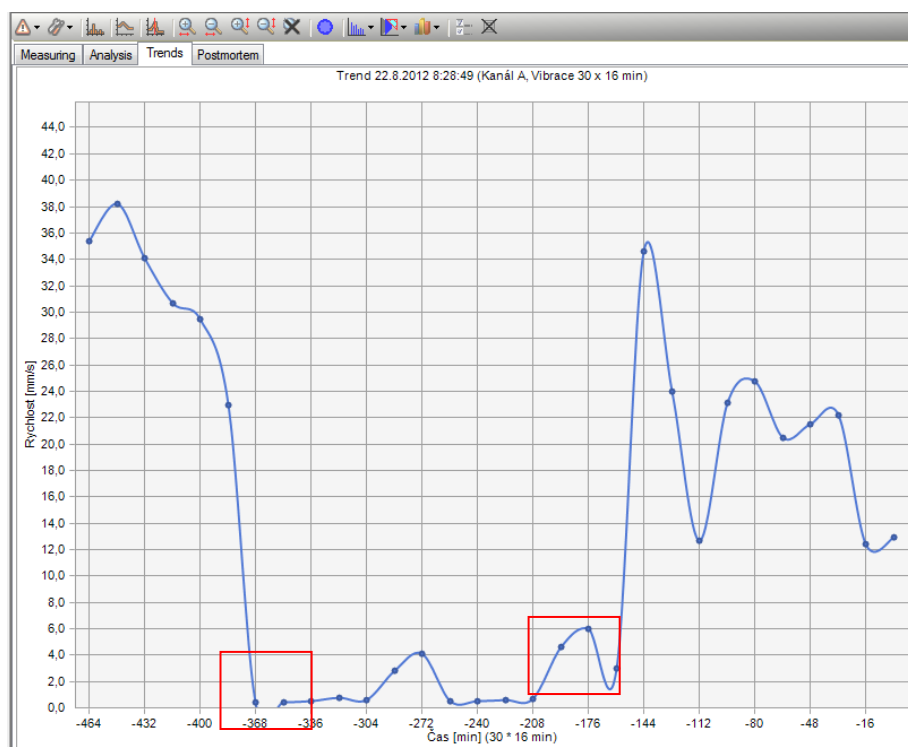
8.2.1.3 Displaying graphs

While displaying graph type line and curve, slight differences may occur.

While displaying line graph, points are connected directly using lines.



While displaying curve graph, in some cases an overshoot under minimal value may occur, eventually under the x axis. This is due mathematical theory of graph plotting.



8.2.2 Current state

- displayed after double clicking on instrument
- shows summary of current instrument state
- current values of **vibrations** in individual channels, including limits
- current values of **temperatures** in individual channels, including limits (if temperature sensors are active, otherwise OFF)
- current state of **bearing conditions** connected to individual channels (shows wear of bearings)

Server

Server connections

- local
 - [1 - 2000CV]
 - Analysis (1)
 - Trends
 - Postmortem data
 - Recorder

Double clicking on selected instrument displays its current state.

Vibration A	0,0 mm/s	← Limit L1	← Limit L2
Vibration B	0,0 mm/s		
Temperature A	OFF	OFF	
Temperature B	OFF	OFF	
Temperature C	OFF	OFF	
Temperature D	OFF	OFF	
BC A	0,0 (0,2)		
BC B	0,0 (0,1)		

Postmortem is running

Machine time 16 days 56 minutes 43 seconds

Machine is running Yes

Device status	
Device type	2000CV
ID	1
Protocol version	3
Internal temperature	43 °C
Units	Metric
Error	no error
Firmware version	1.0.65

Green dot - everything is OK
Yellow dot, Red dot - exceed L1, L2 temperature or there is some other problem in the device

Velocity
BC
Temperature

A
OK
-

B
OK
-

C
OK
-

D
OK
-

Machine time - how long is machine running
Machine is running - Yes/No

Identity place - where is the machine situated (for each channel)

There are informations about the device - type, ID, protocol version, internal temperature, units, some errors a actual version of firmware

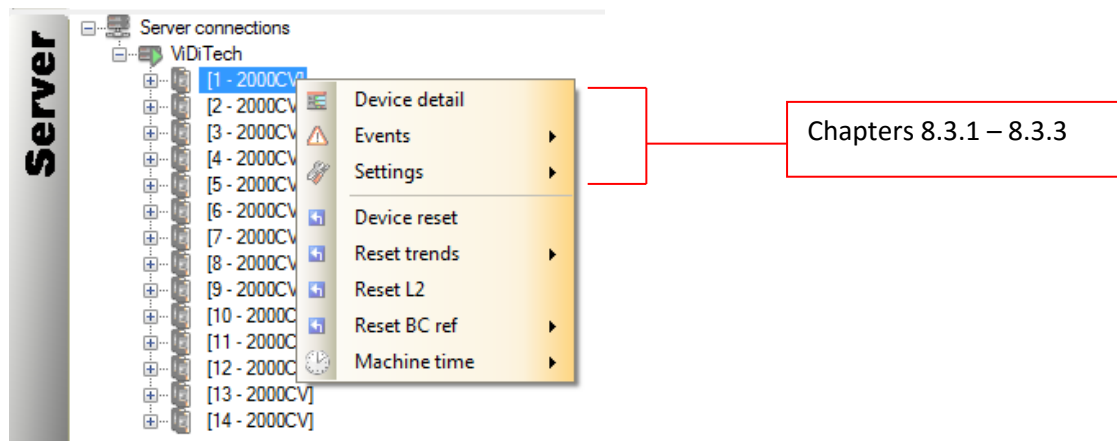
Postmortem - record all activities the device after one second. When the limit L2 is exceeded, then the machine turn off and on record will see what preceded the accident (10 minutes before the accident) and what followed it (30 seconds after the accident).

Current vibration values in each channel including limits.
Current temperature values in each channel including limit (if the sensors are active, else there will be OFF)
Current bearing conditions values connected in each channel.

8.3 Setting instrument using VDTControl Center

Instruments of the 2500/3000 series can be set and controlled directly using VDTControl Center.

Right click on instrument name displays a menu of what can be set and other control options of the instrument.

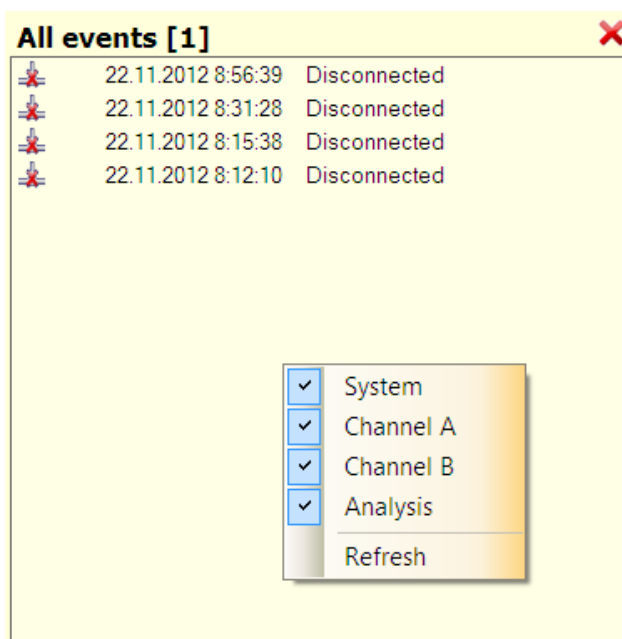


8.3.1 Instrument details

- displays summary information about the instrument. An identical window appears as after double clicking on instrument – current state, see figure on previous page.

8.3.2 Events

– it is possible to display or delete event records of what happened in the instrument. For instance when and how the temperature changed, when was the instrument disconnected, etc..

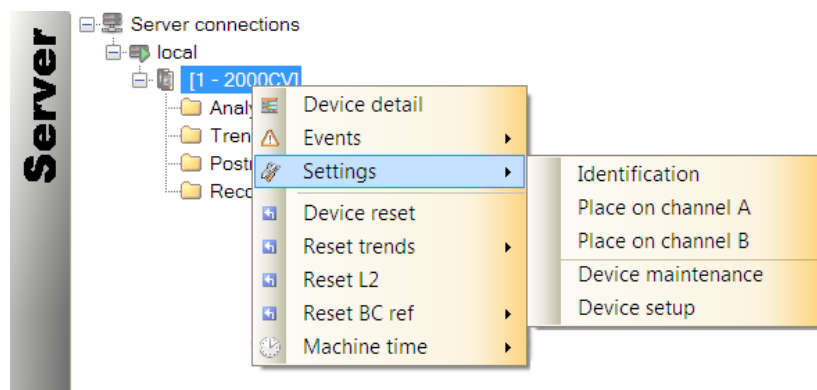


List of events and changes in instrument.

It is possible to filter types of notices. Whether everything, only system notices, only notices regarding analyses. Another option is to filter by channels and information updates.

8.3.3 Settings

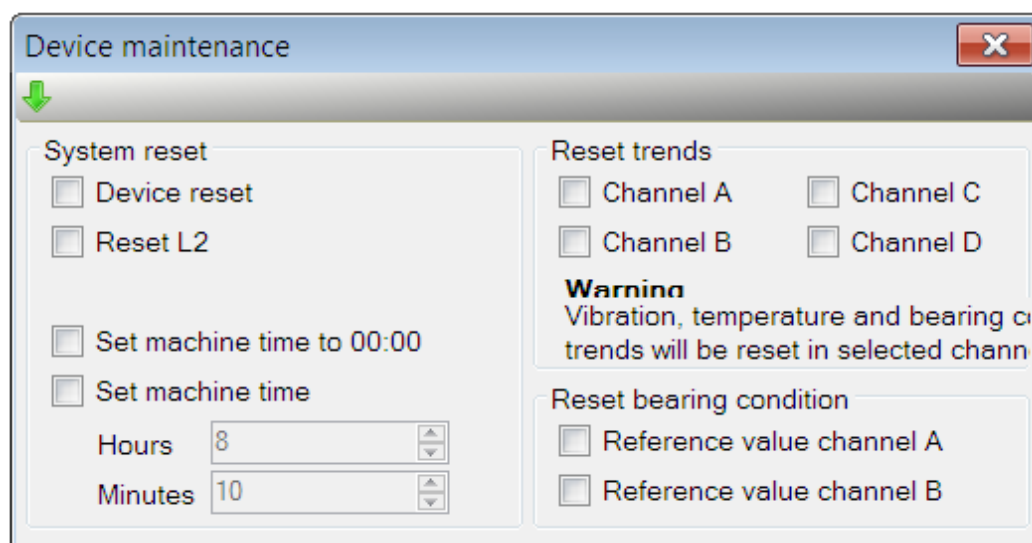
– options of setting the instrument




Identification – option to add a description and note to current instrument

Place on channel A/B – choice of place, from predefined Measurement places, to which the instrument and selected channel will be assigned to

Instrument maintenance – enables restarting the instrument, limits, trends, reference values of bearings. Also an option to set the instrument run time.

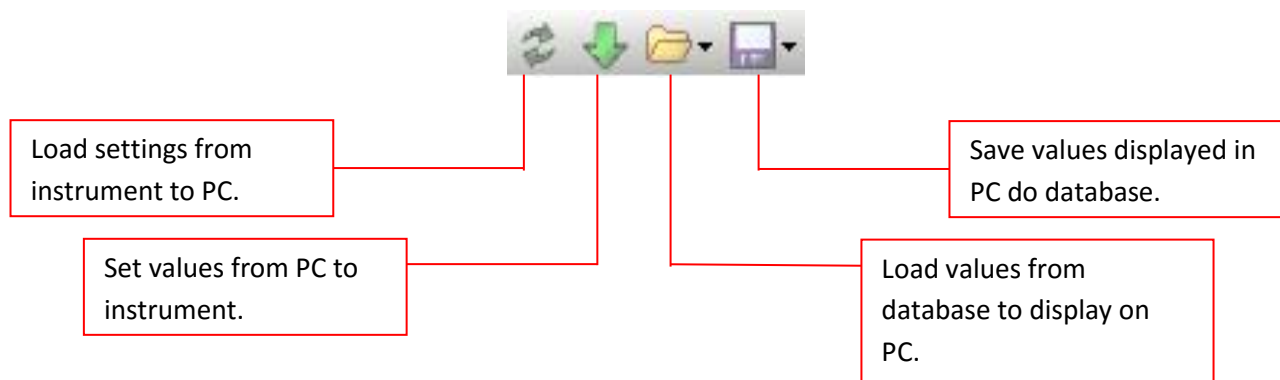


Changes are uploaded to the instrument after clicking on the green arrow .

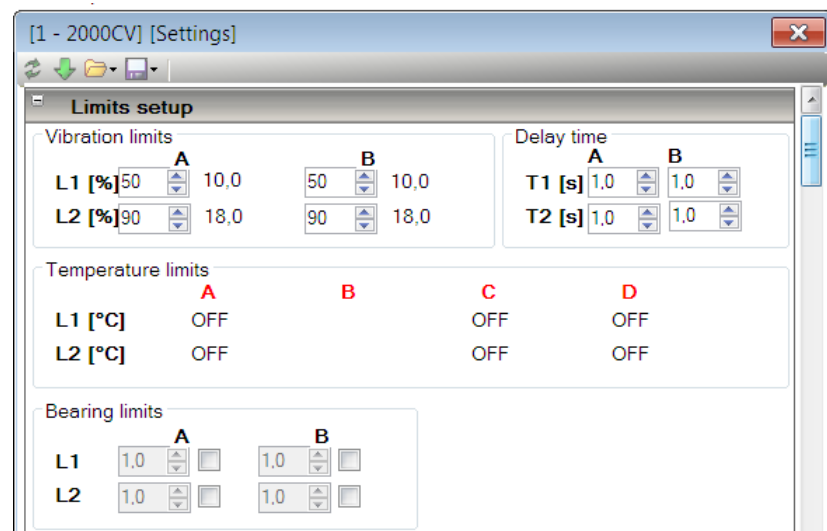
Instrument settings – setting limits, channels, instrument and logical inputs. It is identical to settings in instrument – it is possible to transfer values between instrument and PC respectively.



Values that are set here can be uploaded to instrument, just like they can be loaded from instrument and displayed here.



Limits settings



Option to set or display current limit settings of vibrations, temperatures, bearing conditions.

Values displayed here will be identical with values in instrument. To get current values, click on the renew button



Channel settings

[1 - 2000CV] [Settings]

Limits setup

Channels setup

	A	B
Range	20 mm/s	20 mm/s
High pass	10 Hz	10 Hz
Trip Multiplier [xL2]	1.5	1.5
Sensitivity	<input checked="" type="checkbox"/> ON/OFF 100	<input checked="" type="checkbox"/> ON/OFF 100
Machine ON [%Range]	1	1

Device setup

Logical inputs setup

Machine setup

Setting range, high pass, trip, sensitivity and run detection for both channels A and B.

- **trip** – multiplies limit L2 by a here given number. This is in case, when instrument starts or coasts and resonates during certain revolutions, so it does not turn off when exceeding L2.

Instrument settings

[1 - 2000CV] [Settings]

Limits setup

Channels setup

Device setup

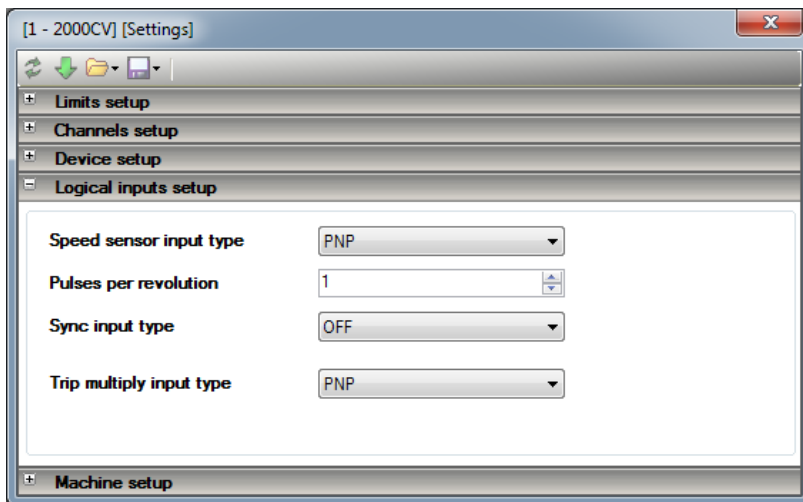
ID	1
Link speed	57.6 kb/s
Parity	None
Units	Metric
BC Enable	Yes

Logical inputs setup

Machine setup

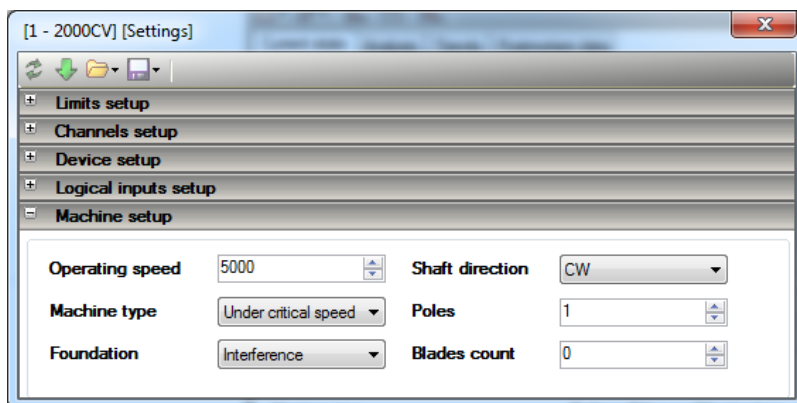
Setting instrument ID, speed of link, parity, units in which the instrument will display data and bearing condition switch.

Logical inputs settings

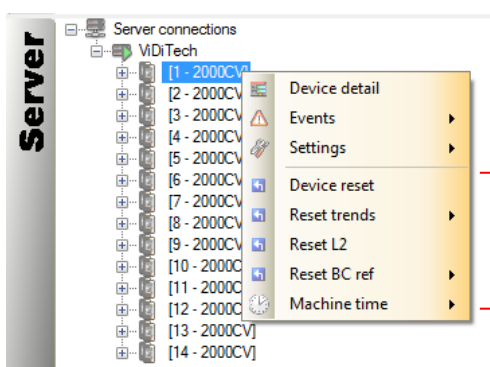


Setting sensor input type, number of rotor readings, synchronization between instruments, L2 limit trip.

Machine setup



Setting operating speed, machine type, foundation, shaft direction, poles and blades count.



Chapters 8.3.4 – 8.3.8

8.3.4 Restart instrument

– restarts the instrument – instrument will start to blink and a notice ,restarting´ will appear on the screen. Then information about the company, name of instrument, firmware and hardware version will appear.

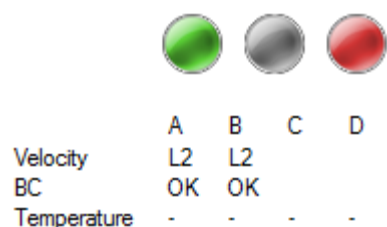
8.3.5 Reset trends

– resets trends in instrument in selected channels

8.3.6 Reset L2

– resets limit L2 – if once exceeded, it will, for warning, continue to be alight even after the values have returned to normal- the machine was turned off. Reset is recommended after the cause of exceeding limit L2 is removed.

The fact that limit L2 was exceeded will be displayed not only on the instrument (L2 red diode will remain to be alight), but also in Control center, where a warning will be displayed until reset.



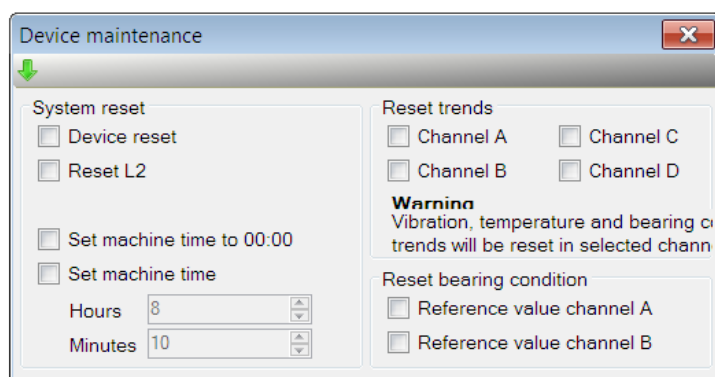
Current instrument state is in order, because the middle, yellow, warning is not alight. Formerly the limit L2 was exceeded, the machine was turned off, but indication remains, it can be switched off using this command – Reset L2

8.3.7 Reset BC ref

– resets reference values of bearing condition. New values are automatically set after 8 hours of machine run time.

8.3.8 Instrument time

– it is possible to restart or set a new time in the instrument. A window identical to the one for instrument settings is displayed.



9 Solving problems

Here the most common error situations, that may occur, will be described including their solving and removing. All causes are likely, it is possible that a here described cause and its solving may not fit to your problem.

9.1 Programme installation

9.1.1 Installation cannot be run due to administrator rights

- cause – you do not have administrator rights set for software installation under your account
- solving – contact administrator to assign you administrator rights

9.1.2 Installation failed in-process

- cause – not enough free HDD space
- solution – delete some files

9.2 Programme start-up

9.2.1 Programmes cannot be started and report an error

- cause – programme is possibly badly installed
- solution – uninstall and reinstall it again

9.2.2 VDTControl Server is not visible after installation

- cause – programme is not in the main taskbar, but is displayed as a small icon to the left of time. The icon can be hidden, therefore not visible at first sight.
- solution – display hidden icons

9.3 Static instrument

9.3.1 Unknown values for server setup

- look into the instrument settings, values should be mentioned there

9.3.2 After clicking on Start in the server window an error message „Error at initialize link“ appears

- cause – instrument is not connected using USB convertor
- solution – connect convertor to USB
- cause – free COM port is not correctly set
- solution – find a free port by the following: Start – Control panel – Device manager – Ports (COM and LPT) – a port to which the convertor is connected is displayed, it has a number, write this number in the COM port field. If the convertor is not connected, the COM / LPT port menu will not be displayed.
- cause – bad values set in the server window
- solution – check all values, mainly if connection using USB/Modbus and COM port are set

9.3.3 After clicking on Start in server window an error message „Can not create Lan connection“ appears

- cause – server is already running
- solution – turn off the current server. If you can not find it in the main taskbar, where running programmes are displayed, search among icons in the bottom right corner. If it is hidden, click on Show hidden icons.
- cause – USB convertor does not communicate
- solution – check if the convertor is blinking. If not, try disconnecting and connecting it to another USB port. If this does not help, restart the PC (disconnect the convertor before restart). If even restart does not help, most likely the driver is badly installed or not installed at all. Check its functionality in COM/LPT ports menu, see section 9.3.2

9.3.4 At static instrument, after clicking on Connect, countdown keeps on going at item local, but no connection is established.

- cause – no server connection, server is not running
- solution – run server using Start button in VDTControl Server application

9.3.5 Instrument was not found, even when server is connected

- cause – bad instrument setting
- solution – check if values of server settings agree with the ones set in instrument. If not, change values of server settings to values from instrument.
- cause – you have disconnected USB convertor from USB port or connector from USB convertor
- solution – check connection of all connectors
- cause – instrument is not connected to power supply
- solution – connect power supply connector
- cause – possible not up-to-date applications VDTControl Center, VDTControl Server
- solution – update VDTControl Center and Server

9.3.6 Instrument reports error “Error 10, sensor error „

- cause – sensors are not connected or no signal input
- solution – check whether sensors are all right, and that there is a signal input to instrument

9.3.7 Yellow and orange or red light are alight simultaneously on the instrument

- cause – limit L1 or limit L2 is exceeded
- solution – check the measured machine, something is wrong with it
- cause – badly set limits for selected measurement
- solution – check them

9.3.8 I would like to change measurement place

- solution – set a different instrument ID. This is done directly in the instrument under its settings. After reconnecting, an instrument with a different ID will appear. The programme will take it as a completely new instrument, so during first measurement it will again ask, at which places to measure.

9.4 VibroDiag

9.4.1 VibroDiag will not turn on, the screen only flashes

- cause – start-up button was pressed for a short while
- solution – keep the start-up button pressed until the opening screen appears. The screen first only flashes and turns on a moment later, you must keep the button pressed.

9.4.2 After clicking on Connect at VibroDiag, no instrument connection list appears in the pop-up window.

- cause – instrument is not connected using USB connector
- solution – connect VibroDiag using USB connector

9.4.3 After clicking on Connect, VibroDiag is found in the list, but after selecting it, it is not possible to connect to it. During data loading a pop-up window appears, that it is not communicating.

- cause – instrument is not connected to power supply or is turned off
- solution – connect power supply cable and turn the instrument on

9.4.4 VibroDiag displays no data during measurement

- cause – no signal input
- solution – connect or check connection of signal inputs to individual channels
- cause – wrong channel selected
- solution – check during measurements and analyses, that you run analysis on the correct channel, for instance you have signal in channel A, but run analysis in channel B

9.4.5 Some icons in menu are light.

- cause – you do not have a licence purchased for given measurements
- solution – purchase a licence