

QUICK START GUIDE

DDS (Free Version for A4900 Vibrio M)



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Introduction

Quick Start Guide

Purpose of this manual is not to show you all DDS capabilities. We want to teach you how to simply create basic route tree and start your predictive maintenance program.

DDS – free version

The free version of DDS is supplied along with A4900 Vibrio M device. There are two limits of DDS free version:

- The database size is limited to 200 MB
- Possibility to create only one database (route tree)

System Requirements

The DDS is designed for MS Windows 7 and higher systems. It could be also run on MS Windows XP, but we do not fully guarantee 100% functionality. Some procedures will take more time or freeze, especially on computers with one core only.

Installation

A4900 Vibrio M USB drivers

Insert the Adash Installation CD (or USB flash drive) supplied with A4900 Vibrio M and click on Autorun. Following window will appear.



Adash Installation Disk

Welcome to the Adash installation disk. You can find here:

1. Description of installation process
2. Third parties software
3. Software and instrument manuals

Install drivers for A4900 USB

- [CDM v2.12.00](#)

Software and manuals

Instrument	Description	Software	User's Guide
DDS 2016	Digital diagnostic system 2016	DDS 2016 v3.1.1.1.exe	DDS man eng.pdf
A4900 Vibrio M/Ex	A4900 Users Guide	---	A4900 Vibrio M man en.pdf
A4900 Loader	A4900 M FW Loader	A4900 Loader v.1.5.exe	A4900 Vibrio M firmware upgrade en.pdf

Click on CDM v2.12.00 and follow the installation shield process.

You need appropriate rights to run the .exe file. Contact your IT administrator if you have any problems to run .exe file.

Alternatively download the drivers from www.adash.com / Downloads / Third parties software / A4900 – Vibrio USB drivers.

DDS

Click on DDS.exe (name of the .exe file contains latest version number) in Adash Installation CD (or USB flash drive), select required language and follow the installation shield process.

You need appropriate rights to run the .exe file. Contact your IT administrator if you have any problems to run DDS.exe file.

Alternatively download the DDS from www.adash.com / Downloads / Software ADASH / DDS (Digital diagnostics system) / DDS

Upgrading

The latest version of DDS can be always downloaded as per path above.

DDS first run

Language selection

DDS supports following languages: Czech, English, French, Hungarian and Russian. To change the language go to Tools / Globals / General / Language.

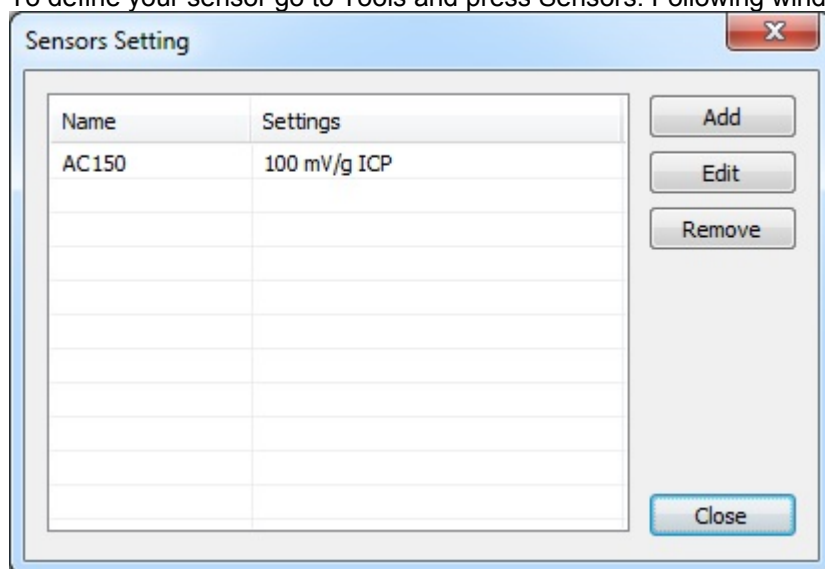
Units selection

To change the units go to Tools / Globals / Units and select Metric or Imperial according to your habits. You can also change the units of Speed, Frequency etc. individually according to your requirements.

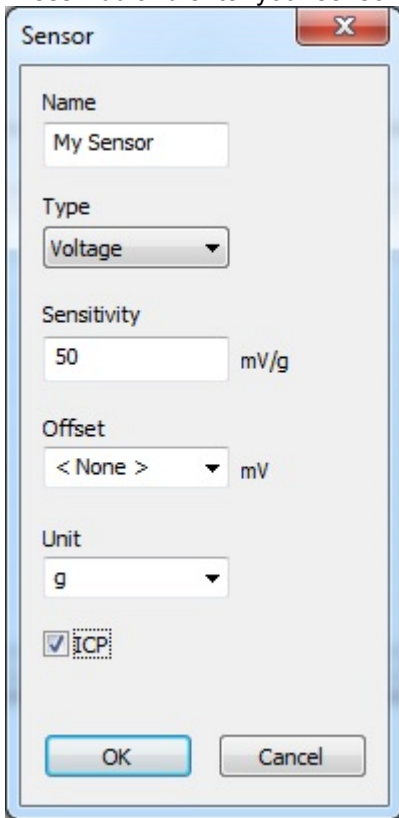
Sensor definition

You will use ICP powered acceleration sensor 100 mV/g with your Vibrio M device in most cases. Type AC150 (supplied with Vibrio M kit) is predefined already.

To define your sensor go to Tools and press Sensors. Following window will appear.



Press Add and enter your sensor properties.



Remark: Vibrio M device has got preset sensitivity according to supplied AC150 sensor. If you will change your sensor (different sensitivity) you have to change the sensitivity also in Vibrio M device.

Press OK and your sensor will be saved as a template.

DDS – demo route tree

The DDS contains the demo route tree after the first run. This route tree has been created just to show you how the route tree structure could look. Don't pay attention to it, we will guide you how to create your route tree in next chapter.



Vibrio Route Data Cells [M]

Only this part of the demo route tree can be useful for you. Vibrio Route Data Cells tree item contains all predefined measurement types which Vibrio M can measure. It is basically the template of measurements. See the next chapter about how to use it.

Route tree creation

Tree Item vs. Data Cell

There is two different types of items in the route tree.

Tree item

It is used for creation of tree structure (e.g. Factory, Department, Machine, Measuring point, ...). The tree item doesn't contain measurements.

Data Cell

This item contains measurement settings (overalls, spectra, time waveforms,...). Typically the data cells are created under (in) the Measurement point.

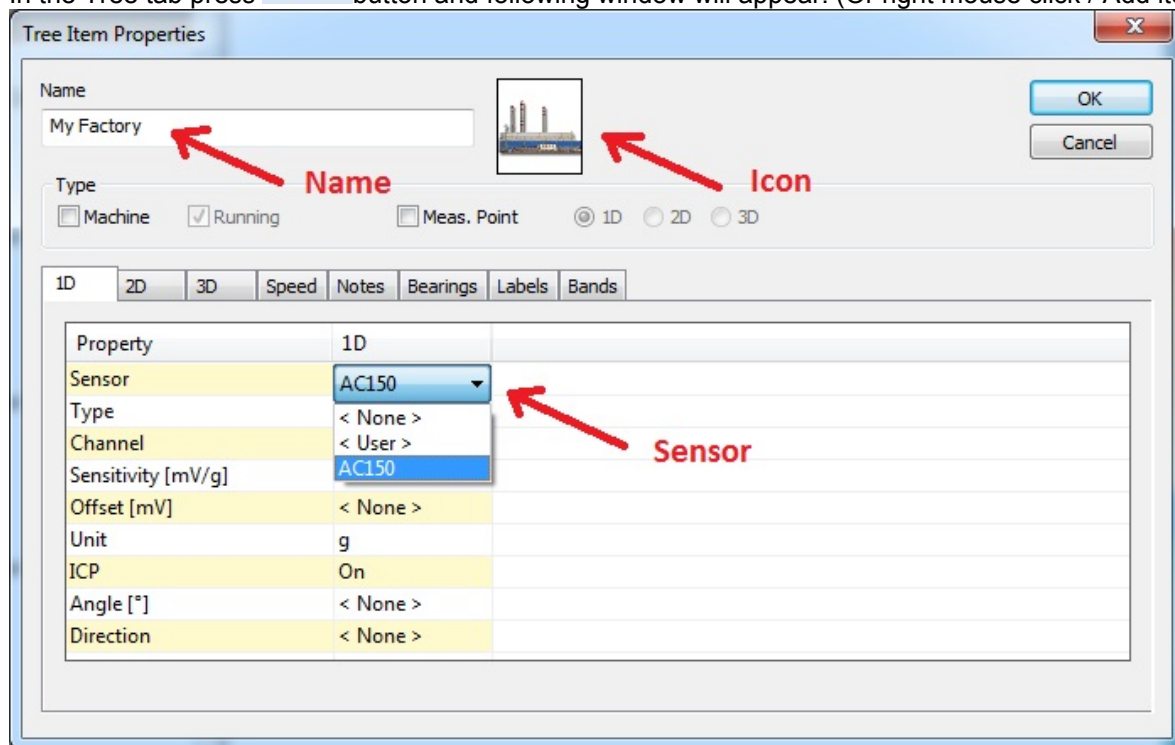
Tree Item creation

Here we would like to describe how to simply create your route tree. We will create Factory / Department / Machine / Measurement point and measurements (Data cells) which will be taken on this Measurement point.

Remark: Factory, Department and Machine are just general titles. You can name those route tree items under your requirement.



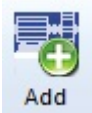
In the Tree tab press **Add** button and following window will appear. (Or right mouse click / Add item)

A screenshot of the 'Tree Item Properties' dialog box. The 'Name' field contains 'My Factory'. The 'Type' section has 'Running' checked. The 'Icon' field shows a factory icon. A dropdown menu for 'Sensor' is open, showing 'AC150' selected. Red arrows point to the 'Name' field, the 'Icon' field, and the 'Sensor' dropdown. The dialog has 'OK' and 'Cancel' buttons.

Property	1D
Sensor	AC150
Type	< None >
Channel	< User >
Sensitivity [mV/g]	AC150
Offset [mV]	< None >
Unit	g
ICP	On
Angle [°]	< None >
Direction	< None >

Name your factory, select the icon of your factory and select the sensor. Press OK to confirm you settings.

Remark: Advantage is that once you have defined the sensor in this top tree item (My Factory) it will be inherited in all tree items below this item.



Press **Add** button again (the My Factory item must be active) to create your Department as per picture below. Press OK to confirm your settings.

The screenshot shows the 'Tree Item Properties' dialog box for a new item named 'Department 1'. The 'Name' field contains 'Department 1' and there is a small image of a factory building. The 'Type' section has 'Machine' unchecked and 'Running' checked. There are also checkboxes for 'Meas. Point' and radio buttons for '1D', '2D', and '3D'. Below this is a table with columns for 'Property' and '1D'. The table contains the following data:

Property	1D
Sensor	< Inherited >
Type	Voltage
Channel	1
Sensitivity [mV/-]	100
Offset [mV]	< None >
Unit	g
ICP	On
Angle [°]	< None >
Direction	

At the bottom of the dialog, it says 'Inherited from: DDS 2014\My Factory'. There are 'OK' and 'Cancel' buttons.



Press **Add** button again (the Department 1 item must be active) to create your Machine as per picture below.

The screenshot shows the 'Tree Item Properties' dialog box for a new item named 'Machine 1'. The 'Name' field contains 'Machine 1' and there is a small image of a blue machine. The 'Type' section has both 'Machine' and 'Running' checked, which are circled in red in the original image. There are also checkboxes for 'Meas. Point' and radio buttons for '1D', '2D', and '3D'. Below this is a table with columns for 'Property' and '1D'. The table contains the following data:

Property	1D
Sensor	< Inherited >
Type	Voltage
Channel	1
Sensitivity [mV/-]	100
Offset [mV]	< None >
Unit	g
ICP	On
Angle [°]	< None >
Direction	

At the bottom of the dialog, it says 'Inherited from: DDS 2014\My Factory'. There are 'OK' and 'Cancel' buttons.

It is important to check the Machine checkbox here. This is indication for the DDS that you are not creating just regular item (Factory or some department of your factory) , but you are creating Machine under which the Measurement point will be created. Running checkbox means that this machine is working and you want to include this machine to your route measurement. Press OK to confirm you settings.



Press **Add** button again (the Machine 1 item must be active) to create your Measuring point as per picture below.

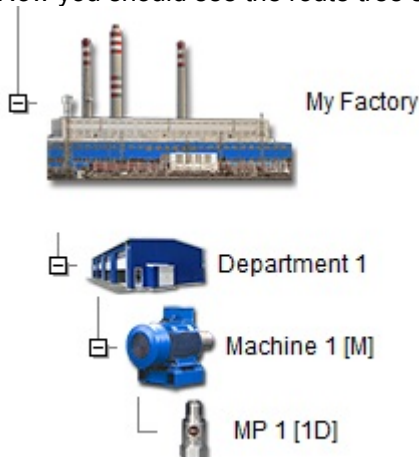
Property	1D
Sensor	< Inherited >
Type	Voltage
Channel	1
Sensitivity [mV/-]	100
Offset [mV]	< None >
Unit	g
ICP	On
Angle [°]	< None >
Direction	

Inherited from: DDS 2014\My Factory

Meas. Point checkbox have to be checked here. This is indication for the DDS that you are creating Measuring Point under which the Data Cell (measurements) will be created. Press OK to confirm you settings.

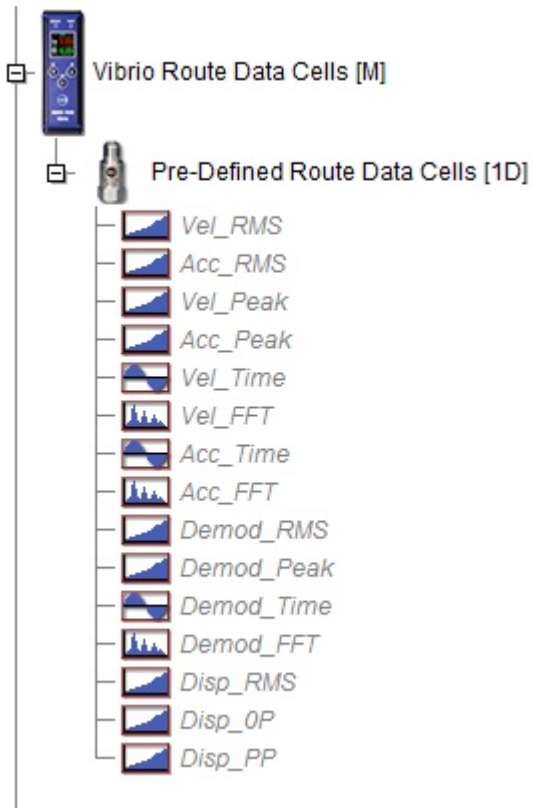
Remark: Measuring point is the place (location) on the machine where you will be placing the sensor and performing measurement. It could be for example motor drive end, non drive end, fan bearing house etc.

Now you should see the route tree structure as per picture.



Data Cell creation

Data cells contains measurement settings as mentioned earlier. Now we would like to go back to predefined Vibrio Route Data Cells. This tree item contains all predefined measurement types which Vibrio M can measure in the route mode. Expand the Vibrio Route Data Cells as per picture below to see predefined measurements.



Use right mouse click for example on Vel_RMS data cell and press Properties. This will allow you to see what kind of measurement this is. You will see the table with measurement properties as per picture below. This means we will be measuring overall value in Velocity (mm/s), RMS in 10-1000 Hz frequency range with Vel_RMS data cell. You can click on all data cells properties to see their settings.

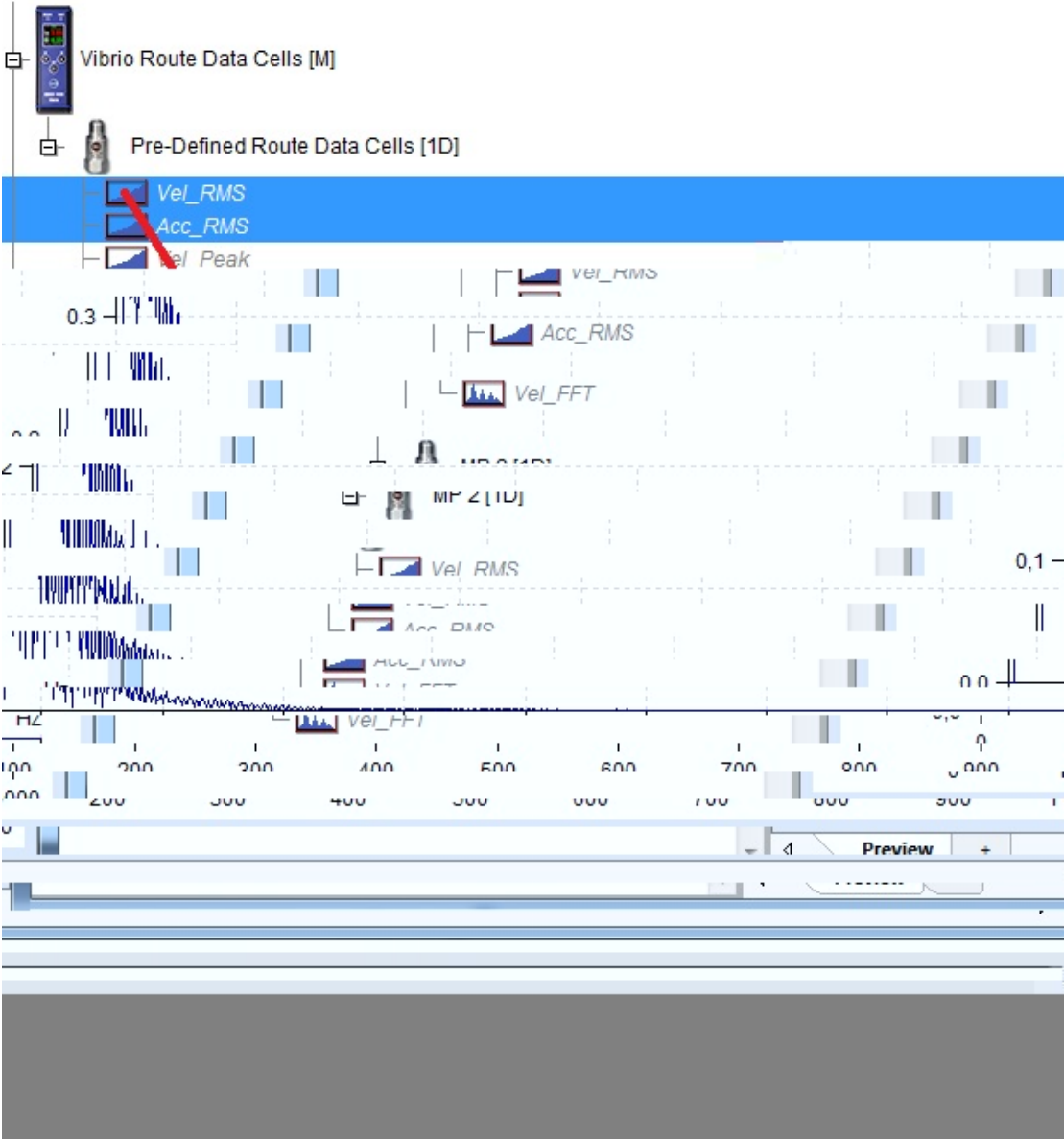
Name:

Reading Template (available only for empty cell):

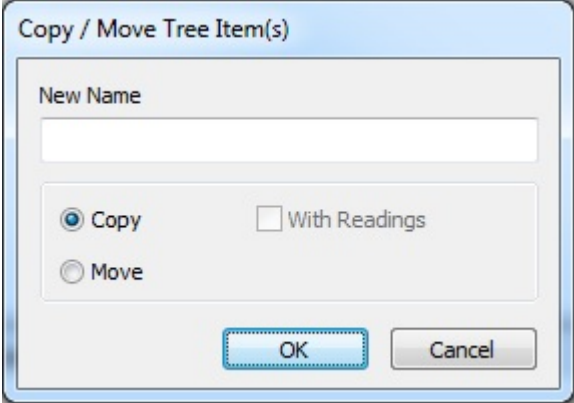
Properties: **Route** | Abs. Alert Limits | Data

Type	Value
Quantity	Velocity [mm/s]
Length[s]	1
Fmin[Hz]	10
Fmax[Hz]	1 000
Detect Type	RMS
Averaging Type	Linear
Avg	Off

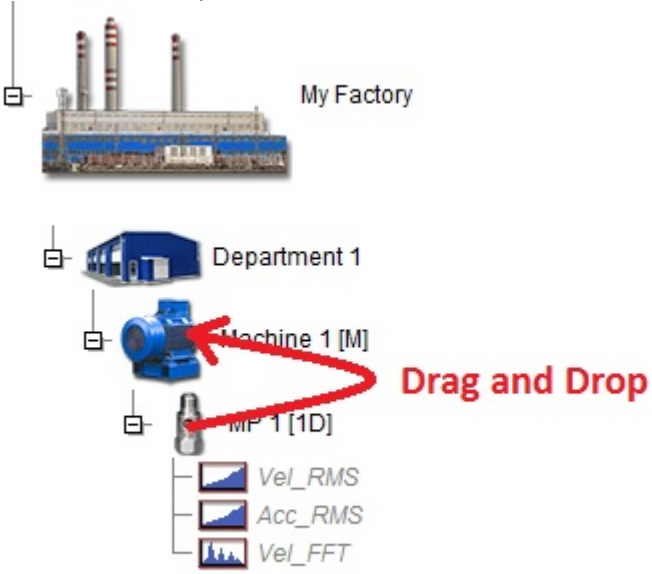
You can simply copy required data cells into your Measurement Point (MP 1) which you created. Lets say that we want to measure Vel_RMS, Acc_RMS and Vel_FFT under our MP 1 measuring point. We will use multi edit function. Hold Ctrl and select all mentioned data cells by left mouse button. Then simply drag selected cells to MP 1 symbol. You should see + symbol next to the mouse arrow.



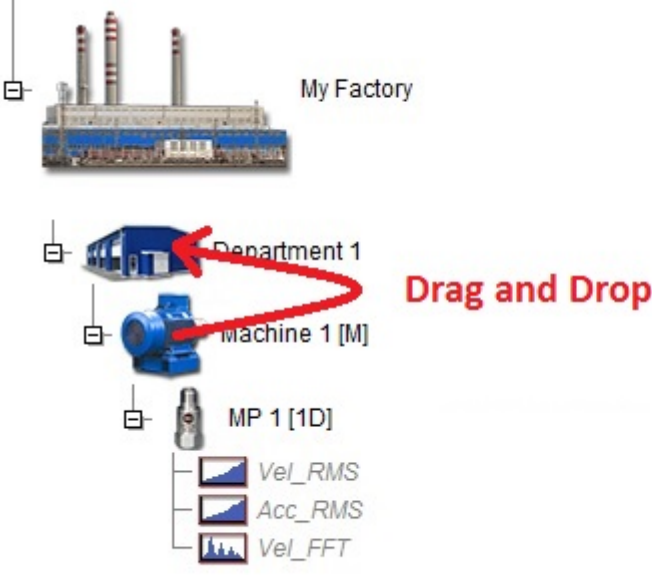
Following window will appear, press OK to confirm.



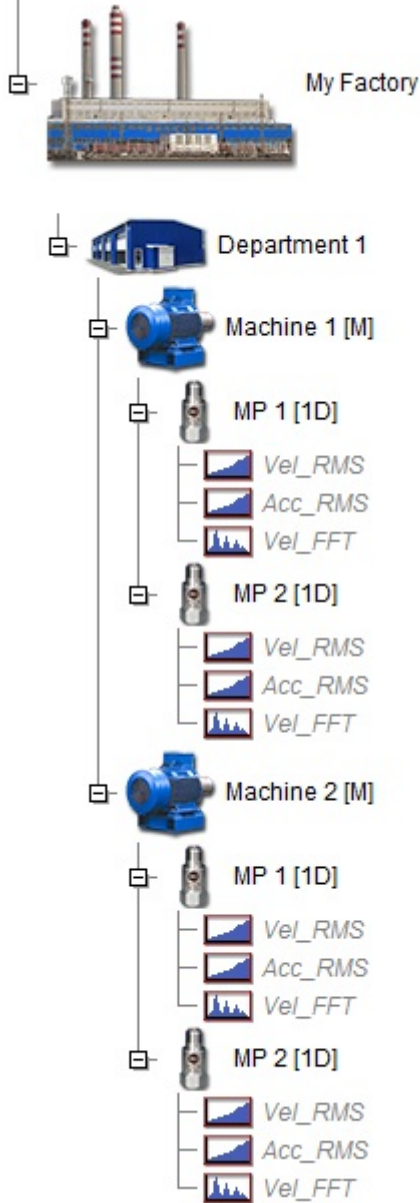
By Drag and Drop function you can copy also the whole measurement point with your data cells. Just rename it for example to MP 2.



You can also copy the whole Machine 1. This way you can create Machine 2.



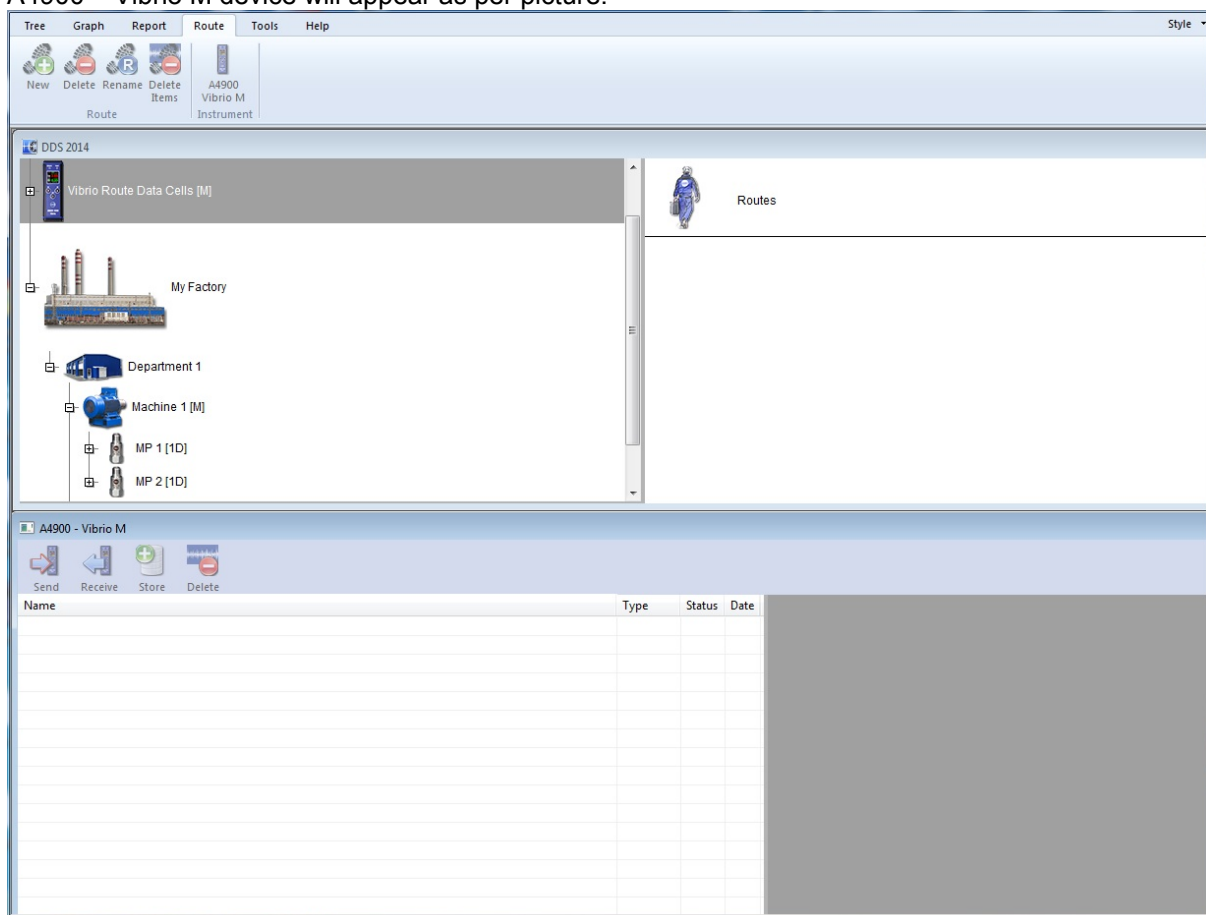
If you followed the process you should now have your route tree as per picture.



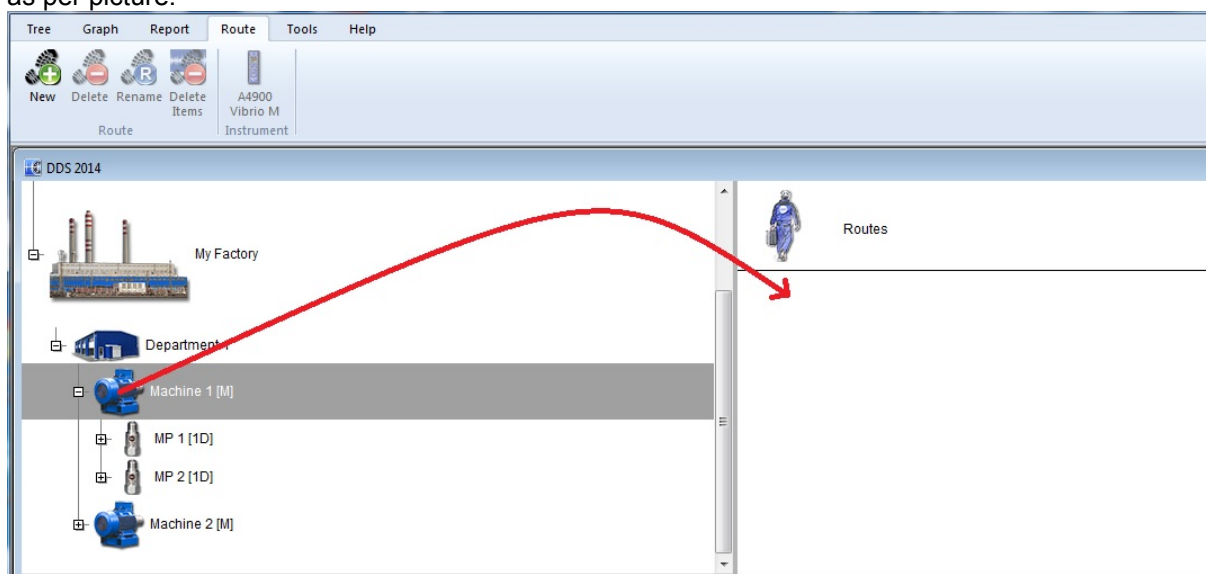
Transfer of the route tree to Vibrio M

Route creation

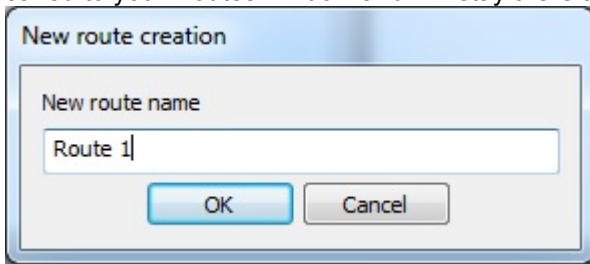
Here we will explain how to transfer created route into the Vibrio M. In DDS go to Route tab and click on the A4900 Vibrio M Instrument symbol. Following windows with the DDS route tree, Routes and A4900 – Vibrio M device will appear as per picture.



For explanation we will transfer the Machine 1. Drag and drop the Machine one to the Routes window as per picture.

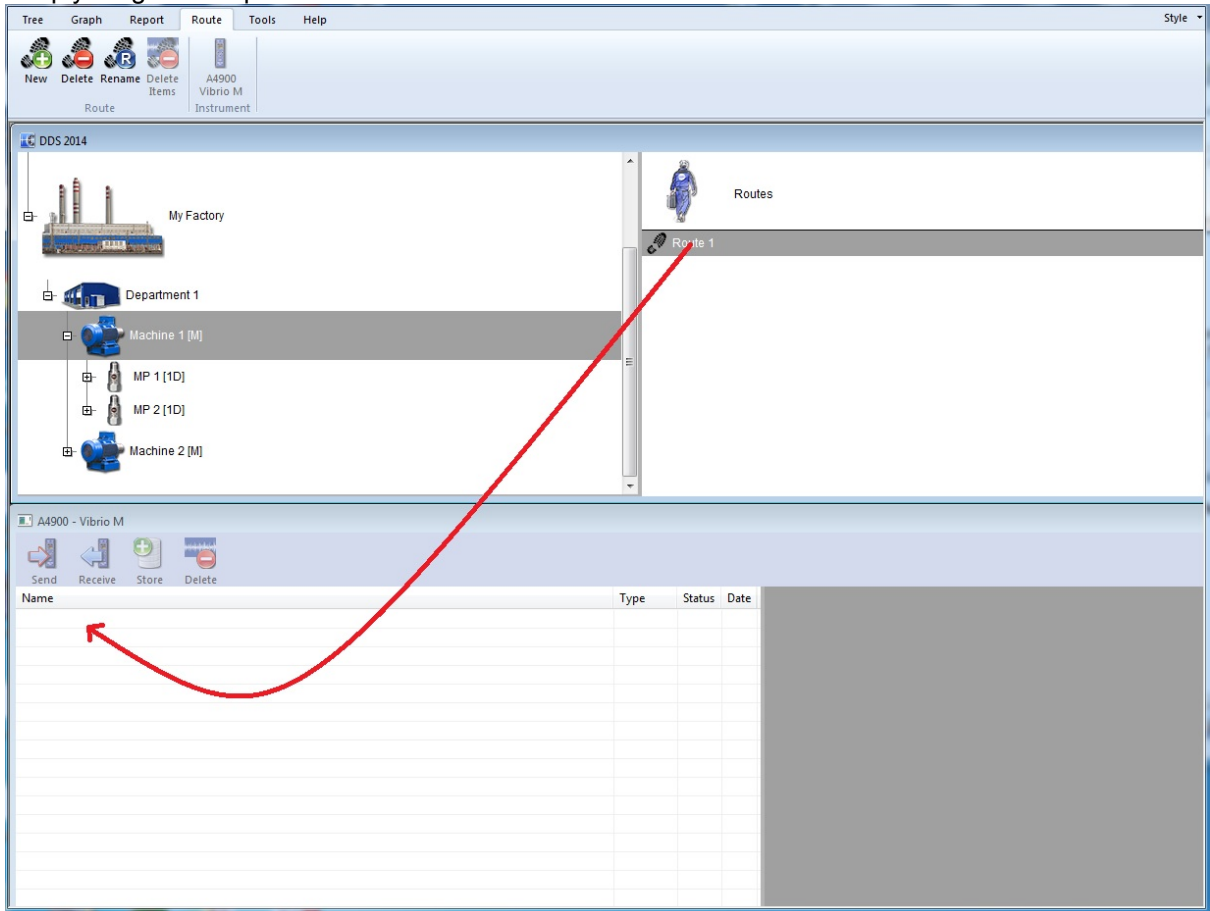


The new route creation window will appear. Enter the name and confirm by OK. The route will be saved to your Routes window and will stay there till you delete it.

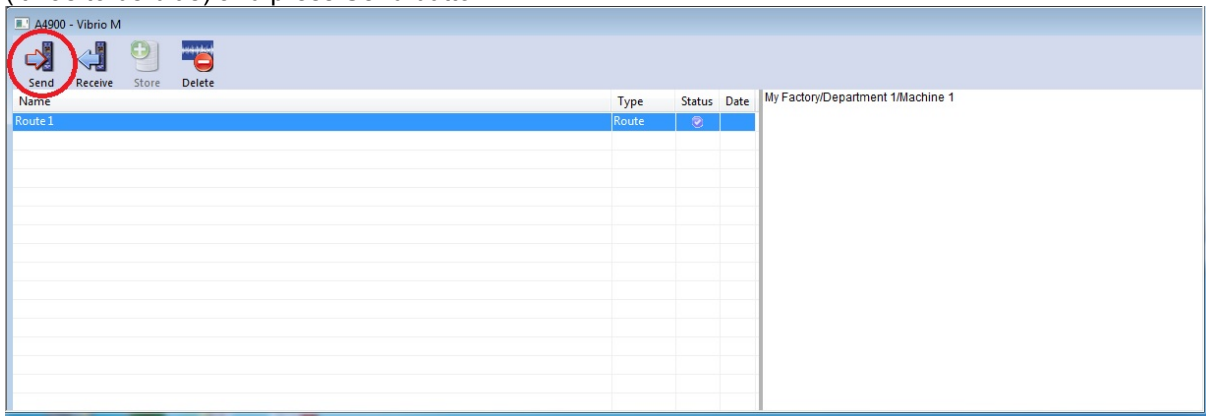


Transferring the route into the Vibrio M device

Simply drag and drop created Route 1 from Routes window into the A4900-Vibrio M window.



Now switch on the Vibrio M and connect it with your PC with supplied USB cable. Activate the Route 1 (it has to be blue) and press Send button.

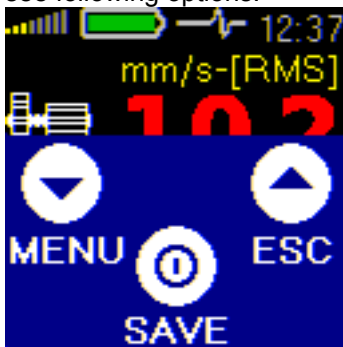


The window with the notification about memory erasing will appear. Confirm by OK and the Route 1 will be loaded to Vibrio M. You should see the USB logo on the Vibrio M once it will connect with DDS. Unplug the USB cable from Vibrio M once the Route will be successfully loaded to Vibrio M.

Remark: You can load only one route into the Vibrio M.

Route measurement

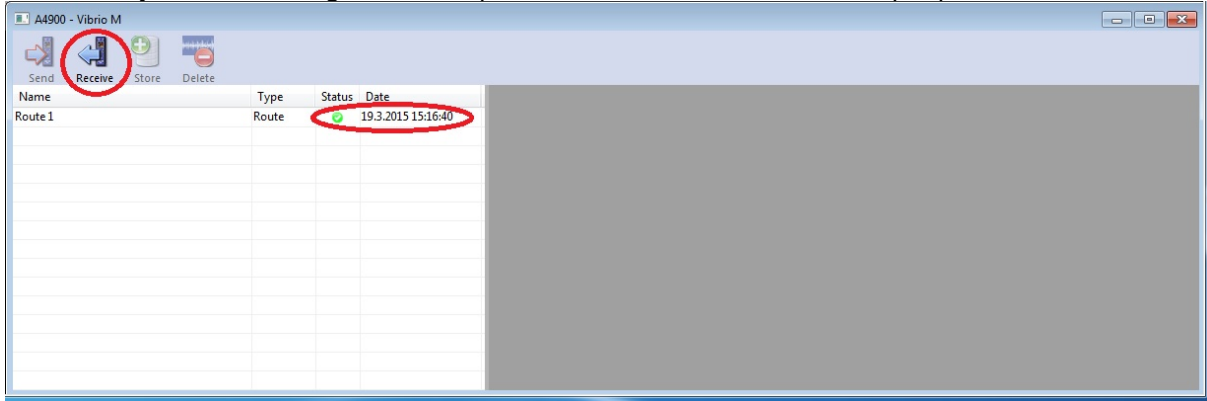
Everything is ready to measure Route 1 which we created. In the Vibrio M press **①** button. You will see following options.



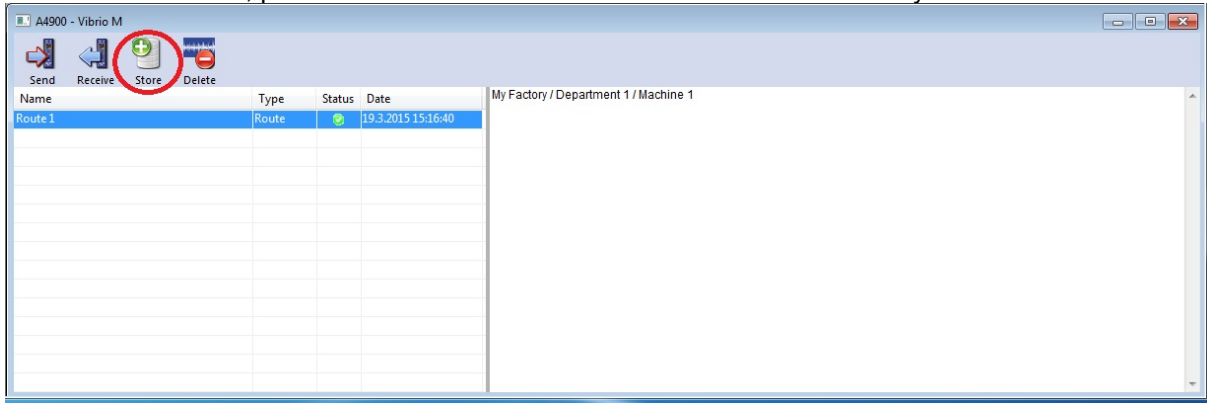
Go to Menu / Memory / Route and you will see your Route 1. Press SEL (select) and ACK (acknowledge). Now you should be on your MP 1 measurement point. Press SEL again. Place your sensor on the measurement point 1 on the machine which you want to measure, for example non drive end of the motor. Press MEAS (measure) and Vibrio M will make the measurement of 3 predefined measurements (Data cells) which we created. Press +> to go to the MP 2. Place your sensor on the measurement point 2 on the machine which you want to measure, for example drive end of the motor. Press SEL and press MEAS again to make the measurement on the MP 2. Measurement of MP 1 and MP 2 is done. Press SEL / UP / SEL / ESC to go back to the Vibrio M measurement screen.

Transferring measured data into the DDS

Connect the Vibrio M with your PC through the USB cable. The Vibrio M have to be on one of the measurement screens. You can not be in the MENU or deeper in the MENU if you want to connect to DDS. In DDS go to Route tab and click on the A4900 Vibrio M Instrument symbol. Press Receive button and you should see green status point and date of measurement as per picture.

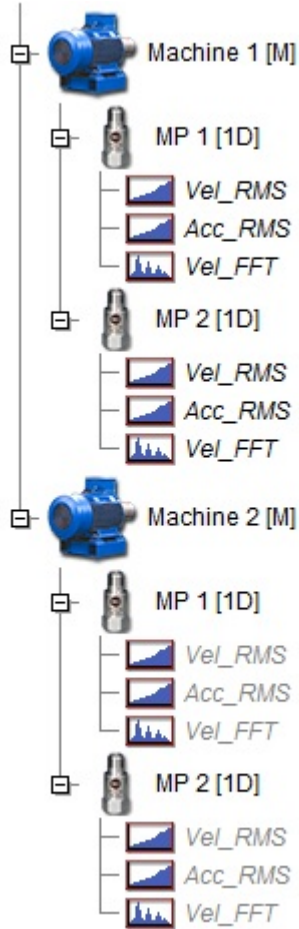


Activate the Route 1, press Store button and measured data will be saved to your route tree.

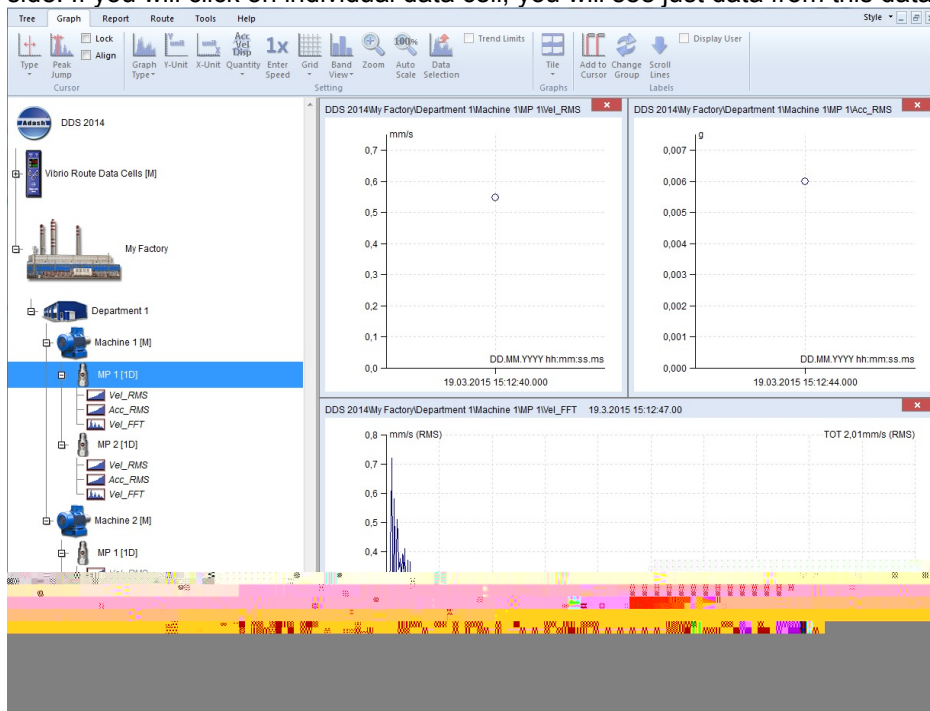


Viewing of transferred data

Go to Graph tab. We measured and stored just Machine 1. In the route tree you can see the difference. Data cells with data are black and data cells without data are grey.



Activate the MP 1 measuring point and you will see the data preview of all 3 data cells on the right side. If you will click on individual data cell, you will see just data from this data cell.



Conclusion

We hope this manual gave you an idea how to work with route mode. DDS is sophisticated diagnostics software which allows you to set alarm limit values, alarm bands, working with graphs, do reporting and much more. For further details download the full DDS manual from www.adash.com / Downloads / Data sheets and manuals / DDS manual.