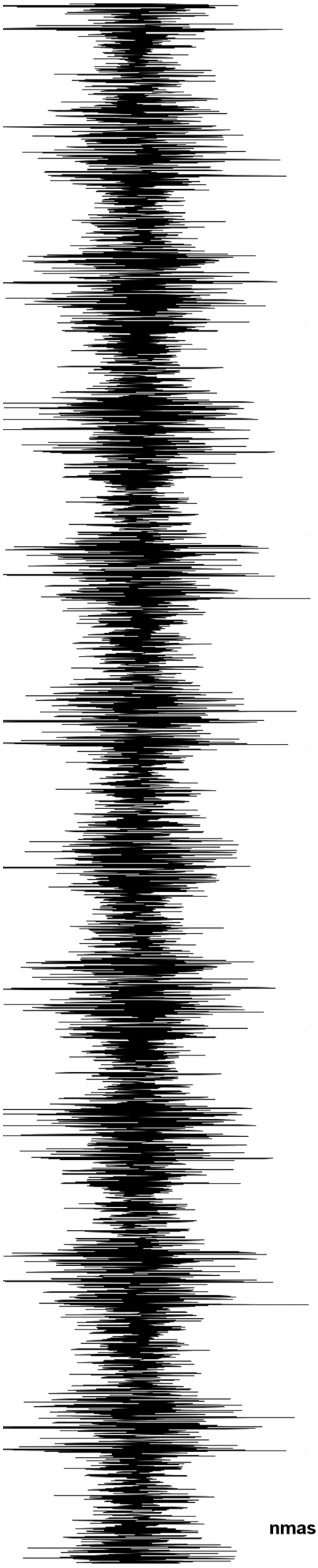


User manual

nmas View

Software version 1.0

Table of contents

General

This manual describes usage of nmas® View software. Nmas® is a registered trademark of Nome Ltd.

Nmas® View software is a Java based program for nmas® hardware and uses Java Web Start to start application on user PC.

Version:	1.0	26.8.2016
	1.1	9.9.2016
	1.2	8.11.2016
	1.3	2.12.2016
	1.4	10.3.2017
	1.5	26.7.2017

System requirements

In order to use nmas® View software on your computer, Java 7 or higher is required. You can download Java from website: www.java.com.

Language in nmas® View comes automatically from users display language in operating system.

Safety information

Please use professional for detailed analysis. Manufacturer takes no responsibility of analysis made.

Support

Please contact your local distributor for support. Manuals and user info can be found from manufacturer's site http://nmas.nome.fi/

Connecting

Read provided nmas hardware manual on how to connect nmas. In this manual only the View software and install process is covered.

nmas® View software installation

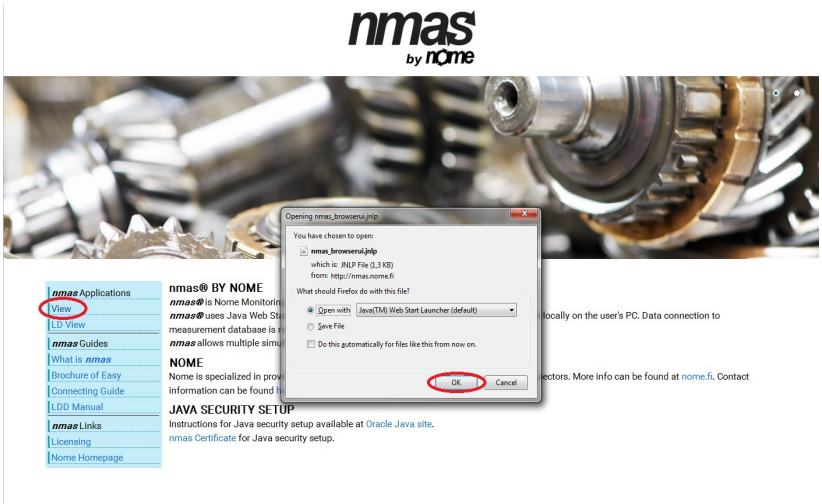
Nmas® View is started from web browser and no software installation is required. Only Java 7 or higher is required. Download Java from www.java.com/download/.

Download nmas® View

1. Go to http://www.nmas.nome.fi **OR** IP-address from nmas (if nmas is connected using local network)

2. Under nmas Applications click **View** to download nmas® View application

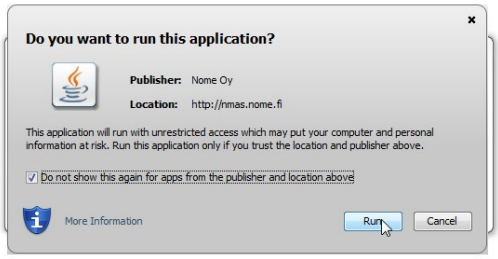
3. Open the file by clicking **OK**



Picture 1: nmas® front page

4. Security Warning will show up, Select **Do not show this...** box and click button **Run**

5. Nmas Login window shows up



Picture 2: Java Security Warning

Picture 3: nmas® Login window

Login to nmas® View

User can login using provided **Account** and **Password** information.

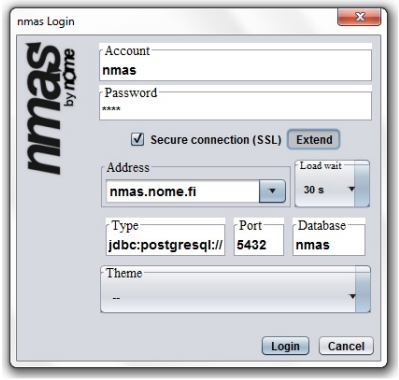
As default;
Account: nmasanalyser
Password: SiniAalto

1. Login using provided account and password information.

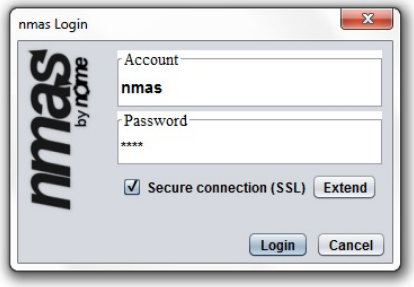
2. By clicking **Extend** in nmas login window user can change **Address**, **Load wait**, **Port**, **Database** and **Theme**.

Port number is attached with nmas device and need to be changed when logging in.

Load wait is the delay to wait for answer when network connection is lost.



Picture 4: nmas® Login window and extended settings



Picture 5: nmas® Login window

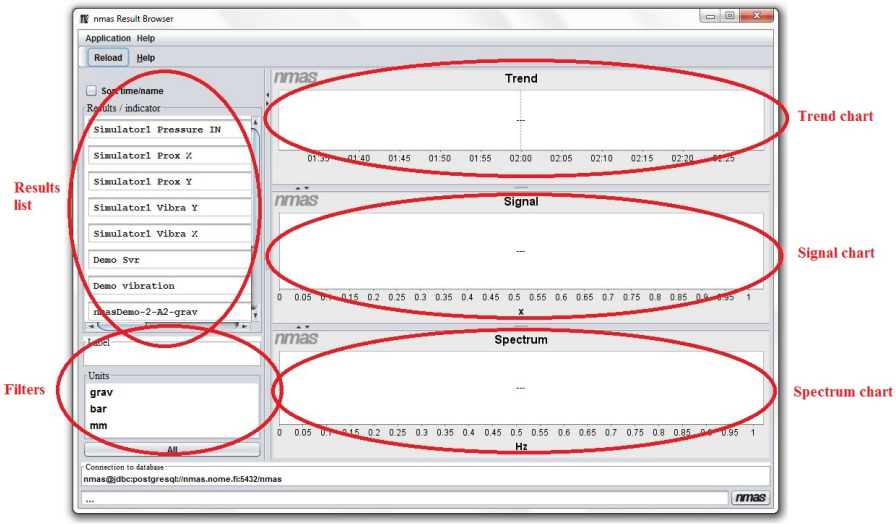
3. Click **Login** to login to nmas® View

4. nmas® View will start

User interface

Main window

nmas® View main window has different interface areas: result list, filters, trend chart, signal chart and spectrum chart.



Picture 6: nmas® View interface areas

Result list / indicators

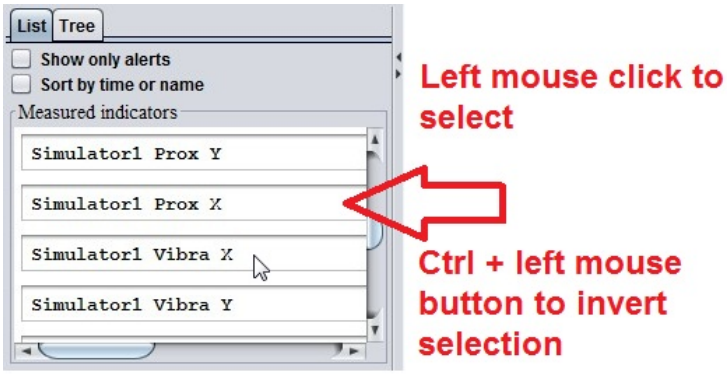
The result / indicator-list shows all indicators in database. List of results can be updated by pressing button **Reload.**

List sorting

Result list can be sorted by time or name. **Sort time/name-**button changes the result by time and name.

Only results with alarms can be sorted by clicking **Show only alerts**-button.

Notice that if filters are selected before sorting, not all result are shown!



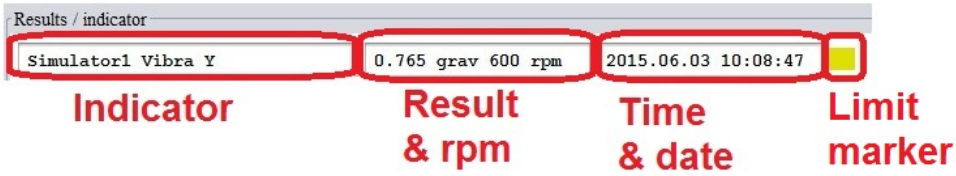
Picture 7: Result list

Choosing the indicator

Click left mouse button over the indicator to choose it. Use **up**/**down** on keyboard to navigate, clear the selection by pressing **Ctrl** and left mouse button.

Show information in result list

By default the result list shows only the names of the measurements. To show all information drag the edge of the result list to the right using left mouse button.



Picture 8: More information in result list

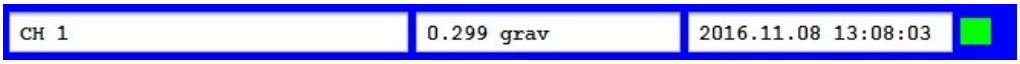
Color markings

Result list has color markings for warnings and alarms. Limits can be changed from Local Display in nmas® device or from nmas® Configurator.

See nmas user/hardware manual for more information!

Table 1. Color markings

Color	Meaning
	Measuremet is between limits
	Over warning limit
	Over alarm limit
Background color	Warning
Backgroung color	Alarm



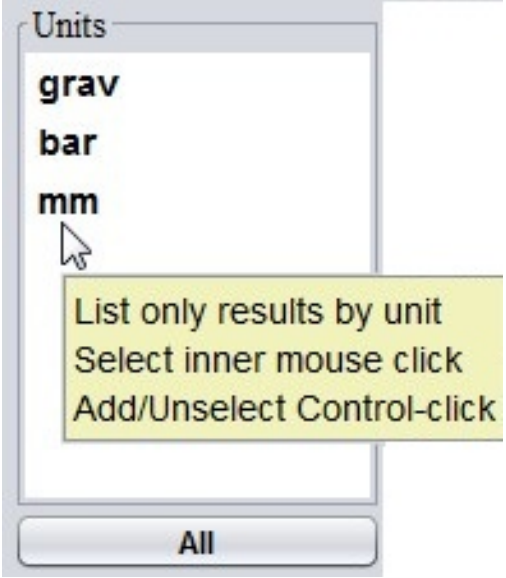
Picture 9: Background color is blue when sensor not connected/sensor fault

Indicator is marked in white if no limits have been set.

Filters

Select results by units

User can select results by units, click left mouse button on unit to be selected. Use **up**/**down** on keyboard to navigate. Select multiple units by pressing **Ctrl** and left mouse button. Clear the selection by clicking **All** button.

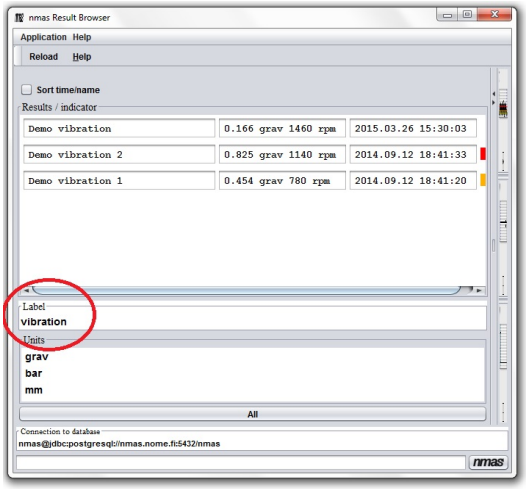


Picture 10: Select results by units

Select results by name (Label)

User can select results by name, write part of the name on the field under the result list.

Notice that text filter is case sensitive!



Picture 11: Select results by name

Hierarchy tree

Hierarchy tree is another way of viewing and selecting indicators. In hierarchy tree the measurements are organized into hierarchy.

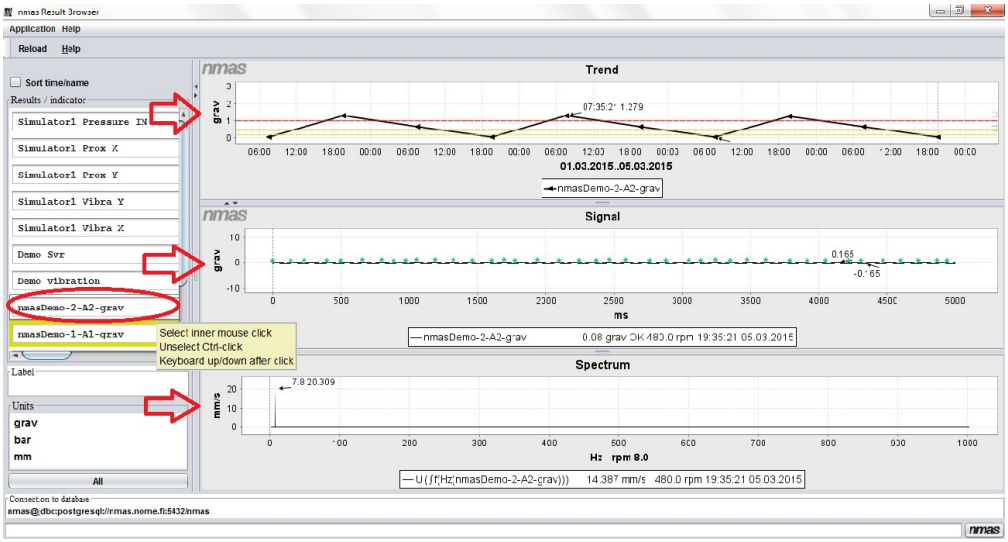
Show hierarchy tree by clicking **Tree** tab.

Picture 12: Hierarchy tree

Chart windows

By default chart windows are empty if no result has been selected. To select result to be shown on chart windows, click result with left mouse button on the result list.

For example **nmasDemo-2-A2-grav** selected from the result list shows measured data in **Trend**, **Signal** and **Spectrum** charts (*Picture 13*).



Picture 13: Chart windows

Resizing chart windows

User can resize the chart windows, click and hold **left mouse button** on the edge of the chart window and slide mouse up/down to change the size of the window.

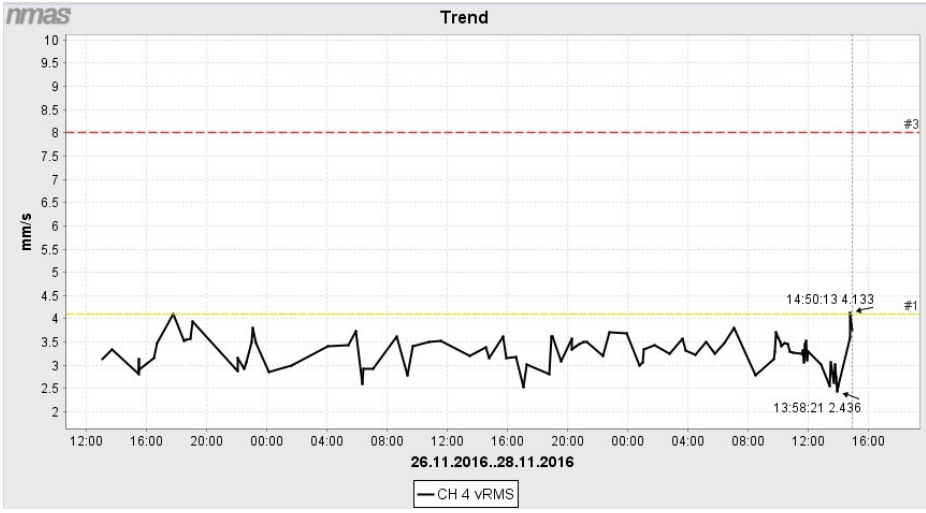
Picture 14: Resize chart windows

Notice that resizing chart window affects the other chart window sizes.

Trend chart

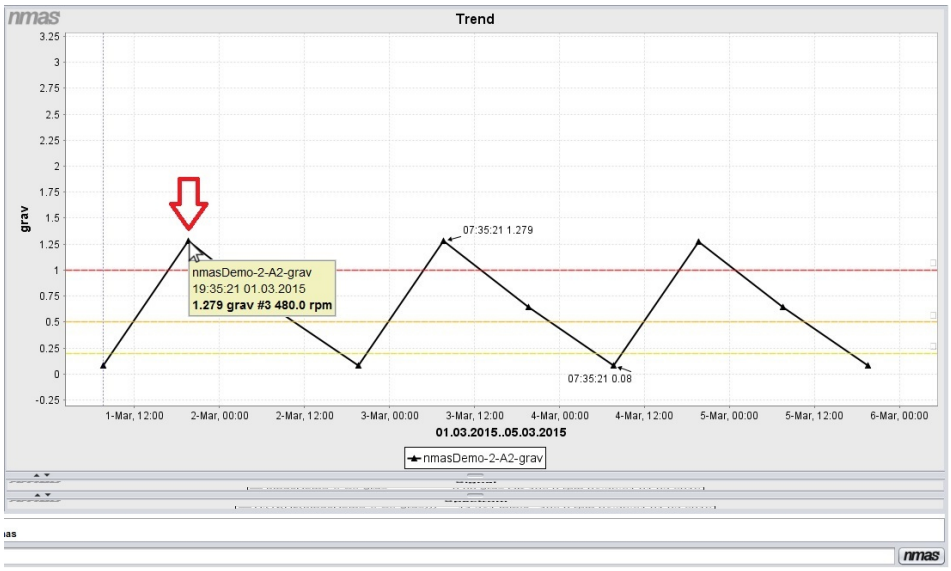
Trend chart shows measured data in graph. Horizontal axis is time - vertical axis depends on measured unit. Black arrows show highest and lowest measurement in trend.

Each point in the Trend chart means one measurement.



Picture 15: Trend chart

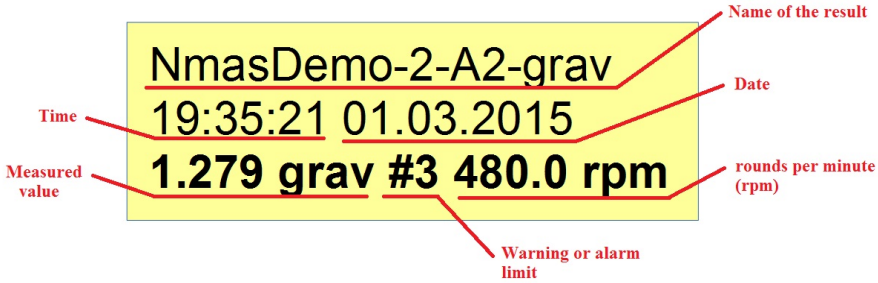
Information from measurements



Picture 16: Trend chart infomation

To see information from the measurement, move mouse pointer over trend point and hold it still for a second to show information box.

Information box shows **name of the result**, **time**, **date**, **measured value**, **warning or alarm limit** (if set) and **rpm** (if tacho is attached).

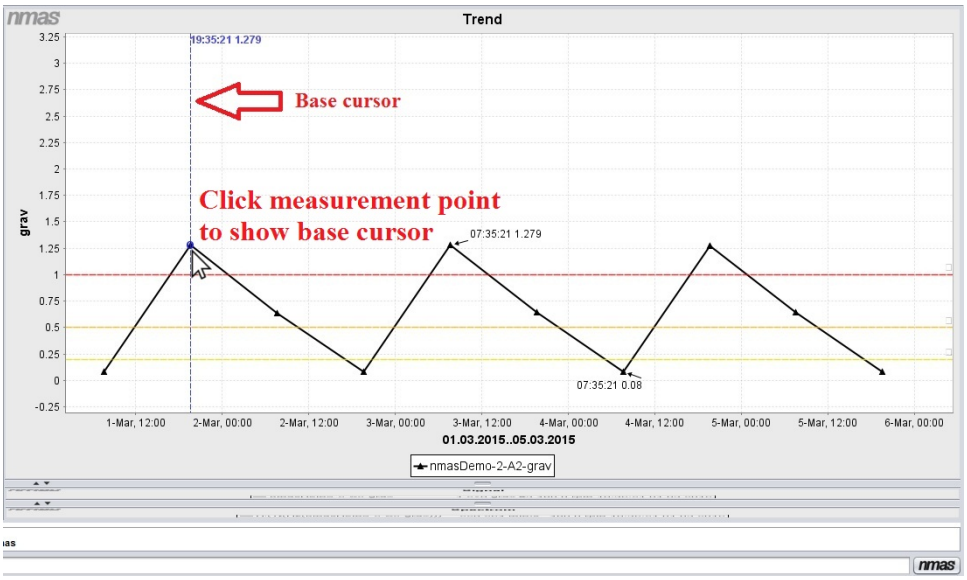


Picture 17: Trend charts information box

Navigate in Trend chart

To navigate in Trend chart, click on wanted trend point with left mouse button.

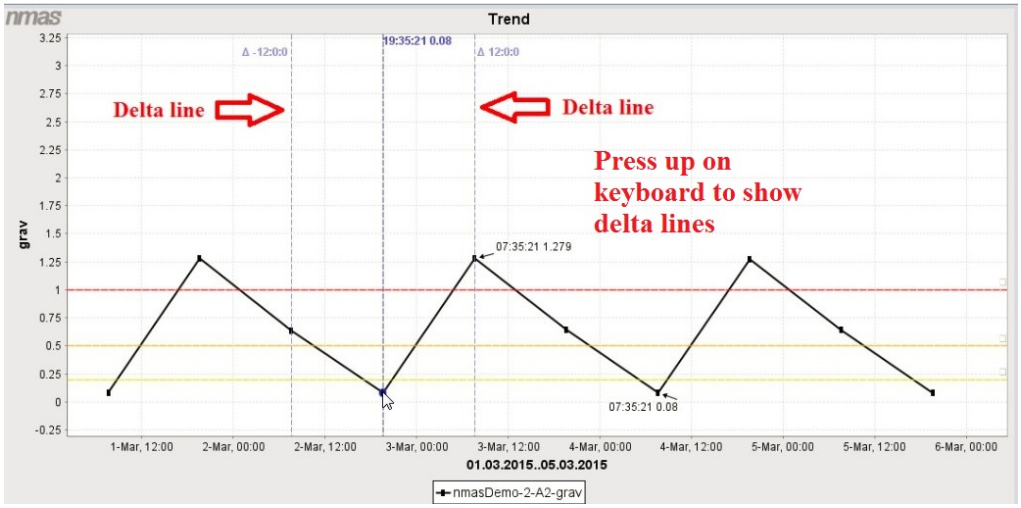
Clicked trend point turns into blue ball symbol (●) and **base cursor** appears in the clicked point and shows **measurement time** and **measurement value**. To navigate to next or previous trend point, use keyboard arrow keys **left**/**right** (or 1/2 or h/l).



Picture 18: Base cursor

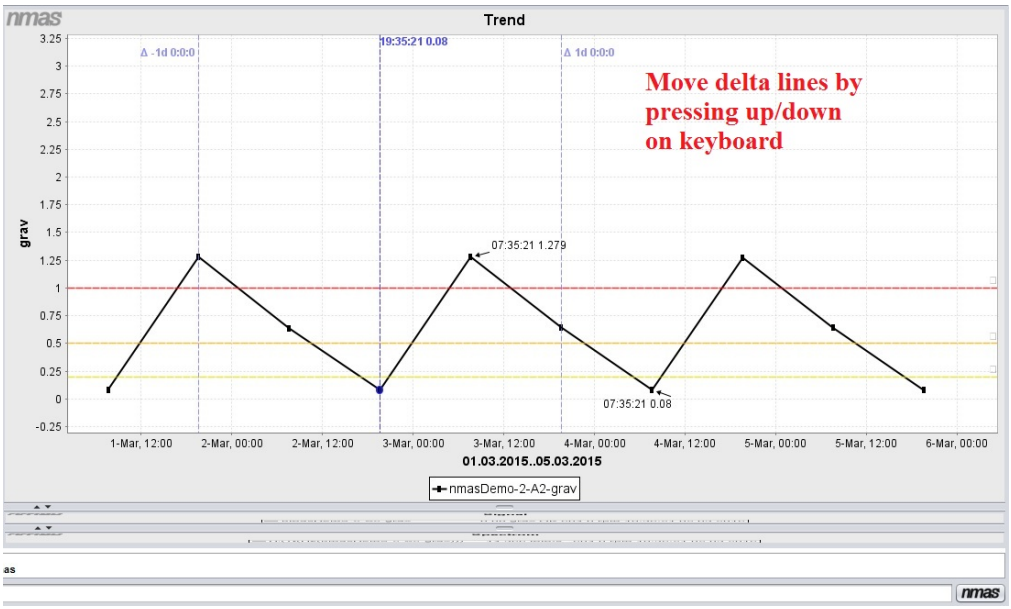
Time between results in Trend chart (delta lines)

To see time between two trend points, click on wanted trend point with left mouse button and use keyboard arrow button **up** (or middle mouse button) to show **delta lines**. Delta lines show next and previous trend point and the time differences.



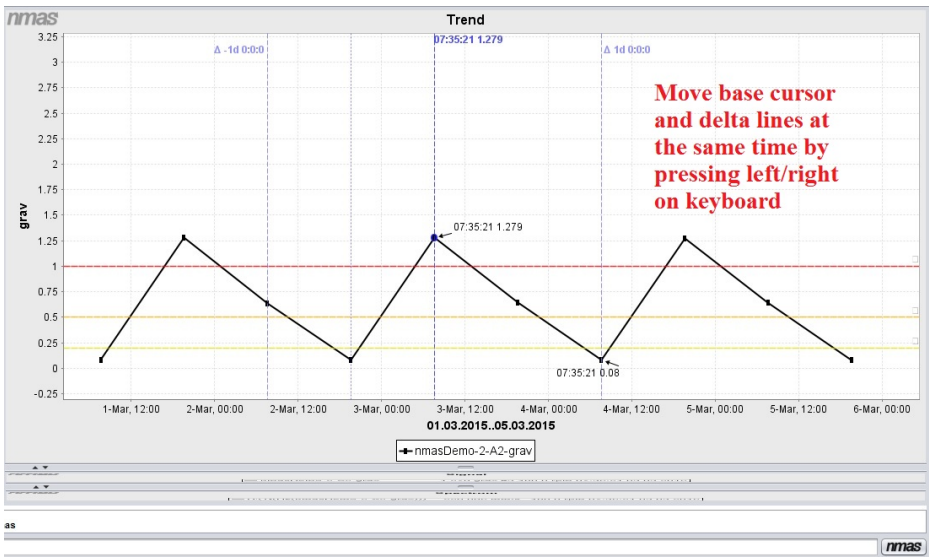
Picture 19: Delta lines

Move delta lines (to next trend point) by pressing **up**/**down** on keyboard.



Picture 20: Move delta lines

To move **base cursor** and **delta lines** at the same time, press **left/right** on keyboard. To move faster, press **Ctrl** + **left/right**.

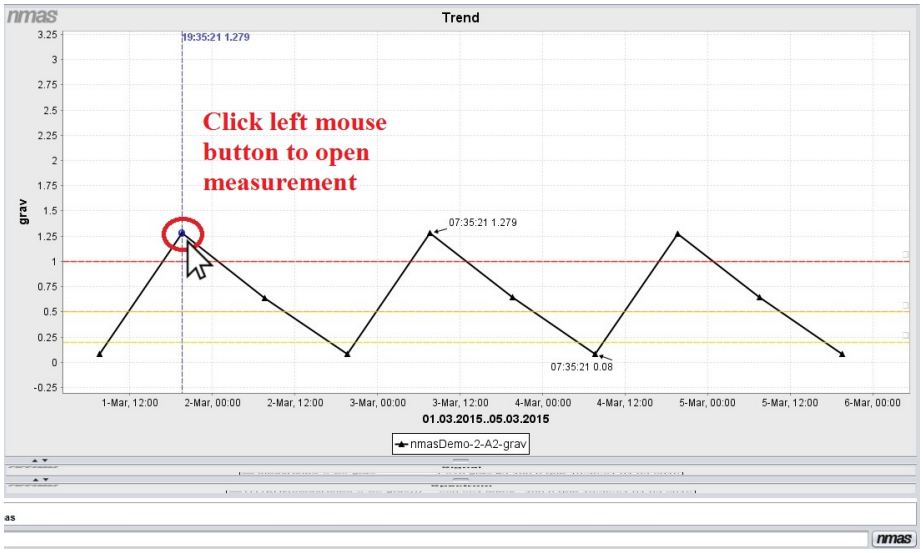


Picture 21: Move base cursor and delta lines

To clear the selection, press **Ctrl** and click left mouse button on the Trend chart.

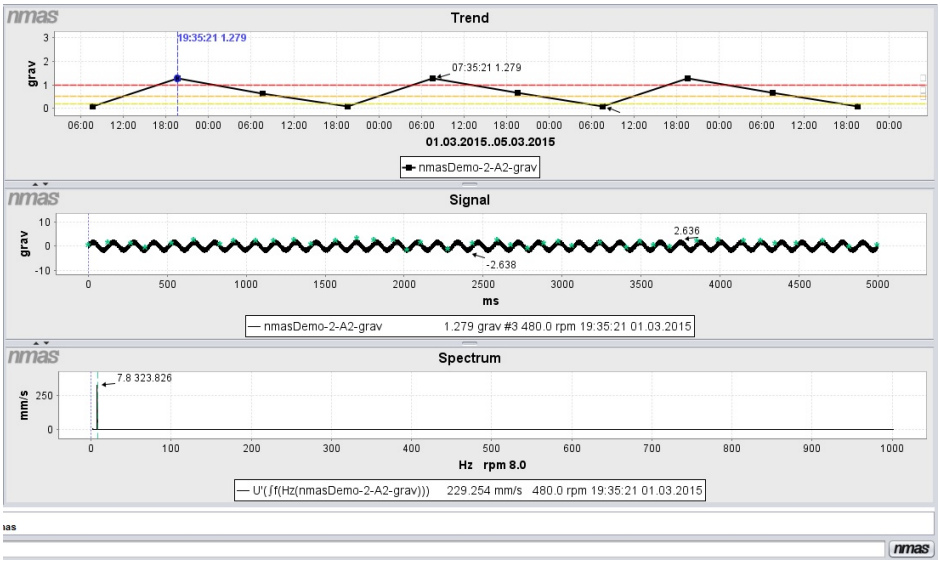
Open measurement in signal and spectrum charts

To open specific measurement in Signal and Spectrum charts, click on wanted trend point with left mouse button in Trend chart.



Picture 22: Open measurement in other chart windows

Clicked trend point turns into blue ball symbol (●), shows the information from that result in **Trend** chart and opens up result in **Signal** and in **Spectrum** charts.

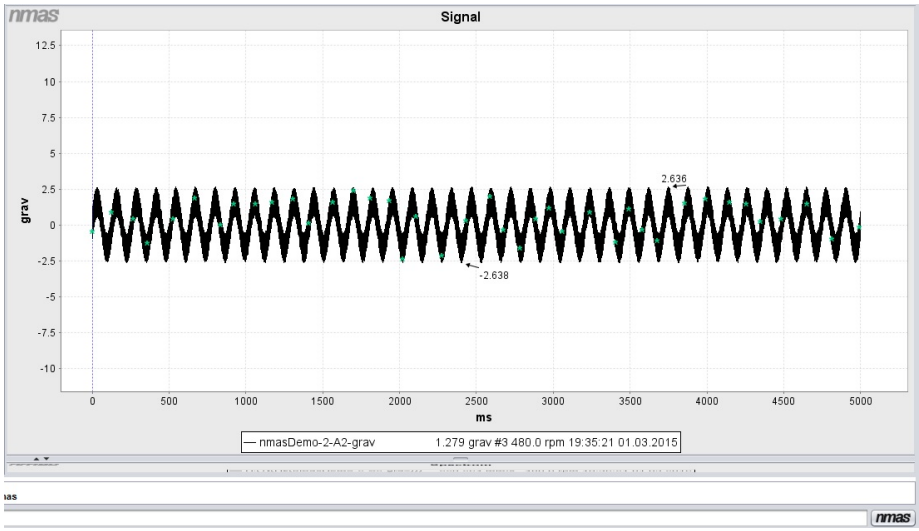


Picture 23: Result opened to Signal and Spectrum charts

Signal chart

Signal chart shows the measured signal. Horizontal axis shows time in ms and vertical axis shows measured value. Arrows show lowest and highest values.

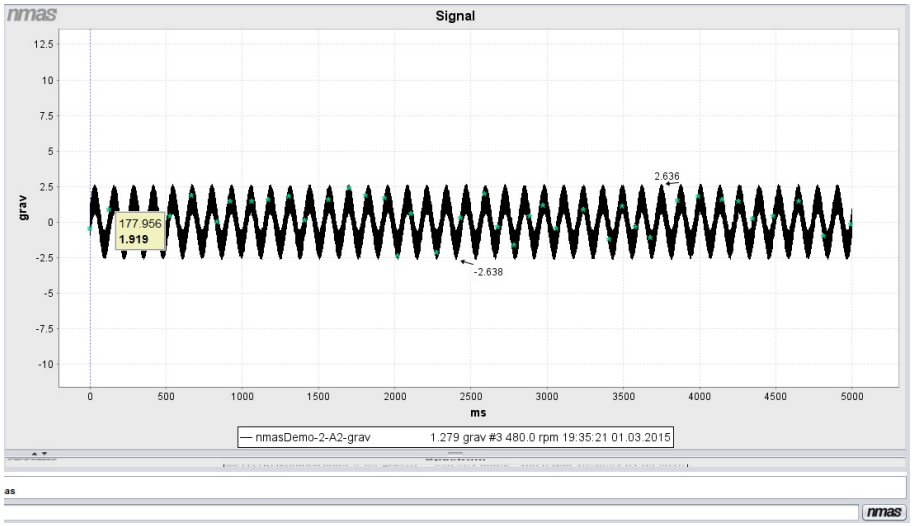
Notice that unit in vertical axis has been calculated from used sensor signal (e.g. vRMS value shows signal from accelerometer).



Picture 24: Signal chart

Information from time signal

Move mouse over the time signal and hold it still for a second to see information from specific moment.



Picture 25: Signal chart information

Picture 26: Signal information box

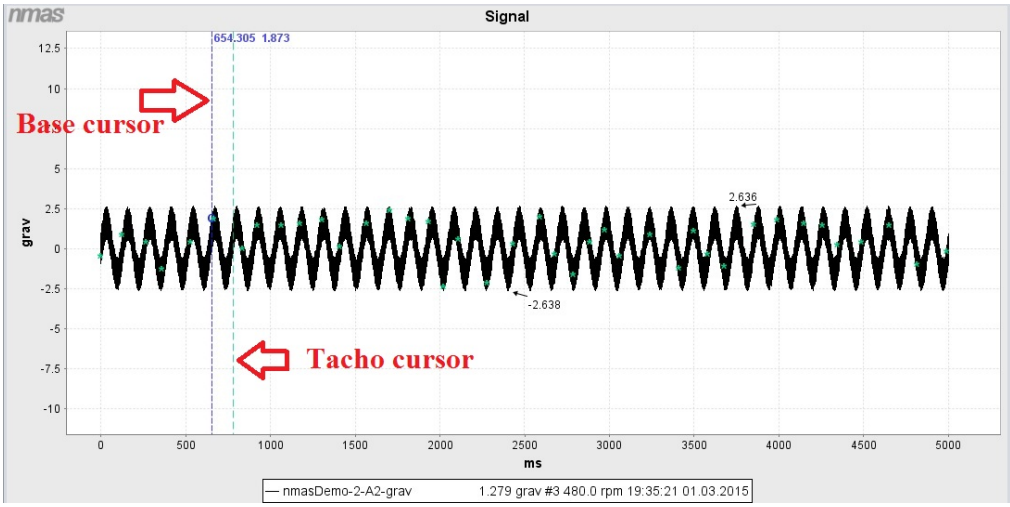
Navigate in signal chart

To navigate in Signal chart, click on wanted point from the measurement with left mouse button.

Base cursor and **tacho cursor** appears in the clicked point and shows **measured time** (from start) and **measured value**. To navigate in time signal, use keyboard arrow keys **left**/**right** (or 1/2 or h/l). To move faster, press **Shift** + **left**/**right** (extended move) or **Alt** + **left**/**right** (big leap).

Tacho cursor shows the difference between tacho pulses.

To clear the selection, press **Ctrl** and click on signal screen with left mouse button.



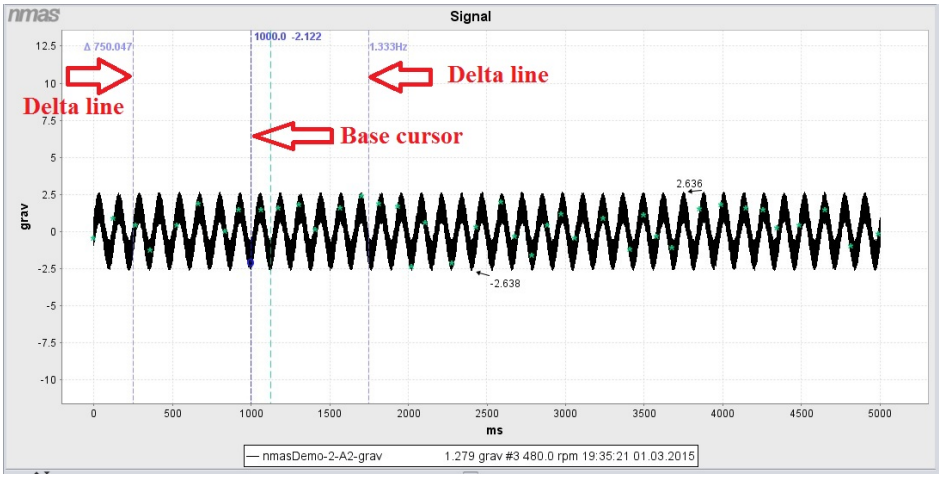
Picture 27: Base cursor and tacho cursor in Signal chart

Delta lines in signal chart

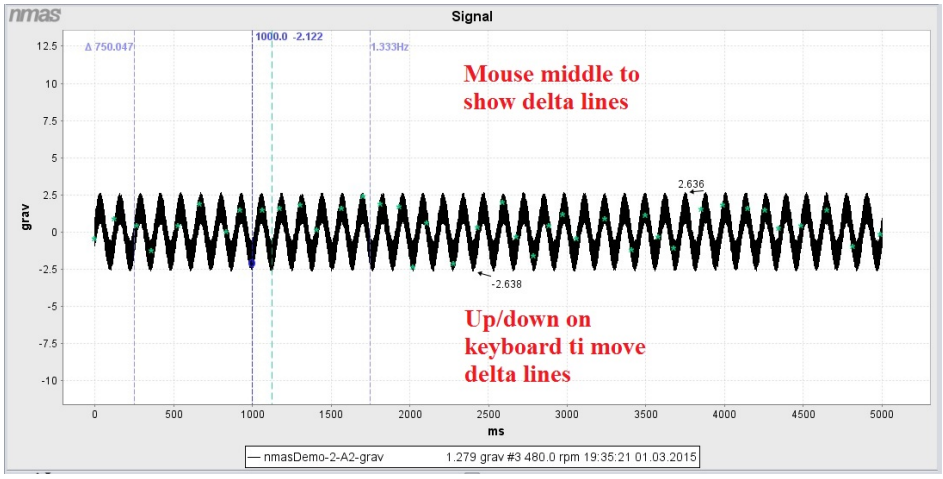
Delta lines in signal chart shows difference to base cursor in **ms** and in **Hz**.

To see difference between different points of measurement, click on wanted point in the time signal and then press middle mouse button (or on keyboard arrow key **up**) to show the **delta lines**. To move delta lines, use keyboard arrow buttons **up**/**down**. To move faster, press **Shift** + **up**/**down** (extended move).

To move delta lines and base cursor at the same time, press left/right on keyboard. To move faster press **Ctrl** + **left/right**.



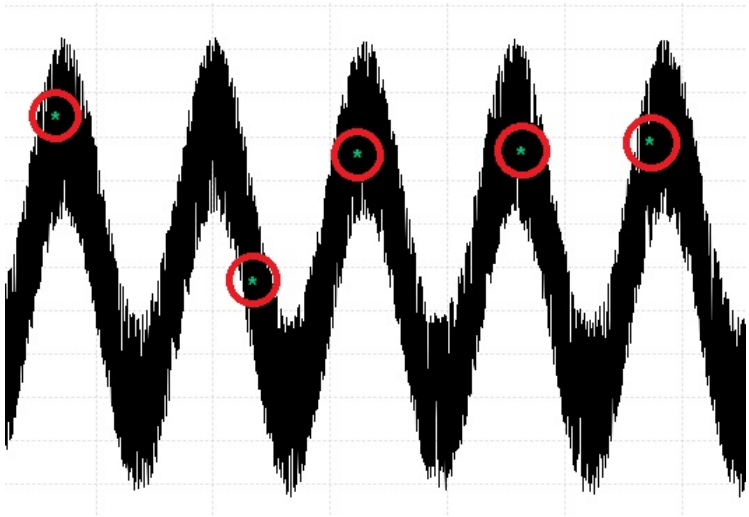
Picture 28: Delta lines



Picture 29: Delta lines

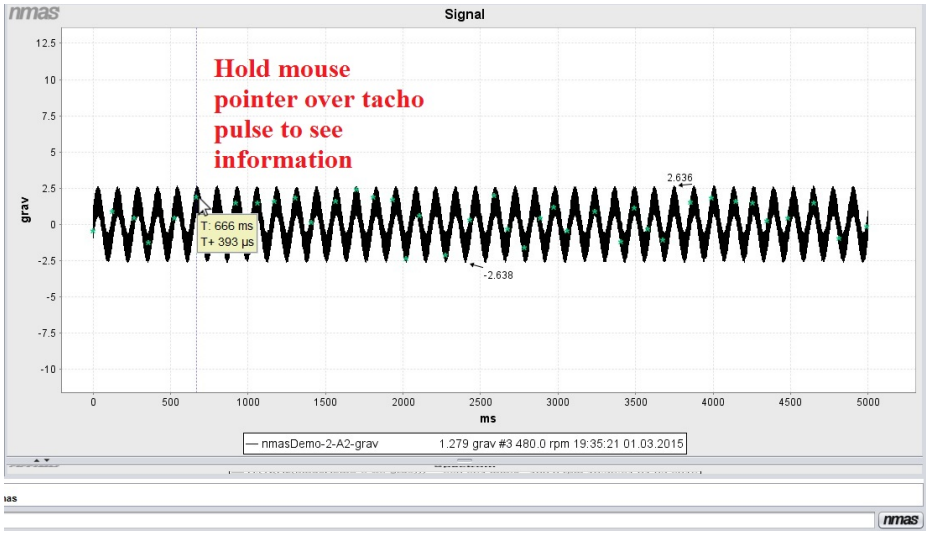
Information from tacho pulses

Tacho information can be viewed from the signal chart (if tacho is attached). Green ”stars” (*) in the time signal indicates pulses from tacho.

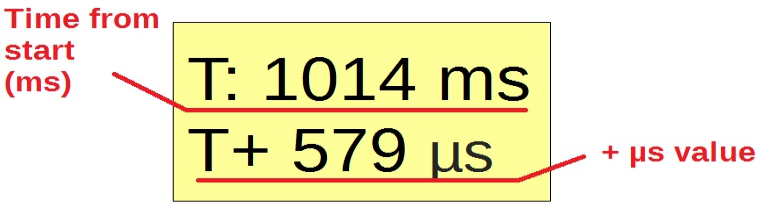


Picture 30: Tacho pulses in time signal

Move mouse pointer over tacho pulse and hold it still for a second to show basic information from tacho.



Picture 31: Tacho pulse information



Picture 32: Tacho pulse infomation box

T: value is time (ms) from start

T+ value is time in microseconds on top of ms value

Example T: 1014 ms

T+ 579 µs

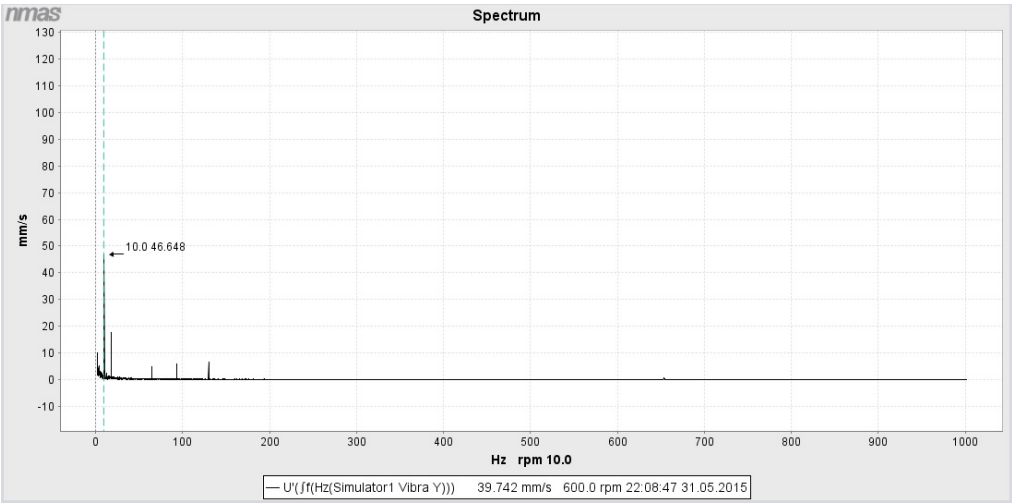
is 1014 ms and 579 µs from start.

Spectrum chart

Spectrum chart shows calculated frequency spectrum. Horizontal axis is always **Hz**, vertical axis depends on measured unit.

Notice that unit in vertical axis has been calculated from used sensor signal (e.g. vRMS value shows signal from accelerometer).

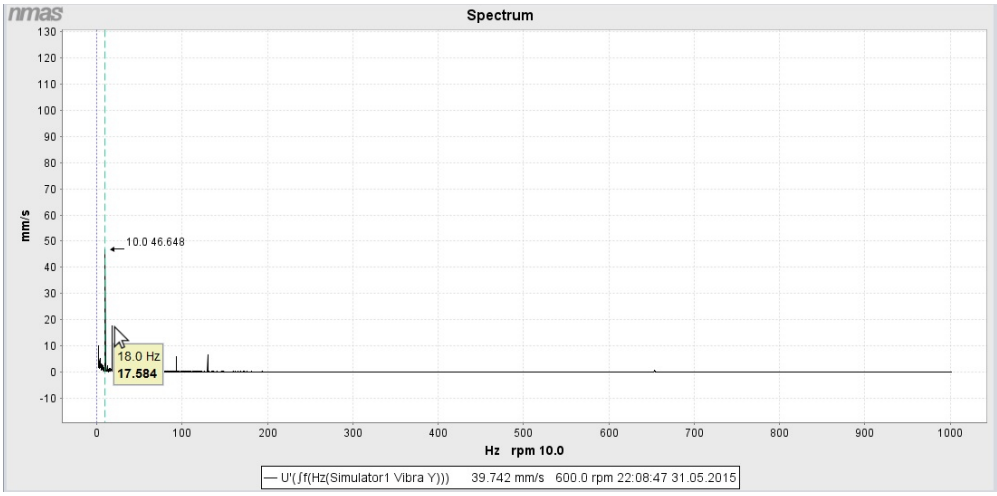
Unit in vertical axis depends on configuration of the indicator.



Picture 33: Spectrum chart

Information from Spectrum chart

To see information from specific frequency, move mouse pointer over spectrum chart and hold it still for a second to show infomation box.



Picture 34: Information box shows up when mouse pointer is pointed to spectrum chart

Picture 35: Information box

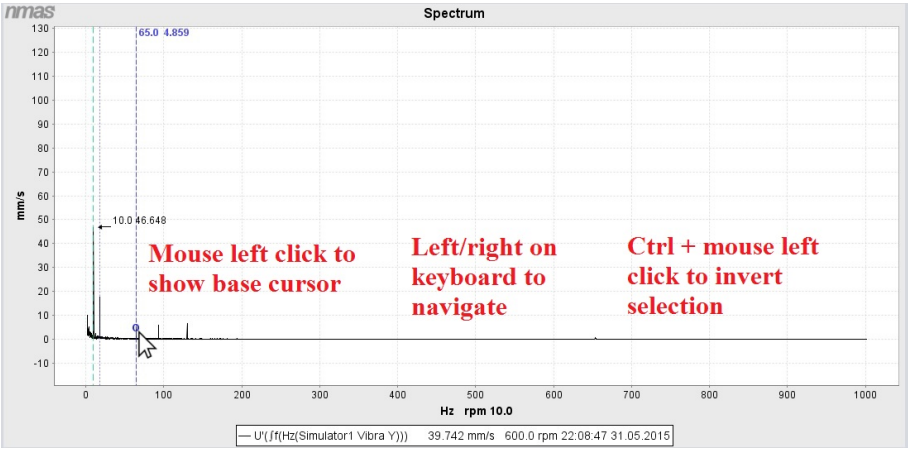
Navigate in Spectrum chart

To navigate in Spectrum chart, click on wanted point from the measurement with left mouse button.

Base cursor appears in the clicked point and shows **Hz** (from start) and **measured value**. To navigate in spectrum chart, use keyboard arrow keys **left**/**right** (or 1/2 or h/l). To move faster, press **Shift** + **left**/**right** (extended move) or **Alt** + **left**/**right** (big leap).

To clear the selection, press **Ctrl** and click on signal screen with left mouse button.

Arrow in spectrum chart shows the highest value.



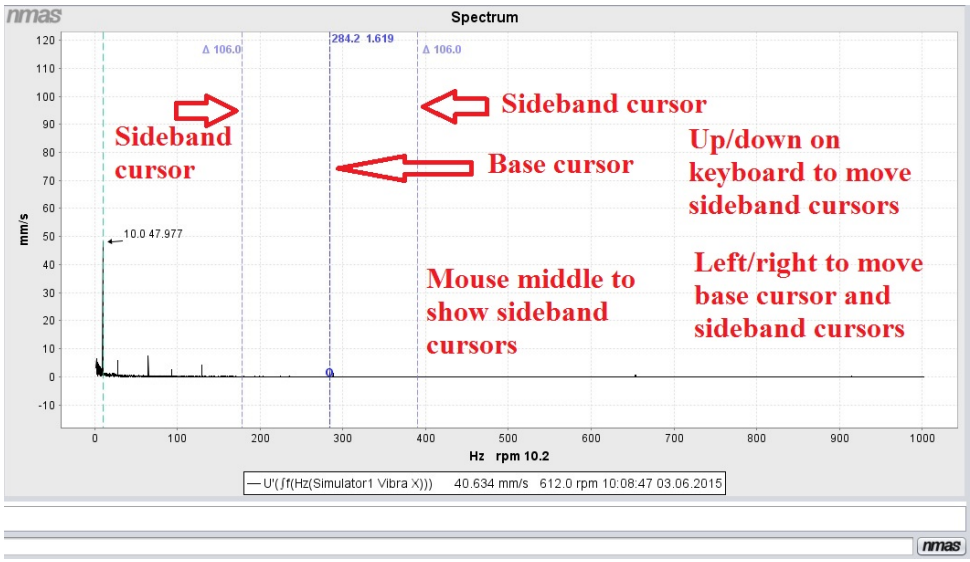
Picture 36: Base cursor in Spectrum chart

Sideband cursor in spectrum chart

Sideband cursor (delta lines of spectrum chart) shows difference to base cursor in **Hz**.

To see difference between different points of measurement, click on wanted point in the spectrum chart and then press middle mouse button (or on keyboard arrow key **up**) to show the **sideband cursors**. To move sideband cursors, use keyboard arrow buttons **up**/**down**. To move faster, press **Shift** + **up**/**down** (extended move).

To move sideband cursors and base cursor, press **left/right** on keyboard. To move faster, press **Ctrl** + **left**/**right**.

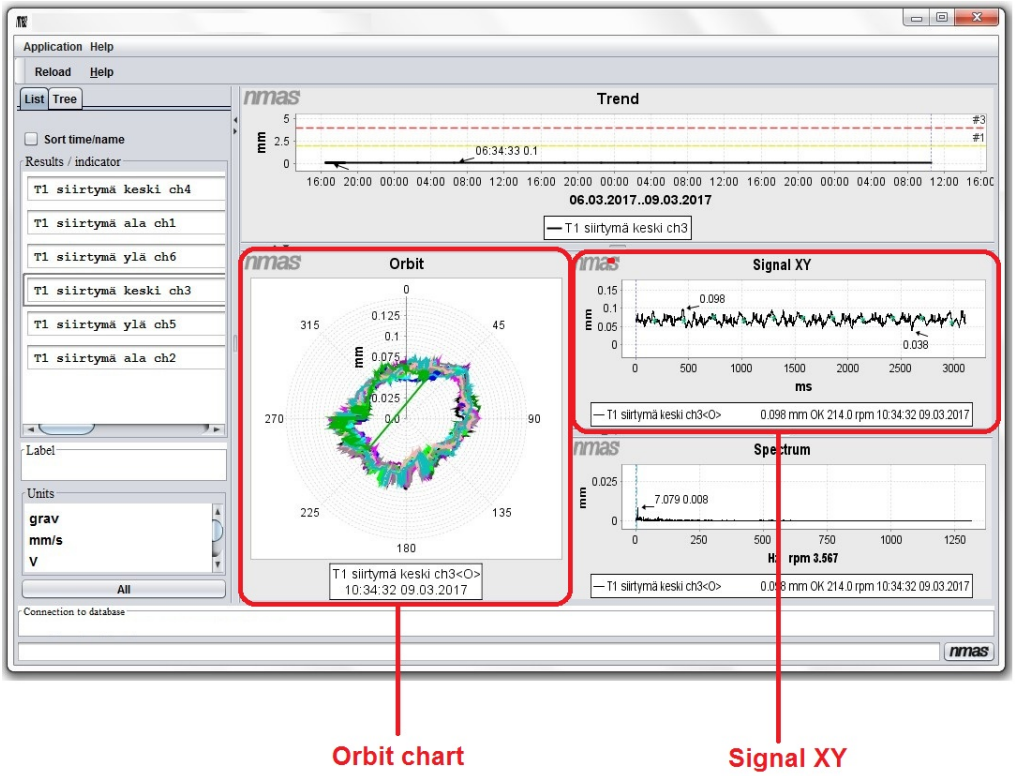


Picture 37: Sideband cursors in Spectrum chart

Orbit chart

Orbit curve by two signals of same quantity. Orbit curve is shown when two indicators of same quantity are linked together.

Signal chart combines X and Y signals to Signal XY when indicators are linked.



Picture 38: Orbit chart and signal XY

Licences

nmas software use libraries with **GNU LGPL** license. Text of license is included in distribution packet as file license/lgplv3.txt and link to GNU site is http://www.gnu.org/licenses/lgpl.html.

FFT transformation by JTransforms,

link http://sites.google.com/site/piotrwendykier/software/jtransforms.

Charts by JFreeChart,

link http://www.jfree.org/jfreechart.

Calendar components by JCalendar,

link http://www.toedter.com/en/jcalendar.

nmas software use **JScience** by free license. Text of license is included in distribution packet as file license/JScience-license.txt, and link to site is http://www.jscience.org/doc/license.txt.

nmas software use **PostgreSQL JDBC**-library by **BSD** license. Text of license is included in distribution packet as file license/PostgreSQL-JDBC.txt, and link to site is https://jdbc.postgresql.org/about/license.html.

Keyboard and mouse commands

List of all the commands used in nmas® View.

Keyboard or mouse	Where	Action
F1	Whole nmas® View	Help
Home	XY charts	Moves base cursor to start
End	XY charts	Moves base cursor to end
Tab	Whole nmas® View	Moves selection to next
Shift + Tab	Whole nmas® View	Moves selection to previous
Left mouse button	Lists	Selection
Ctrl + left mouse button	Lists	Invert selection
Middle mouse button	XY charts	Difference cursor
Arrow left	XY charts	Moves base cursor to the next measuring point on the left
Shift + Arrow left	XY charts	Moves base cursor to the left (extended move)
Alt + Arrow left	XY charts	Moves base cursor to the left (big leap)
Ctrl + Arrow left	XY charts	Move base cursor to sideband cursor on left
Arrow right	XY charts	Moves base cursor to the next measuring point on the right
Shift + Arrow right	XY charts	Moves base cursor to right (extended move)
Alt + Arrow right	XY charts	Moves base cursor to right (big leap)
Ctrl + Arrow left	XY charts	Move base cursor to sideband cursor on right

Index