New Features in ibaCMC v3.6.0

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1 Important Notes

1.1 Enhanced trend monitoring and alarming

With the update to ibaCMC v3.6.0, the logic for monitoring and alarming of trends has changed.

Previously, the system changed its status when a defined number of consecutive datapoints (based on the hysteresis setting) exceeded a threshold.

In the new implementation, the average or median value over the configured interval must exceed the threshold for the status to change.

This enhancement provides smoother and more reliable trend behavior, reducing false alarms caused by random outliers or natural process variations.

Note

The **hysteresis** property has been completely removed.
Monitoring now uses a **plant-level configuration**, where you can define the **aggregation method** (either *Average* or *Median*) and the **aggregation interval**.

In one of the upcoming versions, it will also be possible to create **monitoring profiles** with customized aggregation methods and intervals at the **trend level**, including an **override option** for specific **trend filter ranges**.

1.2 ibaCMS-One-Sensor license was extended with OPC-UA-Client licenses

An order of **ibaCMS-One-Sensor** licenses now includes **OPC-UA Client** licenses. This enhancement enables communication between process data from **ibaPDA** (an **OPC-UA-Server+** license is required on ibaPDA) or any other **OPC-UA server** and **CM devices**, without the need for a separate **Generic TCP** license.

Each order of ibaCMS-One-Sensor license now includes **two OPC-UA Client connections**. Further orders of ibaCMS-One-Sensor licenses extend the number of OPC-UA Client connections by 2.

Licenses ordered before **November 1st, 2025** are not affected. These existing licenses gain the included OPC-UA Client connections in case further ibaCMS-One-Sensor licenses are added.

1.3 New asset report available

A new version (**v3.6.0**) of the asset report is now available. It is **strongly recommended** to update to this version.

You can find the update instructions in the manual under the following section:

Appendix > Setting up reports in ibaCMC > Carry out configurations in the web portal >Update a report

2 New Features

2.1 ibaPDA process signal integration in ibaCMC

With the **process signal integration**, it is now possible to use any existing **ibaPDA signal** from CM-devices like **ibaDAQ** or **ibaM-DAQ** that is acquired through any of the available **ibaPDA interfaces**.

These signals can then used in ibaCMC for:

- Recording in **snapshots**
- Acting as a **trigger signal** for snapshots
- Serving as a **speed signal** for component monitoring and order resampling
- Acting as a **filter signal** for trend filters
- **Trending and monitoring** of statistical indicators such as *Average*, *Minimum*, *Maximum*, and *Standard Deviation*

For each process signal module created in **ibaCMC**, a **virtual module** is automatically created in **ibaPDA**. The time base of this module is configured from ibaCMC.

Limitations:

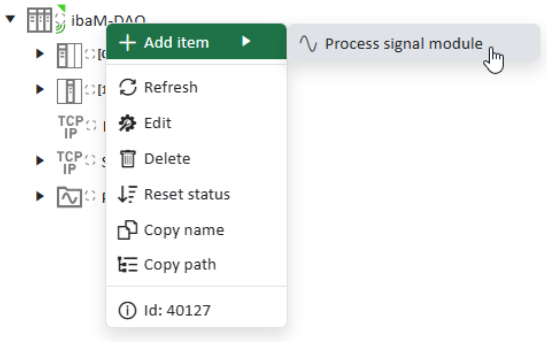
- Only **Analog** and **Digital** signals are supported.
- Digital signals are converted to analog values of *0* or *1*.
- **Text signals** are not supported.

Note

ibaPDA 8.12.x or higher is required to use this feature.

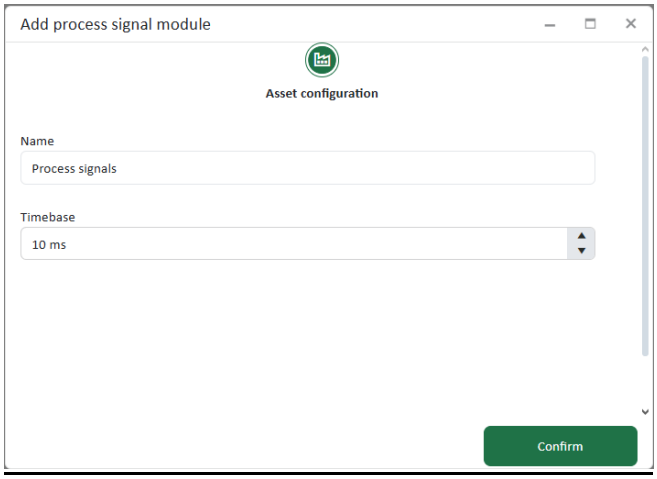
Adding a process signal module:

A process signal module can be added by right click on the CM-device in the plant tree and the "*+ Add item > Process signal module".*



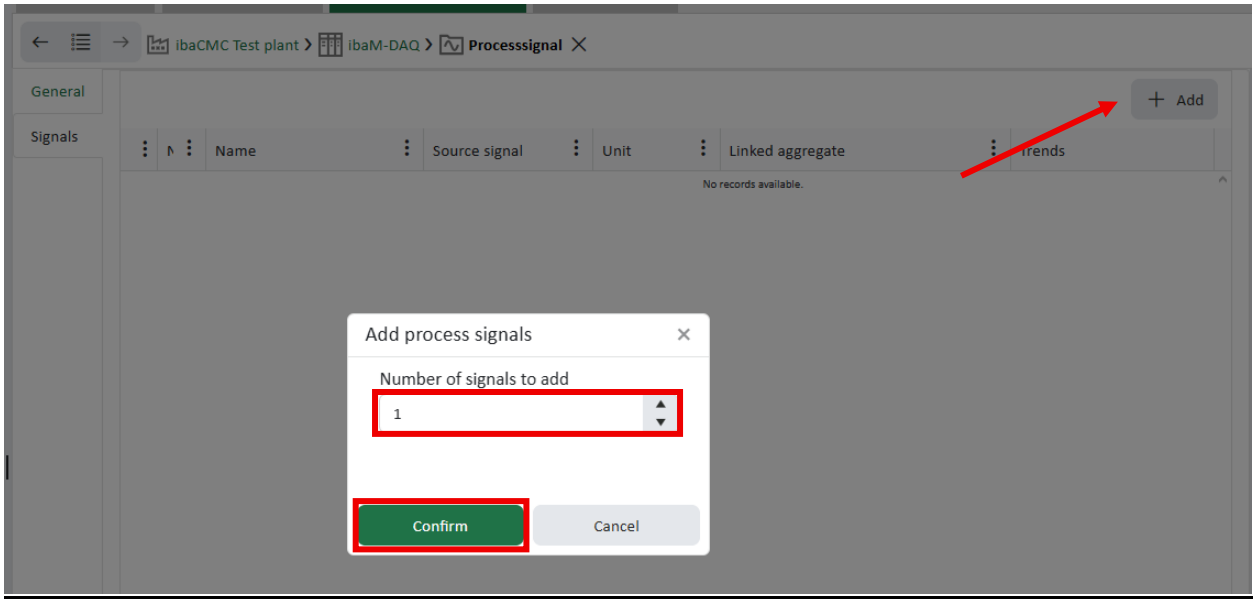
Configure a name and a time base for the process signal module.

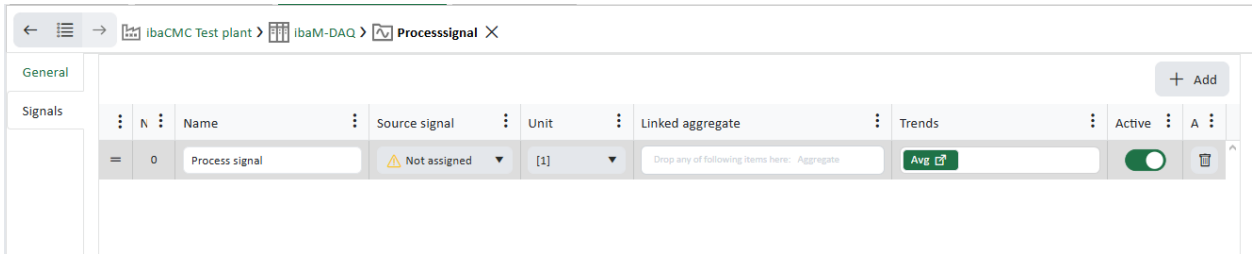
The default time base is **10 ms**.



Adding process signals to modules:

Go to the signals tab and click the add button. Enter the number of signals you want to add and confirm.

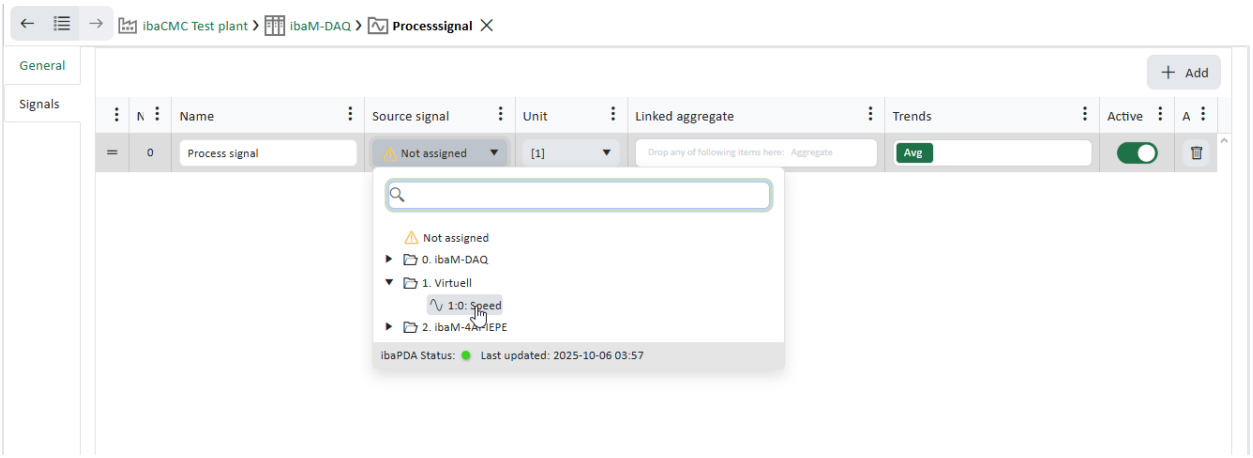



ibaCMC Test plant
ibaM-DAQ
Processsignal
General
Signals
Add
N
Name
Source signal
Unit
Linked aggregate
Trends
Active
A
0
Process signal
Not assigned
[1]
Drop any of following items here: Aggregate
Avg

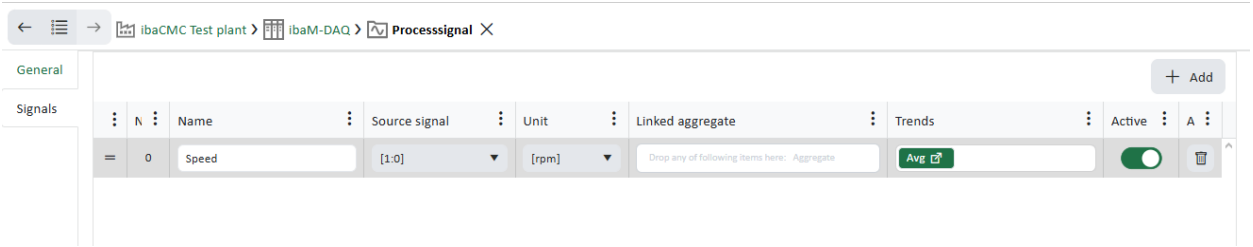
Configure process signals:

After adding the process signal, you can assign the ibaPDA signal to the newly created process signal in ibaCMC. The dropdown source signal list shows all available signals from ibaPDA.

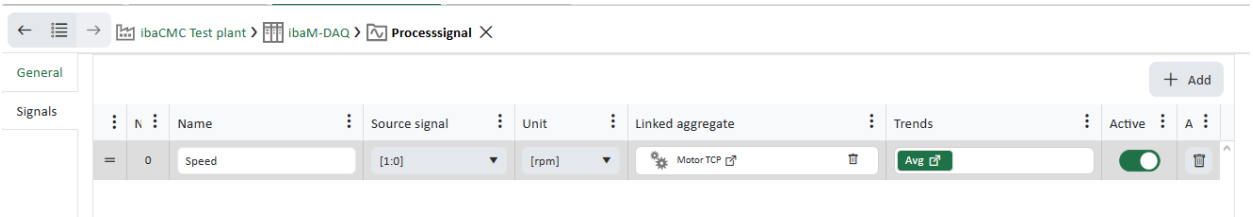
If the ibaPDA configuration changes, the source signal tree in ibaCMC is automatically updated. You only need to reload the process signal module in the asset configuration to apply the changes.



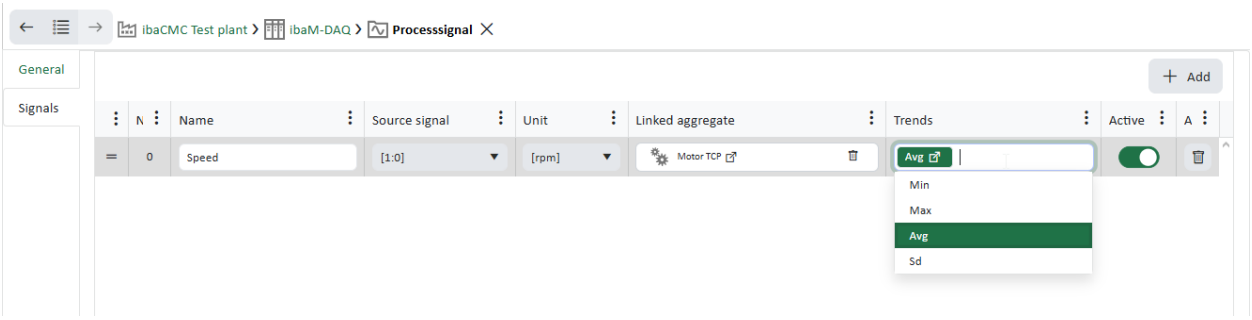
After that the unit for the process signal can be selected.



If the signal should be shown below an aggregate in the plant tree the aggregate can be linked with the process signal by drag and drop the aggregate in the *Linked aggregate* column.



By default, just the AVG trend is created. If needed Min, Max and SD trends can be created for the process signal. This can be selected in the dropdown.



2.2 Enhanced envelope BP filter configuration

With the enhanced envelope BP filter configuration, it is now possible to have more options for the BP filter configuration of a sensor.

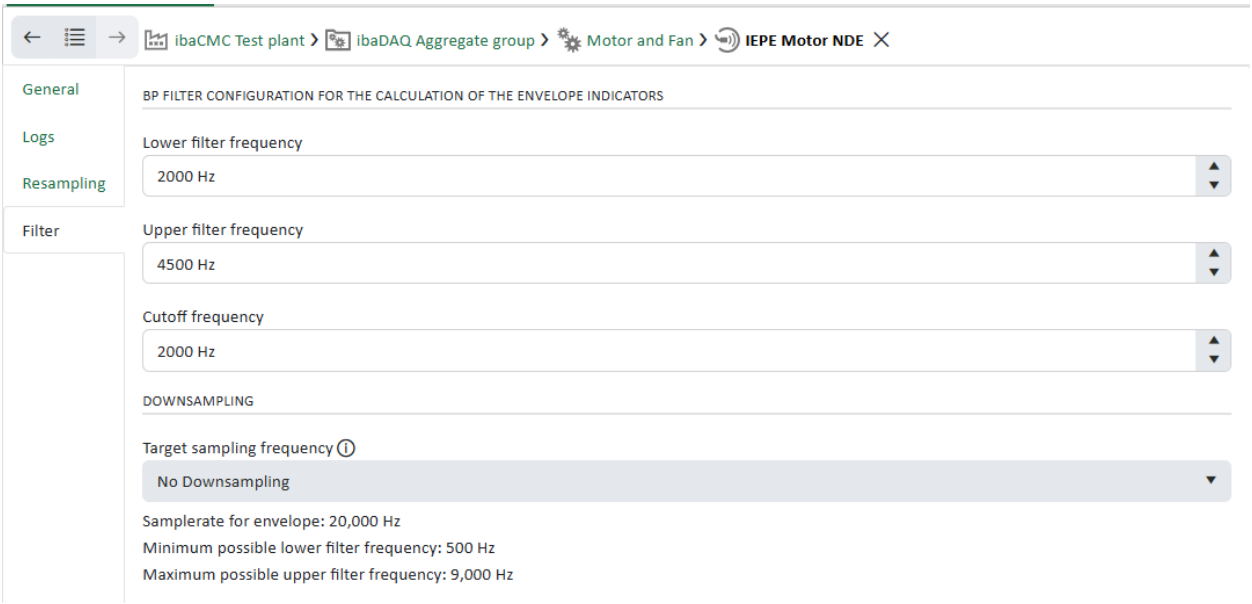
- **Cutoff frequency settings:**

  The cutoff frequency can now be configured individually. By default, it matches the lower filter frequency. If the lower filter frequency is changed, the cutoff frequency is updated accordingly.

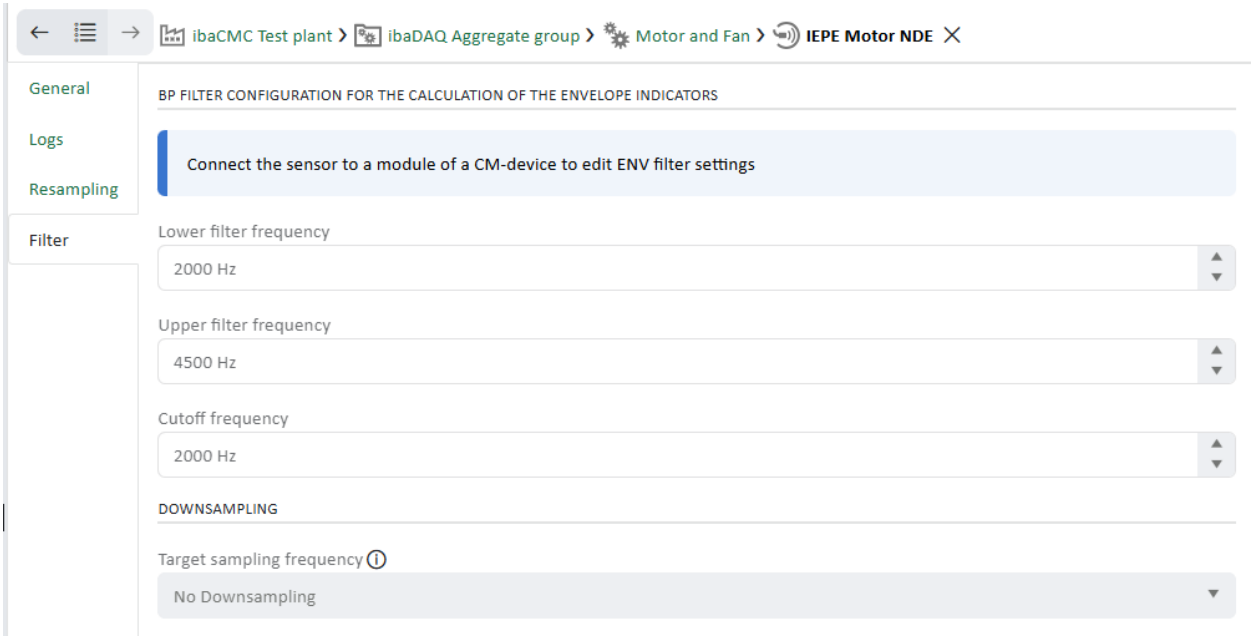
- **Downsampling option:**

  To enable monitoring of both low-speed machines and high-speed signals with a single CM-device, a down sampling feature has been introduced.
  With down sampling, you can select a different sample rate for the envelope spectrum calculation, which makes it possible to define lower frequencies for the filters.

Below the filter settings page of a sensor is shown in case it is connected to a CM-device module.



If the sensor is not connected to the CMU module, editing the filter settings is not possible.



Note

ibaPDA 8.12.x or higher is required to use this feature.

2.3 Trend aggregation for analysis and monitoring

With v3.6.0 the monitoring and visualization of trends changed.

Previous implementation (v3.5.1 or older):

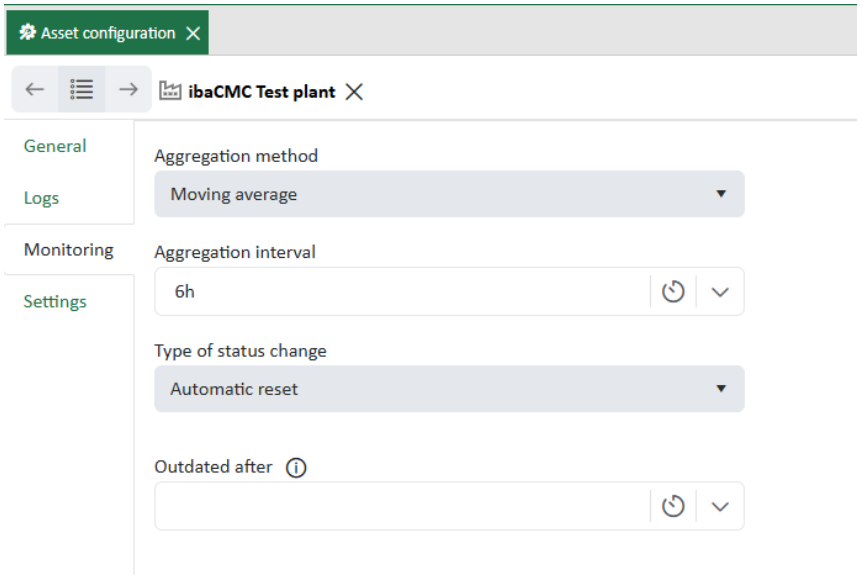
- Trend visualization:
  - 6h Average in Time (Resampling) per default
  - Switch to raw data mode possible
- Monitoring:
  - The status is determined based on the number of consecutive data points (referred to as 'hysteresis') that must exceed the threshold to change the status.

Current implementation (v3.6.0 or higher):

- Trend visualization:
  - Default aggregation is based on the plant setting (Default: Moving Average and 6h Interval)
  - Switch to raw data mode possible
- Monitoring:
  - Status is calculated based on the average value of a trend.
  - The data points used for the calculation are with the window (Datetime of last datapoint - interval).
  - On the data points an average or median calculation is performed
  - The result is checked against the limit and based on that the status is determined.

Monitoring settings:

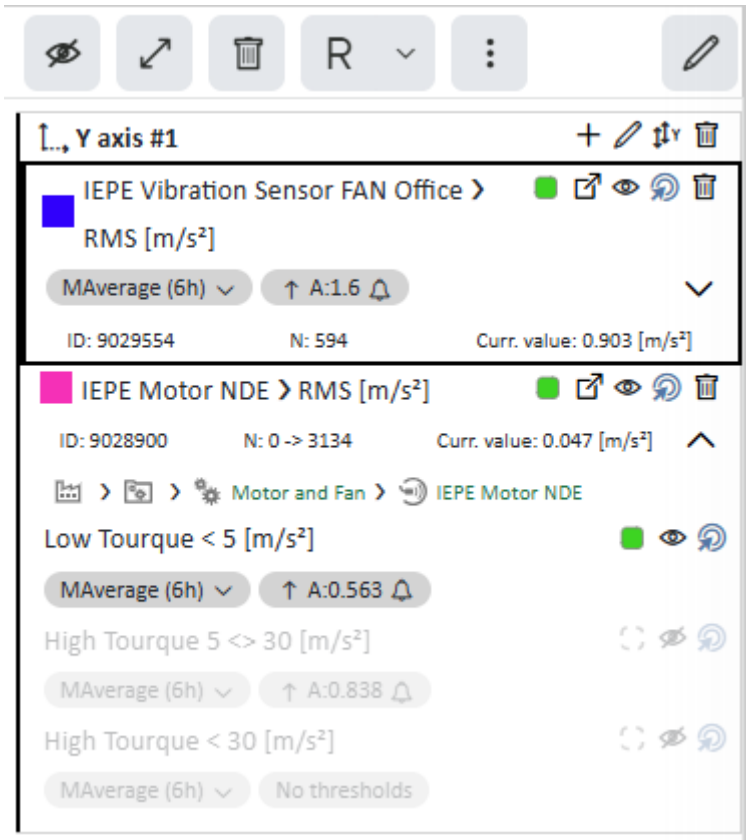
The monitoring settings determine how trend monitoring and status calculations are performed. The **aggregation interval** defines the time frame of data used for further calculations, while the **aggregation method** specifies how the monitoring value is calculated.
Currently, **Average** and **Median** aggregation methods are supported.



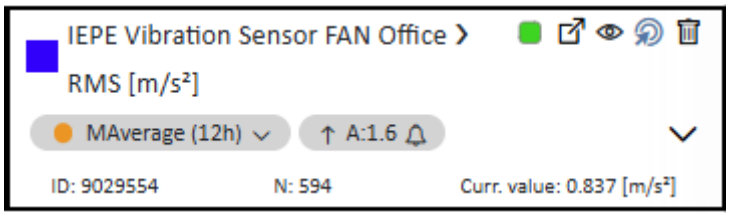
Trend analysis:

In the trend analysis legend two controls were added which show the current aggregation method and the aggregation interval. Also the alarm limit is shown if configured.

The aggregation method and interval can be changed for the analysis for trends and for filtered trend for each range.

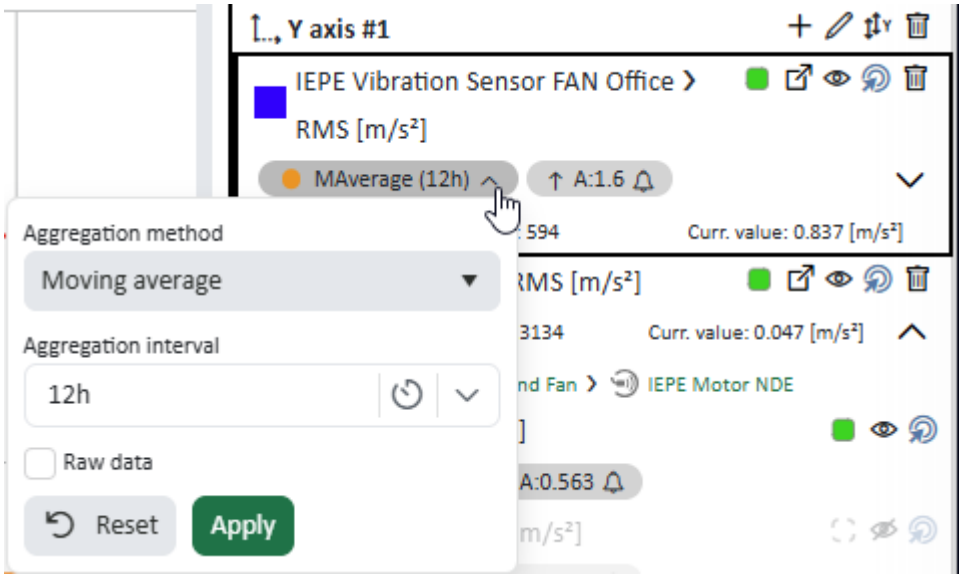


If the aggregation settings are not default which are used for the monitoring and status calculation it shows an orange dot. When hovering the dot with the mouse you get also a tooltip.

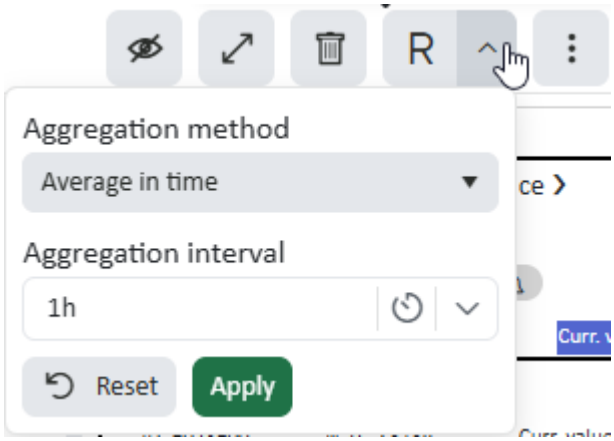


With the dropdown at each trend the settings can be changed individually for each trend.

The change is just temporally for the view and not for the monitoring.



With the dropdown next to the **R** button the settings can be changed for all trends in the legend.



2.4 Send live statistical value via TCP send telegrams

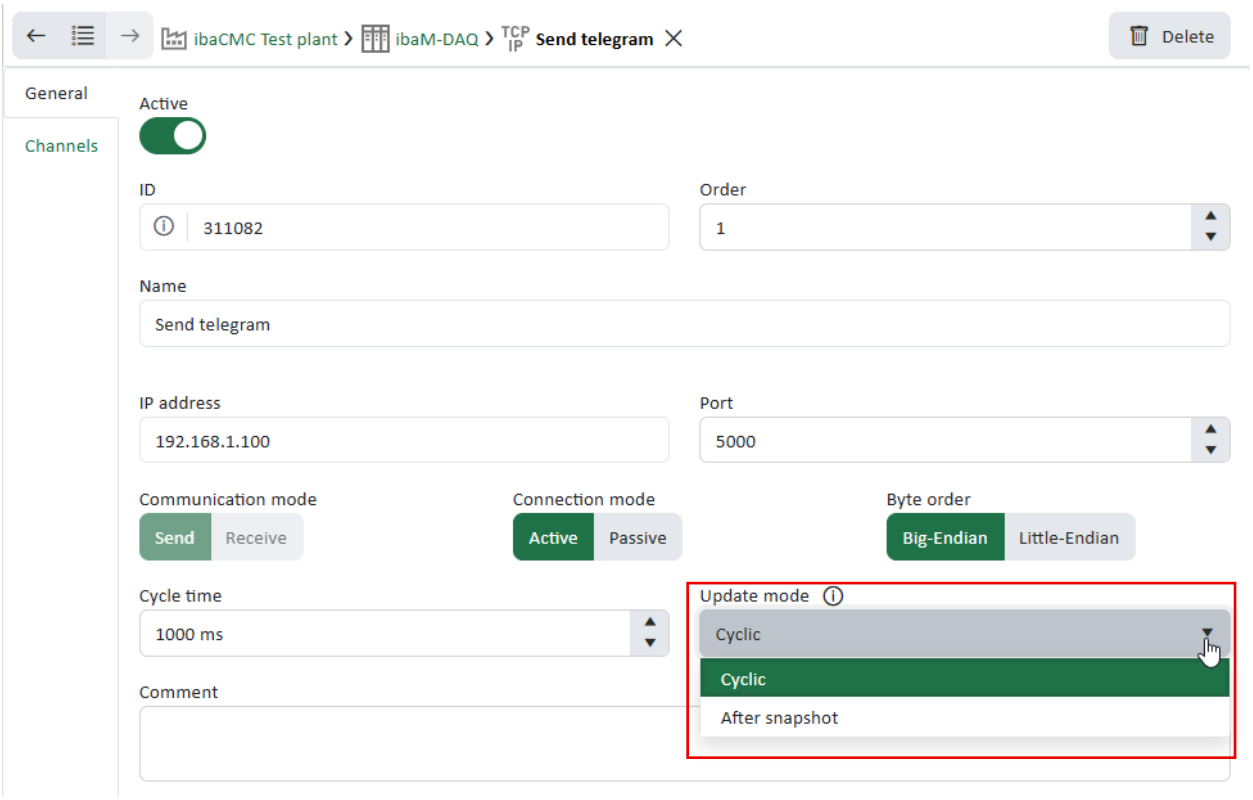
For TCP send telegram we introduced UpdateMode which make it now possible to change between *After snapshot* and *Cyclic* mode.

After snapshot means that the values in the send telegram are updated after a snapshot was taken and the results are calculated.

Cyclic on the other hand means that statistical values like RMS, Peak to Peak, Crestfactor, vRMS 3-1000 are sent cyclically based on the Cycle time of the telegram. Component based trends cannot be updated cyclically. They are only updated after each snapshot.

Note

ibaCMU-S devices just support **cyclic** mode. For **ibaDAQ/ibaM-DAQ** both options are possible. Default setting is cyclic if creating a new send telegram.



Note

This feature will only be available with **ibaPDA 8.13.0 or higher.**

2.5 Added ibaMS8xICP support for ibaDAQ

ibaDAQ now also supports the ibaMS8xICP module, the predecessor of the ibaMS8xIEPE module. This makes it possible to replace an ibaCMU-S using ibaMS8xICP with ibaDAQ without upgrading to the newer module.

Sensor or cabling problems are determined in ibaCMC based on the used range of the signal, with the calculation performed on the ibaPDA side. Thresholds and limits can be configured per sensor in ibaCMC. These signal condition checks are only evaluated during a snapshot measurement.

Note

This feature will only be available with **ibaPDA 8.12.0 or higher.**

3 Improvements

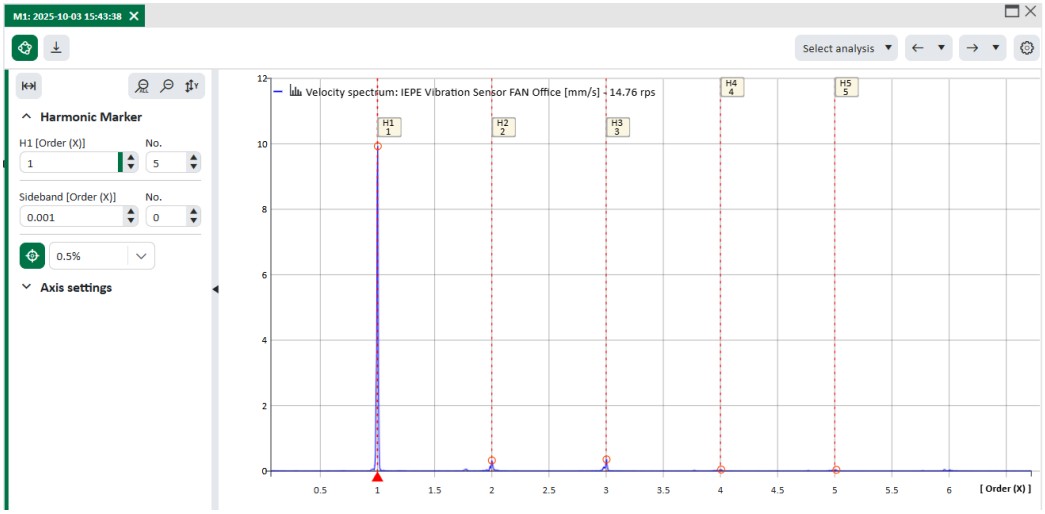
3.1 Hide marker labels in analysis charts

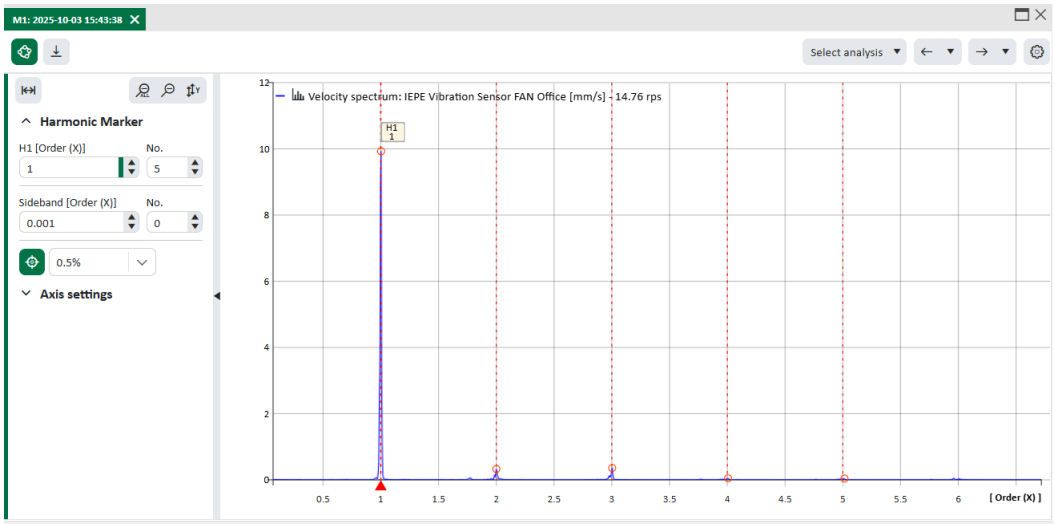
It is now possible to **hide marker labels** by clicking on **H1** in the spectrum or **S1** in the time signal.
Clicking again will **toggle the labels back on**.

If **sidebands** are enabled in the spectrum, their labels are also shown (except periodical markers).

- On the **first click**, only the **sideband labels** are hidden.
- On the **second click**, the **harmonic marker labels** are also hidden.
- On the **third click**, **all labels** are shown again.

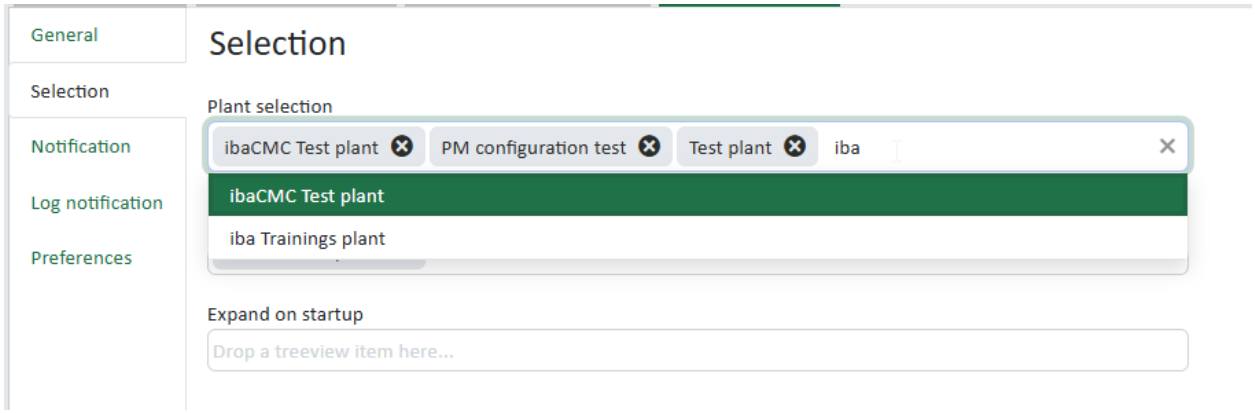
By default, **all marker labels are visible**.





3.2 Enable filtering and searching in multiselect dropdowns

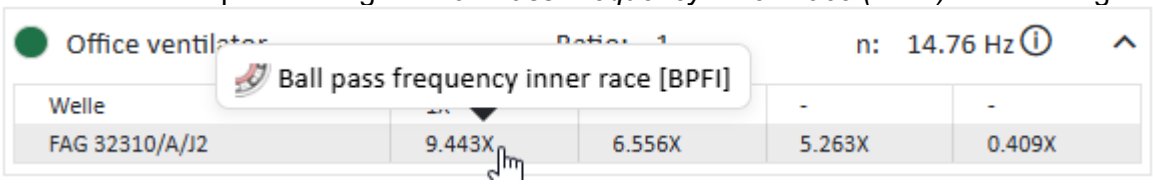
All multi-select dropdowns now support search functionality. When using the search, only the items containing the entered text are displayed. See the example below.



3.3 Improve tooltip texts in kinematic grid

Instead of the component name, the defect frequency name is now displayed. This change applies to all components in the kinematic grid.

Below is an example showing the *Ball Pass Frequency Inner Race (BPFI)* of a bearing.



3.4 Changed normal plant tree status from gray to green

Since green is more commonly used to represent the normal status, we changed the status color in the plant tree from gray to green.