New Features in ibaCMC v3.5.0

Author: L.Gabriel, iba AG - Fürth

Date: July 2025

Table of contents

1 Important Notes

1.1 Prerequisites for the update

To upgrade to ibaCMC v3.5.0, the following prerequisites must be met:

- The current installed version is ibaCMC **v3.4.2** or higher
- The migration process from ibaCMC v1 to v3 must be completed.
    - No remaining “not migrated” plants are in the system
    - All logs are migrated
    - All images from v1 are migrated to v3 (this step can be skipped if no images are available)

Note

Please note that updating to ibaCMC v3.5.0 is only possible if *all* plants have already been migrated to ibaCMC v3.x. If any plant is still managed by ibaCMC v1.8x version, the installer will prevent the update by giving an error message before starting with the installation process.

1.2 Breaking changes and post update to dos

1.2.1 Asset Report must be updated

Because of some database changes the report must be updated to work properly with ibaCMC v3.5.0

The instructions can be found in the documentation under *“Appendix / Setting up reports in ibaCMC / Carry out configurations in the web portal / Update a report”*

1.2.2 SQL Database changes

Database views:

Please consider that the “Instandhaltungsview” and the “Anlagenbaumtrendview” were dropped and are no longer available.

Instead of the “Instandhaltungsview” the “MonitorTrendView” can be used to get similar information.

The “Anlagenbaumtrendview” was renamed from German to English to “PlantTreeView” and contains additional information now.

For more detailed information please contact the iba support.

1.2.3 Data import process was changed

To improve the reliability of data handling in larger systems, the data import process has been restructured. The new process operates as follows:

ibaCMU-S devices:

- The device task is triggered by the task scheduler based on the interval settings in the CMU configuration
- XML and DAT files are downloaded from the devices via FTP Client
- The files are stored in a temporary folder , configured under *System settings* > *General,* within a subfolder named **CMU-{ID}**

IbaDAQ/ibaM-DAQ devices:

After a successful measurement:

- Trend data is sent to ibaCMC in JSON format via MQTT.
- DAT files are uploaded to ibaCMC via HTTP.
- Both DAT and JSON trend files are stored in the system's temporary folder under the corresponding **CMU-{ID}** subfolder.
- The device task is triggered by the task scheduler according to the CMU configuration and processes the data received via MQTT and HTTP.

Unified processing for all devices

After file transfer:

- Files are processed sequentially and moved to the **archive** folder of the plant assigned to the device.
    - If an error occurs during import, the file is moved to the plant's **error folder**.

During XML/KPI import:

- Trend data is written to the database
- New data is evaluated, and trend status is updated if defined thresholds are exceeded.
- Notification emails are sent if there is a change in trend status (based on the user settings)

1.2.4 Dropped ibaCMC V1 parallel operation support

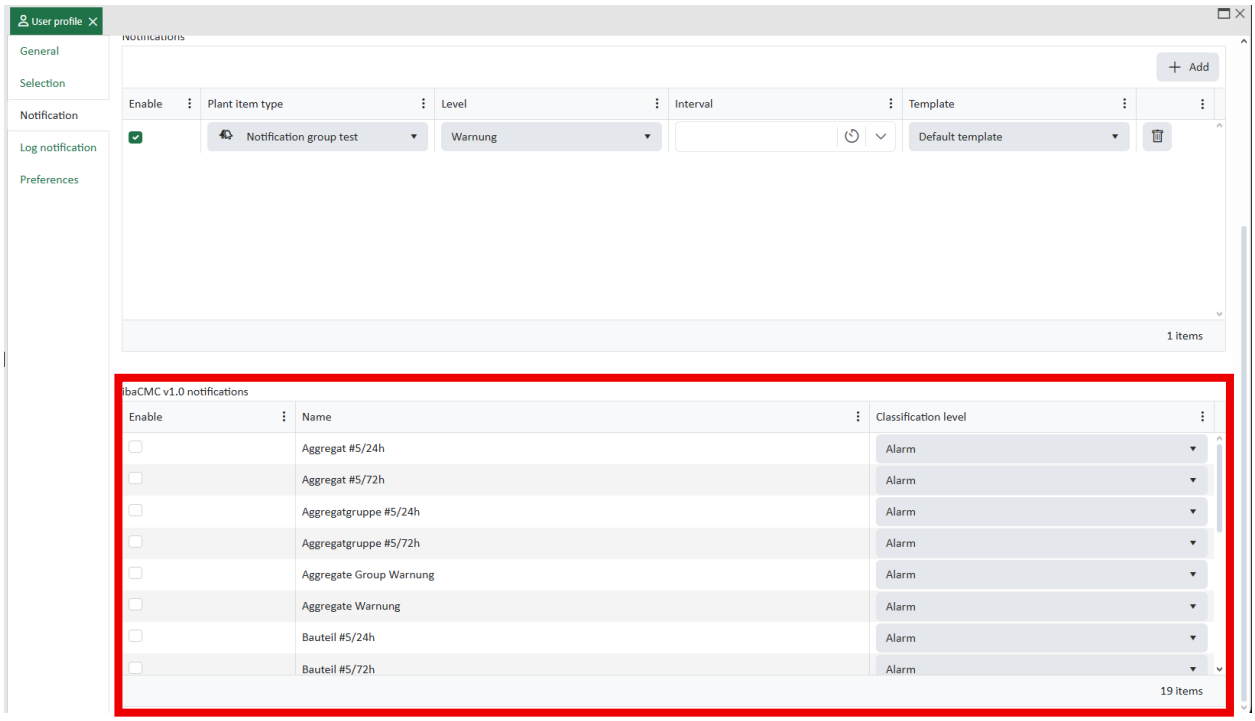
With ibaCMC v3.5.0 the parallel operation mode with ibaCMC v1 is no longer supported.

Below you will find the major changes related to this change:

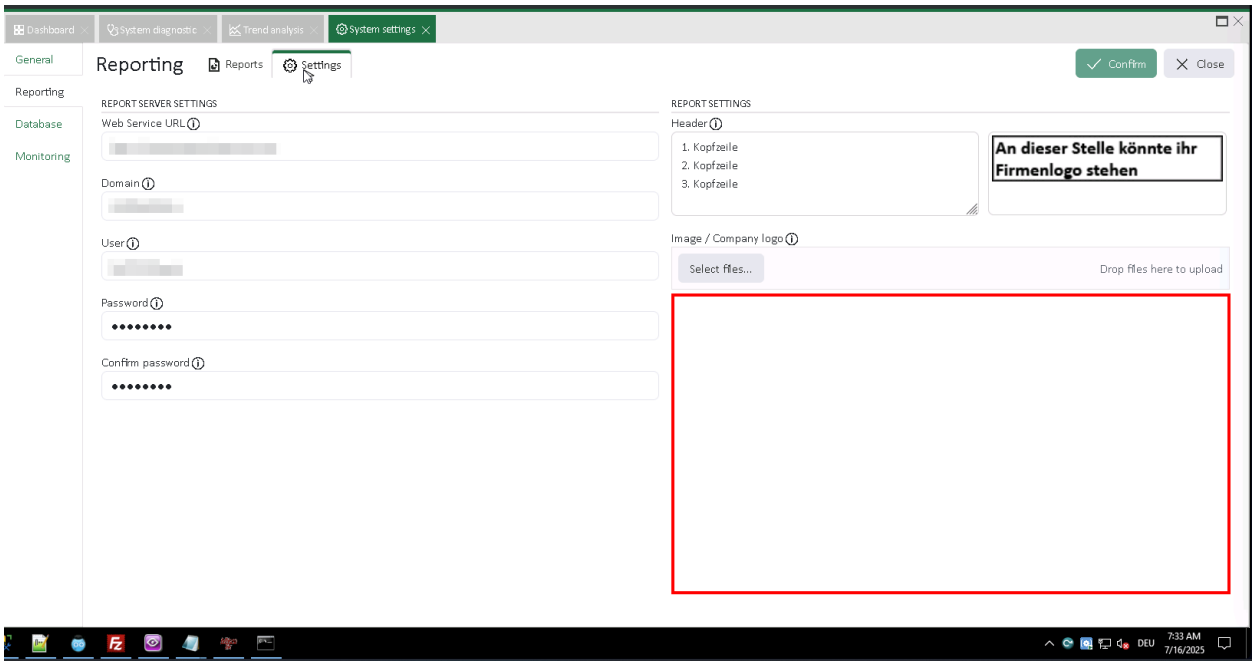
- The **Disused/Activate** action was **removed** from the plant tree context menu. This feature is no longer available. To disable trend status calculation the bell can be deactivated in the threshold configuration.

- ibaCMC V1 notification configuration was **removed** from the user profile.

  ibaCMC v3.x notification system can be used instead.



- Removed not used report settings



- Several database tables have been removed.
- The local bridge component has been deprecated and removed.
- MQTT client settings have been removed from appsettings.json.

1.2.5 Uninstall ibaCMC v1.8.x

To clean up the system ibaCMC v1 should be uninstalled if it is not used anymore.

For more information request the uninstall guide from the iba support.

2 New Features

2.1 Add support for ibaM-DAQ and ibaM-4AI-IEPE modules

Now also ibaM-DAQ and ibaM-4AI-IEPE modules can be configured from ibaCMC and used as Condition Monitoring devices.

Key features of the new module:

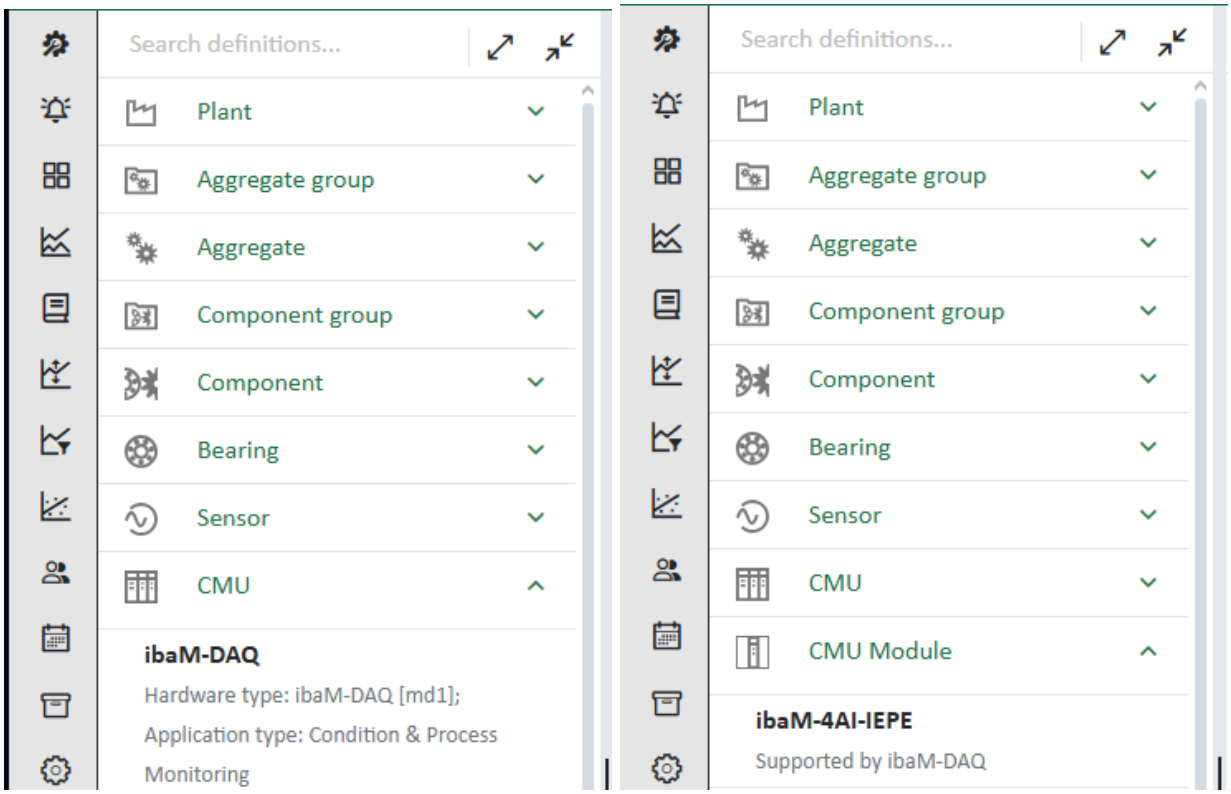
- Sample rates up to 100 kHz possible
- Maximum 15 ibaM-4AI-IEPE or 60 sensors can be connected to one ibaM-DAQ
- Inputs of ibaM-4AI-IEPE module can be also used as speed signal input with an approximation sensor
- Different Input modes are possible (IEPE 0,1 Hz, IEPE 1 Hz, 24V AC, 24V DC)
- Debounce time can be set for digital input (default 5000 us)
- Antialiasing filter type can be configured per module (default Butterworth 2nd order)

Note

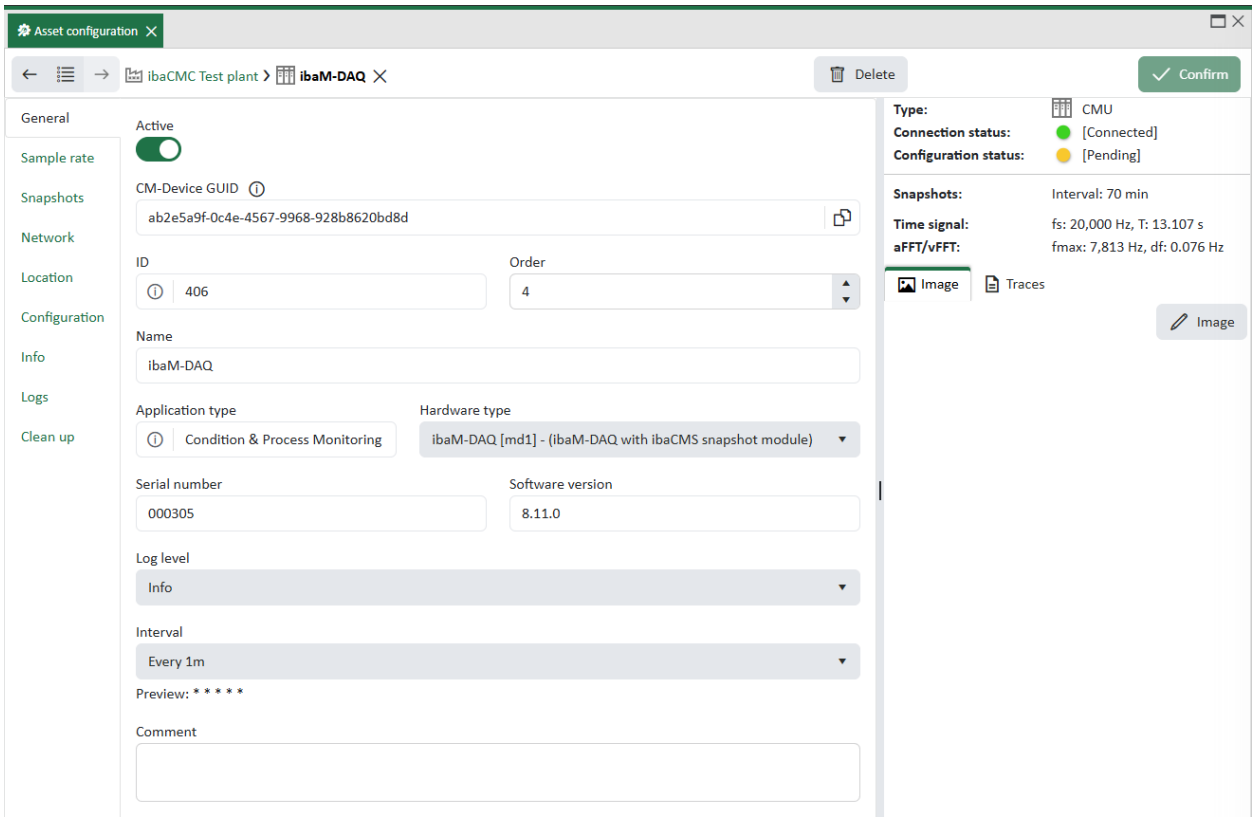
Using sample rates of **100 kHz** with **32** or more IEPE sensors may cause performance issues on the ibaM-DAQ side in ibaPDA. **This configuration is not recommended!**

For standard Condition Monitoring applications, sample rates of 20 kHz—up to a maximum of 50 kHz—are typically sufficient.

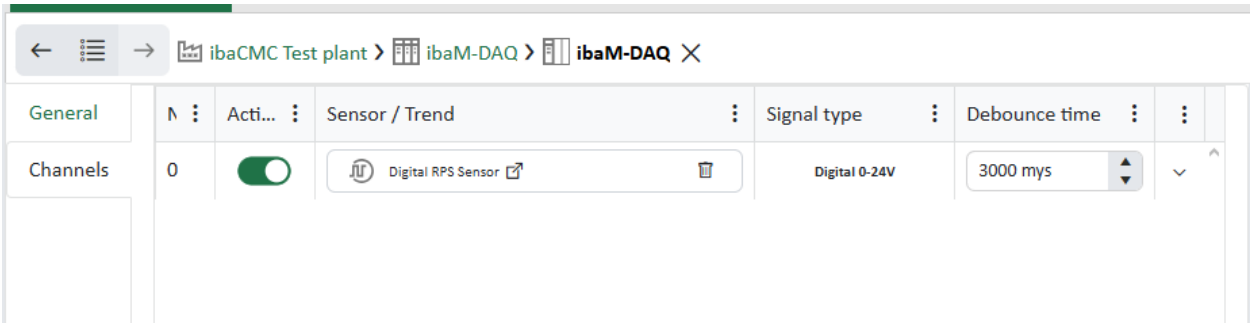
Asset library:



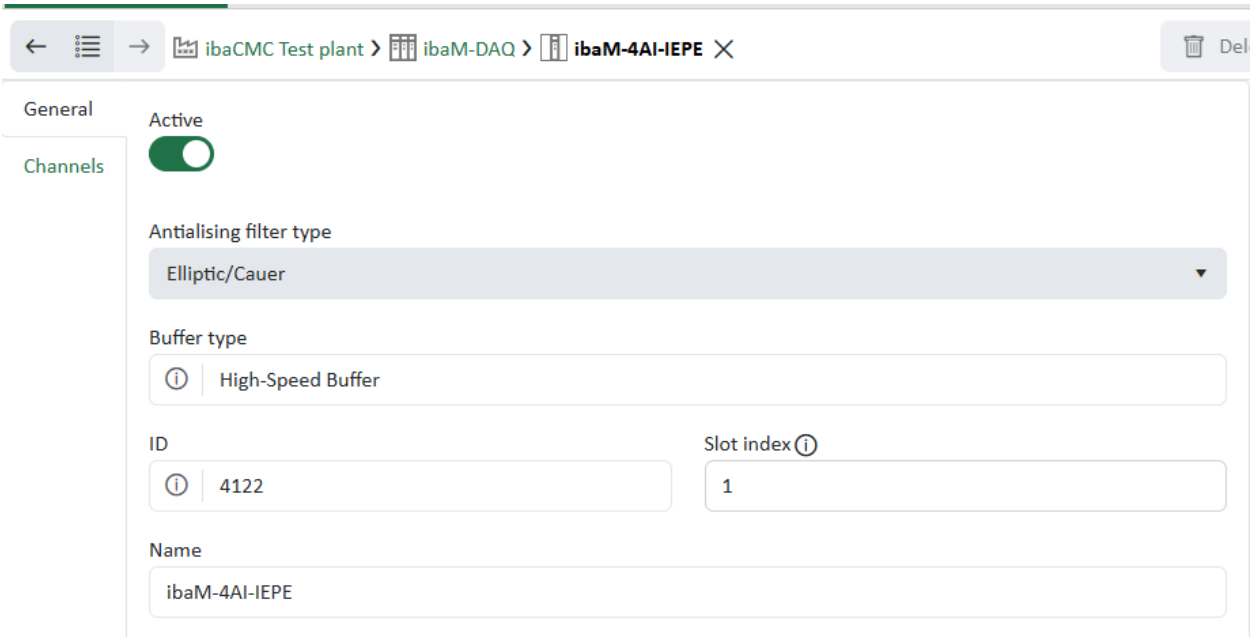
CMU configuration:

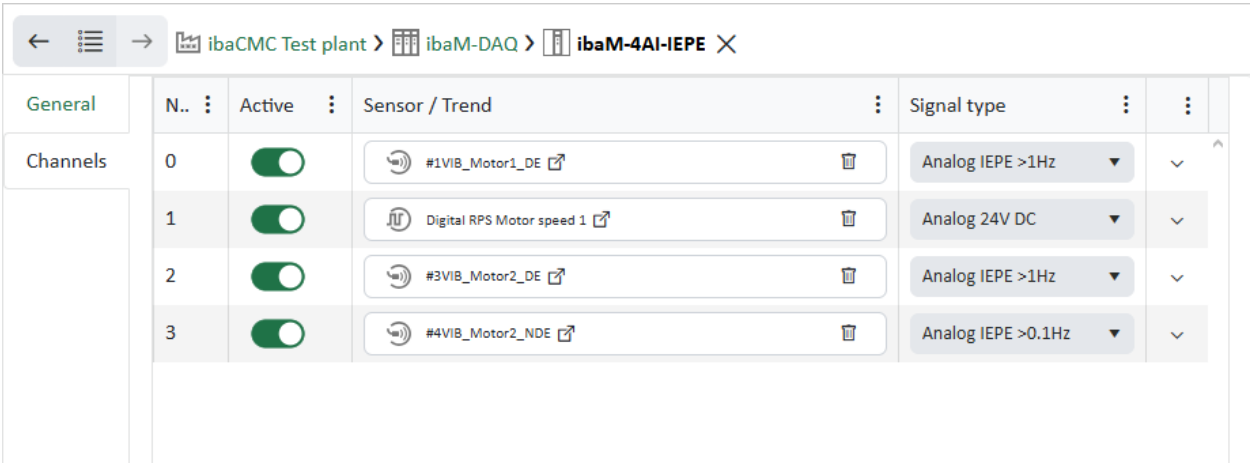


ibaM-DAQ module configuration:



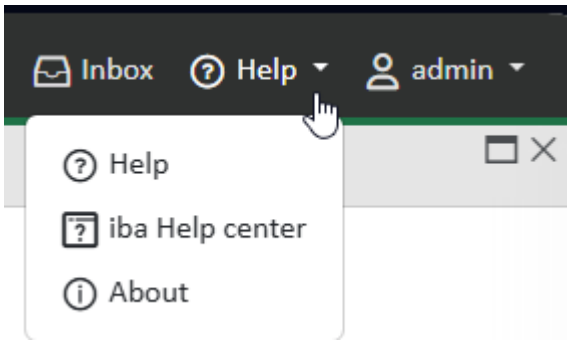
ibaM-4AI-IEPE module configuration:





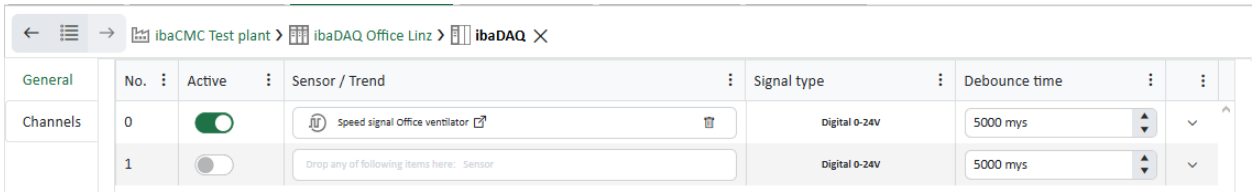
2.2 Link to iba Help Center available in help menu

A link to the **iba Help Center** (https://docs.iba-ag.com) is now available via the **Help** menu in the header. This link opens the Help Center, where documentation for all iba products is accessible.
If there is no internet connection, a dialog with a QR code will be displayed. The QR code can be scanned using a smartphone with internet access to access the Help Center.



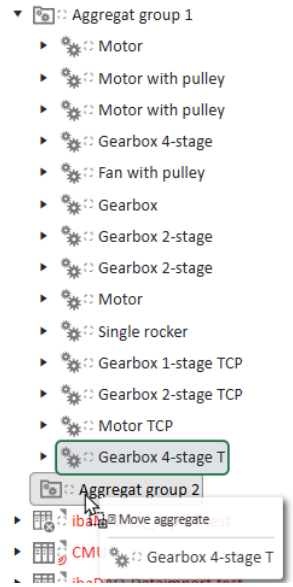
2.3 Debounce time configuration for digital inputs

Debounce time for digital input channels on **ibaDAQ** and **ibaM-DAQ** devices can now be configured directly via **ibaCMC**.
By default, the debounce time is set to **5000 µs** per digital input channel.



2.4 Move aggregates between aggregates groups

Now it is possible to move aggregates between aggregate groups within the same plant.

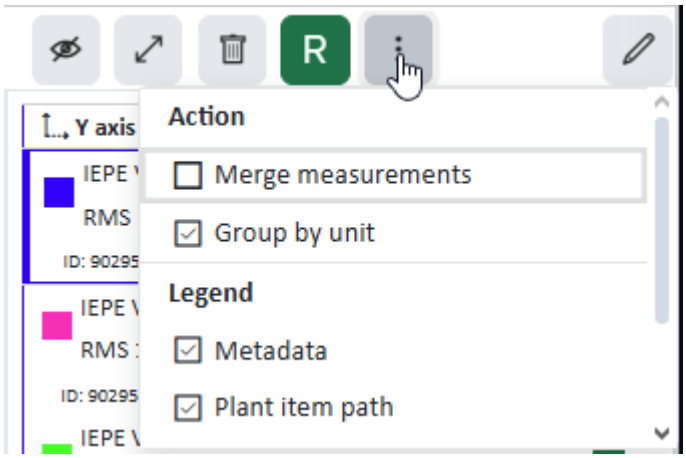


2.5 Group trends by unit in the trend analysis

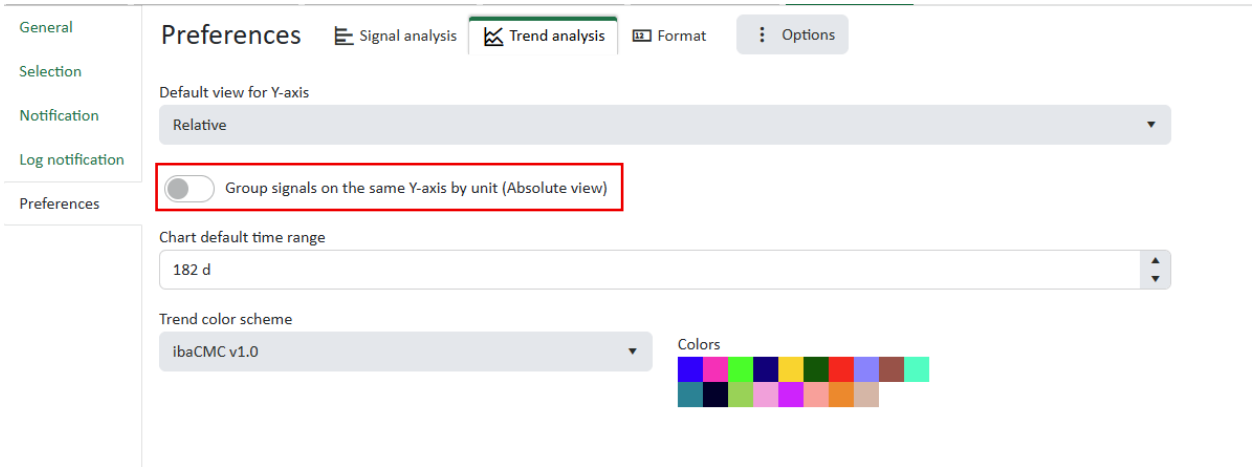
In trend analysis, it is now possible to enable the **Group by Unit** feature, which groups all trends with the same unit onto a shared Y-axis.
This option can be activated by selecting the corresponding checkbox in the legend—**only available in Absolute (Abs) mode**.

When enabled:

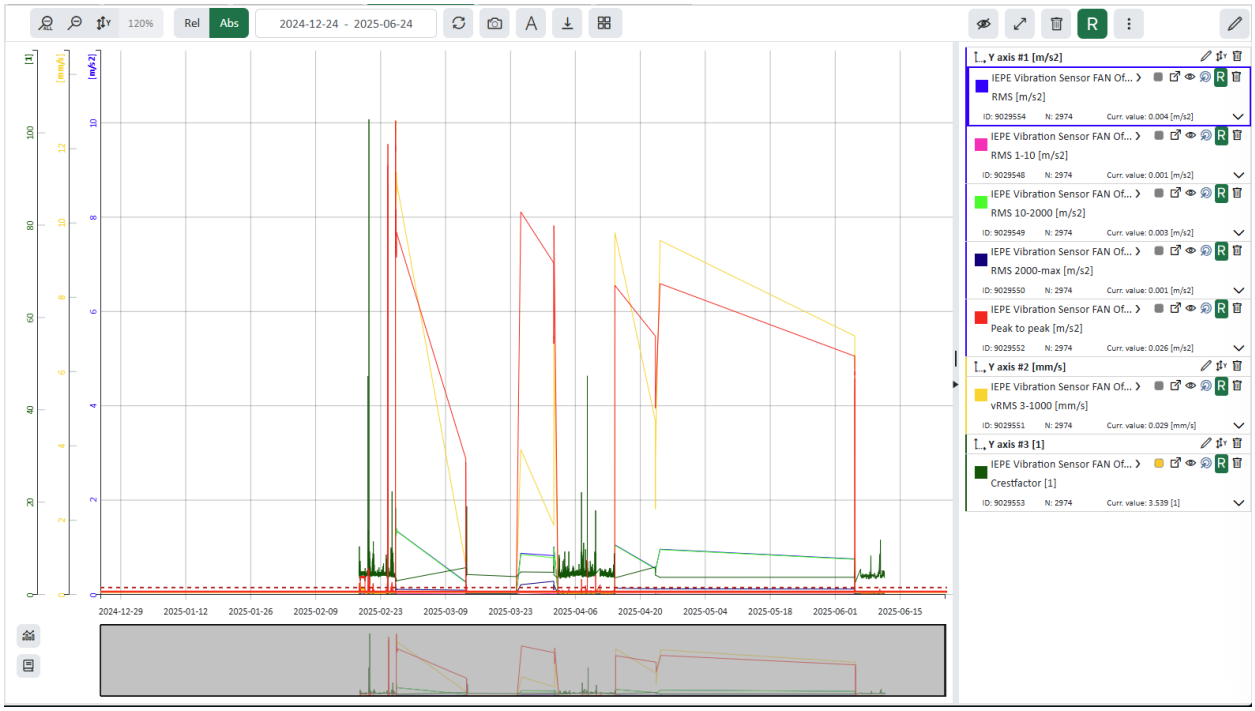
- Separate Y-axes are automatically created for each unique unit.
- Newly added trends are placed on an existing axis if the unit already exists; otherwise, a new axis is created.
- Manual movement of trends between axes is disabled while **Group by Unit** is active.



There is also a user setting to enable the group by unit flag per default when opening the trend analysis.



Example:

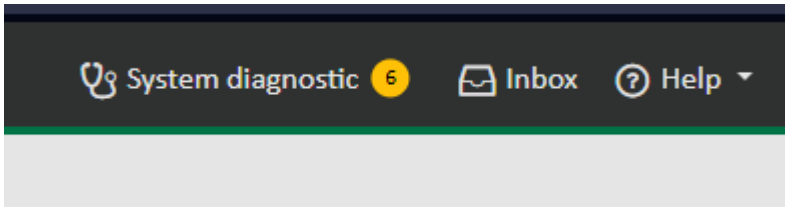


3 Improvements

3.1 Redesigned and reorganized system diagnostics overview

To provide a clearer overview of system status and all connected devices, the **System Diagnostics** section has been completely redesigned and reorganized.

There is now a single unified entry point where all system diagnostics information is displayed in a centralized view.



Changes:

The former **Syslog** menu has been renamed to **System Diagnostics**.
As part of this update, the **CM device list** and other **diagnostic** menu items from the sidebar have been consolidated into the new System Diagnostics section.
The **Syslog** and **Trace** views remain available within this centralized diagnostics interface.

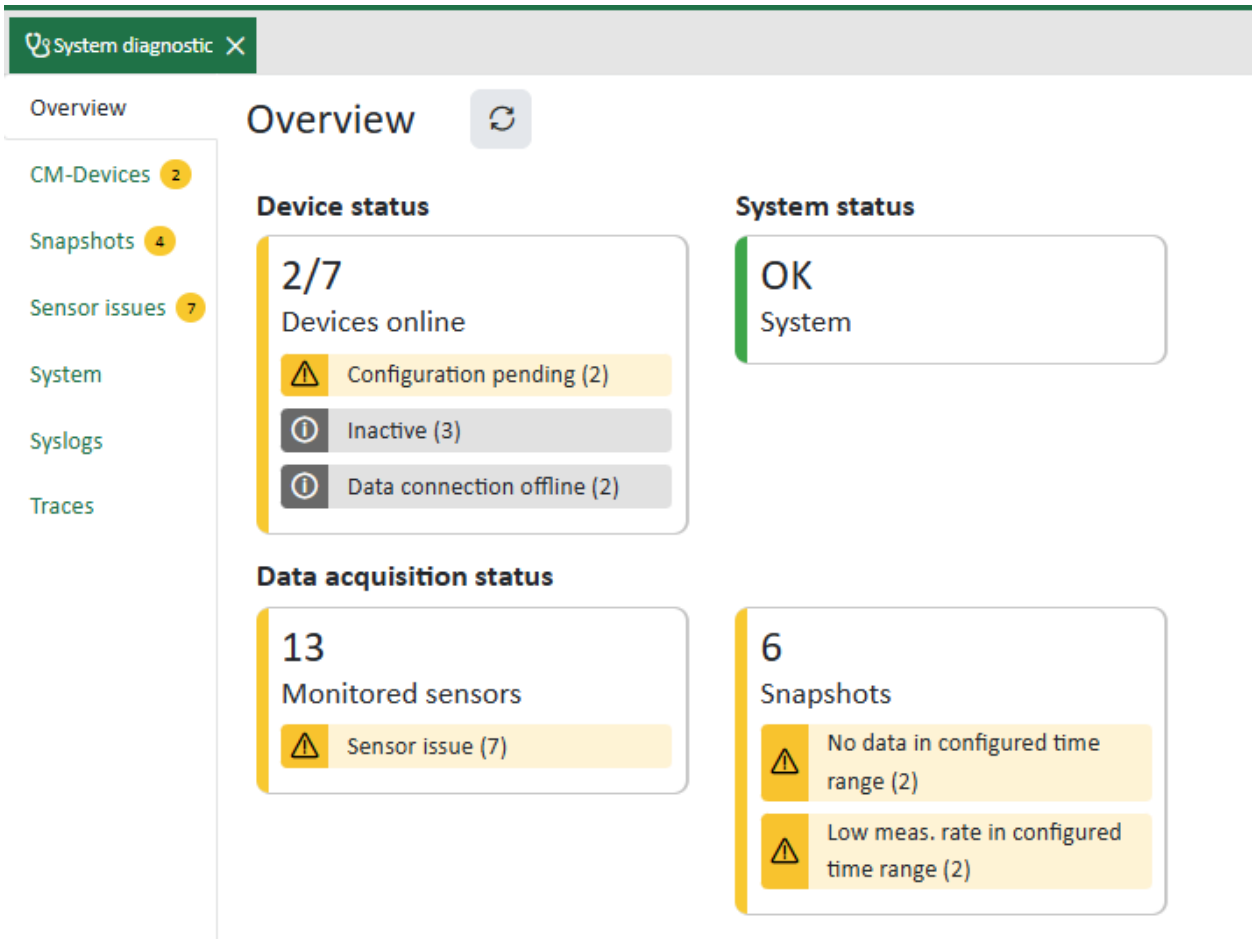
Overview:

The overview shows a complete overview of the status of the whole system. It shows the device status, system status, and data acquisition status.

When clicking on one of the tiles the corresponding tab will be opened.

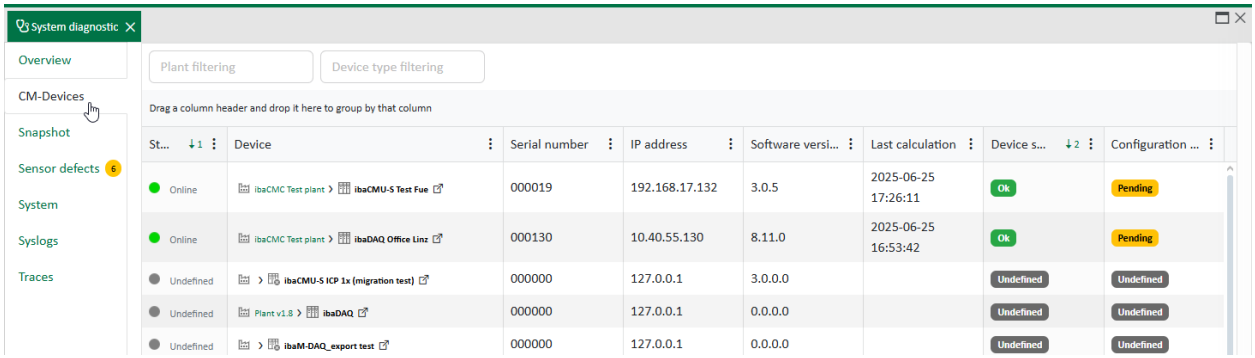
Note

Each user only sees diagnostics for active devices, sensors, and snapshots that belong to the plants selected in their user profile.



CM-Devices:

Clicking on the **Device Status** tile will open the **CM Devices** tab. Alternatively, you can access this tab directly via the **CM Devices** entry in the sidebar.
This view provides a more detailed overview of the status of each device.

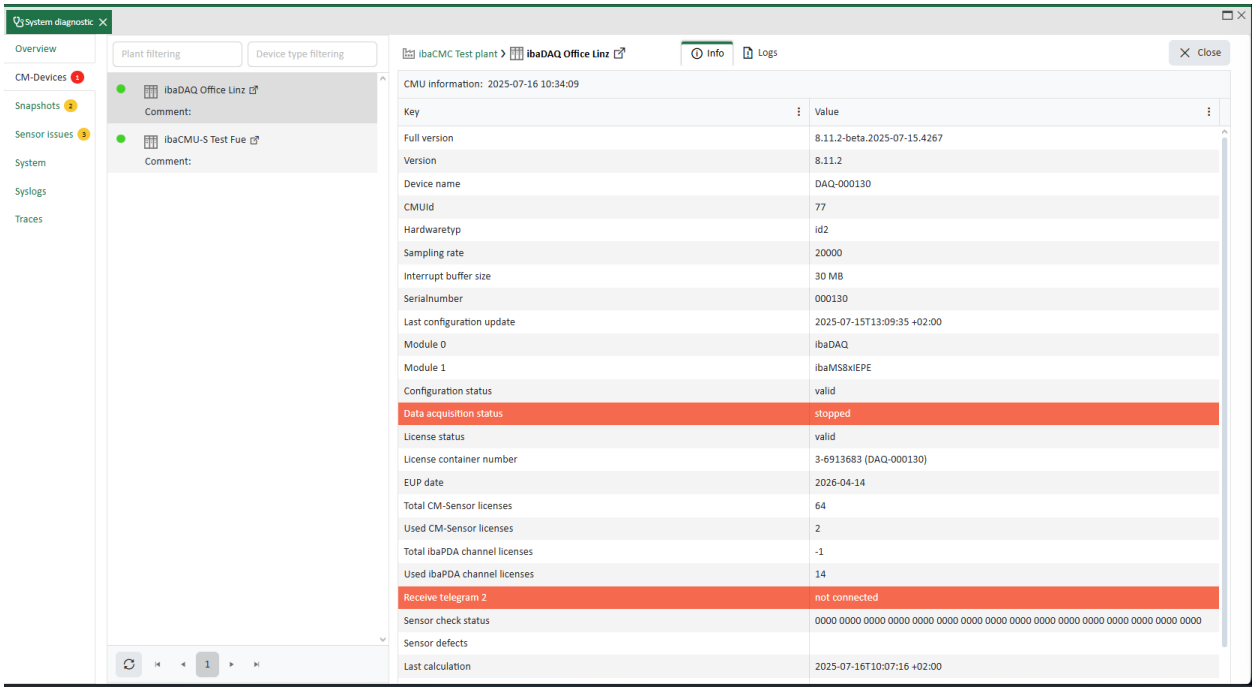


Clicking on a row in the **CM Devices** tab opens a detailed page for the selected device. This page provides more detailed information about the device status and displays the device logs.

In the **Info** tab, you will find device status information that is cyclically updated by the device. Rows highlighted in **red** indicate device errors that require attention.

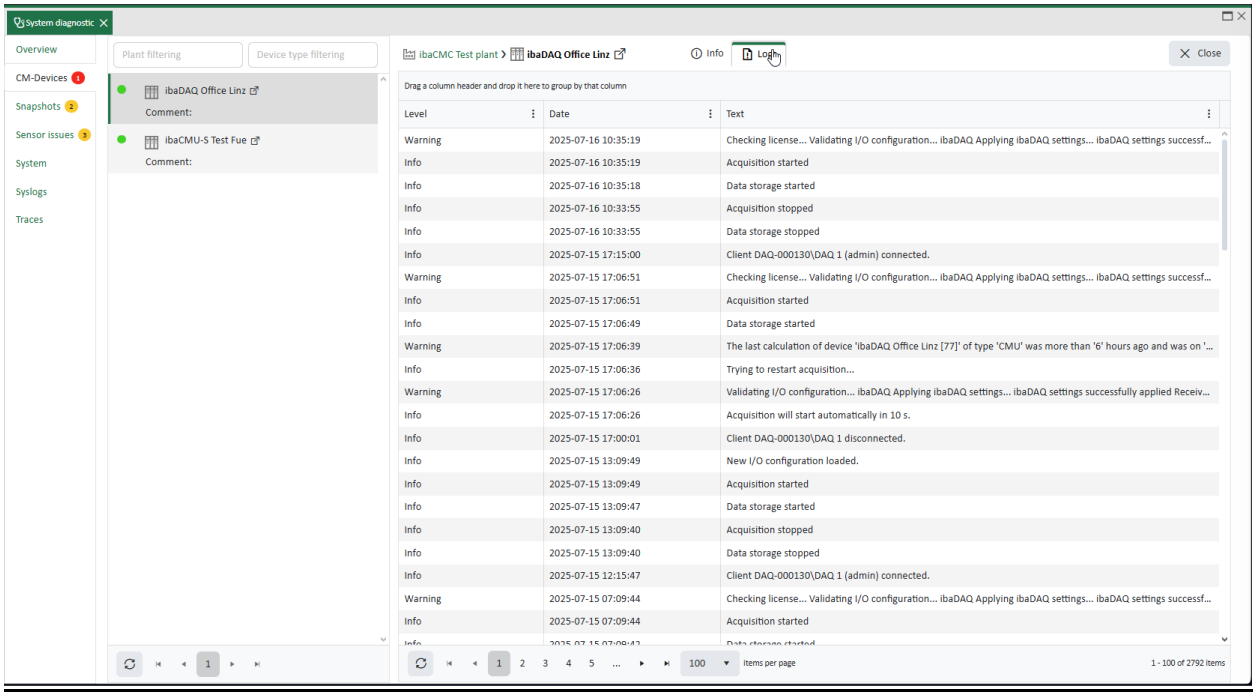
Examples of critical device errors that result in a device status error in the overview include:

- TCP telegram not connected
- Data acquisition stopped
- License invalid



In the log tab you see the recent logs sent by the device.

These logs can be filtered by level, date and text.

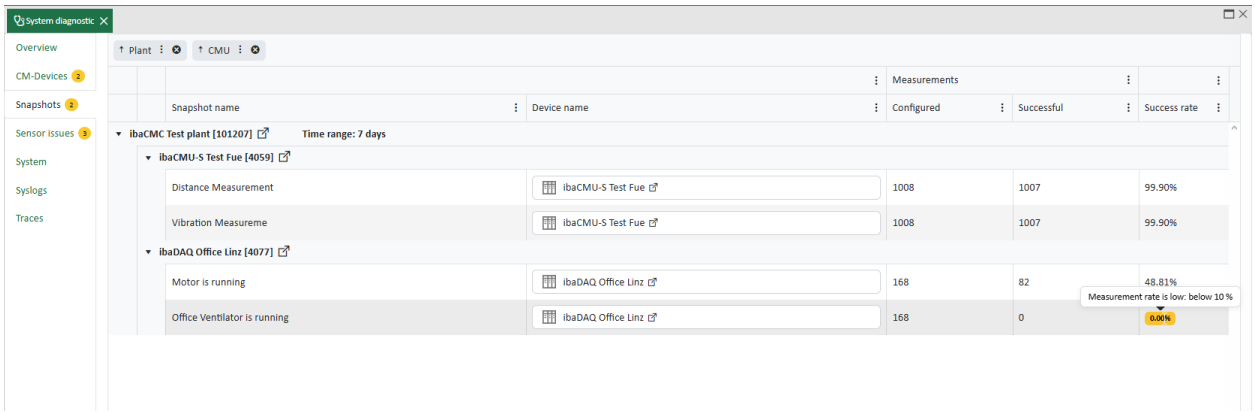


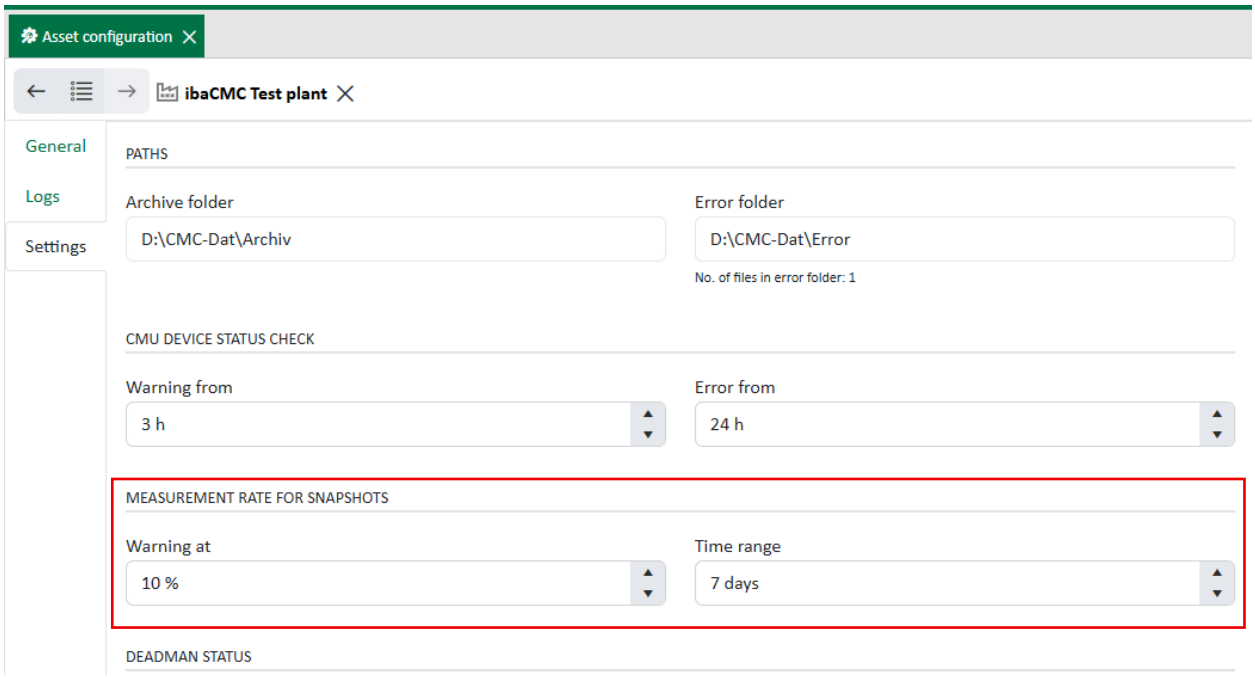
Snapshots:

The **Snapshot** tab provides an overview of snapshot statistics.
If the **success rate** for a plant falls below the configured warning threshold, a **yellow badge** is displayed next to the affected success rates.

The success rate is calculated as:
(Number of successful measurements) / (Total possible measurements)

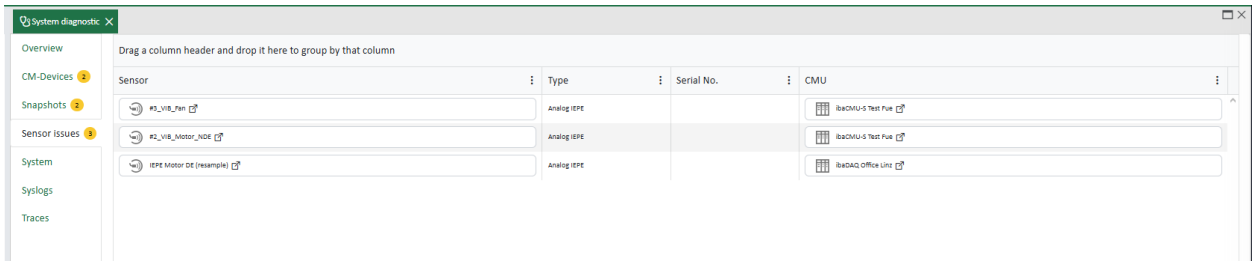
The time range used for this calculation can be configured individually for each plant.





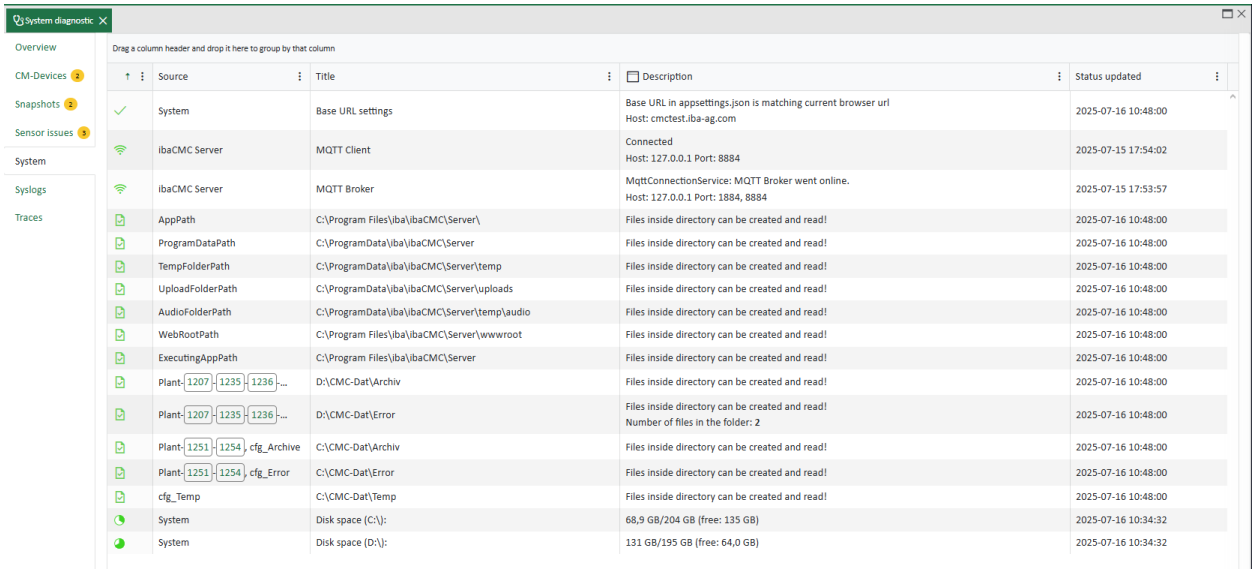
Sensordefects:

Shows a list of all sensors marked as data not valid by the IEPE module or the CM-device. Here just sensors from active devices are considered.



System:

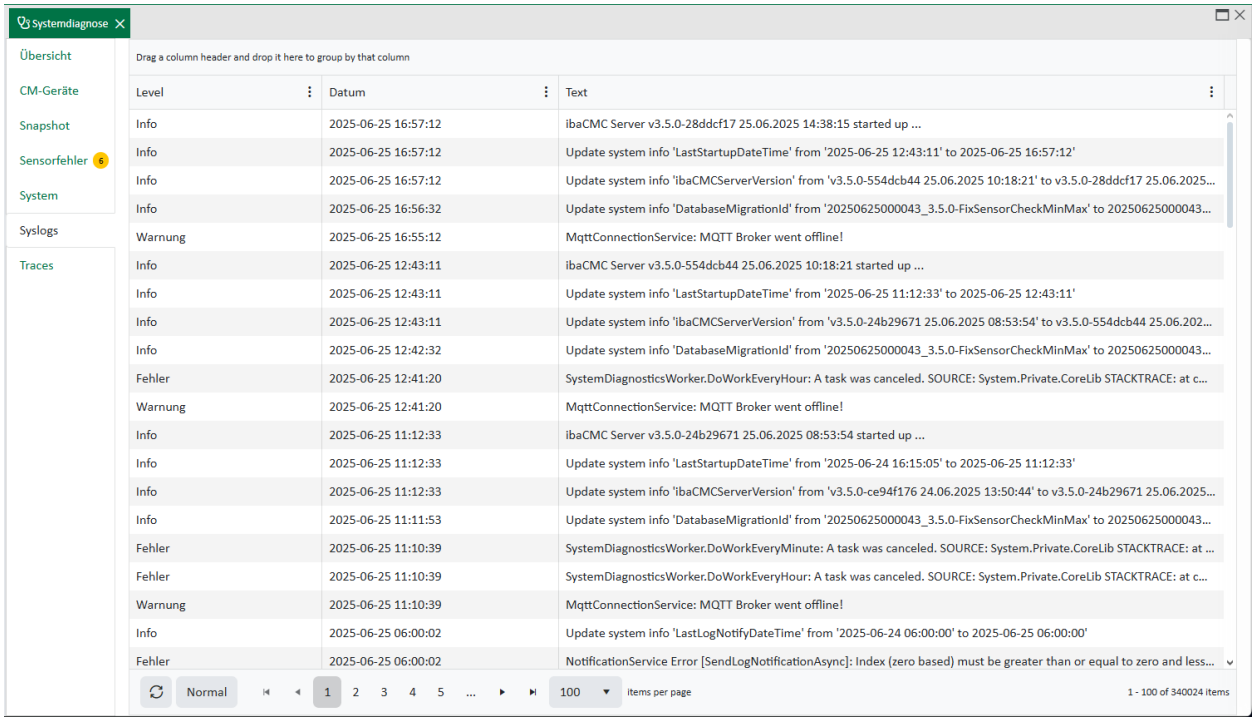
System shows an overview of all system related services, path access or disk space.



Syslog (For admins)

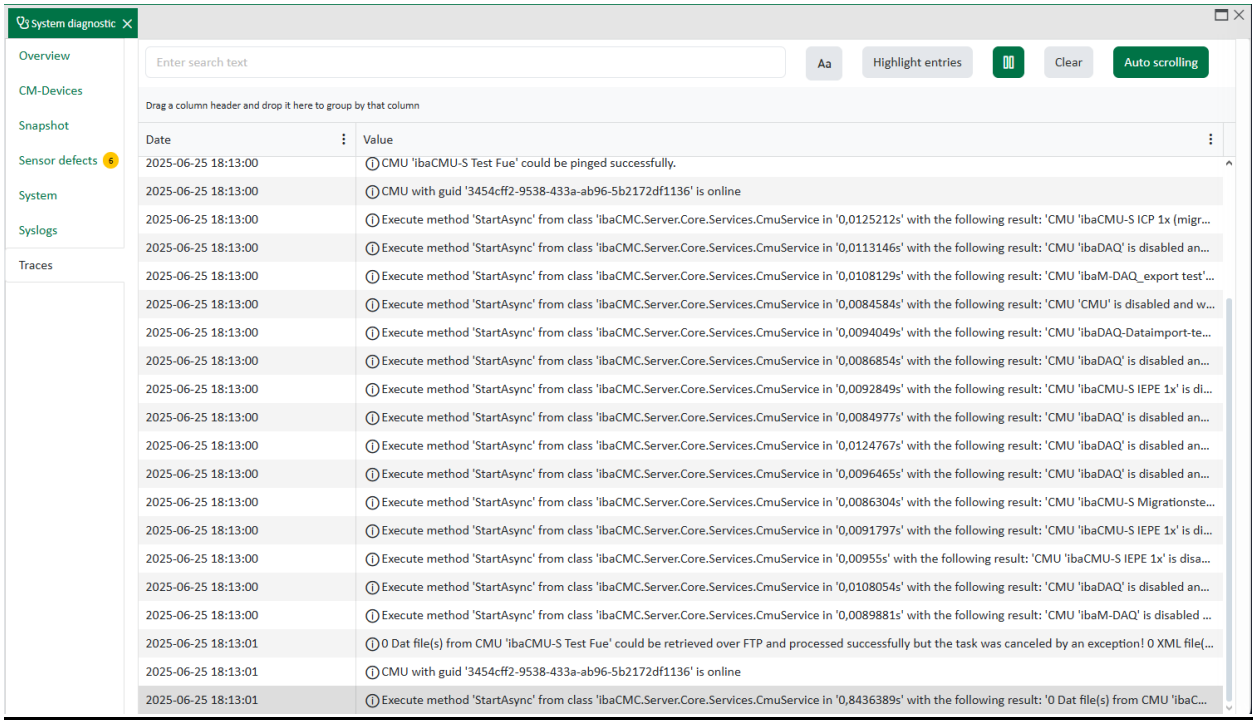
The syslog shows a list of all system related logs (except device logs and logbook entries) in one filterable list.

These logs are stored persistent in the database and will be deleted if older than 12 months by the cleanup task.



Traces (For admins):

In the traces tab you see live messages from the system.

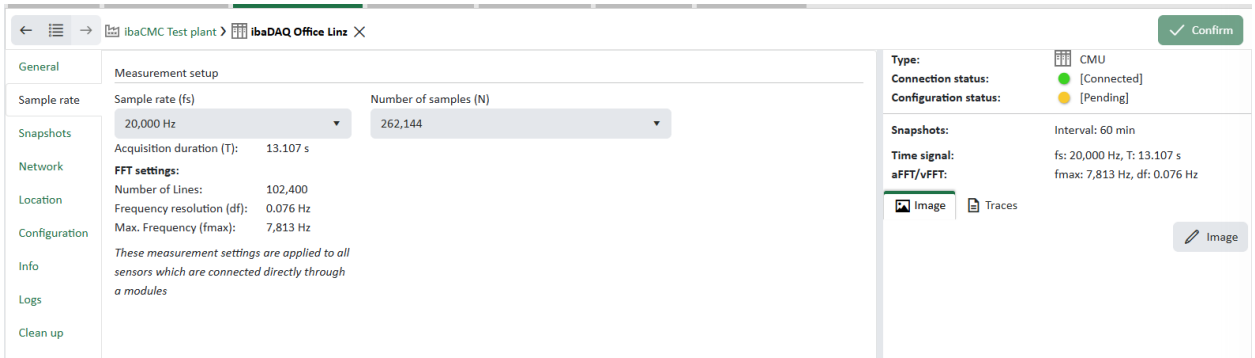


3.2 Redesigned CMU configuration tab

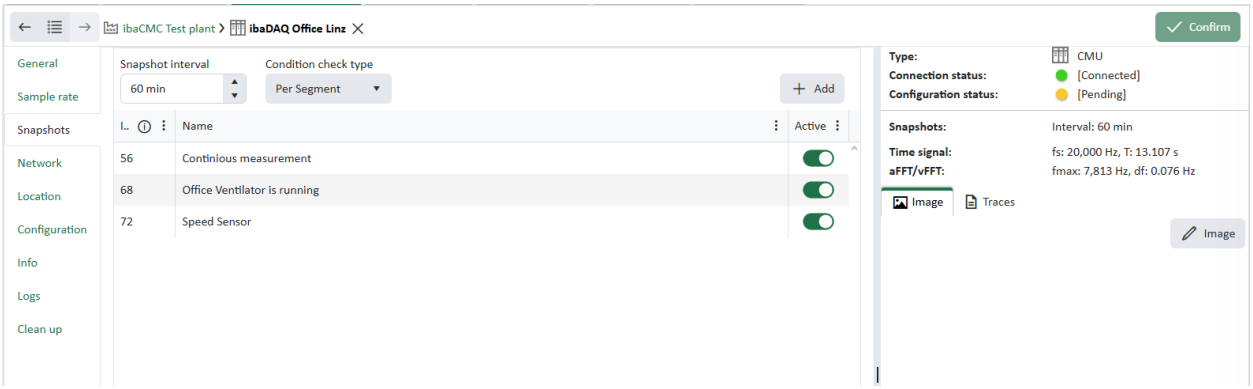
Due to usability reasons the CMU configuration tab was redesigned.

Now there is a separate Sample rate tab which two individual dropdowns for sample rate and Number of samples.

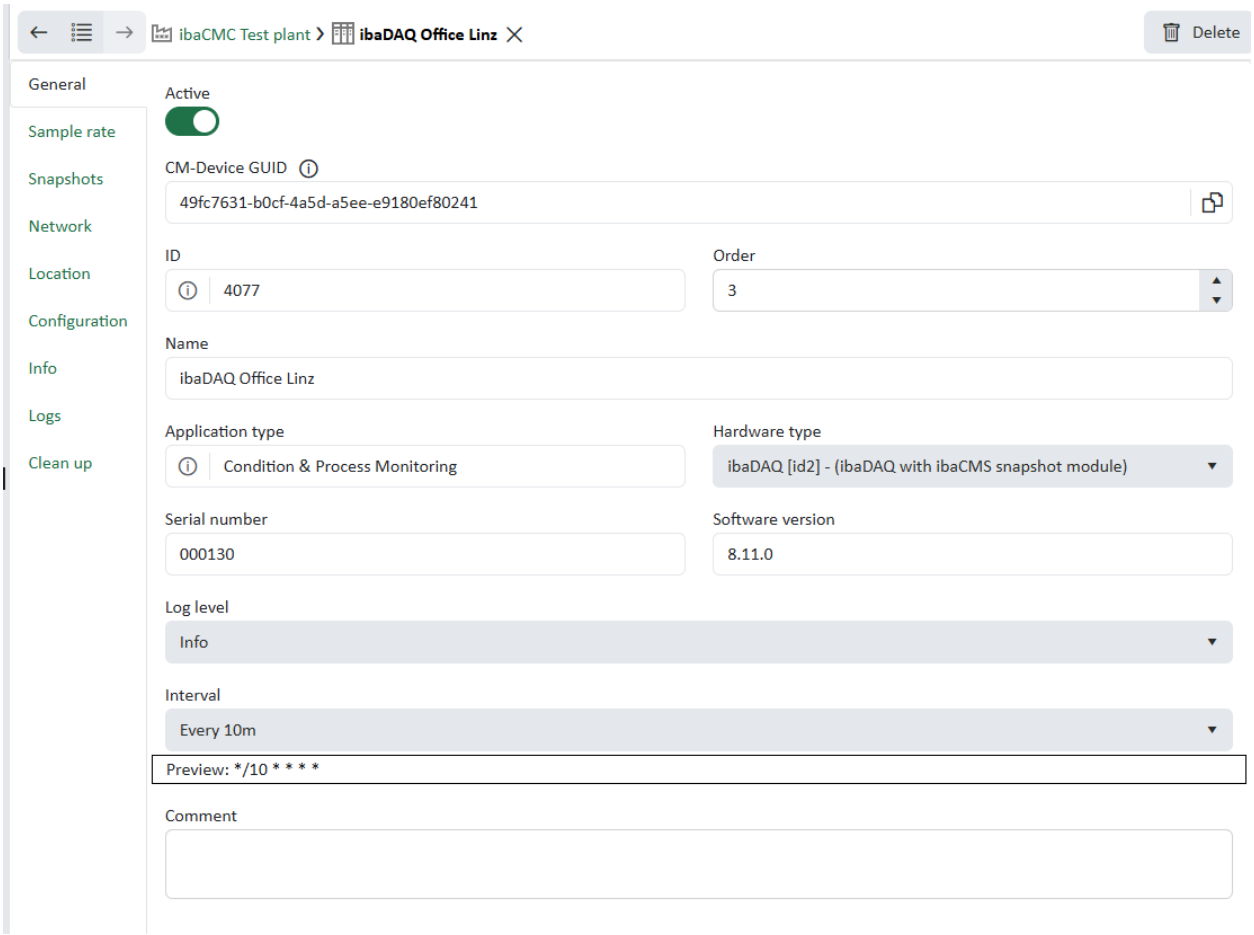
Below and on the right side all relevant information for the spectrum, time signal and snapshots are shown.



The general snapshot information was moved to the snapshot tab. The Interval is also shown permanently on the right side.



In the general tab the Import task interval can be configured now (was in the CM-devices list before).



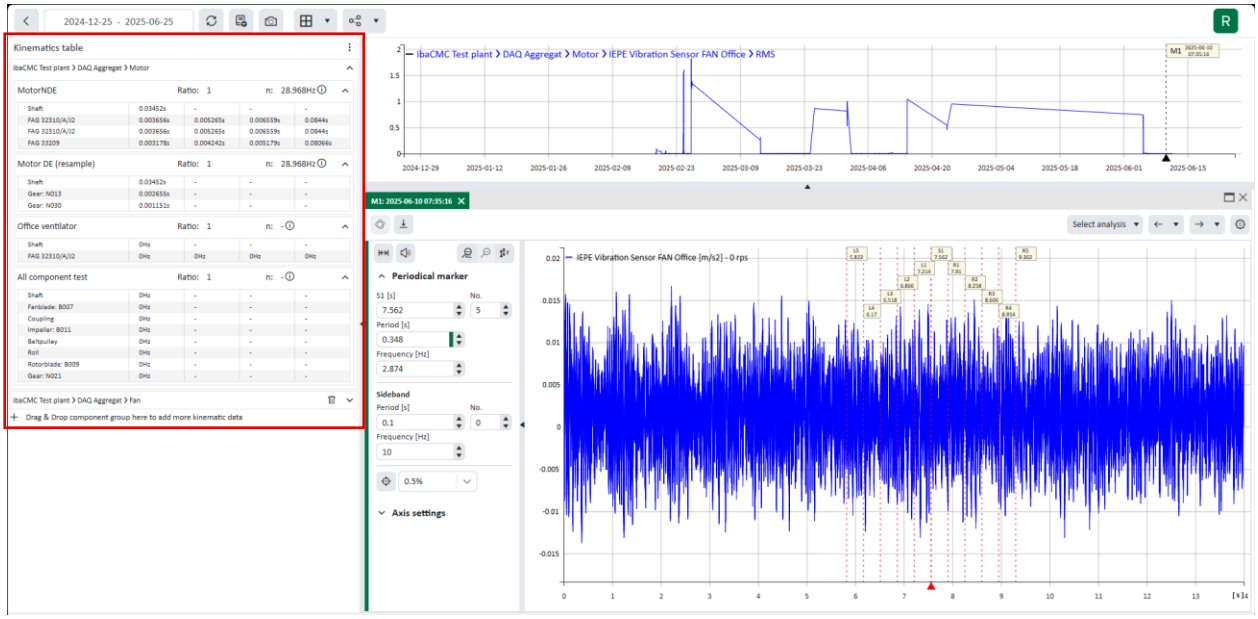
3.3 Load all aggregates of a aggregates group in the kinematic table

When you open a trend, all aggregates that belong to the corresponding aggregate group and meet the following conditions are loaded into the kinematics table.

- The **speed signal** of the component group is monitored by the **same Condition Monitoring (CM) device** as the one from which the trend was opened.

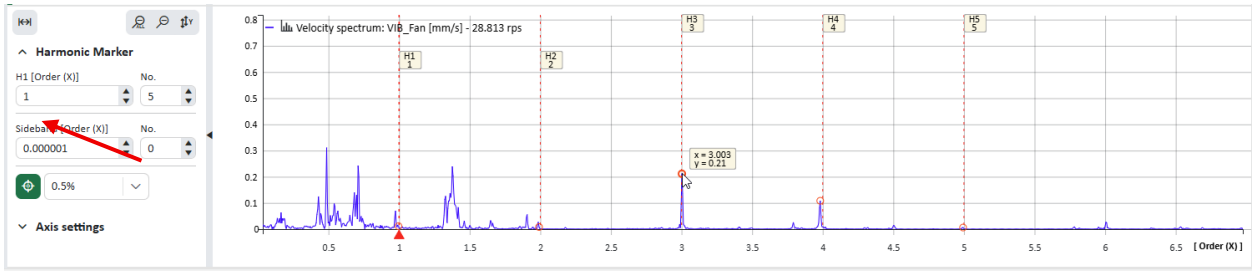
Within those aggregates:

- Only the **selected aggregate** (where the trend was opened) is automatically expanded.
- All **other loaded aggregates remain collapsed** by default. These can be also removed from the kinematic grid if needed.
- You can manually expand any of the collapsed aggregates as needed.



3.4 Show x and y coordinates in analysis chart tooltips

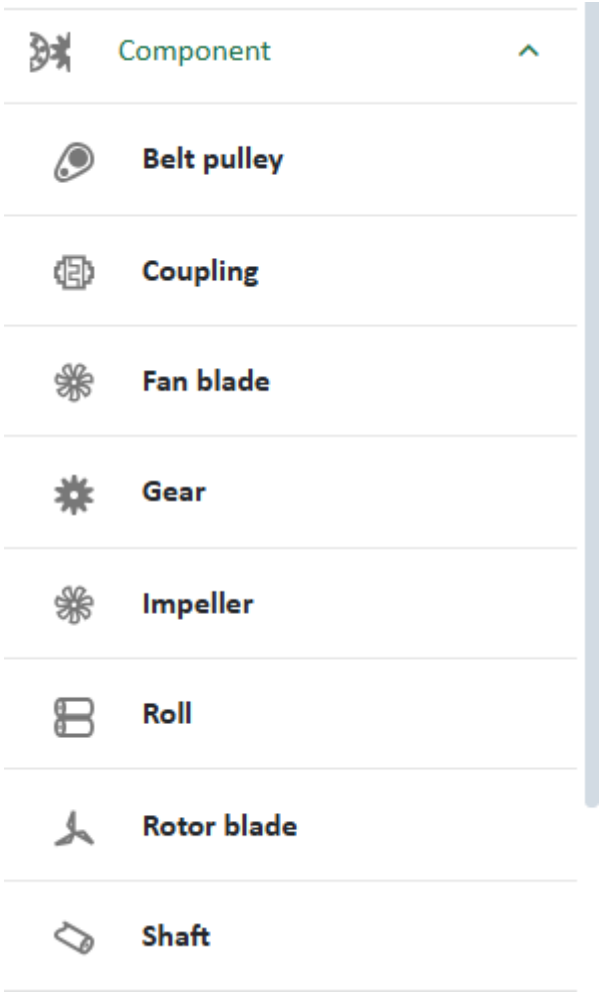
When cursor markers are active, hovering over a data point displays the corresponding X and Y coordinates.



4 Miscellaneous

4.1 Show icons for components and sensors in the component library

For better usability the icons which are used for the components in the plant tree are also used in the component library.

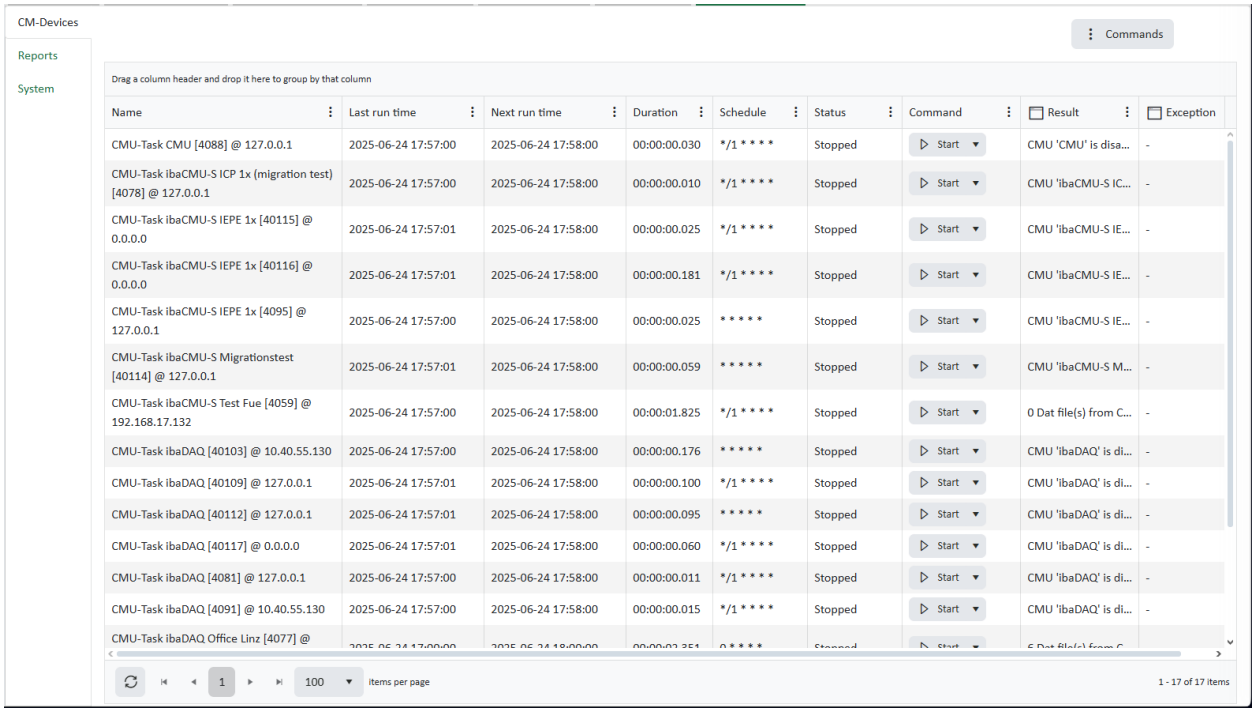


4.2 Show supported head stations for CMU-Modules

Now the supported head stations are shown in the library. Dragging a module on the wrong head station is not allowed.

4.3 Grouped tasks in tasks scheduler by type

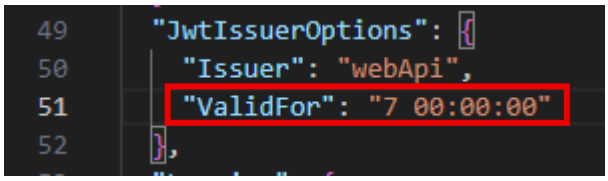
Different task types are now separated into multiple tabs to provide a clearer overview of all system tasks.
Additionally, a new **Commands** button allows you to enable or disable all tasks with a single click.

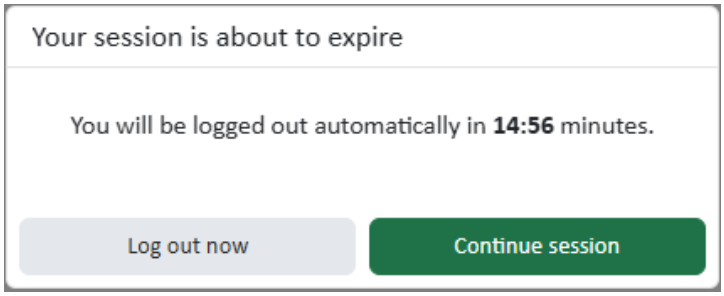


4.4 Authentication - Show dialog 15min before session expires

By default, after logging in, a user can remain logged in for **7 days** without needing to re-enter their credentials.
If the user is actively working and the session is about to expire, a dialog will appear **15 minutes before expiration**, allowing the user to either **extend the session** or **log out**.

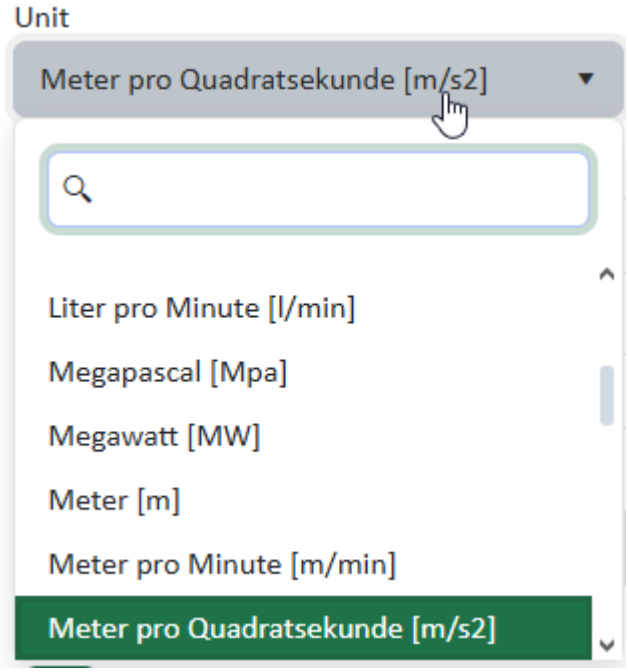
The expiration timeout can be set in the appsettings.json file with the JwtIssuerOptions.ValidFor.





4.5 Add search for short form units for all unit dropdowns

Now all unit dropdowns support search for short form and long form units at the same time.



4.6 Installer checks db_owner rights of database user before installation

The installer now checks also if the user has db_owner rights on the given database. If not, an error is shown. This prevents continuing the installation process and errors afterwards.

4.7 Add comment field and Id for snapshots

It is now possible to add comments for each snapshot. The snapshot Id is also shown now.