# New Features in ibaAnalyzer v8.3

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# Table of contents

# 1 Installer and help

With this version, ibaAnalyzer realizes the migration to the (iba-wide) new installer technology and help system. While this is a breaking change for the ibaAnalyzer installer, the usage and functionality is now basically the same as for other iba software tools.

## 1.1 New installer

If you have a ZIP file of the new software version (for example after download), unzip it into a (temporary) folder of your choice.

You will find the file in the "…\01_ibaSoftware\ibaAnalyzer" directory of the "iba Software & Manuals" data medium.

Execute the "ibaAnalyzerSetup_vx.y.z.exe" file and follow the instructions in the installation wizard.

If an older version of the software is already installed, you can simply install the new one. The older version of the program is automatically removed after a prompt and confirmation. The settings and configurations chosen with the older version are preserved.

**Note**

Some options only appear during the first installation and not for updating. If you manually uninstall ibaAnalyzer before installing the new version, the installation behaves like the first installation.

For installation, the following steps are required:

1. On the welcome page, check the version history file before installing the software.
2. Read and accept the license agreement.
3. Select the installation folder (first installation only)
4. Select the optional components to be installed
   - ibaDongleViewer
     This component provides information about the connected license containers. It is not required for ibaAnalyzer to work correctly.
   - ibaManagementStudioAgent
     If there is an ibaManagementStudio server available in the network you can manage this installation by ibaManagementStudio. You can enable this option in order to install the ibaManagementStudio agent. If this program is already installed on your computer or not required, you can disable this option.
5. Mode selection
   Select if you want to install ibaAnalyzer in 64-bit mode (the recommended default) or in 32-bit mode. The 32-bit mode is required if you need to use any of the following features: FDAS file format / BB Flashback player / PQDIF file format / Vista file format

6. Additional tasks page

   Select if Desktop Shortcut should be created during installation.

7. On the finish page, you can select to automatically start ibaAnalyzer after closing the wizard.

## 1.2 Installation via Command line

The installation of ibaAnalyzer can also be started via a command line.

The installation process can also occur in so-called ‘silent mode’ so that the interaction with the user (clicking the <Next> button in the installation wizard) is omitted. You can control how the installation is to go and which components are to be installed.

- “/HELP” command line switch

  This switch shows a message box containing all command line parameters.

- “/SILENT” command line switch

  This switch installs ibaAnalyzer in "silent mode", i.e., interaction is not required during installation.

  All installer pages are skipped except the Installing page showing the installation progress. The installer runs without specifying additional parameters, as if <Next> were always pressed in the dialog.

- “/VERYSILENT” command line switch

  Works like “/SILENT” but nothing is shown.

- “/SUPPRESSMSGBOXES” command line switch

  Suppresses all pop-up messages. Use this option especially in combination with /VERYSILENT to gurantee a completely GUI free installation.

- “/COMPONENTS=” command line switch

  Add the names of the components to be installed right after the equal sign in a comma-separated list. Only the components specified in the list will be installed.

  Possible options: ibdadongleviewer, ibamanagementstudioagent

- “/TASKS=” command line switch

  With this option you can decide if an ibaAnalyzer Desktop icon is generated during the installation (/TASKS=desktopicon or /TASKS=nodesktopicon)

- “/DIR=” command line switch

  Use this option to specify the installation folder, i.e. the program folder.

- “/LANG=” command line switch

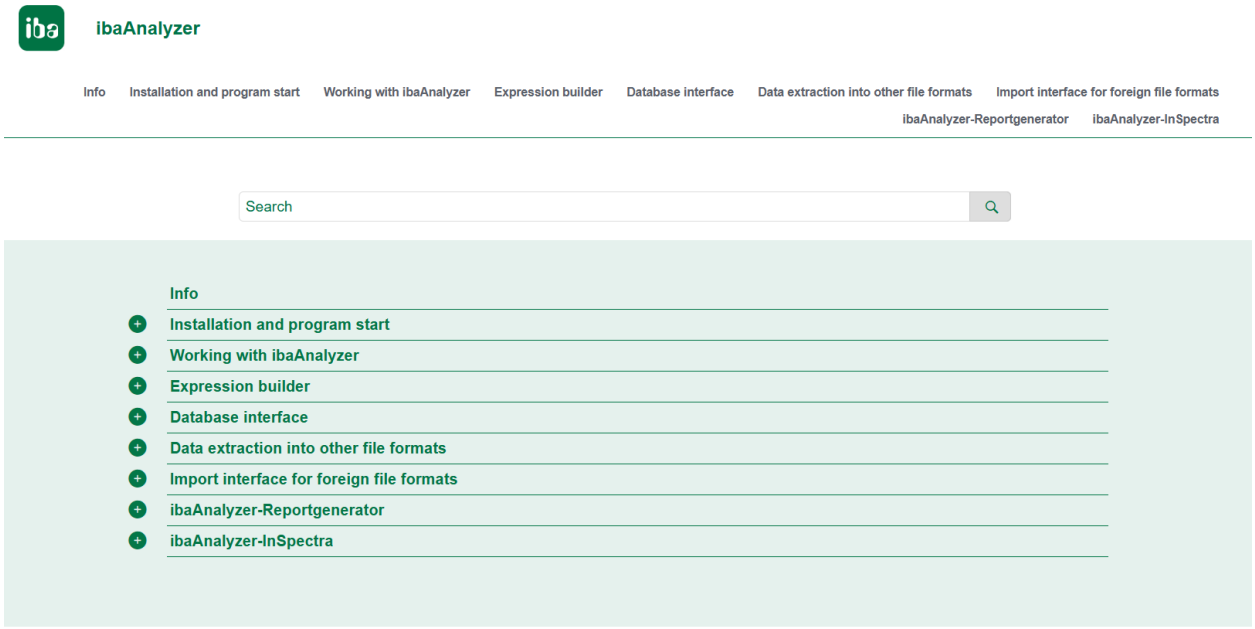
  Sets the language of the installer (by default, the language of the operating system is used). Possible options: de, en, es, fr, it, ja, pt, ru, zh

- “/ForceClientClose” command line switch

With this switch, running ibaAnalyzer instances (which would block the installation otherwise) are forcefully closed in order to enable the installation. Note that data can get lost for the forcefully closed instances.

## 1.3 Html5 manual integrated

The menu item “Help” in the menu “Help” shows a new offline browser-based manual for ibaAnalyzer. Anywhere in ibaAnalyzer you can press F1 to open the help in the default browser.

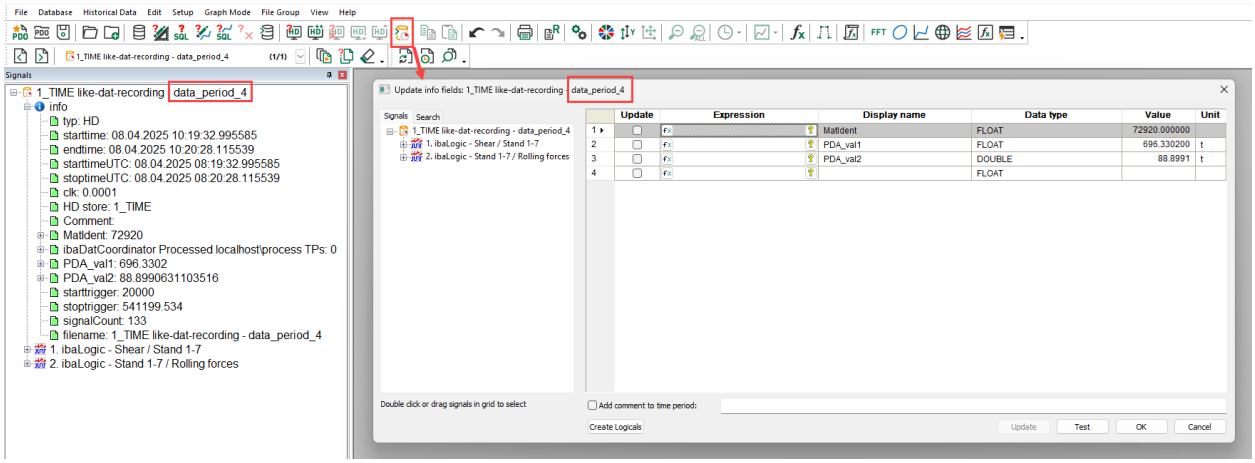


# 2 Working with ibaHD-Server

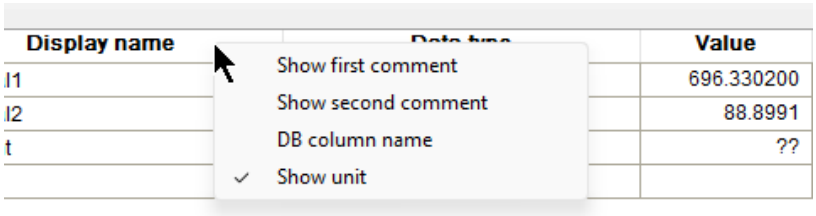
## 2.1 Time period updates

Up to now, time period info fields could be written by ibaPDA only during the initial creation of time periods. ibaAnalyzer has been extended to be able to update existing info fields and also add new info fields.

Whenever a time period is available in the file tree, the new “Update info fields” dialog for time periods is available. It can be used to update the currently selected time period.

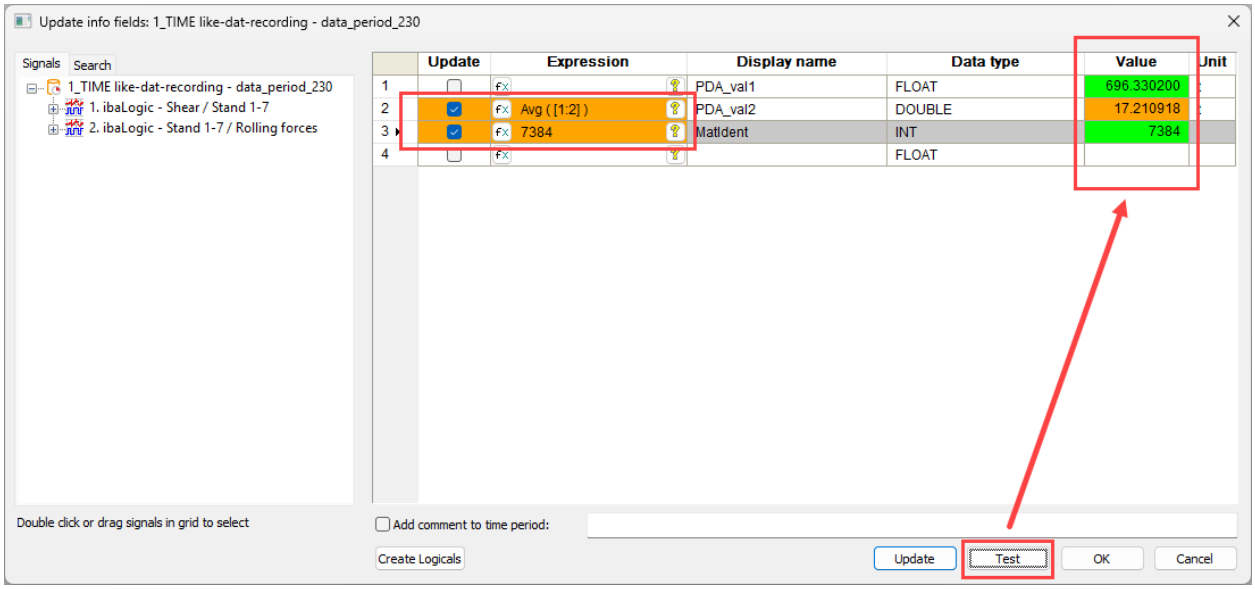



The dialog lists all available info fields of the time period store and shows the corresponding values for the currently selected time period. Fields without values are usually indicated by questionmarks ‘??’. Several columns can be shown and hidden to make more space for other columns.




Metadata like display name, column name, comments, unit, and data type are shown but cannot be changed for existing info fields. The value of the fields can be changed by checking the update checkbox, entering a suitable expression, and pressing “Update”. When pressing “Update” all values with the update checkbox activated will be updated using the corresponding expression. Existing values are overwritten.

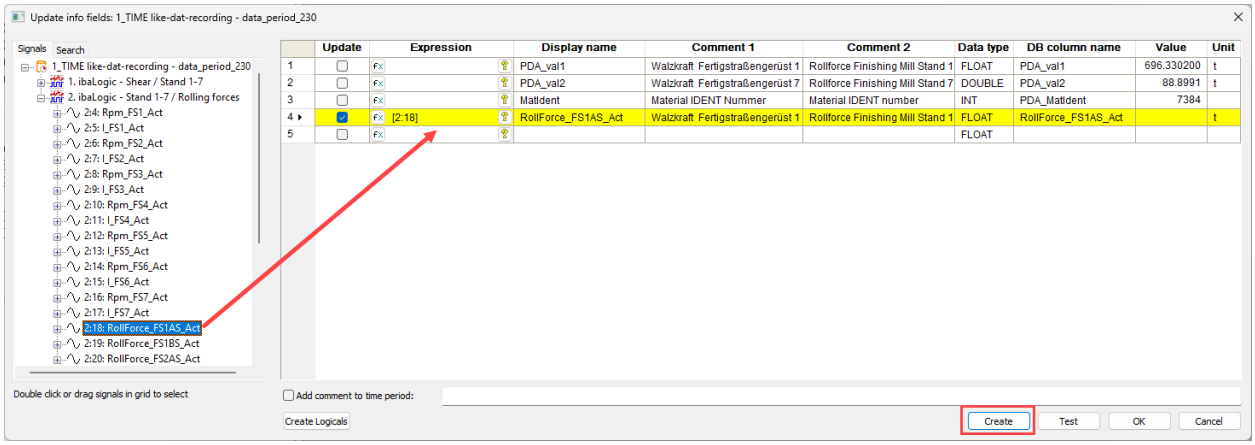
Any change made during the current session is marked in orange, the only exception are newly added columns, see below. A test button is available which shows the values after update. Unchanged values (no matter if they’re actively written or not) are shown in green and changed values in orange.

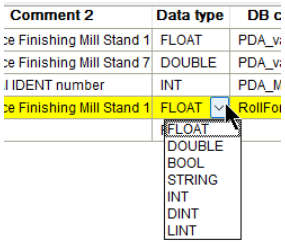



An additional option to add a comment to each time period is available. The field requires text input and does not support any expressions. For dynamic values, creating an additional STRING value is recommended.

### Creating new values

New values can be added to the time period store with this dialog as well. Just drag and drop any signal from the signal tree on the left to the empty column at the bottom of the table to auto fill all available information including meta data. Of course, manually adding new lines is possible as well. New info fields, which are not yet stored in the time period store are shown in yellow. For these lines, meta data such as comments, units, and datatype can be changed as long as the info field is not yet created on the HD side.



If there is any such unapplied value configured, a “Create” button is available. After the creation, the value behaves like the other existing fields and only the value can be updated. Note, however, that the initial creation already writes the configured value for the currently opened time period.

The creation of new values is a one-time action. After the value has been created, it is available for every time period within the same time period store and can be updated by ibaAnalyzer as described above. Especially for the automation with ibaDatCoordinator, the required values need to be created manually via ibaAnalyzer and can then be automatically updated using ibaDatCoordinator.

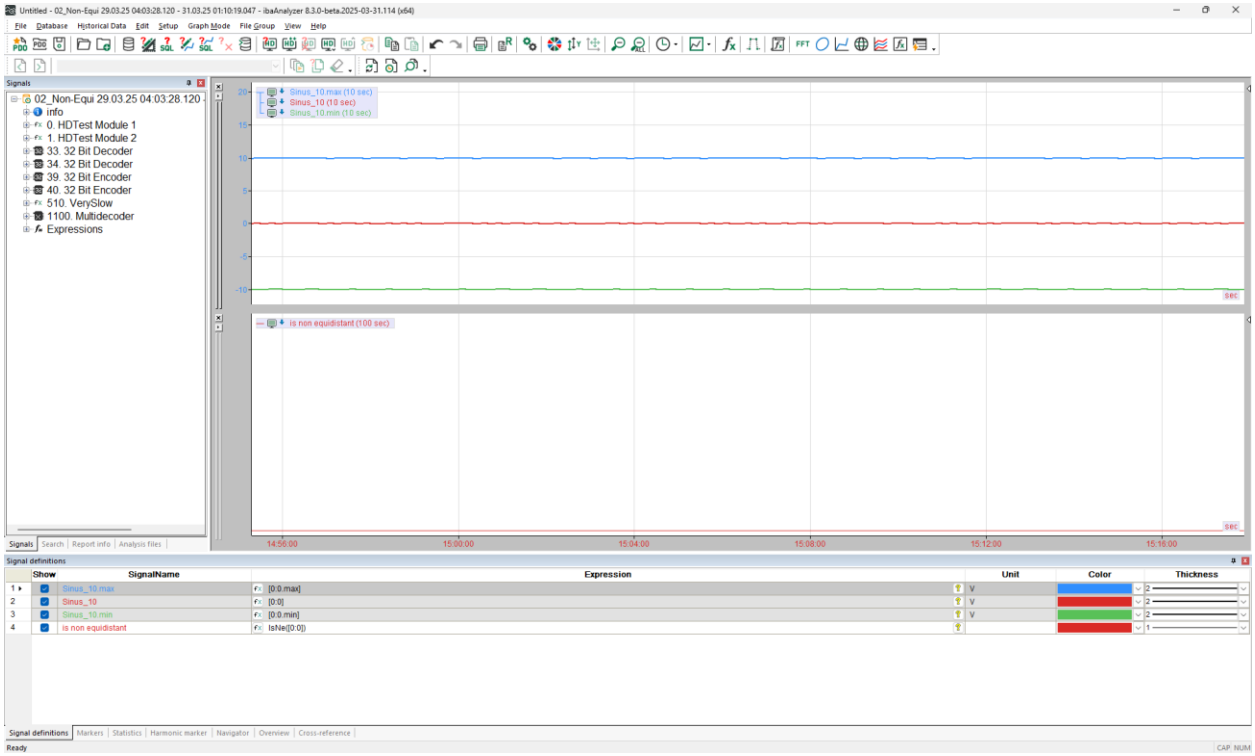
## 2.2 Support for non equidistant data from ibaHD-Server

With ibaPDA v8.9.0 and ibaHD-Server v3.4.0 it is possible to write non-equidistant time-based data to ibaHD-Server. Note that only the raw data are stored as non-equidistant data and the aggregation layers actually contain equidistant data with a configurable timebase.

The support to query such non-equidistant signals with ibaAnalyzer has been added in version 8.3.0. In daily use, you will hardly notice any difference in working with such signals.

### Query data

When queried on an aggregation layer, data are simply equidistant and provide meaningful min and max channels. With the function “IsNe()” it can be checked that the signal actually is equidistant as the result is false.

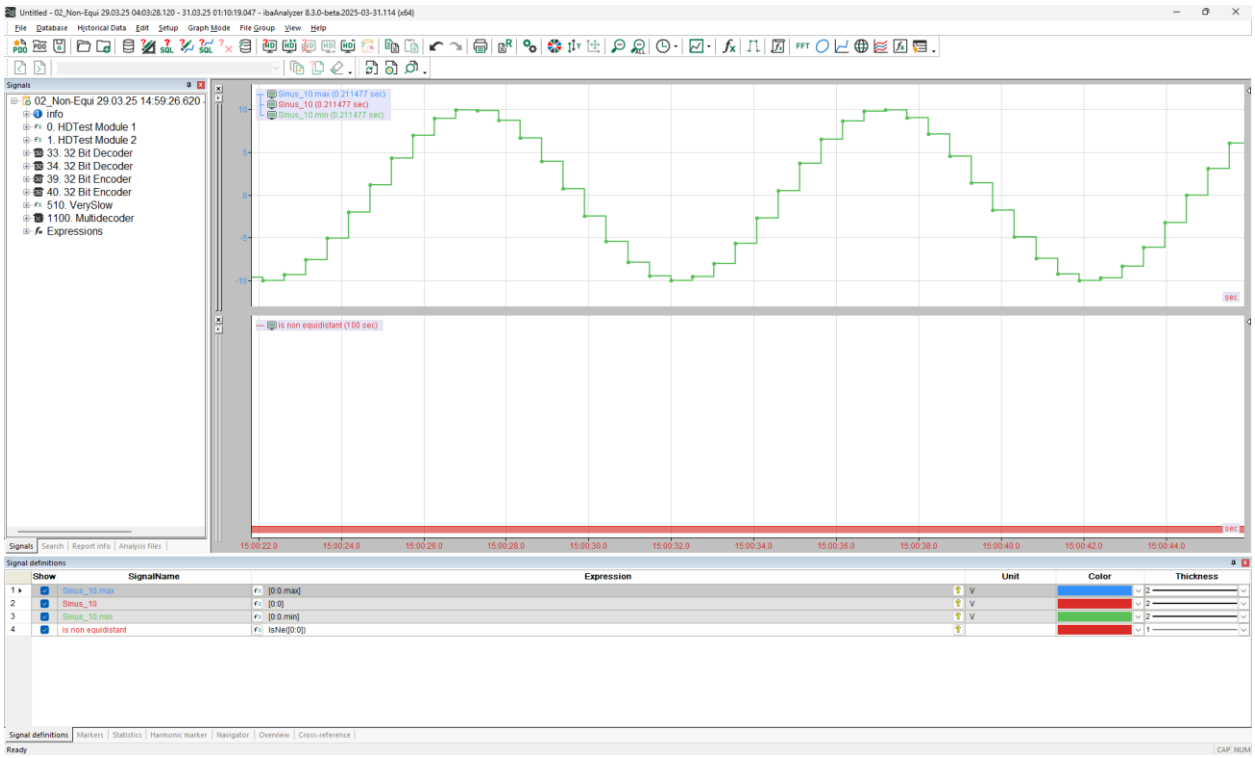



After a drill-down to the raw level, there are some differences.

First, the time-base reported for the signals (including the subchannels) is the smallest distance between two datapoints as usual for non-equidistant signals.

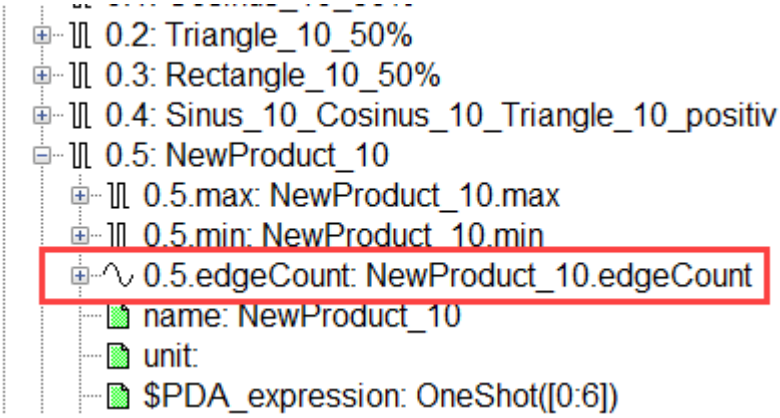
Further, as usual, the raw data coincide with the reported min and max channels.

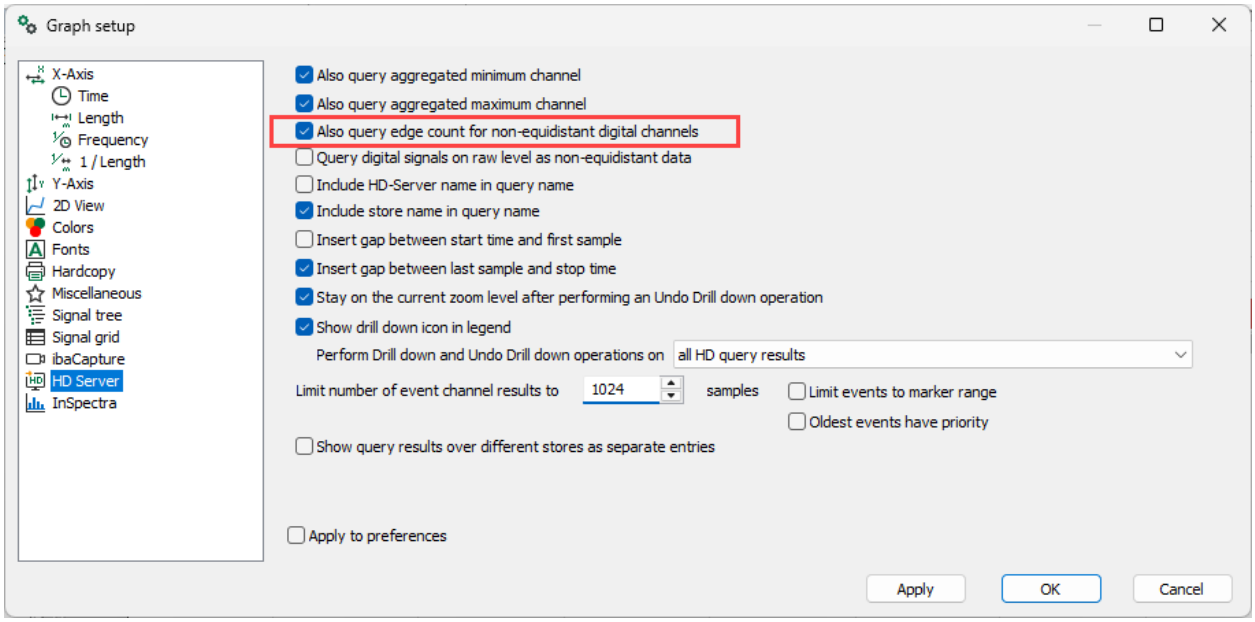
And finally, the non-equidistant signal is automatically shown in the mode “Staircase” and the “IsNe()” function returns true.



## edgeCount subchannel for digital signals

Digital signals, which have been recorded with a non-eduidistant profile, can provide an additional edgeCount subchannel. The channel returns the number of edges within the aggregation time period of each sample. Like for the min and max channels, it can be configured in the settings for ibaHD-Server if the channel is shown or not.





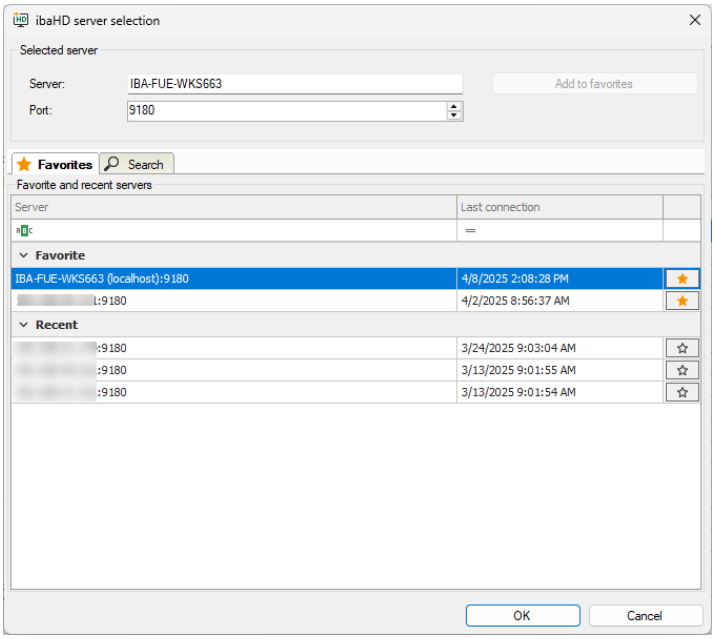

Note that all subchannels are hidden for digital signals if the option “Query digital signal on raw level as non-equidistant data” is active. This option actually searches for edges of the signals and works for all types of digital signals.

## 2.3 Server connection dialogs

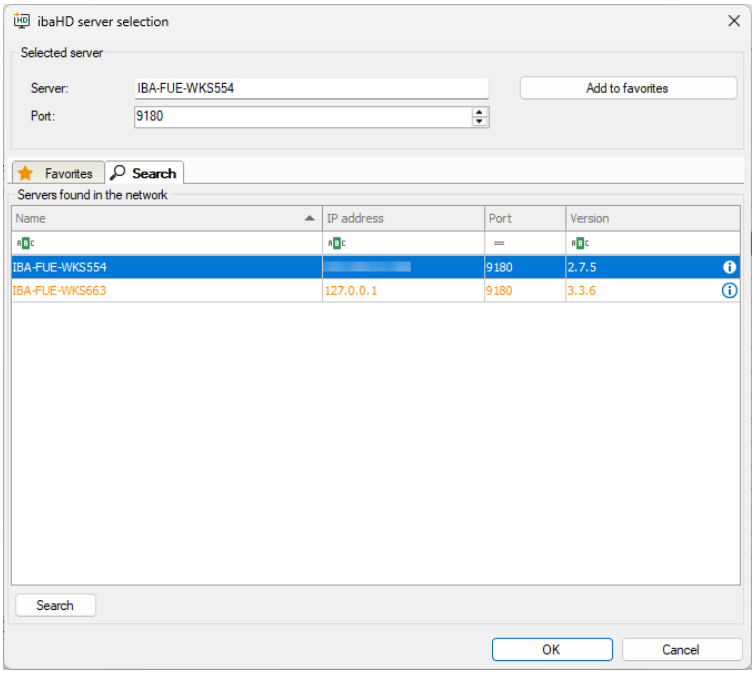
The ibaHD server selection dialog has been updated. The concept of favorites was introduced. That means that certain servers can be marked as favorite, making it very easy to connect to them.

The dialog consists of two tabs

In the first tab named “Favorites”, not only the favorite servers are visible, but also the servers the client was connected to in the past. The 10 most recent servers are remembered.



In the second tab named “Search”, all servers that are discovered in the network are displayed. The search is triggered automatically if you open the dialog and can be retriggered by pressing the “Search” button. The search takes 3 seconds.




There are several ways to mark a server as favorite:

- Click on the yellow star on the right, in the table on the favorites tab.
- Click the “Add to favorites” button in the search tab, to add the selected server.
- Use the context menu, in the table on the search tab.

You can only mark a server as favorite, if it is not marked as favorite yet. The favorites are remembered even if you close the dialog with cancel.

You can select a server by clicking the “Connect” button, but also by double clicking a server in one of the tables. The text color of the servers in the table on the search tab has a specific meaning:

- Black: Connecting to this server is possible.
- Orange: The server version does not support all the features required by the client. However, connecting to it is still possible.
- Red: Connecting to this server is not possible, e.g. when the server version is too old.

# 3 Transcoding ibaCapture video during export

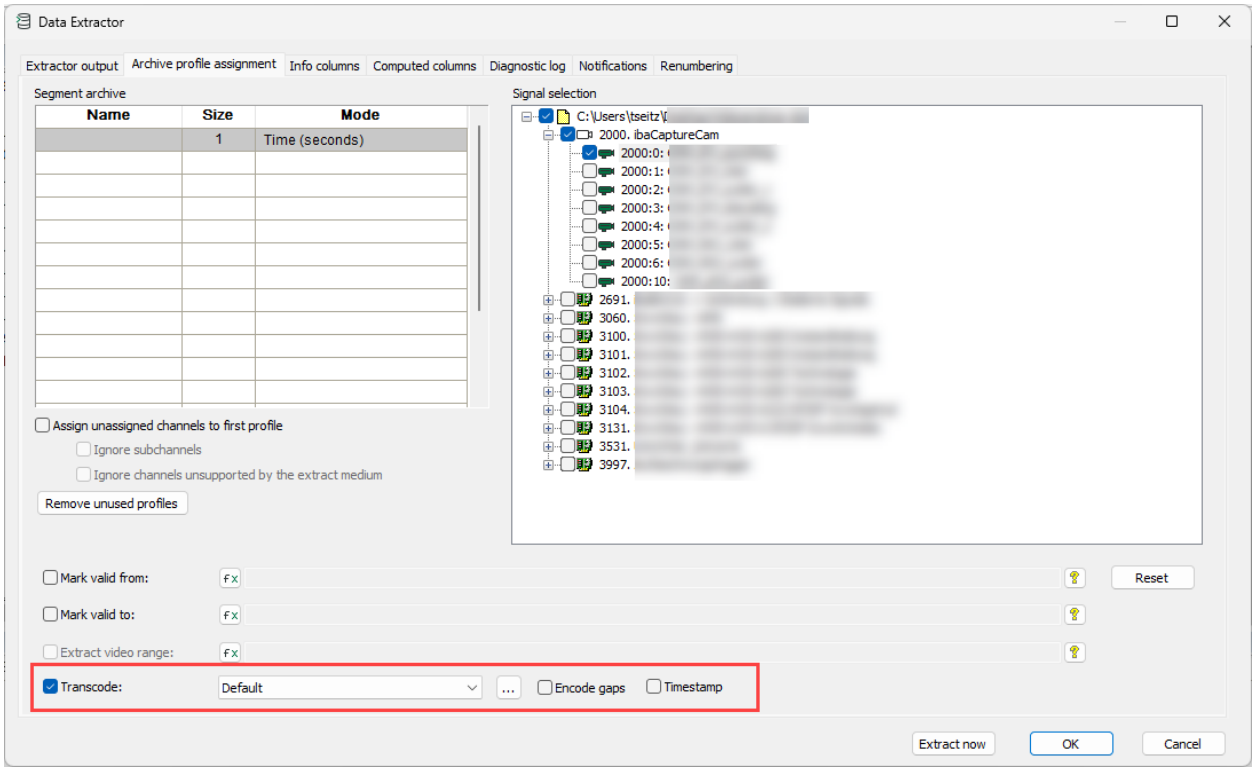
Beginning with v5.3.0, ibaCapture supports transcoding of stored video to different resolutions, formats and quality when exporting it to a file. This functionality is now available in ibaAnalyzer. It can be used to archive video in a more compact format (e.g., a lower resolution, lower bitrate or with the more efficient H265 encoding). Transcoded ibaCapture-ScreenCam video does not require a special ibaHMI filter for playback of the files and transcoding makes it possible to export video with overlay images by burning-in the overlay on each frame.

Since transcoding happens on the client side, the system that is initiating the export should have a supported NVIDIA or Intel GPU available for better performance.

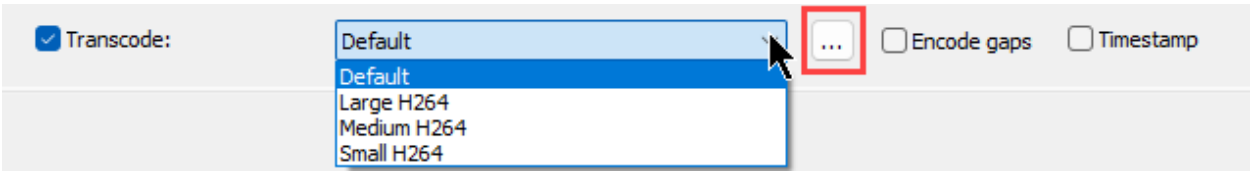
## 3.1 Configuring the export settings

To use the transcoding feature, one can either use standard pre-defined encoding profiles or create custom ones. Custom profiles must be created on the ibaCapture server, using ibaCapture Manager. See the ibaCapture manual for details.

To enable transcoding, the “Transcode” checkbox must be selected in the Data Extractor. Whether the video is transcoded or not can be specified individually for each Archive profile. Checking the “Transcode” checkbox initiates an attempt to retrieve all available encoding profiles from the ibaCapture server of each camera. If no server is available, only the default encoding profiles will be shown.

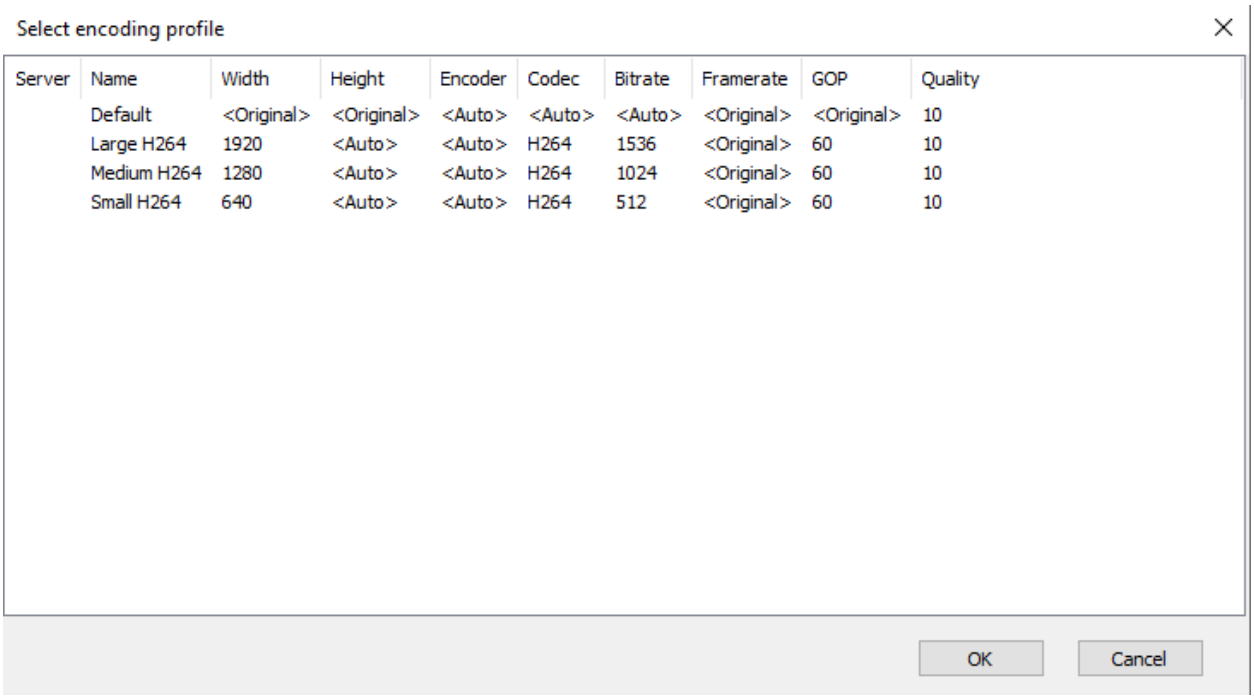



Select one of the available encoding profiles from the list.




- The “Encode gaps” option will encode gaps in the recorded video as video frames in the exported file. If not selected, the gaps will be written as skips.
- Selecting the “Timestamp” option will add a timestamp overlay to the video.
- Clicking the marked button will open a dialog box with more detailed information for each profile.

See ibaCapture documentation on each parameter for a detailed explanation.



# 4 New functions

## 4.1 IsNE

```
IsNE(Expression)
```

### 4.1.1 Description

Returns `TRUE` if the data loaded by evaluating `Expression` is non-equidistantly sampled, `FALSE` otherwise. As mentioned in paragraph 2.2, this function is particularly useful with the new non-equidistantly sampled HD data, however, it functions as well with other data sources (e.g. signals from .dat files, results of the `XY` function).

## 4.2 DynSignal

```
DynSignal(TextExpression)
```

### 4.2.1 Description

This function enables dynamically evaluating a text as an ibaAnalyzer expression. '`TextExpression`' must be an expression that evaluates to a single text that ibaAnalyzer will try to interpret as a new expression. IbaAnalyzer will subsequently return the signal obtained by evaluating the new expression. A typical envisioned use-case is generating a valid signal ID in order to load signals in the opened data file, consisting of `[module number:channel number]` for analog signals or `[module number.channel number]` for digital signals.

The function may be used particularly in conjunction with the measurement point concept related to iba's energy applications. Different metadata, which are stored in a structured form in the info area of the data file, can be retrieved for analysis. The contents of this metadata is the module number where the value of the corresponding measuring signal is stored in the data file.

This facilitates standardizing a measurement point analysis even if the I/O configuration differs from plant to plant.

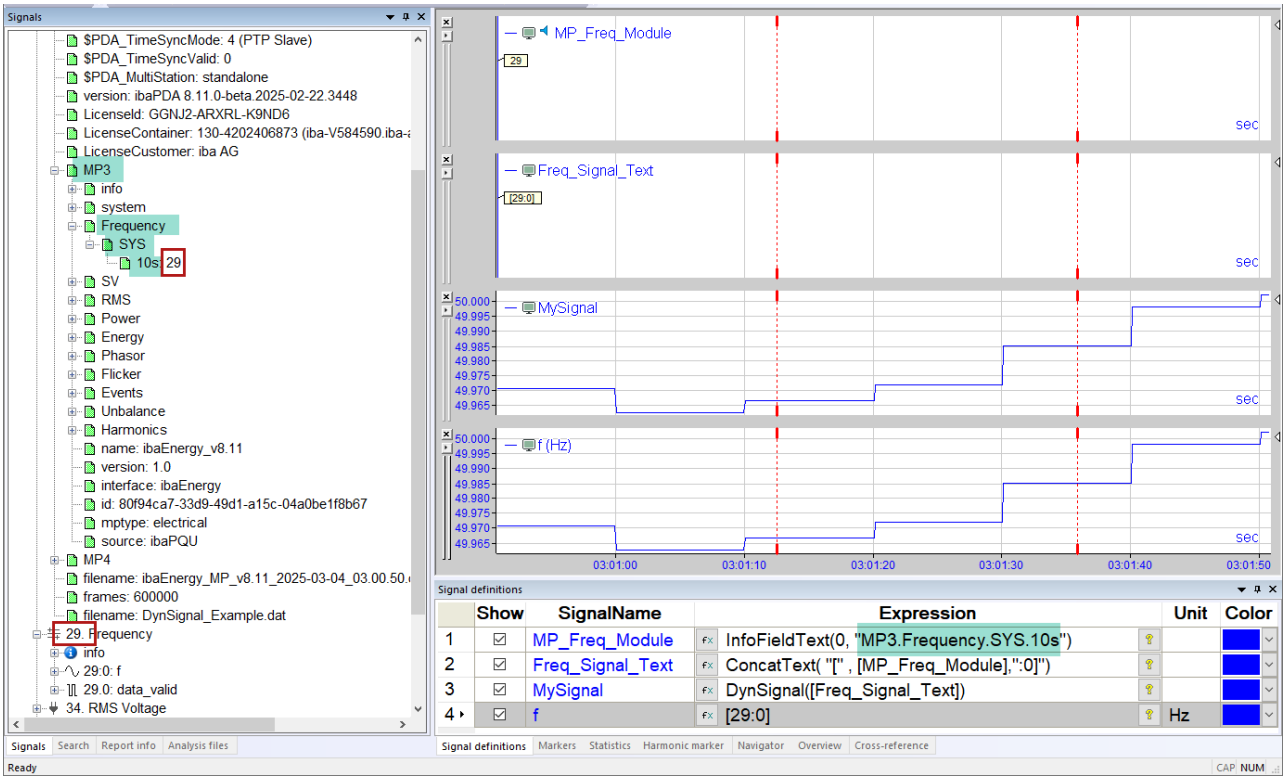
### 4.2.2 Example

The task is to determine the calculated 10s-value of the frequency of a measurement point. The module number where this value is stored as a signal can be found in the info field as follows:

```
Measuring point.Frequency.SYS.10s
```

The following example shows how to determine the 10s frequency value in measurement point 3 (MP3).

The measured value is stored in channel 0 of module no. 29 and has the ID [29:0].




The determination is done in three steps, according to the three rows in the signal table:

1. Retrieving the contents of the info field *MP3.Frequency.SYS.10s* by using the *InfoFieldText*-function. The result "29" will be buffered as text signal *MP_Freq_Module* (see topmost trend graph).
2. In order to form the correct signal ID, create a string of the character "[", the text signal *MP_Freq_Module* and the characters ":0]" by using the *ConCatText* function. The concatenated string "[29:0]" will be buffered as text expression *Freq_Signal_Text* (see second trend graph from top).
   For the channel number entry (here: ":0") you may use wildcards. For instance, if you enter ":*", then all analog signals of the module will be returned like a vector.
3. Finally, the function *DynSignal* interprets the text expression *Freq_Signal_Text* as signal ID like [module number:channel number] and uses its value for the signal *MySignal* (see third trend graph from top).
4. At this stage, the display of the signal [29:0] is just shown for validation. This value is the same as the value of *MySignal*.

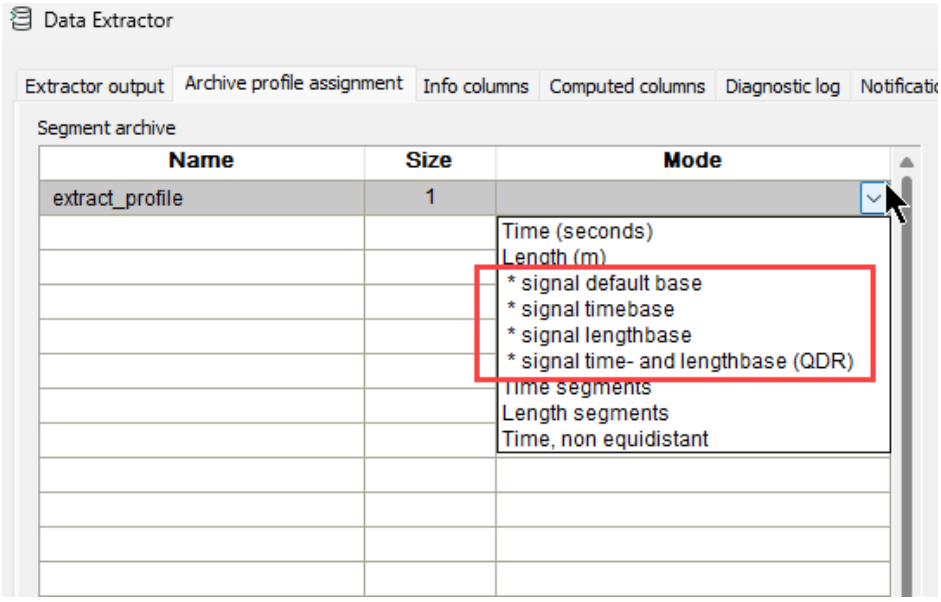
# 5 Miscellaneous

## 5.1 New data extraction profiles

The data extractor profiles contained “* signal timebase” profile which corresponds to “as is” and used to work for time and length-based data. This profile was renamed to “* signal default base”. Existing pdo’s now use this profile automatically.

Additionally, new profiles “* signal timebase” and “* signal lengthbase” were added. These profiles work in the same way, however, they only extract time or length-based data respectively. Signals which do not provide such data will report an error with missing data.

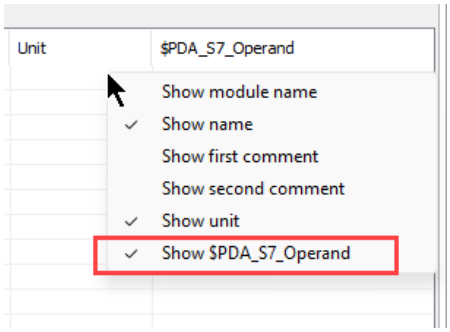
As QDR files can contain signals which do have time- and lengthbased data at the same time, a new profile “* signal time- and lengthbase (QDR)” was introduced. This profile currently works for extracting QDR-files to new dat-files only. The resulting file will then contain signals with time- and lengthbased data at the same time like the original file.




## 5.2 S7 Operand in search

For signals acquired from S7 PLCs, the S7 Operand name is usually reported as an additional info field. The search tab in the signal tree has a new option to search within these fields and can show the S7 Operand as part of the result list.

The columns to be shown can be activated/deactivated via the context menu.




## 5.3 Windows Server 2025 compatibility

ibaAnalyzer v8.3.0 has been tested to run under Windows Server 2025 and it was added to the list of supported operating systems.

The following operating systems are currently supported:

- Windows 10 (x86/x64)
- Windows 11 (x64)
- Windows Server 2016 (x64)
- Windows Server 2019 (x64)
- Windows Server 2022 (x64)
- Windows Server 2025 (x64)