

THE MEASURABLE DIFFERENCE.



DEWETRON

# OXYGEN TRAINING

- > DATA ANALYSIS
- > POST-PROCESSING
- > REPORTING

# CONTENT



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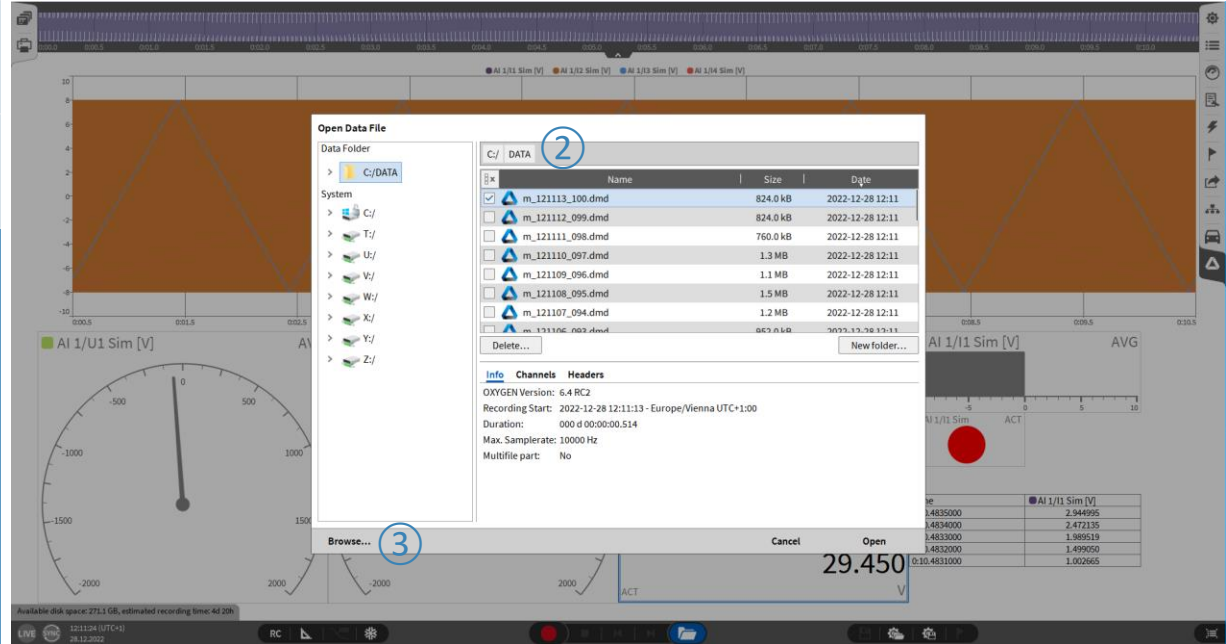
- > Opening data files
- > Data export
- > Recorder functionalities
- > Offline Math
- > Copy & Paste data to 3rd party software
- > Reporting
- > OXYGEN VIEWER mode
- > Open multiple \*.dmd-files



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# OPENING DATA FILES

- 1 Press the *Open Data File* button
- 2 Select the desired file from the dialog and press *Open*
- 3 Windows file browser can be accessed by clicking on *Browse...*



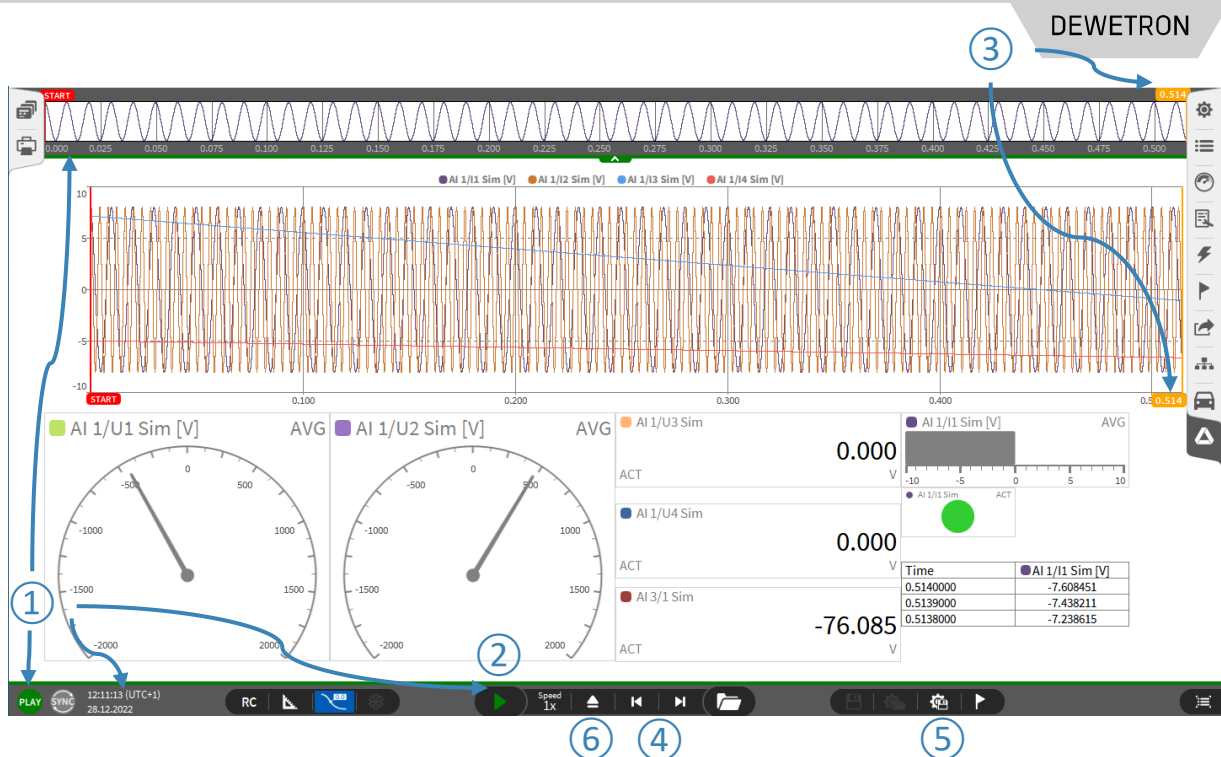
1



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# OPENING DATA FILES

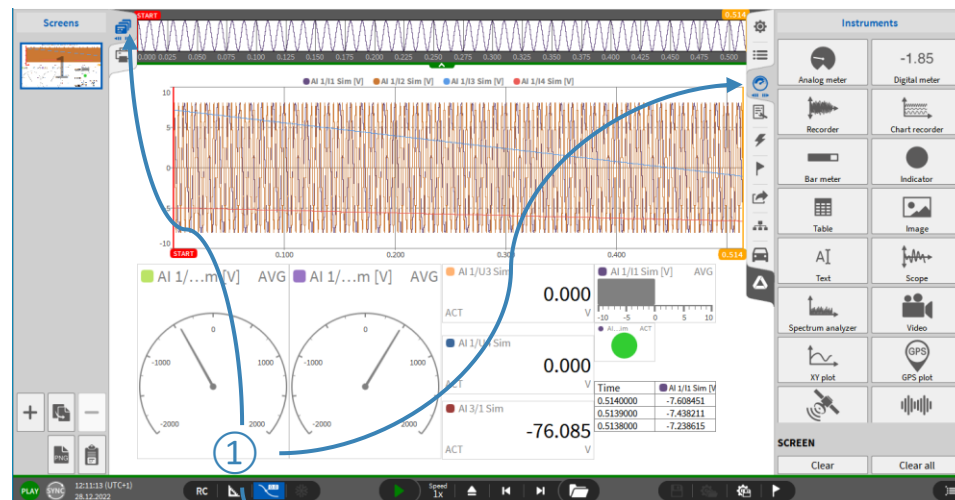
- ① Different hints indicate that a data file is loaded:
  - > PLAY indicator
  - > Green line on top & bottom of screen
  - > *Play* button instead of *Rec* button
- ② Pressing the *Play* button starts or pauses the file replay
- ③ The orange cursor in the Overview bar or in a Recorder can be moved to a certain position in the file
- ④ The *Fast Forward* and *Reverse* button can be used to jump through the file in 5 sec steps
- ⑤ The measurement setup can be extracted and stored to a dms-file with the *Store Setup* button
- ⑥ File can be ejected to return to the measurement mode with the *Eject* button





# DISPLAYING ADDITIONAL CHANNELS

- ① Design mode is still accessible to add more screens or place additional instruments on the screen
- ② Other channels can be added to the instruments as well. The fact that channels are not displayed does not mean they are not stored
- ③ All channels activated for storing are available in the data file and can be displayed and analyzed by dragging and dropping them into an instrument



This screenshot shows the 'Data Channels' and 'Instruments' panels. The 'Data Channels' panel lists various channels under different device categories like 'TRION3-1820-POWER-4' and 'TRION-1620-ACC-6-BNC'. A blue arrow labeled '2' points from the 'AI 1/I1 Sim' channel in the 'Data Channels' panel to the 'AI 1/I1 Sim [V]' instrument in the 'Instruments' panel. Another blue arrow labeled '3' points from the 'AI 1/I1 Sim' channel in the 'Data Channels' panel to a waveform plot in the 'Instruments' panel.



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# How to export data

- 1 Open a data file
- 2 Go to the Export menu
- 3 Select the export file format:  
\*.txt, \*.csv, \*.mdf4.0/4.1, \*.mat, \*.xlsx,  
\*.dmd, \*.rsp (rpc III), \*.wav
- 4 Select the channels to be exported
- 5 Choose between different file format dependent options
- 6 Press the export button to specify a filename and folder

The screenshot shows the DEWETRON software interface. The main display area features a 2D heatmap plot titled 'MatrixSampler\_1 [%]'. The x-axis is labeled 'n\_mech\_0 [rpm]' and ranges from 200 to 3000. The y-axis is labeled 'M\_mech\_0 [Nm]' and ranges from 0.00 to 0.20. A color scale on the right indicates values from 0 to 100. Below the plot, there are four data readouts: 5.4 W ACT, 571 rpm ACT, 0.09 Nm ACT, and 56.4 % ACT. The 'Export Settings' panel is open on the right side, showing the following options:

- Format: Comma separated values (\*.csv)
- Export active record region:
- CHANNELS: Search... (CAN, Analog, Digital, Counter)
- TRION3-1810M-POWER-4
  - AI 1/1:
  - AI 1/2:
  - AI 1/3:
  - AI 1/4:
  - AI 1/U1:
  - AI 1/U2:
- OPTIONS
  - Decimal separator: .
  - CSV delimiter: ;
  - Decimal precision: 12
  - Separate header row for units:
  - Use absolute timestamps:
  - Align 0-time to trigger:
  - Waveform:
  - Fill data gaps:
  - Statistics:
- Buttons: Export..., Batch export...



# EXPORT OPTIONS

- 1 Default Export folder can be specified in *OXYGEN Setup* → *Storing & Filename*
- 2 Reduced the sample rate of exported channels
- 3 Waveform exports the recorded data
- 4 Statistics exports additionally average, minimum, maximum and root mean square of the data with a window length defined in the trigger settings
- 5 To automatically export the measurement file to the selected folder

Oxygen Setup Storing & Filename

DATA STORING

Data folder: C:/DATA/ [Browse...]

Export folder: C:/Users [1] [Browse...]

RECORDING FILENAME

m\_#(Date)\_#(Time)

Time, Local	Date, Local	Counter, Local
12:09:54	2024-02-24	0
Time, UTC	Date, UTC	Counter, Session
12:07:58	2024-02-20	0
Time, hh-mm-ss	Date, dd-MM-yy	Header
13-37-56	05-02-24	

Export Settings Channels Order [2]

Search...

CAN Analog Counter

	Name	Color	Sample Rate
LocalNode			
Formula			
<input type="checkbox"/>	signal	Orange	10000 Hz
<input checked="" type="checkbox"/>	signal_filtered	Blue	10000 Hz
<input type="checkbox"/>	stopwatch signal in noise range	Light Orange	10000 Hz
FREQUENCY_MEASUREMENT Channels			
<input checked="" type="checkbox"/>	Power Groups		
<input checked="" type="checkbox"/>	POWER/0	Dark Blue	
DEWE3-A4			
<input type="checkbox"/>	TRION3-1820-MULTI-8-L0B		

GENERAL

Export in configured order [2]

OPTIONS

Comma separated values (\*.csv)

Decimal separator: ,

CSV delimiter: ;

Decimal precision: 12

Reduced sample rate [2]

Separate header row for units

Use absolute timestamps

Align 0-time to trigger

Waveform [3]

Fill data gaps

Statistics [4]

AVG  RMS

MIN  MAX

Export...

Batch export...

AUTOMATIC EXPORT

Export on measurement end [5]

Auto-export folder: c:/DATA/ [Browse...]



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# EXPORT OPTIONS

- 4 If a Recorder is selected during export, the selected signals can be exported only for the timespan displayed in the Recorder
- 5 *Export active recorder region* must be selected herefor
- 6 Cursors can be activated as well
- 7 If cursors are activated in the Recorder, the data of the selected signals can be exported only for the timespan between the cursors
- 8 *Export region between cursors* must be selected herefor
- 9 The dmd export can be used in combination with one of these two possibilities to decrease the file size of dmd files.  
**Dmd export supports no channel selection but exports all available channels**

The screenshot displays the DEWETRON software interface. The main plot area shows two signals: 'Speed\_CNT 3/1' (rpm) and 'Drehzahl\_berechnet' (kHz). The plot has two vertical cursors, A and B, positioned at 0.27500 and 0.27530 respectively. A table at the bottom of the plot provides data for these cursors:

	A	B	Delta
Time[s]	0.2750746759	0.2753665037	0.02918278
Speed_CNT 3/1 [rpm]	3218.391	3106.808	-111.5822
Speed [V]	5.074945	5.166633	0.091689

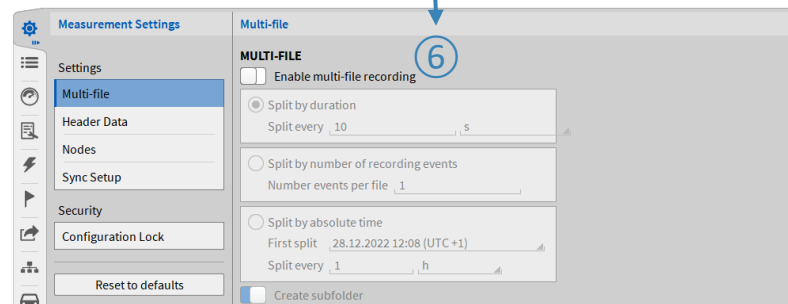
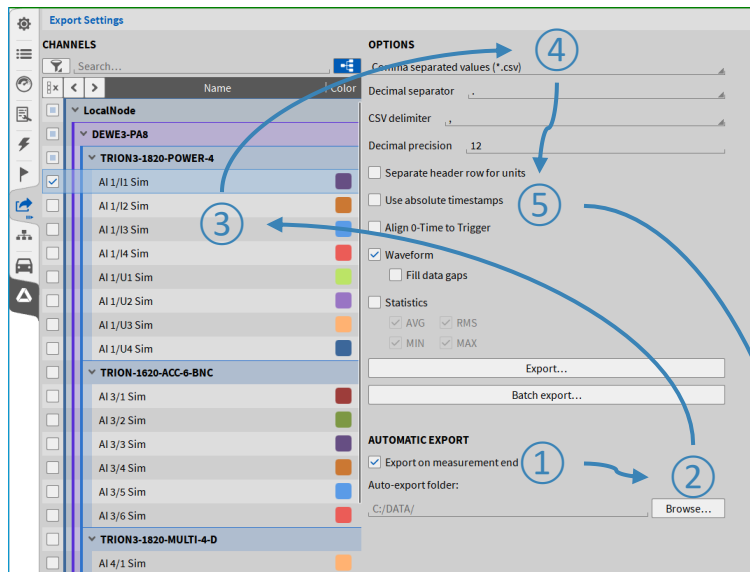
Two 'Export Settings' dialog boxes are overlaid. The top one shows the 'Export active recorder region' option selected (5). The bottom one shows the 'Export region between cursors' option selected (8). Both dialog boxes show a list of channels, including 'Speed\_CNT 3/1' and 'Drehzahl\_berechnet' (9). Arrows from callouts 4, 5, 6, 7, 8, and 9 point to the recorder, export options, cursors, and channel selection respectively.





# AUTOMATIC EXPORT

- ① The Export menu can also be accessed in Live mode during setup generation to activate the option to automatically *Export the data after measurement end*
- ② A separate export folder can be specified
- ③ Individual channels for export can be selected
- ④ Export format can be specified
- ⑤ Format dependent options are available
- ⑥ In case of Multi-File recording, data since recording start will be exported to one single file but not be split up in individual files





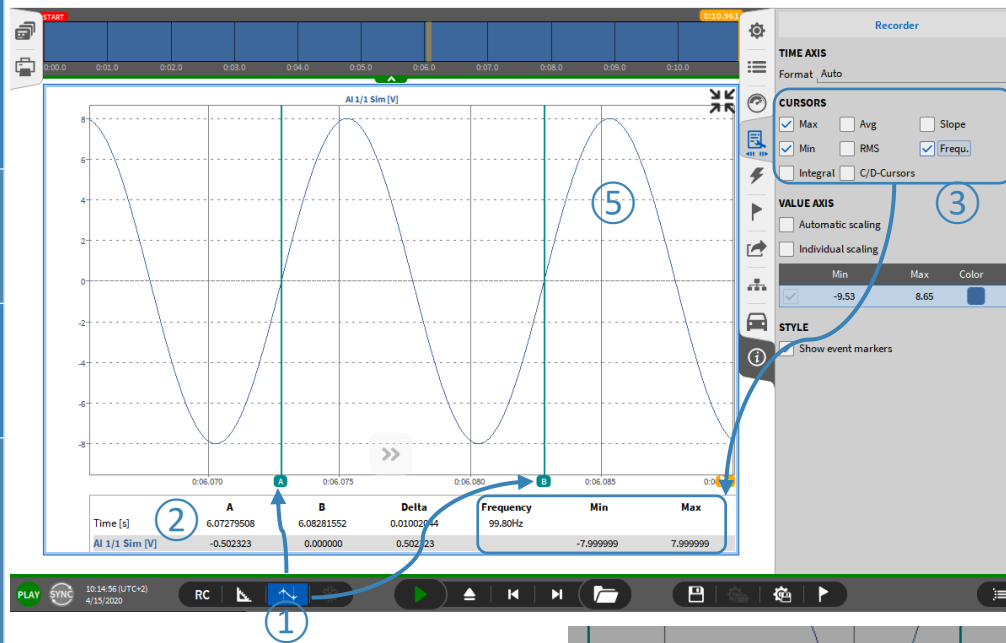
# RECORDER & A/B CURSORS

① Activate the Cursors with the *Cursor* button  
 The A/B cursors can be moved with the mouse

② Actual position and signal value for all signals in the Recorder can be seen in the table below

③ Certain Statistics for the signal between both cursors can be selected in the Recorder Properties

④ A/B cursors can be renamed in the popup which opens with a click on the cursor name  
 Deactivating and activating cursors again keeps the individual name stored and cursors of several Recorders can be renamed individually



A Cursor Time

Relative time 0 h : 0 min : 6.073 s

Absolute time 10:14:51.195

6. Cursor name A

Cancel Ok

*Remark:*  
 Cursors can be activated for Recorder,  
 Chart Recorder and Scope

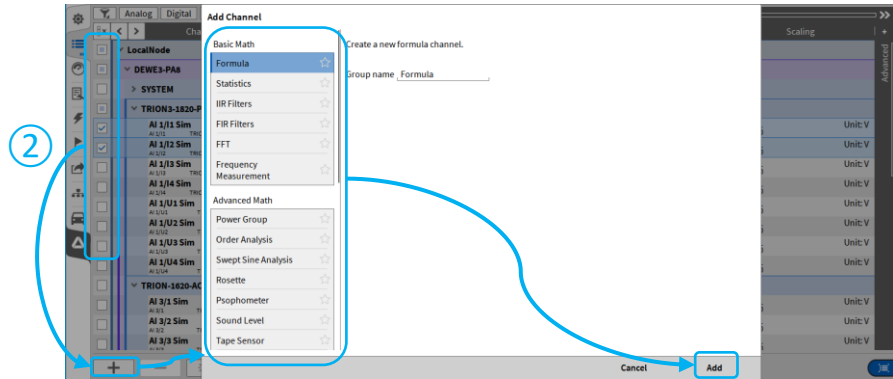
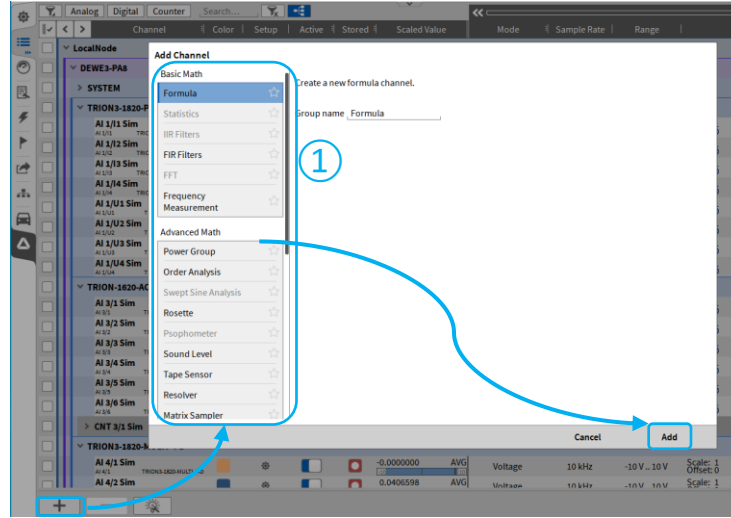


# OFFLINE MATH

① Basic and Advanced Math (except Power Groups) can be created offline

② Reference channels must be selected before creating

- > Statistics
- > Filters
- > FFT
- > Swept Sine Analysis
- > Psophometers



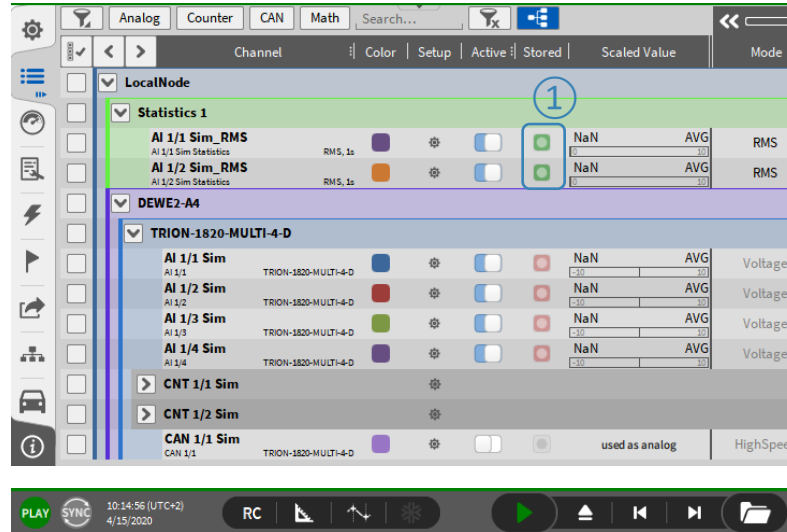
# OFFLINE MATH



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- Offline created channels are marked with a green *Stored* button
- Any changes to a data file can be stored with the *Store* button



## Remarks:

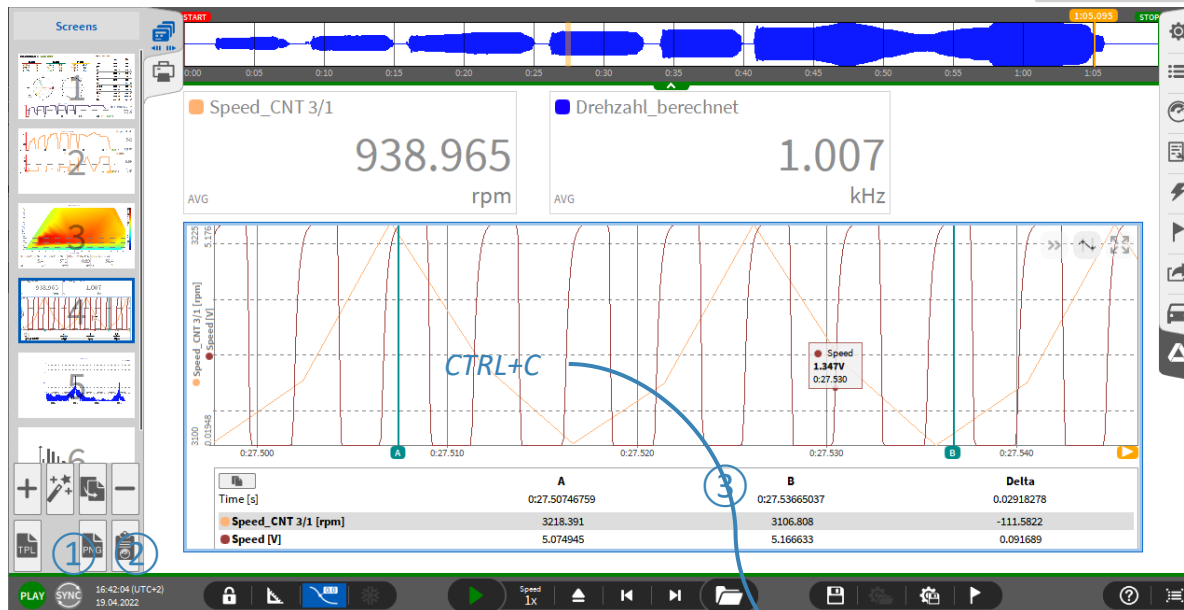
- > After closing and reopening a data file again, the offline created channels cannot be edited any more
- > Thus, it's not possible to edit settings of an online calculated channel
- > It is not possible to edit the settings of an analog channel, digital or counter channel offline
- > Please keep in mind that the results of an offline calculated channel can differ from an online calculated channel, i.e. filters as they are oscillating at the beginning



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# COPY & PASTE DATA

- 1 Export the entire screen or the currently selected instrument to \*.png or \*.jpg
- 2 Copy the entire screen or the currently selected instrument to clipboard
- 3 Copy the actual recorder data to clipboard to paste it to Excel or misc



CTRL+V

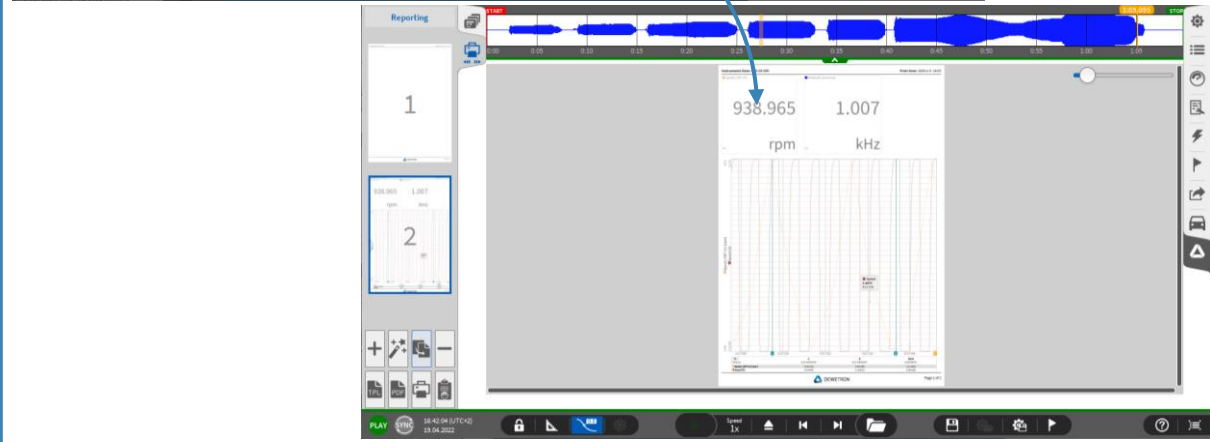
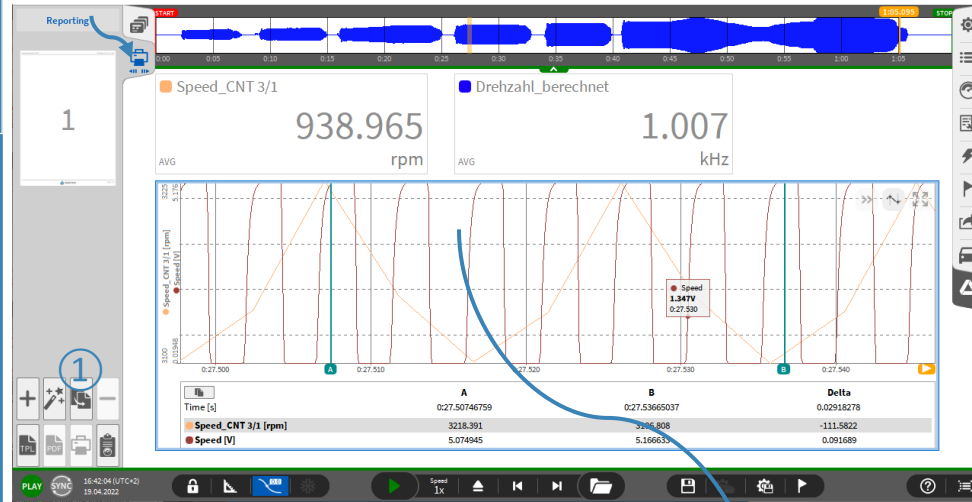
	A	B	D	E
1 Channel	Unit	A	B	Delta
2 Time	s	27.50746759	27.53665037	0.02918278
3 Speed_CNT 3 rpm		3218.390713	3106.808467	-111.582246
4 Speed	V	5.074944799	5.166633437	0.091688638
5				



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# REPORTING

① Go to the Reporting menu and press the *Copy* button to add the current screen to a report that can be exported as \*.pdf



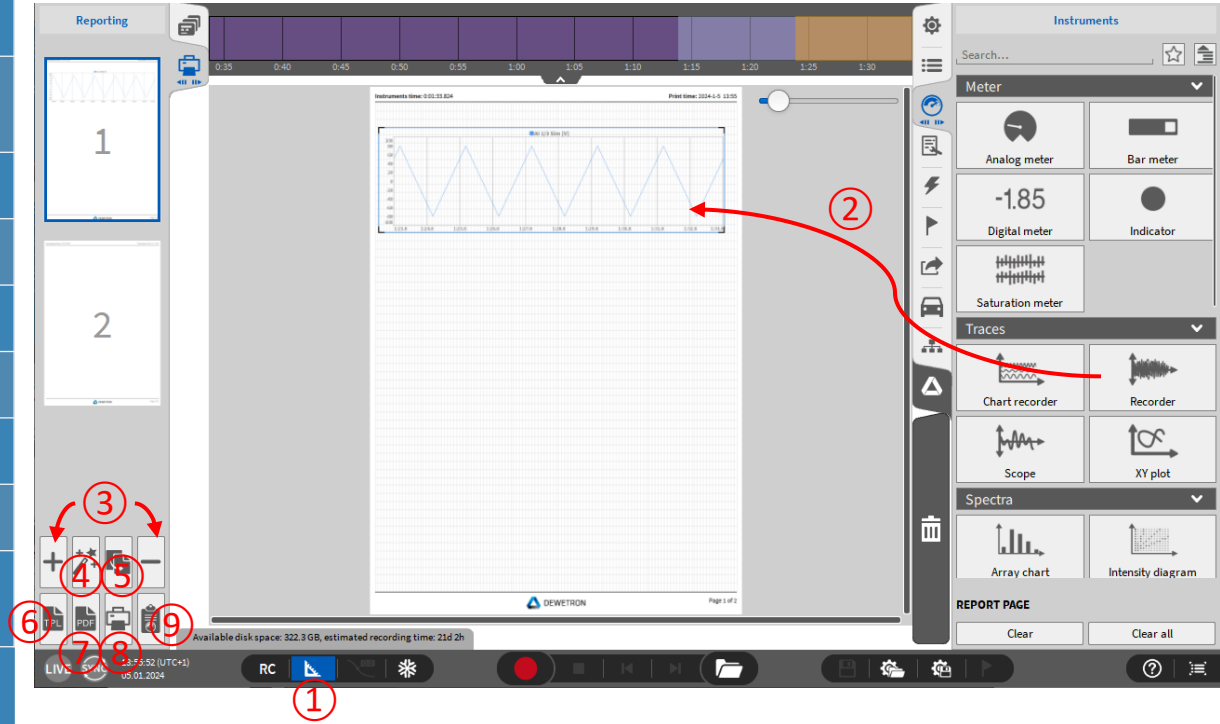


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# REPORTING

- ① Design Mode can be activated as well...
- ② ...to configure your reporting page in the same manner as a measurement screen
- ③ Pages can be added or deleted
- ④ Add predefined item
- ⑤ Clone page
- ⑥ Save page as template
- ⑦ Export the report as \*.pdf
- ⑧ Send the report to a printer
- ⑨ Copy the actual report page or currently selected instrument to clipboard

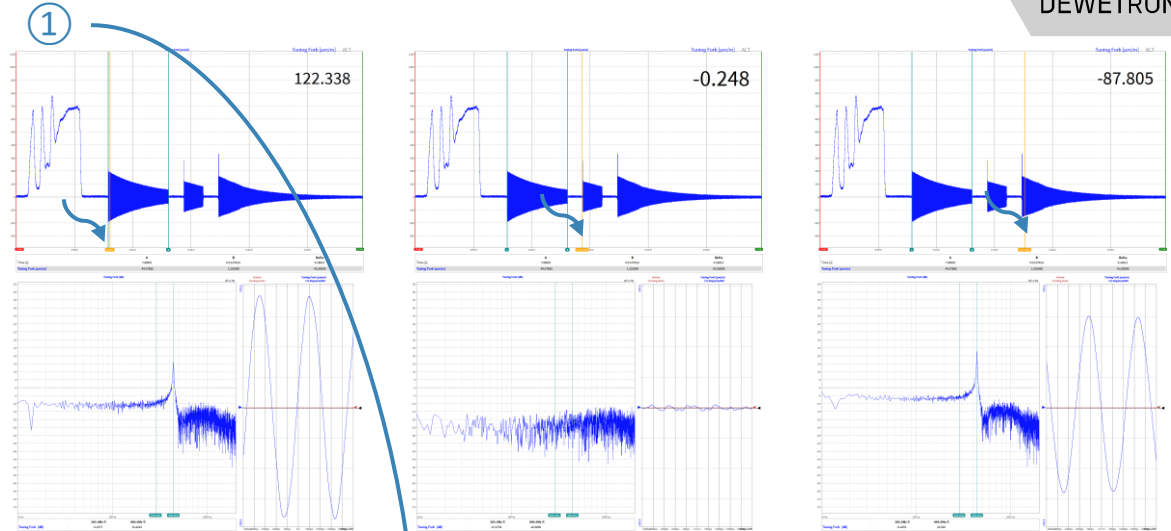




# REPORTING

① The orange cursor can be placed on different positions for every single page to analyze different events  
All instruments on the same page are linked to the orange cursor

② The Report settings can be accessed by expanding the Report menu to the full screen  
> Set the orientation to landscape or portrait  
> Choose A4 or letter paper size  
> Select an icon for the footer  
> Export only specific pages on request  
> Select a printer  
> Select an export directory for the \*.pdf file



*Remark:  
A report template can already be stored to the dms- (setup) file*

**PAGE SETTINGS**  
Orientation: Portrait  
Paper size: A4  
Footer icon: d:/ATA/Devetron.jpg

**REPORT CONTENT: 4 PAGES**  
Page:  All  
 Specified pages: 1, 3-5, 9

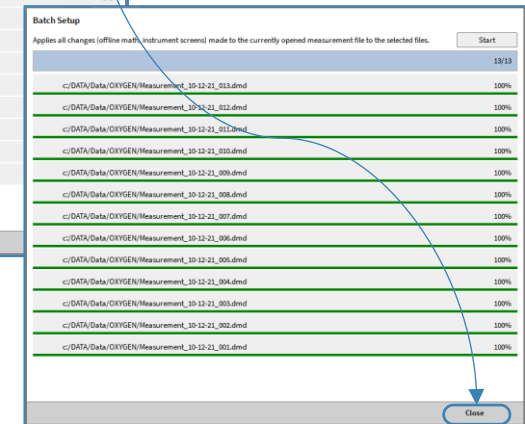
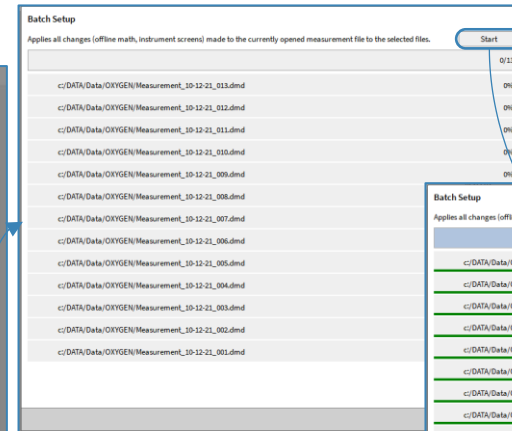
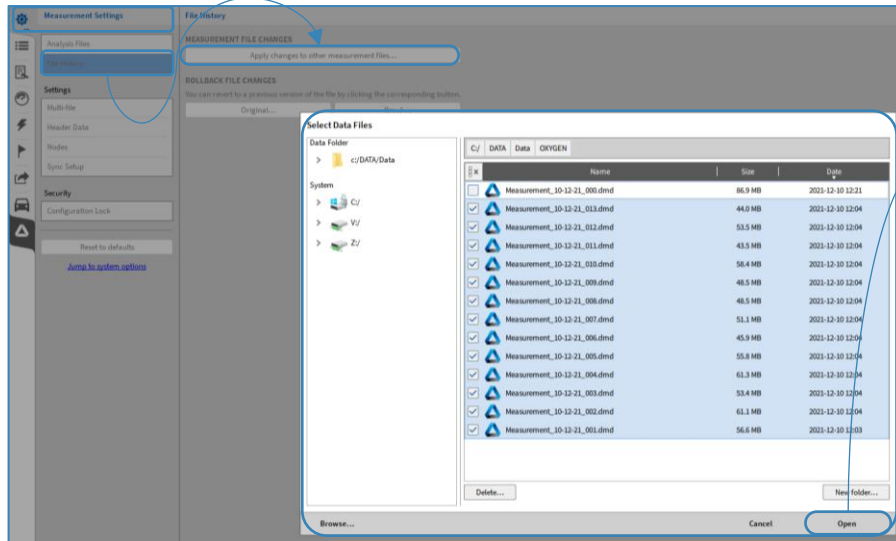
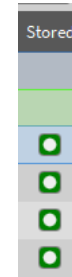
**PRINT REPORT**  
\\printer/RnD Leitung (EPSON WF-C579R)  
Print

**CREATE PDF REPORT**  
d:/EXPORT/Report  
Save



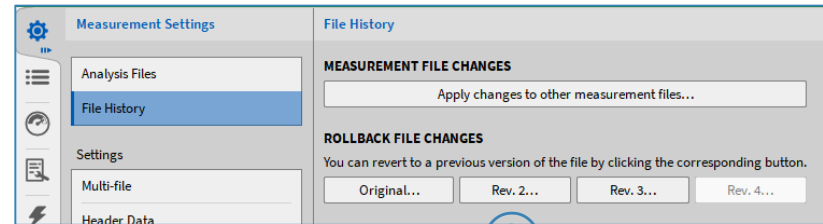
# \*.DMD BATCH PROCESSING

- > Possibility to apply changes from one \*.dmd-file to other \*.dmd-files automatically
- > \*.dmd-files must be created with the same \*.dms-file
- > Changes imply
  - > Offline changes in the channel list (Formulas, Powergroups, CAN channels,...)
    - > Aka anything with a green *Stored* button
  - > Changes to the measurement screen



# \*.DMD-FILE HISTORY

- > \*.dmd-file history included to revert changes
- > A new storage point will be created every time, the *Store* button is pressed (①)
- > Possibility to revert changes and return to previous storage points (②)



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# RETURNING TO DATA ACQUISITION (LIVE) MODE

① To close a data file and return to *LIVE* mode for a new recording, press the *Eject* button

The screenshot shows the DEWETRON software interface. The main window displays a plot of AI 1/5 Sim [V] over time, with a table of data points below it. The table has columns for Time [s], A, B, and Delta. The data points are as follows:

Time [s]	A	B	Delta
1.40018	78.58297	74.38211	-4.200864
2.52105	24.72135	79.01506	54.29371
78.04800	58.70400	136.7520	
48.39039	75.74079	27.35040	
-31.60960	4.259205	35.86880	
-79.02400	10.64800	89.67200	

The bottom control bar shows the 'PLAY' button, 'RC', and 'Eject' button (indicated by a blue arrow and a circled '1'). The status bar at the bottom indicates 'Available disk space: 322.3 GB, estimated recording time: 21d 2h' and 'LIVE SYNC 13:54:21 (UTC+1) 05.01.2024'.

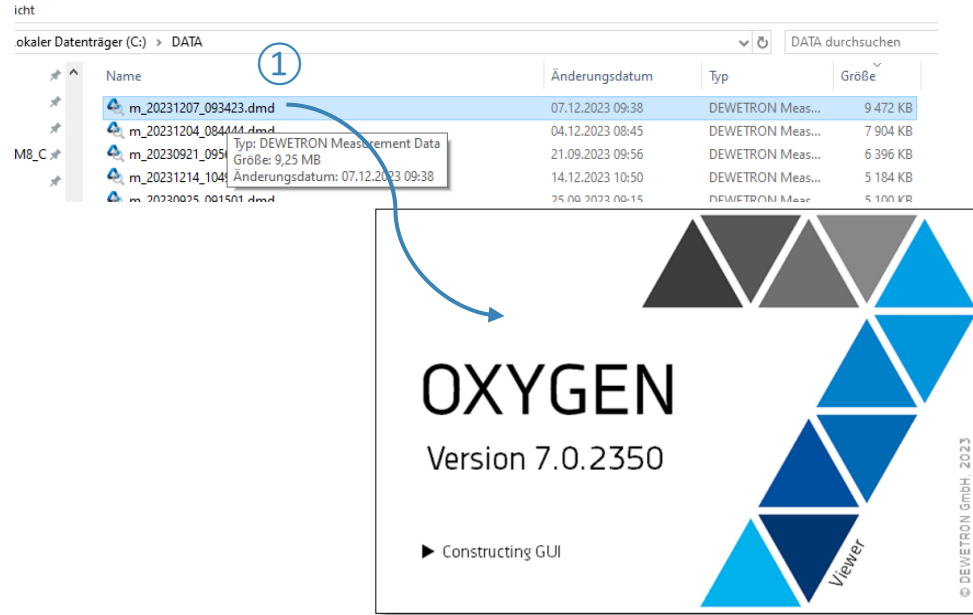


# OXYGEN VIEWER

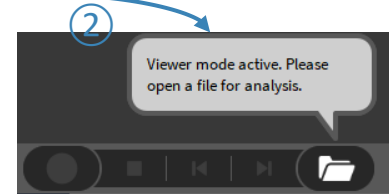
① When a data file is opened with double click from the Windows Explorer, it is automatically opened with the OXYGEN Viewer.  
OXYGEN Viewer can be used to open several data files in parallel (each with a separate OXYGEN Viewer instance) for comparison.

It is also possible to open a data file with OXYGEN Viewer while a Recording is still active

② If a file is ejected from the Viewer mode, it is only possible to open another data file but not to start a recording



**Remark:**  
*OXYGEN Viewer is installed automatically while installing OXYGEN. There is no separate installer required*



# OPEN MULTIPLE \*.DMD-FILES



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The screenshot displays the DEWETRON software interface. The main window shows a multi-channel waveform plot with five traces: red, green, cyan, blue, and magenta. The y-axis ranges from -1.0 to 1.0, and the x-axis shows time from 0:00.00 to 0:04.00. A white shaded region highlights a portion of the traces. The right sidebar contains the 'Measurement Settings' panel, which is divided into 'RECORDING' and 'ANALYSIS FILES' sections. The 'RECORDING' section shows fields for 'Filename', 'File size', 'Start time', 'Timezone', and 'Duration'. The 'ANALYSIS FILES' section shows a list of files with columns for 'Identifier', 'Filename', 'Start time', 'Duration', and 'Offset'. A context menu is open over the first file, showing options like 'Manual align', 'Align to recording start', and 'Align to absolute time'. Red circles with numbers 1, 2, and 3 are overlaid on the interface to highlight specific elements: 1 points to the 'Align to recording start' option in the context menu, 2 points to the 'Offset' field in the file list, and 3 points to the 'Duration' field in the recording settings.

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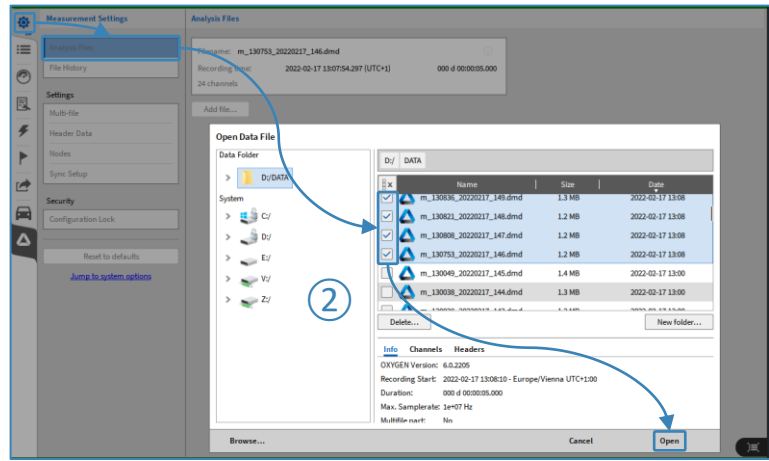
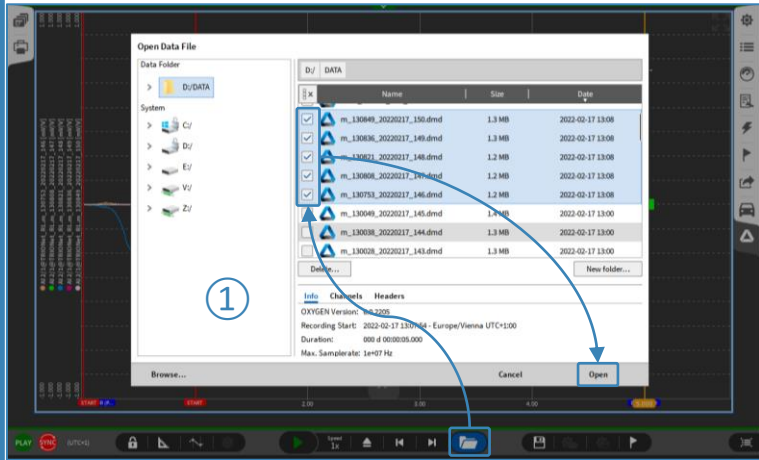


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# OPEN MULTIPLE \*.DMD-FILES

- > How to:
- > Use the *Open data file* popup (1)
- > Use *Add file...* option in Measurement Settings (2)





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# OPEN MULTIPLE \*.DMD-FILES

- > Each loaded \*.dmd-file has a separate group in the Channel List (①)
- > Overview of all loaded files available in *Measurement Settings* → *Analysis files* (②)

