DewesoftX® SEQUENCER

DEWESoft®

SOFTWARE USER MANUAL

Sequencer V22-1

1. Table Of Contents

2. About this document

2.1. Legend

The following symbols and formats will be used throughout the document.

Important
It gives you important information about the subject.
Please read carefully!

Hint
It gives you a hint or provides additional information about a subject.

Example
Gives you an example of a specific subject.

3. Sequencer in five minutes

Before going to details, let's first try to make a first simple sequence to show how easy it is. A typical application is to load the setup, perform some measurement, review the data and then ask the user to continue.

New sequence can be started from Measure → Setup files toolbar by pressing New sequence button.

Image 1: Add a new sequence

The main screen of the sequencer editor has a main toolbar on the top, list of available blocks on the left, sequence sheet in the middle and property tab on the right side.

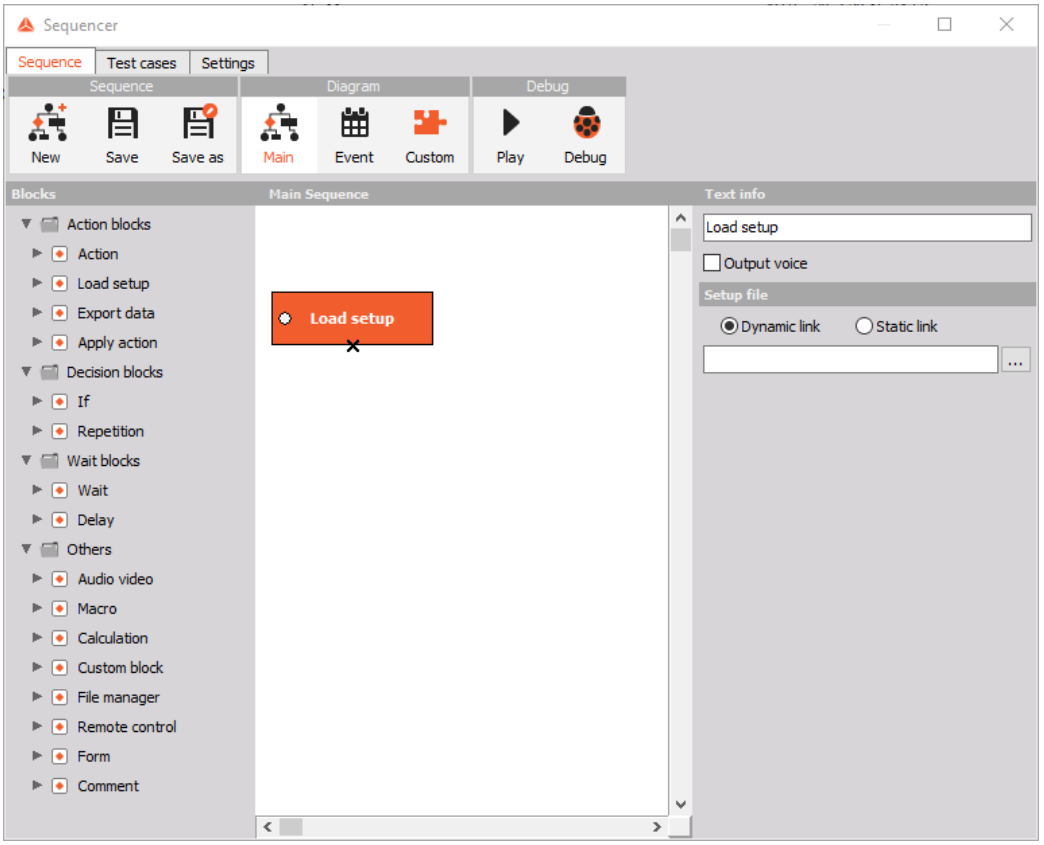

Image 2: Sequencer setup

The sequence can be started by clicking on the block name and while not releasing the mouse button, dragging it into the sequencer sheet area.

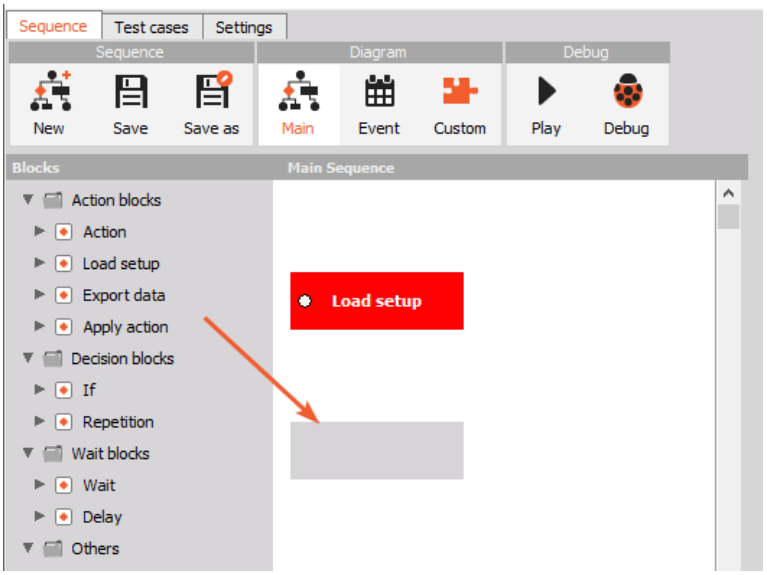

Image 3: Add a sequencer block

3.1. Adding blocks

Let's add a few blocks. First I would like to Load a setup. This can be done via a Load setup block. Then I would like the user to confirm that the measurement can be started. This can be done with the Wait block. Then I would like to perform a Dewesoft action, so I choose the Action block. This block contains many actions which can be performed on DewesoftX® .

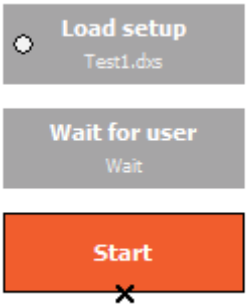

Image 4: Adding blocks

3.2. Connecting blocks

Now let's connect those together. This can be done either by dragging the block over the previous one in the sequence. Let's grab the Wait for the user block and pull it over the Load setup block. There will be a black line shown in the bottom of the Load setup block indicating that those two will be connected.

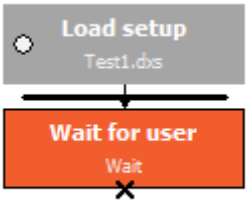

Image 5: Connecting blocks 1

Release the mouse button to connect the two blocks. The correct connection will be shown as an arrow pointing from the first to the second block.

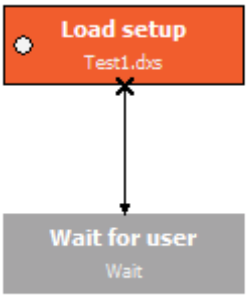

Image 6: Connecting blocks 2

As an alternative you can also select the block from which you would like to connect. The connection cross will be shown. When we move with the mouse over the connection point, the mouse cursor will change as indicated on the picture below (Cross sign).

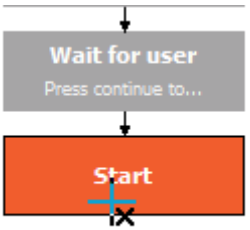

Image 7: Indicator that we can make a connection

When we now press and hold the mouse button, the connection line will start to be drawn. If we move over the block, the block will turn to orange color.

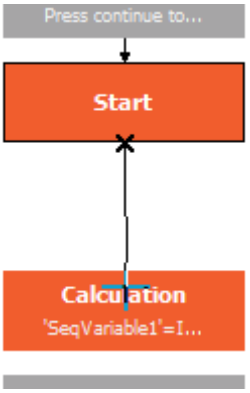

Image 8: The next block will turn orange, when we try to make a connection

If we release the mouse at this moment, the connection arrow will be drawn.

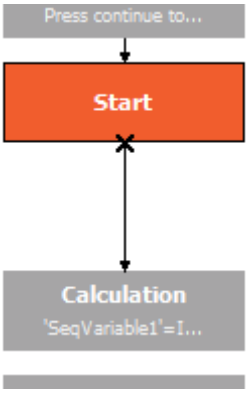

Image 9: New connection

If we made a mistake either by adding the block or adding a connection line, any element can be deleted by right clicking on the element and choosing the Delete button.

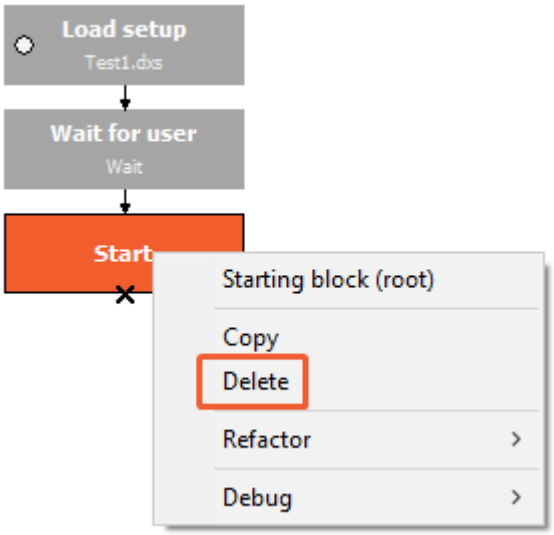

Image 10: Delete the sequencer block

3.3. Setting properties

Ok, now that we have connected the blocks together, let's set the properties of the building blocks. First we need to choose the block we want to set up and then we need to define its properties on the right side of the sequencer screen. In the upper section Text Info we define the name of the block which will appear while running the sequence in DewesoftX® .

Second is the Output Voice option. This option will speak out the Text Info through Windows Text-To-Speech option. In Windows OS you can define the human voices which allow disabled people to operate the system. In our case there are several applications where the user can't really look at the screen while performing the test and for that purpose this option can help a lot.

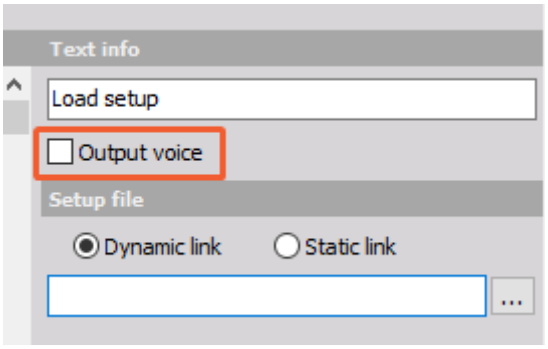

Image 11: Output Voice command

The second section depends on the block. For the Load Setup block we can define the setup file which will be loaded. In my case I have prepared up front a simple setup called Test1. By clicking on the three dots push button we can choose the setup to load.

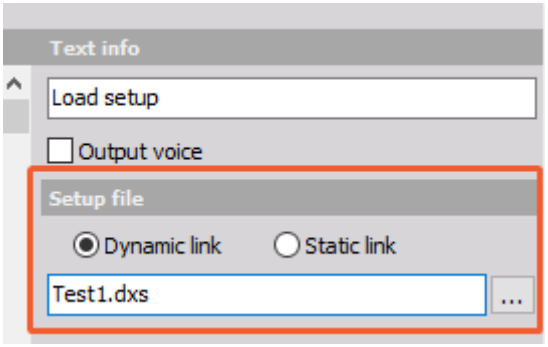

Image 12: Define Setup file

The name will be noted on the block.

Then we select the Wait for user block. We can wait for user interaction, trigger or certain value of the selected channel. At this point, the only thing needed is to inform the user what to do. That can be entered in the Text info field.

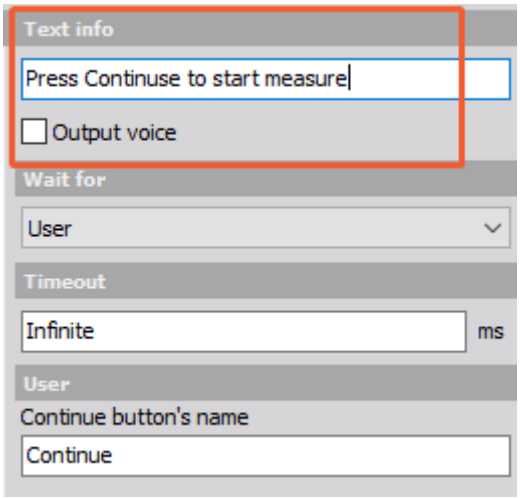

Image 13:. Text info for Wait block

The action button needs a selection of DewesoftX's events. There are many things which can be done with this block, but let's start with a simple one, with the **Start** action.

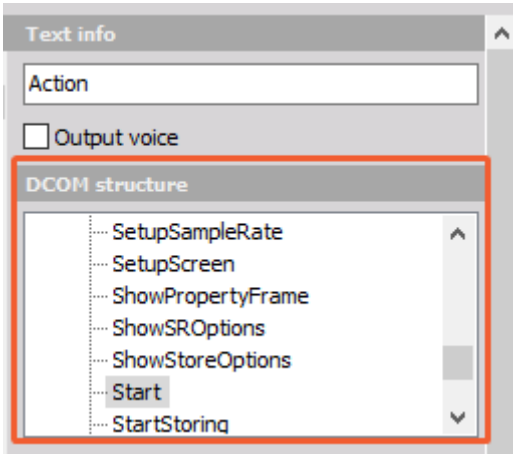

Image 14: Action block selection

This action will start the measurement.

3.4. Finishing the first example

Now let's add some more blocks. Let's add another action block. This time let's not drag it into the empty space, but over the Start block. The black line will appear on the bottom of the Start block and upon releasing the mouse button, a new action block will be added and automatically connected to the Start block.

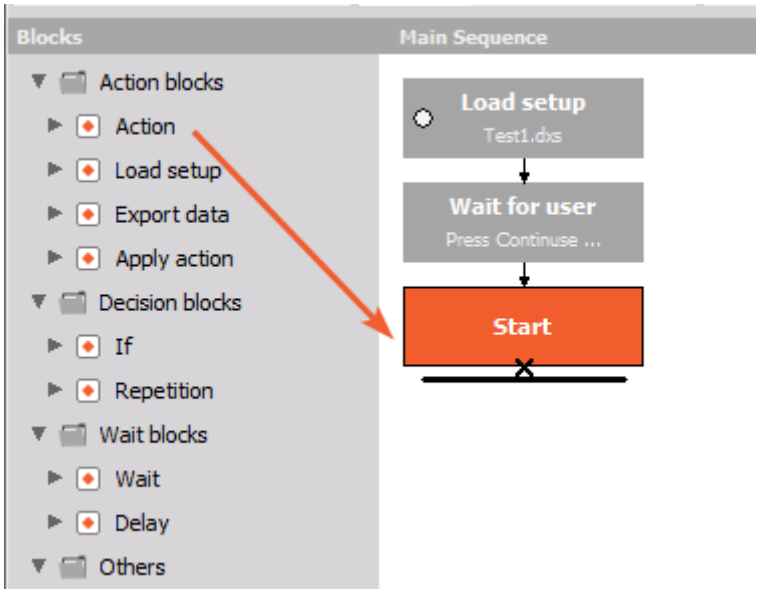

Image 15: Dragging another block

Let's choose the Start storing action. Next we can continue by adding a Delay block from the left side. This block will wait with the execution of the sequence for the specific time period. Let's add a few more Actions: Stop and Analyze by adding an Action block and selecting the appropriate action from the list.

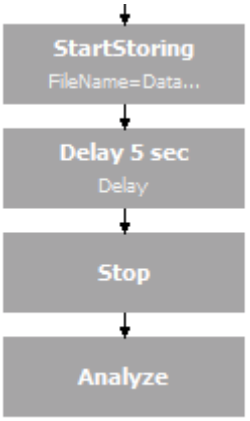

Image 16: Sequence example

Now let's do something more interesting - let's make a decision. The decision can be made either by the user or from a formula. In this example I would like to ask the user if another measurement should be performed. So I enter this text in the Text info field.

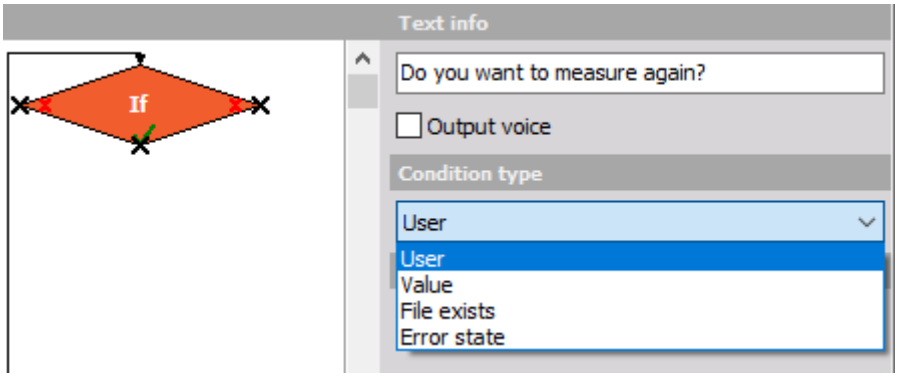

Image 17: If sequencer block

Now let's connect the blocks. If the answer is No, then the sequence can be stopped and therefore no connection line is needed. If the answer is yes, I have to draw a line to some point above in order to repeat the execution. But we should remember that we are in Analyze mode. Therefore I add another Action called Measure to go back to measure mode. Then I can connect the If and Measure blocks by clicking on the green tick and dragging it to the Measure action. The correct connection will be shown when releasing the mouse button.

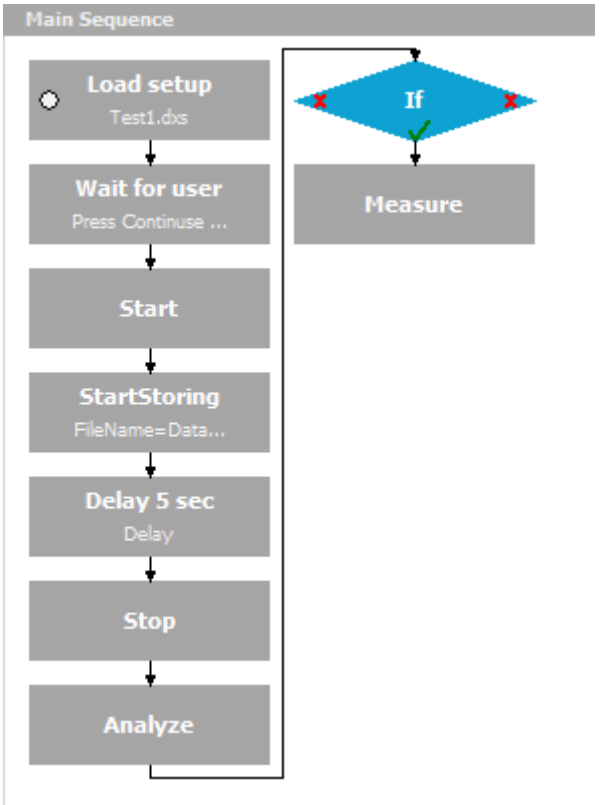

Image 18: New adjusted sequence

Then I need to come back to the previous sequence. The right place would be the Start block. Therefore I need to connect the Measure to the Start block.

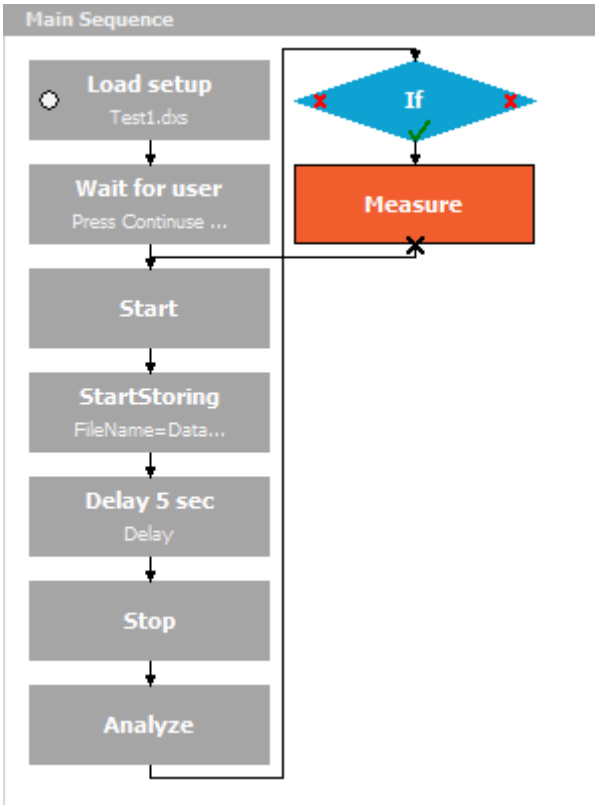

Image 19: Reconnecting to Start block

Don't forget, any mistake can be corrected by right clicking on the connection line and choosing Delete or by left clicking on the connection line and pressing the Delete button on the keyboard.

3.5. Running the sequence

Ok, enough of “programming”, let’s see what we have done. Let’s Save the sequence by pressing Save.

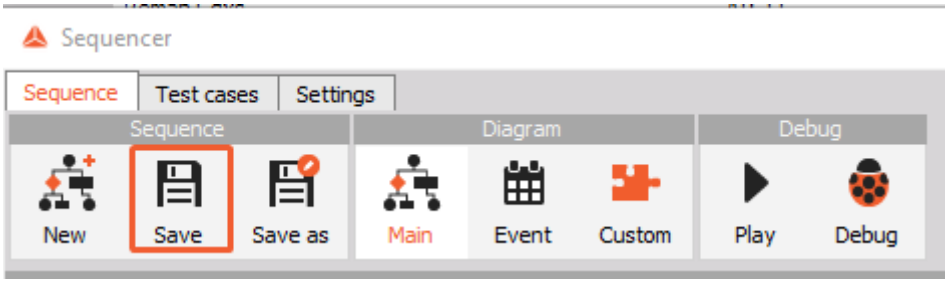

Image 20: Save the sequence

Now let’s try to run it by pressing the Play button. In real life the sequence can be run just by loading it from the startup screen, but for testing purposes Play and Debug buttons are close at hand.

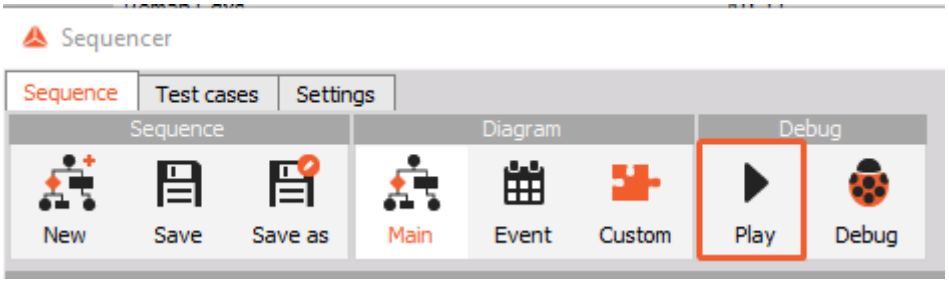

Image 21: Play the sequence

The sequence will load the setup and show the top bar. There are several actions which the user can perform: Pause the sequence, Stop the sequence or Skip one block of the sequence. These buttons are always available. Based on the chosen block the additional buttons will be shown. At the wait block we could see the text info we have entered and the button Continue. This allows the user to enter some parameters, prepare the measurements and so on.

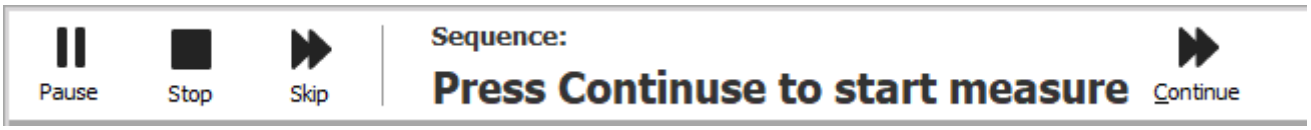

Image 22: Notification bar

In this case the Continue button will start the measurement. The delay will store the data for five seconds and the user will need to wait for that time period:

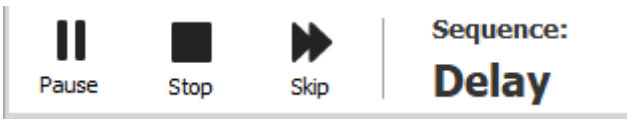

Image 23: Delay Notification

After five seconds the stored file will be reloaded and the question will come to the user if another measurement should be taken. If we say Yes, another data file will be stored. If we say No, the execution will stop and the software will go to the startup screen or to the sequence editor.

Image 24: If block notification

In this simple example we have seen that the sequence is easy to operate if we know the basics of operation.

3.6. Refining the example

Now let's refine the example a little bit. Let's try to eliminate the user's ability to interfere with the flow execution and on the other hand let's give him a chance to enter important information about the measurement conditions.

If we have left the sequence editor, the editor can be reopened from the startup screen by choosing the right sequence and pressing the **Edit** sequence button.

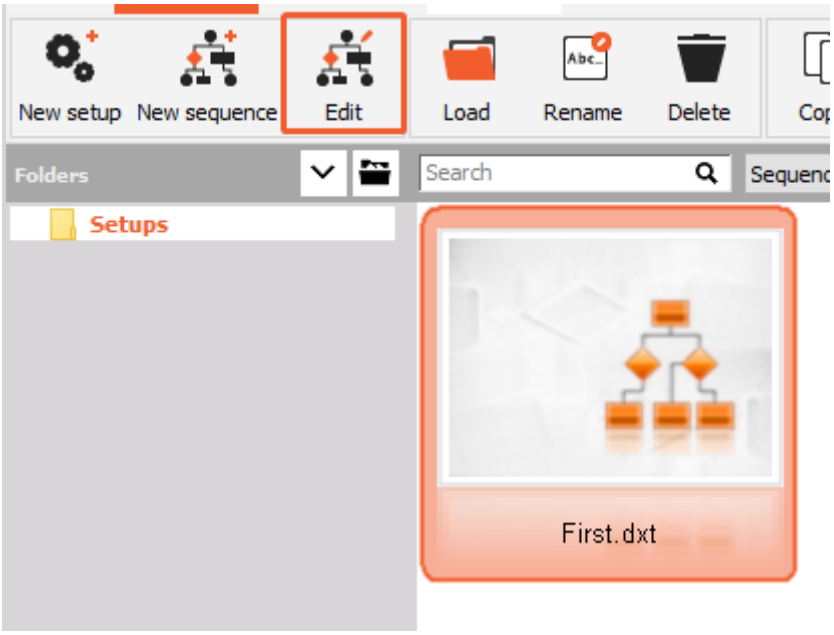

Image 25: Edit the sequence

Now let's rearrange blocks a bit to add a few more actions. We can drag and drop the block in the sequence window to move them. Move with the mouse button over the block, but take care that the cursor doesn't change to drag the connection lines. Then press and hold the left mouse button to move the block.

In the example below I have moved the Analyze block to gain more space.

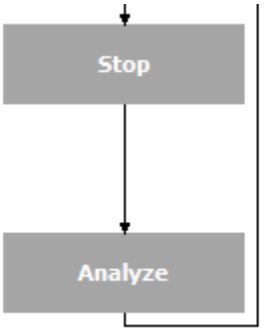

Image 26: Expand the sequence space

In the same way we should move other blocks to gain space for one more block.

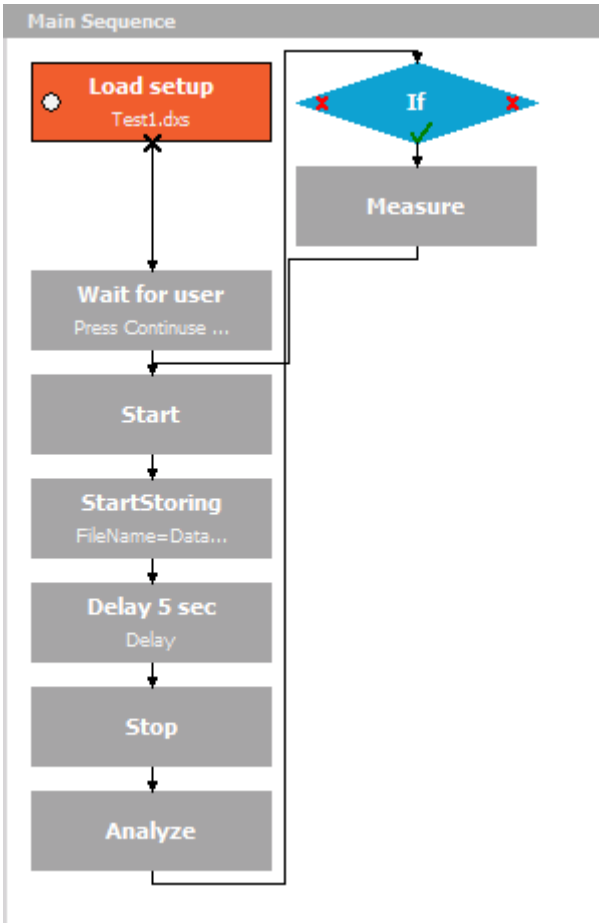

Image 27: Additional space

Click on the connection line between **Load setup** and **Wait for user** and press the Delete button on the keyboard. The connection line is gone.

Now let's add another Action block. Add it over the Load Setup to connect to that and then manually connect the Action with the Wait for user block.

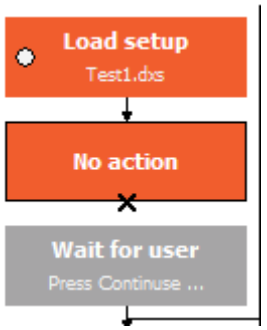

Image 28: New Action block

I wanted to show you the longer way so that you learn how to move the blocks around. If a single block needs to be added, there is a much simpler way to add a block. Simply place the new block on the upper one under which the new block should be inserted and all other blocks will be pushed away. New blocks will be connected with the upper and lower one.

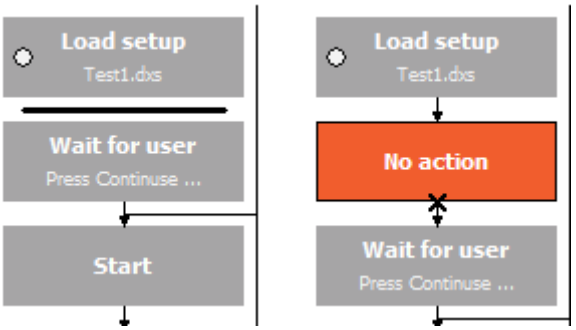

Image 29: Add a new block

Now let's choose the **SetMainToolBar** action. This is a great action which allows us to navigate through DewesoftX's menus as we would press the buttons manually.

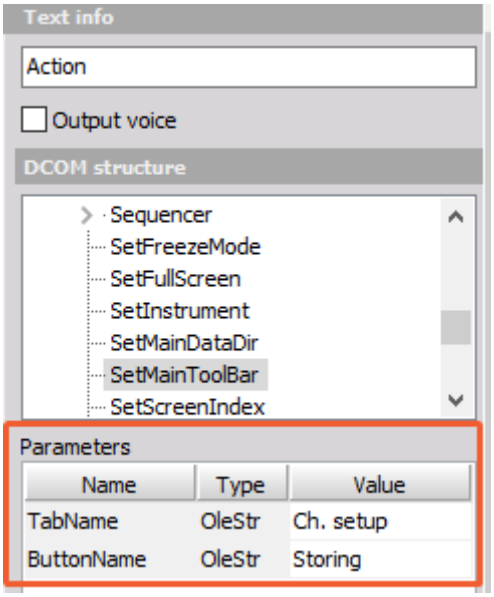

Image 30: SetMainToolBar sequence

In the property panels we need to enter the Tab and the Button name. The TabName is the name of the main tabs of DewesoftX® . In our case I want the software to go to Ch. Setup – Storing screen so that the user can enter the file name and the file header.

Additionally I want to prevent the user from changing the screens and to stop, block or accelerate the execution of the sequence. This can be done in the Settings tab of the sequencer. Let's remove the access to the sequence control toolbar (the buttons for stop/skip/pause) and the display property panels.

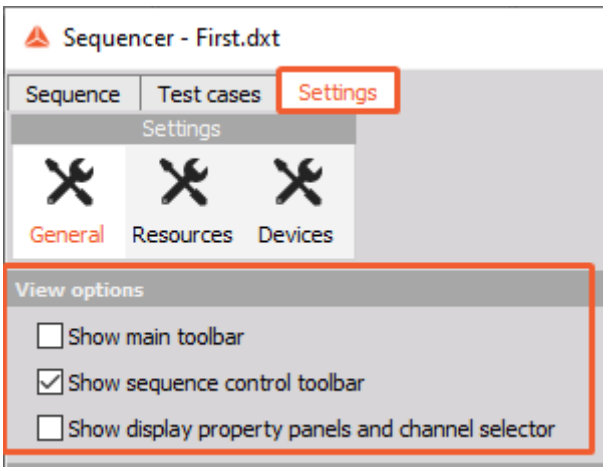

Image 31: View options

Let's run the sequence again. This time the sequence will stop in the File details screen allowing the user to enter the file header.

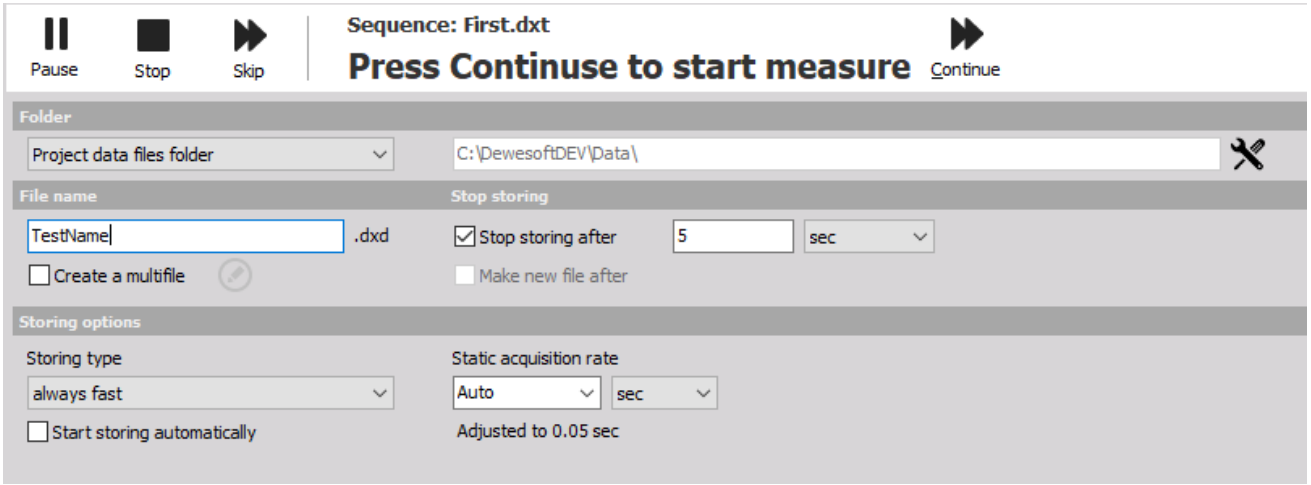

Image 32: Ch. setup -> Storing

Please note that now we don't have a chance to control the execution of the sequence. The only available button is the continue button. In the measurement screen all the properties are hidden.

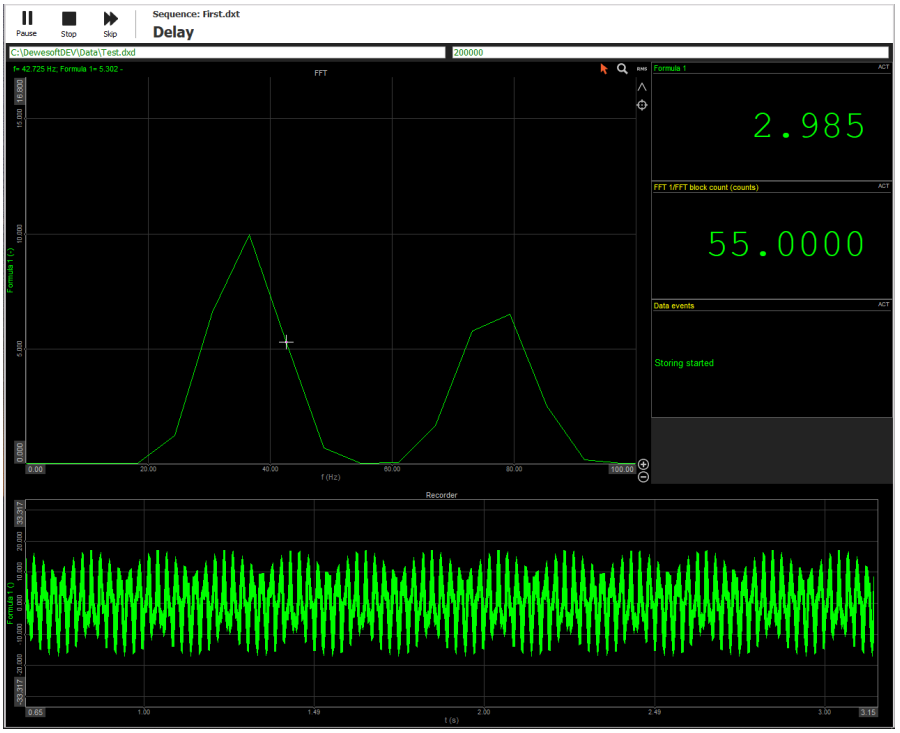

Image 33: Measuring the data

In the analyze mode the only available buttons are the selection to make another measurement or exit the sequence.

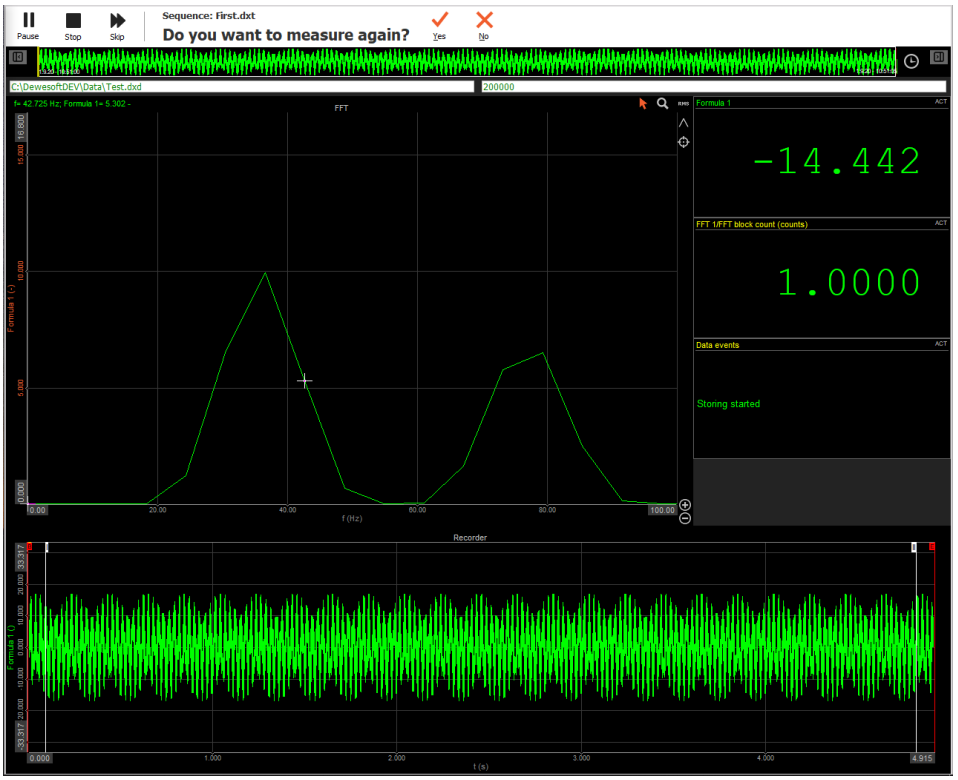

Image 34: Do you want to measure again?

With a few simple settings we have made a very simple user interface for the end user and hide all in depth abilities while and therefore preventing mistakes during the measurement process.

4. Sequence building blocks

In this section we will look at each block which can be used in detail. Since there are many possibilities in the sequencer, there are also many options to choose from.

Each option has a Text info which will show at the top. We have seen the usage of the text info already in the short example, but it also has one interesting option. It can parse variables or channels and show them in the upper bar. As we can enter a variable in the formula we can also enter it in the text info.

Image 35: Text info

During the measurement the variable or channel will show up as a real value and will update with the display refresh rate.

Image 36:. Text info

4.1. Action block

In the Action block, there are all the functions which are also available in DewesoftX's programming DCOM interface, so the sequence is actually an easy visual way to program the execution workflow like it could be done in any external programming language. All commands are the same... We can also look at the sequencer as the easier to use replacement for the classic programming languages.

An action can be chosen from the list shown on the right side under the DCOM structure caption.

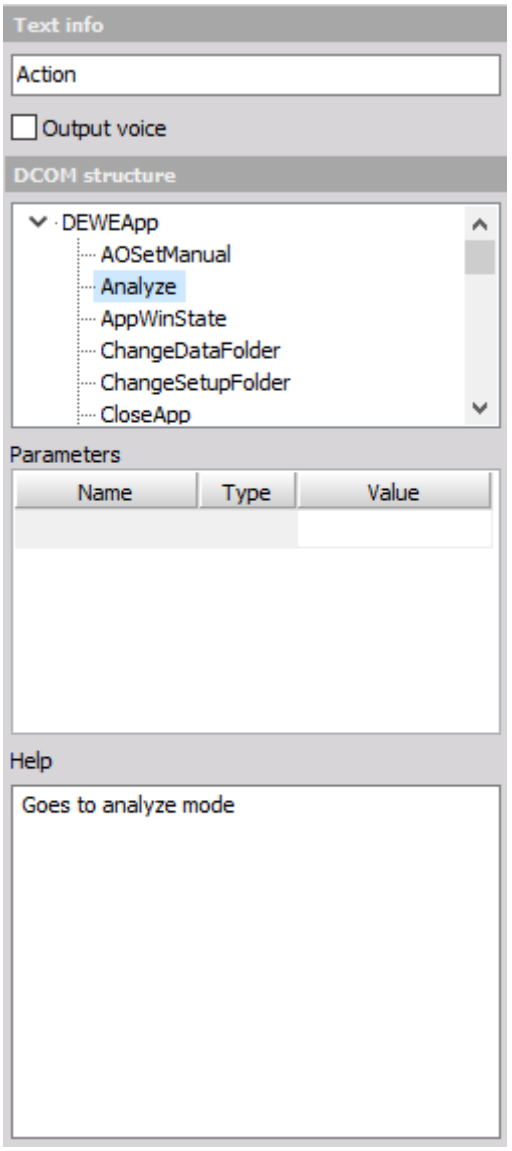

Image 37: Action block - Analyze

Some of the properties have parameters which can be edited in the **Parameters** list. Help will provide short form information on what the action does.

There are many possible actions shown here in alphabetical order.

4.1.1. AOSetManual action

If the function generator is set to Manual output, the user can choose whenever the output will start.

The action is the same as if the user pressed the Manual button to start the function generator (shown below).

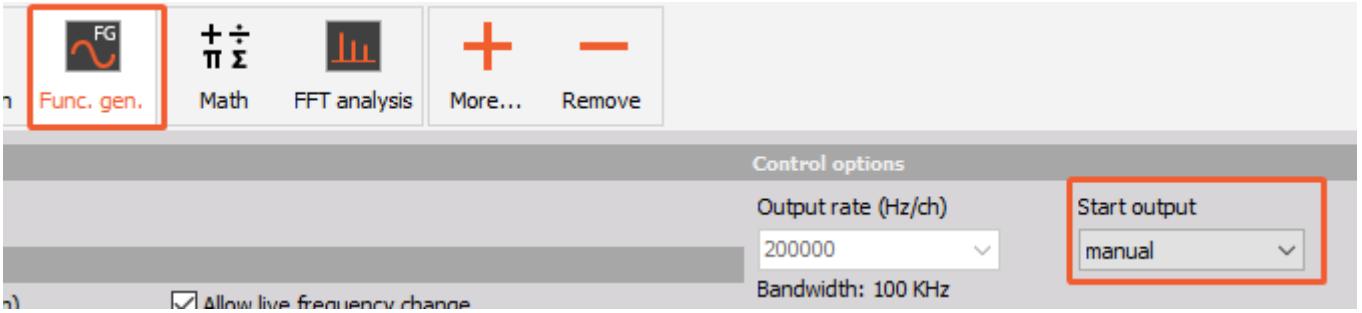

Image 38: Function generator setup

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4.1.2. Analyze action

This action puts DewesoftX® in Analyze mode like pressing the Analysis button on the screen. Please also take a look at the Measure action.

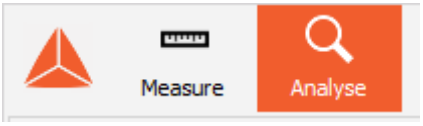

Image 39: Analyse mode

4.1.3. ExportData action

This action exports the data. It is replaced by ExportDataEx which has more parameters, but this function can still be used if these additional parameters are not needed.

4.1.4. ExportDataEx action

Please note that the file must be open in Analysis mode to call this action. The measured information has to also be stored prior to being exported (see the StartStoring action).

There are several parameters which must be set.

ExportType

Export type defines the type of export to be used. The list of default exports is listed in the table below:

Number	Export
0	Flexpro (*.fpd)
1	Excel (.xls)
2	DIAdem (*.dat)
3	Matlab (*.mat)
4	Universal File Format 58 (*.unv)
5	FAMOS (*.dat)
6	NSoft time series (*.dac)
7	Text (‘.txt)
8	Sony (*.log)
9	RPCIII (*.rsp)
10	Comtrade (*.cfg)
11	CAN (*.csv)
12	CAN (*.asc)
13	IFile CA (*.ifl)

Custom exports must be enumerated with negative values starting with -2. The export types are listed in the dropdown list in File export. The default export types are listed first, and after them all the custom export types available for the particular device are listed. This means that the first export type not listed in the table above in the dropdown list is the first custom export type and is enumerated with -2. The custom exports that follow are enumerated with -3, -4 and so on.

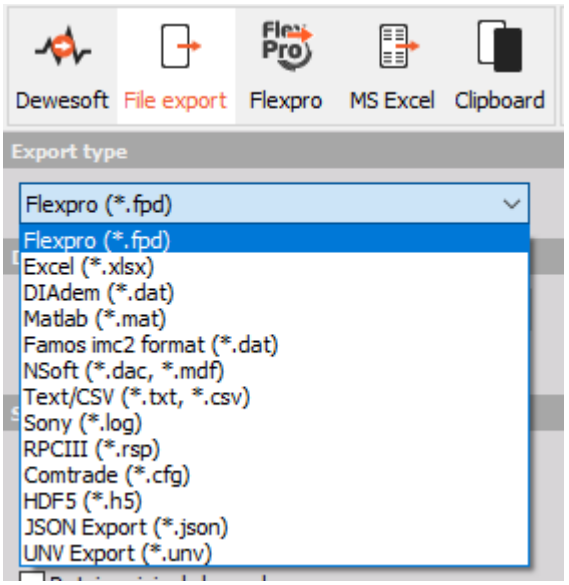

Image 40: Export list

The custom export value depends on the installed exported (.exp) files. In our case from the screenshot above, the last default export type is Comtrade, so the custom exports would be:

Number	Export
-2	HDF5
-3	JSON Export
-4	UNV Export

To learn more about custom exports read the Auto Export manual.

TimeAxis

Time axis defines the how the time will be exported:

Number	Option
0	Relative time
1	Absolute time
2	Trigger time

ExportDataType

Defines which data is to be exported:

Number	Option
0	Full speed data
1	Reduced data

ExportOptions

Defines which data will be exported at a reduced rate. The value is a set from:

Number	Option
1	min
2	max
4	average
8	rms

So if we want to export min and max, we need to enter: 1+2=3. If we want to export min and RMS, we need to enter 1+8=9.

FileName

Defines the file name to be exported.

If the file extension is not defined, the default file extension will be taken.

If the file path is not defined (just the filename is entered), then the default export folder will be taken.

If not even a file name is defined (field is blank), then the loaded DewesoftX® file name will be taken.

4.1.5. LoadDBC action

This action will load the DBC file for CAN ports. You have to define the port number and File name of the DBC library to load.

4.1.6. LoadFile action

This action will load the DewesoftX® data file. If the file name is wrong or if it is not defined, it will show the dialog to choose the file manually. If the path is not defined, it will try to load the data from the main data folder of the currently selected project.

4.1.7. LoadProject action

This action will open the project file. This brings the sequence above setup as well as above project files. It allows loading different projects and different setups in one single sequence.

4.1.8. LoadSetup action

This action loads the setup. A file name must be defined. The action is the same as the Load Setup main block.

4.1.9. Measure action

This action will put DewesoftX® in Measure (Acquisition) mode. It is the opposite action from Analysis and has the same effect as clicking on the Acquisition button.

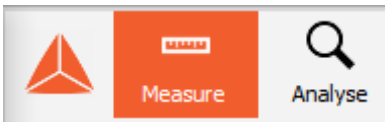

Image 41: Measure mode

4.1.10. MeasureSampleRateEx action

This action will change the sample rate of the measurement. The property MeasureSamplerate must be set to the new wanted sample rate. IMPORTANT: DewesoftX® must be running in the Acquisition – Setup screen so that this command is taken.

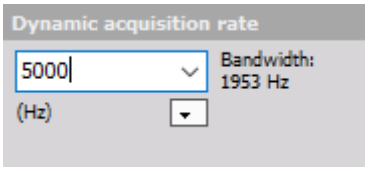

Image 42: Dynamic acquisition rate

4.1.11. NewSetup action

This action will open a new setup. It is equal to the DewesoftX's button – New setup menu item.

4.1.12. PauseStoring action

This action will Pause storing. It is equivalent to the Pause button and works in conjunction with Resume. DewesoftX® must be in Measure mode and should be storing the data so that this command is valid.

Image 43: Pause button

4.1.13. PrintScreen action

This action will make a screen dump to the printer. It is the same as the Analysis Print command. If the property ShowDialog is set to true, a dialog screen where you can change printing parameters will be

shown prior to printing. If set to false, the screen will not appear and the sequence will go directly to printing.

4.1.14. ReducedRate action

This action will set the reduced rate of the data. Please note that you need to be in Measure – Setup screen so that this command is valid. It is the same as the Static acquisition rate entry field.

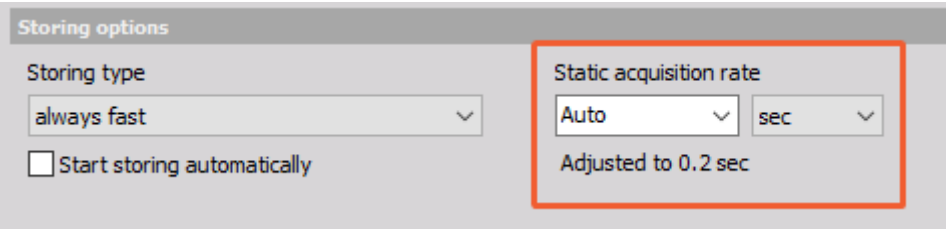

Image 44: Static acquisition rate

4.1.15. ResumeStoring action

This action will resume storing if paused. It is equivalent to the Resume button and works in conjunction with Pause. DewesoftX® must be in Measure mode, it should be storing the data and it should be paused so that this command is valid.

Image 45: Resume button

4.1.16. SaveSetup action

This action will save the setup under the defined file name. If the file name is empty, it will store the currently loaded setup.

4.1.17. SendKey action

This action will send the keystroke to DewesoftX® . The parameter Key is the key code according to the character map.

4.1.18. SetInstrument action

This action will change the shown display. The Id parameter defines the main index of the screen. This command is valid only in the measure mode. In this case 0 will set Recorder, 1 will set the Custom display. If you add more custom displays, the following numbers will connect the following displays.

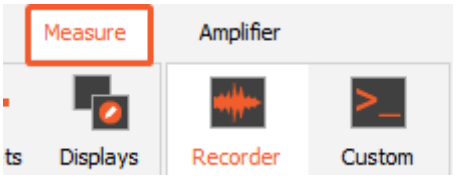

Image 46: Recorder Display

4.1.19. SetMainDataDir action

This action sets the main folder of the data.

4.1.20. SetMainToolBar action

This action is very important. It sets DewesoftX® to a certain mode. The TabName property defines the name of the main toolbar. Here a Name of the main toolbar must be entered (like Ch. Setup, Measure, Print and so on). Please note that some of the tabs are not always available. It depends if DewesoftX® is in Measure or Analyze mode.

The next selection – ButtonName defines which main menu button will be selected. Here it is again important to take care which buttons are available in which menu.

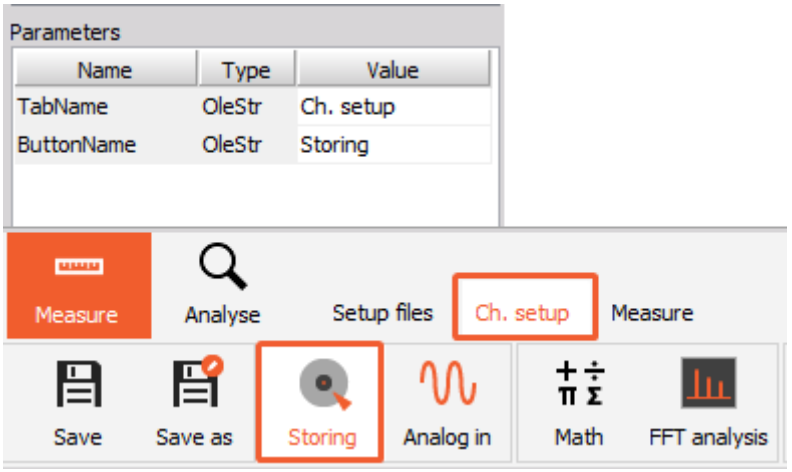

Image 47: Ch. setup -> Storing

4.1.21. SetScreenIndex action

This action changes the sub displays. If the main display has several sub-screens, this action can change between them.

4.1.22. SetStoreMode action

This action can set the store mode. Possible values for Mode are:

Number	Option
0	Always fast
1	Always slow
2	Fast on trigger
3	Fast on trigger, slow otherwise

4.1.23. SetupSampleRate action

This action changes the setup sample rate. It is similar to the settings – Channel sample rate entry. Please note that DewesoftX® must NOT be in the acquisition setup mode when this parameter is set.

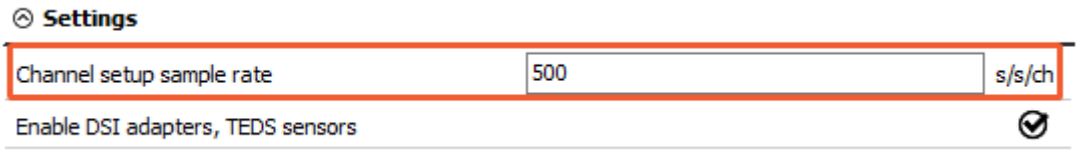

Image 48: Channel setup sample rate

4.1.24. SetupScreen action

This action changes DewesoftX® to the setup screen mode.

4.1.25. ShowPropertyFrame action

This action shows or hides the property frame and channel list while measuring.

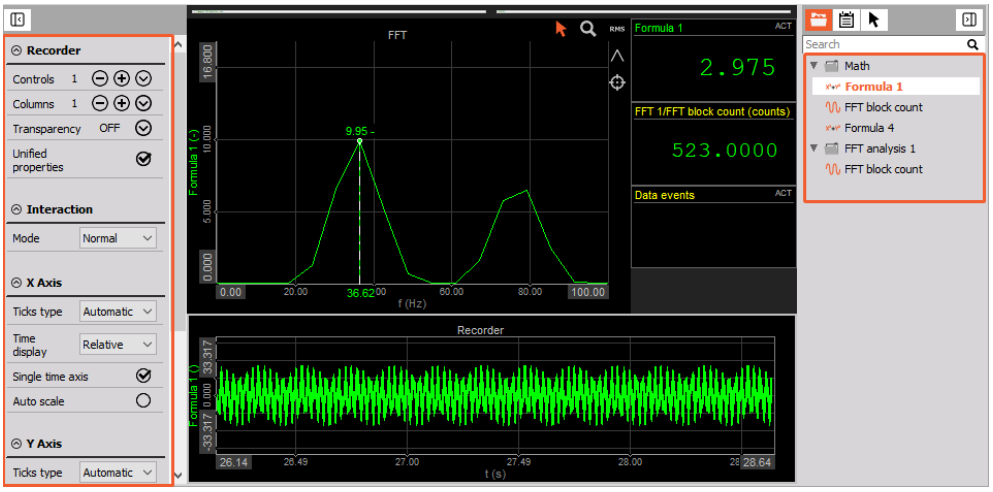

Image 49: Property frames

4.1.26. ShowStoreOptions action

This action will show or hide the storing options in Ch. Setup – Storing. The user will not be able to enter the DataFileName or set storing to Multi File option.

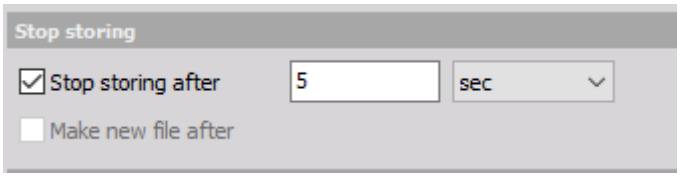

Image 50: False condition on the Action block

4.1.27. Start action

This action will start the measurement.

4.1.28. StartStoring action

This action will start storing the data. DewesoftX® must be in the Measure mode so that this command is working. It is the same as the Store button.

Image 51: Start storing

4.1.29. StayOnTop action

If the property StayOnTop is true, then DewesoftX® will always be on top even if another application has the focus.

4.1.30. Stop action

This action will stop the measurement.

Image 52: Stop storring button

4.1.31. ZeroAllAutoChannels action

This action will perform channel zero for all Auto channels. It is the same function as the Zero all option in Ch. Setup.

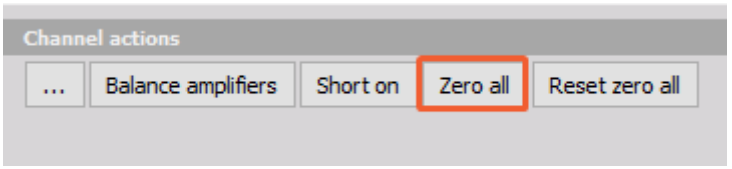

Image 53: Zero all channels

In the measure mode it is the same action as Zero, but it is important that DewesoftX® is not storing the data when this action is performed.

4.2. IF block

This block is used for making a decision. The decision is based on user choice where the question is asked in the Text info and the user answers with either Yes or No.

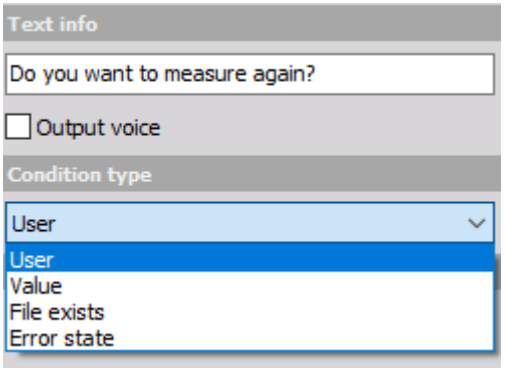

Image 54: If block options

Another option is to make a decision based on the value. We can add any number of conditions by pressing plus and minus. In the first field we can add any channel and then choose either >, <, = or != (not equal). In the second field we can also add a variable OR we can enter a fixed value.

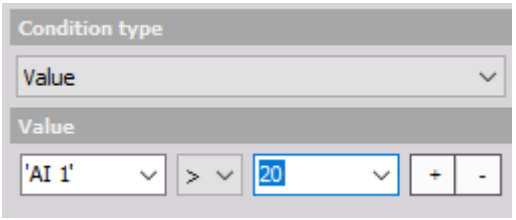

Image 55: Value condition in IF block

4.3. Repetition block

This block is used to repeat a certain workflow a fixed number of times. The only property is the number of repetitions. We need to connect the blocks which need to be repeated to Yes and the blocks which are following the Repeat block to No.

Image 56: Repetition block

4.4. Wait block

This block is used to wait for a certain event. It can wait for user interaction. It will output a Text info and show the Continue button. The execution of the workflow will continue when the user presses it.

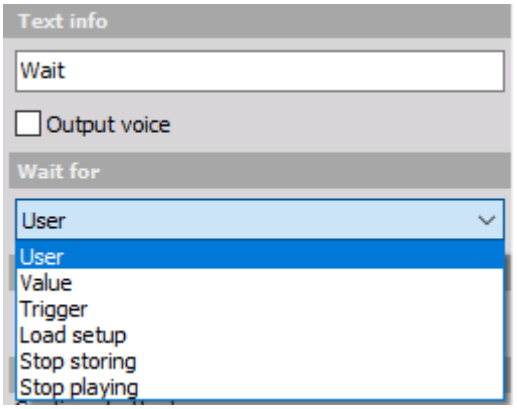

Image 57: Wait block options

Another option is to wait for the value. We can add any number of conditions by pressing plus and minus. In the first field we can add any channel and then choose either >, <, = and != (not equal). In the second field we can also add a variable OR we can enter a fixed value.

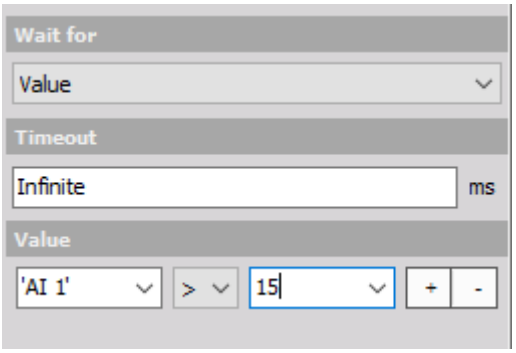

Image 58: Wait for Value

The third option is to wait for a trigger. We can either wait for the start or stop trigger. DewesoftX® must be in store mode with triggering so that this option is valid.

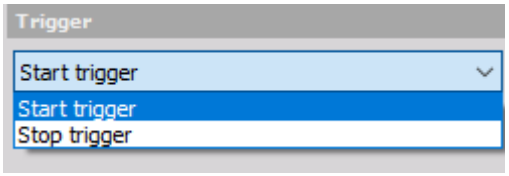

Image 59: Wait for Trigger

4.5. Delay block

This action is used to wait for a certain amount of time defined in the delay field. Time is defined in seconds.

Image 60: Delay block

4.6. Audio Video block

This block is used to play audio, video files, slideshows or output text-to-speech. A short video or audio instruction might be helpful for unskilled users. We can choose from .avi, .mkv, .mov, mp4, mpg, wmv, mp3or .wav files.

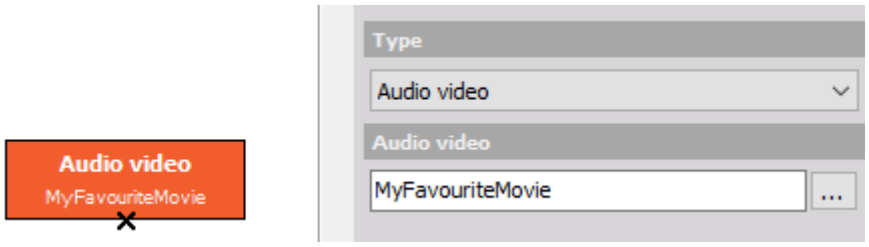

Image 61: Audio Video block

Another option is to create a slideshow to show. We can enter any number of pictures and define the delay between them.

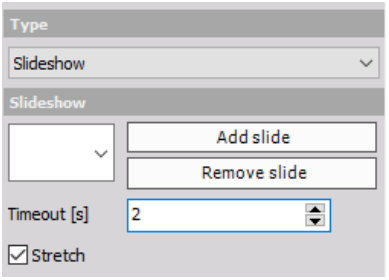

Image 62: Slideshow option

The third option is text-to-speech. This option gives us the ability to output the text which is written in the entry field to a speaker. A value of the channel can also be entered here, so if we have AI 0 at 40, the computer will say “Temperature is 40”.

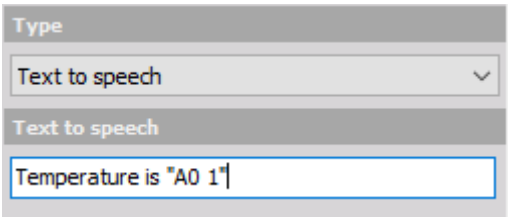

Image 63: Text to speech option

4.7.. Calculation block

This block is used to set variables or control channels. We can set data header values, internal variables used in math or control channels which operate analog or digital outputs.

The first entry is the channel which we will set. In the example below we will define the data header variable. Since this variable is set to Text, we must enter the value with a double apostrophe.

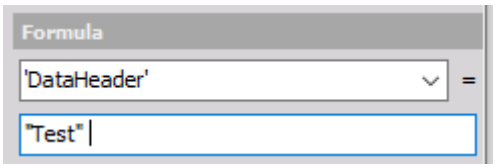

Image 64: Change the Text value

If the variable is an integer or float, we can enter the value or enter any DewesoftX’s channel with a full function of math formulas. We can for example define the counter. In the Project setup – Internal variable I defined the ‘CNT’ variable which can be used as shown below. On each transition of this block the value will be increased by 1.

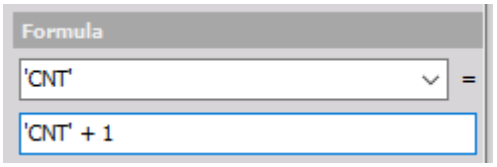

Image 65: Change the float value

This block can also set control channels. In the example below the frequency of the function generator is set to 50.

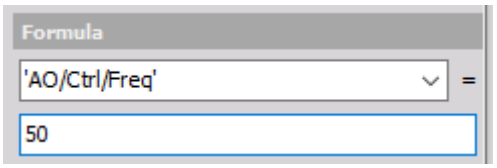

Image 66: Change the value of the FG control channel

In the calculation block we also have a lot of defined DCOM operations, which are shown in the following example, where we want to write the Maximum Value of the Formula1 Channel to the predefined sequencer variable.

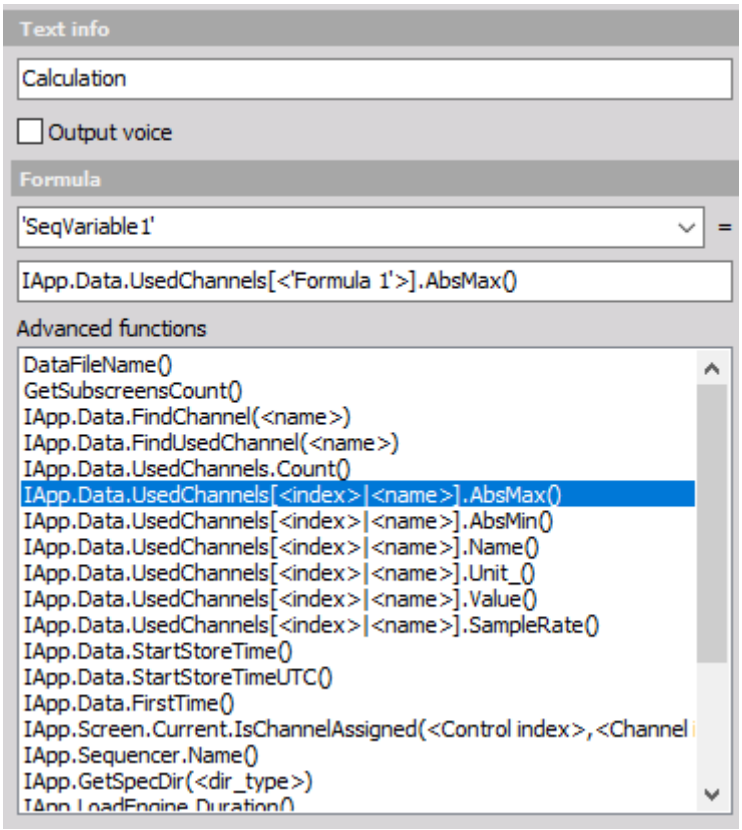

Image 67: Calculation block DCOM commands

4.8. Custom block

This block is used as a black box which can hold more modules to reduce the complexity of the main sequence. Please note that on the upper bar you have a choice to see the main sequence, event actions or Custom blocks. If we go to the custom block, we can add a new one by pressing the + button. After defining the blocks, we can enter them once or multiple times in the main sequence by adding a custom block.

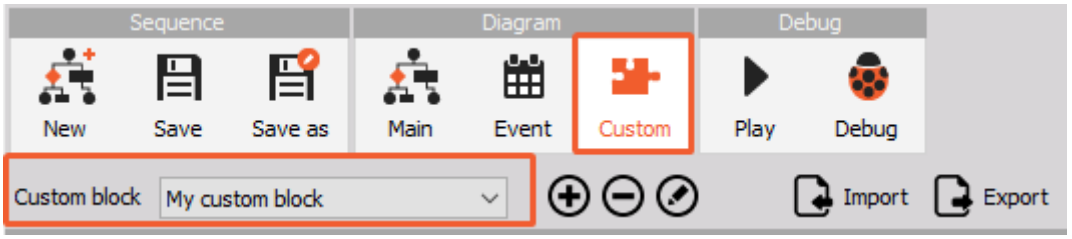

Image 68: Custom block

The only thing to define in the custom block is the name of the block.

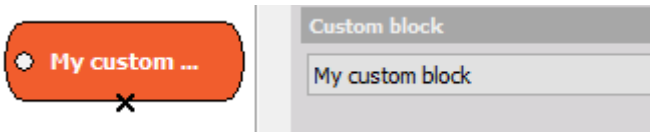

Image 69: Custom block

4.9. File manager

This block is used to perform actions on the files. We can for example run an external program with some parameters, delete, copy or rename the files.

Open file

Opens or executes the file defined in the file name. This is similar to Start – Run ... option in Windows. We can also define parameters for executables.

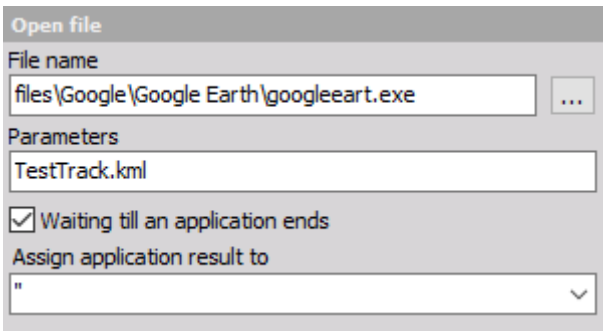

Image 70: File manager

The second option is to Copy files. We can either Copy a series of files or choose to Copy the last stored file to a defined Destination folder. This is used to create backups on network drives for example.

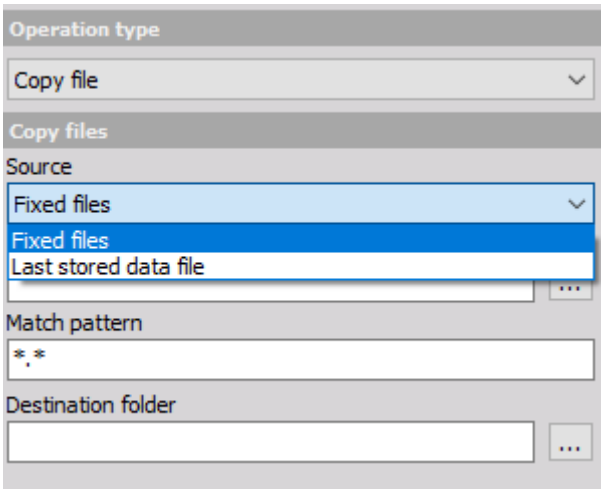

Image 71: Copy file

Another option is to Delete defined files or the last stored file. We can for example ask the user if the measurement is ok and if it was not, delete the last stored file.

At last, we can also rename the last stored file to a different name which can be either fixed or defined by the user.

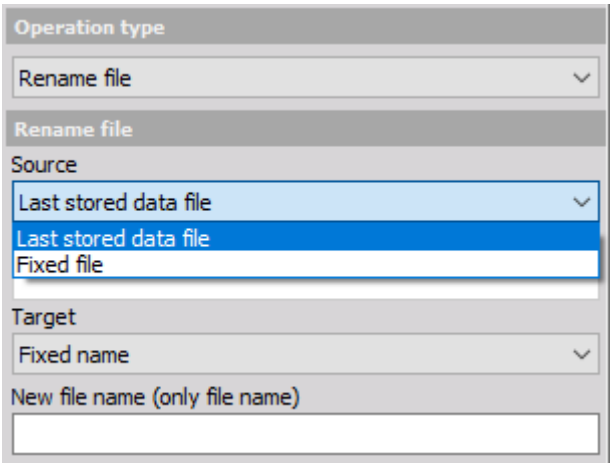

Image 72: Rename file

5. Warranty information

Notice
The information contained in this document is subject to change without notice.

Note:
Dewesoft d.o.o. shall not be liable for any errors contained in this document. Dewesoft MAKES NO WARRANTIES OF ANY KIND WITH REGARD TO THIS DOCUMENT, WHETHER EXPRESS OR IMPLIED. DEWESOFT SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Dewesoft shall not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory, in connection with the furnishing of this document or the use of the information in this document.

The copy of the specific warranty terms applicable to your Dewesoft product and replacement parts can be obtained from your local sales and service office. To find a local dealer for your country, please visit https://dewesoft.com/support/distributors

5.1. Calibration

Every instrument needs to be calibrated at regular intervals. The standard norm across nearly every industry is annual calibration. Before your Dewesoft data acquisition system is delivered, it is calibrated. Detailed calibration reports for your Dewesoft system can be requested. We retain them for at least one year, after system delivery.

5.2. Support

Dewesoft has a team of people ready to assist you if you have any questions or any technical difficulties regarding the system. For any support please contact your local distributor first or Dewesoft directly.

Dewesoft d.o.o.
Gabrsko 11a
1420 Trbovlje Slovenia

Europe Tel.: +386 356 25 300
Web: http://www.dewesoft.com
Email: support@dewesoft.com
The telephone hotline is available Monday to Friday from 07:00 to 16:00 CET (GMT +1:00)

5.3. Service/repair

The team of Dewesoft also performs any kinds of repairs to your system to assure a safe and proper operation in the future. For information regarding service and repairs please contact your local distributor first or Dewesoft directly on https://dewesoft.com/support/rma-service.

5.4. Restricted Rights

Use Slovenian law for duplication or disclosure. Dewesoft d.o.o. Gabrsko 11a, 1420 Trbovlje, Slovenia / Europe.

5.6. Printing History

Version 2.0.0, Revision 217 Released 2015 Last changed: 23. July 2018 at 16:54.

5.7. Copyright

5.8. Trademarks

We take pride in our products and we take care that all key products and technologies are registered as trademarks all over the world. The Dewesoft name is a registered trademark. Product families (KRYPTON, SIRIUS, DSI, DS-NET) and technologies (DualCoreADC, SuperCounter, GrandView) are registered trademarks as well. When used as the logo or as part of any graphic material, the registered trademark sign is used as a part of the logo. When used in text representing the company, product or technology name, the ® sign is not used. The Dewesoft triangle logo is a registered trademark but the ® sign is not used in the visual representation of the triangle logo.

6. Safety instructions

Your safety is our primary concern! Please be safe!

6.1. Safety symbols in the manual

Warning
Calls attention to a procedure, practice, or condition that could cause the body injury or death

Caution
Calls attention to a procedure, practice, or condition that could possibly cause damage to equipment or permanent loss of data.

6.2. General Safety Instructions

Warning

The following general safety precautions must be observed during all phases of operation, service, and repair of this product. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the product. Dewesoft d.o.o. assumes no liability for the customer's failure to comply with these requirements.

All accessories shown in this document are available as an option and will not be shipped as standard parts.

6.2.1. Environmental Considerations

Information about the environmental impact of the product.

6.2.2. Product End-of-Life Handling

Observe the following guidelines when recycling a Dewesoft system:

6.2.3. System and Components Recycling

Production of these components required the extraction and use of natural resources. The substances contained in the system could be harmful to your health and to the environment if the system is improperly handled at its end of life! Please recycle this product in an appropriate way to avoid unnecessary pollution of the environment and to keep natural resources.

This symbol indicates that this system complies with the European Union's requirements according to Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). Please find further information about recycling on the Dewesoft web site www.dewesoft.com

Restriction of Hazardous Substances
This product has been classified as Monitoring and Control equipment and is outside the scope of the 2002/95/EC RoHS Directive. However, we take care of our environment and the product is lead-free.

6.2.4. General safety and hazard warnings for all Dewesoft systems

Safety of the operator and the unit depend on following these rules.

- Use this system under the terms of the specifications only to avoid any possible danger.
- Read your manual before operating the system.
- Observe local laws when using the instrument.
- DO NOT touch internal wiring!
- DO NOT use higher supply voltage than specified!
- Use only original plugs and cables for harnessing.
- You may not connect higher voltages than rated to any connectors.
- The power cable and connector serve as Power-Breaker. The cable must not exceed 3 meters, the disconnect function must be possible without tools.
- Maintenance must be executed by qualified staff only.
- During the use of the system, it might be possible to access other parts of a more comprehensive system. Please read and follow the safety instructions provided in the manuals of all other components regarding warning and security advice for using the system.
- With this product, only use the power cable delivered or defined for the host country.
- DO NOT connect or disconnect sensors, probes or test leads, as these parts are connected to a voltage supply unit.
- Ground the equipment: For Safety Class 1 equipment (equipment having a protective earth terminal), a non-interruptible safety earth ground must be provided from the mains power source to the product input wiring terminals.

- Please note the characteristics and indicators on the system to avoid fire or electric shocks. Before connecting the system, please read the corresponding specifications in the product manual carefully.
- The inputs must not, unless otherwise noted (CATx identification), be connected to the main circuit of category II, III and IV.
- The power cord separates the system from the power supply. Do not block the power cord, since it has to be accessible for the users.
- DO NOT use the system if equipment covers or shields are removed.
- If you assume the system is damaged, get it examined by authorized personnel only.
- Adverse environmental conditions are Moisture or high humidity Dust, flammable gases, fumes or dissolver Thunderstorm or thunderstorm conditions (except assembly PNA) Electrostatic fields, etc.
- The measurement category can be adjusted depending on module configuration.
- Any other use than described above may damage your system and is attended with dangers like short-circuiting, fire or electric shocks.
- The whole system must not be changed, rebuilt or opened.
- DO NOT operate damaged equipment: Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, REMOVE POWER and do not use the product until the safe operation can be verified by service-trained personnel. If necessary, return the product to Dewesoft sales and service office for service and repair to ensure that safety features are maintained.
- If you assume a more riskless use is not provided anymore, the system has to be rendered inoperative and should be protected against inadvertent operation. It is assumed that a more riskless operation is not possible anymore if the system is damaged obviously or causes strange noises. the system does not work anymore. The system has been exposed to long storage in adverse environments. the system has been exposed to heavy shipment strain.
- Warranty void if damages caused by disregarding this manual. For consequential damages, NO liability will be assumed!
- Warranty void if damage to property or persons caused by improper use or disregarding the safety instructions.
- Unauthorized changing or rebuilding the system is prohibited due to safety and permission reasons (CE).
- Be careful with voltages >25 VAC or >35 VDC! These voltages are already high enough in order to get a perilous electric shock by touching the wiring.
- The product heats during operation. Make sure there is adequate ventilation. Ventilation slots must not be covered!
- Only fuses of the specified type and nominal current may be used. The use of patched fuses is prohibited.
- Prevent using metal bare wires! Risk of short circuit and fire hazard!
- DO NOT use the system before, during or shortly after a thunderstorm (risk of lightning and high energy over-voltage). An advanced range of application under certain conditions is allowed with therefore designed products only. For details please refer to the specifications.
- Make sure that your hands, shoes, clothes, the floor, the system or measuring leads, integrated circuits and so on, are dry.
- DO NOT use the system in rooms with flammable gases, fumes or dust or in adverse environmental conditions.
- Avoid operation in the immediate vicinity of high magnetic or electromagnetic fields, transmitting antennas or high-frequency generators, for exact values please refer to enclosed specifications.

- Use measurement leads or measurement accessories aligned with the specification of the system only. Fire hazard in case of overload!
- Do not switch on the system after transporting it from a cold into a warm room and vice versa. The thereby created condensation may damage your system. Acclimatise the system unpowered to room temperature.
- Do not disassemble the system! There is a high risk of getting a perilous electric shock. Capacitors still might be charged, even if the system has been removed from the power supply.
- The electrical installations and equipment in industrial facilities must be observed by the security regulations and insurance institutions.
- The use of the measuring system in schools and other training facilities must be observed by skilled personnel.
- The measuring systems are not designed for use in humans and animals.
- Please contact a professional if you have doubts about the method of operation, safety or the connection of the system.
- Please be careful with the product. Shocks, hits and dropping it from already- lower level may damage your system.
- Please also consider the detailed technical reference manual as well as the security advice of the connected systems.
- This product has left the factory in safety-related flawlessness and in proper condition. In order to maintain this condition and guarantee safety use, the user has to consider the security advice and warnings in this manual.

EN 61326-3-1:2008
IEC 61326-1 applies to this part of IEC 61326 but is limited to systems and equipment for industrial applications intended to perform safety functions as defined in IEC 61508 with SIL 1-3.

The electromagnetic environments encompassed by this product family standard are industrial, both indoor and outdoor, as described for industrial locations in IEC 61000-6-2 or defined in 3.7 of IEC 61326-1.

Equipment and systems intended for use in other electromagnetic environments, for example, in the process industry or in environments with potentially explosive atmospheres, are excluded from the scope of this product family standard, IEC 61326-3-1.

Devices and systems according to IEC 61508 or IEC 61511 which are considered as “operationally well-tried”, are excluded from the scope of IEC 61326-3-1.

Fire-alarm and safety-alarm systems, intended for the protection of buildings, are excluded from the scope of IEC 61326-3-1.

7. Documentation version history

Version	Date	Notes
1.0	01.10.2010	Initial release
V20-1	3.9.2020	New Template
V22-1	22.8.2022	• Changes and additions to section 4.1.4. ExportDataEx action • Grammar corrections throughout the document • Corrections in the image numbering