HYDROTECHNIK

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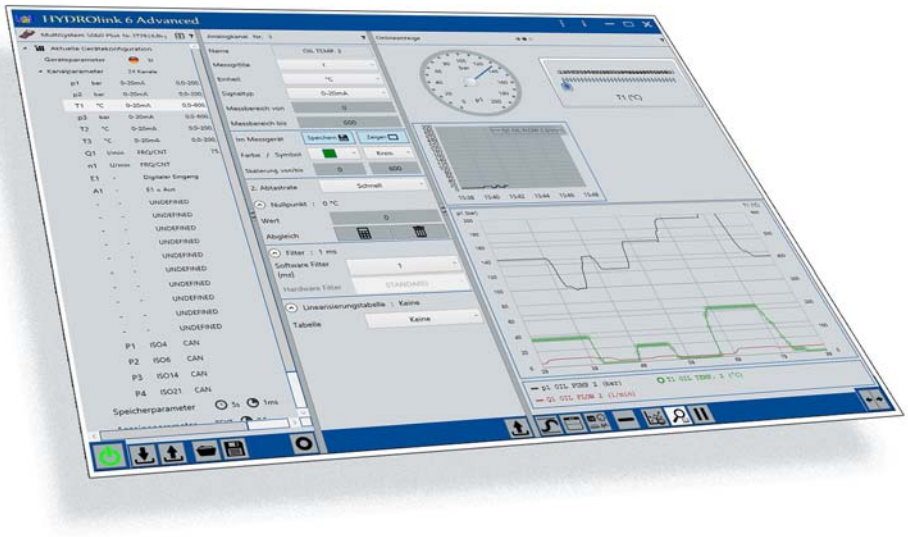

HYDROlink6 Advanced

Manual

Software version 6.2.4
Manual version 2.0

Manufacturer

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To learn more about products and services from HYDROTECHNIK, please visit our Internet site **www.hydrotechnik.com** or contact your local distributor.

Your experiences and feedback

We appreciate your suggestions and feedback. It helps us to continually improve our products.

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About this manual

This chapter will provide you with basic information about this manual.

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Scope

This manual applies to software packages with the name HYDROlink6 Advanced, produced by HYDROTECHNIK GmbH, Limburg, Germany. The instructions apply only to software with the version number indicated on the title page of this manual.

If you do not have the appropriate manual for your software, it is also available on our homepage: **www.hydrotechnik.com**

Copyright

This publication is designed exclusively for end users of HYDROlink6 Advanced.

The documentation and the software it describes comes only with a license and may only be used and copied in accordance with this license. The content of the documentation is for informational purposes and can be changed at any time without prior notice.

Great care was used during the compilation of texts and figures. However, it is not possible to exclude all errors. HYDROTECHNIK GmbH assumes no liability for errors or imprecision unless these rely on intentional or grossly negligent action.

Copyrights

Trademarks

All hardware and software names mentioned in the documentation can also include registered trademarks or other commercial property rights of third parties. The property rights of third parties must be heeded.

Purpose of the manual

This manual helps users do their daily work with the software. It contains information about the windows, dialogs, commands, and buttons of the software and explains specific procedures and operational steps. For information that extends beyond the content of this manual, we will be glad to offer you customer-specific trainings.

Please contact our sales department or your local HYDROTECHNIK partner for additional information.

Required knowledge

This manual assumes that you have previous experience in working with the Windows operating system and its operating elements, e.g. drop-down lists, buttons, etc. Typical Windows dialogs such as **Save as** and their operating elements are not described in this manual.

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Structure of the information

The information used in the manual and its meaning are explained in the following.

Note

This note informs you about possibly dangerous situations that can occur due to an operating error/inappropriate behaviour. If these situations are not avoided, damage to the machine or its surroundings can result.

This note will provide you with tips to make your work easier. This note will also provide you with further details about the working process.

Abbreviations used

The following abbreviations are used in this manual.

approx.	approximately
CAN	Controller Area Network
CPU	Central Processing Unit
ISDS	Intelligent Sensor Detection System
LAN	Local Area Network
max.	maximum
min.	minimum
MB	MultiBox
MC	MultiControl
MH	MultiHandy
MS	MultiSystem
PC	Personal Computer
PGN	Parameter Group Number
SA	Source Address
SPN	Signal Number
tab	Tabulator
USB	Universal Serial Bus
e.g.	for example

Symbols used

The following symbols are used in this manual.

➔	Beginning of an operating sequence
1, 2, ...	Steps within an operating sequence
■	End of an operating sequence
⇨	Cross-reference to a different part of this manual or to a different document.
(A)	Reference to the element indicated by letters in a figure
Button	**Blue boldface** refers to switches, controllers, sliders, buttons, and terms from the software.
Ctrl + c	**Red boldface** refers to keys on the keyboard. If keys should be pressed at the same time, this will be indicated with a plus sign (+).
Path > Dialog	Path specification. This is how you reach the dialog/function described.
BASE	Indicates information that is only valid if one of the following measuring devices is connected or if another measurement device was connected and no higher edition was licensed: • MultiHandy 2020 • MultiHandy 2025 • MultiHandy 3020 • MultiSystem 4010
MultiBox	Indicates information that is only valid if one of the following measuring devices is connected: • MultiBox 3060 • MultiBox 3061 • MultiBox 3065
MultiControl	Indicates information that is only valid if measuring devices in the MultiControl are connected.

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Operation

This chapter explains how to use the software properly.

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Introduction

HYDROlink6 is software from HYDROTECHNIK.

Functional description

HYDROlink6 facilitates the operation of HYDROTECHNIK measurement devices that are connected to the computer.

HYDROlink6 provides you with the following functions:

- Display of current measurement values of selected channels
- Display min./max. measurement values of selected channels
- Display of measurement series stored on the measurement device
- Saving of measurement series
- Recording of measurement series
- Export of measurement series as graphic (PNG, JPG, BMP, GIF)
- Printout of a measurement series log or saving as a PDF file.
- Display of measurement series saved on the computer, exporting or creating a log of these
- Management and configuration of several measurement devices
- Combination of several measurement devices

You can change the display of the measurement values and measurement series. You can adapt the layout of the log.

You can operate the HYDROlink6 using the mouse, your voice, or a touch screen.

Program versions

The application is available in three versions:

- BASE
- ADVANCED
- PROFESSIONAL

These instructions describe the ADVANCED version.

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After installing HYDROlink6, the BASE version is available. To work with the ADVANCED or PROFESSIONAL version, an appropriate license must be purchased and activated.

If you connect other measurement devices, only the functions of the BASE version are available since these measurement devices cannot be operated remotely.

The functions of the ADVANCED and PROFESSIONAL versions are available for measurement devices in the **5060**-, **8050**-, and **xx70** families.

If a **MultiBox**, a **MultiPanel** or a device in the **MultiControl** family is connected, then the ADVANCED version is released automatically.

System requirements

Please observe the following system requirements.

Operating system

Microsoft Windows 7 SP1 or higher.

We recommend the 64-bit version.

.NET Framework

.NET Framework 4.8.

PDF viewer

Adobe Reader or comparable reader program.

Hardware

At least the same system requirements of Microsoft Windows 7.

Recommended hardware:

- Processor: Intel i3 multi-core processor with 2.5 GHz or comparable processor
- Memory: 4 GB
- Printer
- Multi-touchscreen is supported

Supported measurement devices

HYDROlink6 supports all listed measurement devices. If you connect a MH 2020, MH 3020 or MS 4010 measurement device to HYDROlink6, then HYDROlink6 switches automatically to the **BASE** version regardless of which version was licensed. This is because these measurement devices do not support the **ADVANCED** version.

- MH 2020 (only **BASE** functionality)
- MH 2025
- MP 2025
- MH 3020 (only **BASE** functionality)
- MS 4010 (only **BASE** functionality)
- MB 306x

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Installation

A set-up wizard will assist you during the installation of HYDROlink6.

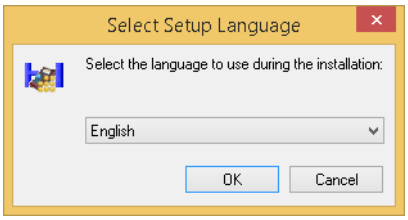
➔ **How to install HYDROlink6**

1 Disconnect all HYDROTECHNIK measurement devices from the computer.

2 Save and close all applications.

3 Execute the installation file and confirm the Windows security queries.

4 Select the set-up language.



5 Follow the instructions in the set-up wizard.

■

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Setting up HYDROlink6

You can start and set up HYDROlink6 after the installation has been completed.

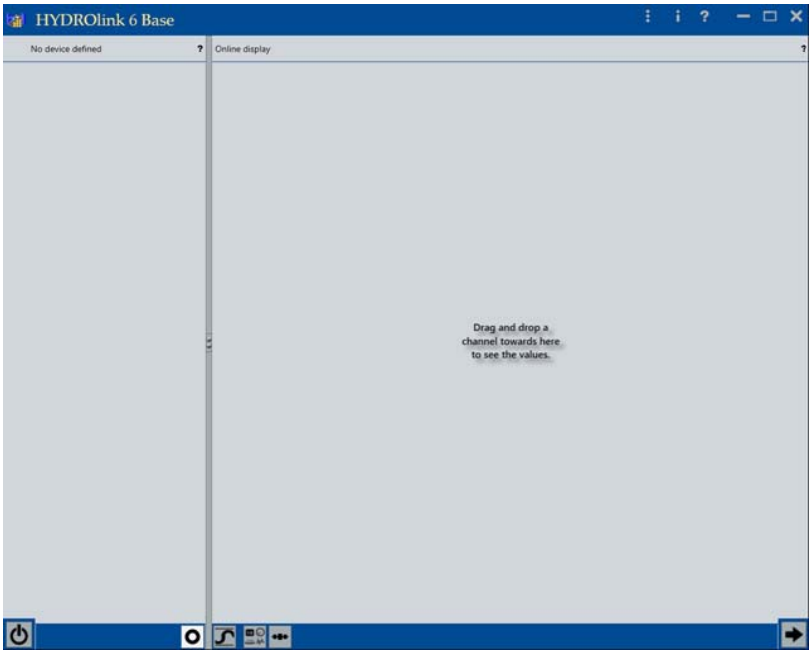

Image: HYDROlink6

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You can adapt HYDROlink6 to your needs.

All settings are made on the **Settings** dialog and described in the **Software description** chapter.

⇨ **Voice control** on page 168

You should always specify the following settings:

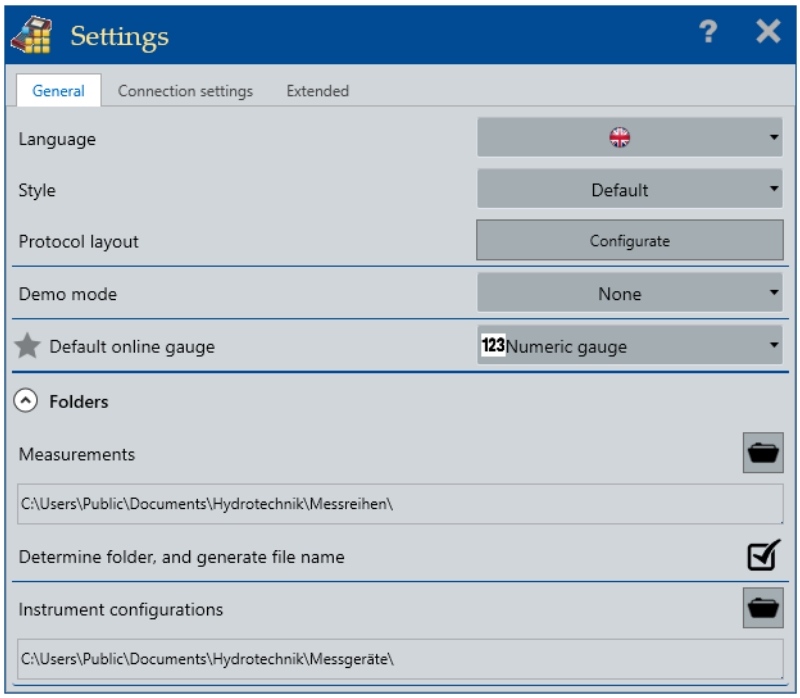
- **User interface language**
- **Default directories for measurement series and measurement device configurations**
- **Log layout**

➔ **How to open and close the Settings dialog**

1 Double-click the HYDROlink6 icon on your desktop to start HYDROlink6.

2 Click the **Open Settings dialog** button .

The settings dialog is displayed.



All changes and input are immediately adopted by HYDROlink6. Saving the settings is not necessary.
A new language will be used the next time the application is started.

3 Click the **Close** button to close the settings dialog.

■

User interface language

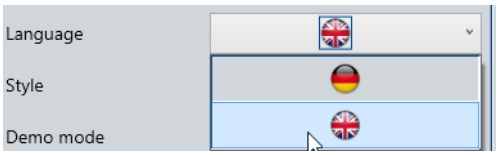
HYDROlink6 uses the language of the operating system as its default setting. If HYDROlink6 does not have this language, HYDROlink6 will be installed with the English user interface.

You can change the user interface language on the **Settings** dialog on the **General** tab.

➔ **How to specify the user interface language**

1 Click the button next to the **Language** entry.

The list of available languages is displayed.



2 Click the desired language symbol.

3 Close the **Settings** dialog .

4 Close HYDROlink6 .

5 Restart HYDROlink6.

HYDROlink6 starts in the new language.

■

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Default directories for measurement series and measurement device configurations

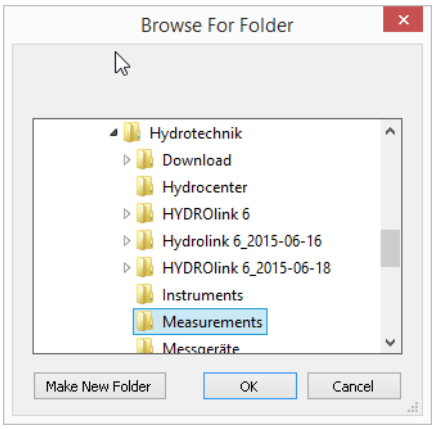
During installation, HYDROlink6 creates a default directory for measurement series and measurement device configurations.

You can change the default directory and specify that HYDROlink6 saves new measurement series in the default directory automatically.

➔ **How to specify the default directory for measurement series**

1 Click the button in the **Directories** area.

The Windows **Browse folder** dialog is displayed.



2 Mark the desired folder or create a new folder.

3 Click **OK**.

4 To have HYDROlink6 save new measurement series automatically, click . The time stamp is used as file name.

■

You specify the default directory for measurement device configurations analogously. This setting is also in the **Directories** area.

Log layout

You can change the layout of the log on the **Log layout** dialog.

On the **Settings** dialog, click the **Configure** button next to the **Log layout** entry to open the **Log layout** dialog.

⇨ **Configuring the log layout** on page 70.

Licensing HYDROlink6

After installation, the **BASE** version is available. The **ADVANCED** and **PROFESSIONAL** versions must be licensed.

Licensing is done in five steps:

1. Purchase desired version
2. Register
3. Request license
4. Receive license file
5. Activate license

When purchasing HYDROlink6, you select the desired version. With the purchase, you receive a serial number for the selected version. After you have installed HYDROlink6, request a license.

➔ **How to register**

1 Click the **Open info dialog** button **i**.

2 Select **Request license**

3 Select **Registration**.

You will be forwarded to the HYDROTECHNIK customer center. Enter the required data.

After registration, you must click the link in the registration e-mail.

A license for a **ADVANCED** or **PROFESSIONAL** version can only be requested with an e-mail address that has already been registered.

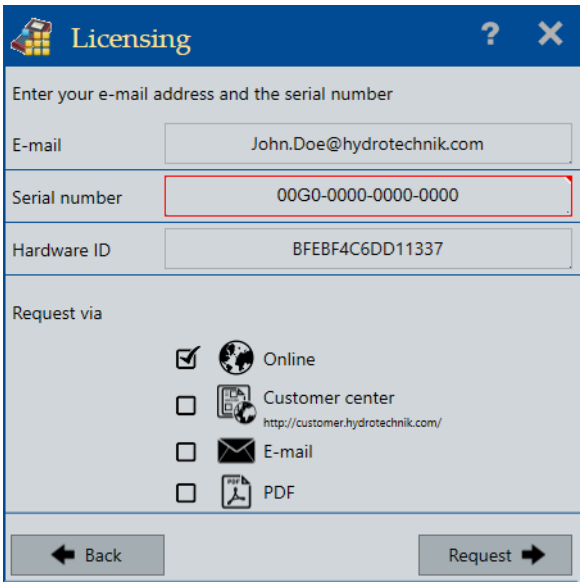
➔ **How to request a license**

1 Click the **Open info dialog** button i.

2 Select **Request license.**

3 Click the **Next** button.

The **Licensing** dialog is displayed.



4 Enter the required data.

E-mail: Enter the e-mail address with which you are registered at HYDROTECHNIK.

Serial number: You receive the serial number in the form of a certificate when you have purchased a **ADVANCED** or **PROFESSIONAL** version. In the serial number, there are no **Os**; any characters that look like this are always the number zero (**0**).

Hardware ID: This is generated automatically by the software and entered in the field.

5 Select one of the methods for requesting the license.

Online: The license request and activation are done automatically in a single step. This option can be blocked by firewall settings. In this case, contact your network administrator.

Customer center: You will be forwarded to the HYDROTECHNIK customer center. After you have logged in, the licensing page opens. The license file and license key will be created automatically and sent to you via e-mail. You use the license file and the license key to activate the license manually in the application.

E-mail: Your license request is sent to the HYDROTECHNIK customer center via e-mail. The license key is generated manually by the customer center employees. The license file and license key will be sent to you via e-mail. You use the license file and the license key to activate the license manually in the application.

PDF: Your license request is generated as PDF. You can send it via e-mail or post to the HYDROTECHNIK customer center. The address is included in the PDF. The license key is generated manually by the customer center employees. The license file and license key will be sent to you via e-mail. You use the license file and the license key to activate the license manually in the application.

In the customer center, you can check how many free licenses are present.

■

➔ **How to activate a license manually**

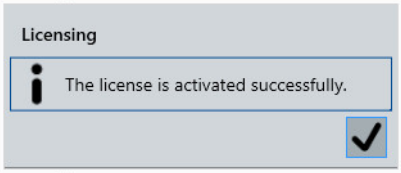
1 Click the **Open info dialog** button .

2 Select **Activate license**.

The Windows **Open** dialog is displayed.

3 Select the license file that you have received via e-mail.

The license is activated.



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Overview

Get an overview of the various application cases and the user interface in order to use HYDROlink6 optimally.

Flow of different application cases

There are the following application cases for HYDROlink6:

- **Using online display and recording online measurement series**
- **Displaying measurement series without connected measurement device**
- **Managing, configuring, and using several configurations for a measurement device**
- **Coupling several measurement devices, performing measurement, and managing, configuring, and using their device settings**

There is a typical sequence of activities for each application case.

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Using online display and recording online measurement series

The online display shows the current measurement values for a connected measurement device.

You can record these measurement value directly in the software as online measurement series.

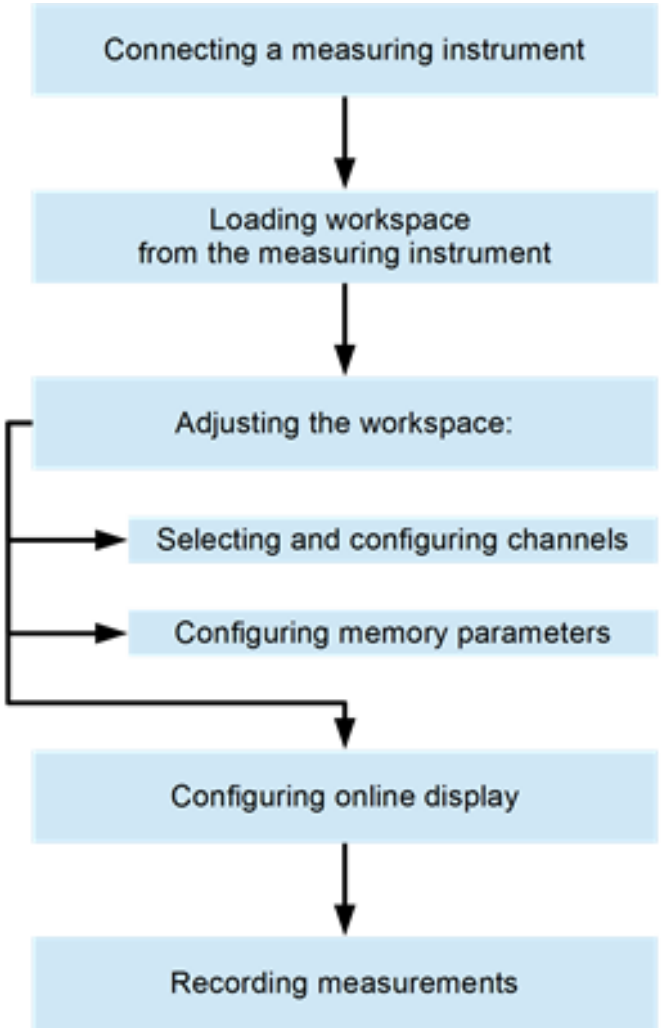

Image: Using online display and recording online measurement series

The recording of online measurement series takes place in 3 stages:

1. Saving of the measurement values on the measurement device (generally in memory 200).
2. Copying of the measurement series to the memory card in the measurement device.
3. Transfer of the measurement series to HYDROlink6.

See also:
⇨ **Using the online display** on page 43
⇨ **Recording a measurement** on page 59

Displaying measurement series without connected measurement device

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If you have saved individual measurement series on your computer, the software can display measurement series without a connected measurement device.

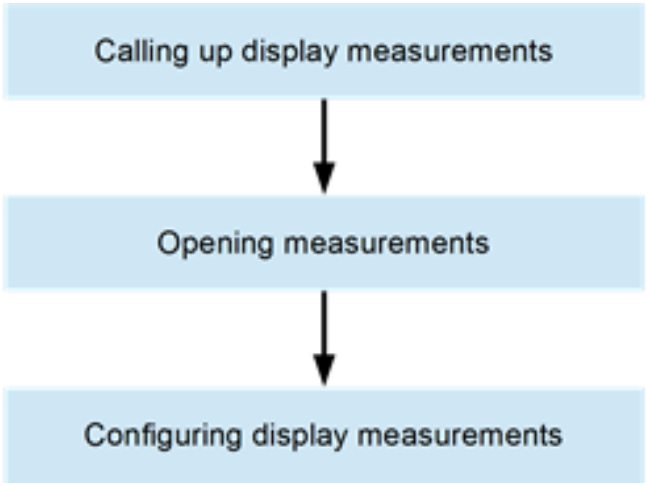

Image: Displaying measurement series without connected measurement device

⇨ **Using the Measurement display** on page 53

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Managing, configuring, and using several configurations for a measurement device

With the software, you can create and edit different configurations for a measurement device, and if necessary, transfer them to the measurement device.

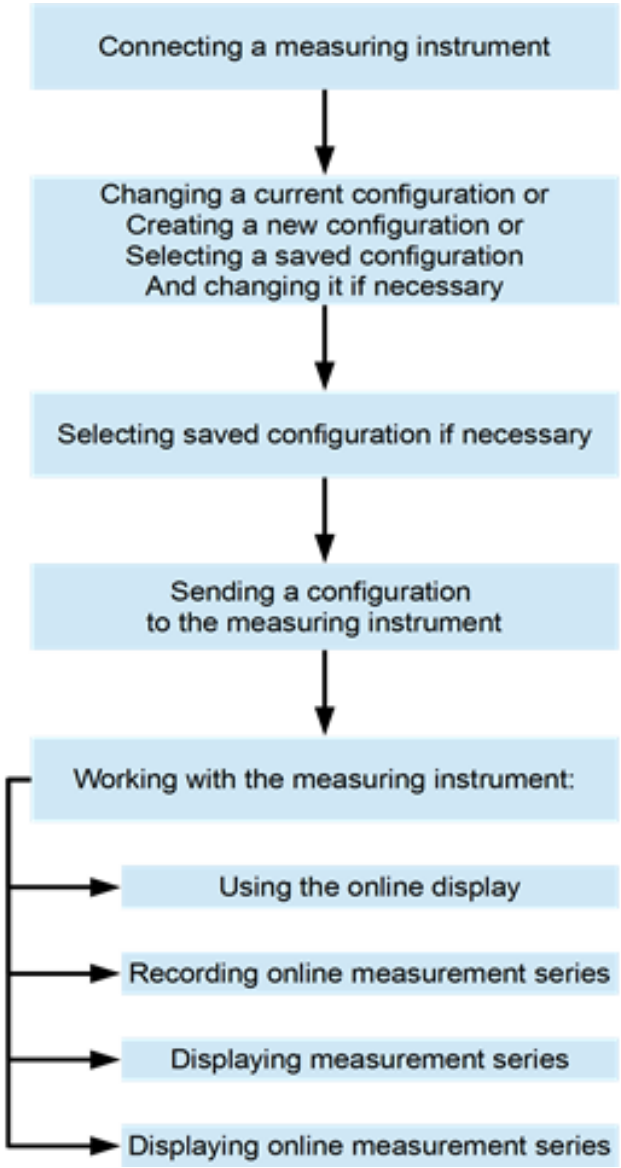

Image: Managing, configuring, and using several configurations for a measurement device

⇨ **About working area and configurations** on page 37
⇨ **Working with configurations** on page 38
⇨ **Managing configurations** on page 39

Coupling several measurement devices, performing measurement, and managing, configuring, and using their device settings

The software enables you to couple several measurement devices easily and therefore to multiply the number of available measurement channels. Coupling measurement devices is also possible without the software. However, the software simplifies the configuration of several measurement devices and enables the recording of measurement data from all measurement devices as a single measurement series without detours.

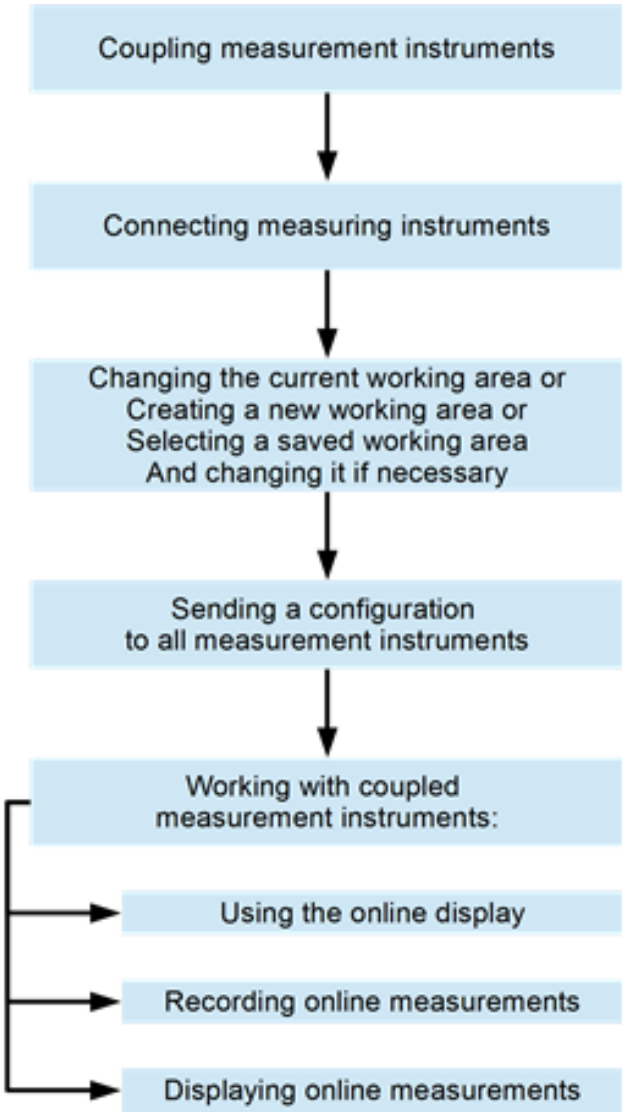

Image: Coupling several measurement devices, performing measurement, and managing, configuring, and using their device settings

⇨ **Coupling several measurement devices** on page 61

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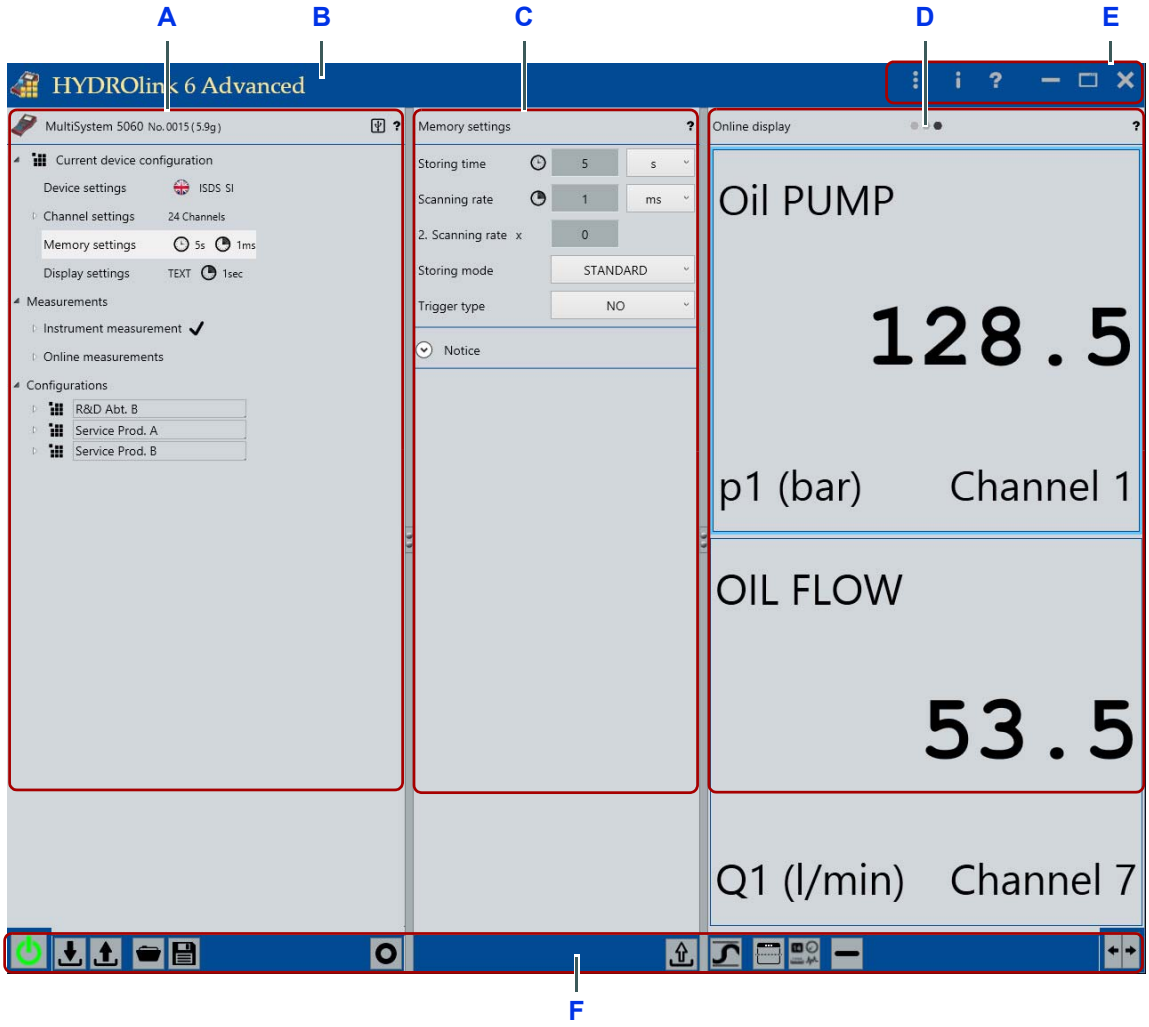
User interface



- **A** Device explorer
- **B** Voice control
- **C** Detail area (appears after selection in the device explorer)
- **D** Viewer
- **E** Information and configuration bar
- **F** Toolbar

Image: HYDROlink6 Application window with Online display

HYDROlink6 is divided into three main areas:

The left side is the device explorer (**A**)and shows information about connected measurement devices in a hierarchical structure. If no measurement device is connected, the most recently displayed information will be shown.

⇨ **Device explorer** on page 77.

The detail area is in the middle (**C**). This area is shown if you select menu elements in the device explorer for which you can change settings.

⇨ **Detail area** on page 94

The right side (**D**) is the viewer. The viewer shows the **Online display**, the **Device display** or the **Measurement series display**. The online display shows current measurement values for the connected measurement device. The **Device display** simulates the display on the device display and also shows current measurement values. The **Measurement series display** shows saved measurement series as a line graph. You can open measurement series from the measurement device or the computer.

The three areas, device explorer, detail area, and viewer can be made wider or narrower and separated from another by dragging the bars. Use the handles to adjust the width of the areas.

Use the **Switch** button to change between the **Online display**, the **Device display**, and the **Measurement series display**.

⇨ **Using the online display** on page 43

⇨ **Using device display** on page 50

⇨ **Using the Measurement display** on page 53

You can open the help with the **?** button or with the **F1** key. The help is context-sensitive. This means that the help is opened to the part of the software description that is relevant for the current part of the user interface.

⇨ **Software description** on page 74

The toolbar (**F**) is located under the device explorer, the online display, and the measurement series display. Different tools are offered for the **Online display**, the **Device display,** and the **Measurement series display**.

The information and configuration bar (**E**) is in the top right.

In addition to the default Windows button, you can open the **Info menu**:

- **Help**

  ⇨ **Software description** on page 74
- **About...**
- **Request license**

  ⇨ **Licensing HYDROlink6** on page 17

  ⇨ **Licensing dialog** on page 159
- **Activate license**

You can also open the **Settings**.

⇨ **Voice control** on page 168.

You can operate certain functions of HYDROlink6 using voice control. Voice control must be activated in the **Settings**. When activated, the symbol will be displayed in the title bar (**B**).

⇨ **Voice control** on page 168.

Starting tips

HYDROlink6 will show you information about many of the buttons the first time you use them. The information provides a brief description of the button. This will help you learn how to use HYDROlink6.

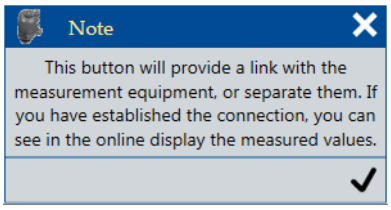


Image: Note about starting tips

Click the checkmark to close the information window. HYDROlink6 will subsequently execute your command. The next time you click the same button HYDROlink6 will no longer show the starting tip; it will execute your command directly.

If you would like HYDROlink6 to show you the starting tip again, activate the starting tips in the **Settings**.

⇨ **Advanced tab** on page 152.

Touch operation

HYDROlink6 supports touch-capable devices, for example, tablets. Use familiar gestures from tablet interfaces. For simplicity's sake, these instructions only describe the operation using a mouse. Touch gestures are only described in certain situations.

Tooltips

HYDROlink6 will show you tooltips in many places, for example, if you hover the mouse pointer over **Channel settings**. When using touch operation, leave your finger on the corresponding point for approx. one second.

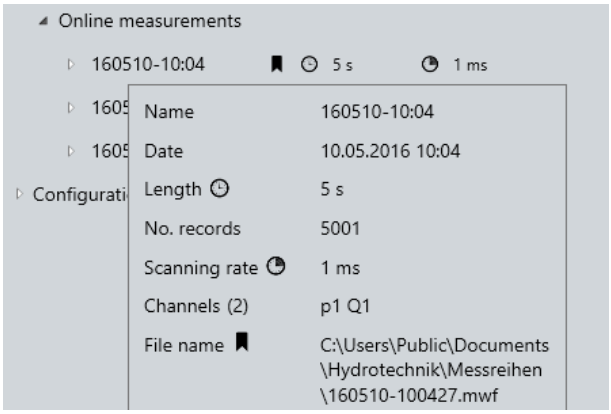


Image: Tooltip

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Connecting a measurement device

You must physically connect a measurement device to the computer and to HYDROlink6 to enable HYDROlink6 to access the measurement device.

➔ **How to connect your measurement device to HYDROlink6**

1 Connect the measurement device to the computer.

The operating instructions for the measurement device will explain how to connect the measurement device to the computer.

2 Switch the measurement device on.

Wait until the measurement device has switched on and Windows detects it as a device.

3 Open HYDROlink6.

4 Click the **Connect** button .

When the measurement device is connected to HYDROlink6 the **Connect** button icon is green.

■

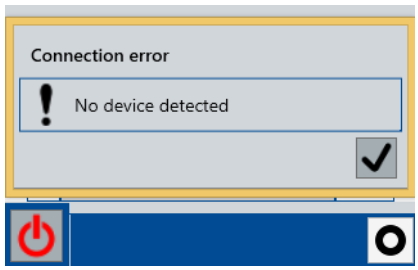
After you have connected the measurement device, next you must load the working are from the measurement device or send a working area to the measurement device.

⇨ **Transfer and change working area** on page 31

Connection error

If HYDROlink6 is unable to detect any measurement device, then no connection can be established.

HYDROlink6 displays the **Connection error** dialog. The **Connecting** button symbol is red.



Check whether the measurement device is correctly connected to the computer and switched on.

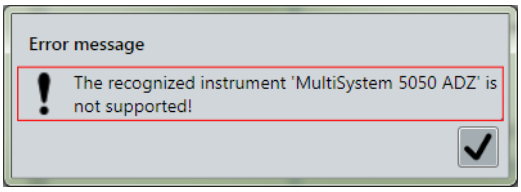
ENG

Unsupported measurement device

HYDROlink6 checks the model of the measurement device.

If the model is not supported by HYDROlink6, an error message will be displayed. You can not use the measurement device with HYDROlink6. You may require different software. Contact our customer service or your contact person at HYDROTECHNIK for more information.

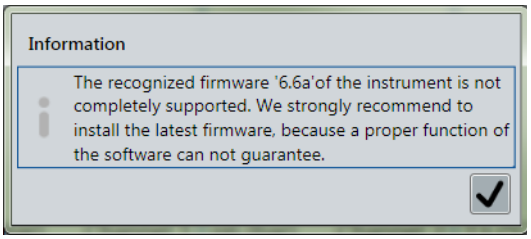
⇨ **Supported measurement devices** on page 12.



Firmware version information

HYDROlink6 checks the firmware version of the measurement device.

Information will be displayed if the firmware version is not compatible with HYDROlink6. Depending on the situation, HYDROlink6 may be able to work with the measurement device, however, in a limited way.

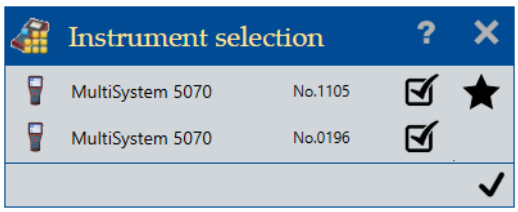


Click the checkmark to close the information. In the device information, the symbol ⚠ indicates that the firmware version is not fully supported by HYDROlink6.

Perform a firmware update on your measurement device.

Multiple measurement devices

If you have connected more than one measurement device to your PC, HYDROlink6 opens the device selection dialog.



If you only want to use one measurement device, deselect the others and click the ✓ button.

You can also combine several measurement devices and thereby increase the number of available channels.

⇨ **Coupling several measurement devices** on page 61

Transfer and change working area

To use the online display, the device display or the measurement series display, you must first transfer the working area from or to the measurement device.

The working area includes the totality of all settings.

You can change all settings for the measurement device in the software and then transfer them to the measurement device.

You have the following options:

- **Load working area from measurement device**
- **Changing the working area**
- **Sending working area to measurement device**
- **Managing settings**

Load working area from measurement device

After you have connected a measurement device, the working area is loaded from the measurement device automatically.

⇨ **Connecting a measurement device** on page 29

So that a changed working area becomes effective, you have to send the working area to the measurement device. If you would like to discard a changed working device, you can simply load the working area again from the measurement device.

Click the **Load working area from measurement device** button.

After you have loaded the working area from the measurement device, you can change the working area again, use the online display or record a measurement series.

⇨ **Changing the working area** on page 32
⇨ **Using the online display** on page 43
⇨ **Using device display** on page 50
⇨ **Recording a measurement** on page 59

Changing the working area

You can change the working area for the connected measurement device that you have loaded from the measurement device or a file in the software.

If you have loaded the working area from the measurement device or you have loaded a working area from a HYDROlink configuration file.

⇨ **Load working area from measurement device** on page 31

⇨ **How to save the working area as file** on page 41

The following instructions are merely a sample. You can read more about which settings you can change where in the **Software description**. You can also use the context-sensitive help in the software by pressing the **F1** key to learn more about individual dialogs.

➔ **How to configure a channel for the online display, for example.**

1 Connect the measurement device.

⇨ **Connecting a measurement device** on page 29

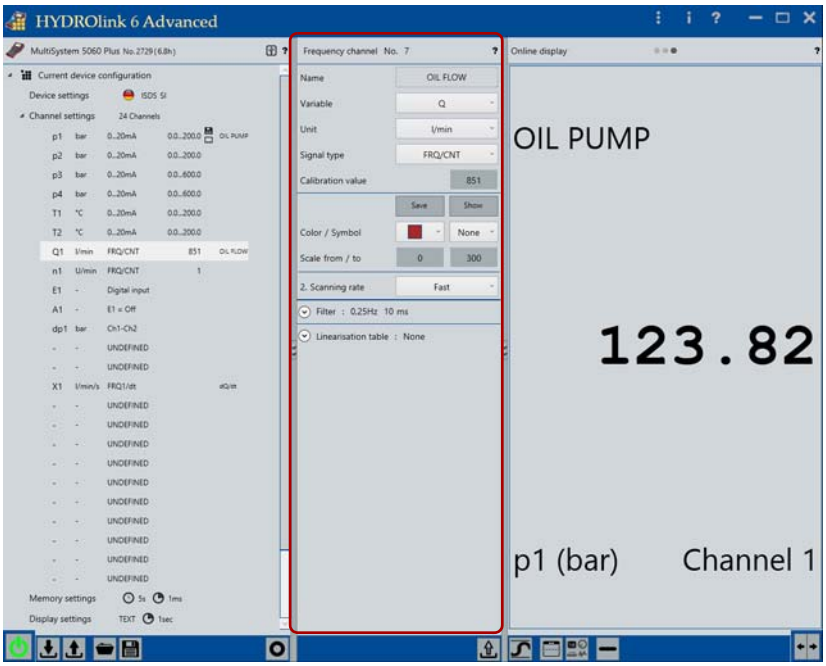
The working area is loaded from the measurement device.

2 Open the **Current device configuration** menu.

3 Open the **Channel parameters** menu.

4 Mark the desired channel.

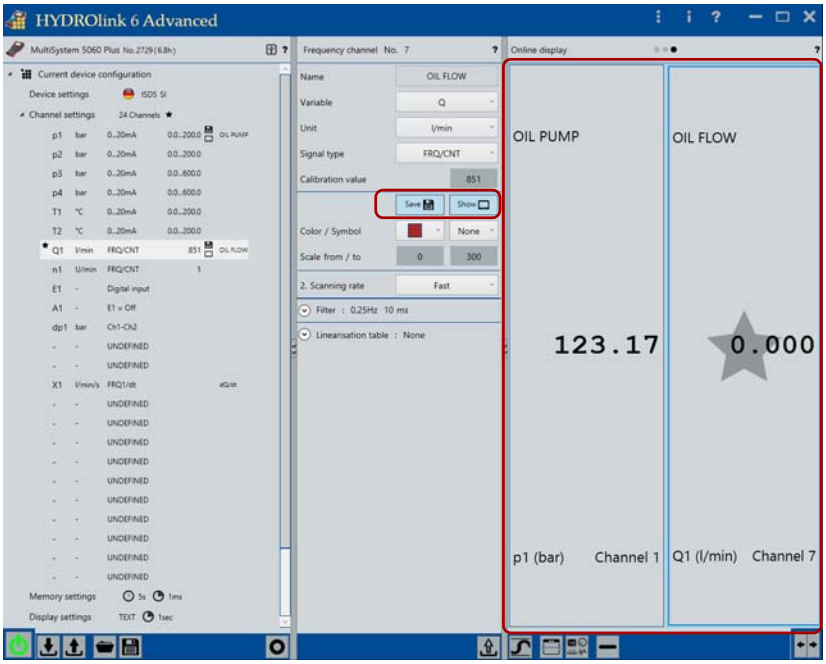
The detail area displays the channel parameters.



ENG

5 Click the **Save** and **Show** buttons.

The channel is shown in the online display.

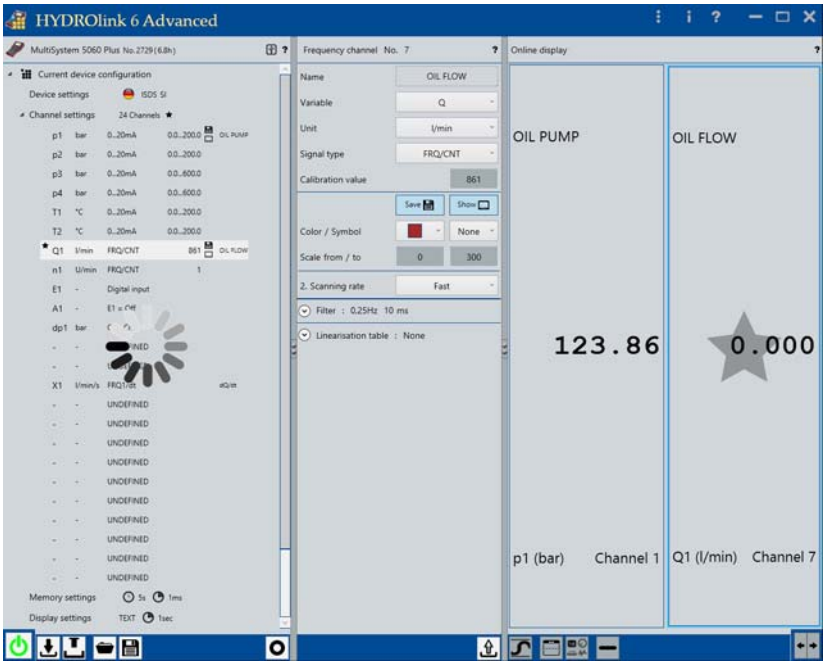


6 If necessary, change additional settings.

7 Parameters that you have changed are marked with an asterisk ★.

8 To transfer the changes to the measurement device, click the **Send working area to measurement device** button .

The changed working area is transferred.



■

⇨ **Software description** on page 74

ENG

Sending working area to measurement device

To use a changed working area for the measurement device, send the working area to the measurement device.

You have connected a measurement device.

⇨ **Connecting a measurement device** on page 29

You have changed the working area or you have loaded and changed a working area.

Parameters that you have changed are marked with an asterisk ★.

⇨ **Load working area from measurement device** on page 31

⇨ **How to save the working area as file** on page 41

⇨ **Changing the working area** on page 32

Click the **Send working area to measurement device** button .

Here, all configurations are also sent to the measurement device.

⇨ **About working area and configurations** on page 37

⇨ **Working with configurations** on page 38

⇨ **Managing a working area** on page 41

Send individual parameters to the measurement device

Instead of sending the working area to the measurement device, you can send individual settings to the measurement device, e.g. only the device parameters or only the channel parameters of a channel.

You have connected a measurement device.

⇨ **Connecting a measurement device** on page 29

You have changed the working area or you have loaded and changed a working area.

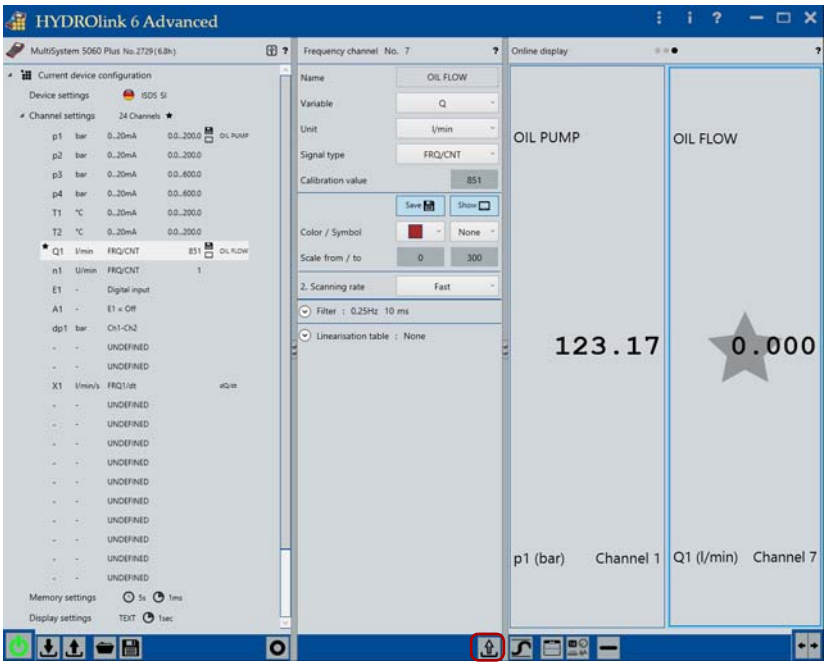
Parameters that you have changed are marked with an asterisk ★.

⇨ **Load working area from measurement device** on page 31

⇨ **How to save the working area as file** on page 41

⇨ **Changing the working area** on page 32

Click the **Send these settings to measurement device** button in the detail area.



The successful sending is confirmed with a checkmark symbol.

ENG

Managing settings

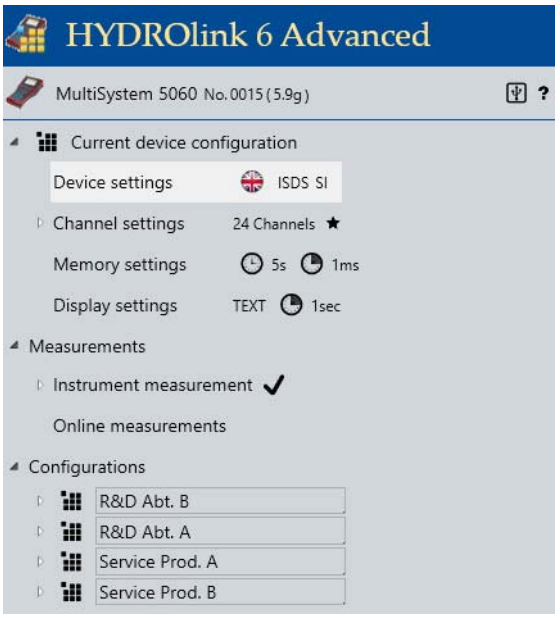
The software allows you to configure several measurement devices of the same and different types flexibly and easily for the same or different purposes.

About working area and configurations

ENG

You can manage two different types of settings:

- **Configurations**
- **Working area**



Configurations

Configurations include everything that is displayed under **Current device configuration**:

- **Device parameters**
- **Channel parameters**
- **Storage parameters**
- **Display parameters**

A configuration in the software is identical to a project on the measurement device.

A configuration on the **Configuration** menu is shown analogously to the **Current device parameters** menu in the explorer. On the **Configuration** menu, you can edit the parameters just as you can on the **Current device configuration** menu.

Configurations are saved as PRJ files.

Working area

The working area include everything that is displayed in the entire device explorer:

- **Current device parameters**
- **Measurement series**
- **Configurations**

The working area also contains the online measurement series as link to the MWF files.

All configurations that you save individually and can send to the measurement device are part of the working area. If you load the working area from the measurement device, all projects on the measurement device are displayed on the **Configurations** menu.

You can save a maximum of 10 configurations per working area and at the same time on a measurement device. To save 20 or 30 configurations, you can create several working areas.

Working area files are saved in XHTC files.

ENG

Working with configurations

With configurations, you can configure measurement devices of the same type for different purposes.

Creating several configurations

You always create a new configuration from an existing device configuration. After that, you can rename the configurations and change parameters in them.

Adjusting configurations

You can create different configurations for different purposes, e.g. one apiece for different departments in R&D and other ones for different products for the customer service.

Transferring configurations to several measurement devices

Insofar as the same measurement device type (e.g. MultiSystem 5070) is used, you can transfer these different configurations to different measurement devices. Of course you can also transfer the same configurations to different measurement devices of the same type.

⇨ **Managing configurations** on page 39

Working with working areas

With working areas, you can manage settings for different types of measurement devices.

For example, you can manage five MultiSystem 5070s and eight MultiControl 8050s for a total of five purposes. Then you would create a working area for each measurement device type and within each working area, one configuration apiece for each purpose.

⇨ **Managing a working area** on page 41

Managing configurations

With configurations, you can configure measurement devices of the same type for different purposes.

Configurations in the software are called projects on the measurement devices.

⇨ **Working with configurations** on page 38

You have the following options:

- **How to send the selected configuration to the measurement device**
- **How to create a new configuration.**
- **How to delete a configuration**
- **How to overwrite a configuration**
- **How to save the selected configuration as file**

➔ **How to send the selected configuration to the measurement device**

1 Connect the measurement device.

⇨ **Connecting a measurement device** on page 29

The working area is loaded from the measurement device.

2 Open the **Configuration** menu.

The list of existing configurations is displayed.

3 Perform the following steps:

- Change a configuration.
- Create a new configuration.
- Overwrite a configuration.
- Load a configuration from a file.

4 Mark the configuration in question.

5 Click the **Send selected configuration to the measurement device** button  .

The new configuration is available as a project on the measurement device.

■

➔ **How to create a new configuration.**

1 Connect the measurement device.

⇨ **Connecting a measurement device** on page 29

The working area is loaded from the measurement device.

2 Mark **Current device configuration** and drag the icon to the **Configuration** menu. Confirm the dialog.

The new configuration is displayed on the **Configuration** menu.

3 To rename the configuration, mark the name of the configuration.

4 To transfer the changes to the measurement device, click the **Send selected configuration to measurement device** button  .

The new configuration is available as a project on the measurement device.

■

➔ **How to delete a configuration**

1 Mark the desired configuration.

2 Click the **Delete the selected configuration** button  and confirm the dialog.

■

➔ **How to overwrite a configuration**

1 Connect the measurement device.

⇨ **Connecting a measurement device** on page 29

The working area is loaded from the measurement device.

2 Open the **Configuration** menu.

The list of existing configurations is displayed.

3 Mark **Current device configuration** and drag the icon to the icon for the configuration that you want to overwrite. Confirm the dialog.

The new configuration is displayed on the **Configuration** menu.

4 To rename the configuration, mark the name of the configuration.

5 To transfer the changes to the measurement device, click the **Send selected configuration to measurement device** button  .

The new configuration is available as a project on the measurement device.

■

➔ **How to save the selected configuration as file**

Saving configurations as file is possible for all measurement devices that support the ADVANCED version.

1 Connect the measurement device.

⇨ **Connecting a measurement device** on page 29

The working area is loaded from the measurement device.

2 Open the **Configuration** menu.

The list of existing configurations is displayed.

3 Mark the desired configuration.

4 Click the **Select selected configuration as a file** button  .

The Windows **Save as** dialog is displayed.

5 Save the file in the desired folder.

■

➔ **How to load a configuration from a file**

1 Connect the measurement device.

⇨ **Connecting a measurement device** on page 29

The working area is loaded from the measurement device.

2 Mark the **Configuration** menu.

3 Click the **Load a configuration from a file** button  .

The Windows **Open** dialog is displayed.

4 Select the desired file (*.prj).

The new configuration is displayed on the **Configuration** menu.

5 To transfer the changes to the measurement device, click the **Send selected configuration to measurement device** button  .

The new configuration is available as a project on the measurement device.

■

ENG

Managing a working area

With working areas, you can manage settings for different types of measurement devices.

⇨ **Working with working areas** on page 38

You have the following options:

- **How to save the working area as file**
- **How to load the working area from a file**

➔ **How to save the working area as file**

1 Click the **Save work area as a file** button  .

The Windows **Save as** dialog is displayed.

2 Save the file in the desired folder.

Organize the working area files with folders and file names so that you can assign the working area files clearly to the measurement device types.

■

➔ **How to load the working area from a file**

1 Make sure that the desired working area is compatible with the desired measurement device.

Organize the working area files with folders and file names so that you can assign the working area files clearly to the measurement device types.

2 Click the **Load working area from a file** button  .

The Windows **Open** dialog is displayed.

3 Select the desired file (*.xhtc).

4 Click the **Send selected configuration to the measurement device** button  .

The current configuration and saved configurations are transferred to the measurement device.

5 Click the **Send working area to measurement device** button  .

The current working area is transferred to the measurement device.

■

ENG

Using the online display

If you connect a measurement device with HYDROlink6, you can use the online display.

The online display shows the current measured values of the selected channels.

ENG

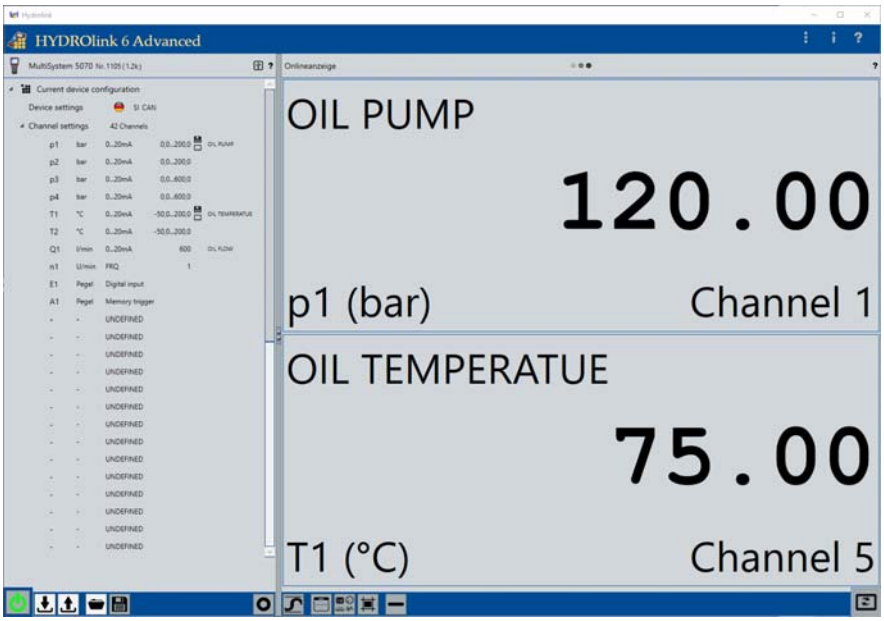


Image: Online display with two channels

In the device explorer under **Channel parameters**, the icon indicates that a channel is selected for the online display.

BASE With measurement devices in the *MultiHandy product family*, all available channels are always displayed. With the *MultiHandy 2020*, *MultiHandy 2025*, and *MultiPanel 2025* devices, special channels are also displayed, if they are available.

Use the **Switch** button to change between the **Online display**, the **Device display**, and the **Measurement series display**. The **Live Monitor** is only available for devices in the*MultiControl/MultiSystem xx70 family.* .

⇨ **Using device display** on page 50

⇨ **Using the Measurement display** on page 53

Selecting, arranging and deleting channels

On measurement devices that have more than 3 channel inputs, you can specify which channels are displayed.

You have connected a measurement device.

⇨ **Connecting a measurement device** on page 29

The online connection is displayed in the title bar of the viewer with an animation .

ENG

Selecting a channel for the online display

Drag a channel from the **Channel parameters** of the device explorer into the **Online display**.

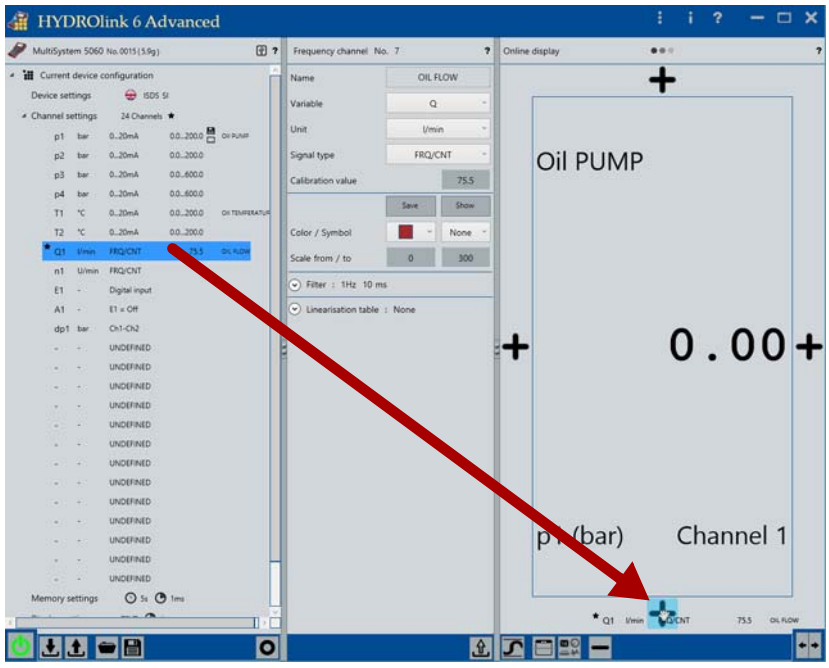


Image: Dragging a channel into the online display

➔ **How to position a channel next to an existing channel display**

1 Drag the channel into the **Online display**.

You can position the channel wherever **+** symbols are displayed.

Drag & drop also works on a touchscreen for this step.

2 Drag & drop the channel onto the **+** symbol.

■

➔ **How to replace an existing channel display**

1 Drag the channel onto a channel in the **Online display**.

The channel display changes colour to dark blue.

2 Let go of the channel to replace the channel display.

■

Arranging channels in the online display

Swap the positions of the displayed channels using drag & drop.

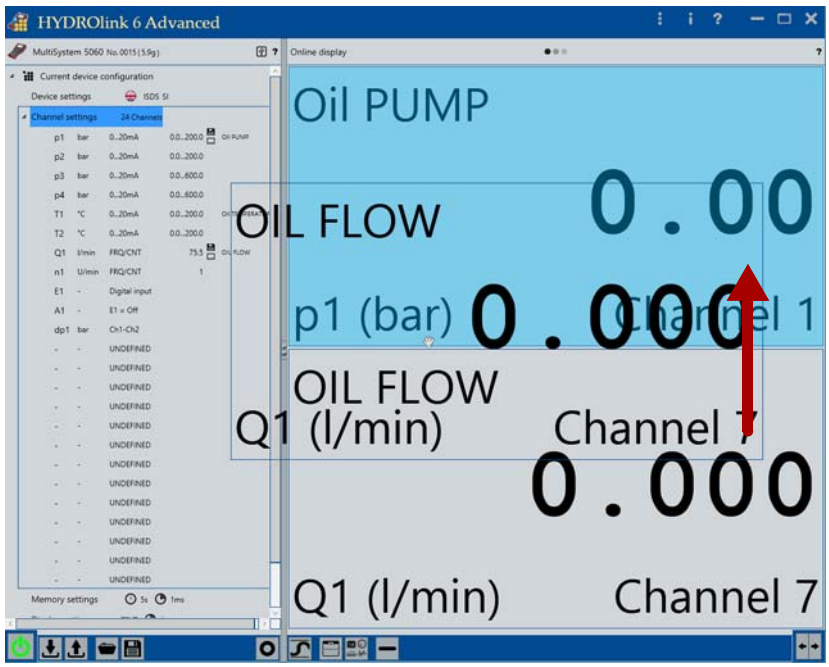


Image: Swapping channels in the Online display

You can swap the position of channels in the **Online display**:

➔ **How to swap the position of channels in the channel display**

1 Mark a channel in the **Online display** using your mouse.

1 Drag the channel onto a different channel in the **Online display**.

The channel display changes colour to dark blue.

2 Let go of the channel.

The positions of the two channels are swapped in the **Online display**.

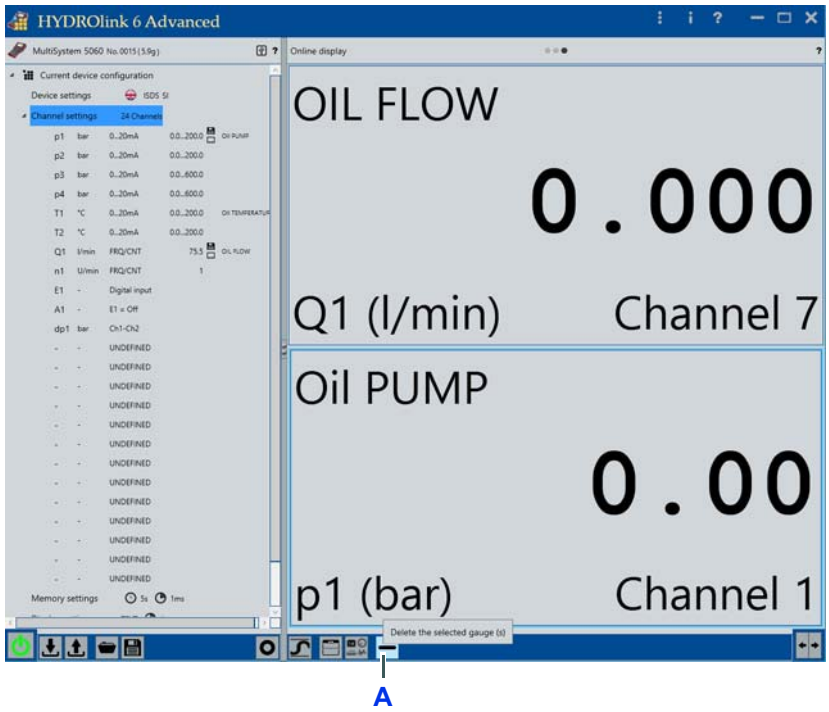
■

ENG

Deleting channels from the online display

Delete the channels from the **Online display** with the **Delete** button.

BASE Not possible with measurement devices in the *MultiHandy* product family.



A **Delete** button

Image: *Deleting a channel from the online display*

➔ **How to delete a channel from the online display:**

1 Mark the desired channels in the **Online display**.

Marked channels have a blue border.

2 Click the **Delete** button (**A**) to delete all marked channels from the **Online display**.

■

⇨ **Configuring a channel**
⇨ **Min/Max values**
⇨ **Changing and scaling the display style**
⇨ **Transfer and change working area**

Configuring a channel

You configure a channel as shown in exemplary fashion in **Changing the working area**.

⇨ **Changing the working area** on page 32

Exactly which channel parameters you can configure depends on your measurement device.

⇨ **Documentation of your measurement device**

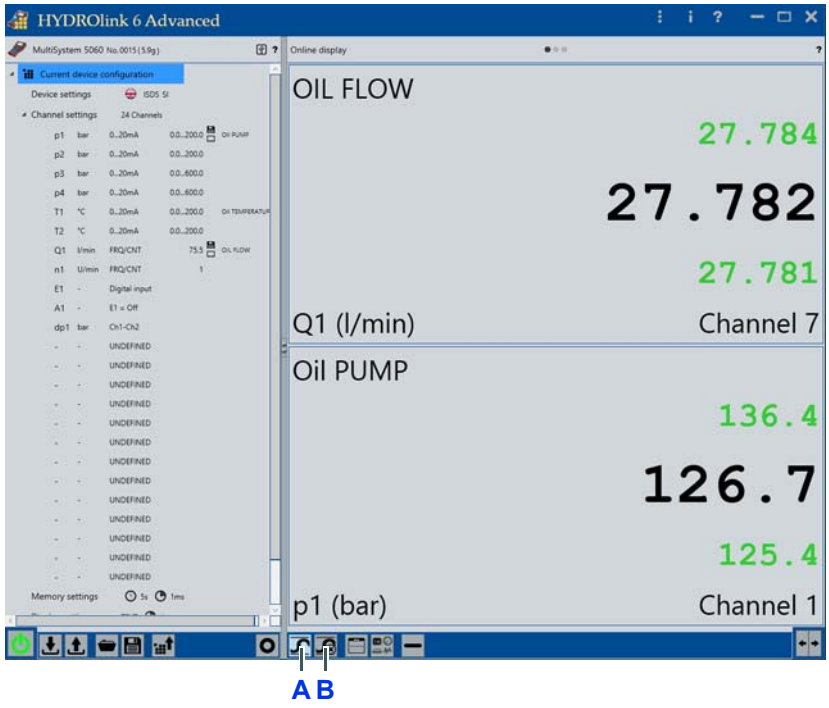
You can also use the context-sensitive help in the software by pressing the F1 key to learn more about individual dialogs.

⇨ **Software description** on page 74

ENG

Min/Max values

You can switch the **online display** of the min/max values on or off.



A **Max/Min** button **B** **Delete Min/Max values** button

Image: Min/Max values

➔ **How to switch the max/min values on**

1 Click the **Min/Max** button (A).

The min/max values are displayed.

2 Click the **Min/Max** (**A**) button to switch the min/max values again.

■

➔ **How to delete the current min/max values**

1 Click the **Delete Min/Max Values** button (B).

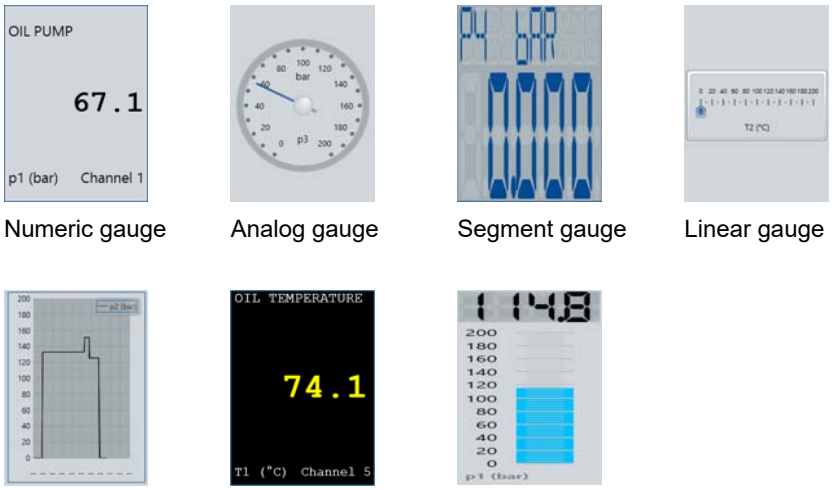
The current min/max values are deleted.

■

ENG

Changing and scaling the display style

You can change the display style for every channel display.



Numeric gauge | Analog gauge | Segment gauge | Linear gauge

Line graph | Measurement device display | Bar graph

Image: Display style of the online display

If a channel is added to the **Online display**, the standard display style will be used for the channel view.

⇨ **Voice control** on page 168

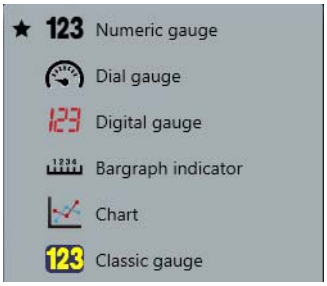
➔ **How to change the display style**

1 Mark the desired channels in the **Online display**.

Marked channels have a blue border.

2 Click the **Display style** button .

The list of display styles is displayed.



■

For the display styles Analog gauge, Linear gauge, and Line graph, you can scale the display .

⇨ **Scaling dialog** on page 163

In addition to the display style listed in the online display, you can also display a line graph.

➔ **How to display a line graph in the online display**

1 Click the **Change appearance of the online display** button .

2 Select from among the following possibilities:

- **Only devices**
- **Split of device display and line graph**
- **Only line graph**

You change the appearance of the line or scaling of the axes in the channel parameters in the detail area.

■

Using device display

Similar to the online display, the channels are displayed in the device display. Here the display of the measurement device is simulated.

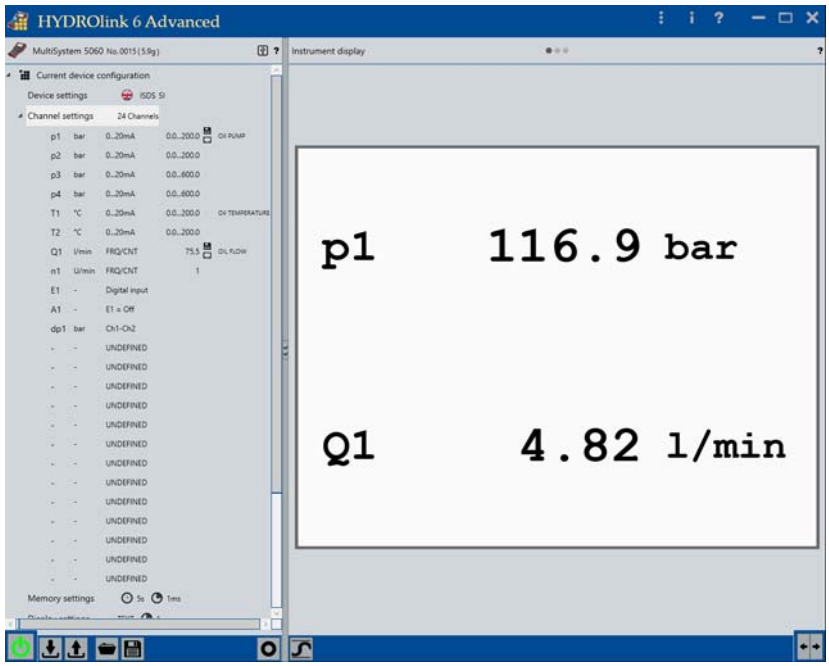


Image: Device display with two channels

The measurement device display is not offered if measurement devices are coupled to one another and if devices in the MultiControl family are connected.

Use the **Switch** button to change between the **Online display**, the **Device display**, and the **Measurement series display**.

⇨ **Using the online display** on page 43

⇨ **Using the Measurement display** on page 53

➔ **How to use the device display**

1. Configure the display of the measurement device on the measurement device itself.
2. Connect the measurement device.

   ⇨ **Connecting a measurement device**
3. Transfer and change settings.

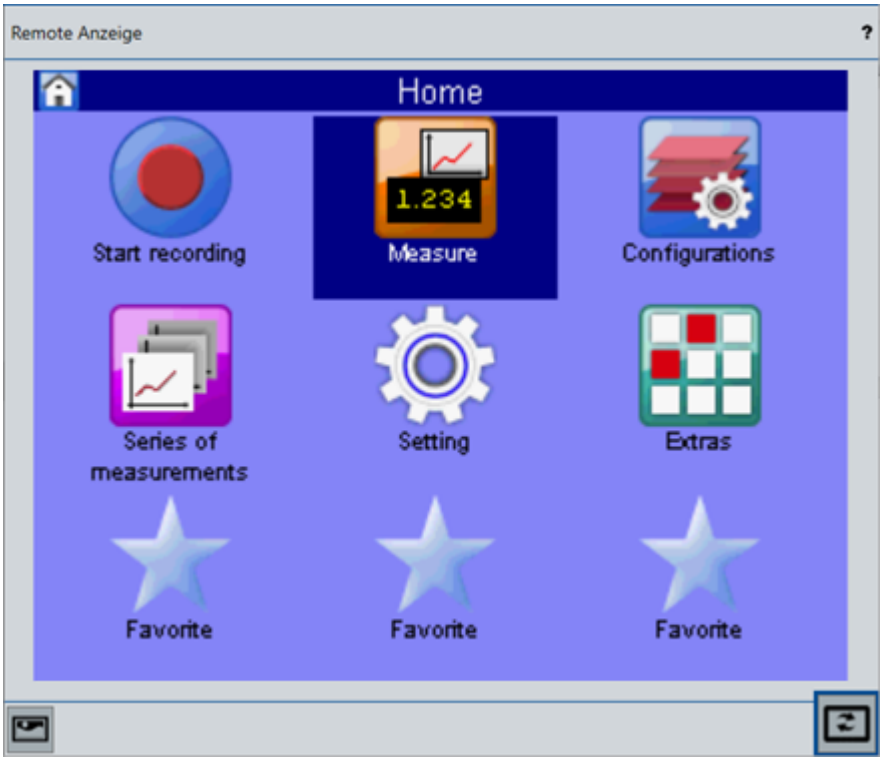
   ⇨ **Transfer and change working area**
4. Click the **Switch** button until the device display is shown.

5 To display or not display min/max values, click the **Switch display of min/max values on or off** button  .

■

ENG

Using Live Monitor



The Live Monitor is only available for devices in the MultiControl/MultiSystem xx070 family.

This display shows the current display of the measurement device. It is only suitable for training and support purposes.

The Live Monitor unlocks the device lock on the measurement device. This way, it is possible to demonstrate functions of the measurement device.

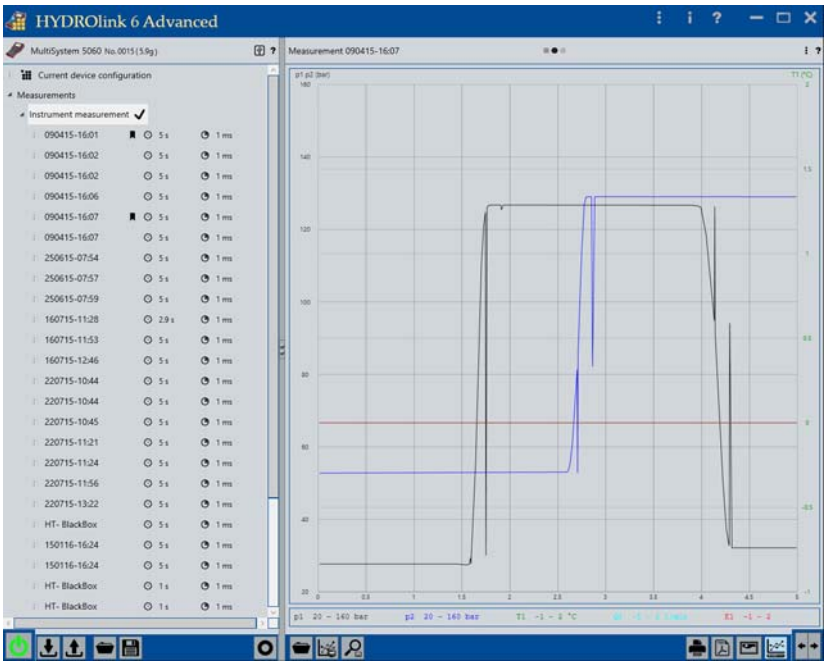
This way it is also possible to change measurement device parameters, which HYDROlink6 only takes over if you reconnect the measurement device or re-load the working area.

With the **Save as image** button  , you can create a screenshot of the Live Monitor and save it as a file.

Using the Measurement display

You can save measurement series from the connected measurement device onto the computer and display them in the **Measurement series display**. You can open measurement series that have been saved on your computer without a measurement device being connected to HYDROlink6.

Measurement series that you have recorded with the online display are listed under **Online measurement series**.



Measurement series are saved as MWF files.

In the device explorer under **Device measurement series** or **Online measurement series**, the symbol indicates that a measurement has already been saved to the computer. You can display this measurement series without having the measurement device connected to HYDROlink6.

Measurement series are displayed as line graphs.

The horizontal axis is the time axis. The two vertical axes represent one channel apiece. Channels with the same unit are summarized on one axis.

Use the **Switch** button to change between the **Online display**, the **Device display**, and the **Measurement series display**.

⇨ **Using the online display** on page 43

⇨ **Using device display** on page 50

Displaying measurement series

You can import measurement series from the measurement device or open saved measurement series.

Saving and displaying measurement series from the measurement device

Drag a measurement from the **Device measurement** of the device explorer into the **Measurement display**.

You can also drag a measurement series (MWF file) from the Windows Explorer into the measurement series display.

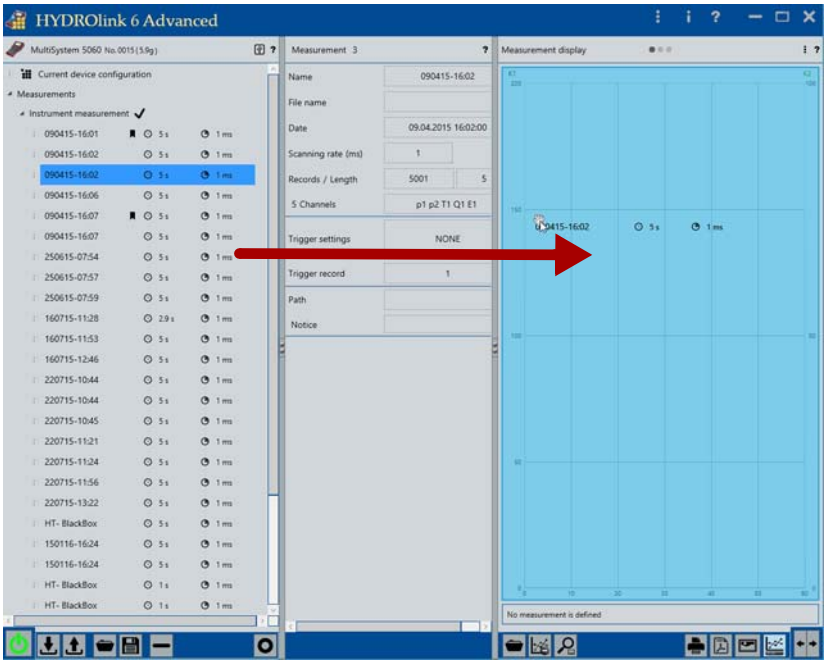


Image: Saving and displaying measurement series from the measurement device

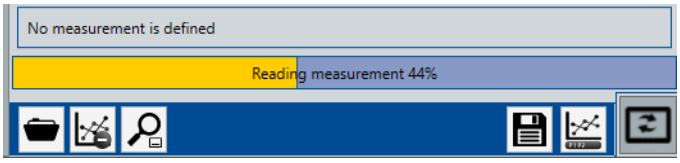
➔ **How to save and display a measurement series**

1 Drag a measurement series into the **Measurement series display**.

2 If automatic saving is not specified in the **Settings**, the Windows **Save as** dialog will be displayed.

⇨ **Directories** on page 150

Select the destination and enter a file name. Click **Save**.



3 The measurement series is saved on the computer and then displayed in the **Measurement series display**.

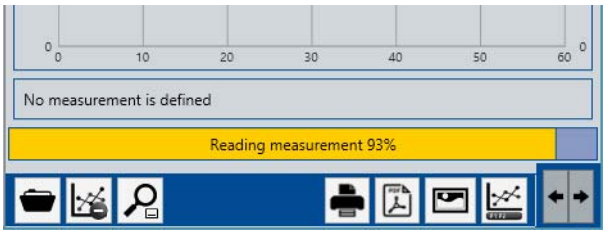
■

➔ **How to open a saved measurement series**

1 Click the **Search** button in the measurement series display.

The Windows **Open** dialog is displayed.

2 Navigate to the desired measurement and open the measurement.



3 The measurement is displayed in the **Measurement series display**.

■

ENG

Changing the measurement series display

You can change the position of the legend, zoom the measurement or clear the **Measurement display**.

Changing the presentation

To change the presentation, click the **Open settings dialog** button .

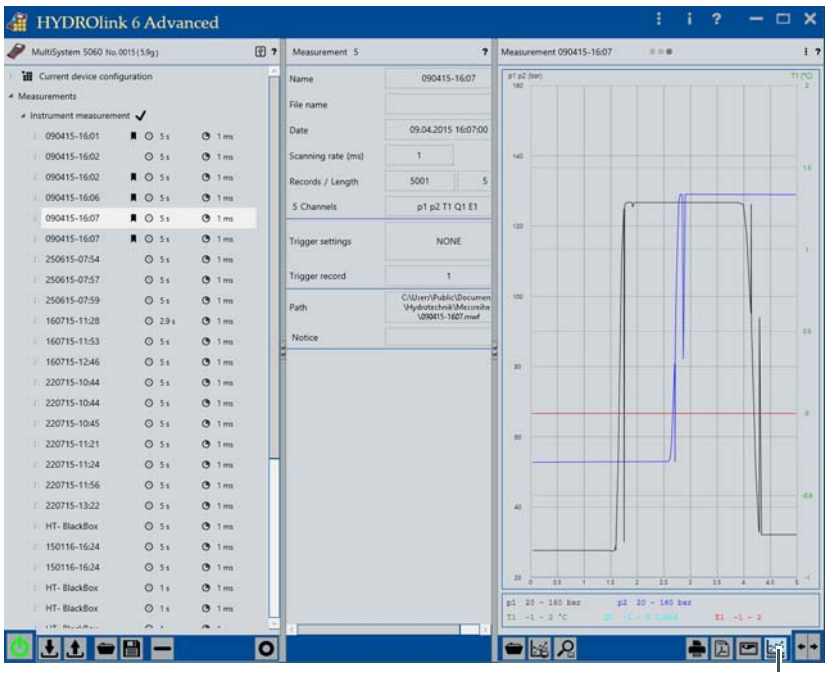
On this **Settings** dialog, you can change the presentation of lines and axes.

⇨ **Settings dialog (presentation of measurement series display)** on page 161

ENG

Changing the position of the legend

Change the position of the legend using the **Legend** button.

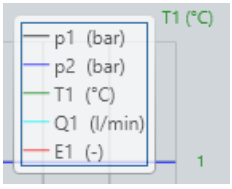


A **Legend** button

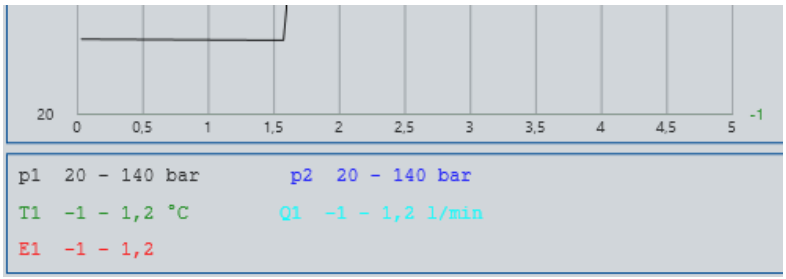
Image: Changing the position of the legend

The legend can be displayed at the following positions:

- Top right



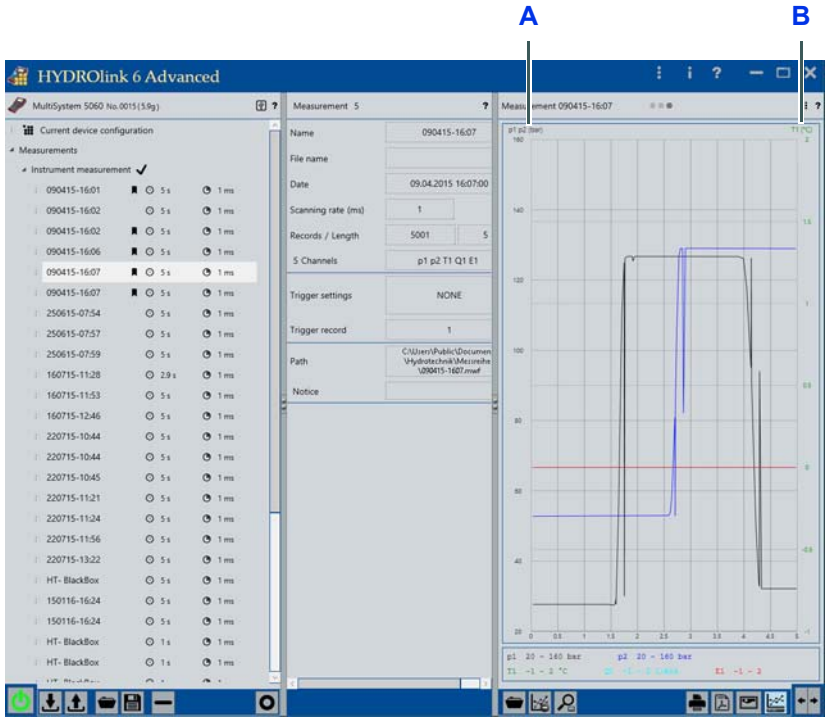
- Below the line graph



ENG

Changing the axis labeling

Click the axis labeling to change it.

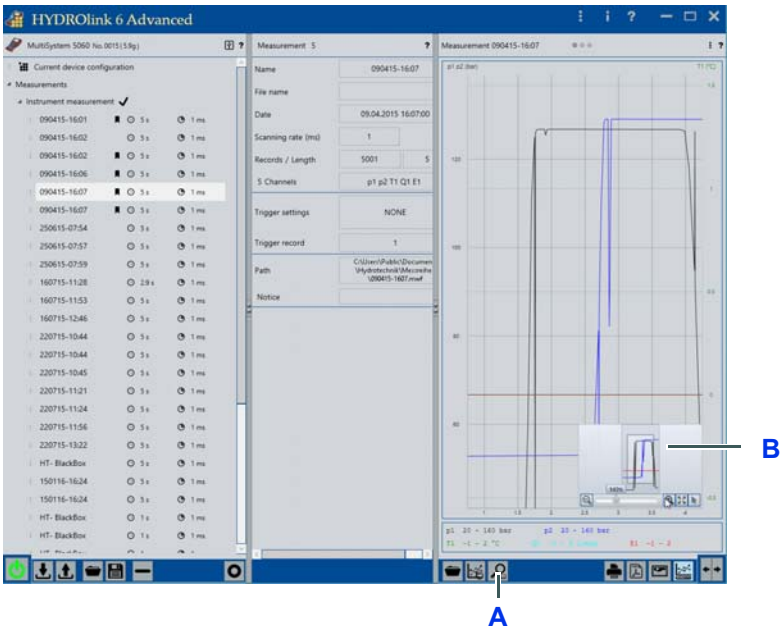


A Left axis labeling **B** Right axis labeling

Image: Changing the axis labeling

Enlarging the line graph

You can enlarge the line graph of the **Measurement display**.



A **Zoom** button **B** **Zoom menu**

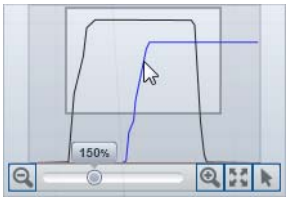
Image: Enlarging the line graph

The line graph can be zoomed in the following ways:

- Point the mouse over the line graph and scroll the mouse wheel.
- Drag a box around the area you want to zoom.
- Use the **Zoom** button to overlay the **Zoom menu**.

  Point the mouse over the **Zoom menu** and click a button.
- For touch operation:

  Use the normal gestures (example: spread your fingers) to zoom in on a line graph.

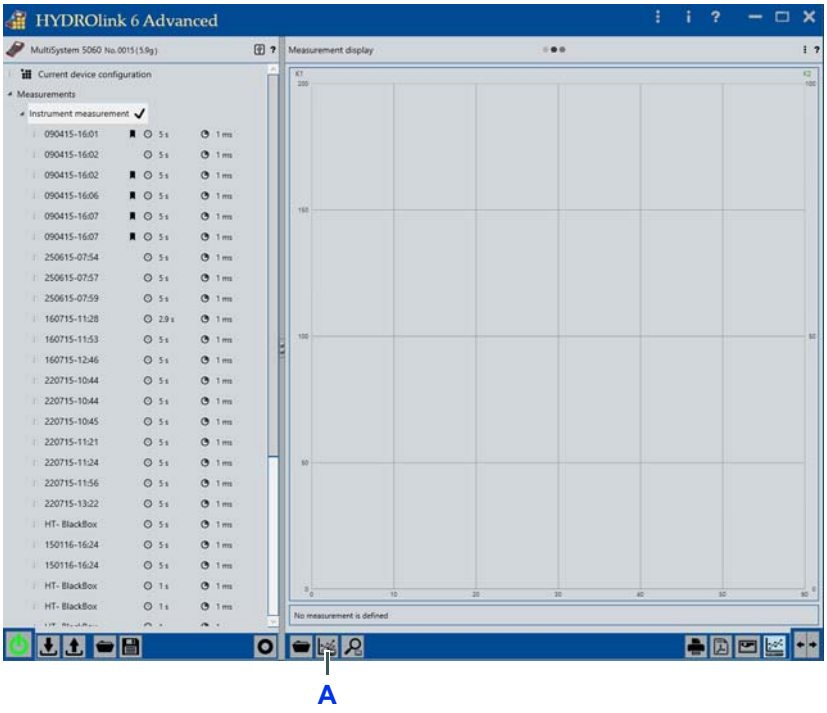


To change the position of the section, grab the section in the **Zoom menu** and move it.

Click **Reset zoom** to display the line graph in the original size.

Clearing the measurement series display

Clear the **Measurement series display** with the **Clear** button.



A **Clear** button

Image: Clearing the measurement series display

Recording a measurement

You can record measurement series from the connected measurement device with HYDROlink6. The measurement device must be connected to HYDROlink6 for this.

Only the channels are recorded that are marked with the symbol in the channel parameters.

In the ADVANCED and PROFESSIONAL versions, the measurement series is recorded directly by the measurement device and only then transferred to the HYDROlink6. As compared to the BASE version, this procedure offers the advantage that the full sampling rate of the measurement device is available. When recording measurement series in the BASE version, the recording is not done on the measurement device, but rather on the computer. Therefore, the sampling rate for the BASE version is limited by the type of connection to the computer (e.g. USB connection). In the BASE version, the smallest sampling rate is 10 milliseconds.

The measurement series recorded is saved as a MWF file on an available hard drive on the PC. Depending on the setting, HYDROlink6 will automatically save the measurement series or you must specify the file name and destination manually. If HYDROlink6 saves the measurement series automatically, the file name will be created from the current date and time.

⇨ **Default directories for measurement series and measurement device configurations** on page 16

You have configured the storage parameters for recording the measurement series.

⇨ **Storage parameters** on page 83

➔ **How to record a measurement**

1. Connect the measurement device.

   ⇨ **Connecting a measurement device** on page 29

   The working area is loaded from the measurement device.

2. Specify the channels you want to record.

   Select these channels for the **Online display**, and click **Save** in the channel parameters.

   ⇨ **Selecting, arranging and deleting channels** on page 44

3. To transfer the changes to the measurement device, click the **Send all settings to the measurement device** button .

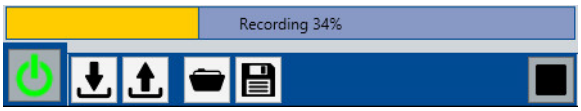
4. Click the **Recording** button .

5 If automatic saving is not specified in the **Settings**, the Windows **Save as** dialog will be displayed.

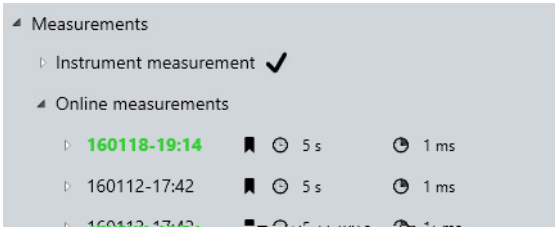
⇨ **Directories** on page 150

Select the destination and enter a file name. Click **Save**.

The measurement series is recorded.



After the measurement series has been recorded, the measurement series is marked in green under **Online measurement series**.



■

⇨ **Displaying measurement series** on page 54

ENG

Coupling several measurement devices

You can combine several measurement devices and thereby increase the number of available channels.

About coupling measurement devices

You can couple measurement devices in the 5060, 8050, and xx70 families.

A trigger cable is required for the coupling in order to synchronize measurements from the various measurement devices. This way, the measurement devices are informed about the occurrence of the trigger event. The synchronization error between the measurement devices is under 1 ms.

If you are working without a trigger cable, the synchronization is done via the software. Here, synchronization errors up to 50 ms can occur. This depends on the number of measurement devices connected, the PC computing power, and the utilization of the CPU.

⇨ **Operating instructions for your measurement devices**

⇨ **Recording a measurement** on page 59

The measurement device with the smallest serial number must be selected and is automatically defined as the master. All other measurement devices are defined as slave.

Master and slave

The master determines the appearance and behavior of all measurement devices. When sending the settings to the measurement devices, the device parameters, storage parameters, and display parameters of the master are transferred to all measurement devices as long as they are compatible with one another.

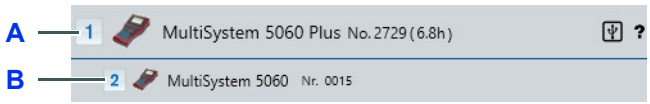
You configure the channel parameters for each measurement device separately.

The dependencies are also reflected in the display in the device explorer. The device parameters, storage parameters, and display parameters of the master and the channel parameters of all measurement devices are displayed.

On the **Measurement series** menu, only online measurement series are displayed, and no device measurement series for the connected measurement devices.

Display of combined measurement devices

Master and slaves are displayed and numbered sequentially in the title bar of the explorer.



A Measurement device no. 1 (master)
B Measurement device no. 2 (slave)

Image: Title bar with two combined measurement devices

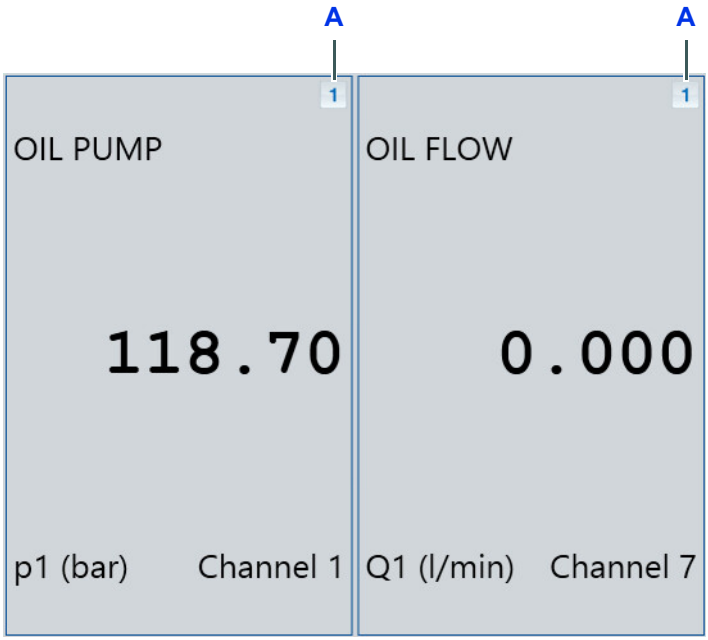
ENG

The channels for the different measurement devices are displayed in different colors so you can distinguish them.

A Channels for measurement device no. 2 in different colors

Image: Channels of different measurement devices in the device explorer

The numbering of the measurement devices from the title bar is also used for the online display.



A Numbering of the measurement devices

Image: Online display with two channels from different measurement devices

ENG

Coupling several measurement devices

You have connected all measurement devices. For coupling, the measurement devices must be connected via USB.

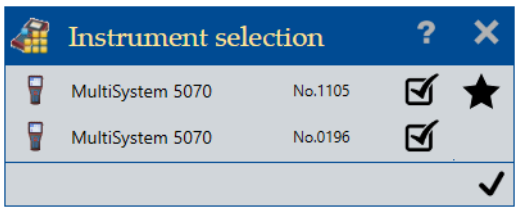
⇨ **Connecting a measurement device** on page 29

➔ **How to couple several measurement devices**

1 Click the **Connect to measurement device** button .

If several measurement devices are detected, the **Device selection** dialog is displayed.

2 From the **Device selection** dialog, select all measurement devices that you would like to use.



The settings are loaded by the measurement devices.

3 Expand the desired menus in the device explorer, e.g. **Current device configuration > Channel parameters**.

4 Change the settings as you wish.

5 To transfer the changes to the measurement device, click the **Send all settings to the measurement device** button .

The device parameters, storage parameters, and display parameters are transferred to all measurement devices. The channel parameters are transferred exclusively to the relevant measurement device.

■

Now you have the following possibilities with the combined measurement devices:

⇨ **Using the online display** on page 43
⇨ **Recording a measurement** on page 59

Use CAN database

If a special channel of the measurement device should be used for the recording of a CAN message, a quick parameterization of the channel can be done by using a CAN database.

⇨ **Manufacturer** on page 2

ENG

You have the following options:

- **How to select a channel from the CAN database**
- **How to search in the CAN database**

➔ **How to select a channel from the CAN database**

1 Click *Device explorer > Channel parameters > Click special channel (with CAN bus connection) > Detail area > Calculation type > CAN database*.

The **CAN database** window opens.

2 Click the **Open a CAN database** button.

The Windows **Open** dialog is displayed.

3 Select the desired CAN database.

The CAN database is loaded.

In the **Message** area, either the CANopen sensors or the parameter group number (PGN) of the standard SAE J1939 are displayed.

4 Select the desired message in the **Message** area.

In the **Signal** area, the channels of CANopen sensors or the signal number (SPN) of the standard SAE J1939 are displayed.

5 Select the desired sensor specification in the **Signal** area.

6 Click the **Adopt the selected signal specifications in the channel parameters** button.

■

➔ **How to search in the CAN database**

1 Click *Device explorer > Channel parameters > Click special channel (with CAN bus connection) > Detail area > Calculation type > CAN database*.

The **CAN database** window opens.

2 Click the**Open a CAN database** button.

The Windows **Open** dialog is displayed.

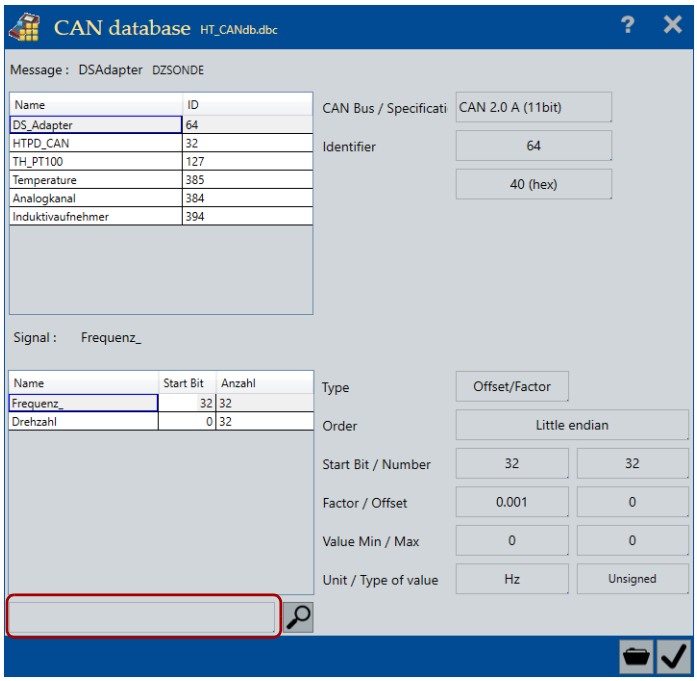
3 Select the desired CAN database.

The CAN database is loaded.

4 Enter a search term in the search field. Capital and lower-case letters are ignored.

The following fields are searched:

- Name of the message
- Comment about the message
- Decimal identifier of the message
- Hexadecimal identifier of the message
- Name of the signal
- Comment about the signal



5 Click the **Search** button .

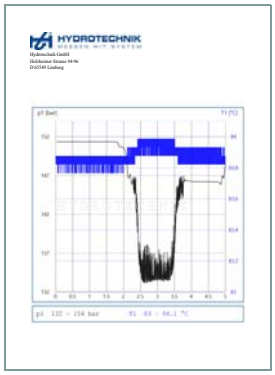
The first message and signal found are marked.

6 Click the **Search** button to find the next instance of the search term.

■

⇨ **CAN database dialog** on page 165

Log



You can print out the log of a measurement series or save it as a PDF file.

Use the log to document your activity or the condition of the inspected system.

The log consists of up to 5 areas:

1. Company logo
2. Company name
3. Line graph
   Corresponds to the diagram display in the Measurement display.
4. Measurement series information
5. Additional text (e.g. name of the inspector, inspection date)

ENG

Generating a log

You can print out a log created directly or save it as a PDF file.

➔ **How to print a log**

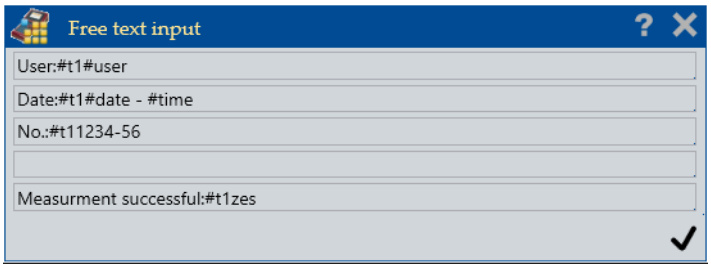
1 Open the measurement series for which you would like to generate a log.

⇨ **Saving and displaying measurement series from the measurement device** on page 54

2 Click the **Print** button .

3 If the free text input is activated in the settings, the **Free text input** dialog will be displayed.

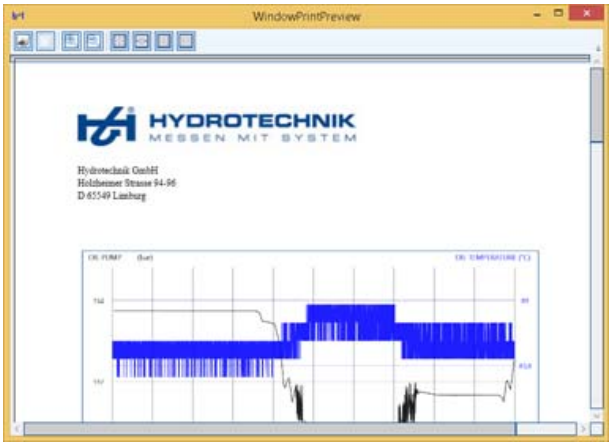
⇨ **Configuring the log layout** on page 70.



Change or add to the text.

4 Click the ✓ button.

The Windows **WindowPrintPreview** dialog is displayed.



5 Click the **Print** button.

The log is printed.

■

➔ **How to save a log as a PDF file**

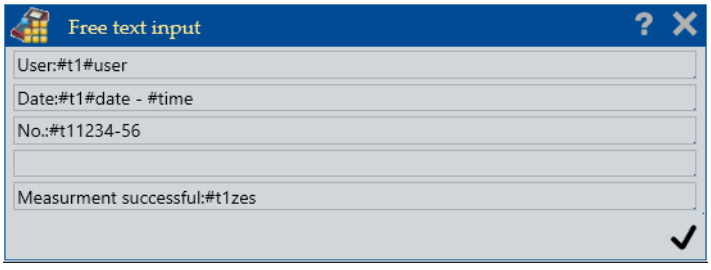
1 Open the measurement series for which you would like to generate a log.

⇨ **Saving and displaying measurement series from the measurement device** on page 54

2 Click the **Save as PDF** button.

3 If the free text input is activated in the settings, the **Free text input** dialog will be displayed.

⇨ **Configuring the log layout** on page 70.



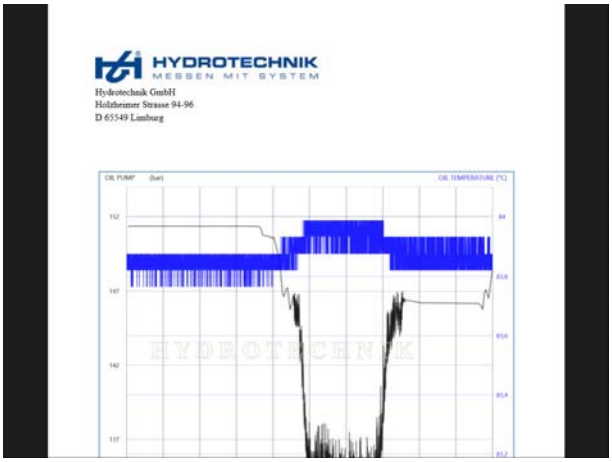
Change or add to the text.

4 Click the ✓ button.

The Windows **Save as** dialog is displayed.

5 Select the destination and enter a file name. Click the **Save** button.

The log is created as a PDF file and then displayed in the PDF viewer.



■

ENG

Configuring the log layout

You should configure the layout of the log when setting up HYDROlink6.

The **Show example** button shows or hides a preview for the **Line graph** and **Measurement series information** areas.

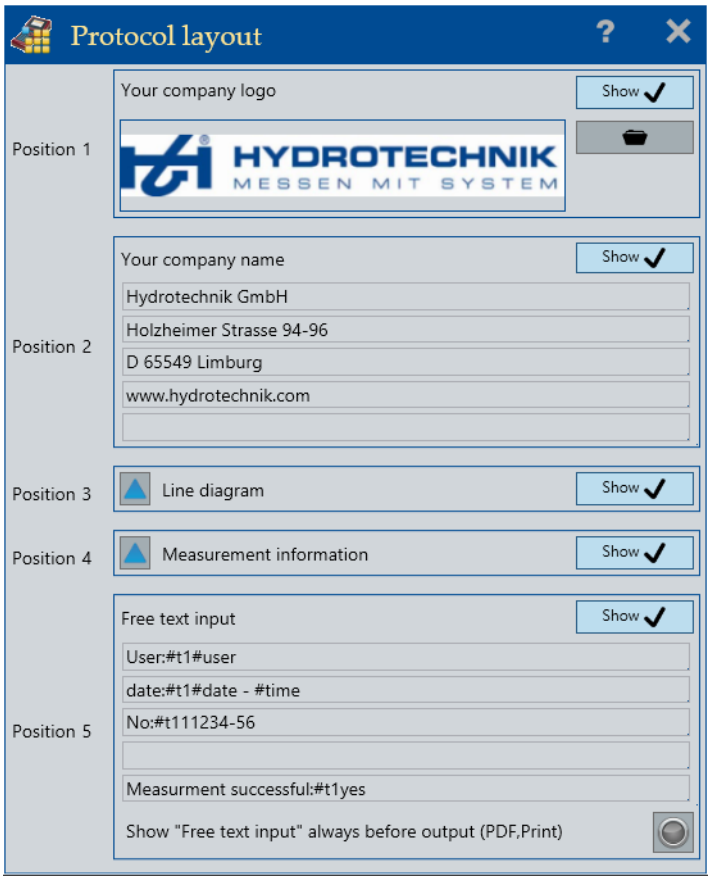
➔ **How to configure the layout of the log**

1 Open the **Settings** dialog .

⇨ **How to open and close the Settings dialog** on page 15

2 On the **General** tab next to the **Log layout** entry, click the **Configure** button.

The **Log layout** dialog is displayed.



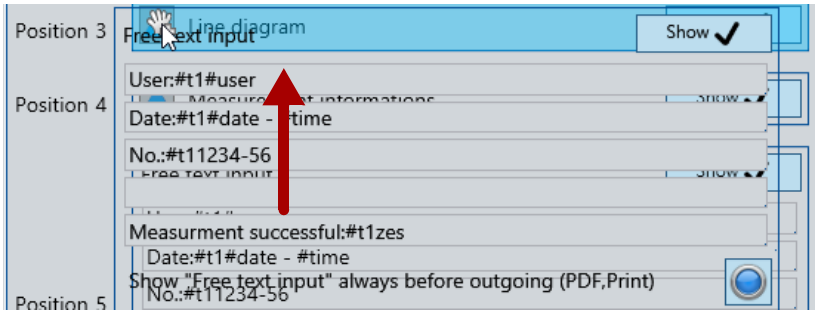
3 Click the **Show** button to show or hide an area in the log.

If an area in the log is displayed, then the button is identified with .

ENG

4 If you want to change the sequence of the areas in the log:

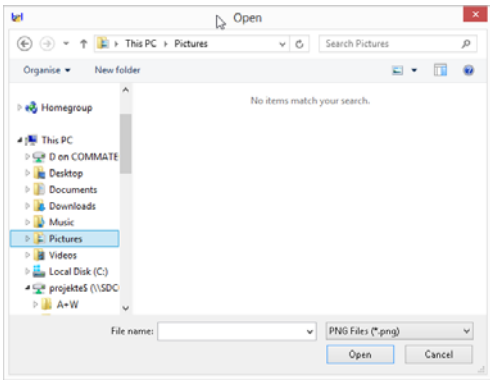
Swap the positions of the areas using drag & drop.



5 If you want to display your company logo in the log:

In the **Your company logo** area, click the **Open** button .

The Windows **Open** dialog is displayed.

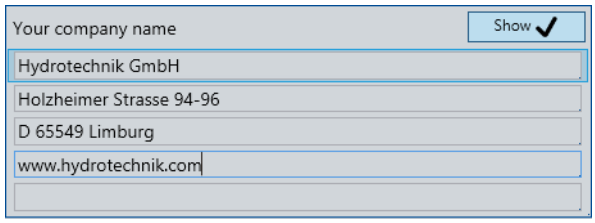


Navigate to the graphics file with your company logo and open the file.

You can use graphics files with the formats PNG or JPG only. The graphic is adapted and centred in the area.

6 If you want to display your company name and address on the log:

In the **Your company name** area, click in the text field and enter the desired text.

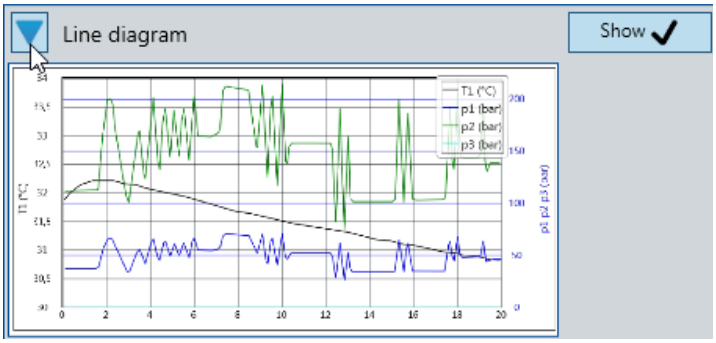


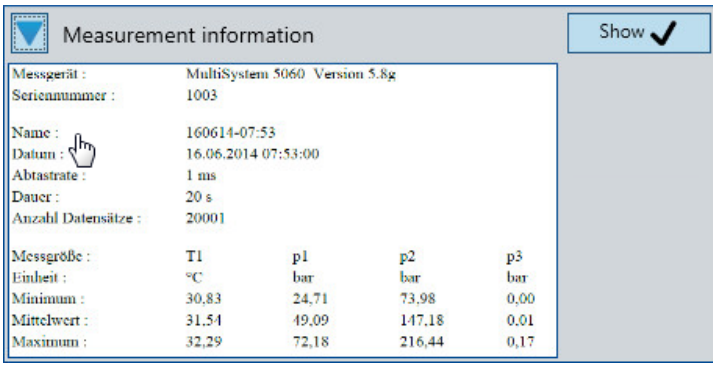
ENG

ENG

7 If you want to display the **line graph** and the **Measurement series information** in the log:

Click the **Show example** button to display an example.

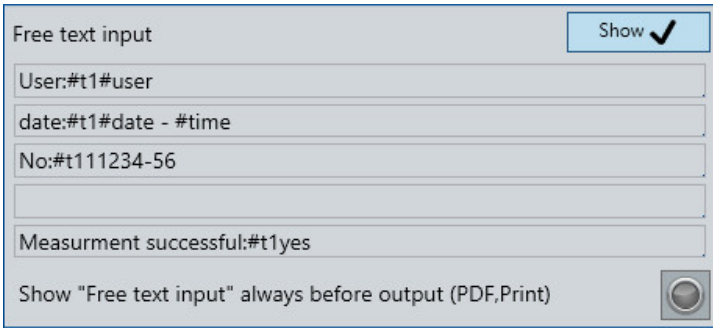




Click the **Show example** button again to hide the example.

8 If you want to display an additional text field in the log:

In the **Free text input** area, click in the text field and enter the desired text.



You can use the following variables:

- **#user** (Windows name of the logged in user)
- **#date** (current date)
- **#time** (current time)
- **#t1** (tab for aligning the texts. Only one tab is supported)

9 If you want the **Free text input** dialog to be displayed before every log generation:

☑ Click the button next to the **Show "Free text input" before each output (PDF, print)** entry.

☐ If the button is deactivated, no dialog for free text input will be shown when the log is generated.

10 Close the **Log layout** dialog ✕.

11 Close the **Settings** dialog ✕.

■

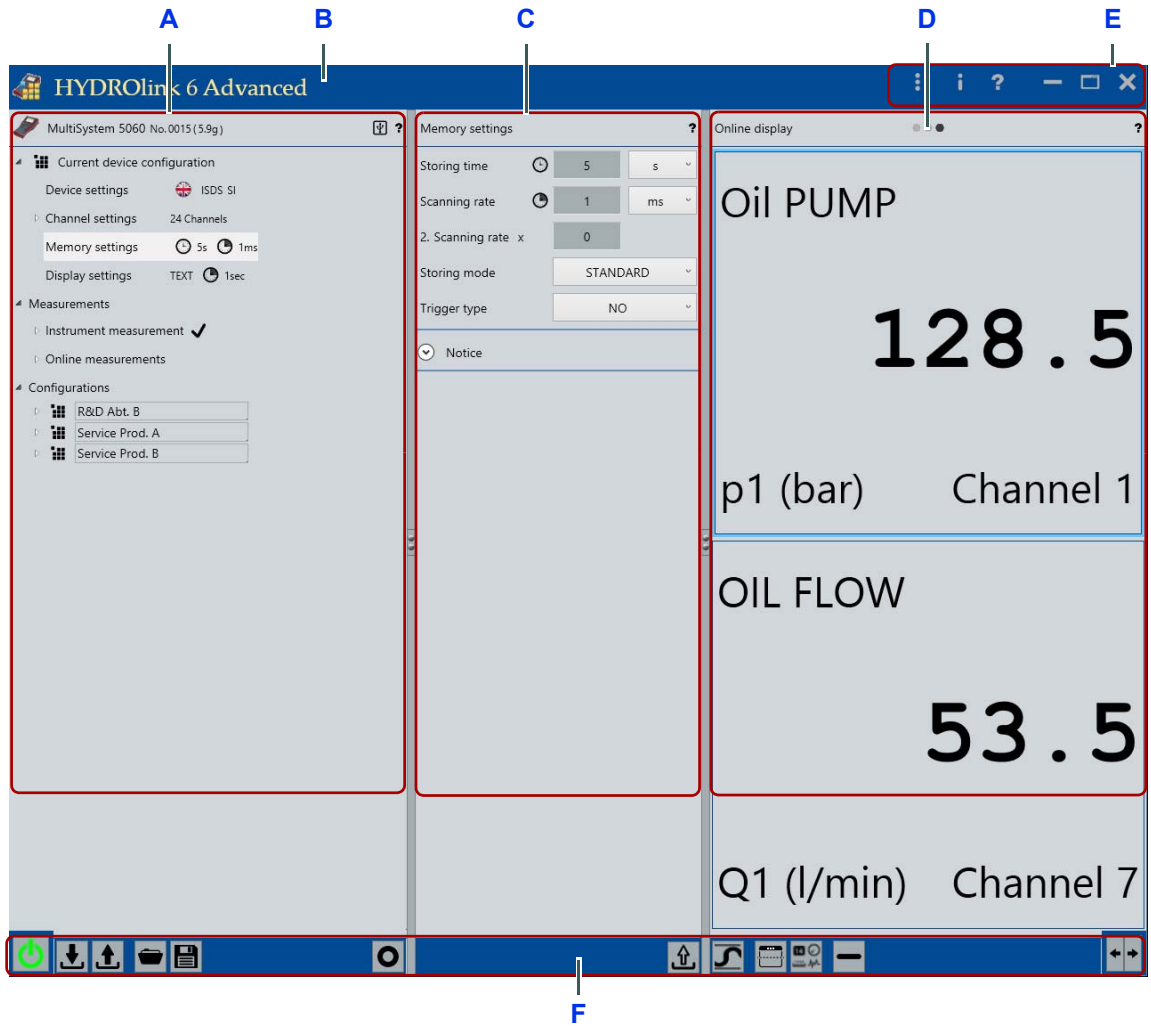
ENG

Software description

This chapter describes the program windows, the dialogs, and the elements of the software.

ENG

Program window



A Device explorer
B Voice control
C Detail area (appears after selection in the device explorer)
D Viewer
E Information and configuration bar
F Toolbar

Image: Program window

The program window consists of the following areas:

- **Information and configuration bar**
- **Device explorer**
- **Detail area**
- **Viewer** with **online display**, **device display** or **measurement series display**
- **Toolbar**

ENG

Information and configuration bar

Display and edit application-specific functions/settings.

⇨ **Information and configuration bar** on page 76

Device explorer

Display and navigate device information.

⇨ **Device explorer** on page 77

Detail area

Display and edit selected elements in the device explorer.

⇨ **Detail area** on page 94

Viewer

Display current measurement values of selected channels. Display measurement series as line chart.

Change display type (**online display** - **device display** - **measurement series display**).

⇨ **Viewer** on page 132

Toolbar

Provide buttons, e.g. Connect to measurement device, record measurement values.

Toolbar for device explorer.

⇨ **Toolbar** on page 89

Toolbar for detail area.

⇨ **Toolbar** on page 131

Toolbar for online display.

⇨ **Toolbar** on page 135

Toolbar for device display.

⇨ **Toolbar** on page 141

Toolbar for measurement series display.

⇨ **Toolbar** on page 144

Size ratio of the window sections
You can change the size ratio of the window sections by moving the vertical separation bar.
Use the button to reveal or hide the device explorer.

Information and configuration bar

Use the buttons on the info and configuration bars to display and edit application-specific functions.

ENG

Open the Settings dialog

Opens the **Settings** dialog:

- **General tab** (e.g. language, log layout)
- **Connection settings tab**
- **Advanced tab**

⇨ **Settings dialog (global)** on page 148

Open the info dialog

Opens a list with submenus:

- **About...** (Product information)
- **Request license**

  ⇨ **Licensing HYDROlink6** on page 17

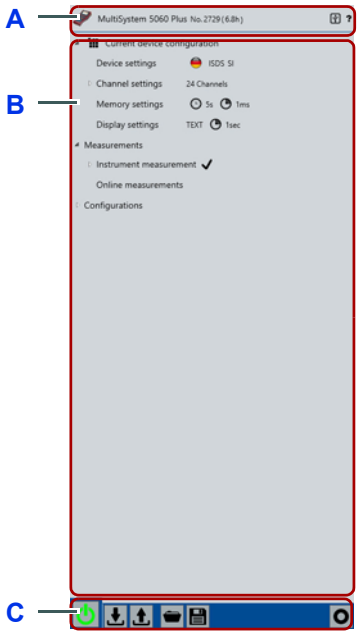
  ⇨ **Licensing dialog** on page 159
- **Activate license**
- **Release special function** (opens a dialog with which customer-specific special functions can be released)

Voice control

Indicates active voice control

⇨ **Voice control** on page 168

Device explorer



A Title bar
B Measurement device
C Toolbar

Image: Device explorer

The device explorer shows information about the connected measurement device. If no measurement device is connected, the information from the last connected measurement device will be shown.

The device explorer consists of the following areas:

- **Title bar**
- **Measurement device**
- **Toolbar**

ENG

In the device explorer, if you click on Parameters or Measurement series, these are displayed in the detail area.

⇨ **Detail area** on page 94

If you change parameters in the detail area, the changed element will be marked with the symbol ★ in the device explorer.

A tooltip indicates the changes.

As soon you have sent the changed configuration to the measurement device, the ★ symbol disappears.

Use the ⁞ button to reveal or hide the device explorer.

Title bar Display information about the measurement device.

⇨ **Title bar** on page 79

Measurement device Display measurement device settings.

The measurement device area consists of the following areas:

- **Current device configuration**
  Display and edit current parameters.
  ⇨ **Current device configuration** on page 81
- **Measurement series**
  Display measurement series recorded.
  ⇨ **Measurement series** on page 84
- **Configurations**
  Display and edit configuration files.
  ⇨ **Configurations** on page 88

BASE The measurement device area consists of the 2 areas **Channel parameters** and **Measurement series**.

MultiBox The **Configuration** area is not available.

Toolbar Provide buttons for the device explorer.

⇨ **Toolbar** on page 89

Title bar

Device explorer > Title bar

The title bar of the device explorer displays the device information.

The following device information is shown for the connected measurement device:

- Measurement device icon
- Measurement device name (for example, MultiSystem 5060 Plus)
- Measurement device serial number (for example, 2729)
- Firmware version number (for example, 6.8h)
- Warning symbol
- Connection type symbol
- Help symbol
- Messages from the measurement device symbol

Symbols The following symbols can be displayed.

Warning

The warning symbol indicates that the measuring device firmware is not fully supported by HYDROlink6.

You can use the measuring device, however, its functionality may only be limited when used with HYDROlink6. You should perform a firmware update.

Connection type

A connection symbol indicates that a measuring device is connected with HYDROlink6.

The following symbols indicate the connection type.

USB

- MH 2020
- MH 2025
- MH 3020
- MP 2025
- MS 4010
- MS 5060
- MS 5060 *Plus*
- MS 5070
- MS 4070
- MS 8050
- MC 4070
- MC 8050
- MB 3060
- MB 3061
- MB 3065

LAN (TCP/IP network)

- MS 5060 (with additional equipment)
- MS 5060 *Plus* (with additional equipment)
- MS 4070 (with additional equipment)
- MS 5070 (with additional equipment)
- MS 8050 (with additional equipment)
- MC 4070
- MC 8050 (with additional equipment)
- MB 3065

Bluetooth

- MS 5060 *Plus* (with additional equipment)
- MS 5070 (with additional equipment)
- MS 8050 (with additional equipment)
- MC 4070 (with additional equipment)

RS232

- MH 2020
- MP 2025
- MS 4010
- MS 5060
- MS 5060 *Plus*
- MS 8050
- MC 8050

ENG

Help

You can use the Help symbol to call up help for the device explorer.

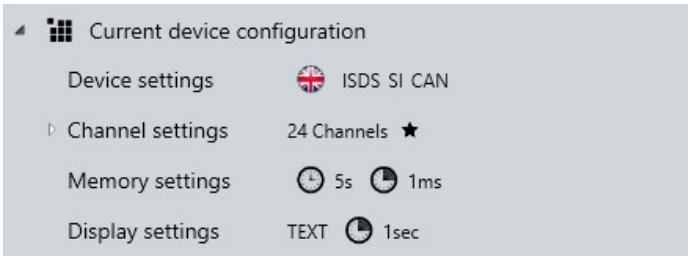
Messages from the measuring device

You can use this symbol to call up the Messages from the measurement device dialog. The number next to the speech bubble indicates the number of messages. This symbol only appear for the measurement devices in the MultiControl xx70 family.

ENG

Current device configuration

Device explorer > Current device configuration



The **Current device configuration** consists of the following elements:

- **Device parameters**
- **Channel parameters**
- **Storage parameters**
- **Display parameters**

Device parameters

Device explorer > Current device configuration > Device parameters

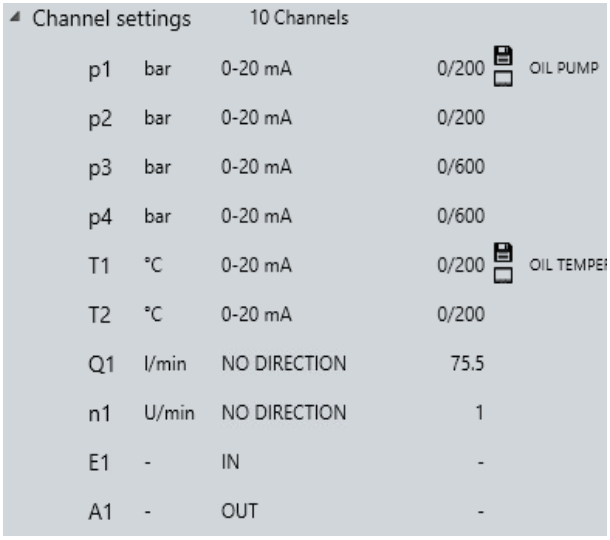
The **Device parameters** element displays the settings for the measurement device.

If you click **Device parameters**, the detail area opens.

⇨ **Device parameters** on page 96

Channel parameters

Device explorer > Current device configuration > Channel parameters

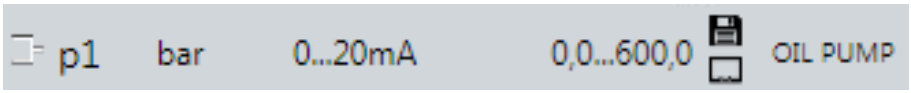


The **Channel parameters** element displays the available channels of the measurement device.

One sensor can be connected to a channel.

This includes CAN channels.

Special channels are displayed if these are supported by the measurement device and set up.



The following channel parameters are shown for the connected sensor:

- Measurement variable (example: p1)
- Unit (example: bar)
- Signal type (example: 0-20 mA)
- Measurement range or calibration value (example: 0.0-200.0)
- Symbols
- Name (example: OIL PUMP)

  The name of the channel is only displayed if it is configured in the measurement device.

The following symbols can be displayed.

Symbol	Meaning
	Channel is active for the recording
	Channel is active for the online display

The channel's settings have been changed.

The settings must be synchronized with the measurement device.

Channel with connected ISDS sensor

You can open and close the **Channel parameters** element with the arrow symbols and .

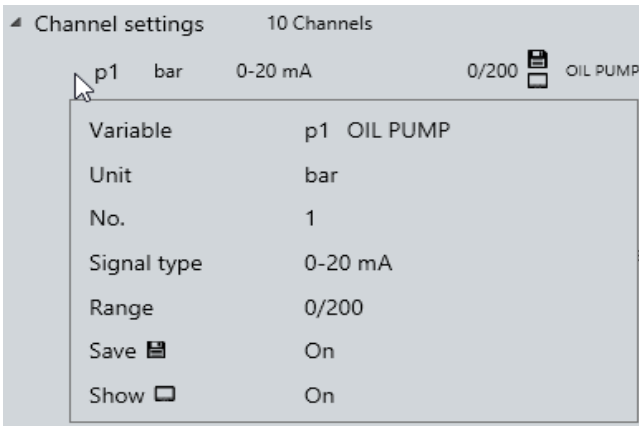
If you click **Channel parameters**, the detail area opens.

⇨ **Channel parameters** on page 100

If you use the mouse to drag a channel onto the **Online display**, the current channel value is displayed in the **Online display**.

BASE No detail area for channel parameters.

Display of a tooltip for each channel with detailed description of the settings.



MH2020 and MH2025 In addition, it is possible to display special channels. See also: Documentation for the measurement device.

Storage parameters

Device explorer > Current device configuration > Storage parameters

The **Storage parameters** element displays the storage time and sampling rate.

If you click **Storage parameters**, the detail area opens.

⇨ **Storage parameters** on page 122

The following symbols can be displayed.

Symbol	Meaning

	Duration of the measurement
	Sampling rate

Display parameters

Device explorer > Current device configuration > Display parameters

The **Display parameters** element displays the type of display and the display device.

If you click **Display parameters**, the detail area opens.

⇨ **Display parameters** on page 126

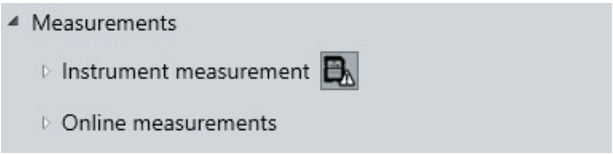
The following symbols can be displayed.

Symbol	Meaning
	Sampling rate

MultiBox The **Display parameters** area is not available.

Measurement series

Device explorer > Measurement series



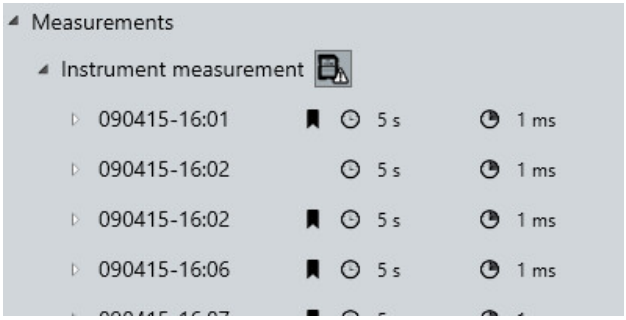
The **Measurement series** element consists of the following elements:

- **Device measurement series**
- **Online measurement series**

ENG

Device measurement series

Device explorer > Measurement series > Device measurement series



The **Device measurement series** element shows all measurement series stored in the device.

You can open and close the **Device measurement series** element with the arrow symbols and .

If you use the mouse to drag a device measurement series into the **Measurement series display**, the measurement series is transferred from the measurement device and saved on the PC and displayed in the measurement series display.

The following information is shown for each device measurement series:

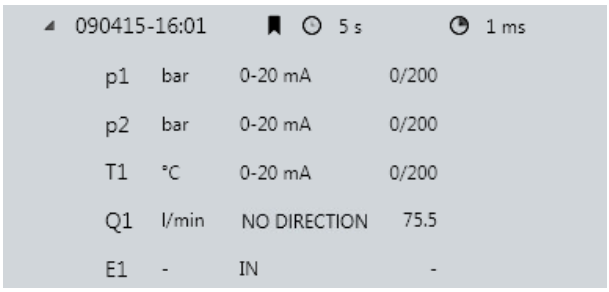
- Name of the device measurement series (example: 290715-15:43)
- shows that one device measurement series is already saved on the computer.

  This measurement series is also available offline and can be displayed without an measurement device connected.
- displays the duration of the device measurement series (example: 5 s)
- displays the sampling rate used (example: 1 ms)

BASE The update is performed automatically when a measurement device is detected.

Channel parameters of a device measurement series

If you click on the arrow symbol , the channel parameters for this device measurement series will be shown. Only the channel parameters of the recorded channel are shown.

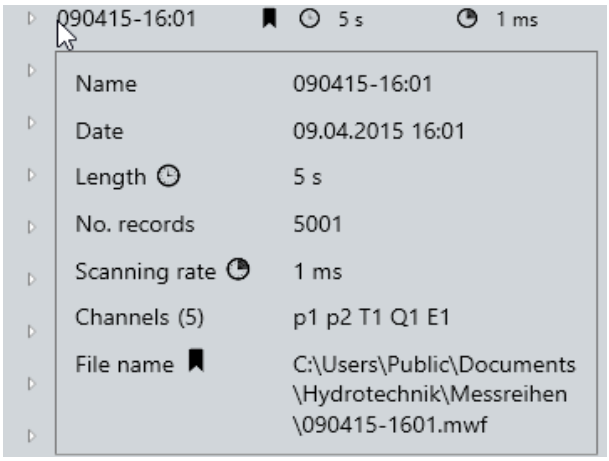


The following channel parameters are shown for the recorded channel:

- Measurement variable (example: p1, p2, T1)
- Unit (example: bar, °C)
- Signal type (example: 0-20 mA)
- Value range or parameter (example: 0/200 bar)

Tooltip

A tooltip will be displayed if you hover the mouse pointer over a device measurement series or with touch operation, if you hold your finger on the device measurement series for a second.



The tooltip displays the following information:

- **Name** (example: 090415-16:01)
- **Date** (example: 09.04.2015 16:01)
- **Duration** (example: 5 s)
- **Number of data records** (example: 5001)
- **Sampling rate** (example: 1 ms)
- **Channels** (number) and channel name (example: (4) p1 p2 T1 Q1)
- **File name** and path are only displayed if the measurement series is saved on the PC.

  This measurement series is also available offline and can be displayed without an measurement device connected.

The following symbols can be displayed.

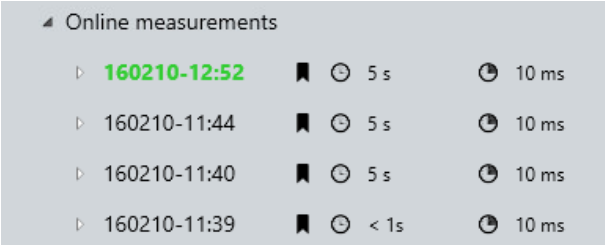
Symbol	Meaning
	Duration of the measurement
	Sampling rate

	Measurement series has been downloaded from measurement device. Measurement series is available offline.
⚠	An error occurred when loading the measurement series. Details are displayed in the tooltip. Measurement series does not contain any data records.

ENG

Online measurement series

Device explorer > Measurement series > Online measurement series



The **Online measurement series** element displays all measurement series that have been recorded online with the current configuration.

Online measurement series are part of a working area. If you load a configuration generated with the online measurement series, only these online measurement series will be displayed.

The newest online measurement series is displayed first in the list. Online measurement series that were generated during the current session are displayed in green.

Up to 200 measurement series are displayed. If there are more measurement series, the oldest measurement series will no longer be displayed. The old measurement series will not be deleted from the system.

The following symbols can be displayed.

Symbol	Meaning
	Duration of the measurement
	Sampling rate
	Is always displayed for online measurement series. If the symbol is not displayed, then an error has occurred with the file.

⚠ An error occurred when loading the measurement series.

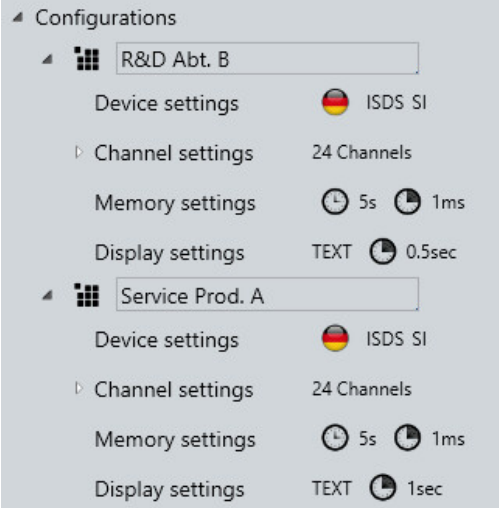
Details are displayed in the tooltip.

Measurement series does not contain any data records or measurement series is missing.

ENG

Configurations

Device explorer > Configurations



The **Configurations** element displays all configurations saved in addition to the current device configuration.

The individual configurations in the **Configurations** element are displayed and edited just like the **Current device configuration** element.

⇨ **Device parameters** on page 96
⇨ **Channel parameters** on page 100
⇨ **Storage parameters** on page 122
⇨ **Display parameters** on page 126

The **Configuration** element can be opened and closed using the arrow symbols ▷ and ◢.

Configuration
A configuration in the software is identical to a project on the measurement device.

MultiBox No **Configurations** element.

Toolbar

Device explorer > Toolbar

Use the toolbar to connect your measurement device with HYDROlink6.

Use the toolbar to start the recording of a measurement series.

Depending on which elements are active in the device explorer, the **Toolbar** includes the following buttons.

Button	Function
	Establish connection to or disconnect from the measurement device.
	Load the work area from the measurement device.
	Send the work area to the measurement device.
	Load a work area. Opens the Windows **Open** dialog. Only possible if no measurement device is connected.
	Save the work area as a file. Opens the Windows **Save as** dialog.
	Send the selected configuration to the measurement device.
	Save the selected configuration. Opens the Windows **Save as** dialog. Only possible for measurement devices in the 5060, 8050, and xx70 family.
	Delete the active element in the device explorer.
	Start storage on the measurement device.
	End storage on the measurement device.
	Trigger online measurement Only with appropriate configuration of the storage parameters.

Connect

Establishes the connection to the measurement device or disconnects it. HYDROlink6 automatically detects the type of connection (USB, RS232 or LAN).

The button or connection can have the following states.

ENG

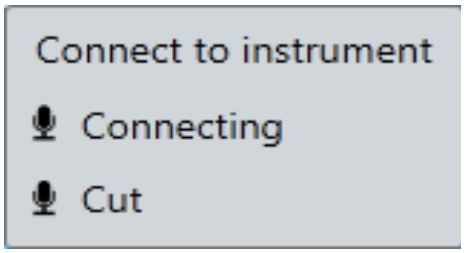
Connect to measurement device

Establishes connection to the measurement device.

There is no connection.

Voice command CONNECT

- Symbol color - black
- Symbol rotates every five seconds
- Tooltip: Connect to measurement device



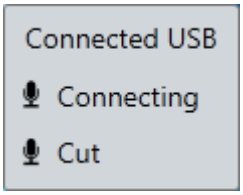
Connected

Disconnects the connection to the measurement device.

There is no connection.

Voice command DISCONNECT

- Symbol color - green
- Symbol does not rotate
- Tooltip: Connected USB



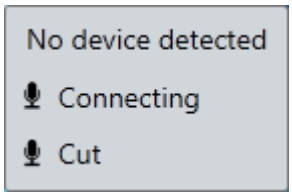
No measurement device detected

Attempts to establish a connection to the measurement device again.

A connection failed.

Voice command CONNECT

- Symbol color - red
- Symbol does not rotate
- Tooltip: Information about the connection error is displayed (example: No measurement device detected)



Click the button again to disconnect

HYDROlink6 attempts to establish a connection to the measurement device.

By clicking the button, the connection attempt is canceled.

Load working area from measurement device

Loads the work area from the measurement device.

The button is only active if a measurement device is connected.

Sending working area to measurement device

Send the work area to the measurement device.

The button is only active if a measurement device is connected.

Load work area from a file

Opens the Windows **Open** dialog.

You can load a saved work area.

The button is **not** active if a measurement device is connected.

Save work area as a file

Saves the current work area as a file.

Delete

The function of this button depends on which element is marked in the device explorer.

The following functions of the button are possible.

Marked element	Function of the Delete button
Configurations	Deletes all configurations from the device explorer. If a measurement device is connected, the projects on the measurement device are also deleted.
Configuration	Deletes the selected configurations from the device explorer. If a measurement device is connected, the project on the measurement device is also deleted.
Device measurement series	Deletes the selected device measurement series from the device explorer and from the measurement device. You can only delete the selected device measurement series if a measurement device is connected and if the device measurement series list was updated in the device explorer. Only the device measurement series is deleted. Downloaded measurement series will not be deleted from the PC.
Online measurement series	Deletes all online measurement series from the device explorer. Moves the files of the online measurement series into the Windows recycling bin.
Online measurement series	Deletes the selected online measurement series from the device explorer. Moves the file of the selected online measurement series into the Windows recycling bin.

Send selected configuration to the measurement device

Sends the current configuration or the selected configuration to the measurement device.

Successful sending is indicated with ☑.

The button is only displayed if a configuration was selected and a measurement device is connected.

Save selected configuration as file

Saves the selected configuration as file on the PC.

The Windows **Save as** dialog opens.

Start recording

Starts the recording of a measurement series.

Voice command RECORD

The button is only active if a measurement device is connected.

If on the **Settings** dialog **Specify folder and file name automatically** is selected, the recording starts immediately.

If automatic saving is not specified in the **Settings**, the Windows **Save as** dialog will be displayed. You must specify a destination and can change the file name.

⇨ **Settings dialog (global)** on page 148
⇨ **Recording a measurement** on page 59

The storage parameters of the measurement device will be used for the recording.

ENG

Recording

Only the channels for which the recording is activated will be recorded. The channels are indicated with the symbol in the channel parameters.

A progress bar indicates the status of the recording and the time of the recoding thus far.

Transfer to measurement device's SD card

When the storage on the measurement device is complete, the data is transferred to the SD card of the measurement device.

A progress bar indicates the status of the transfer to the SD card.

Transfer to the PC

When the transfer of the data to the SD card is complete, the measurement series is transferred to the PC.

A progress bar indicates the status of the transfer to the PC.

When the measurement series has been transferred to the PC, a new entry appears in *Device explorer > Measurement series > Online measurement series*.

Duration of the recording
HYDROlink6 records the measurement values on the measurement device and only then transmits the online measurement series to the PC.
Therefore, the duration of the recording with HYDROlink6 is limited by the measurement device.
- So that the sampling rate is available in full resolution, you must specify the duration of the recording in *Storage parameters > Storage time*.

BASE An online recording of measurement data is started. The measurement data is transferred directly to the PC. A progress bar indicates the status of the recording and the time of the recoding thus far.

Trigger

Triggers the online measurement.

Storage parameters > Trigger type must be **Button**.

The button is only visible if an online recording is active.

Stop recording

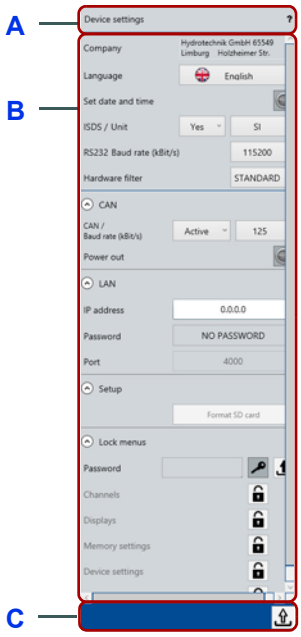
Ends the online recording or the active storage of data.

Voice command STOP

The button is only visible if an online recording is active.

ENG

Detail area



A Title bar
B Details
C Toolbar

Image: Detail area

The detail area is the dialog for editing the fields.

If you click one of the following elements in the device explorer, the detail area opens with the appropriate fields:

- **Device parameters**
- **Channel parameters** > *Select channel*
- **Storage parameters**
- **Display parameters**
- **Device measurement series** > *Select measurement series*
- **Online measurement series** > *Select measurement series*

If no measurement device is connected, the fields from the last connected measurement device will be displayed.

Use the button to reveal or hide the detail area.

If the fields change, the display changes at the same time.

The detail area consists of the following areas:

- **Title bar**
- **Details**
- **Toolbar**

ENG

Title bar Display selected element

⇨ **Title bar** on page 95

Details Display fields

Different fields are displayed, depending on which element is selected in the device explorer:

- Device parameters
  ⇨ **Device parameters** on page 96
- Specific channels
  ⇨ **Channel parameters** on page 100
- Storage parameters
  ⇨ **Storage parameters** on page 122
- Display parameters
  ⇨ **Display parameters** on page 126
- Specific device measurement series
  ⇨ **Device measurement series** on page 129
- Specific online measurement series
  ⇨ **Online measurement series** on page 130

Toolbar Display buttons

⇨ **Toolbar** on page 131

Title bar

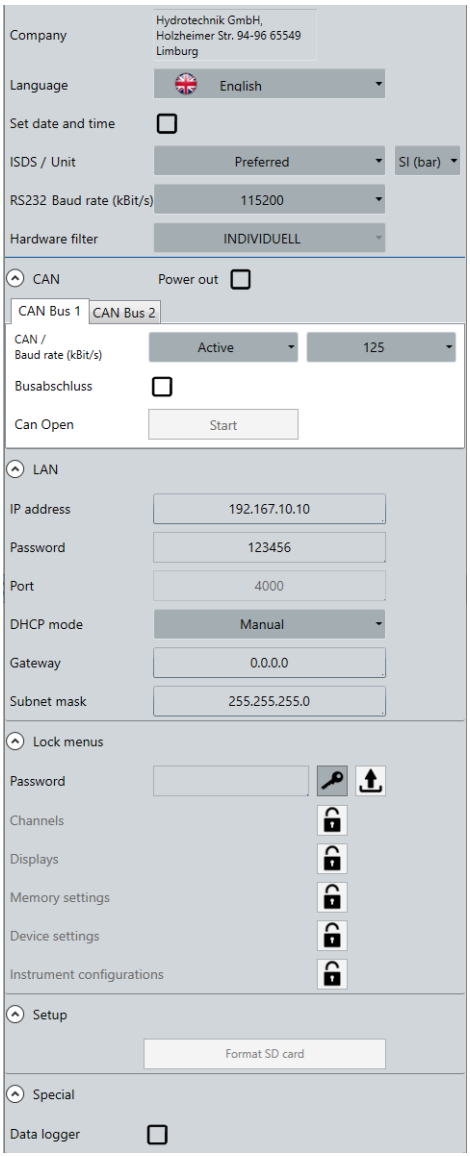
Device explorer > Select element (parameter or channel/measurement series) > Detail area > Title bar

The title bar area displays the selected parameter or the selected measurement series.

ENG

Device parameters

Device explorer > Current device configuration or Configuration > Device parameters > Detail area > Details



If you click **Device parameters** in the device explorer, the detail area opens with the following parameters:

- **Company name**
- **Language**
- **Set date and time**
- **ISDS/Unit**
- **RS232 Baudrate (kBit/s)**
- **Hardware filter**
- **CAN**
- **LAN**
- **Printer** (only visible if the measurement device supports printers)
- **Lock menus**
- **Setup**

The parameters depend on the measurement device connected and can vary.

MultiBox **Language**, **Set date and time**, **RS232 Baudrate** and **Hardware filters** are not supported.

Company name You can enter an individual text that will be displayed in the stored logs.

Language The selection of the languages is device-specific and can vary depending on the firmware used.

Set date and time If the **Set date and time** option is selected, when sending the device parameters, the time and date of the PC are set in the measurement device.

ISDS/Unit When using ISDS sensors, the sensor parameters will be taken over by the measurement device automatically after connecting the sensors and switching on the measurement device. If you want to use ISDS sensors, you must enable the sensor detection here and set the unit.

Selection of the unit system:

- SI (bar):

  The measurement device uses the units of the SI system. For the pressure, however, deviating from the unit, bar is used.
- US:

  The measurement device uses the units that are customary in the United State of America (e.g., psi, °F).
- SI (MPa):

  The measurement device uses only the units of the SI system. Accordingly, pressure is displayed in Pascal.

RS232 Baudrate (kBit/s) Set transmission speed for COM data.

CAN

The CAN settings are only displayed if the measurement device supports CAN. The MS 5070 supports 2 CAN connections.

- Power outlet:

  Use this function to switch the power supply of connected CAN sensors ON and OFF.
- CAN Bus 1, CAN Bus 2:

  The number of tabs depends on the type of measurement device (Multi-System 5070 supports 2 CAN buses).
- CAN/ Baudrate:

  Set transmission speed for CAN data.
- Bus connection
- CAN open:

  Here you can trigger the start command to the CAN bus that requests that the connected sensors and adaptor boxes send data.

MultiBox CAN is not supported.

LAN

The LAN settings are only displayed if the measurement device supports LAN.

- IP address:

  Enter the IP address that the measurement device should have on the Ethernet network.
- Password:

  Enter the password for the Ethernet network if a password is required.
- Port:

  This is permanently assigned and only displayed for informational purposes.
- DHCP mode:

  Not supported by all measurement devices. Determines how the IP address of the measurement device is assigned by the DHCP server.
- Gateway:

  Not supported by all measurement devices. Enter the gateway.
- Subnet mask:

  Not supported by all measurement devices. Enter the subnet mask.

Locking menus

If you enter the password and confirm with the button, all buttons are activated. Only displayed if the function is supported by the connected measurement device.

You can enter a new password. The tooltip displays the password in plain text.

You can lock or unlock menus.

If you press the button, the settings, including password, are sent to the measurement device.

MultiBox **Lock menus** is not supported.

You can lock or unlock the following menus:

- Password
- Channels
- Display
- Storage parameters
- Measurement device configuration

Setup

- Format SD card:

  Formats the inserted SD card. This will delete all data contained on the card (e.g. measurement data). The formatting cannot be undone.

Advanced options

For MultiBox and measurement devices in the **8050** and **xx70** family, there are also **Advanced options** available.

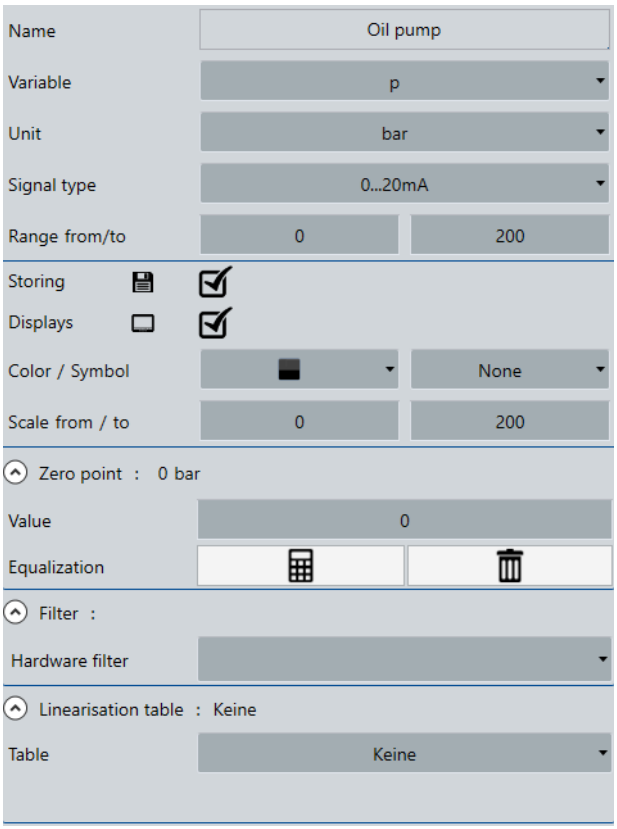
If you select **Data logger**, the measurement device works as a data logger.

When data logger mode is selected, the measurement device starts the recording right after it is switched on.

For example, you can switch the measurement device via the CAN2 socket so that it is started when a machine is switched on and the recording begins.

Channel parameters

Device explorer > Channel parameters > Click channel > Detail area > Details



ENG

If you select a channel under **Channel parameters** in the device explorer, the detail area opens with the parameters. The parameters displayed depend on the channel selected.

- All channels
  ⇨ **All channels** on page 101
- Analog channel
  ⇨ **Analog channel** on page 103
- Frequency channel
  ⇨ **Frequency channel** on page 105
- Digital input
  ⇨ **Digital input** on page 108
- Digital output
  ⇨ **Digital output** on page 109
- Analog output
  ⇨ **Analog output** on page 111
- Special channel
  ⇨ **Special channel for calculations** on page 112
- Special channel with CAN bus connection
  ⇨ **Special channel for CAN messages** on page 118

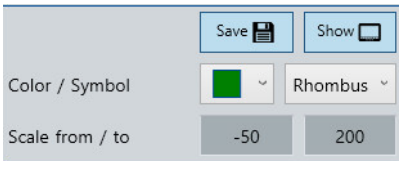
For a description of the parameters, see the documentation for the measurement device.

⇨ Documentation for the measurement device

Only the parameters are described below that differ among the measurement devices.

All channels

Device explorer > Channel parameters > Click channel > Detail area > Details



The detail area displays the following parameters for all channels:

- **Name**
- **Measurement variable**
- **Save** / **Show**
- **Color / Symbol**
- **Scaling from/to**

Name — Assign an individual name. The name will now be shown in the tile display of the measured values display.

Measurement variable/ Unit — Selection of measurement variable and unit; choose from among 18 different measurement variables and up to five units per measurement variable

In contrast to the measurement devices, measurement variable and unit are separate. With the selection of the **Measurement variable**, the selection possibilities of the **Unit** also change.

Save / Show — Specify whether the channel should be saved or displayed.

Color / Symbol — Specify colors and symbol for the channel.

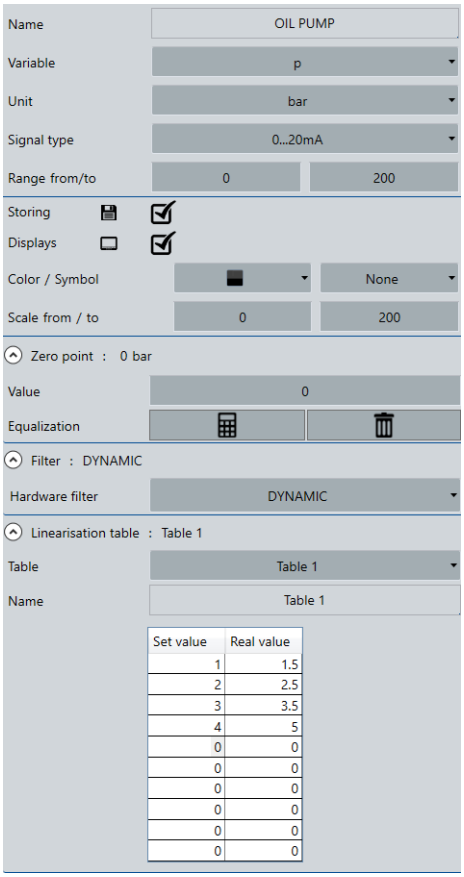
Scaling from/to — Specify the scaling for the channel.

Fields in HYDROlink6 and in the measurement device
Some fields in HYDROlink6 are displayed in another menu in the measurement device.
- **Save** is on the **Save** menu.
- **Show**, **Color**, **Symbol**, **Scaling** are on the **Display** menu.

ENG

Analog channel

Device explorer > Channel parameters > Click analog channel > Detail area > Details



The detail area displays the following parameters for analog channels:

- **Name**
- **Measurement variable**
- **Unit**
- **Signal type**
- **Measurement range from/to**
- **Save** / **Show**
- **Color / Symbol**
- **Scaling from/to**
- **2. Sampling rate**

  Only displayed if *Storage parameters > 2. Sampling rate x* is greater than 0.
- **Zero point**
- **Filter**
- **Linearization table**

Name Assign an individual name. The name will now be shown in the tile display of the measured values display.

Measurement variable/ Unit Selection of measurement variable and unit; choose from among 18 different measurement variables and up to five units per measurement variable

In contrast to the measurement devices, measurement variable and unit are separate. With the selection of the **Measurement variable**, the selection possibilities of the **Unit** also change.

ENG

Signal type Sensor-specific The correct signal type is marked on the type plate of the sensor or in its documentation.

Measurement range Entry of the measurement range of the connected sensor. If **Recalculate measurement range after unit change** is activated in the settings, then the measurement ranges are recalculated.

Save / Show Specify whether the channel should be saved or displayed.

Color / Symbol Specify colors and symbol for the channel.

Scaling from/to Specify the scaling for the channel.

2. Sampling rate Not available for measurement devices in the xx70 family.

Zero point The zero point can be synchronized automatically or changed manually.

The buttons and for the automatic synchronization are only active if a measurement device is connected.

Filter You can select the **Software Filter**. Software filters are not supported by the xx70 family.

If in *Device explorer > Device parameters > Detail area* **INDIVIDUAL** has been selected in the **Hardware Filter** drop-down list, you can select the **Hardware Filter** here.

Fields in HYDROlink6 and in the measurement device
Some fields in HYDROlink6 are displayed in another menu in the measurement device.
- **Filter** is on the **Device** menu.

MultiBox and measurement devices in the xx70 family: **Hardware Filter** is not supported.

Linearization table If available, you may enter or select a linearization table for the connected sensor. This may increase measurement accuracy.

The linearization table can be used to compensate for sensor inaccuracies. By calibrating a sensor, you will obtain this table, which can be entered into the measurement device. Five different linearization tables with ten values apiece are available for each measurement channel.

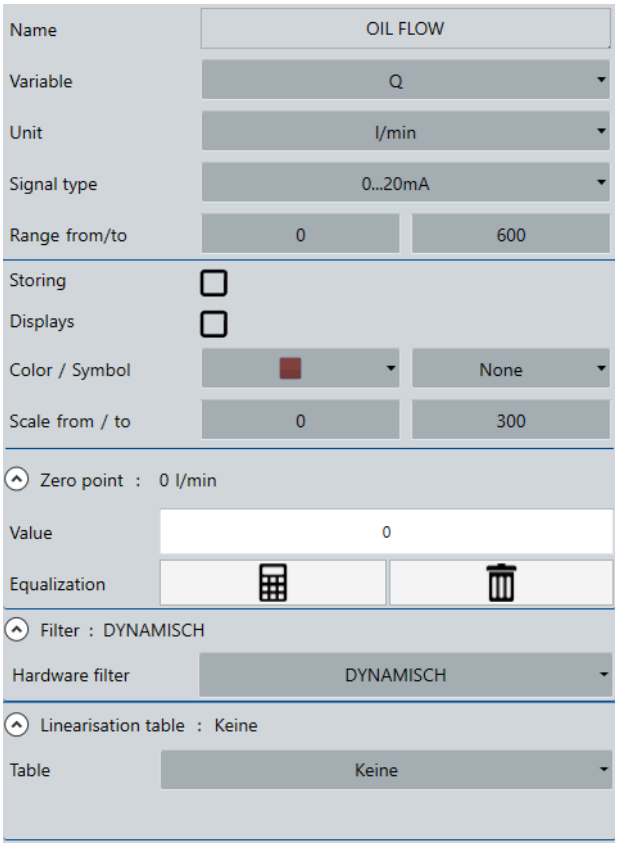
Select the **Linearization table** by selecting a table from the **Table** drop-down list.

If you select a table, you must define at least one **Actual value** greater than 0. You can change the name of the table.

MultiBox **Linearization table** is not supported.

Frequency channel

Device explorer > Channel parameters > Click frequency channel > Detail area > Details



The detail area displays the following parameters for frequency channels:

- **Name**
- **Measurement variable**
- **Unit**
- **Signal type**
- **Calibration value**
- **Save** / **Show**
- **Color / Symbol**
- **Scaling from/to**
- **2. Sampling rate**

  Only displayed if *Storage parameters > 2. Sampling rate x* is greater than 0.
- **Filter**
- **Min. Frequency**
- **Gate time (x 10ms)**
- **Linearization table**
- **Table**

Name Assign an individual name. The name will now be shown in the tile display of the measured values display.

Measurement variable/ Unit Selection of measurement variable and unit; choose from among 18 different measurement variables and up to five units per measurement variable

In contrast to the measurement devices, measurement variable and unit are separate. With the selection of the **Measurement variable**, the selection possibilities of the **Unit** also change.

Signal type Sensor-specific The correct signal type is marked on the type plate of the sensor or in its documentation.

Measurement range Entry of the measurement range of the connected sensor. If **Recalculate measurement range after unit change** is activated in the settings, then the measurement ranges are recalculated.

Save / Show Specify whether the channel should be saved or displayed.

Color / Symbol Specify colors and symbol for the channel.

Scaling from/to Specify the scaling for the channel.

2. Sampling rate Not available for measurement devices in the xx70 family.

Filter Choose from three digital filters:

- NONE

  No filter applied; on channels K1 and K8, peak pressure measurements up to 10 kHz
- STANDARD

  A 5 kHz filter is applied to channels K1 and K8.
- DAMPED

  A 50 Hz filter is applied to channels K1 to K8; peak pressures are suppressed; ideal for static measurements or slow processes

Min. Frequency Frequencies that are less than the value **Min. Frequency** are displayed as zero.

The value **Min. Frequency** can be set to **0.25**, **1**, **10** or **100** Hz.

For a minimum frequency of 1 Hz, the decrease to zero during the recording is shown with a delay of 1 s. For a minimum frequency of 0.25 Hz, the delay is 4 s.

Gate Time Frequency inputs are equalised by the gate time. The longer the gate time, the slower the measuring values will change, since a new value is only recorded after a delay. In the meantime, the measured values remain constant. The result is a signal smoothing.

Linearization table If available, you may enter or select a linearization table for the connected sensor. This may increase measurement accuracy.

The linearization table can be used to compensate for sensor inaccuracies. By calibrating a sensor, you will obtain this table, which can be entered into the measurement device. Five different linearization tables with ten values apiece are available for each measurement channel.

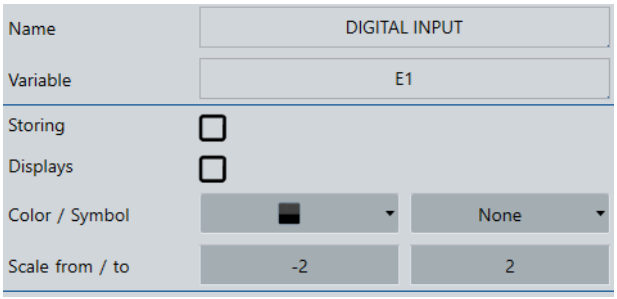
Select the **Linearization table** by selecting a table from the **Table** drop-down list.

If you select a table, you must define at least one **Actual value** greater than 0. You can change the name of the table.

MultiBox **Linearization table** is not supported.

Digital input

Device explorer > Channel parameters > Click digital input > Detail area > Details



The detail area displays the following parameters for digital inputs:

- **Name**
- **Measurement variable**
- **Save** / **Show**
- **Color / Symbol**
- **Scaling from/to**
- **2. Sampling rate**

  Only displayed if *Storage parameters > 2. Sampling rate x* is greater than 0.

Name Assign an individual name. The name will now be shown in the tile display of the measured values display.

Measurement variable The **measurement variable** cannot be changed.

Save / Show Specify whether the channel should be saved or displayed.

Color / Symbol Specify colors and symbol for the channel.

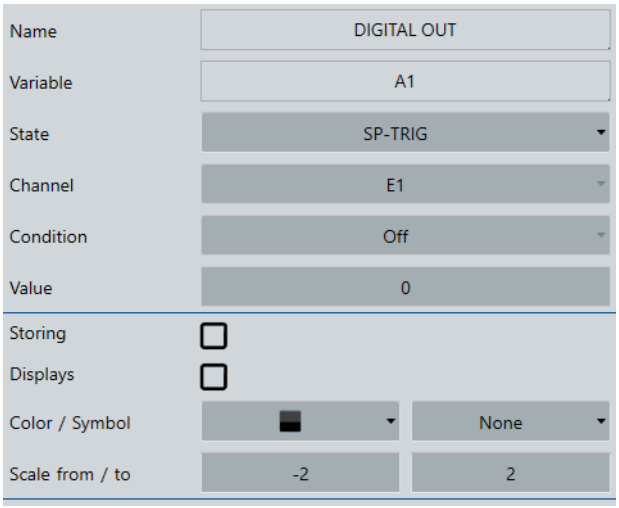
Scaling from/to Specify the scaling for the channel.

2. Sampling rate Not available for measurement devices in the xx70 family.

ENG

Digital output

Device explorer > Channel parameters > Click digital output > Detail area > Details



The detail area displays the following parameters for digital outputs:

- **Name**
- **Measurement variable**
- **State**
- **Channel**
- **Condition**
- **Value**
- **Save** / **Show**
- **Color / Symbol**
- **Scaling from/to**
- **2. Sampling rate**

  Only displayed if *Storage parameters > 2. Sampling rate x* is greater than 0.

Name Assign an individual name. The name will now be shown in the tile display of the measured values display.

Measurement variable The **measurement variable** cannot be changed.

State Source of the triggering event:

- INACTIVE:
  Trigger off
- CHANNEL:
  Channel is monitored for the occurrence of the triggering event,
- SP-TRIG:
  Trigger is set if trigger was detected during saving. This allows several measurement devices to be synchronized:
  – Master: Saving of triggering event X (e.g. p1>200) – trigger output: SP_TRIG;
  – Slaves: Saving of triggering event E1
- MANUAL:
  the trigger output is switched manually by pressing a key

Channel Selection of the channel that should serve as reference channel.

Condition for trigger input **OFF/ON**

for measurement channels **GREATER THAN/LESS THAN**

Value Can only be set under the following conditions:

- **CHANNEL** is selected in the **Status** drop-down list.
- No digital channel is selected for the **Channel** parameter.
- for measurement channels, e.g. 200

Save / Show Specify whether the channel should be saved or displayed.

Color / Symbol Specify colors and symbol for the channel.

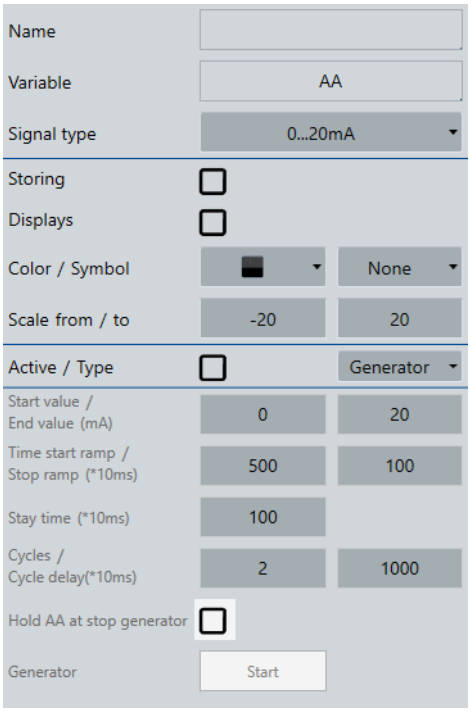
Scaling from/to Specify the scaling for the channel.

2. Sampling rate Not available for measurement devices in the xx70 family.

ENG

Analog output

Device explorer > Channel parameters > Click analog output > Detail area > Details



This channel is only active for measurement devices in the **8050** family and **MultiPanel 2025**.

The detail area displays the following parameters for analog outputs:

- **Name**
- **Measurement variable**
- **Save** / **Show**
- **Color / Symbol**
- **Scaling from/to**
- **Active/Type**
- **Start value/End value (mA)**
- **Time start ramp/end ramp(*10ms)**
- **Dwell time (*10ms)**
- **Cycles/Cycle pause (*10ms)**
- **Stop AA on generator stop**

Name Assign an individual name. The name will now be shown in the tile display of the measured values display.

Measurement variable The **measurement variable** cannot be changed.

Save / Show Specify whether the channel should be saved or displayed.

ENG

Color / Symbol Specify colors and symbol for the channel.

Scaling from/to Specify the scaling for the channel.

Active/Type Here you can select one of the available modes:

- INACTIVE:
  Output is switched off
- ACTIVE
  The output is either controlled by a measurement channel or the integrated signal generator.

For an active output, select how the output signal should be generated.

Start value/End value (mA) Value that is output to the selected output immediately after starting the signal generator; min. 0 (K25) or -20 (K26).

Value that is output at the end of the defined ramp (max. 20).

Time start ramp/end ramp (*10ms) Time period in which the output is brought from the start to the end value.

Time period after the dwell time in which the output is brought back to the start value.

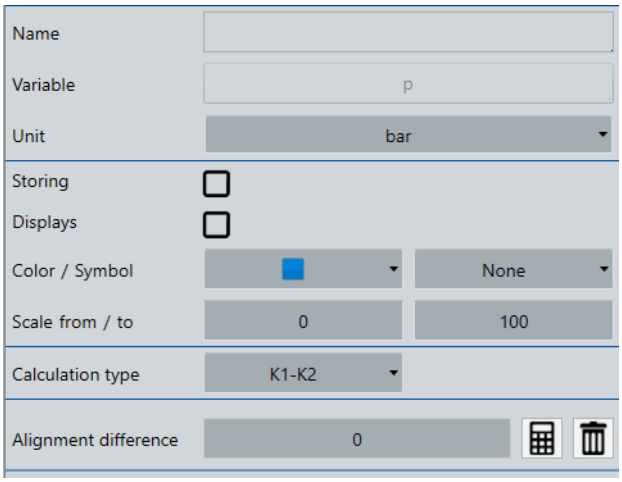
Dwell time (*10ms) Duration of how long the end value is held.

Cycles/Cycle pause (*10ms) Desired number of impulses generated.

If several impulses should be generated, you can define the wait time between two impulses here.

Special channel for calculations

Device explorer > Channel parameters > Click special channel > Detail area > Details



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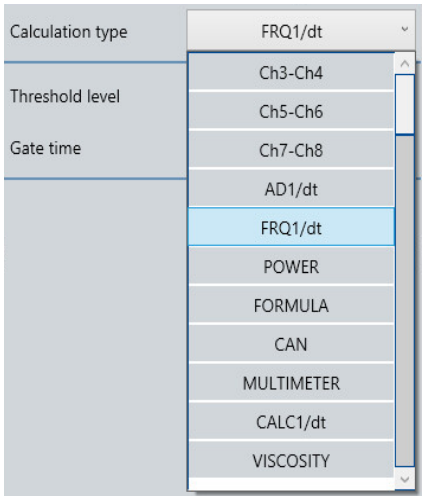
In the detail area, the following parameters are displayed for special channels if the **Calculation type CAN** has **not** been selected:

- **Name**
- **Measurement variable**
- **Unit**
- **Save** / **Show**
- **Color / Symbol**
- **Scaling from/to**
- **Calculation Type**
- **Threshold Value**
- **Gate Time**



Special channels serve to combine measurement values from several channels mathematically and to line up calculations from this.

Name Assign an individual name. The name will now be shown in the tile display of the measured values display.

Measurement variable It is entered automatically when using pre-programmed formulas and cannot be edited. For individual formulas and assignment with CAN or Multimeter, you can define the variable here that is provided on this channel.

Unit It is entered automatically when using pre-programmed formulas and cannot be edited. Specify the unit for individual formulas and assignment with CAN or Multimeter.

If, for example, 2 channels with the same variable are triggered, then in the selection list for the unit, only units that are appropriate for this variable are displayed. E.g. p1 - p2: Units for the printing.

Save / Show Specify whether the channel should be saved or displayed.

Color / Symbol Specify colors and symbol for the channel.

Scaling from/to Specify the scaling for the channel.

ENG

Calculation Type

In the detail area, you can define the **Calculation type**. You can also select a **Calculation type** or a **Formula**.

Special channels also serve as display for CAN messages or a connected multimeter.

Depending on the measurement device, the following calculation types are possible.

Measurement devices in the 5060, 8050, and xx70 families.

Calculation Type		Description
Subtraction	K1-K2 K3-K4 K5-K6 K7-K8 For Multi-System and Multi-Control 4070: K1-K2 K3-K4 K4-K5	The difference of the measurement values of two channels is depicted. Here, both channels must be assigned the same measurement variable and measurement unit. The resulting variables and measurement unit are determined automatically.  With the button, you can perform a comparison of the channels. With the button, you can delete the calibration. The buttons are only active if a measurement device is connected.
Differentiation	AD1/dt FRQ1/dt CALC1/dt	The 1st derivation of measurement values is displayed.  You can perform a differentiation via the following channels: 1. Analog channel 1. Frequency channel 1. Special channel
Power		The hydraulic power is calculated. Calculated using the formula K1 x first frequency channel / 600 to calculate the hydraulic power. The pressure p in bar is measured on channel 1 and the volume flow rate Q in l/min is measured on the first frequency channel.

Table: Calculation types of the MultiSystem 5060 (Plus)

Calculation Type	Description
Formula	You can perform arbitrary calculations and use the values from all channels in your formula: Here you can use the following notations: k1*k4 <> p1*Q1 The unit is calculated automatically by the variables. In the example above, W is suggested as the unit for power. In the selection field for the unit, SI units for the power (W, mW, kW, MW, PS, hp) can be selected. Furthermore, for the calculation of the formula, the conversion factor for the selected unit is considered. The unit is recalculated with the button. 
CAN	⇨ **Special channel for CAN messages** on page 118
Multimeter (not for measure-ment devices in the xx70 family)	A multimeter that is connected to the RS232 interface is placed on a channel. 
Viscosity	The viscosity change depending on the temperature is compensated. The oil viscosity depends on its temperature. To account for these changes during the measurement of the volume flow, following channels must be pro-grammed appropriately: • One measurement channel for temperature (if the viscosity of the oil is not known). • One measurement channel for the viscosity-com-pensated volume flow rate measurement. • If the viscosity should be displayed/saved, a virtual channel for calculation of the viscosity.

Table: Calculation types of the MultiSystem 5060 (Plus)

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MultiBox 3060
MultiBox 3061
MultiBox 3065

Calculation Type		Description
Subtraction	K1-K2 K1-K3 K1-K4 K2-K3 K3-K4	The difference of the measurement values of two channels is depicted. Here, both channels must be assigned the same measurement variable and measurement unit. The resulting variables and measurement unit are determined automatically.  With the button, you can perform a comparison of the channels. With the button, you can delete the calibration. The buttons are only active if a measurement device is connected.
Power		The hydraulic power is calculated. Calculated using the formula K1 x first frequency channel / 600 to calculate the hydraulic power. The pressure p in bar is measured on channel 1 and the volume flow rate Q in l/min is measured on the first frequency channel.

Table: Calculation types for the MultiBox 3060/3061/3065

MultiSystem 8050
MultiControl 8050

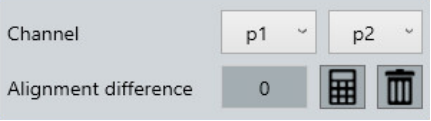
Calculation Type	Description
SUB ADD MUL DIV	The difference, the total, the product, or the quotation of the measurement values of two channels is calculated.  With the button, you can perform a comparison of the channels. With the button, you can delete the calibration. The buttons are only active if a measurement device is connected.
DIFF	The 1st derivation of measurement values is displayed. The channel can be selected at will.  ⇨ Documentation for the measurement device

Table: Calculation types of the MultiSystem 8050

Calculation Type	Description
Formula	You can perform arbitrary calculations and use the values from all channels in your formula: Here you can use the following notations: k1*k4 <> p1*Q1 The unit is calculated automatically by the variables. In the example above, W is suggested as the unit for power. In the selection field for the unit, SI units for the power (W, mW, kW, MW, PS, hp) can be selected. Furthermore, for the calculation of the formula, the conversion factor for the selected unit is considered. The unit is recalculated with the button. 

Table: Calculation types of the MultiSystem 8050

Threshold Value Only for the calculation type differentiation.

Gate Time Only for the calculation type differentiation.

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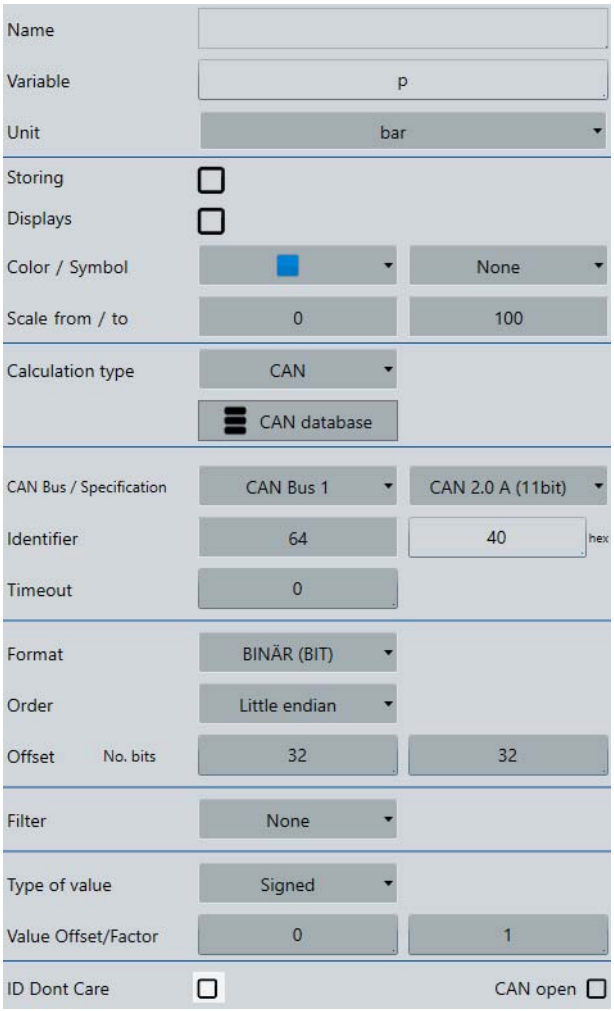
Special channel for CAN messages

Device explorer > Channel parameters > Click special channel (with CAN bus connection) > Detail area > Details



In the detail area, among others, the following parameters are displayed for special channels if the **Calculation Type CAN** has been selected:

- **Name**
- **Measurement variable**
- **Unit**
- **Save** / **Show**
- **Color / Symbol**
- **Scaling from/to**
- **Calculation Type**
- **CAN Specifications**
- **Identifier**
- **Timeout**
- **Format**
- **Sequence**
- **Offset**
- **Filter**
- **Calculation Type**
- **Value Type**
- **Value Offset/Factor**
- **ID Dont Care**
- **CAN open**

Name Assign an individual name. The name will now be shown in the tile display of the measured values display.

Measurement variable Any measurement variable can be entered.

Unit Any unit can be entered.

Save / Show Specify whether the channel should be saved or displayed.

Color / Symbol Specify colors and symbol for the channel.

Scaling from/to Specify the scaling for the channel.

Calculation Type CAN

CAN Specifications CAN parameters. See the information in the documentation for the CAN sensor.

Identifier CAN parameters. See the information in the documentation for the CAN sensor.

Enter the identifier as a decimal or hexadecimal number. After entry, the corresponding value is displayed as a decimal number and the corresponding hexadecimal value is placed in brackets.

Timeout

CAN parameters. See the information in the documentation for the CAN sensor.

If you select the **Calculation Type CAN**, special channels serve as input channels for the CAN messages.

You can enter the parameters or read them from a CAN database.

⇨ **CAN database dialog** on page 165

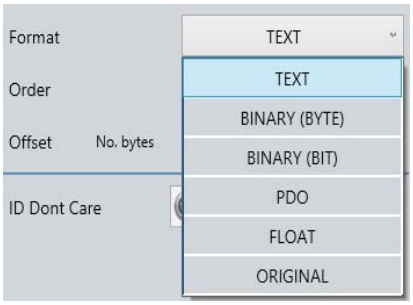
For a description of the parameters, see the documentation for the measurement device.

⇨ Documentation for the measurement device

For the **MultiSystem 5060**/**MultiSystem 5060** *Plus* and **MultiSystem 8050** measurement devices, the **Calculation Type CAN** differs in the selection possibilities for formats.

Depending on the measurement device, the following formats are possible.

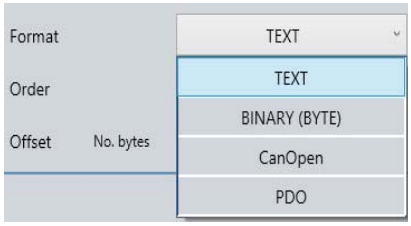
MultiSystem 5060 family, 5070 and 4070



In the **Format** drop-down list, the following formats can be selected:

- **TEXT**
- **BINARY (BYTE)**
- **BINARY (BIT)**
- **PDO**
- **FLOAT**
- **ORIGINAL**

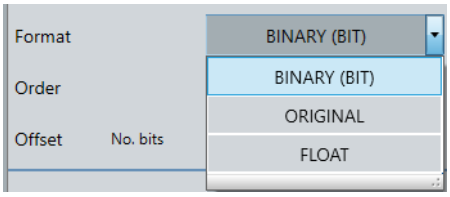
MultiSystem 8050 family



In the **Format** drop-down list, the following formats can be selected:

- **TEXT**
- **BINARY (BYTE)**
- **CanOpen**
- **PDO**

Device in the xx70 family



In the **Format** drop-down list, the following formats can be selected:

- **BINARY (BIT)**
- **FLOAT**
- **ORIGINAL**

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Formats

Depending on which **Format** has been selected, the selection of the following available parameters changes.

When entering the CAN specifications, you can select the ORIGINAL format. Then, the CAN data will not be interpreted by the measurement device, but saved digitally in the measurement file.

This enables the saving of so-called "multichannels", which are channels on which the data from several sources is transmitted together. These can be switch states, e.g. (max. 32 switches on a channel), but also different sensor signals.

Depending on which **Format** is selected, the **Sequence** and **Offset** parameters are displayed.

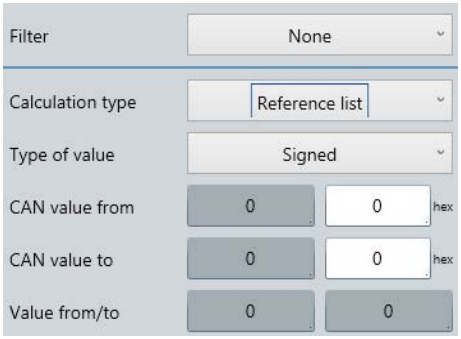
Sequence

Specify the byte sequence.

- Little Endian:
  The smallest possible byte is saved first.
- Big Endian:
  The largest possible byte is saved first.

Offset

Enter bits at the beginning of the CAN message that should be skipped.



If the **BINARY format** has been selected, the following parameters are also displayed:

- **Filter**
- **Calculation Type**
- **Value Type**
- **CAN value from** (**calculation type reference list**)
- **CAN value to** (**calculation type reference list**)
- **Value from/to**

If the **PDO format** has been selected, the following parameters are also displayed:

- **Decimal places**

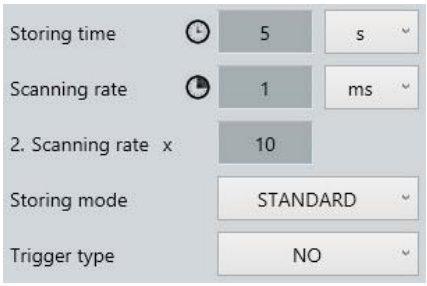
MultiBox CAN channels are not supported.

Calculation Type Not for measurement devices in the xx70 family.

ID Dont Care Not for measurement devices in the xx70 family.

Storage parameters

Device explorer > Storage parameters > Detail area > Details



If you click **Storage parameters** in the device explorer, the detail area opens with the following parameters:

- **Storage time**
- **Sampling rate**
- **2nd sampling rate**

  Only displayed if the function is supported by the connected measurement device.
- **Storage mode**
- **Trigger type**

ENG

Storage time Duration of the storage.

Consider the storage capacity of the measurement device. The amount of data will increase if you configure more channels, a longer storage time, and a shorter sampling rate. Large amounts of data can make evaluation and estimation of measurement results more difficult.

Sampling rate Interval between two measurement in a measurement series.

Storage mode Choose from three options:

- **STANDARD**
  The defined recording and parameters will be applied to execute one single recording
- **CYCLIC**
  The defined storage and trigger parameters will be applied repeatedly until the **Z-STOP** key is pressed.
- **SINGLE VAL**.
  The current measurement value of each storage channel will be stored when a key is pressed.

Trigger You can use the trigger function to reduce the amount of stored data by letting the device start storing when the "interesting moments" are coming.

With measurement devices in the **xx70** family, you can define up to four triggers.

With measurement devices in the **5060** and **8050** families, you can define up to two triggers.

With measurement devices in the **Multibox** family, you can define up to three triggers.

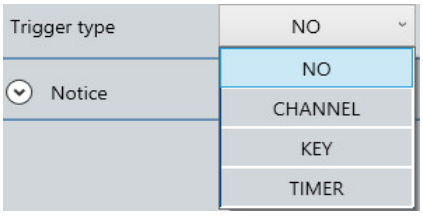
Triggers are defined events that can start or stop storage.

You can define any measurement channel as trigger, e.g. "if measured value on channel 1 is greater than 10", use a timer function, or use a manual key press.

You can link four triggers logically, e.g. "if measured value on channel 1 is greater than 10 OR measurement value on channel 2 is less than 100". The trigger will be started by the first of the two events.

MultiBox Triggers can only be linked with AND.

Trigger type



Depending on which trigger type has been selected, the selection of the following available parameters changes.

ENG

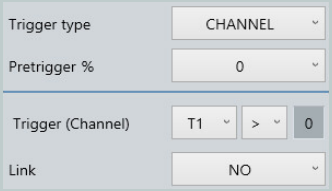
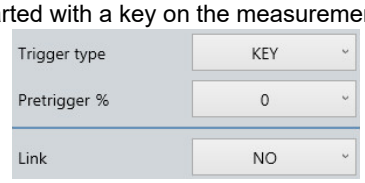
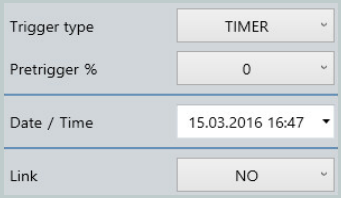
Trigger type	Parameter
NONE	No additional parameters
CHANNEL	You can only use real channels, not special channels.  **MultiBox** 2 additional channels are supported.
KEY	Storage is started with a key on the measurement device.  **MultiBox** The **Trigger type KEY** is not supported.
TIMER	Storage is started at the specified point in time.  **MultiBox**, **MultiSystem 8050** and **MultiControl 8050**: The **Trigger type TIMER** is not supported.

Table: Trigger types

Example of a trigger recording

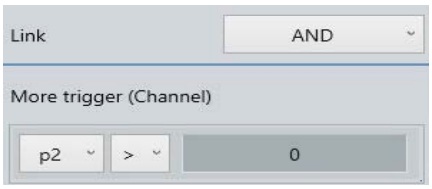
A 2-minute recording is to be started when the measurement value p2 drops below 50 bar and temperature T1 rises above 30 °C. The recording is to start 60 seconds before the trigger incident. Required programming:

Storage time	2 min.
Trigger 1	p2
Trigger condition	FALLING
Trigger value	50.00
Pretrigger	50%
Trigger link	AND
Trigger 2	T1
Trigger condition	RISING
Trigger value	30.00

Table: Example of a trigger calculation

Pretrigger When a pretrigger is defined, the storing starts before the trigger event has happened. The percentage defined as pretrigger is used to store measured values before the trigger event.

Trigger link

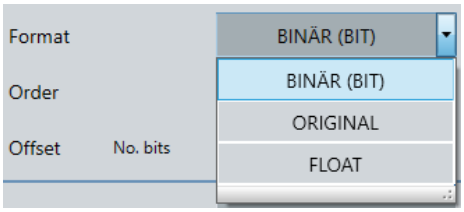


If you have selected a trigger type, you can link it with another channel as 2nd trigger.

Select an option:

- **NONE**: Trigger 2 is not used
- **AND**: Trigger 1 and Trigger 2 must occur
- **OR**: Trigger 1 or Trigger 2 must occur
- **START/STOP**: Trigger 1 starts the recording, Trigger 2 stops it

MultiBox 2 additional channels can be linked as trigger with the 1st trigger. The next channel is only active if the previous channel has been selected.



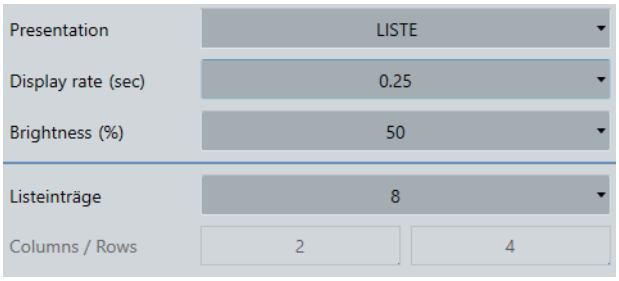
Notes You can enter any text here.

Channels Select the channels that should be stored. All channels that are marked with a ✓ checkmark will be stored

ENG

Display parameters

Device explorer > Display parameters > Detail area > Details



Display parameters are not displayed for measurement devices in the **Multi-Control** and **MultiBox** families.

If you click **Display parameters** in the device explorer, the detail area opens with the following parameters:

- **Presentation**
- **Display rate (sec)**
- **Brightness**
- **Display**
- **Columns/Rows**

  Only for **MultiSystem 5060 Plus** and **MultiSystem 8050** and **MultiSystem xx70**
- **Rotation (°)**

  Only for **MultiSystem 8050**
- **Show symbols**

  Only for the **Graphic** presentation

Presentation

You can choose between the following options here:

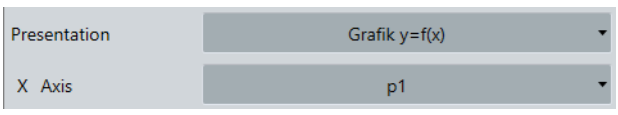
- **LIST or TEXT**
- **DISPLAY**

You have two possibilities for configuring the graphical presentation:

- **GRAPHIC y = f(t)**

  Presentation of the channels as a function of time
- **GRAPHIC y=f(x)**

  Presentation of the channels as a function of an arbitrary channel



If you select **Graphic y=(fx)**, the parameter **X axis** opens. You can specify the channel that is created on the x-axis.

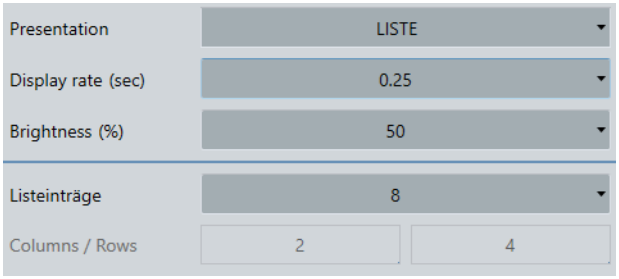
Depending on the measurement device, the following parameters are displayed in the detail area.

MultiSystem 5060

In the **Presentation** drop-down list, the following parameters can be selected:

- **TEXT**
- **GRAPHIC y = f(t)**
- **GRAPHIC y=f(x)**

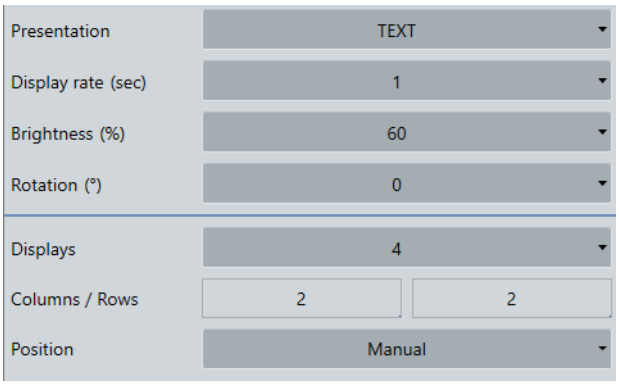
MultiSystem 5060 *Plus*, and xx70 family



In the **Presentation** drop-down list, the following parameters can be selected:

- **LIST (xx70 family) or TEXT (MultiSystem 5060 Plus)**
- **GRAPHIC y = f(t)**
- **GRAPHIC y=f(x)**
- **DISPLAY**

MultiSystem 8050



In the **Presentation** drop-down list, the following parameters can be selected:

- **TEXT**
- **GRAPHIC y = f(t)**
- **GRAPHIC y=f(x)**

The **TEXT mode** on the **MultiSystem 8050** corresponds to the **DISPLAY mode** on the**MultiSystem 5060 *Plus***.

If you select **Manual** from the **Position** drop-down list, you can move the individual elements in the device display using drag & drop.

ENG

MultiBox and MultiControl Display parameters are not supported.

Display rate Specifies the refresh rate of the measurement values display. Select one of the five possible values.

Brightness Determines the brightness value of the display. Select either **Min** or **Max**.

Display In the **Display** drop-down list, you can select the number of displays.

Here you have three possibilities for the tile presentation:

- **4 panels**
  Shows 4 tiles in the measurement values display.
- **9 panels**
  Shows 9 tiles in the measurement values display.
- **12 panels**
  Shows 12 tiles in the measurement values display.

Columns Specify the number of columns.

Rows Specify the number of rows.

Show symbols Select whether symbols and colors should be displayed in the channel parameters.

Device measurement series

Device explorer > Measurement series > Device measurement series > Select measurement series > Detail area > Details

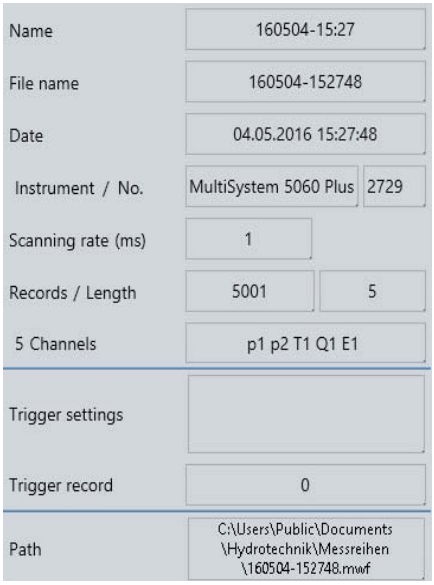
If you click a device measurement series in the device explorer, the detail area opens with the following parameters:

- **Name**
- **File name**
- **Date**
- **Sampling rate (ms)**
- **Data records/Duration**
- **Channels**
- **Trigger Setting**
- **Trigger Record**
- **Path**

ENG

Online measurement series

Device explorer > Measurement series > Online measurement series > Select measurement series > Detail area > Details



If you click an online measurement series in the device explorer, the detail area opens with the following parameters:

- **Name**
- **File name**
- **Date**
- **Measurement Device/No.**
- **Sampling rate (ms)**
- **Data records/Duration**
- **Channels**
- **Trigger Setting**
- **Trigger Record**
- **Path**

Toolbar

Device explorer > Select parameters > Detail area > Toolbar

Use the toolbar of the detail area in order to send the settings for the detail area to the measurement device.

ENG

Send these settings to the measurement device

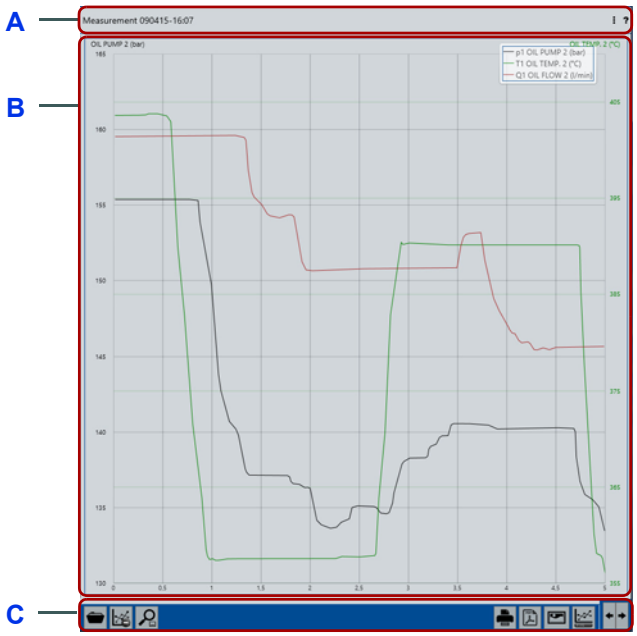
Sends the settings in the current detail area to the measurement device.

The button is only active if a measurement device is connected and the parameters have been read out.

This setting was transferred successfully to the measurement device

The successful sending of the settings to the measurement device is displayed briefly with this symbol.

Viewer



A Title bar
B Display
C Toolbar

Image: Viewer

The viewer shows the measurement values of the selected channel or measurement series recorded.

The viewer can be switched between the following displays:

Online measurement series

Device measurement series

Measurement series display

The viewer consists of the following areas:

- **Title bar**
- **Display**
- **Toolbar**

Title bar Display information about the display type or measurement series.

Display With the button, you can switch between the following display types:

- Online display
  ⇨ **Online display** on page 133
- Measurement device display
  ⇨ **Device display** on page 140
- Measurement series display
  ⇨ **Measurement series display** on page 142

Toolbar Provides buttons for the viewer.

Buttons for the online display
⇨ **Toolbar** on page 135

Buttons for the device display
⇨ **Toolbar** on page 141

Buttons for the measurement series display
⇨ **Toolbar** on page 144

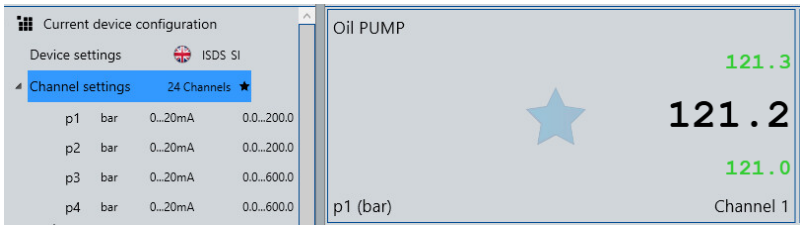
Online display

*Viewer > **Change the display type** button > Online display*

The **Online display** displays the channels of the connected measurement device.

The channels that have been selected are displayed. *Device explorer > Measurement device > Channel parameters > Select channel> Details > Select* **Display on Measurement Device**.

If the setting of a channel has been changed, then this is indicated by an asterisk ★ next to the channel in the device explorer and in the channel display.



The settings must be synchronized with the measurement device.

With the button, you can switch between **Online display**, **Device display**, and **Measurement series display**.

⇨ **Using the online display** on page 43
⇨ **Using device display** on page 50
⇨ **Using Live Monitor** on page 52
⇨ **Using the Measurement display** on page 53.

Title bar

The following symbols can be displayed.

Help

Opens the help.

Online values are received

Indicates that measurement values are being received from the measurement device.

During loading and sending of parameters and measurement series, no measurement values are recorded.

ENG

Configure online displays

*Viewer > **Change the display type** button > Online display*

You can configure the online display as follows:

- **Display channels**
- **Add/delete channels**
- **Arrange channels**
- **Change display**

For the **MultiHandy 2020, MultiHandy 2025,** and **MultiHandy 3020** measurement devices, all channels are displayed automatically.

Display channels

The channels are displayed for which the channel parameter **Display on measurement device** is selected.

Add/delete channels

You can add channels to or remove them from the online display.

Channels can be dragged into the online display from the device explorer using drag & drop.

⇨ **Selecting a channel for the online display** on page 44

Drag & drop function
The drag & drop function is not possible for measurement devices in the *MultiHandy* product family.

Channels can be removed from the online display using the button.

⇨ **Deleting channels from the online display** on page 46

Arrange channels

You can arrange the channels as you wish.

You can drag channels anywhere with the mouse.

⇨ **Arranging channels in the online display** on page 45

Change display

With the buttons on the toolbar, you can change the appearance of the display or the display style.

⇨ **Toolbar** on page 135

Toolbar

*Viewer > **Change the display type** button > Online display> Toolbar*

To apply the functions of the toolbar to a specific channel, mark the channel with a mouse-click.

Marked channels
Marked channels have a blue border.

The toolbar contains the following buttons.

ENG

Switching display of min/max values on or off

Switches the min/max display on or off.

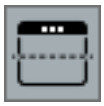
Voice command MINMAX

Deleting the current min/max values

Deletes the current min/max values.

Only visible if the min/max display is switched on.

Changing the appearance of the online display



Changes the appearance of the **Online display**.

You can change the appearance of the **Online display** as follows:

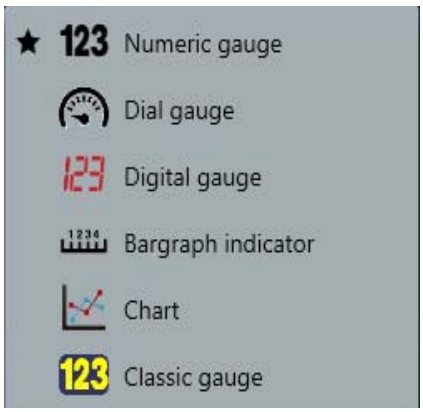
- **Only devices**
- **Split of device display and line graph**

  In addition to the devices, a line graph with all online channels is displayed.
- **Only line graph**

⇨ **Line graph** on page 139

Change the display style of the selected channels

Opens the selection dialog on which you can change the display style of the selected channel.



⇨ **Display style** on page 138

Deleting the marked display devices

Removes the marked channel from the display.

The button is not shown for measuring devices from the product family *MultiHandy*.

Clears the measurement series display

Clears the line graph.

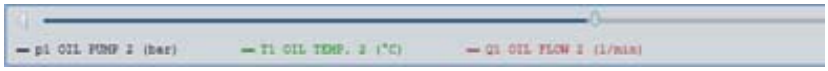
Only visible if a line graph is displayed in the online display.

Zoom tool

Activates the zoom tool.

Interrupting or continuing the refreshing of the display of the line graph

Stops the line graph or lets it continue.



If you stop the line graph, you can display different areas with the slider. You can also display details with the zoom tool.

Only visible if a line graph is displayed in the **online** display.

Changing the display type

Switches between **Online display**, **Device display**, **Live Monitor**, and **Measurement series display**.

Voice command SWITCH

MultiBox No **device display**.

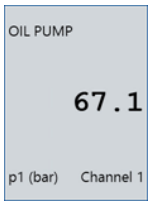
BASE No **device display**.

ENG

ENG

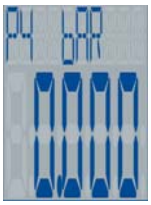
Display style

A variety of display styles are available for the channel display.

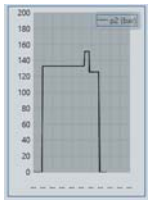


Numeric gauge


Analog gauge


Segment gauge


Linear gauge


Line graph

Measurement device display

If a channel is added to the **Online display**, the default display style will be used for the channel view.

The default display style is marked with an asterisk★.

Use the button to change the display style for marked channel displays.

⇨ **Changing and scaling the display style** on page 48

Analog gauge

Scaling possible.

⇨ **Scaling dialog** on page 163

Linear gauge

Scaling possible.

⇨ **Scaling dialog** on page 163

Line graph

You can change the appearance of the line and scaling of the axes under *Device explorer > Channel parameters > Select channel > Details >* **Color** */* **Symbol**.

The last 60 seconds are always displayed.

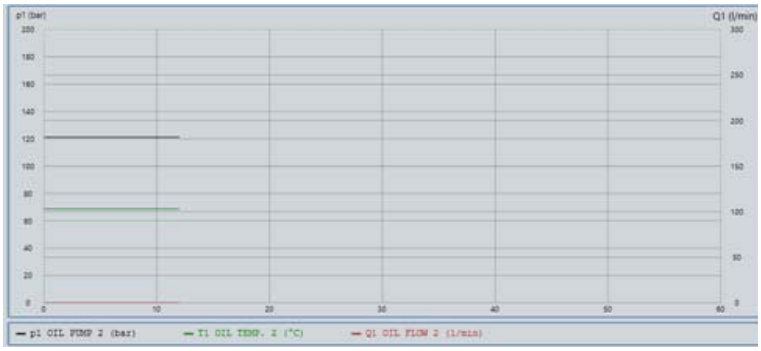
Scaling possible.

⇨ **Scaling dialog** on page 163

ENG

Line graph

*Viewer > **Change the display type** button > Online display> Change the appearance of the online display*



In the **Online display,** you can display a line graph below the channel display or switch the **Online display** entirely to the line graph.

The line graph displays all online channels. You can change the appearance of the line and scaling of the axes under *Device explorer > Channel parameters > Select channel > Details* > **Color / Symbol**.

The last 60 seconds are always displayed. You can stop the line graph or let it continue.

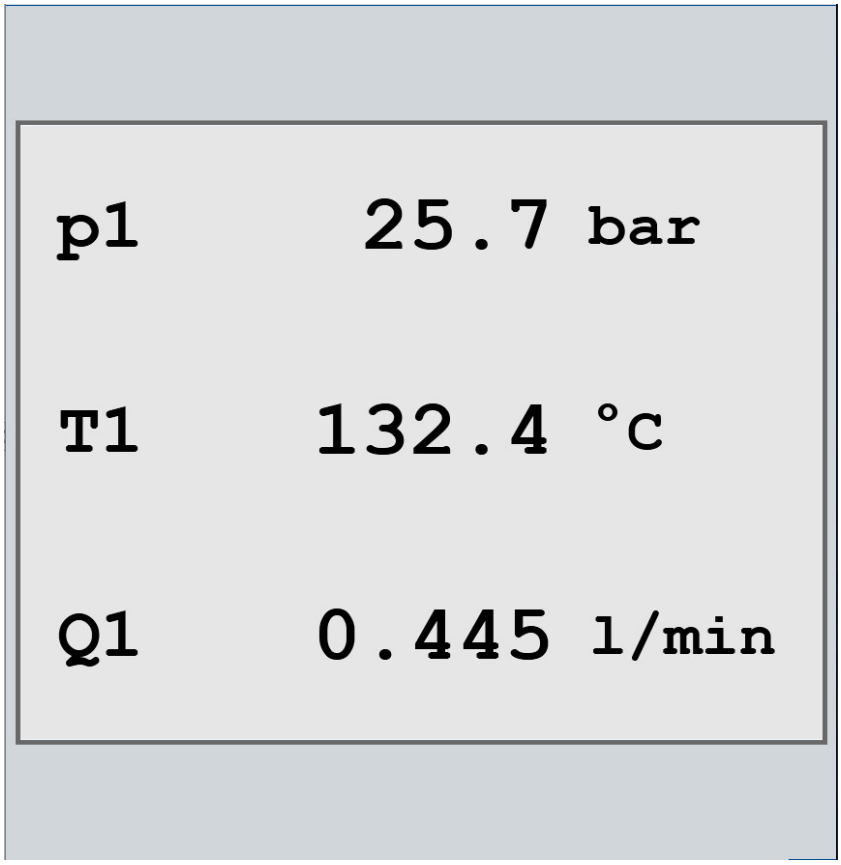
If you stop the line graph, you can display different areas with the slider. You can also display details with the zoom tool.

The observation period is minimum 1200 data records. Therefore, the time period depends on the display rate set. At 1 second, it is 20 minutes; at 0.1 seconds, it is at least 2 minutes.

ENG

Device display

Viewer > ***Change the display type*** *button* > *Device display*



The **Device display** simulates the display of the measurement device.

If a measurement device is connected, the measurement values can be displayed.

The channels that have been selected are displayed. *Device explorer* > *Measurement device* > *Channel parameters* > *Select channel* > *Details* > **Display on Measurement Device**.

With the button, you can switch between **Online display**, **Device display**, and **Measurement series display**.

⇨ **Using the online display** on page 43
⇨ **Using device display** on page 50
⇨ **Using the Measurement display** on page 53.

If measurement devices are coupled with one another, no device display is possible.

MultiBox No device display.

BASE No device display.

ENG

Title bar

The following symbols can be displayed.

Help

Opens the help.

Online values are received

Indicates that measurement values are being received from the measurement device.

During loading and sending of parameters and measurement series, no measurement values are recorded.

Configure device display

You can change the display type of the device display under *Current device configuration > Display parameters* > **Mode**.

The configuration options depends on the connected measurement device.

⇨ Documentation for the measurement device

Toolbar

Viewer > ***Change the display type** button* > *Device display* > *Toolbar*

The toolbar contains the following buttons.

Switching display of min/max values on or off

Switches the Min/Max display on or off.

Voice command MINMAX

Deleting the current min/max values

Deletes the current min/max values.

Only visible if the min/max display is switched on.

Changing the display type

Switches between **Online display**, **Device display,** and **Measurement series display**.

Voice command SWITCH

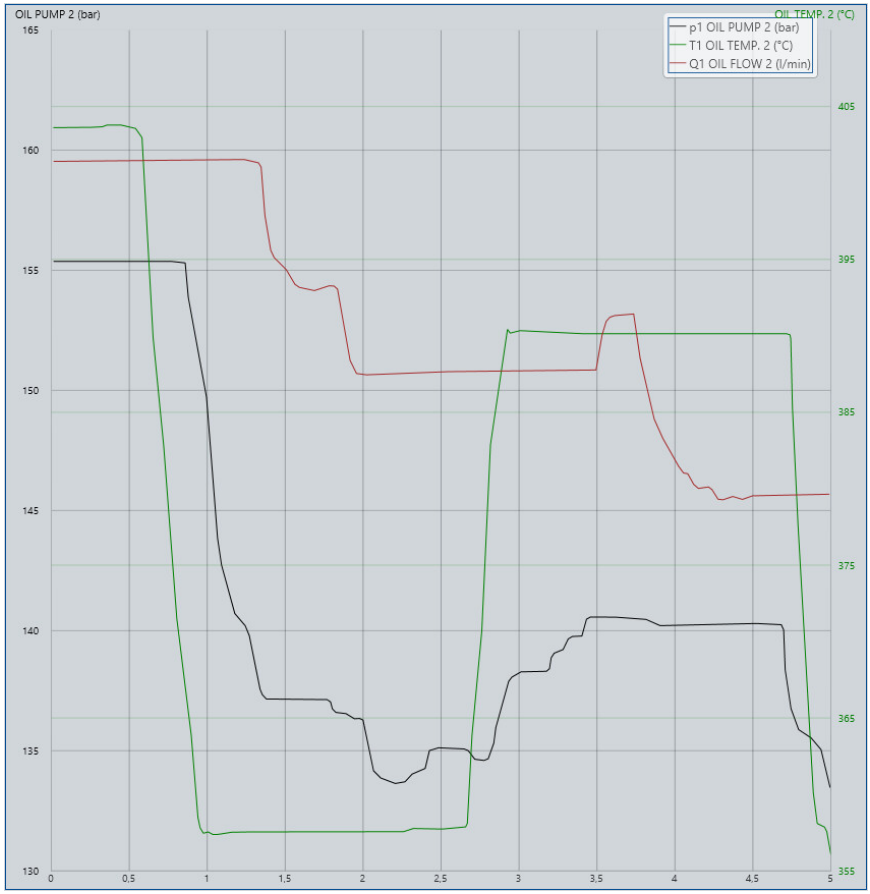
MultiBox No device display.

BASE No device display.

Measurement series display

*Viewer > **Change the display type** button > Measurement series display*

ENG



The **Measurement series display** displays measurement series (MWF files) as line graphs.

Device or online measurement series can be displayed.

Device measurement series can be displayed if a measurement device is connected or if the measurement series is marked with a little flag .

⇨ **Saving and displaying measurement series from the measurement device** on page 54

Any measurement series (MFW files) can be opened for display.

⇨ **How to open a saved measurement series** on page 55

The measurement series name is displayed in the title bar. A tooltip displays the details of the measurement series.

With the button, you can switch between **Online display**, **Device display**, and **Measurement series display**.

⇨ **Using the online display** on page 43
⇨ **Using device display** on page 50
⇨ **Using Live Monitor** on page 52
⇨ **Using the Measurement display** on page 53.

ENG

Title bar

Displays the name of the measurement series.

The following symbols can be displayed.

Help

Opens the help.

Open the Settings dialog

Opens the **Settings** dialog.

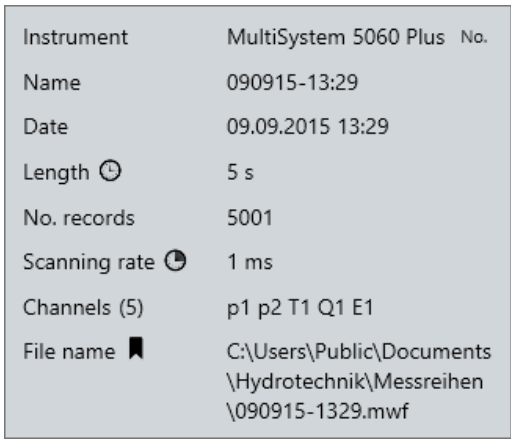
⇨ **Settings dialog (presentation of measurement series display)** on page 161

Online values are received

Indicates that measurement values are being received from the measurement device.

During loading and sending of parameters and measurement series, no measurement values are recorded.

Tooltip A tooltip will be displayed if you hover the mouse pointer over measurement name or with touch operation, if you hold your finger on the measurement name for a second.



The tooltip displays the following parameters:

- **Measurement device**
- **Name**
- **Date**
- **Duration**
- **Number of data records**
- **Sampling rate**
- **Channels**
- **File name**

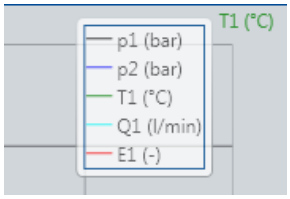
The following symbols can be displayed in the tooltip.

⇨ **Tooltip** on page 86

Configure measurement series display

The measurement series are displayed are as line graphs.

The horizontal axis corresponds to the time. The vertical axis corresponds to the measurement variable. The measured values are shown as lines. The different channels are indicated by different colors.



The legend shows which channel is shown with which color in the diagram. The legend can be in the upper right or below the diagram.

⇨ **Changing the position of the legend** on page 56

The left and right axis show the value scale for the channels. Channels with the same unit are summarised on one axis and thus scaled equally.

You can configure the measurement series display.

⇨ **Changing the presentation** on page 55
⇨ **Changing the position of the legend** on page 56
⇨ **Changing the axis labeling** on page 57
⇨ **Enlarging the line graph** on page 57
⇨ **Clearing the measurement series display** on page 58

Toolbar

*Viewer > **Change the display type** button > Measurement series display > Toolbar*

The toolbar contains the following buttons.

Search for other measurement series data (MWF)

Shows the Windows **Open** dialog.

Opens a measurement from a data medium (hard drive of the PC, USB stick). Measurement series must have the MWF file format.

Clears the measurement series display

Clears the line graph or the measurement series display.

Open or close the zoom tool

Shows or hides the zoom menu.

The zoom menu is shown in the bottom right of the display.

⇨ **Enlarging the line graph** on page 57
⇨ **Zoom menu** on page 146

Print line graph

Prints the log of the current measurement.

If the free text input is activated in the settings, the **Free text input** dialog will be displayed first.

⇨ **Generating a log** on page 67
⇨ **Log layout dialog** on page 155
⇨ **Free text input dialog** on page 158

A preview of the log will be shown in the Windows **WindowPrintPreview** dialog before printing.

Voice command PRINT

Saves the line graph as a PDF file

Saves the log as a PDF file.

If the free text input is activated in the settings, the **Free text input** dialog will be displayed first.

⇨ **Generating a log** on page 67
⇨ **Log layout dialog** on page 155
⇨ **Free text input dialog** on page 158

The Windows **Save as** dialog is displayed. The log is opened after saving.

Voice command SHOW

Saves the line graph as an image file

Saves the line graph as an image file.

The Windows **Save as** dialog is displayed.

The following file formats are possible:

- PNG
- JPG
- BMP
- GIF

Voice command GRAPHIC

ENG

Changing the position of the legend down or to the right

Changes the position of the legend.

Possible positions:

- Top right
- Bottom

Changing the display type

Switches between **Online display**, **Device display**, **Live Monitor**, and **Measurement series display**.

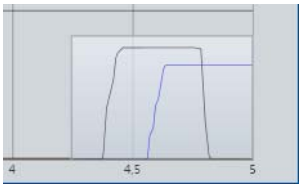
Voice command SWITCH

MultiBox No device display.

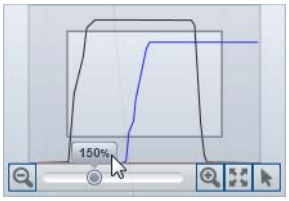
BASE No device display.

Zoom menu

The zoom menu is shown or hidden with the **Open or close the zoom tool** button.



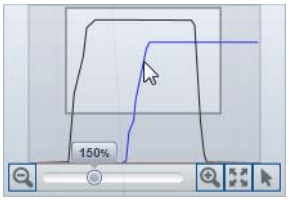
The zoom menu is shown in the bottom right in the measurement diagram as transparent preview.



If you hover the mouse over the preview of the zoom menu, the zoom menu is activated. You can then enlarge the measurement series display with the buttons.

The following functions are available for zooming:

- Zoom in step by step with the button.
- Zoom in or out continuously (slider)
- Zoom out step by step with the button.
- Reset zoom to 100% with the button.



You can move the section of the zoomed area freely with the mouse.

Use the button to change the behavior of the zoom. By default, you select a zoom area with the mouse (touch). You can switch this off here.

Dialogs

Some settings are made on dialogs.

Settings dialog (global)

Info and configuration bar > Open settings dialog

The **Settings** dialog is opened using the **Open Settings dialog** button.

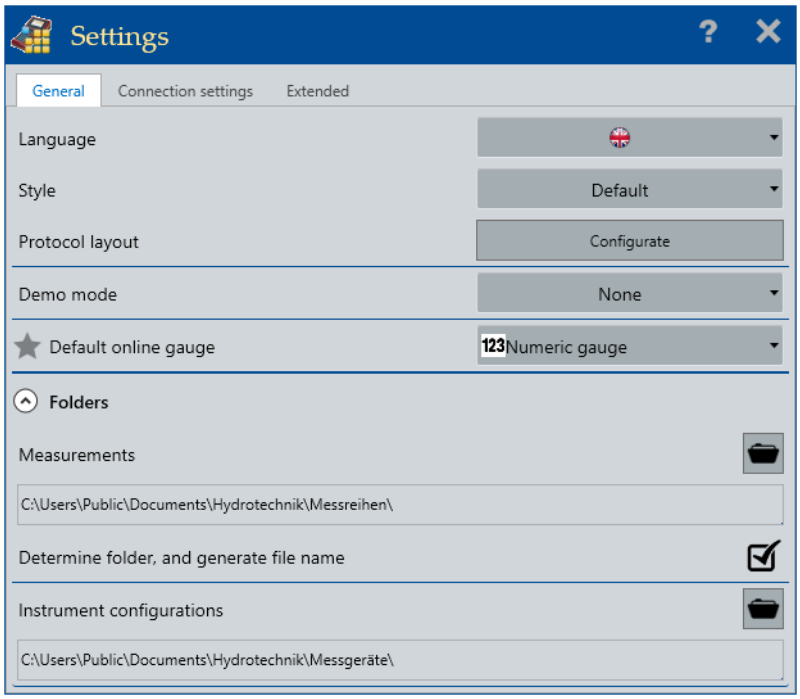
⇨ **Open the Settings dialog** on page 76

The **Settings** dialog has three tabs:

- **General tab**
- **Connection settings tab**
- **Advanced tab**

General tab

Info and configuration bar > Open settings dialog > General



The **General** tab offers the following settings.

Language Changes the user interface language.

The new language will be applied the next time the application is started.

Color style Changes the user interface colors.

Demo mode Activates the demo mode.

The demo mode can be activated for different measuring devices and application editions. It shows the functions of other program editions (for example ADVANCED) and simulates a measurement device (example: MultiSystem 5060).

The button is only active when no measurement device is connected.

If you select the **User-defined** demo mode, then you can activate the **Simulator** option.

Simulator

Shows the **Simulator** button on the info and configuration bar.

Shows the **Simulator** button on the info and configuration bar.

Simulator

The **Simulator** button opens the **Simulator** dialog. If you establish a connection using this button, you can set the measurement values for the channel in question using the pointer on the Simulator dialog.

⇨ **Simulator dialog** on page 154

Log layout Opens the **Log layout** dialog.

⇨ **Log layout dialog** on page 155

Default online gauge Defines which display style is standard. This display style will be used when a channel is dragged into the online display.

The display style can be changed in the online display.

⇨ **Display style** on page 138

ENG

Directories

The directories area can be expanded and collapsed.

Measurement series

Shows the current standard folder for saving measurement series.

If the **Specify folder and assign file name automatically** function is activated, measurement series will be saved to this folder. If the function is not activated, this folder is suggested as a storage destination.

The **Search** button opens the Windows **Search folder** dialog and specifies a new default folder.

⇨ See **Measurement series display** on page 142

Specify folder and assign file name automatically

Specifies the saving of measurement series without querying the user.

- The default folder is used as destination.
- The file name is generated automatically from the time stamp of the measurement series.

If the function is deactivated, the Windows **Save as** dialog is displayed and the user can select the destination and file name at will.

Measurement device configurations

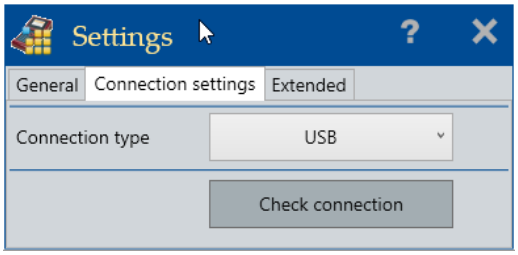
Shows the current default folder for saving measurement device configurations.

This folder is suggested as the storage location for measurement device configurations.

The **Search** button opens the Windows **Search folder** dialog and specifies a new default folder.

Connection settings tab

Info and configuration bar > Open settings dialog > Connection settings

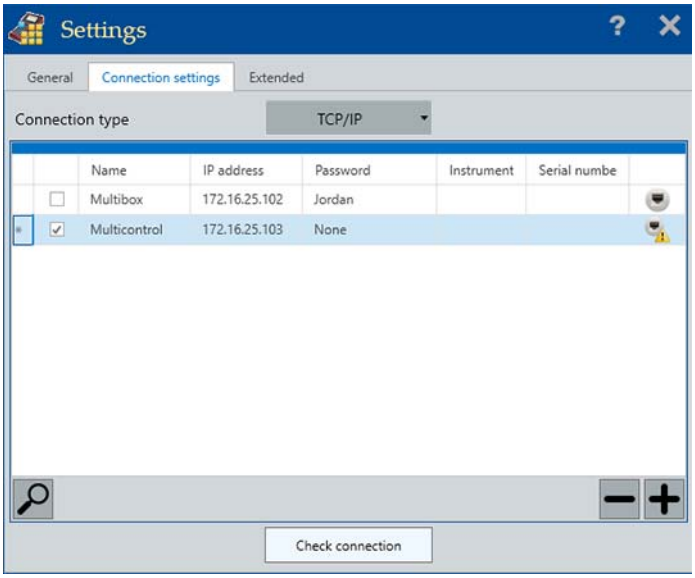


The **Connection settings** tab shows the current connection type.

USB and R323 are established automatically and do not have to be configured.

The **Check connection** button is inactive if there is a connection to the measurement device.

TCP/IP connection



TCP/IP connections to measuring devices must be configured. Multiple TCP/IP connections can be created.

- **Name** Name for the TCP/IP connection. Used for differentiating between individual TCP/IP connections.
- **TCP/IP address** TCP/IP address of the measurement device. Only Ipv4 addresses can be used.
- **Password** the connection password.

The TCP/IP address and the password must be configured on the measurement device.

Adding a LAN connection

Adds a new TCP/IP connection.

Deleting this LAN connection from the list

Deletes the selected TCP/IP connection from the list and from the PC.

Search for a measurement device

Searches for a measurement device within a network. If a new measurement device is found, it appears as new entry in the list.

The measurement device must be within the same network as the HYDROlink6. Restrictions within a network can distort the search result.

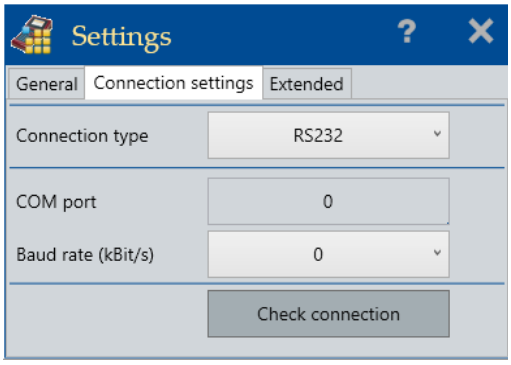
Testing the connection

With the **Test connection** button, an attempt is made to establish a connection with the marked entry in the list. The status of the connection establishment is indicated in the list with a symbol:

A connection was established.

No connection could be established.

Connection type RS232

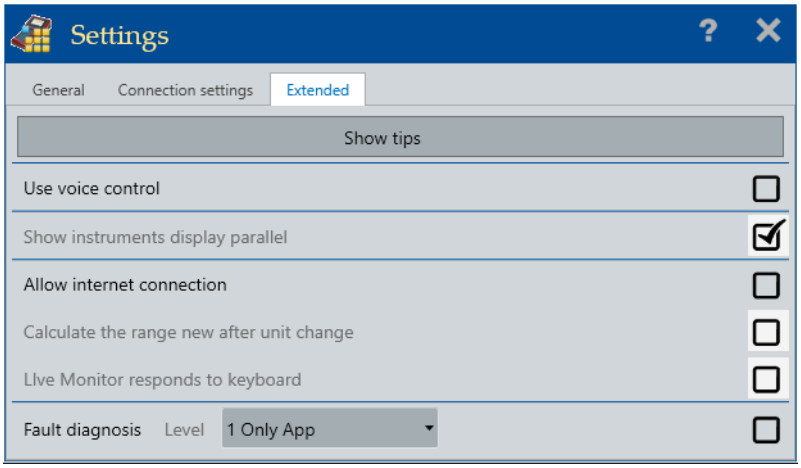


RS232 connections to the measurement devices can be configured.

- **COM port** the number of the COM connection on the PC.
- **Baudrate (kbit/s)** Baud rate of the connection.

Advanced tab

Info and configuration bar > Open settings dialog > Advanced



The **Advanced** tab offers the following settings:

Show tips All tips of the user interface are shown again.

Using voice commands

Allows operation via voice commands.

The symbol is displayed on the title bar.

To use voice commands, the computer must have a microphone and loudspeaker. If HYDROlink6 finds no microphone or speaker, the ⚠ symbol and a corresponding tool tip are displayed.

Voice commands are not used.

Parallel measurement value display on the device

The display of the measurement device is not locked during connection to HYDROlink6 and cannot be operated.

This option degrades the power of HYDROlink6. Only select this option if you have a specific reason for so doing.

The display of the measurement device is locked during connection to HYDROlink6 and it may not be possible to read it out.

Allow Internet connection

Allows a connection to the Internet.

Searches on the HYDROTECHNIK server for updates for HYDROlink6 and the connected measurement device.

The computer must have an Internet connection and the firewall must allow the connection to HYDROTECHNIK.

Does not allow a connection to the Internet.

Recalculate measurement range after unit change

This option is only available if a measurement device of the **xx70** family is connected.

In the channel parameters, the values for the measurement range are adjusted with change of the unit.

Example: If the unit is changed from bar to mbar, 200 becomes 200000 (200 bar to 200000 mbar).

In the channel parameters, the values for the measurement range are not adjusted with change of the unit.

ENG

Live monitor reacts to key press

This option is only available if a measurement device of the **xx70** family is connected.

This option serves diagnostic purposes and should be switched on only on the advice of HYDROTECHNIK.

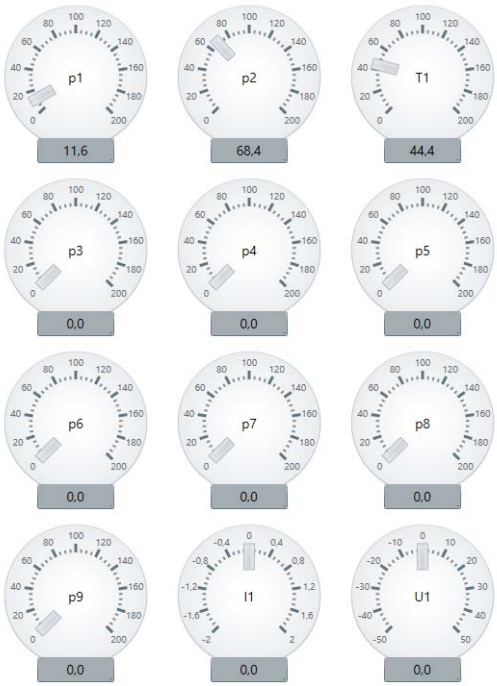
The following keys are supported:

- Function keys F1-F5
- Arrow keys
- Enter key
- Esc key

Error diagnosis Only activate if requested by HYDROTECHNIK.

Simulator dialog

Information and configuration bar > Simulator

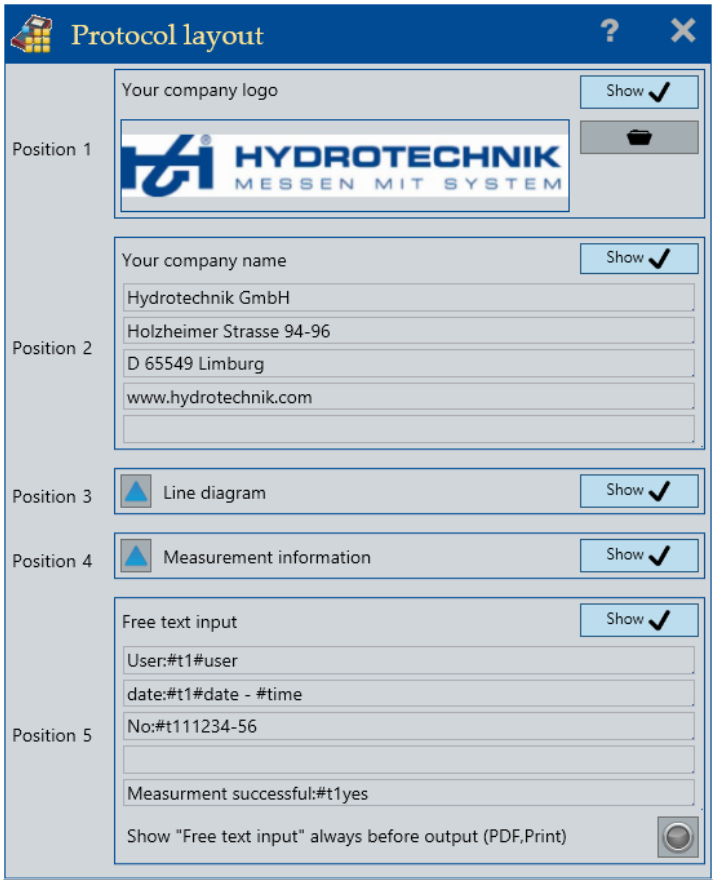


On the **Simulator** dialog, you can set the measurement values for the channels. The dialog is displayed if the **User-defined** demo mode is used and the **Simulator** option is activated. Then the dialog can be called up with the **Simulator** button on the information and configuration bar.

ENG

Log layout dialog

Information and configuration bar > Open settings dialog > General > Log layout > Configure



The **Log layout** dialog displays settings for the layout of the log. These settings are used when a log is printed or saved as a PDF file.

⇨ **Generating a log** on page 67

The log is divided into five areas, position 1 to position 5. You can change the sequence of the areas using drag & drop.

⇨ **Configuring the log layout** on page 70

The **Show** button shows or hides an area in the log. If an area is shown, the button has a green checkmark.

The **Show example** button shows or hides a preview for the **Line graph** and **Measurement series information** areas.

Your company logo

You can add a company logo to the log. The logo must be a graphics file with the PNG or JPG file format.

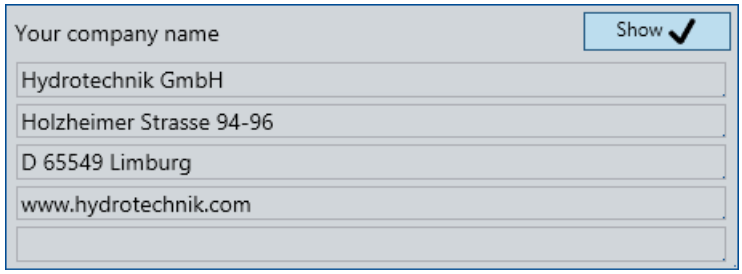
The button [ ] displays the Windows dialog **Open** for opening a graphics file.

ENG

Your company name

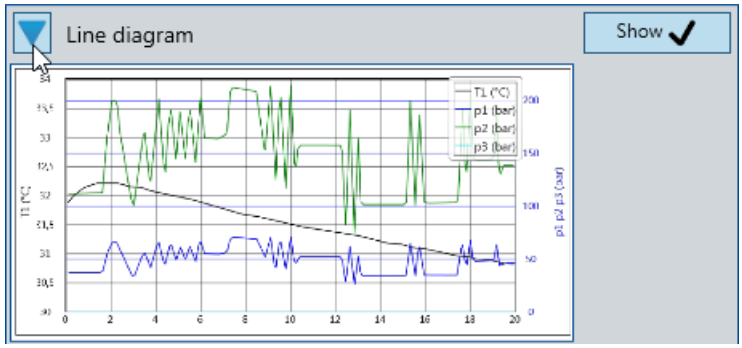
The company name and additional text (addresses, for example) can be inserted into the log.

A maximum of 5 lines with 80 characters apiece is possible.



Line graph

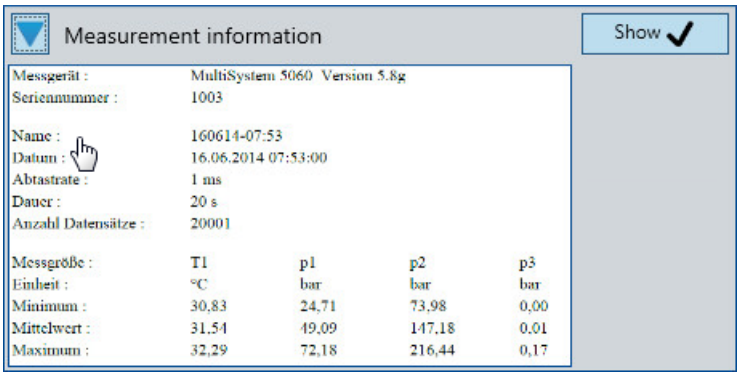
The line graph of the measurement series can be added to the log.



ENG

Measurement series information

The measurement series information can be added to the log.

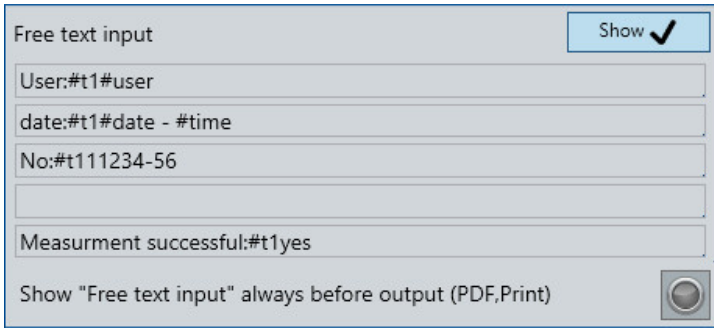


The following information is shown in the log:

- Measurement device (model and firmware version)
- Serial number of the measurement device
- Measurement series name
- Date and time of the measurement series
- Sampling rate
- Duration
- Number of data records
- For each channel
  - Measurement variable
  - Unit
  - Minimum
  - Average
  - Maximum

Free text input

You can add any text to the log.



The following variables can be used:

- **#user** (Windows name of the logged-in user)
- **#date** (current date)
- **#time** (current time)
- **#t1** (tab for aligning the texts. Only one tab is supported)

A maximum of 5 lines with 80 characters apiece is possible.

The button specifies whether the **Free text input** can be edited before generating a log. If the button is active, the **Free text input** dialog is opened and the text can be edited during the generation of the log.

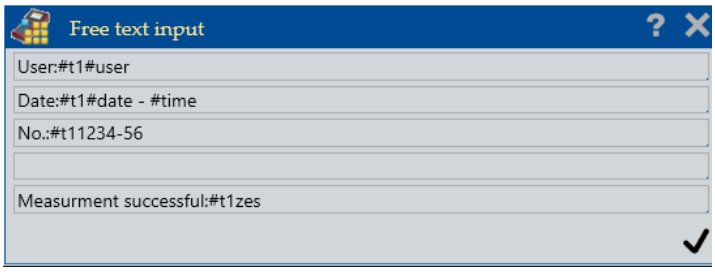
⇨ **Free text input dialog** on page 158

ENG

Free text input dialog

Measurement series display > Print line graph

Measurement series display > Saves the line graph as a PDF file



The **Free text input** dialog is shown when a log is generated and the free text input option is activated in the settings.

⇨ **Generating a log** on page 67
⇨ **Print line graph** on page 145
⇨ **Saves the line graph as a PDF file** on page 145
⇨ **Free text input** on page 157

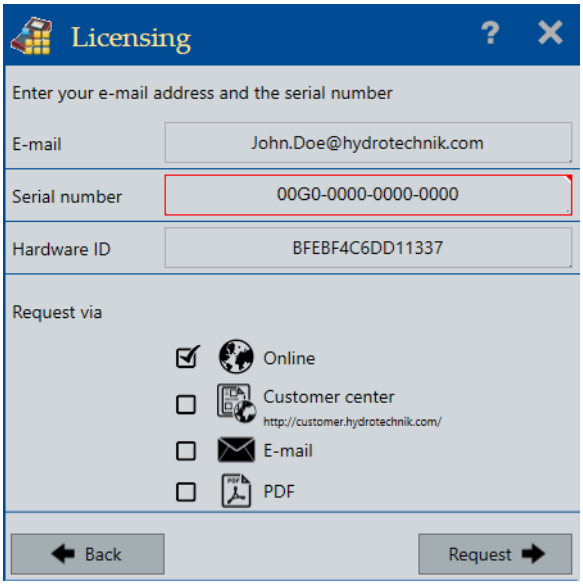
The entered text is shown in the log.

A maximum of 5 lines with 80 characters apiece is possible.

ENG

Licensing dialog

Information and configuration bar > Request license



On the **Licensing** dialog, you enter the data required for requesting a license.

After installation, the **BASE** version is available. The **ADVANCED** and **PROFESSIONAL** versions must be licensed.

Licensing is done in five steps:

1. Purchase desired version
2. Register
3. Request license
4. Receive license file
5. Activate license

When purchasing HYDROlink6, you select the desired version. With the purchase, you receive a serial number for the selected version. After you have installed HYDROlink6, request a license.

⇨ **Licensing HYDROlink6** on page 17

E-mail area

Enter the e-mail address with which you are registered in the HYDROTECHNIK customer center.

Serial number area

You receive the serial number in the form of a certificate when you have purchased a ADVANCED or PROFESSIONAL version. In the serial number, there are no **Os**; any characters that look like this are always the number zero (**0**).

Enter this serial number in the **Serial number** area.

The serial number alone cannot activate the license. You must first request a license.

The serial number is used together with the hardware ID to generate a unique license for your installation.

Hardware ID area

The **Hardware ID** area displays an automatically generated, unique identification number for your system.

The hardware ID number is used together with the serial number to generate a unique license for your installation.

You can enter a **License key**.

License request method area

In the **License request method** area, there are various ways you can sent the license request to HYDROTECHNIK.

- **Online**

  This is the simplest method since the license request and activation are performed automatically in one step. This option can be blocked by firewall settings. In this case, contact your network administrator.

- **Customer center**

  You will be forwarded to the HYDROTECHNIK customer center. After you have logged in, the licensing page opens. The license file and license key will be created automatically and sent to you via e-mail. You use the license file and the license key to activate the license manually in the application.

- **E-mail**

  Your license request is sent to the HYDROTECHNIK customer center via e-mail. The license key is generated manually by the customer center employees. The license file and license key will be sent to you via e-mail. You use the license file and the license key to activate the license manually in the application.

- **PDF**

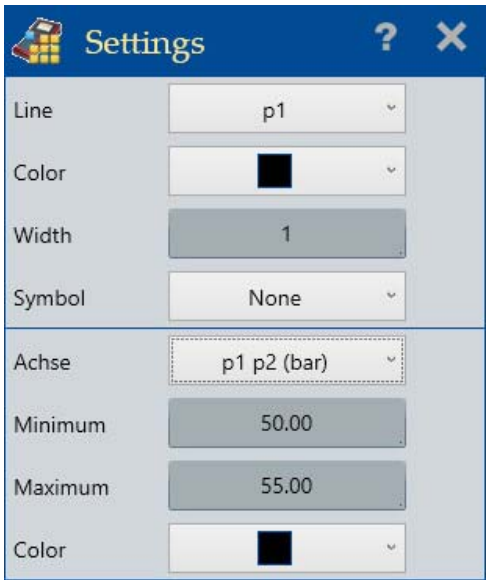
  Your license request is generated as PDF. You can send it via e-mail or post to the HYDROTECHNIK customer center. The address is included in the PDF. The license key is generated manually by the customer center employees. The license file and license key will be sent to you via e-mail. You use the license file and the license key to activate the license manually in the application.

In the customer center, you can check how many free licenses are present.

ENG

Settings dialog (presentation of measurement series display)

Measurement series display > Open settings dialog



This **Settings** dialog is different than the one that you call up via the information and configuration bar at the top right of the program window. You can call up this **Settings** dialog in the **Measurement series display** with the ⋮ button.

On this **Settings** dialog, you can change the presentation of lines and axes in the **Measurement series display**.

Settings for lines

In the top area of the dialog, you can change the display of the lines.

Line Shows or changes the channel whose display you are editing below.

Color Shows or changes the color of the line for the selected channel.

Width Shows or changes the width of the line for the selected channel.

A zero width means that no line will be displayed for this channel.

Symbol Shows or changes the line symbol for the selected channel.

Settings for axes

At the bottom of the dialog, you change the scaling and color of the axes.

Axis Shows or changes the axis whose display you are editing below.

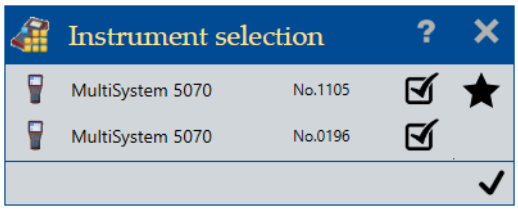
Minimum Shows or changes the lower limit value of the area of the selected axis displayed.

Maximum Shows or changes the upper limit value of the area of the selected axis displayed.

Color Shows or changes the color of the selected axis.

Device selection dialog

Connect to measurement device



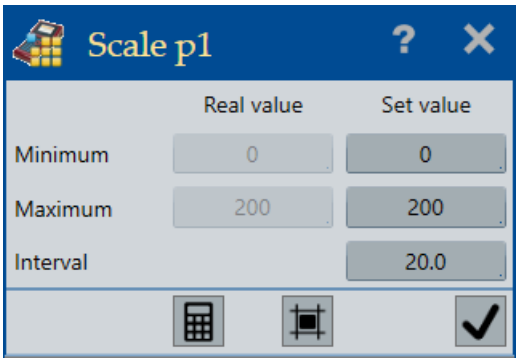
The **Device selection** dialog is displayed after you have connected several measurement devices and pressed the button.

You can select those measurement devices that you want to use in combination. If you combine measurement devices, you have more measurement channels available simultaneously.

⇨ **Coupling several measurement devices** on page 61

Scaling dialog

Online display > Analog gauge > Open settings dialog
Online display > Linear gauge > Open settings dialog
Online display > Line graph > Open settings dialog
Online display > Bar graph > Open settings dialog



The following display styles can be scaled:

- Analog gauge
- Linear gauge
- Line graph
- Bar graph

If the display style of a marked channel display can be scaled, the button for scaling will be shown in the top right of the channel display. The button opens the **Scaling** dialog.

The dialog shows the current actual values (**Minimum**, **Maximum**).

Set values configure the scale of the channel display. Enter the desired starting value of the scale in the **Minimum** field. Specify the desired end value of the scale in the **Maximum** field.

Enter the desired value for the scale intervals in the **Interval** field.

Use the **Calculate** button to automatically generate the fields Minimum, Maximum, and Interval based on the actual values.

No calculation takes place if no measured values are sent from the measuring device.

Use the **Refresh display** button to take over the scaling values for the channel display temporarily.

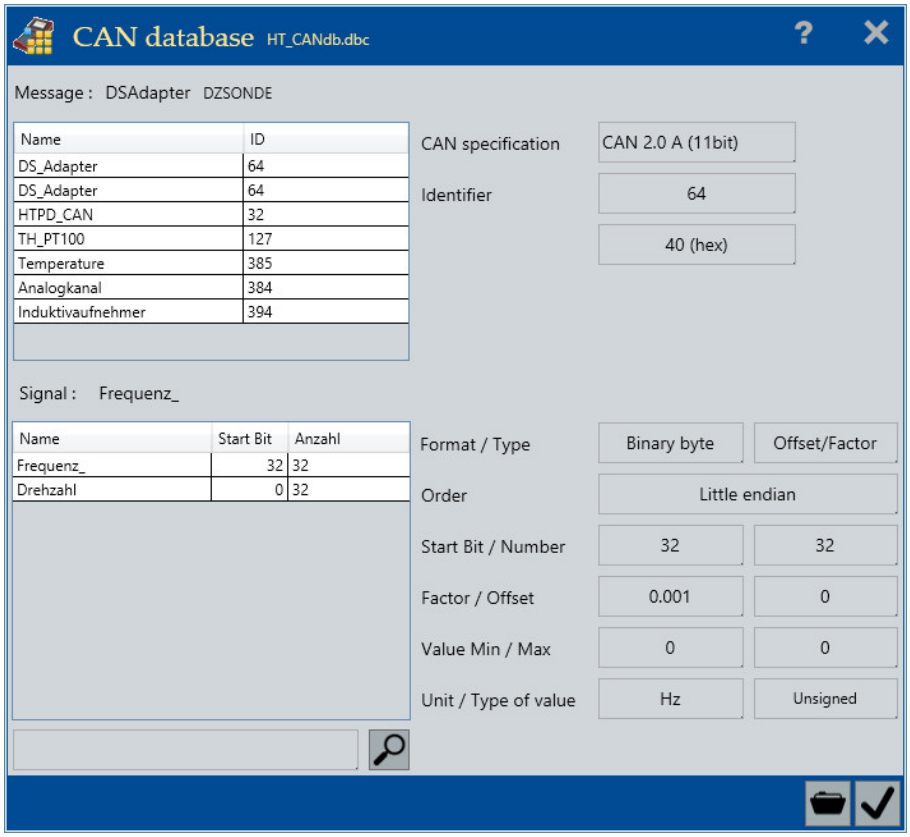
Use the button to take over the scaling values for the channel display permanently.

ENG

CAN database dialog

Device explorer > Channel parameters > Click special channel (with CAN bus connection) > Detail area > Calculation type > CAN database

Channels that are defined as CAN channels can be configured with the help of a CAN database. The CAN database contains the CAN messages and their specifications for the CAN bus.



Message area

The **Message** area displays the CAN messages. The specifications for the **Message** in question are displayed to the right of these.

Name Displays the name of the **Message** in the CAN database.

ID Displays the identification number of the **Message** in the CAN database.

CAN specification Indicates the specification on which the selected **Message** is based.

Identifier Displays the identifier of the **Message** in the CAN bus.

Priority Shows the priority of the CAN message.

PGN Shows the Parameter Group Number of the CAN message.

SA Shows the source address of the CAN message.

Signal area

The **Signal** area displays the sensor signals. The specifications for the **Signal** in question are displayed to the right of these.

Name Displays the name of the **Signal** in the CAN database.

Format Displays the format of the selected **Signal**:

- **Binary bit**
- **Binary byte**

Type Shows the type of the selected **Signal**, e.g. **Offset/Factor**.

Sequence Shows the coding of the selected **Signal**, e.g. **Little endian**.

Start Bit/Start Byte Indicates the point in the signal stream from which the selected **Signal** begins.

Number Shows the length of the CAN message as number of bits/bytes.

Factor Shows the factor by which the binary measurement value is multiplied.

Offset Shows the offset that is added to the binary measurement value.

Min value Shows the lower limit value of the selected **Signal**. Arises from **Number**, **Factor,** and **Offset**.

Max value Shows the upper limit value of the selected signal. Arises from **Number**, **Factor,** and **Offset**.

Unit Shows the physical unit of the selected **Signal**.

Value type Shows whether or not the measurement value has a leading sign.

Toolbar The **Toolbar** contains the following buttons.

Button	Function
	Search in the database. You can search by name, comment or identifier (hex or decimal) of the messages or by name, comment or signals within the database.
	Opens Windows **Open** dialog. In the Windows **Open** dialog, you can open a CAN database (dbc file).
	Selected message and selected signal are taken over into the channel parameters.

⇨ **Use CAN database** on page 65

ENG

Voice control

A Voice control

Image: Voice control

HYDROlink6 can be partially controlled using voice commands. For voice control, no dialogs are shown that require input using the mouse or keyboard.

The voice commands are described in this manual and are shown as follows:

VOICE COMMAND

The language depends on the operating system and is independent of the language set in HYDROlink6. Thus, e.g. only German is understood as language with a German operating system.

Only German and English are supported.

The voice control must be activated in the settings. If voice control is activated, the symbol is displayed in the title bar.

⇨ **Using voice commands** on page 153

So that voice recognition works, you have to perform the Windows voice recognition exercises: *Windows help > Voice recognition, Windows help > Language-learning program.*

ENG

Voice command German	Voice command English	Symbol	Button/function
CONNECT	CONNECTING		Establishes connection to the measurement device
DISCONNECT	CUT		Disconnects the connection to the measurement device
RECORDING	RECORDING		Starts the recording of a measurement series The file name is assigned automatically.
STOP	STOP		Ends the recording of a measurement series The measurement series is displayed automatically.
SWITCH	CHANGING		Switches between the display types online display/device display/measurement series display
CLOSE	ENDING		Closes the application
PRINT	PRINTING		Prints the current measurement series display It is printed directly. The **Display this dialog before each output** option is ignored.
SHOW	SHOWING		Creates a PDF file The file name is generated automatically. The **Display this dialog before each output** option is ignored.
GRAPH	PICTURE		Creates a PNG file The file name is generated automatically.
MINMAX	MINMAX		Switches the min/max display on or off

Table: Voice commands

HYDROTECHNIK