

OPERATING MANUAL

SENSware

Parameterization software



Contents

1	About this documentation	3
1.1	Preface	3
1.2	Purpose of this document.....	3
1.3	Legal notes.....	3
1.4	Correctness and accuracy of content.....	4
1.5	Additional information	4
2	Product description	5
2.1	Scope of delivery	5
2.2	System requirements	5
3	Control elements and functions	6
3.1	Installation of the software.....	6
3.2	First start of program	6
4	Operation of the software	7
4.1	Stat of the software, project view	7
4.2	Info view	8
4.3	Parameter view	9
4.4	Online view	11
4.5	Setting of the parameters	13
4.6	Menu functions.....	14
4.6.1	Menu "File"	14
4.6.2	Menu "Edit"	15
4.6.3	Menu "Device"	15
4.6.4	Menu "View"	16
4.6.5	Menu "Extras"	17
4.6.6	Menu "Help"	17
4.7	Communication with connected devices.....	19
4.8	Special features of "PHIX" type devices	21
4.9	Special features of "MULTICON" type devices	23

1 About this documentation

1.1 Preface

Read this document carefully and familiarize yourself with the operation of the product before using it. Keep this document within easy reach or easy to read, preferably in the immediate vicinity of the product, so that you or the personnel/users can refer to it at any time in case of doubt.

The product has been developed according to the current state of the art and meets the requirements of the applicable European and national directives. All relevant documents are available from the manufacturer.

Installation, commissioning, operation, maintenance and decommissioning may only be carried out by professionally qualified personnel. The qualified personnel must have carefully read and understood the operating instructions before starting any work.

This document assumes that you or the personnel/users of the product are familiar with the operation of your PC and the operating system installed on it! The manufacturer accepts no liability for improper installation of the product. The product is only approved for use on Microsoft Windows operating systems (Windows 7 or later). Free support is only offered for operating systems that are still in Microsoft mainstream support.

1.2 Purpose of this document

- This document describes the assembly or installation, operation and maintenance of the product.
- This document describes the operation and maintenance of the product.
- Provides important information for safe and efficient use of the product.
- In addition to the quick guide with all relevant legal and safety-related content in printed form, this document serves as a detailed reference work for the product.

1.3 Legal notes

The manufacturer's liability and warranty for damage and consequential damage expires in the event of improper use, non-compliance with this document, non-compliance with safety instructions, use of insufficiently qualified specialist personnel and unauthorized modifications to the product.

Only carry out maintenance and servicing work on this product as described in this documentation. Follow the specified steps. For your own safety, only use original spare parts and accessories from the manufacturer. We accept no liability for the use of other products and any resulting damage.

This document is entrusted to the recipient for personal use only. Any unauthorized transmission, duplication, translation into other languages or excerpts from these operating instructions are prohibited.

The manufacturer accepts no liability for printing errors.

1.4 Correctness and accuracy of content

The content of this document has been checked for accuracy and correctness and is subject to a continuous correction and maintenance process. This does not exclude the possibility of errors. However, should you discover any errors or have any suggestions for improvement, please inform us immediately using the contact information provided so that we can continue to make this document more user-friendly.

1.5 Additional information

Software version of the product:

- Operating manual MULTICON
- Operating manual CONDIG
- Operating manual PHIX

2 Product description

SENSware is the operating software for parameterizing Senseca GmbH devices. All device-specific parameters are configured using a USB connection cable or programming adapter via a PC.

The sensors are connected by

- For CONDEX or PHIX devices via the USB programming adapter type EYY120.
- For MULTICON devices via a standard USB cable.

The parameters can be read from a connected device, changed and written back to the device. The data can be saved on the local hard disk and reloaded from there.

SENSware enables the online display of measured values from the sensors in tabular and graphical form.

! IMPORTANT !

If the USB programming adapter type EYY120 is used, the PHIX and CONDEX devices internally set their parameters to the following values, which must also be specified in SENSware:

- Address: 80
- Parity: Even

2.1 Scope of delivery

- Download the software at <https://www.senseca.com>
- these operating instructions.
- EYY120 programming adapter if necessary.
- Further documents if necessary.

2.2 System requirements

- Operating system Microsoft Windows 7 or higher, 32 or 64 bit.
- Graphics card with at least 16-bit color depth.
- At least 2 GB RAM.
- Hard disk with at least 2 GB of free memory.

3 Control elements and functions

SENSware only displays the user interface and obtains the parameter data directly from the device or from the data stored on the PC's hard disk.

3.1 Installation of the software

Start the file supplied or downloaded from the Internet (e.g. iSENSware.1-0-SR1.exe) and follow the instructions on the screen.

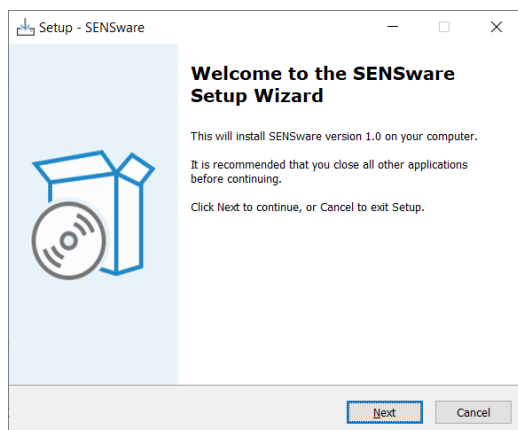


Figure 3.1: Installation wizard

3.2 First start of program

After installation, the program can be called up from the start menu under "SENSECA - SENSware".

Communication with a connected device depends on the device type:

- Standard USB cable for MULTICON type devices
- Programming adapter EYY220, for sensors such as CONDIX or PHIX

4 Operation of the software

The operation is very similar to the menu structure of common Office programs to enable intuitive use of the software in many areas.

4.1 Stat of the software, project view

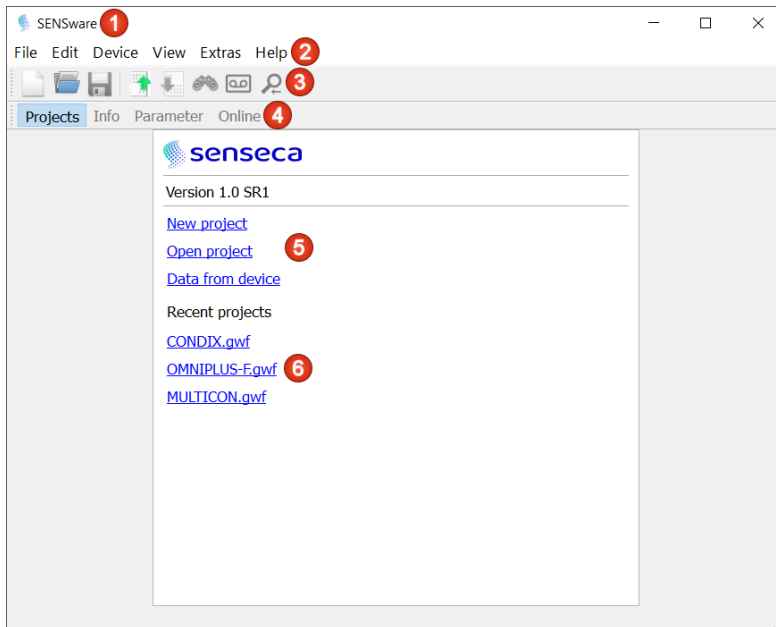


Figure 4.1: Project view

The software starts with the project view. The following functions are available here:

1. Title bar. If a file has been opened, also the name of the file. An (*) at the end indicates that data has been changed.
2. Menu bar for calling up functions
3. Toolbar with the most frequently used functions
4. View bar for quick access to the various views
5. New project, Open project or Read data from device
6. List of recently edited projects

4.2 Info view

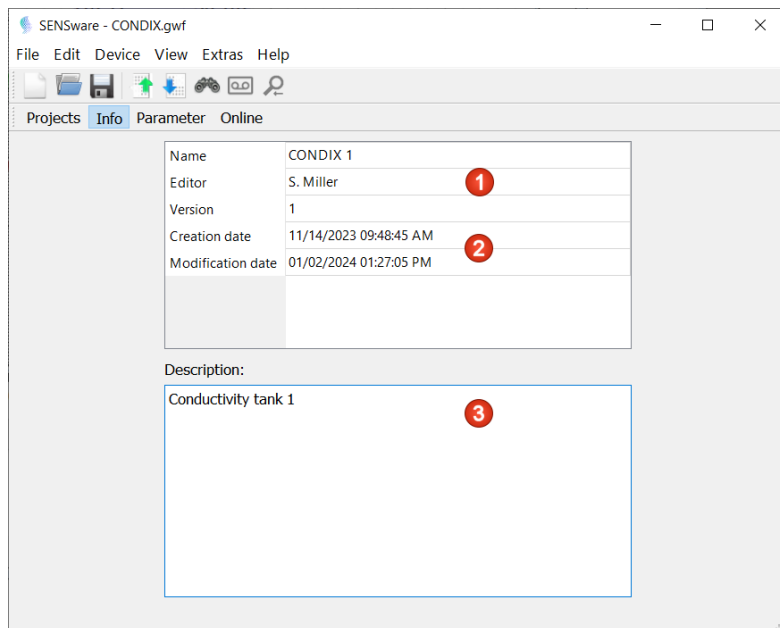


Figure 4.2: Info view

Information about the project can be entered or displayed in the info view.

1. Free texts for name, editor and version can be entered in the first 3 lines.
2. The creation and modification date are displayed in this area. The fields are automatically filled in by the software and cannot be changed.
3. A project description of any size can be entered in this area.

4.3 Parameter view

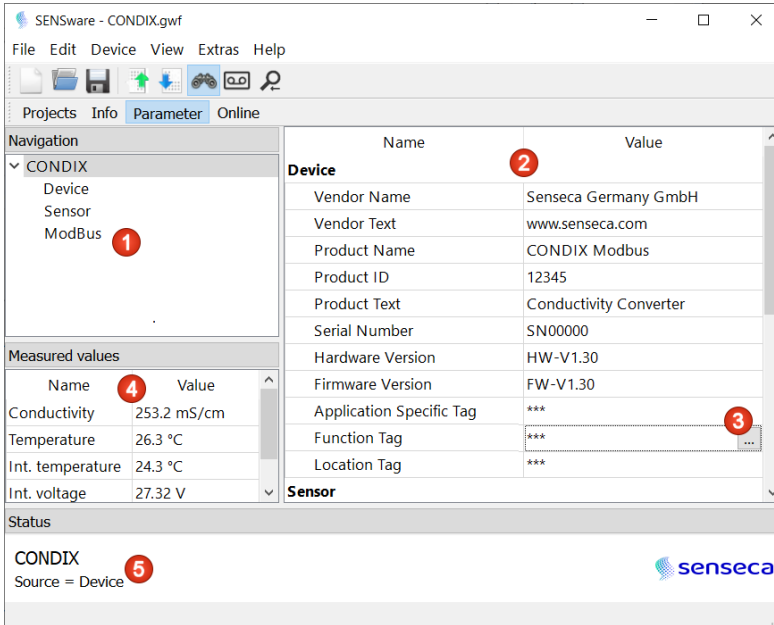


Figure 4.3: Parameter view

The parameters of the connected device are displayed and adjusted in the parameter view.

1. Navigation area, selection of the operating level. The display in the parameter area is controlled by selecting the operating level. If the top node is selected, as shown in the picture, all available parameters are displayed in the parameter area. If one of the operating levels is selected, the display in the parameter area is reduced to the parameters of this operating level.
2. Parameter area, display and editing of parameters. All parameters belonging to the operating level selected in the navigation area are displayed in this area.
3. A parameter is selected by clicking on a cell in the right-hand column; a small dialog box appears on the right-hand edge of the cell. Clicking on the button (or pressing the space bar, Enter key or F2 key on the keyboard) displays a dialog in which the value of the parameter can be changed.
4. Measured value range, display of selected measured values. The display is only shown if a device is connected and the Device - Read measured values command has been activated. The measured values displayed are selected in the parameter area in the Measured values operating level.

5. Status area, display of device name, origin and selection of the data set. The picture above shows a device of type "CONDIX", the data record was read in from a connected device.

4.4 Online view



Figure 4.4: Online view

If the software is connected to a device and the "Measured values" function has been activated (description in the following chapters), the online view is enabled.

- The measured values can be selected here
 - All measured values supplied by the connected device are listed in the "Name" column.
 - The current measured value is displayed in the "Value" column. If the mouse pointer is in the area of the trend curve, this column is highlighted in color and the value that was active within the trend curve at the respective time is displayed.
 - A value can be selected for display in the "Trend" column. By ticking the box, the value is assigned to the right or left trend axis.
 - The colors of the individual values can be set individually in the "Color" column.

2. The trend is parameterized here
 - The upper and lower limits can be set separately for the left and right axes. By assigning the curves to the left or right axis, the curves can be scaled in two ranges. This is useful if measured values have different value ranges or units.
 - The size of the displayed time window is set in the "Time axis" field. The value can be changed at any time without losing data.
 - A tick in the "Historical data" field interrupts the display of the continuous recording and switches to the display of all previously recorded data. Recording continues in the background; unchecking the box switches back to the display of continuous recording.
3. The trend curves of the selected measured values are displayed here. In "Historical data" mode, an area within the curves can be selected and zoomed using the mouse (press the left mouse button on one corner of the area, move the mouse to the other corner and release). The process can be repeated as often as required. Pressing the backspace key cancels the last zoom operation; pressing it several times ends the zoom mode. Alternatively, the zoom process can also be undone using the button in the toolbar.
4. If the mouse pointer is in the area of the trend curves, the scale values are displayed in a colored area next to the mouse pointer. This allows you to read the measured values below the mouse pointer very precisely. At the same time, the measured values are mirrored in the table in area (1). As soon as the mouse pointer leaves the area of the trend curves, the current measured values are displayed again in area (1).

4.5 Setting of the parameters

All parameters are set in dialog windows after selection in the parameter view. Depending on the data type, lists, input fields or selection boxes are displayed in the windows. The data is accepted by selecting "OK".

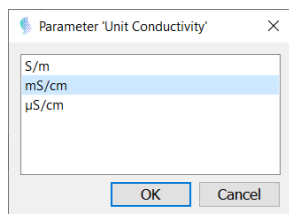


Figure 4.5: Parameter with list selection

In the list selection, a value is selected from a list.

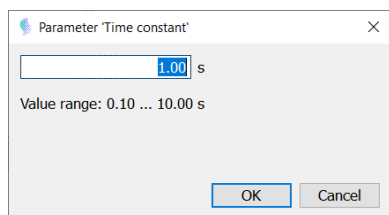


Figure 4.6: Parameter with numerical input

When entering a number, the permitted value range is displayed below the input field. If available, the physical unit of the value is also displayed. If incorrect entries are made (invalid characters, exceeding the value range or the number of decimal places), the entry is displayed in red. If an incorrect value is confirmed with the OK button, an error message is displayed.

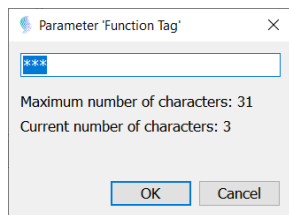


Figure 4.7: Parameter with text input

When entering text, the maximum and current number of characters is displayed. The characters are processed in "UTF-8" format. For special characters (e.g. German umlauts), the number of characters per letter is greater than 1.

4.6 Menu functions

4.6.1 Menu "File"

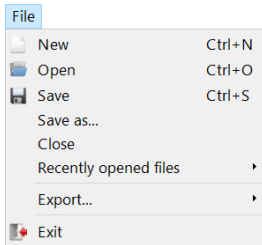


Figure 4.8: Menu functions "File"

New

A new project is created.

Open

This command opens a data record from a local data carrier that was previously created with the Save function.

Save

This command saves the current data record to a local data carrier. The first time this function is called, a file name is requested.

Save as...

This command saves the current data record on a local data carrier. A file name is always requested.

Close

This command closes the current data record; the user interface is "empty", as it is after starting the software.

Recently opened files

This menu item displays a list of the maximum of 8 recently opened or saved data records, thus enabling quick access to these documents.

Export...

Summary

The current data record is exported as a text format compatible with the "GHMware 4" software.

CSV file

The current data record is exported as a CSV file for further processing in a spreadsheet program.

PDF file

The current data record is exported as a PDF file for archiving or printing.

Exit

This command closes the software. If a current data record has been changed, the software asks whether the data record should be saved.

4.6.2 Menu "Edit"

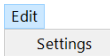


Figure 4.9: Menu functions "Edit"

Settings

Opens a dialog with software settings.

4.6.3 Menu "Device"

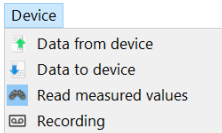


Figure 4.10: Menu functions "Device"

Data from device

This command reads the data set from the connected device. A dialog for selecting the interface is displayed (see chapter "Communication with connected devices").

Data to device

This command writes the data record to the connected device. A dialog for selecting the interface is displayed (see chapter "Communication with connected devices").

Read measured values

If a device is connected and a data set for this device is loaded in the software, this command can be used to start the continuous display of the selected measured values. Calling this command again ends the display of the measured values.

Recording

If the "Read measured values" mode is active, this command can be used to record the read measured values in a standard CSV file. When this command is called up, a file dialog is displayed with which the CSV file can be selected. Calling up the command again stops the data recording.

4.6.4 Menu "View"

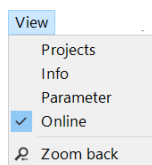


Figure 4.11: Menu functions "View"

Project

Switches to the project view.

Info

Switches to the info view.

Parameter

Switches to the parameter view.

Online

Switches to the online view.

Zoom back

Undoes the last zoom step. This command is only enabled if you are in the online view and the trend curve is zoomed.

4.6.5 Menu “Extras”

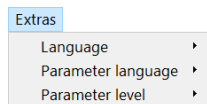


Figure 4.12: Menu functions “Extras”

Language

The language of the user interface can be set here. German, English and Chinese are currently available.

Parameter language

The language of the device parameters can be set here, regardless of the language of the user interface. Automatic, German, English and Chinese are currently supported. With the (default) setting "Automatic", the language of the user interface is adopted.

Parameter level

The scope of the parameterization can be set here. In the "Maintenance" setting, only the basic parameters are displayed; in the "Specialist" setting, the extended parameters are also displayed. The parameter level setting is not supported for all device types.

4.6.6 Menu “Help”

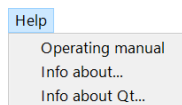


Figure 4.13: Menu functions “Help”

Operating instructions

These instructions are displayed. An installed program for reading PDF files is required.

About...

This command displays the version number and copyright information of the software.

About Qt...

This command displays the version number and copyright information of the Qt library used.

4.7 Communication with connected devices

Communication takes place via Modbus RTU. An EYY120 programming adapter is available as an accessory for this purpose.

When the "Data from device" or "Data to device" functions are called up, a dialog for configuring the interface and selecting the device is displayed.

Device selection

Protocol: Modbus

Interface: COM5

Address: 1, 80

Baud rate: 19200

Parity: even

Available devices:

Addr.	Device type
80	PHIX

☒ Store data permanently in device

☒ Send date and time

OK

Cancel

Figure 4.14: Dialog for device selection

Protocol

Fixed setting Modbus

Interface

Selection of the interface, e.g. COM5

Addresses

Specification of the device addresses under which devices are searched for. A single address, e.g. "80", or several addresses, e.g. "1, 80-85", can be entered here.

Baud rate

Setting the baud rate in the range 1200...19200

Parity

Setting the parity in the range none, odd, even.

Available devices

Displays a list of the devices found. Selecting a device in the list starts data transmission with this device.

Save data permanently in device

Only for the "Data to device" command. If this option is activated, the data is saved permanently in the device after transmission. If the option is deactivated, the data in the device becomes effective, but after the next switch-off and switch-on, the previously saved data is active again.

Send date and time

Only for devices with real-time clock. If this option is activated, the current date and time of the PC are sent to the device, thus setting the real-time clock. For MULTICON devices, the real-time clocks of the connected sensors are also set, if available.

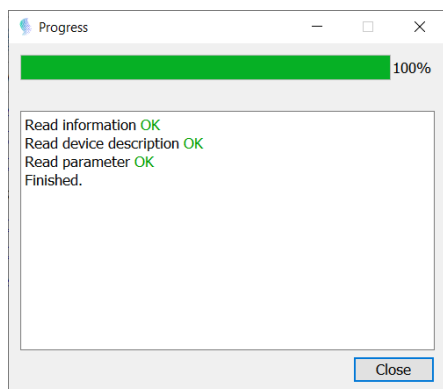


Figure 4.15: Progress bar during data transfer

A window with information and error messages is displayed while the data is being transferred. If the transfer is successful, the window closes automatically after the transfer is complete. If errors occur, the window remains open.

4.8 Special features of "PHIX" type devices

Devices of this type offer the option of calibrating the built-in pH sensor. Calibration is carried out using convenient user guidance.

The following steps must be carried out for calibration:

1. Connection of a "PHIX" type device
2. Menu command "Device - Data from device"
3. Activation of the measured values with the menu command "Device - Read measured values"
4. Menu command "Extras - Parameter level - Specialist"
5. Select "Calibration" in the menu area
6. Selection of "Open calibration dialog" in the parameter area

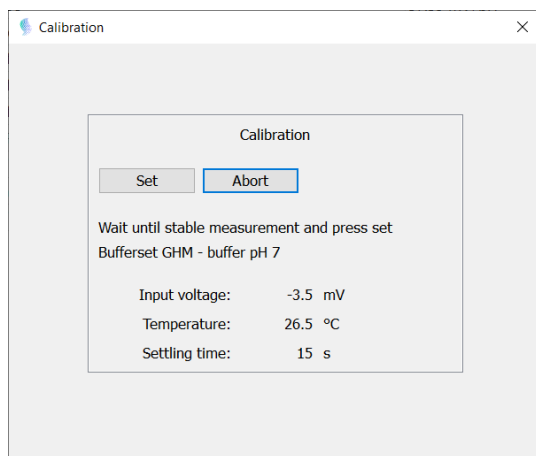


Figure 4.16: Dialog for calibrating a pH sensor

The "Calibration" dialog opens.

- Im oberen Bereich befinden sich, je nach Zustand, 1 bis 3 Schaltflächen.
- Im mittleren Bereich befinden sich Texte zur Benutzerführung
- Im unteren Bereich werden die aktuellen Messwerte angezeigt.

Calibration is carried out in several steps. In the middle section of the dialog, the user is prompted to perform the necessary actions, in this example "Immerse sensor in buffer and press start". Once the action has been carried out, the aforementioned button is pressed. Once calibration has been completed, the "Zero point" and "Slope" parameters have been recalculated in the device. The dialog can be closed with the "Exit" button.

Finally, the software prompts you to read out the changed data from the connected device. Calibration should always be carried out to the end. The dialog should only be closed ("x" in the top right-hand corner of the dialog title bar) if the device no longer responds (communication error). In this case, the connected sensor should always be switched off and on again, as it may be in a non-normal operating state.

4.9 Special features of "MULTICON" type devices

The "MULTICON" device is a multi-channel indicator to which one or more sensors can be connected via Modbus.

The software can optionally treat the MULTICON including the sensors as a single unit. This means that when reading data from the device, the parameters of the MULTICON and all sensors are read automatically. When saving the data set (menu command "File - Save"), all data is saved in a file. When writing the data to the device, the parameters of the MULTICON and all connected sensors are written.

The mode can be freely selected for "Data from device" communication.

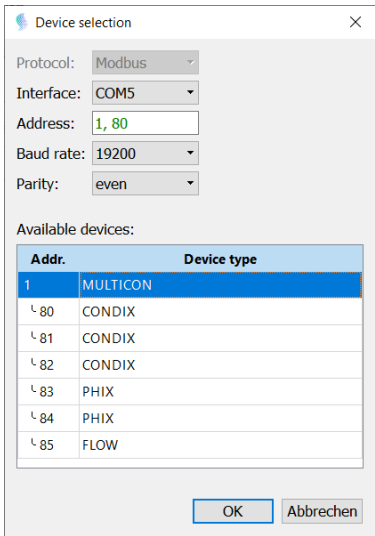


Figure 4.17: Device selection dialog for the MULTICON

The MULTICION and the connected sensors are displayed under "Available devices".

- If MULTICON is selected, the mode is as described above, MULTICON and sensors are treated as a unit.
- If, for example, CONDIX address 82 is selected, only the CONDIX is read and processed.

If the MULTICON and sensors are treated as a unit, all parameters can be edited as usual. The MULTICION and the sensors are displayed in the "Parameter" view in the navigation area. As sub-items, the selection is made as usual.

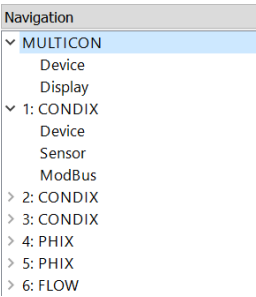


Figure 4.18: Parameter navigation for MULTICON

The "Device - Read measured values" function displays a dialog for selecting the sensor. The MULTICON itself has no measured values, which is why only the sensors are displayed in the list.

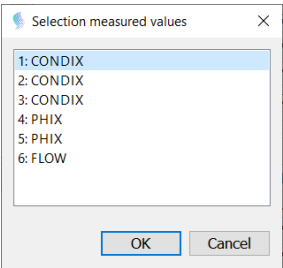


Figure 4.19: Device selection for measured values of MULTICON

senseca.com



Senseca Germany GmbH
Tenter Weg 2-8
42897 Remscheid
GERMANY
INFO@SENSECA.COM

