

# mxCONTROL Type 8620

**Multifunction  
Water Treatment  
Controller**



## Quickstart PcTool8620

➤ Online communication

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Quickstart PcTool8620 Online communication 0911/3\_EU\_EN

## Contents

1	Installation guide	4
1.1	Before installing PcTool8620 on your computer - system requirements	4
1.2	Details for installation	4
1.3	Installing PcTool8620	4
2	Working with PcTool8620	5
2.1	Programm overview	5
2.2	Before starting to work	6
2.3	Creating and editing projects	6
2.4	Save projects	7
2.5	Use available data	7
2.6	Templates	7
2.7	File transfer	7
2.8	Project Conversion	8
3	Communication PcTool8620 - Device	9
3.1	Device preconditions	9
3.2	Establishing a connection via ...	9
3.3	Navigation with established device connection	10
3.4	Installation of virtual COM port	10
3.5	Device management	11
4	Data evaluation	13
4.1	Datalog file selection	13
4.2	Quick view	13
4.3	Custom view	14
4.4	Chart functionality	15

# 1 Installation guide

## 1.1 Before installing PcTool8620 on your computer - system requirements

### ➤ Minimum hardware requirement

- |  |
|--|
| • Intel CPU with minimum 1,7 GHz or comparable processor |
| • 512 MB RAM   |
| • Approximately 50 MB free hard disk space               |

### ➤ Minimum software requirement

- |   |
|---|
| • OS Microsoft Windows 2000 / Windows XP              |
| • Microsoft .Net Framework 2.0                        |
| • Microsoft Windows Installer 3.1 (see paragraph 1.2) |

## 1.2 Details for installation

### ➤ Hardware

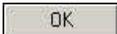
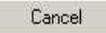
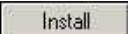
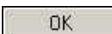
- |  |
|--|
| • You may need more free hard disk space for installing further Device Descriptions. |
|--|

### ➤ Software

- |  |
|--|
| • Windows Vista may be possible, but currently there is no official release.   |
| • If Microsoft .NET Framework 2.0 doesn't exist on your computer, you have to install this software first. You can find Microsoft .Net Framework 2.0 on the official Microsoft homepage. |
| • For installing Microsoft .NET Framework 2.0 you need minimum Microsoft Windows Installer 3.1. You can find Microsoft Windows Installer 3.1 also on the official Microsoft homepage.    |

## 1.3 Installing PcTool8620

### ➤ Proceeding

- |  |
|--|
| • Execute setup file   |
| • Choose setup language and confirm with    |
| • Manage installation dialog with    |
| • Select installation directory  |
| • Choose components for installation   |
| • Select startup entry   |
| • Start installation by click at    |
| • Finish installation with    |

## 2 Working with PcTool8620

### 2.1 Programm overview

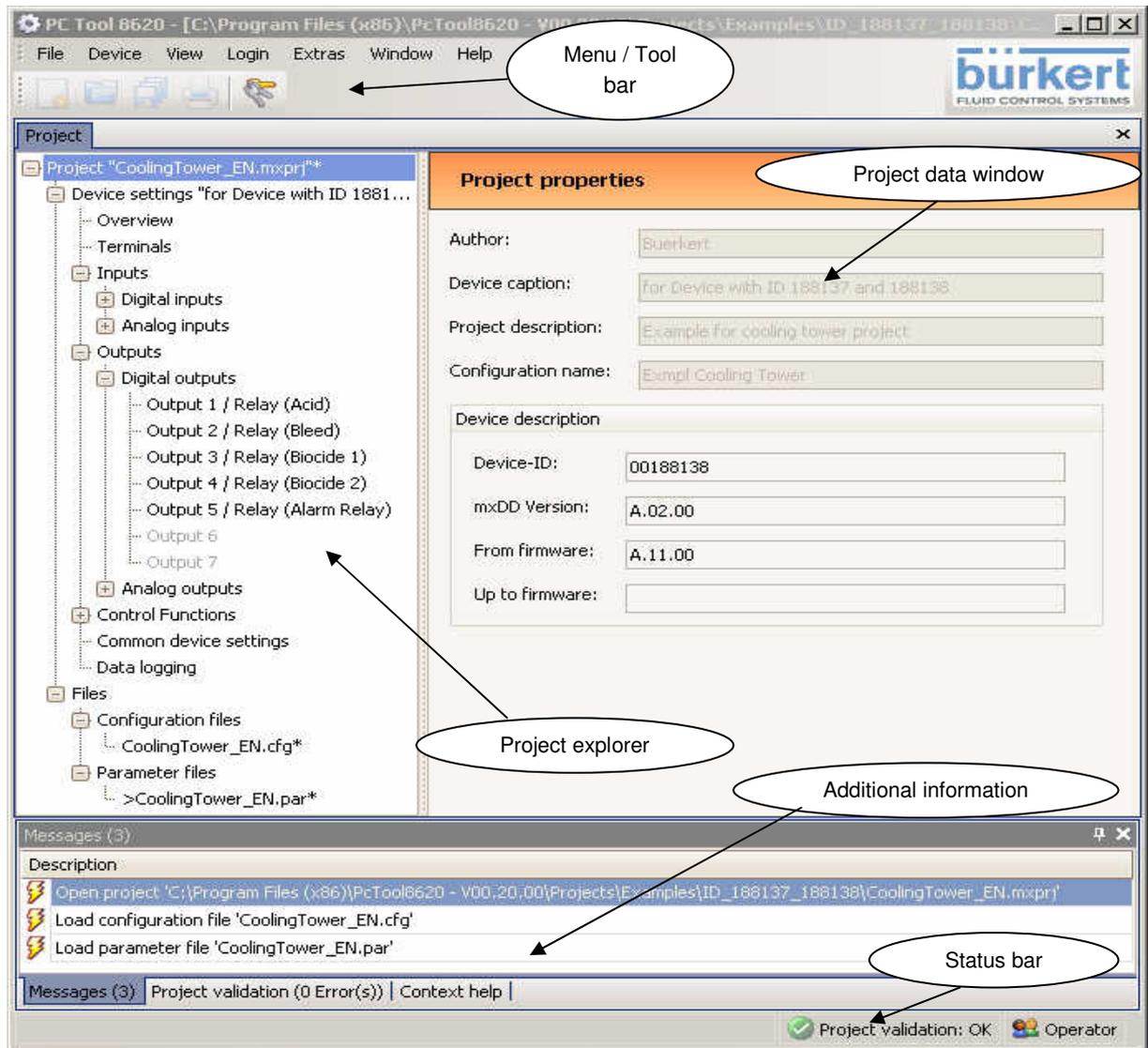


Figure 1: Screenshot PcTool8620 with sample project

#### ➤ Description of highlighted fields in Screenshot

<i>Menu / Tool bar</i>	- Used reference in Quickstart: → menu item → menu sub item
<i>Project explorer</i>	- Navigation through project settings
<i>Project data window</i>	- Information and processing of project data
<i>Additional information</i>	- See following lines
Messages	- Information about loading and importing files
Project validation	- Detects and shows errors due to incorrect / required entries in project data - Double click on error message directs to fault position - Fast overview with additional information symbol in status bar
Context help	- Additional information on input boxes in project data window
	- For using context help first open window 'Context help'. Then click into input box in project data window to get further information on corresponding input box.

## 2.2 Before starting to work

### ➤ Change program language by menu item

→Extras	→Language / Sprache	- Select program language
 - The new language will only be activated after next restart of application.		

### ➤ Select login level with icon or by menu item

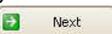
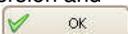
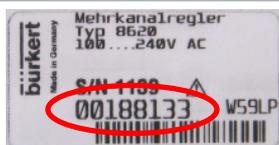
→Login	→Login ...	<ul style="list-style-type: none"> <li>- Select login level Operator or Specialist</li> <li>- Insert associated code (by default: Operator 0001 / Specialist 0002)</li> <li>- Confirm with  Login</li> </ul>
--------	------------	---

Current login level is shown in the status bar.

 <ul style="list-style-type: none"> <li>- Without login you are logged as guest.</li> <li>- For changing project data you need higher login level (Operator or Specialist).</li> <li>- Unavailable functions or input boxes will be grayed (font and / or background).</li> </ul>	
--	--

## 2.3 Creating and editing projects

### ➤ Create new project with icon or by menu item

→File      →New project...  - Select according to your device the device ID and click  Next - Select device description version matching to firmware version and create new project with  OK		 You can find the device ID in the data sheet or at the type plate at the device!  
---	---	---

### ➤ Edit project data for project explorer sub-items in project data window

Project settings for the new project have to be edited sub-item by sub-item of project explorer. See following table for short description of sub-items.

Sub-item	Settings in project data window
Project	- Award configuration name (Displayed in device) - Insert project properties
Overview	- Block diagram of contemporary project
Terminals	- Wiring of inputs and outputs
Inputs / Outputs	- Selection and configuration of different input and output types
Control functions	- Selection, configuration and parameterization of control functions <sup>1</sup>
Common device settings	- Device language - Device display settings
Data logging	- Select sample time for data logging on SD card
Files	- Unsaved Files are labeled with * - Currently active parameter file is tagged by preceding >

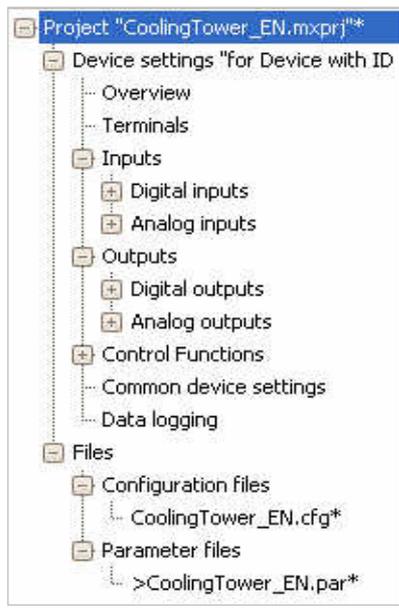


Figure 2: Example for project explorer (left) and sub-item explaining table (right)

<sup>1</sup> Please note that control functions have more than one tab (Configuration, Parameter, ...).

## 2.4 Save projects

### ➤ Save with icon or by menu item

→File	→Save all	- Save project, configuration and parameter file	From login level Specialist
→File	→Save project (as ...)	- Save only project file (Choose new project file name and directory)	
→File	→Save configuration file	- Save only configuration file	From login level Operator
→File	→Save active parameter file	- Save only activated parameter file (Activate parameter file by right-clicking on it and choosing 'Define *.par as active parameter file')	
 - Unsaved files are labeled in project explorer with *. - Files belonging to a project are saved by default in installation directory subfolder 'Projects'.			

## 2.5 Use available data

### ➤ Import existing configuration and parameter files into project

→File	→Import configuration file ...	- Select the configuration file to be imported in dialog box	From login level Specialist
→File	→Import parameter file ...	- Choose the parameter file to be imported in dialog box	From login level Operator
 - Imported file content is inserted into existing project configuration or parameter file. Previous content is permanently lost.			

### ➤ Attach more than one parameter file to project

→File	→Add existing parameter file ...	- Adds desired parameter file <b>additionally</b> to project. (Afterwards you can select between parameter files)
-------	----------------------------------	---

## 2.6 Templates

Easy and fast project building by using available files from device or from similar existing projects.

- Create a new project (see paragraph 2.3) - Import desired configuration and parameter file (see paragraph 2.5) - Complete data in sub-items 'Project', 'Common device settings', 'Data logging' and edit desired parameters and configuration items - Store complete project with 'Save all'	
 - <b>Don't</b> use 'Save project as ...'. Configuration and parameter file would belong to the old <b>and</b> simultaneous to the new project, while they exist only one time. Changes on files would have an effect on both projects.	

For using configuration or parameter file from device, you have to upload required files to SD card or via direct connection. Afterwards you can import files as described in paragraph 2.5.

## 2.7 File transfer

Device only operates with configuration file and related parameter file(s).

Via SD card	- Copy required files to SD card for following download into device	
Via direct connection	→Device →Device Connection	- Select 'Connection...' (according to equipment) - Login - Start Download

## 2.8 Project Conversion

Converts

- an existing old project to an updated version of the device description.
- an existing project for one device ID to another device ID.

The device description of the target device is required and needs to be installed in both cases.

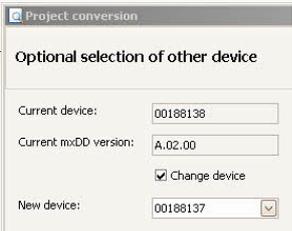
- Back-up your desired project before conversion.		
- Login with login level Specialist or higher.		
- Open your project	→File	→Open project ...
- Start conversion assistant	→File	→Convert project ...
- Follow assistant's instructions. Proceed with "Next".		
- If desired, select "Change device" and the new device ID. Proceed with "Next".	→	
- Select the desired version of the device description.		
		
Proceed with "Next".		
- After conversion check the settings of the converted project. Pay attention to message and project validation window.		
- Store complete project with 'Save all'.		

Figure 3 : Project conversion: Selection of other device.

### 3 Communication PcTool8620 - Device

#### 3.1 Device preconditions

- Device with one of the following configurations

Device type	Connection	Serial	TCP/IP (Ethernet)
Standard device		⊙	
Standard device with Ethernet option		⊙	⊙

- PC ( depending on connection ) with following equipment

Serial	<ul style="list-style-type: none"> <li>• USB Port ( Driver installation for COM port necessary )</li> </ul>
TCP/IP (Ethernet)	<ul style="list-style-type: none"> <li>• Ethernet Network Connection, TPC/IP port 10001 not locked by firewall(s).</li> </ul>

#### 3.2 Establishing a connection via ...

- Serial Interface

<ul style="list-style-type: none"> <li>• The virtual COM port driver "PL-2303" is already installed <sup>2</sup> on the PC</li> <li>• The device is already powered up</li> <li>• PC and device are connected via USB connection cable</li> <li>• Start PcTool8620 (from Version V.1.0.0)</li> </ul>
→ Device      → New device connection      Select tab 'Serial'

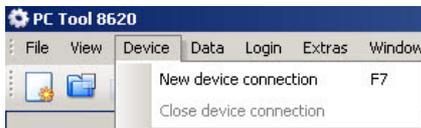


Figure 4: Main menu

- Select virtual USB COM port  
If 'AUTO' was selected, PcTool8620 tries to identify a single USB-connected 8620 device by requesting all available COM ports. Therefore firmware from Rev. B.99 is required.
- Checkbox 'Standard settings' should be selected
- Establish communication via 'Connect'
- Login for further functionality (refer to chapter 3.3)

- TCP/IP (Ethernet)

<ul style="list-style-type: none"> <li>• The device and the PC are connected to the net work.</li> <li>• The device is powered up and the Ethernet function is enabled.</li> <li>• Start PcTool8620 (from Version V1.0.0)</li> </ul>
→ Device      → New device connection      Select tab 'TCP/IP'

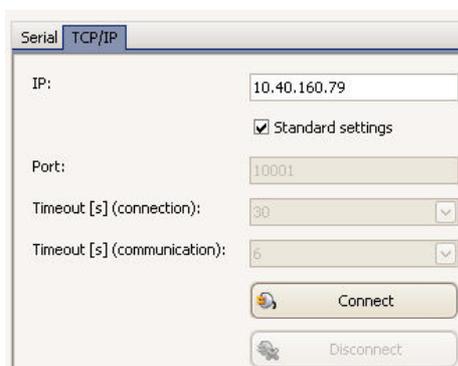


Figure 5: TCP/IP connection settings

- Input device IP.  
*In case of using a non-static IP:*  
Input the configured DHCP host name.  
Therefore a DHCP server is required in the network. This DHCP server has to be configured to accept the device's DHCP host name transmitted by the device (host) during IP address allocation.
- Enable Standard settings
- If Standards settings were disabled:  
Set timeouts for Connection und Communication
- Establish Communication with 'Connect'
- Login for further functionality (refer to chapter 3.3)

<sup>2</sup> If not, follow instructions in Chapter 3.4 "Installation of virtual COM-Port"

### 3.3 Navigation with established device connection

After successful login the following options are selectable in the navigation area.



Figure 6: Navigation area for device connection.

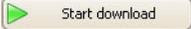
#### > Connection

Connection ...	Communication settings
Device data ...	Display of device and protocol information
Login ...	Change online login level.
Logout	Logout from current online login level.

#### > Remote Control

Start / Stop	Start / Stop of remote control
Show display ...	Displays the active remote control screen, if another screen was selected in between.
	

#### > Download (PC -> Device)

Configuration file ...	Select file with  and then 
Parameter file ...	

#### > Upload (Device -> PC)

Configuration file ...	 . Afterwards select storage location on PC.
Parameter file ...	
Datalog file ...	Update datalog file list. Select datalog file and desired time range, afterwards start upload. Selected datalog file can be individually deleted from SD Card – online login level 'Specialist' is required.
	 Upload and store datalog files on PC before deleting from SD Card.

#### > Service

Firmware update ...	via USB connection. - Use setting "Don't Establish Serial connection" for updating devices that have a firmware revision less than B.99
Download / Upload calibration file	- for service purposes only (online login level 'Master' required)

### 3.4 Installation of virtual COM port

- Start installation of driver 'Prolific USB PL 2303'
- Follow the instruction manual and finish the installation process.

Connection settings for the COM port are set directly in the PcTool8620 (refer to chapter 3.2).

### 3.5 Device management

Integrated device management simplifies remote device access by supporting a list of devices for establishing a new connection and an auto password function.

Therefore the following data can be stored:

- Master data: Device location, device name, device ID, device serial, comments.
- Connections: Settings for serial and / or TCP/IP (Ethernet) access
- Passwords: For operator, specialist and master (stored encoded).

#### ➤ Enhancing / editing device management

- Login into PC-Tool with code level 'Operator' (read only) or 'Specialist' (for editing)

→ *Device* → *Open device management* | Select tab 'Device management'

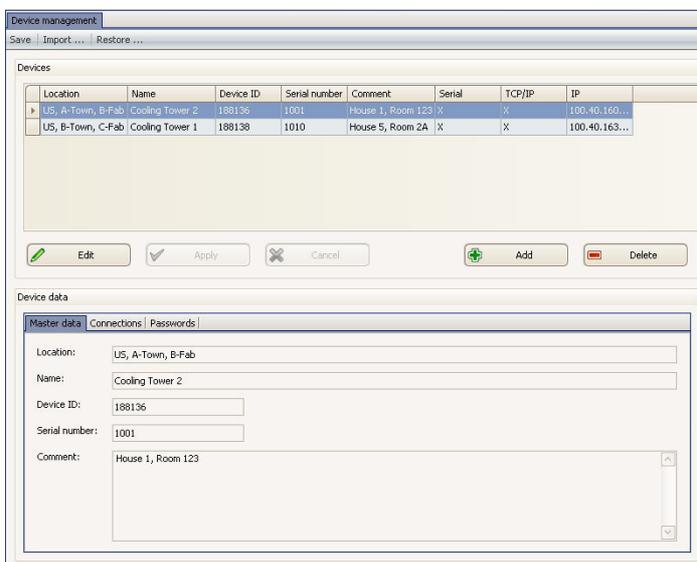


Figure 7: Device management.

Add Adds a new device to device management.

**The currently selected device is ...**

Delete deleted from device management.

Edit edited.  
Edit data in the tabs Master data, Connections, Passwords.

**In editing mode ...**

Apply apply changes to device management and exit editing mode.

Cancel reject changed data and exit editing mode.

**After editing ...**

Save Save device management changes.  
Each saving creates a separate backup file in the PC-Tool folder \AutoBackup with the current content for later restoring.

Restore an old version	Import an existing version
Restores an older auto backup version of the device management. Select the file to be restored. Auto backup files are labelled with their saving time stamp (YYYY-MM-DD hh:mm:ss).	Imports an existing device management file, e.g. - from an older PC-Tool version (after an update) - from a colleague. Select the file to be imported and choose one of the import options.
All changes since the last saving will be lost when restoring / importing a device management file!	

#### ➤ Adding data from an existing connection to device management

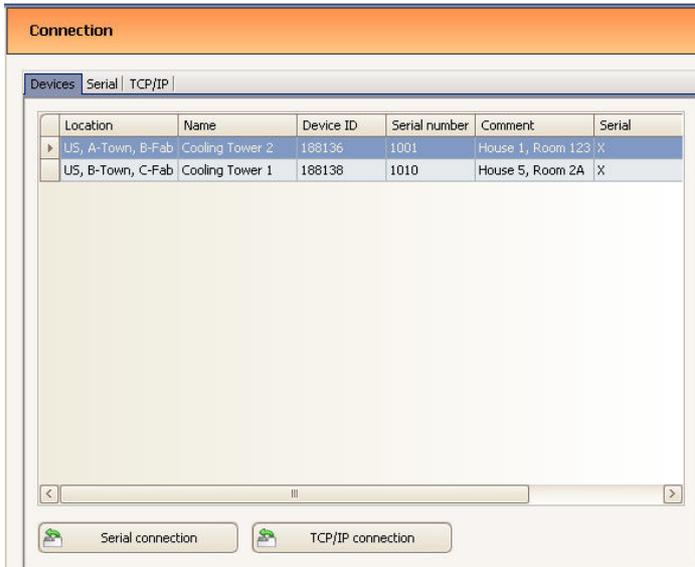
- Login into PC-Tool with code 'Specialist'
- Establish a connection to a device.
- Go to item 'Connection \ Device data ...' in the navigation bar and choose one of the following possibilities:

Add as a new device to device management Adds a new device to device management with the current connection settings.

Copy connection data to device management Copies the current connection data to the identified device in the device management. Existing data is overwritten.  
Check changes and press button 'Apply'. A device is identified by combination of device ID and serial number.

➤ **Establishing a connection via device management**

- Start PcTool8620 (from Version V.1.0.0)
  - Login into PC-Tool with at least code level 'Operator'
- *Device*      → *New device connection*      Select tab 'devices'



- Select the device you want to connect with
- Depending on device management data for the selected device, choose one of offered connections.
- PC-Tool opens the corresponding tab and automatically fills the input boxes with settings from device management.
- Select manually (last settings are kept):  
*'Serial connection':*  
- COM-Port
- Start the connecting process with 'Connect'
- For connection details refer to chapter 3.2, Establishing a connection via ...

Figure 8: Connection: List of devices.

➤ **Auto password function**

The auto password function copies the corresponding password into the login window after a connection was established and the login level was selected, if

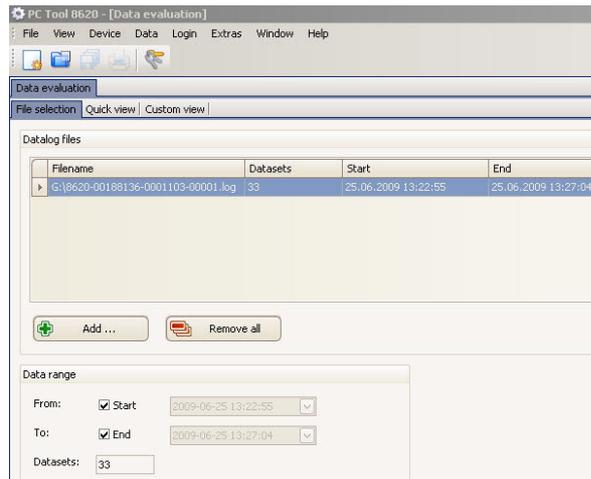
- the identified device exists only one time in the device management
- and the corresponding password exists in the device management
- and the application login level is higher than or equal to the desired device login level.

## 4 Data evaluation

The datalog file has to comply to datalogfile format Rev A.00 or higher for using the data evaluation functionality.

### 4.1 Datalog file selection

- Start PcTool8620 (from Version V.1.0.0)
- Data → New data evaluation Select tab 'File selection'



- Add logfile(s) to Logfile selection with “Add ...”
- If the logfile(s) can be processed, the list items ‘Datasets’, ‘Start’ and ‘End’ are filled with the corresponding values.
- The data range for data display in tables and charts can be limited by setting the data range with ‘From’ and ‘To’ to the desired range.
- For a new logfile selection clear the logfile selection list with “Remove all”.

Figure 9: Logfile selection

### 4.2 Quick view

#### ► Table

DateTime	Event	Manual Alarm	Common Alarm	PVI / pH [pH]	State PVI	SP [pH]	CMD / Acid [%]	State CMD
2009-06-25 13:22:55.500	00000101	0	1	6,68	OK	7	0	F5
2009-06-25 13:23:05	00000100	0	1	6,64	OK	7	0	F5
2009-06-25 13:23:15	00000100	0	1	6,7	OK	7	0	F5
2009-06-25 13:23:25	00000100	0	1	6,59	OK	7	0	Au
2009-06-25 13:23:35	00000100	0	1	6,68	OK	7	0	Au
2009-06-25 13:23:45	00000100	0	1	6,6	OK	7	0	Au
2009-06-25 13:23:54.800	00000020	0	1	6,71	OK	7	0	Au
2009-06-25 13:23:55.300	00000122	0	1	6,68	OK	5	16,1	Au
2009-06-25 13:24:05	00000100	0	1	6,58	OK	5	15,59	Au
2009-06-25 13:24:05.200	00000200	1	1	6,57	OK	5	15,5	Ma
2009-06-25 13:24:09.800	00000200	0	1	6,6	OK	5	15,29	Au
2009-06-25 13:24:15	00000100	0	1	6,7	OK	5	16,53	Au
2009-06-25 13:24:25	00000100	0	1	6,59	OK	5	15,49	Au
2009-06-25 13:24:35	00000100	0	1	6,68	OK	5	16,88	Au
2009-06-25 13:24:45	00000100	0	1	6,56	OK	5	0	F5
2009-06-25 13:24:55	00000100	0	1	6,62	OK	5	0	F5
2009-06-25 13:24:55.990	00000020	0	1	6,56	OK	5	0	F5

- **Table view** of the read process data sets. Data sets are sorted according to ascending time stamp.
- **‘Short names’** enables [Default] / disables short names for column labels in the table head

Figure 10: Quick view Table

➤ **Chart**



- **Overview chart** of all read process data sets. Both axes are auto scaled.
- **Reducing displayed data curves** by deselecting the corresponding curve in the explanation box.
- For **further chart functionality** refer to chapter 4.4.

Figure 11: Quick view Chart

**4.3 Custom view**

➤ **Designer**

Data point	Data type	Table	Chart 1	Chart 2	Chart 3
Event	Hex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Event	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manual Mode	Float	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Common Alarm	Float	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / pH-A/C / PV1 / pH [pH]	Float	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / pH-A/C / State PV1	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / pH-A/C / SP [pH]	Float	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / pH-A/C / CMD / Acid [%]	Float	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH / pH-A/C / State CMD	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cond Control / Cd / PV1 / Cond [uS/cm]	Float	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cond Control / Cd / State PV1	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cond Control / Cd / SP [uS/cm]	Float	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cond Control / Cd / CMD / Bleed [%]	Float	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cond Control / Cd / State CMD	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corrosion Disp / Corrod / PV1 / Corrosion [MPV]	Float	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corrosion Disp / Corrod / State PV1	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corrosion Disp / Corrod / ASL-Alarm	Float	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Biocide Dosing / BioDos / State Ch1	Float	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Biocide Dosing / BioDos / CMD 1 / Biocide 1 [%]	Float	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Biocide Dosing / BioDos / State CMD 1	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Biocide Dosing / BioDos / State Ch2	Float	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Biocide Dosing / BioDos / CMD 2 / Biocide 2 [%]	Float	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Biocide Dosing / BioDos / State CMD 2	String	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Design several customized charts.**

- Select data points to be displayed in a separate data point table.
- Add / delete designed charts.
- Select for each chart the desired data points to be displayed.
- Data point table and charts are displayed on separate tabs.

**Template**

Save current assignment of data points to table and charts in a file.  
Or load saved assignment of data points.

**Add chart**

Adds an additional chart to the designer.

**Delete chart**

Deletes the chart, which is selected in the left hand selection box.

**Short names**

enables [Default] / disables display of short names in the column 'Data point'

Figure 12: Custom view Designer

➤ **Table**

Displays the data points, selected with the Designer in column "Table", in list form. Data sets are sorted according to ascending time stamp.

➤ **Chart X**

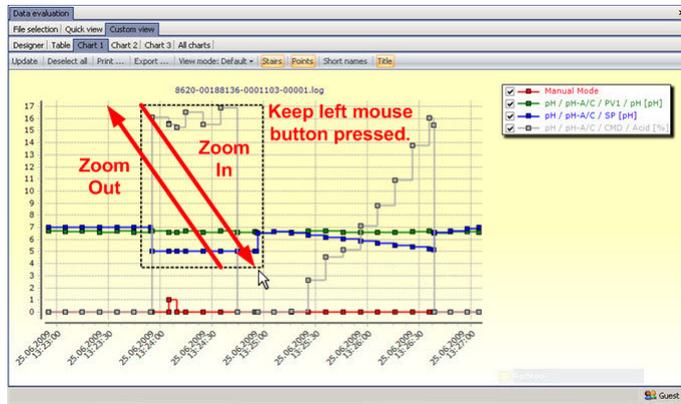
Displays the data points, selected with the Designer in column "Chart X". Axes are auto scaled. For further chart functionality refer to chapter 4.4.

➤ **All charts**

All charts are displayed with their individual settings on one tab. If the mouse was moved over one of these charts, a vertical time bar indicates the current time position in the other charts.

## 4.4 Chart functionality

### ➤ Zoom



#### Zoom In

Mark the desired 'zoom in area' with drawing a rectangle from the left upper corner to the bottom right corner while keeping the left mouse button pressed.

#### Zoom Out

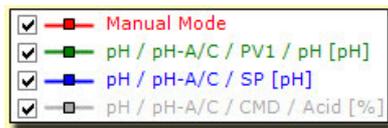
Reset all 'zoom in' steps with drawing a line from the bottom right corner to the left upper corner while keeping the left mouse button pressed

Figure 13: Zoom In / Zoom out.

### ➤ Move

Move the displayed data area by keeping the right mouse button pressed and moving the mouse to the desired direction.

### ➤ Change number of displayed data curves



(De) select the corresponding data curve(s) in the explanation box.

Figure 14: Explanation box.

### ➤ Display options

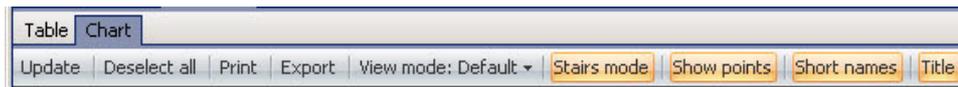


Figure 15: Chart menu..

Menu item	Functionality
<b>Update</b>	Selects all data curves in the explanation box
<b>Deselect all</b>	Deselects all data curves in the explanation box – for easy selection of desired data curves.
<b>Print</b>	Opens a dialog for printing the current chart.
<b>Export</b>	Opens a dialog for exporting the chart as a picture. Use the picture export only. Other offered export opportunities are senseless and might cause the PC Tool to shut down.
<b>Stairs mode</b>	Enabled [Default]: Forces the data points to be connected stairs like. Disabled: Otherwise data points are connected by simple connection lines.
<b>Show points</b>	Enables [Default] / disables the display of each data point with a marker.
<b>Short names</b>	Enables [Default] / disables short names for the different data in explanation box.
<b>Title</b>	Enables [Default] / disables the display of the processed log file names as chart title.