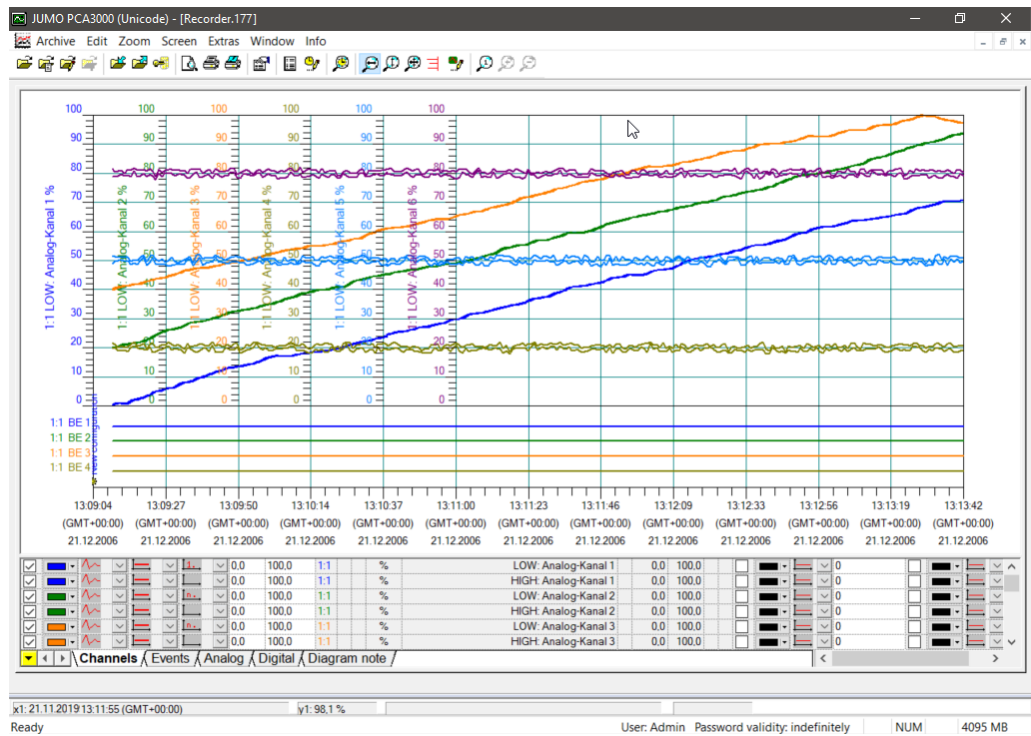


# JUMO PC Evaluation Software

## PCA3000



## Operating Manual



70970100T90Z001K000

V8.00/EN/00420775/2020-02-11



The present operating manual is valid for the software PCA3000 as of version 177.03.xx.

An eLearning course on the PC Evaluation software PCA3000 is provided for you on the Internet. The course gives you step-by-step instructions on how to use the PCA3000 to evaluate measurement data. The most important software functions are also illustrated.

The course is available free of charge, and no license is needed.

For more information visit: **<http://eLearning.jumo.info>**

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## 1.1 Preface

Before installing and starting up, this manual must be read carefully.

The manual is an integral part of the product and must be stored for subsequent use.

If you would like further information or if problems occur that are not covered by the manual, the required information can be obtained from the manufacturer.

Modifications and repairs to the product may only be performed if expressly permitted by this manual.

Only by observing all of the safety instructions and all safety/warning symbols in these instructions can optimum protection of both personnel and the environment, as well as safe and fault-free operation of the device, be ensured.

## 1.2 Typographical conventions

### 1.2.1 Warning symbols



#### Caution

This symbol is used when **damage to devices or data** may occur if the instructions are disregarded or not followed correctly!



#### Read documentation

This symbol, which is attached to the device, indicates that the associated device documentation must be followed. This is necessary in order to recognize the nature of the potential danger and take the necessary measures to prevent it.

### 1.2.2 Note symbols



#### Note

This symbol is used to draw attention to a **particular issue**.



#### Reference

This symbol refers to **further information** in other manuals, chapters, or sections.

# 1 Introduction

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abc<sup>1</sup>

## Footnote

Footnotes are remarks that **refer to** specific parts of the text. Footnotes consist of two parts:

An identification marking in the text and the footnote text.

The markers in the text are arranged as consecutive superscript numbers.


## Action instruction

\*

This symbol marks the description of a **required action**.

The individual work steps are indicated by this asterisk, for example:

\* Press 

\* Confirm with 

## 1.2.3 Display types

### Keys

 + 

Keys are **shown in a box**. Keys can be expressed either as **symbols or text**. If a key has multiple functions, the text shown corresponds to the **function at the moment**.

### Menu items in the menu bar

FILE > NEW

Menu items appear in the document in a different font. Menu names, menu items, and submenu items (if applicable) are separated from one another by a ">".

### Menu item in the navigation tree and in the display window

"Export"

Menu items appear in the document in quotation marks.

Open



### Symbol button

Buttons with a symbol appear in the document as an image.

NEXT

### Text button

Buttons with text appear in the document in a different font.

Open batch...

### Dialog windows and proper names

Dialog window names or the proper name of a product appear in the document in bold.

## 1.3 Trademark information

- Microsoft® is a registered trademark of Microsoft Corp., Redmond, VA 98052-6399, US.
- Windows® is a registered trademark of Microsoft Corp., Redmond, VA 98052-6399, US.
- Excel® is a registered trademark of Microsoft Corp., Redmond, VA 98052-6399, US.
- PowerPoint® is a registered trademark of Microsoft Corp., Redmond, VA 98052-6399, US.
- CompactFlash® is a registered trademark of SanDisk LLC, Milpitas, CA 95035-7933, US.
- Adobe® is a registered trademark of Adobe Inc., San Jose, CA 95110, US.

# 1 Introduction

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### 2.1 General information

The PC Evaluation Software (PCA3000) is used to archive and evaluate data (including device audit trail data, if available). An electronic signature can be added to the archived data in the software.

The PCA3000 is supplied on a CD together with:

- PCA Communication Software (PCC)
- Setup software (only for certain devices)
- Documentation in the form of PDF files.



PCA3000 is used for various types of devices. There may be discrepancies between the operating manual and the individual device-specific functions.

The software and all of the respective documents can also be downloaded online.

### 2.2 Hardware and software requirements

The following hardware and software requirements must be met to operate and install the software:

**Minimum configuration**

- Notebook or desktop PC
- Microsoft Windows 7 or higher

## 2 PC Evaluation Software

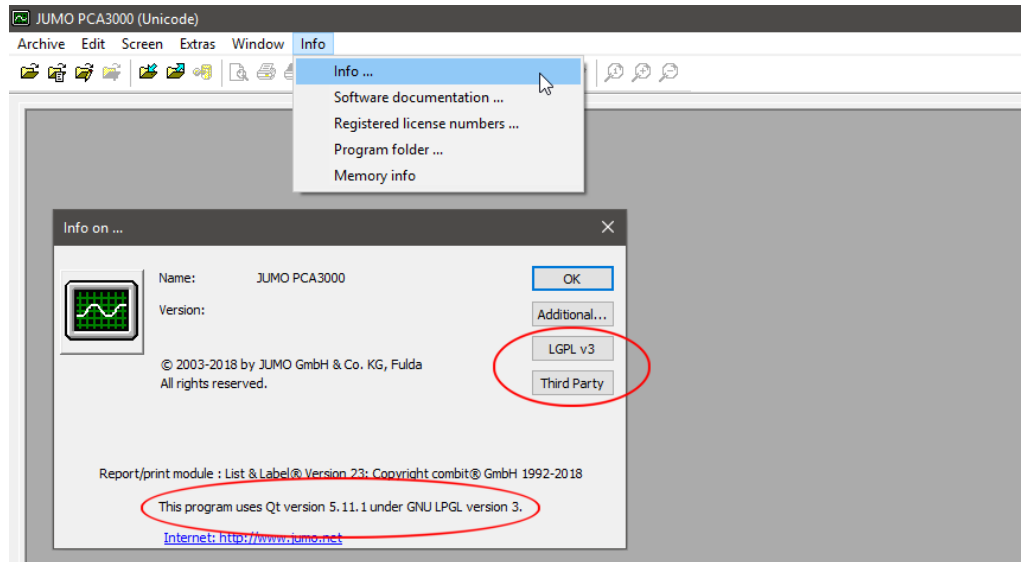
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### 2.3 Open-source software

The software was developed using open-source software.

#### 2.3.1 Information about open-source software

Information about the open-source software used can be found in the menu bar of the program interface under the menu item **INFO**:



#### 2.3.2 Offer for purchase of source code for open-source software

The software in this product contains open-source software.

Insofar as the respectively applicable license terms justify a claim on the provision of source code or other information, JUMO GmbH & Co. KG will provide the source code or the information on a conventional data carrier at the cost incurred by creating the data carrier.

**Address** JUMO GmbH & Co. KG  
License Compliance  
Moritz-Juchheim-Straße 1  
36039 Fulda, Germany

**Email** [licensecompliance@jumo.net](mailto:licensecompliance@jumo.net)

**Validity** This offer is valid for three years from the purchase of the product by the user.  
This offer is additionally valid for as long as JUMO GmbH & Co. KG provides customer service or spare parts for the product which uses this software, and as long as this is included in the respective license terms.

### 2.4 "FDA 21 CFR Part 11"-compatible devices

The CD for "FDA 21 CFR Part 11"-compatible devices also includes:

- PC Security Manager Software (PCS)
- PC Audit Trail Manager Software (PCAT).

For devices with a higher security standard, the software is freely available on-line in "read-only" mode (PCA3000 viewer) for FDA inspections.

Anyone who has been issued rights by the administrator can launch and use PCA3000. The administrator grants access rights with the PC Security Manager Software (PCS).

PCA3000 is installed together with the PC Security Manager Software (PCS). In this case, installation is different from the installation process described in Chapter 3 "Installation".

### 2.5 Manipulation detection with digital certificate

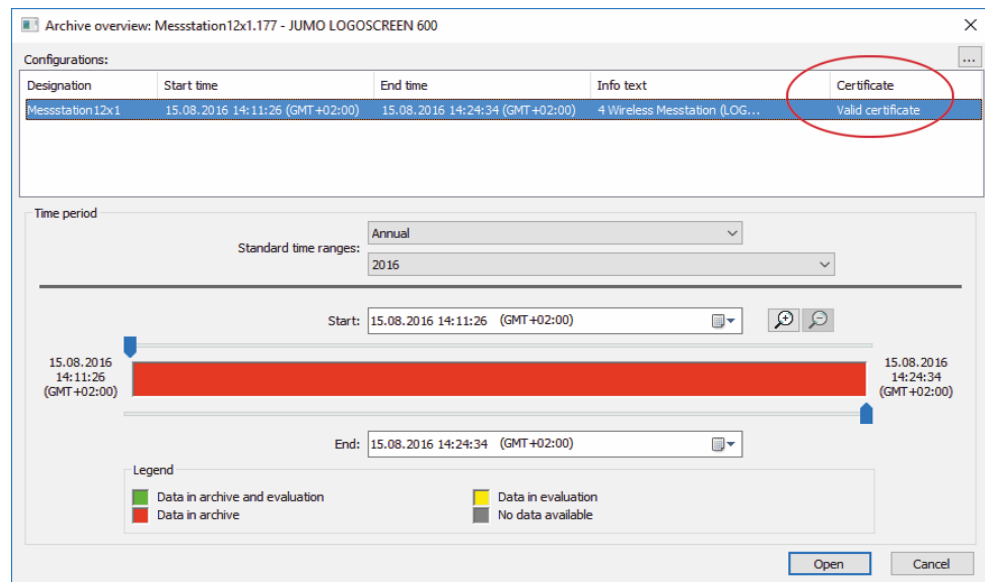
Devices with a digital certificate reliably detect when data has been manipulated. The digital device certificate verifies that the registration data has not been altered either in the device or during transmission to the data archive.

The function **EDIT > SUPPLEMENTARY DESCRIPTION** in the menu bar displays information for the "Device certificate", "Output certificate" and "Root certificate".

⇒ "Data with digital certificate", page 89

#### 2.5.1 Detection of valid certificates

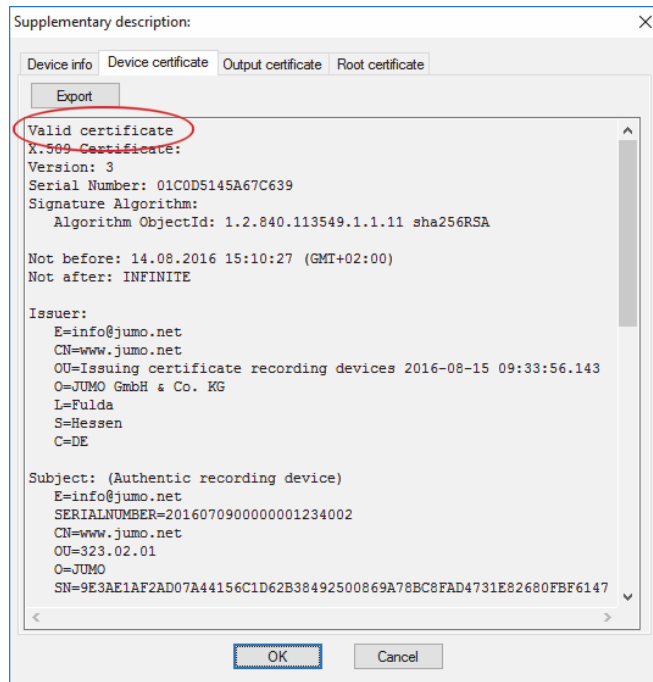
Display of certificate validity when opening archive data:



⇒ "Opening an archive", page 30

# 2 PC Evaluation Software

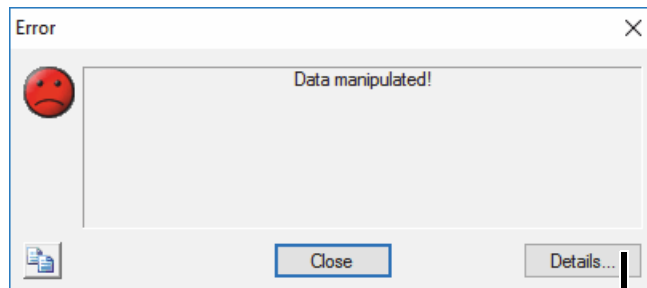
Display of certificate validity in **Supplementary description**:



⇒ "Supplementary description", page 88

## 2.5.2 Detection of manipulated data

Manipulated data or damaged archive data cannot be opened. The following error message is displayed:



Shows detailed description of error message

The **DETAILS** button displays a detailed description of the error message.

## 3.1 Starting installation

### Installation from CD

- \* Start Microsoft Windows.



If Microsoft Windows is already running, all Windows programs must be closed before installing the software.

- \* Insert the CD into the drive and close the drive.

The installation program starts automatically. If the installation program does not start:

- \* Start the "Launch.exe" file in the main directory of the CD.

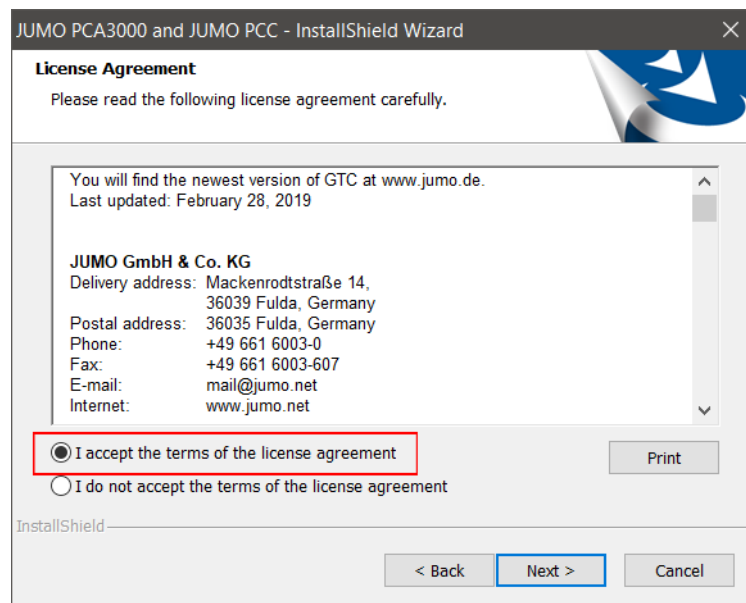
The installation program guides you through the rest of installation with on-screen prompts.

### Installation via download file

- \* After downloading the installation file, run it in Windows Explorer and follow the installation instructions.

### License agreement

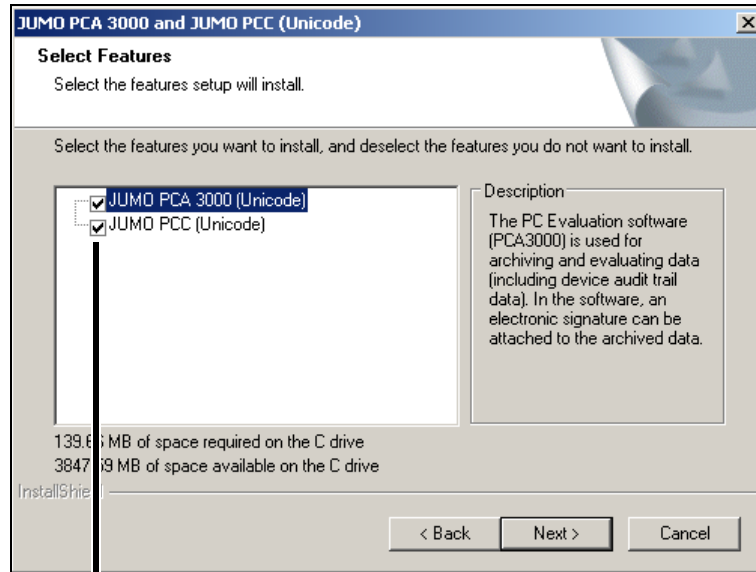
- \* Read and confirm the license agreement.  
The agreement must be accepted before the software can be installed.



# 3 Installation

## Available software

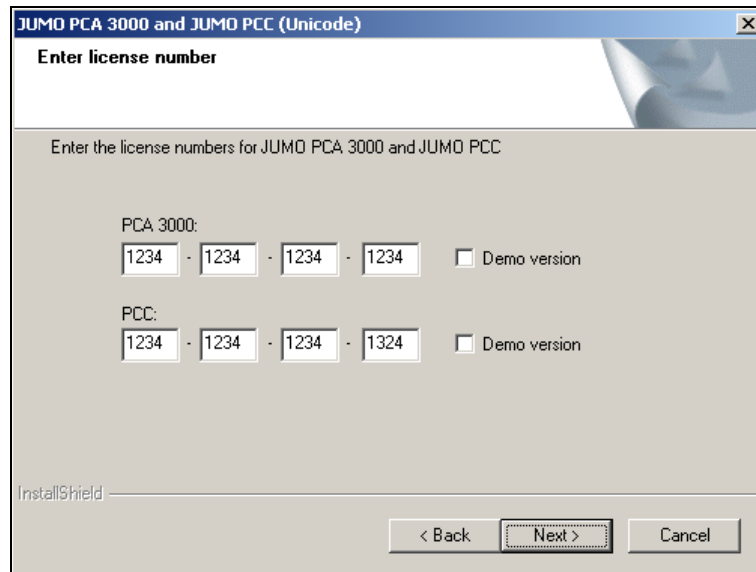
- \* Select the software you want to install.



The boxes of all components you want to install must be checked ()

## License number

- \* Enter the license number for the selected software (see CD sleeve). Any license numbers for additional functions must be entered after installation.



If the "30-days test version" option is activated during installation () , the selected software is fully functional for 30 days. After 30 days, the program automatically becomes a "demo version" with limited functionality.

The software can be licensed at a later date.

## 3 Installation

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- Programfolder** \* Specify the program folder where the symbols for starting the software are to be copied.  
The directory for the program files is determined automatically.
- Installation** \* Click the **INSTALL** button.  
The selected software components are now installed.
- Program start** After installation is complete, the PC Evaluation Software (PCA3000) can be launched from the Windows Start menu.

# 3 Installation

## 3.2 QuickStart agent

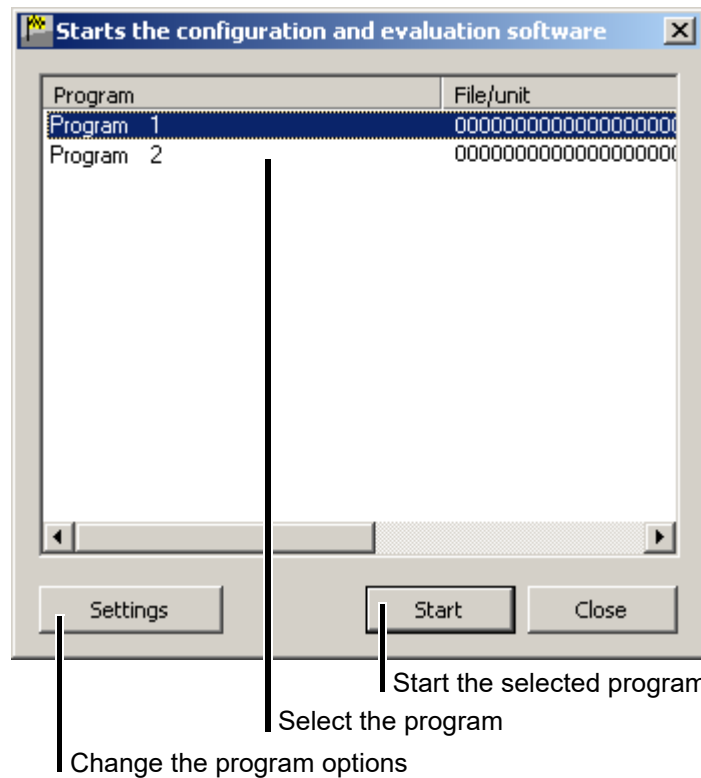
### Installation

During installation of the evaluation software, a program called the **QuickStart agent** is also installed. This program starts automatically and appears as a symbol in the Windows taskbar.



### Automatic program start

The **QuickStart agent** monitors a computer's removable media and responds, for instance, if a USB flash drive or a CompactFlash memory card is connected to the computer. All PC programs are listed that are associated with the device/medium found.



- \* Mark the program in the list
- \* Click the **START** button

If there is only one program, it starts immediately. If the **CLOSE** button is clicked, the **QuickStart agent** shifts into the background.


# 3 Installation

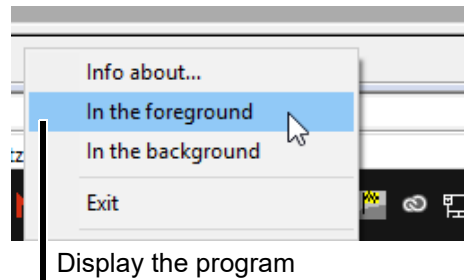
## Settings

The **SETTINGS** button can be used to change the following **QuickStart agent** options:

- National language of the **QuickStart agent**
- Selection of the programs that can be started by the **QuickStart agent**
- Autostart of the **QuickStart agent** when starting the PC

## Manual program start

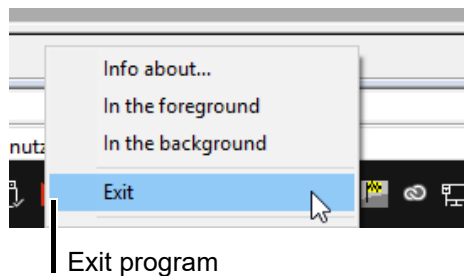
Left- or right-clicking the symbol (  ) in the Windows taskbar opens a selection list. This makes it possible to move the **QuickStart agent** into the foreground or background by selecting the relevant entry from the list.



If autostart is inactive, i.e. the symbol does not appear in the taskbar, the **QuickStart agent** can be started manually from the Windows Start menu. The **QuickStart agent** is located in the same program group as the software itself.

## Exit program

Click "Exit" to close the **QuickStart agent**. It can be restarted from the Windows Start menu.



## 3 Installation

---

### 4.1 Renewing log-in/altering password

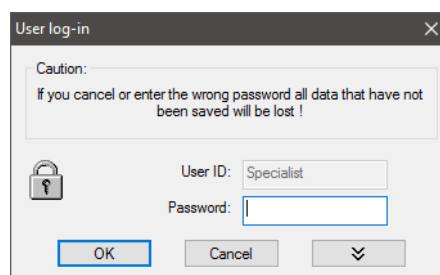
After the PC Evaluation Software (PCA3000) is installed for the first time, a prompt for the user name and password does not yet appear. The log-in function is not active. A distinction can be made between the "Specialist" and "Maintenance" users when the log-in function is activated. The two users have different rights to functions of the software.

⇒ "Rights in PCA3000", page 23

The **RENEW LOG-IN / ALTER PASSWORD** function in the **EXTRAS** menu can be used to activate the prompt when the program starts.

⇒ "Renew log-in/alter password", page 92

\* Log in when the prompt is active.




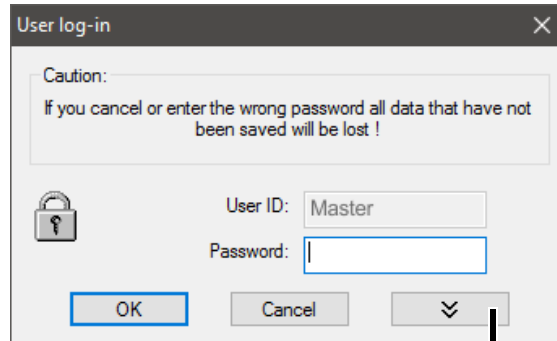
Any unsaved data is lost if you interrupt the login process or enter an incorrect password!

# 4 Program log-in

## 4.2 Options for program start

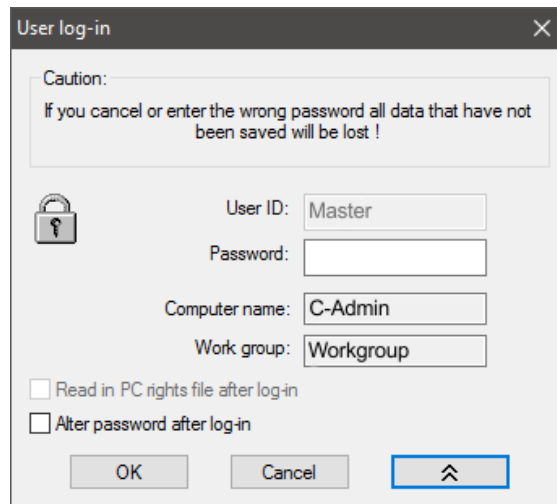
Using options once the log-in for the PCA3000 software is activated:

- \* Start the software.
- \* Open the **EXTRAS > RENEW LOG-IN / ALTER PASSWORD** menu.
- \* Left-click the  button .



Show options

The dialog window changes to ...



### Change user list after log-in

If you want to activate a different user list after starting the program, the "Change user list after log-in" check box () must be activated.

If installation was performed with the "Local user" option, the function is not called "Change user list after log-in", but "Read in rights file after log-in".



The function is only available if the "Administrator" or "Network user" option was selected during installation and only for devices with a higher security standard.

## 4 Program log-in

### Alter password after log-in

If you want to change the password after starting the program, the "Alter password after log-in" check box () must be activated.

### Rights in PCA3000

Depending on installation and log-in, there are different rights within the software.

The differences are summarized in the table below.

Right	Demo/Viewer	Maintenance	Specialist
<b>Data management:</b>			
Configure data management	-	-	x
Submit PC signature for time period	-	x	x
Submit PC signature for batches	-	x	x
<b>Archive:</b>			
Save time periods	-	x	x
Create new archive	-	-	x
Read in time periods	-	x	x
<b>Batch report:</b>			
Create/change template for print-out	-	-	x
<b>Activation:</b>			
Activate program options	x	-	x
<b>Print:</b>			
Print	x	x	x
<b>Audit trail:</b>			
Comment in audit trail	-	x	x
x = Right exists, - = Right does not exist			

# 4 Program log-in

---

## 5.1 Elements of the user interface



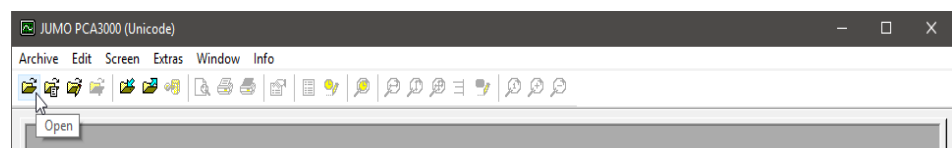
### Menu bar

The individual functions of the software are started with the menu bar.

⇒ Chapter 10 "Menu functions & toolbar"

### Toolbar

The toolbar contains selected functions of the menu bar. Left-click to start these functions. If the mouse pointer is briefly held over one of the symbols, the name of the function appears (pop-up text).



# 5 User interface

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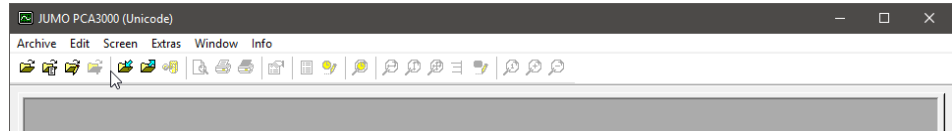
## Moving the toolbar

The position of the toolbar can be changed.

Possible positions are:

- the left and right edge of the window (vertical alignment)
- under the menu bar (horizontal alignment)
- along the bottom edge above the user information (horizontal alignment)
- any position (in its own window - height and width can be changed with the mouse)

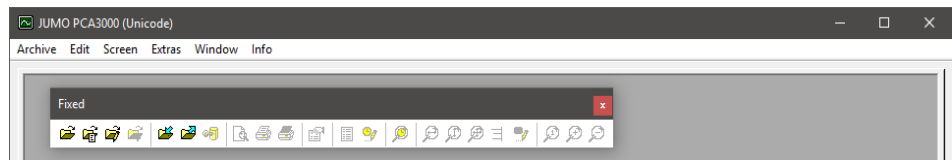
\* Position the mouse pointer between two groups of symbols.




\* Press and hold the left mouse button.

\* Drag the toolbar to the position you want.

\* Release the left mouse button.



Once the toolbar has been moved to the position you want, it can be closed by left-clicking the  button. It can be opened again by left-clicking "Toolbar" in the **VIEW > TOOLBAR** menu.

## Work area

The process data is displayed here.

## Coordinate bar

The coordinate bar shows the current coordinates of the mouse pointer in the graphics area of an open archive file.

### 6.1 Introduction

The following pages are intended as a guide to familiarize you with the principles of the PC Evaluation Software PCA3000.

For better understanding, the concept is explained using the analogy of conventional pen recorders and paper charts containing process data.

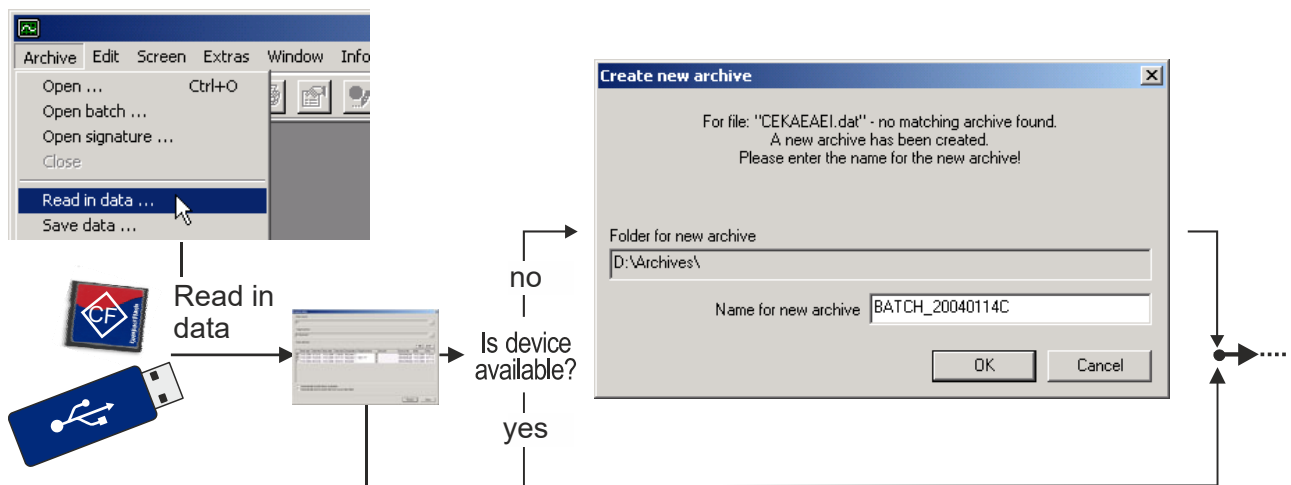
# 6 Guide

## 6.2 Reading in data

This chapter explains how to read in and save recorder measurement data from a CompactFlash memory card or USB flash drive to your PC. For faster access during subsequent visualization, a concept was chosen that is based on an archive and an evaluation.

The **archive** represents storage of the conventional paper charts and the **evaluation** represents the rolled out paper charts.

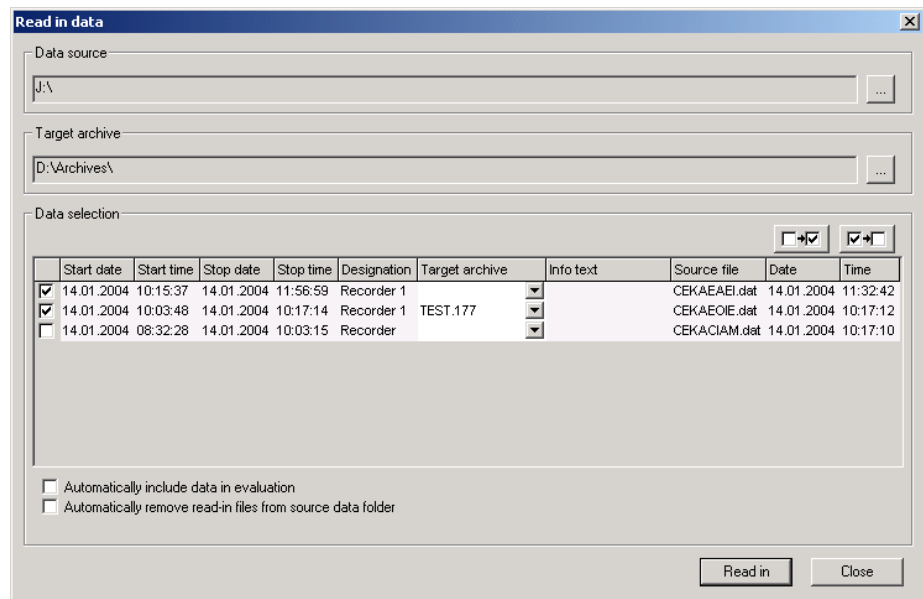
Practical experience has shown that most users initially only want to save (archive) their measured data and retrieve their data from the archive and analyze it, e.g. only in the case of incidents.



The recorded measured data can be read in, e.g. via the CompactFlash memory card or a USB flash drive.

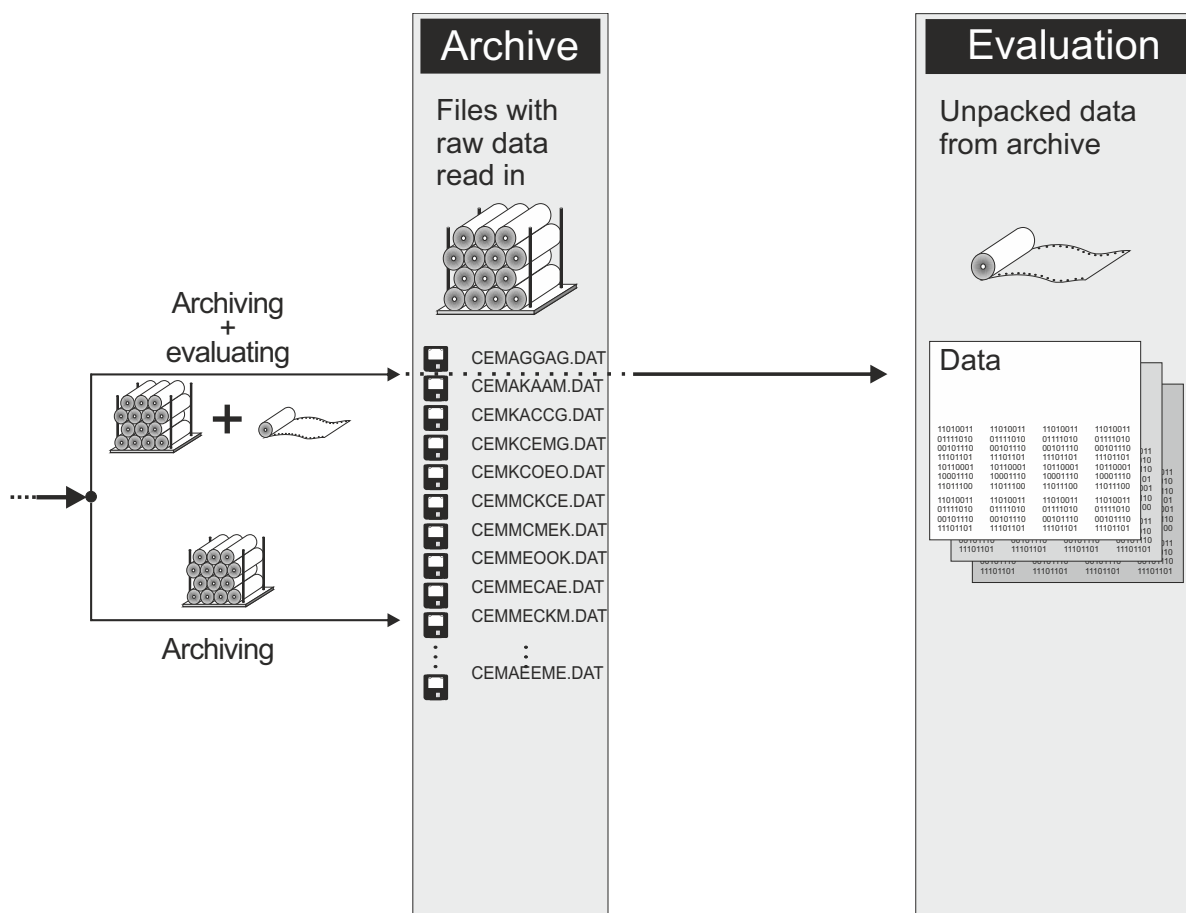
Data is read in via an interface with the PCA Communication Software (PCC).

Additional important information: See "Reading in data", page 83.





The archives of the PCA3000 software are not a directory with several files, but a directory with just a single file. This file always has the file extension "177".



The archive directory and the evaluation directory were set within PCA3000.

### Archive

The default directory is set using the **ARCHIVE > DEFAULT SETTINGS > PATHS FOR DATA > DIRECTORY FOR ARCHIVES** menu. It can be changed at a later date when the data is being read in.

### Evaluation

The default directory is set using the **ARCHIVE > DEFAULT SETTINGS > PATHS FOR DATA > DIRECTORY FOR EVALUATION** menu. It cannot be changed when the data is read in.



If there is a lot of measured data, it may take several minutes for it to be transmitted.

# 6 Guide

## 6.3 Opening an archive

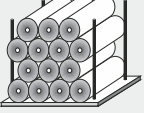


Measured data that you want to visualize is opened from the **evaluation**.

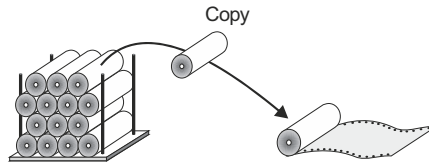
If this measured data is not yet available in the **evaluation**, it first has to be copied from the archive to the evaluation. This process is carried out automatically when the archive is opened.

**Archive**

Files with raw data read in




- CEMAGGAG.DAT
- CEMAKAAM.DAT
- CEMKACCG.DAT
- CEMKCEMG.DAT
- CEMKCOEO.DAT
- CEMMCKCE.DAT
- CEMMCMEK.DAT
- CEMMEOOK.DAT
- CEMMECAE.DAT
- CEMMECKM.DAT
- ...
- CEMAEEME.DAT



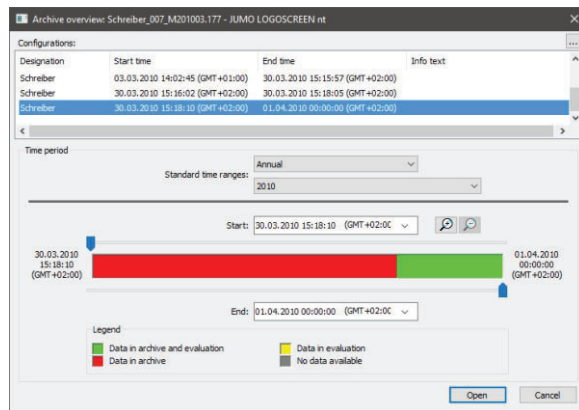
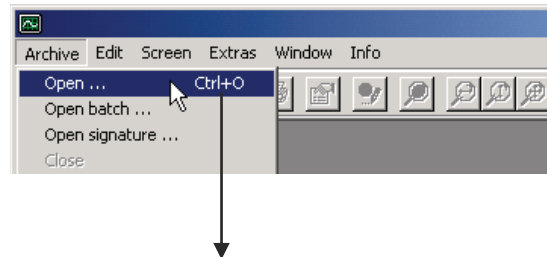
**Evaluation**

Unpacked data from archive



**Data**

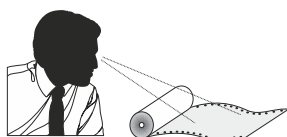
11010011	11010011	11010011	11010011	
01111010	01111010	01111010	01111010	
00101110	00101110	00101110	00101110	111
11101101	11101101	11101101	11101101	110
10110001	10110001	10110001	10110001	101
10001110	10001110	10001110	10001110	100
11011100	11011100	11011100	11011100	101
11010011	11010011	11010011	11010011	110
01111010	01111010	01111010	01111010	100
00101110	00101110	00101110	00101110	111
11101101	11101101	11101101	11101101	110
11101101	11101101	11101101	11101101	110
11101101	11101101	11101101	11101101	110



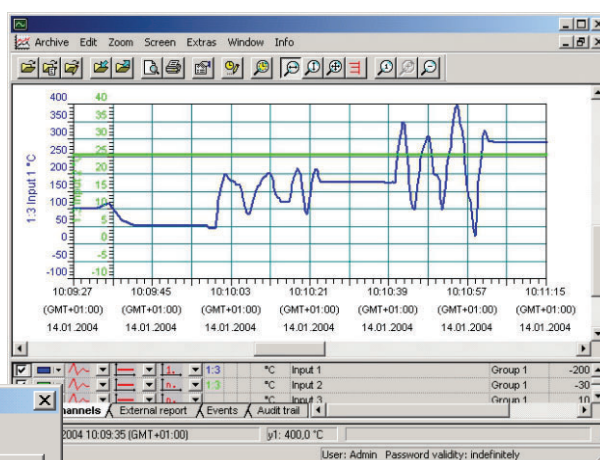
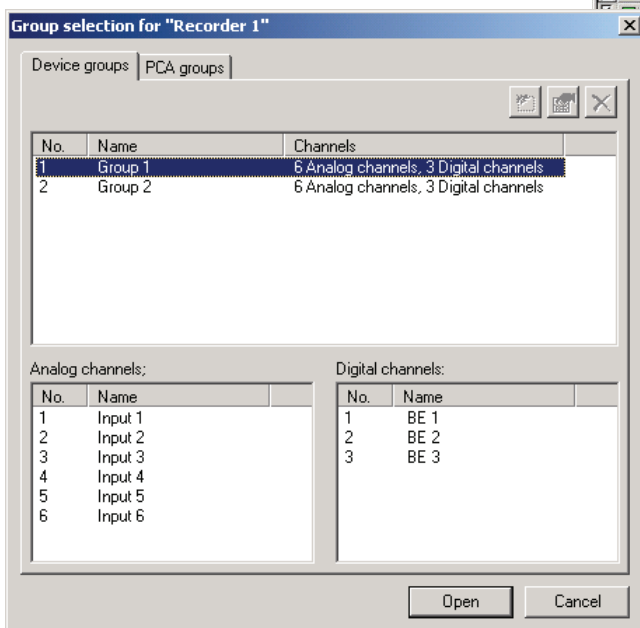
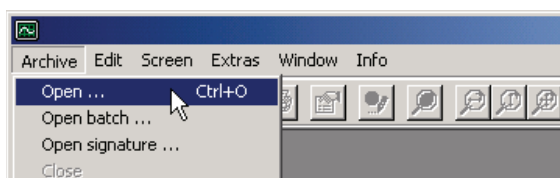
After **ARCHIVE > OPEN** is selected, the time period is first selected.

⇒ Chapter 6.3.1 "Selecting the time period"

Open archive



Visualization



After the time period is selected, you first have to select the group you want (generated by the paperless recorder) before the measured data is displayed. User-defined groups can be created on the "PCA Groups" tab.

Additional important information:

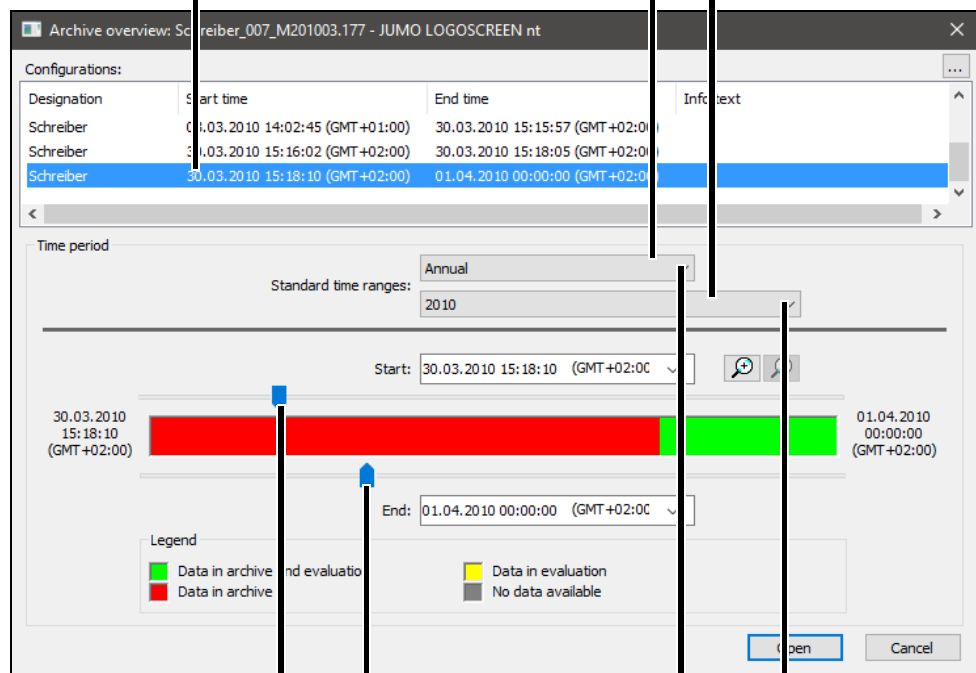
⇒ See "Open", page 81.

# 6 Guide

## 6.3.1 Selecting the time period

With the two selection options, a time period is pre-set through fixed intervals. The sliders jump forward by the selected factor using the cursor buttons (◀, ▶, ▲, ▼) or the drop-down menu.

**Select a data set**  
Every entry represents a new configuration of a device.



**Select a time range**  
The area between the two sliders is shown graphically after the "Open" button is clicked.

The sliders can be moved by pressing and holding the left mouse button.

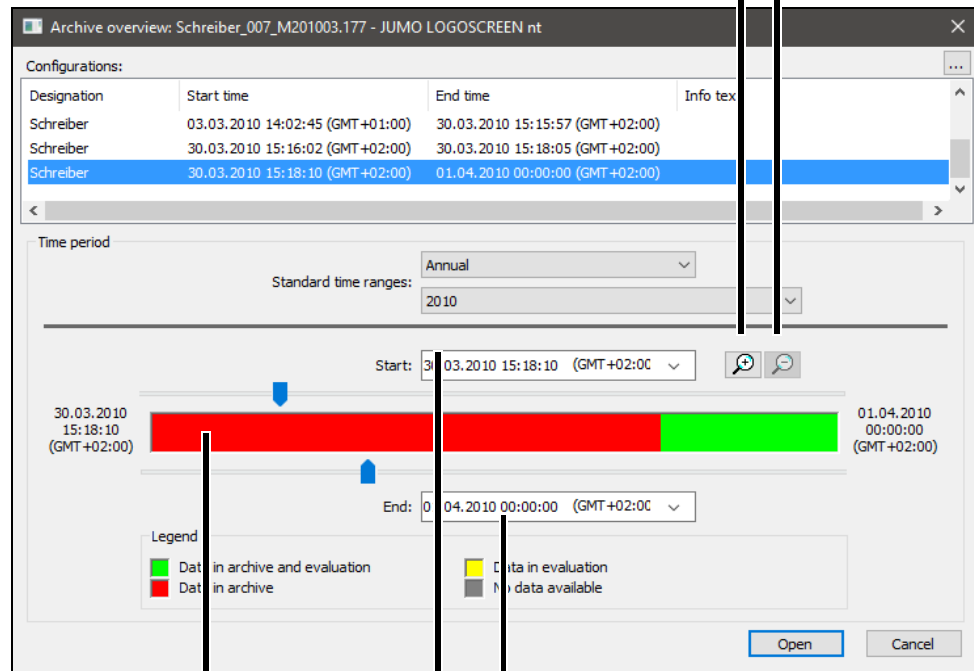
Left-click to open the drop-down menu.

## Back

Set the most recently active time period.

## Zoom

Zooms the time period between the sliders over the entire width. The sliders are repositioned.



## End

The end point can be defined using a dialog box.

## Start

A dialog box can be used to define the starting point.

## Data in archive only

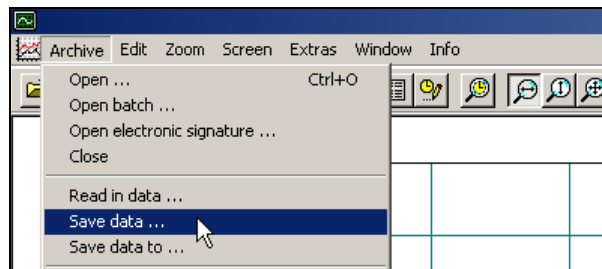
The data is only available in the archive. If it is selected for display, the software automatically transfers the data to the evaluation.

# 6 Guide

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## 6.4 Saving data

### Saving data



An archive does not have to be open to use the "Save data" function; no data has to be displayed graphically. The "Save data" function is used to:

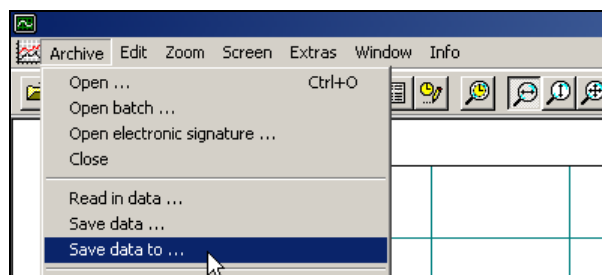
- copy process data from an archive (e.g. for general data backup)
- copy process data from an archive to a protected archive (e.g. to pass on in the case of inspections)
- copy and simultaneously delete process data from an archive (e.g. to prevent archive files from becoming unnecessarily large)



Protected archives are different from other archives because:

- signatures cannot be created
- the "Save" function is disabled (the data is prevented from being saved again)
- it is easier to open the protected data
- nothing can be added to protected data (no other data can be read in or attached)

### Save data as



An archive has to be open to use the "Save data as" function; data has to be displayed graphically. The "Save data as" function has the same function as "Save data".

## Save data



Selected archive

Data selection via the time

Data selection via configuration

Data selection via batch

Data selection via signature

Archive selection

Source archive

D:\Archive\_es\Batch\_gb\_0040114.177

Time Configuration Batch Signature

from:

to:

Remove data from source archive after saving

Backup archive

D:\Archive\_es\20041123.177

Protect archive from alterations

Inhibit signature creation

Inhibit data save function

Backing up Close

Start data backup

Cancel data backup

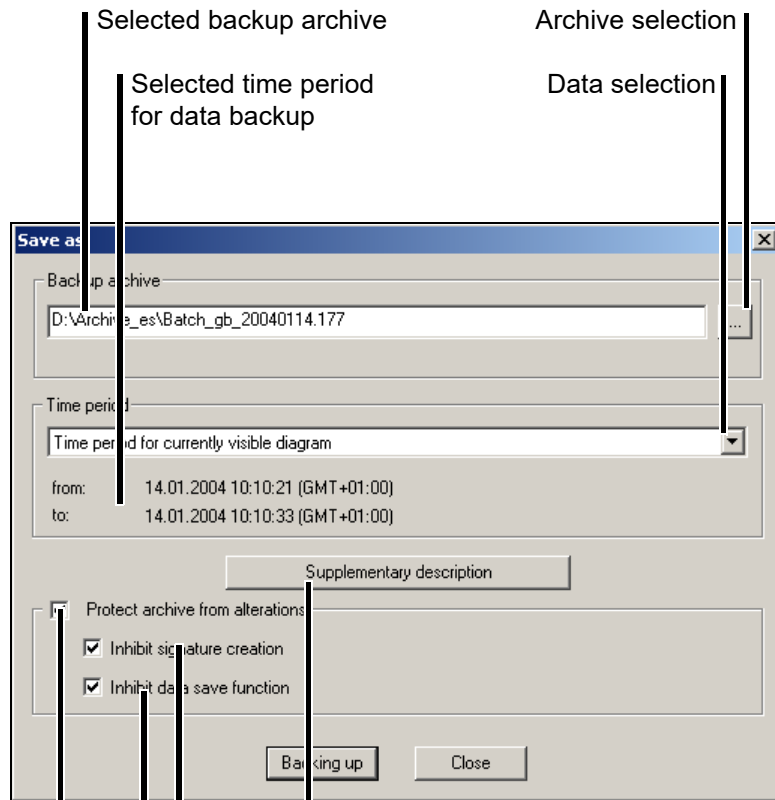
Selected backup archive

A  means that the data will deleted from the archive after saving.

Select backup archive

# 6 Guide

## Save data as



Selected backup archive

Archive selection

Selected time period  
for data backup

Data selection

Additional text input for description of protected archives  
⇒ "Supplementary description", page 88

Prevent additional signatures.

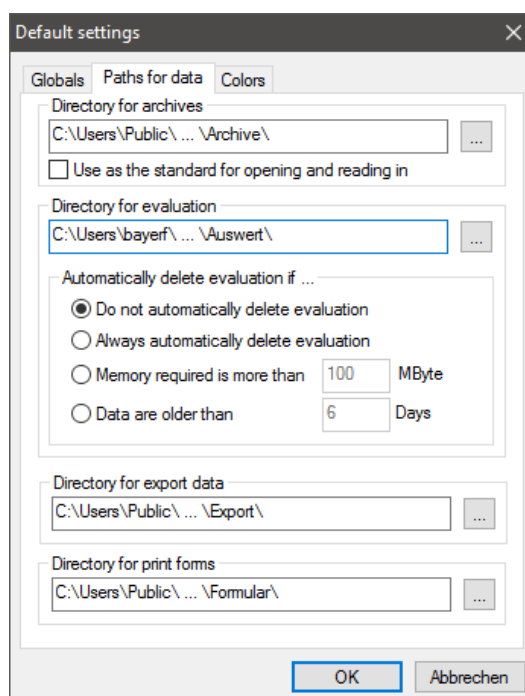
Prevent additional backup.

**Caution:** If the option is not active, a protected archive that has already been protected can be saved again as an unprotected one.

This protects the archive from changes (protected archives).

## 6.5 Archive and evaluation directory

- Archive file** The archive file **may** be located locally on the hard disk drive or in a network. Several PCs may use an archive at the same time.
- Evaluation directory** The evaluation directory **must** be created locally on the hard disk drive. Several PCs may not use an archive at the same time.
- Paths for data** The directories (for archives and evaluations) are preset in the PCA3000 software in the **ARCHIVE > DEFAULT SETTINGS > PATHS FOR DATA** menu.



The directories for the form templates (print forms) and for the output forms (export data) are also defined on the **PATHS FOR DATA** tab.

- ⇒ Chapter 11 "Managing forms"
- ⇒ Chapter 11.8 "Importing forms"
- ⇒ Chapter 12 "Editing forms"

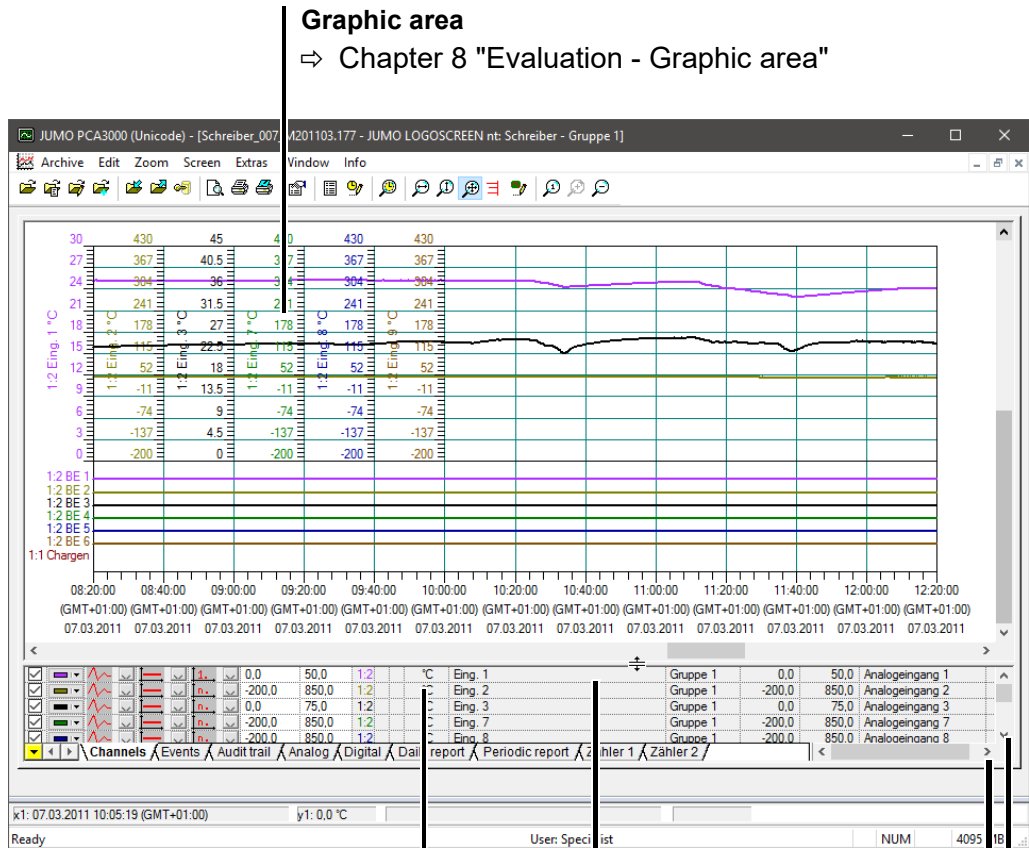


# 7 Evaluation - General information

Chapter 6.3 "Opening an archive" has already described how data can be brought for evaluation (graphical representation).

The graphic display of data is divided into a **graphic area**, in which the measured values are displayed, and a **table area**, which is used to control the graphic and other functions.

**Example:**



**Graphic area**

⇒ Chapter 8 "Evaluation - Graphic area"

**Table area**

⇒ Chapter 9 "Evaluation - Table area"

Show additional columns in the table area (scroll columns).

You can change the height of the window by placing the mouse pointer between the graphic and the table area and moving the mouse up and down while keeping the left mouse button pressed down.

Show additional rows in the table area (scroll rows).



The less measurement data are used within the graphic, the clearer and faster it becomes.

# 7 Evaluation - General information

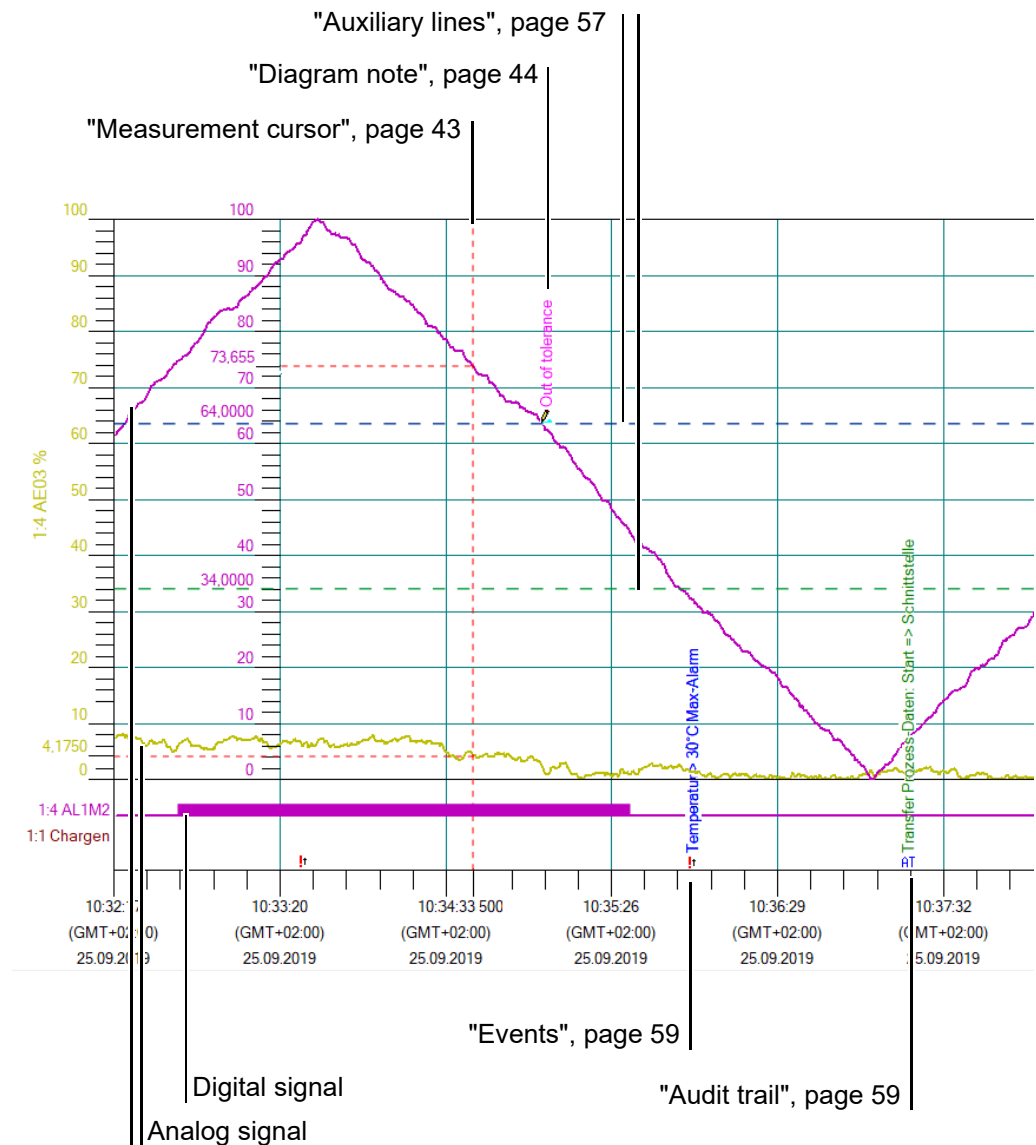
---

## 8 Evaluation - Graphic area

All available analog and digital signals can be displayed in the graphic area. The analog signals are always displayed above the digital signals.

In addition, some tools such as a measuring cursor, guidelines, events (e.g. alarms) or diagram notes for evaluation can be displayed in the graphic area.

### Example:



All functions within the graphic can be executed as a control element using the mouse.

The settings for the graphical representation are controlled via the table area.

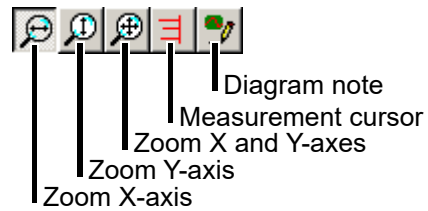
⇒ Chapter 9.2.1 "Settings for Display in the Graphics Area"

# 8 Evaluation - Graphic area

---

## 8.1 The functions of the left mouse button

The toolbar in the software is used to control the functions of the left mouse button.



The left mouse button is set by default to zoom in the X-direction. This setting can be changed.

⇒ Chapter "Diagram properties > Actions for left mouse button"

### Using the Zoom Function

- \* Position the mouse pointer within the graphic.
- \* Press and hold the left mouse button.
- \* Keeping the mouse button pressed, drag the mouse pointer to select the time period you want to extend.

The graphic is automatically extended to the next possible interval.

### Zoom X-axis



Limit zoom to the X-axis.

### Zoom Y-axis



Limit zoom to the Y-axis.

When using the Y-zoom, make sure that the channels with an auxiliary Y-axis (or no Y-axis) are zoomed in a fixed ratio to the main Y-axis. In this case, the scaling range of the auxiliary Y-axes (or of the channels without Y-axes) is extended under certain circumstances.

This ensures a fixed ratio to the main Y-axis. The diagram curves also appear in the same ratios to one another after the Y-zoom as before the zoom.

### Zoom X and Y-axes



Zoom in on X and Y-axes.

# 8 Evaluation - Graphic area

**Measurement cursor**

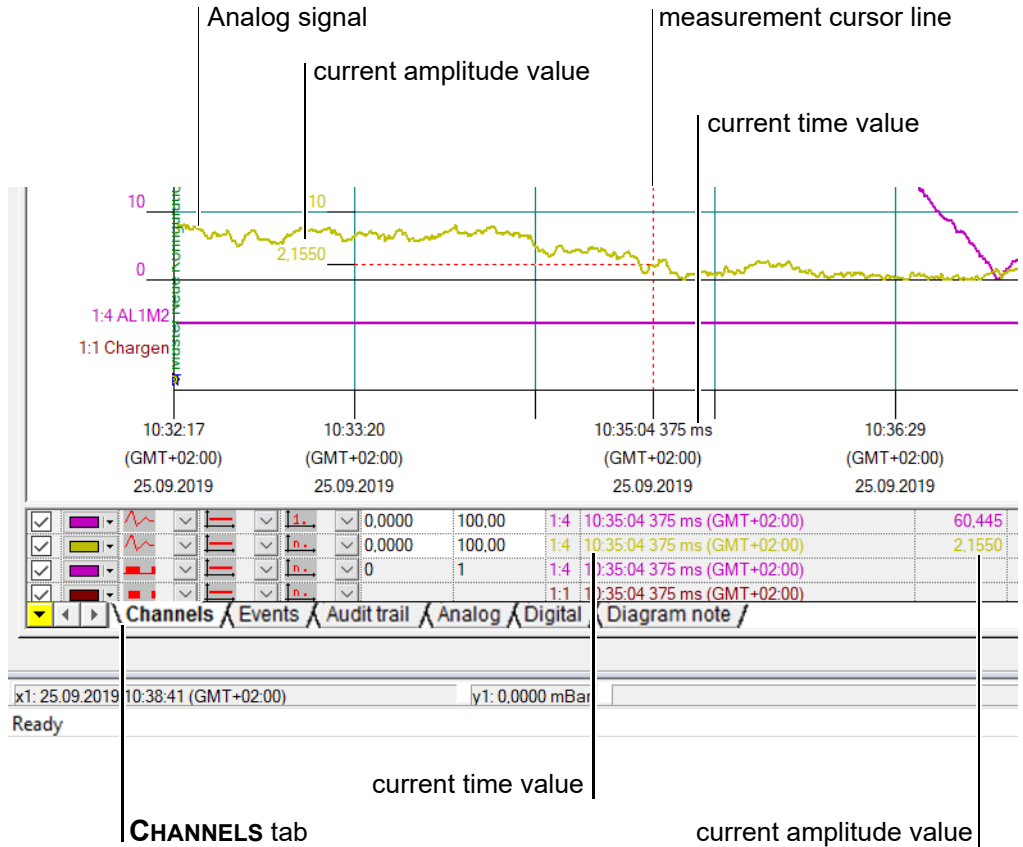


This function can be used to position a measurement cursor along the X-axis within the graphics area (position mouse pointer, press left mouse button and release again).

At the intersection of the measuring cursor line with the analog signals, the current time value is plotted vertically and the current amplitude value is plotted horizontally.

These measured values are also displayed in the table area in the **CHANNELS** tab.

**Example:**



The measurement cursor can also be moved via the PC keyboard using the key combinations Shift cursor left (⇧ + ⬅) or Shift cursor right (⇧ + ➡).



The positioning of the measuring cursor is done in relation to the "real" measured values, i.e. it can deviate from the optical curve, since more measured values exist than are displayed.

# 8 Evaluation - Graphic area

## Diagram note



### Enter diagram note and position it in the diagram

This function can be used to create, edit, move and delete a diagram note in the graphic area.

#### Creating a new diagram note

- \* Select the button (diagram note) in the toolbar with the left mouse button.
- \* Position the mouse pointer in the graphic area and press the left mouse button.
- \* The **Entry of a diagram note** dialog window opens.

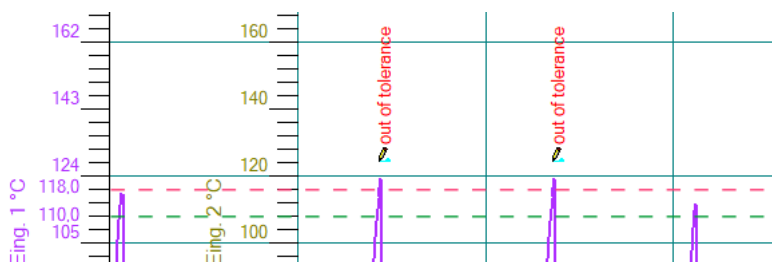
Text entry of a maximum of 499 characters

Changes the alignment of the diagram note in the graphic note

- makes it possible to move a diagram note  
⇒ "Moving a diagram note", page 45
- makes it possible to edit a diagram note  
⇒ "Editing a diagram note", page 45

- \* Activate the  "Edit allowed" check box.
- \* Enter text in the "Note" input field and confirm with **Ok**.


The diagram note appears in the graphic area:






We recommend activating the  "Edit allowed" check box when creating a diagram note. If it is not activated, the diagram note cannot be subsequently edited, moved or deleted.

### Moving a diagram note


- \* Move the mouse pointer to the note symbol in the graphic area ()
- \* Press and hold the left mouse button.
- \* Move and reposition the diagram note in the graphic area.
- \* Release the left mouse button.

The diagram note can only be moved if the "Allow movement" check box is activated when the diagram note was created (). A diagram note that cannot be moved is identified by a red X on the note symbol ()



In the **ARCHIVE > DEFAULT SETTINGS** menu, the  "Allow movement of diagram notes" check box can be activated as the default setting on the "Globals" tab.

### Editing a diagram note

- \* Move the mouse pointed to the note symbol in the graphic area ()
- \* Double-click the left mouse button on the note symbol.

The **Edit diagram note** dialog window opens where the following changes can be made:

- Note (text change)
- Group (selection of the device group)
- Text color
- Activate the "Allow movement" function
- Orientation (text alignment)
- Delete

The diagram note can only be subsequently edited if the "Edit allowed" check box is activated when the diagram note was created ().



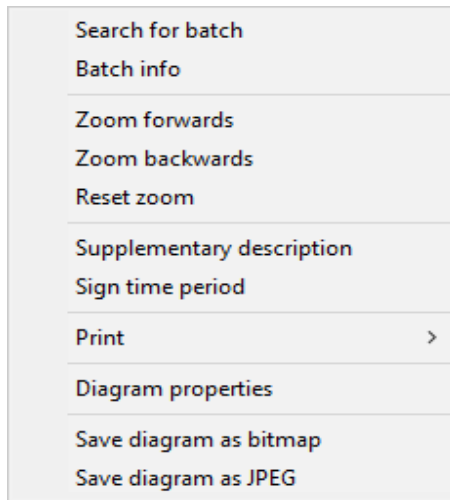
Diagram notes in the graphic area can also be hidden.

⇒ "Display (activate) channel", page 56

# 8 Evaluation - Graphic area

## 8.2 The functions of the right mouse button

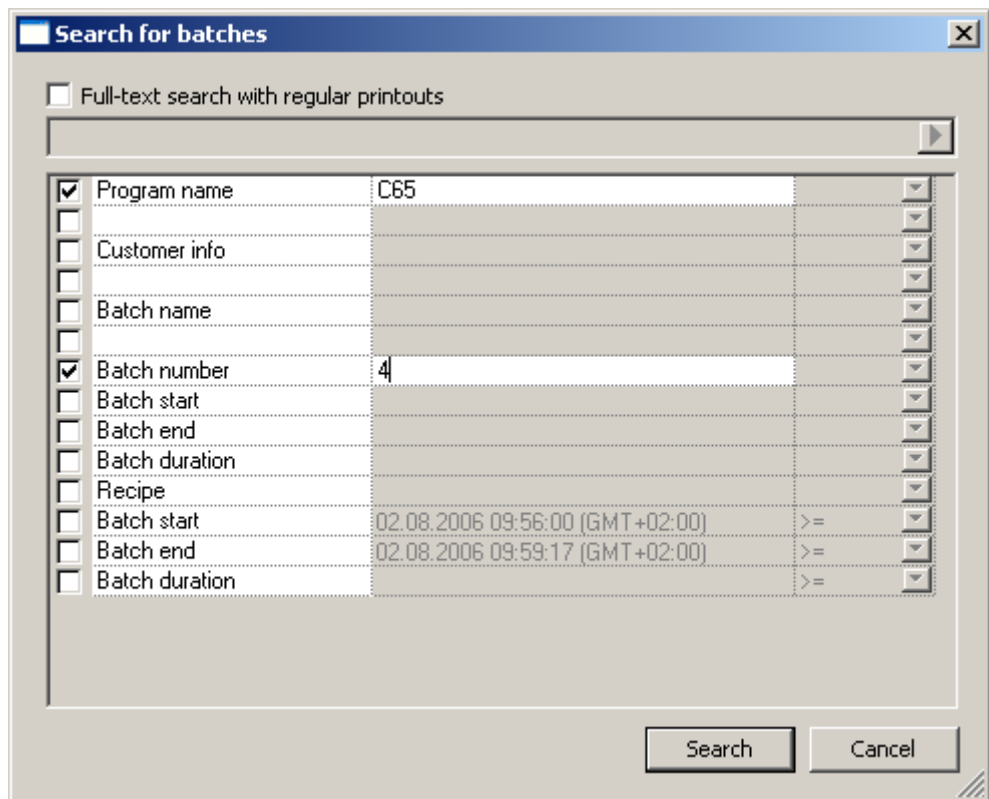
If the right mouse button is pressed when the mouse pointer is within the graphic, a dialog window appears where the various functions can be selected.



### Search for batches

Opens the **Search for batches** dialog window if the archive file contains batch data.

Use the check box (☑) to activate the search criteria you want. After the **SEARCH** button is pressed, the respective batch data is automatically displayed across the entire width of the X-axis.




The selected search options are linked by AND.

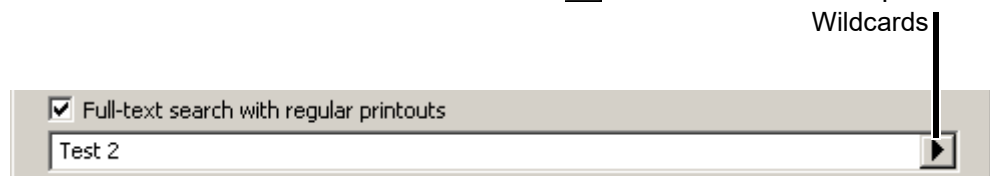
## 8 Evaluation - Graphic area

If no search criteria are selected, all batch reports are searched.

If no batch is found that match the search options, the first batch that occurs is displayed.

### Full-text search with regular expressions

An active "Full-text search with regular expressions" is also linked by AND with the individual batch search fields. Press the  button to enter or explain wild-



cards (placeholder for specific characters).

### Batch info

The batch information and the signature of the selected batch are displayed in this dialog window if the archive file contains batch data.

The function only becomes available when the data of a specific batch is displayed using the "Search for batches" function.

⇒ "Batch information/signature", page 71

### Zoom functions

The functions of the commands **ZOOM FORWARDS**, **ZOOM BACKWARDS** and **RESET ZOOM** depend on the previous ZOOM function carried out with the left mouse button and toolbar.

⇒ "The functions of the left mouse button", page 42

### Zoom forwards



"Zoom forwards" is used to restore the next zoom display. The function is only available if "Zoom backwards" was used previously. As an alternative to the mouse, "Zoom forwards" can also be carried out using the PC keyboard with page up (**PgUp**↑).

### Zoom backwards



"Zoom backwards" is used to restore the last zoom display. The function is only available if a zoom was previously carried out. As an alternative to the mouse, "Zoom backwards" can also be carried out using the PC keyboard with page down (**PgDn**↓).

### Reset zoom



"Reset zoom" displays the entire time period for the selected evaluation. As an alternative to the mouse, *Reset zoom* can also be carried out using the PC keyboard with the home key (**Home**).



"Zooming" with the PC keyboard only works if the graphics area was previously activated by clicking with the mouse cursor.

## 8 Evaluation - Graphic area

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**Supplementary description** ⇒ "Supplementary description", page 88



**Sign time period**



This function can be used to sign the current content of the graphic area. If a *zoom* was previously carried out, the data that is not visible is not signed.

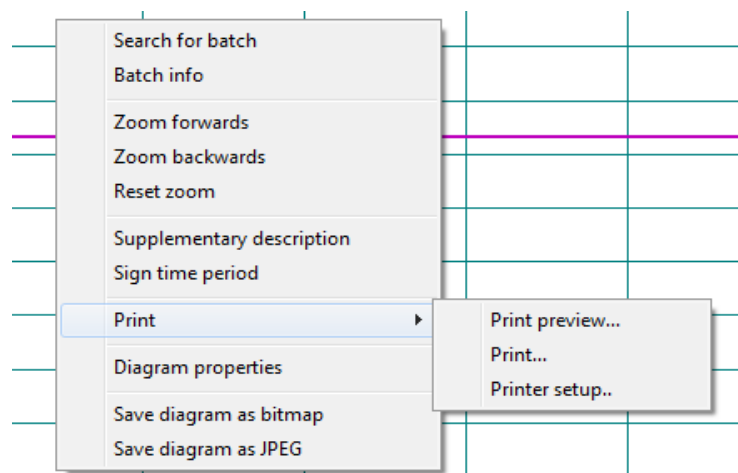
After the "Sign time period" function is initiated, a submenu first appears which asks for the name. The name is defined in the device by the parameter **CONFIGURATION > EL. SIGNATURE > DESCRIPTION > SIGNIFICANCE** and by the parameter **CONFIGURATION > EL. SIGNATURE > DESCRIPTION > EL. SIGNATURE**. After the name is selected, the data is signed by selecting the user ID and password.

The signature is entered on the "PC signature for time period" tab.

⇒ Chapter 9.11 "PC signature for time period"

**Print**

After the "Print" function is initiated, a submenu with more functions appears.



**Print > Print preview**

The "Print preview" function is used to show what a document looks like if printed.

**Print > Print**

Opens the **Print** dialog window. The **OK** button starts the print process.

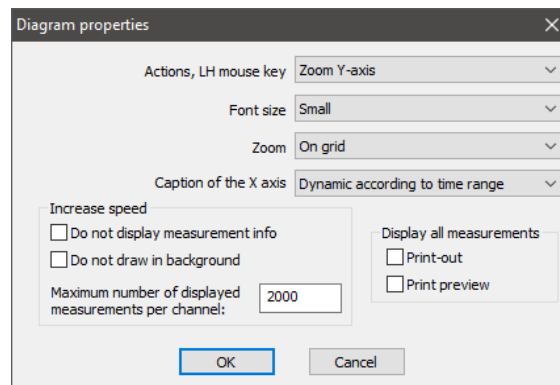
**Print > Printer setup**

Opens the **Printer setup** dialog window. Various print options (e.g. paper size) and printer properties (e.g. print quality) can be changed here.


## 8 Evaluation - Graphic area

### Diagram features

Opens the **Diagram properties** dialog window. The graphical display and the function of the left mouse button can be changed with the adjustable parameters.

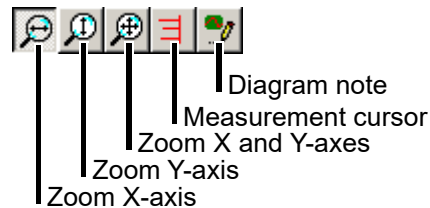


### Diagram properties > Actions for left mouse button

The default function of the left mouse button in the graphic area is defined here. When the  button is pressed, a pull-down menu opens where the default function can be selected.



The software's toolbar can also be used to control the functionality of the left mouse button.



⇒ Chapter 8.1 "The functions of the left mouse button"

### Diagram properties > Font size

This setting is used to change the size of the scaling for the X- and Y-axes.

### Diagram properties > Zoom

This setting can be used to change the selection of an area to be widened. You can choose between continuous selection ("Any") or selection at fixed intervals ("On grid").

### Diagram properties > Labeling of the X-axis

This setting can be used to change the time and data specifications along the X-axis.

## 8 Evaluation - Graphic area

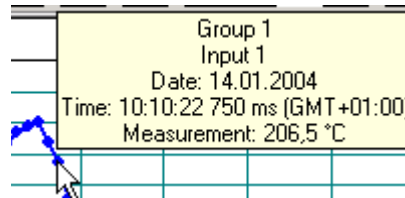
---

### Diagram properties > Increase speed

The "Do not display measurement info" and "Do not draw in background" functions are not checked  by default, i.e. they are active.

#### Do not display measurement info

If the mouse pointer is placed on a measured value within the graphic and no longer moved, a window appears with the current amplitude and time values.



The window disappears again after several seconds. If the function is deactivated () , the evaluation program has fewer calculations to perform and becomes somewhat faster as a result.

#### Do not draw in background

By default the screen is drawn in the background not visible to the user and then suddenly appears. If "Do not draw in background" is selected, the graphic is displayed online on the screen. You can watch how the profile of the curve is *drawn*. This display type is somewhat faster than drawing in the background.

The difference between the two display types only becomes obvious if there is a large amount of data to be processed.

#### Maximum number of measured values displayed per channel

You can set the number of the measurements to be displayed per channel by entering a number (from 10 to 1000000) here. You can set the number of the measurements to be displayed per channel by entering a number (from 10 to 10000) here. The lower the number, the fewer measured values are shown.



**Caution:** If the selected number of measured values is too small, the graphic is displayed faster, but you will have to partially guess the curve profile for the actual measured values.

### Diagram properties > Display all measurements

Only every *n*th measurement is displayed by default (depending on the zoom factor). This also applies to the print preview and the print-out. By activating () the two check boxes "Print-out" and "Print preview", all measured values are printed or displayed.

### Save diagram as bitmap

Opens the **Save as** dialog window. After entering the file name and selecting a location to save to file, the function saves the current contents of the graphic area as an image in bitmap format.


### Save diagram as JPEG

Opens the **Save as** dialog window. After entering the file name and selecting a location to save to file, the function saves the current contents of the graphic area as an image in JPEG format.

## 9 Evaluation - Table area

The table area is used to control the graphic and other functions. Operation is similar to spreadsheet programs.

The table area consists of several registers which are shown or hidden depending on availability (see "Displaying/hiding tabs", page 52)



Tab button (inactive)

Tab button (active)

Scroll buttons for tabs

Tab control (button)

⇒ Chapter 9.1 "Displaying/hiding tabs"

Maximum the following registers are available:

- CHANNELS
- EVENTS
- AUDIT TRAIL
- ANALOG
- DIGITAL
- REPORT (Total, daily, weekly, monthly, annually, periodically, externally) and BATCH REPORT
- COUNTER
- BATCHES
- PC SIGNATURE FOR BATCHES
- PC SIGNATURE FOR TIME PERIOD
- DIAGRAM NOTE

The functions of the left and right mouse buttons in the table area are clearly described here:

⇒ Chapter 9.13 "Functions of the mouse buttons on tabs"

### Activate tab

Tabs are activated by left-clicking a tab button.



Only visible tabs are shown as tab buttons.

# 9 Evaluation - Table area

## 9.1 Displaying/hiding tabs

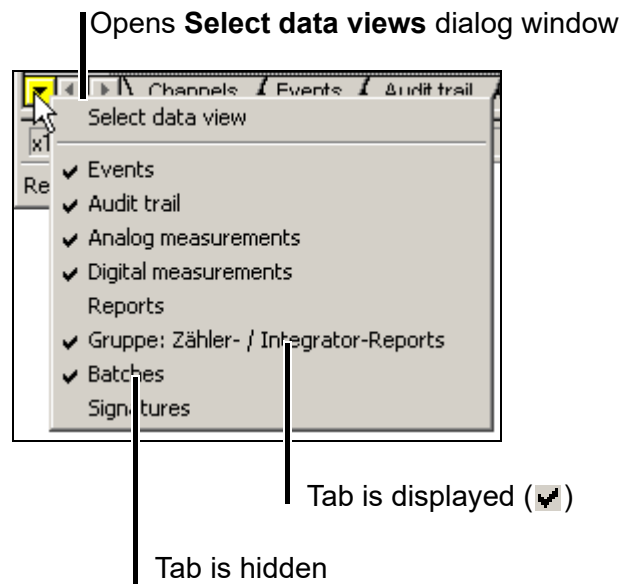
### Tab control

All available visible and hidden tabs are displayed in the pop-up menu for tab control.



Move the mouse over the field and left-click

- \* Move the mouse pointer over the  button or right-click on one of the tab buttons, e.g. **EVENTS**.




### Displaying and hiding tabs

- \* Position the mouse pointer in the pop-up menu on the tab name.
- \* Left-click to display or hide the tab.

All tabs that are displayed have a check mark (✓) .

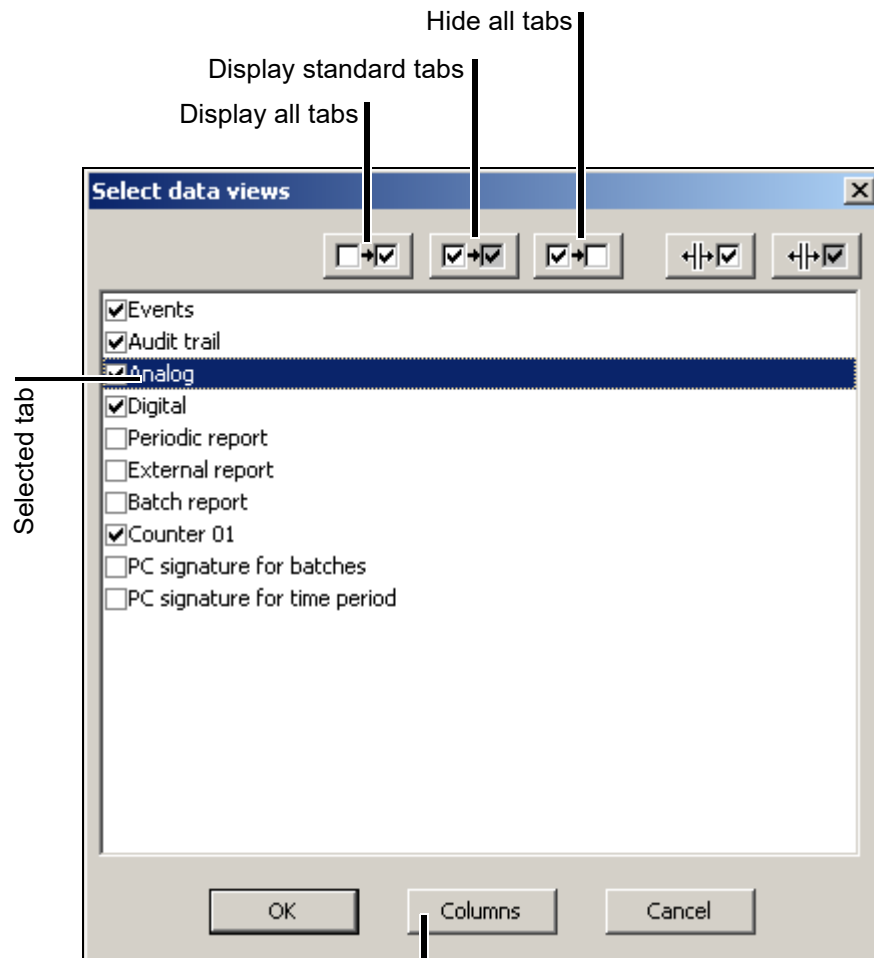


If the button for tab control () is displayed in yellow, at least one of the available tabs is hidden.

## 9 Evaluation - Table area

### Select data views

The **Select data views** dialog window is opened with the "Select data views" function on the pop-up menu of the tab control. Several tabs can be displayed or hidden here.



Opens the **Select columns** dialog window  
⇒ See "Columns", page 54.

Displaying/hiding several tabs:

- \* Activate or deactivate the check box () of the respective tab in the dialog window or the function (→, →, →) with the left mouse button.
- \* Confirm your selection with **Ok**.

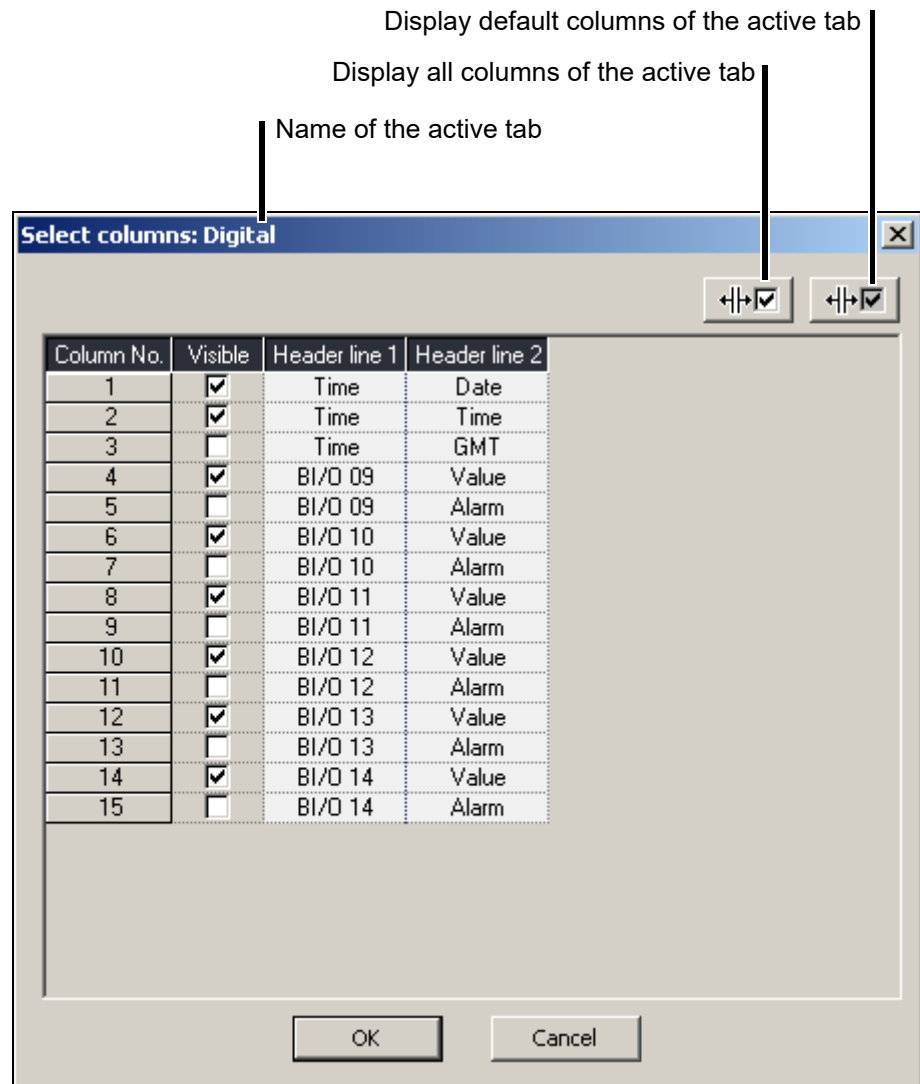


The **Select data views** dialog window can also be opened by double-clicking the left mouse button on a tab button (e.g. EVENTS).

## 9 Evaluation - Table area

### Columns

The Select columns dialog window opens when the **COLUMNS** button is pressed. Several columns of the active tab can be displayed or hidden here.



Display/hide several columns:

- \* Activate or deactivate the check box () of the respective column in the dialog window or the function (, ) with the left mouse button.
- \* Confirm your selection with **OK**.



The **Select columns** dialog window can also be opened by double-clicking the left mouse button in the table area.

## 9.2 Channels

### 9.2.1 Settings for Display in the Graphics Area

<input checked="" type="checkbox"/>					0.0000	100.00	1:4	10:36:05 750 ms (GMT+02:00)	28.320	mBar	P2
<input checked="" type="checkbox"/>					0.0000	100.00	1:4	10:36:05 750 ms (GMT+02:00)	0.2250	%	AE02
<input checked="" type="checkbox"/>					0.0000	100.00	1:4	10:36:05 750 ms (GMT+02:00)	0.2250	%	AE03
<input checked="" type="checkbox"/>					0	1	1:4	10:36:05 750 ms (GMT+02:00)			AL1M2
<input type="checkbox"/>								10:36:05 750 ms (GMT+02:00)			Chargen
<input type="checkbox"/>											Unterschrift
<input type="checkbox"/>											Unterschrift
<input type="checkbox"/>											PC-Intersc
<input type="checkbox"/>											PC-Intersc

Labels in image:  
 - Display (activate) channel  
 - Channel color  
 - Line type  
 - Line width  
 - Y-axis type  
 - Scaling the Y-axis  
 - Limit display of Y-axis from-to  
 - Ratio of the displayed measured values to the actual measured values  
 - Display of the channel unit  
 - Channel name

rte GR1	0.0000	100.00	Druck P2	<input checked="" type="checkbox"/>			22	<input checked="" type="checkbox"/>			27
rte GR1	0.0000	100.00	Analogeingang 02	<input checked="" type="checkbox"/>			22	<input checked="" type="checkbox"/>			1
rte GR1	0.0000	100.00	Analogeingang 03	<input checked="" type="checkbox"/>			25	<input checked="" type="checkbox"/>			1
rte GR1	0	1	Digitaleingang								
rte GR1											
rte GR1											
rte GR1											
rte GR1											

Labels in image:  
 - Group designation  
 - Show additional rows in the table area (scroll rows).  
 - "Auxiliary lines", page 57  
 - Auxiliary line 1  
 - Auxiliary line 2  
 - Channel description  
 - Scale start  
 - Scale end  
 - Show additional columns in the table area (scroll columns)

# 9 Evaluation - Table area

## 9.2.2 The functions of the left mouse button

### Display (activate) channel

Each channel (analog, digital and messages) can be faded in and out. Only channels that have been activated with one  are displayed in the graphics area.

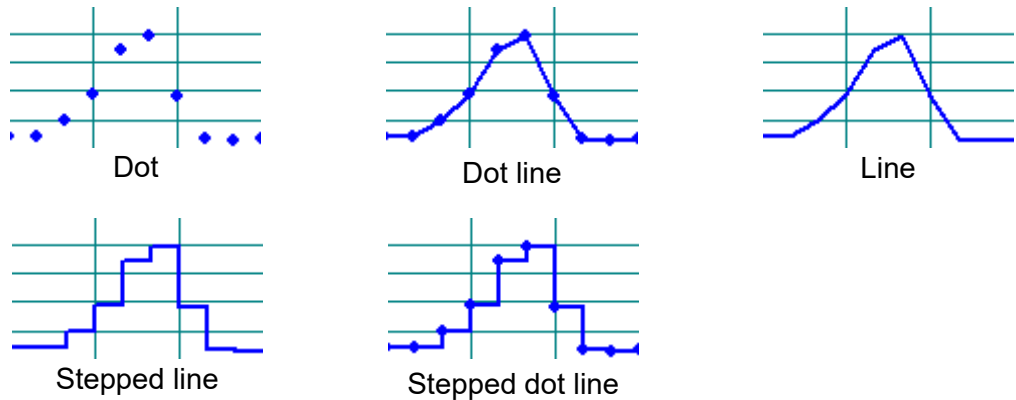
### Channel color

The color in which the measured values and channel-related data are displayed can be selected here. The color selected affects both the graphic as well as the table area.

⇒ "Default settings", page 86

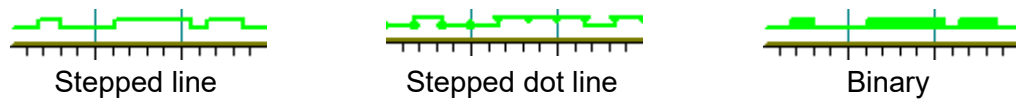
### Line type (analog signals)

The display type (separately for each channel) can be selected here.



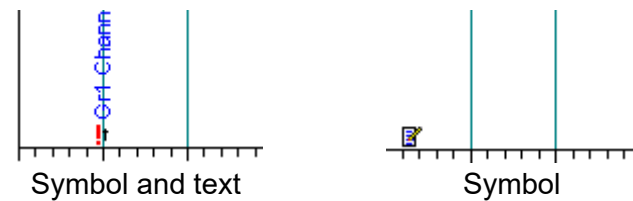
### Line type (digital signals)

The display type can also be changed for digital systems.



### Line type (notifications)

The display type can also be changed for notifications.



### Line width

The line thickness (1 to 4 dots) for display of the curve can be selected here.

### Y-axis type

The axis type for a channel can be selected here. The following are available for selection:

- Main Y-axis  
It must be kept in mind here that there can only always be one channel with one main Y-axis. The Y-axis is located at the left edge of the screen.
- Auxiliary Y-axis  
The auxiliary Y-axes are located to the right of the main Y-axis. The scaling of the data is adjusted to the main Y-axis.

## 9 Evaluation - Table area

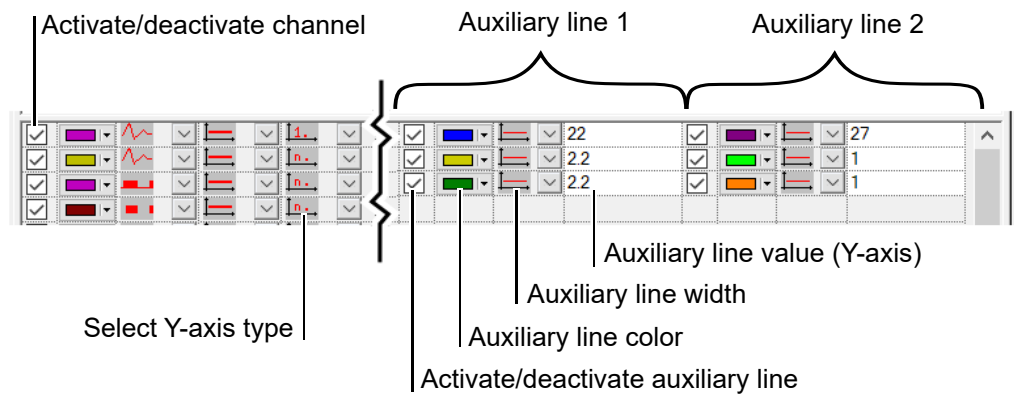
- No Y-axis  
No Y-axis is displayed for the selected channel.

### Scaling of the Y-axis

This setting can be used to limit the area in relation to the Y-axis. The specifications are also in effect when an additional Y-zoom is reset. The limits have to lie within the scale start and scale end.

### Auxiliary lines

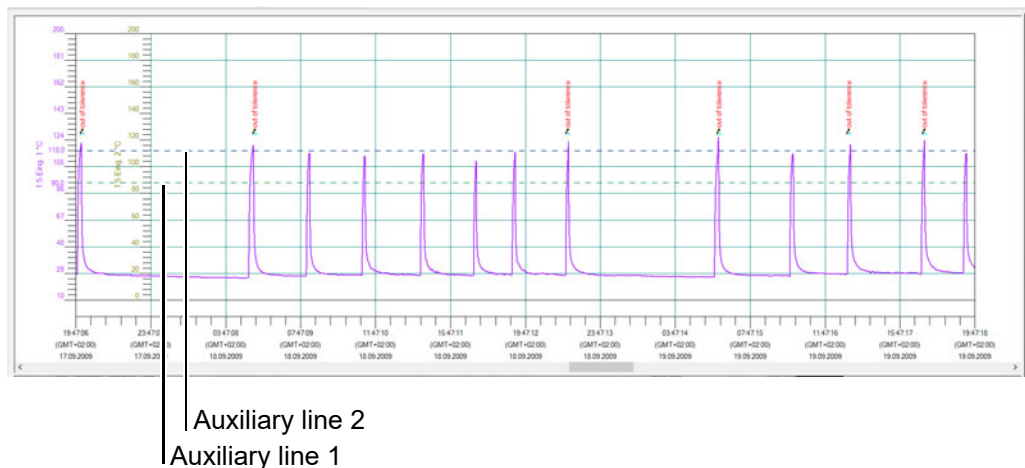
In the graphics area, auxiliary lines are an optical aid. Two horizontal auxiliary lines can be displayed per channel (analog signal). Precondition for displaying an auxiliary line: Activate channel () , select Y-axis type, activate auxiliary line () , set auxiliary line value and, if necessary, its color and width.



### Application example

By activating the two auxiliary lines and entering auxiliary line values for the Y-axis, you can, for example, define optical lower and upper limits in the graphics area. These lines can be used to visually check whether the amplitude value visible in the graphics area lies within the previously defined auxiliary line corridor. The auxiliary line colors and widths are adjustable.

#### Example:



On the JUMO LOGOSCREEN 601 and 700 devices, the auxiliary line settings can also be configured and displayed directly (see operating manual of the respective device).

## 9 Evaluation - Table area

---

### 9.2.3 Displays (cannot be changed directly)

<b>Ratio of the displayed measured values ...</b>	<p>The current display factor is shown here. The factor changes when measured values are "zoomed".</p> <p>Example: Factor = 1:3 --&gt; every third measured value is displayed.</p> <p>The „Maximum number of measured values displayed per channel“ parameter affects the factor.</p> <p>⇒ "Maximum number of measured values displayed per channel", page 50</p>
<b>Time Measurement cursor</b>	<p>At the vertical intersection of the measurement cursor line with the analog signals (graphic area), the current time value is plotted and displayed here.</p>
<b>Measured value Measurement cursor</b>	<p>At the horizontal intersection of the measurement cursor line with the analog signals (graphic area), the current amplitude value is plotted and displayed here.</p>
<b>Display of the channel unit</b>	<p>The channel unit configured on the device is shown here.</p>
<b>Channel name</b>	<p>The channel name configured on the device is shown here.</p>
<b>Group name</b>	<p>The group name configured on the device is shown here.</p>
<b>Scale start</b>	<p>The scale start configured on the device is shown here.</p>
<b>Scale end</b>	<p>The scale end configured on the device is shown here.</p>
<b>Channel description</b>	<p>The channel description configured on the device is shown here.</p>

### 9.2.4 The functions of the right mouse button

<b>Print</b>	<p>The right mouse button is used to initiate the Print dialog window on the <b>CHANNELS</b> tab.</p> <p>⇒ Chapter 9.14 "Print"</p>
--------------	---

## 9.3 Events

All recorded events are listed on this tab.

	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	No.	User ID	Event	Description
1	14.01.2004	10:03:55	+01:00	7	Master	NEW CONFIGURATION	(Interface).
2	14.01.2004	10:14:15	+01:00	8	Master	Transmission process data: start	... Interface.
3	14.01.2004	10:14:47	+01:00	9	Master	Transmission process data: end	... Interface.
4	14.01.2004	10:16:57	+01:00	10	Master	Login	(Key).
5	14.01.2004	10:17:03	+01:00	11	Master	CF card plugged in	

Navigation: Daily report | Events | **Audit trail** | Batches | Pg

System info: x1: 14.01.2004 10:44:09 (GMT+01:00) | y1: 17,3 °C | Ready | User: Admin Password validity: indefinitely

### 9.3.1 The functions of the mouse buttons

The functions of the left and right mouse buttons in the table area of this tab are clearly shown and described here:

⇒ Chapter 9.13 "Functions of the mouse buttons on tabs"

## 9.4 Audit trail

The device audit trail entries are stored in this register. Audit trail entries that affect the PC software components can be evaluated with the PC Audit Trail Manager software.

	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	Event	Status
1	14.01.2004	10:03:48	+01:00	New configuration	
2	14.01.2004	17:08:40	+01:00	Power off	
3	15.01.2004	07:50:00	+01:00	Power on	
4	15.01.2004	09:03:25	+01:00	Gr1 Channel1 High alarm	ON

Navigation: Daily report | Events | **Audit trail** | Batches | Pg

System info: x1: 14.01.2004 19:47:33 (GMT+01:00) | y1: -300,0 °C | Ready | User: Admin Password validity: indefinitely

### 9.4.1 The functions of the mouse buttons

The functions of the left and right mouse buttons in the table area of this tab are clearly shown and described here:

⇒ Chapter 9.13 "Functions of the mouse buttons on tabs"

# 9 Evaluation - Table area

## 9.5 Analog

The measured values of the analog inputs are listed on this tab.

	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	Input 1 °C	Input 2 °C	Input 3 °C	Input 4 °C	Input 5 °C	Input 6 °C
1	14.01.2004	10:03:55	+01:00	100,0	25,8	10,0	8,0	50,0	<<<<<<<<
2	14.01.2004	10:03:56	+01:00	100,0	25,8	10,0	8,0	50,0	10,0
3	14.01.2004	10:03:57	+01:00	100,0	25,8	10,0	8,0	50,0	10,0
4	14.01.2004	10:03:58	+01:00	100,0	25,8	10,0	8,0	50,0	<<<<<<<<

Analog: Group 1     Digital: Group 1 /

x1: 14.01.2004 10:03:48 (GMT+01:00)    y1: 223,6 °C

Ready    User: Admin Password validity: indefinitely

<<<< = Underrange  
 >>>> = Overage

### 9.5.1 The functions of the mouse buttons

The functions of the left and right mouse buttons in the table area of this tab are clearly shown and described here:

⇒ Chapter 9.13 "Functions of the mouse buttons on tabs"

## 9.6 Digital

The measured values of the digital inputs are listed on this tab.

	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	BE 1	BE 2	BE 3
1	14.01.2004	10:03:55	+01:00	0	0	0
2	14.01.2004	10:03:56	+01:00	0	0	0
3	14.01.2004	10:03:57	+01:00	0	0	0
4	14.01.2004	10:03:58	+01:00	0	0	0

Analog: Group 1     Digital: Group 1 /

x1: 14.01.2004 10:03:48 (GMT+01:00)    y1: 223,6 °C

Ready    User: Admin Password validity: indefinitely

### 9.6.1 The functions of the mouse buttons

The functions of the left and right mouse buttons in the table area of this tab are clearly shown and described here:

⇒ Chapter 9.13 "Functions of the mouse buttons on tabs"

## 9.7 Report

	Time period							Minimum		
	From			To			Duration HH:mm:ss	Date dd.MM.yyy y	Time HH:mm:ss	GM HH:mm:ss
	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm				
1	14.01.2004	10:03:44	+01:00	14.01.2004	11:00:00	+01:00	00:56:06	14.01.2004	10:10:58	+01:00
2	14.01.2004	11:00:00	+01:00	14.01.2004	13:00:00	+01:00	02:00:00	14.01.2004	12:23:16	+01:00
3	14.01.2004	13:00:00	+01:00	14.01.2004	15:00:00	+01:00	02:00:00	14.01.2004	13:23:14	+01:00
4	14.01.2004	15:00:00	+01:00	14.01.2004	17:00:00	+01:00	02:00:01	14.01.2004	15:03:05	+01:00

Channels \ Periodic report External report D

x1: 14.01.2004 12:42:31 (GMT+01:00) y1: -300,0 °C

Ready User: Admin Password validity: indefinitely

The different tabs for the reports (statistics) are:

- TOTAL REPORT
- DAILY REPORT
- WEEKLY REPORT
- MONTHLY REPORT
- ANNUAL REPORT
- PERIODIC REPORT
- EXTERNAL REPORT
- BATCH REPORT (not to be confused with batches)

The individually generated reports incl. time period, minimum, maximum and average value are displayed for all channels. The time period is deactivated by default, but can be displayed.

⇒ "Columns", page 54

### 9.7.1 The functions of the mouse buttons

The functions of the left and right mouse buttons in the table area of this tab are clearly shown and described here:

⇒ Chapter 9.13 "Functions of the mouse buttons on tabs"

# 9 Evaluation - Table area

## 9.8 Counter

All recorded counter reports are listed on this tab.

	Time period				Zähler 2
	from		to		
	Date dd.MM.yyyy	Time HH:mm:ss	Date dd.MM.yyyy	Time HH:mm:ss	
1	09.03.2011	11:31:45	09.03.2011	11:33:00	1688,1
2	09.03.2011	11:33:00	09.03.2011	11:36:00	4126,1

Channels Events Audit trail Analog Digital Zähler 1 Zähler 2

x1: 10.03.2011 11:44:44 (GMT+01:00) y1: 0,0 °C

Ready User: Specialist

### 9.8.1 The functions of the mouse buttons

The functions of the left and right mouse buttons in the table area of this tab are clearly shown and described here:

⇒ Chapter 9.13 "Functions of the mouse buttons on tabs"

## 9.9 Batches

All generated batch reports are listed on this tab.

	Time period							Program Name	Client Info
	Batch start			Batch end			Batch duration		
	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	Duration HH:mm:ss		
1	14.01.2004	10:09:50	+01:00	14.01.2004	10:10:24	+01:00	00:00:34	C65	Client-N
2	14.01.2004	10:10:34	+01:00	14.01.2004	10:11:03	+01:00	00:00:29	C65	Client-N
3	15.01.2004	09:03:18	+01:00	15.01.2004	09:03:54	+01:00	00:00:36	C65	Client-N
4	15.01.2004	10:47:21	+01:00	15.01.2004	10:49:35	+01:00	00:02:14	C65	Client-N

Audit trail Batches Signature for batches

x1: 14.01.2004 10:03:48 (GMT+01:00) y1: -300,0 °C

Ready User: Admin Password validity: indefinitely

### 9.9.1 The functions of the mouse buttons

The functions of the left and right mouse buttons in the table area of this tab are clearly shown and described here:

⇒ Chapter 9.13 "Functions of the mouse buttons on tabs"

## 9.10 PC signature for batches

All recorded batch signatures are listed on this tab.

	Time period						No.	Time of signature		
	From			To				Date	Time	GMT
	dd.MM.yyyy	HH:mm:ss	HH:mm	dd.MM.yyyy	HH:mm:ss	HH:mm		dd.MM.yyyy	HH:mm:ss	HH:mm
1	15.01.2004	11:50:51	+01:00	15.01.2004	11:51:27	+01:00	000000 00-000	15.01.2004	11:52:40	+01:00
2	15.01.2004	11:52:55	+01:00	15.01.2004	11:53:21	+01:00	000000	15.01.2004	11:53:34	+01:00

Navigation: Batches | Signature for batches | PC signature f |

System: x1: 14.01.2004 10:03:48 (GMT+01:00) | y1: -300,0 °C | Ready | User: Admin Password validity: indefinitely



There are two tabs:

- **SIGNATURE FOR BATCHES** (signed on the device)

and

- PC signature for batches

⇒ "Batch information/signature", page 71

Both have the identical function.

### 9.10.1 The functions of the mouse buttons

The functions of the left and right mouse buttons in the table area of this tab are clearly shown and described here:

⇒ Chapter 9.13 "Functions of the mouse buttons on tabs"

## 9 Evaluation - Table area

### 9.11 PC signature for time period

Additional signatures are listed on this tab.

	Time period						No.	Time of signature		
	From			To				Date	Time	GMT
	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm		dd.MM.yyyy	HH:mm:ss	HH:mm
1	15.01.2004	09:05:25	+01:00	15.01.2004	12:21:10	+01:00	000000 04-000	15.01.2004	12:21:10	+01:00

Signature for batches    Signature for logg-off

kl: 14.01.2004 13:22:32 (GMT+01:00)    ly1: -300,0 °C

Ready    User: Admin Password validity: indefinitely



There are two tabs:

- **SIGNATURE FOR LOG-OUT** (log-out from the device)
- and
- **PC SIGNATURE FOR TIME PERIOD** (signed within the PCA3000)

⇒ "Sign time period", page 48

Both have the identical function.

#### 9.11.1 The functions of the mouse buttons

The functions of the left and right mouse buttons in the table area of this tab are clearly shown and described here:

⇒ Chapter 9.13 "Functions of the mouse buttons on tabs"

### 9.12 Diagram note

All of the diagram notes created in the graphic area are listed on this tab.

	Time		Group	Note
	Date dd.MM.yyyy	Time HH:mm:ss		
1	11.06.2014	13:28:50	All groups	Test

Channels    Events    Audit trail    Analog    Digital    **Diagram note**

kl: 11.06.2014 12:04:52 (GMT+02:00)    ly1: 18,0 %

Ready    User: Specialist

#### 9.12.1 The functions of the mouse buttons

The functions of the left and right mouse buttons in the table area of this tab are clearly shown and described here:

⇒ Chapter 9.13 "Functions of the mouse buttons on tabs"

### 9.13 Functions of the mouse buttons on tabs

The functions of the left mouse button in the table area of all tabs are the same. The functions of the right mouse button are different within the tabs.

Overview of the functions of the mouse buttons:

⇒ Chapter 9.13.1 "The functions of the left mouse button on tabs"

⇒ Chapter 9.13.2 "The functions of the right mouse button on tabs"



The functions of the mouse buttons on the **CHANNELS** tab are different from all other available channels and are not included in this chapter.

Functions of the mouse buttons on the **CHANNELS** tab:

⇒ Chapter 9.2 "Channels"

#### 9.13.1 The functions of the left mouse button on tabs

Functions of the left mouse button	Tab									
	Events	Audit trail	Analog	Digital	Report	Counter	Batches	PC signature for batches	PC signature for time period	Diagram note
⇒ "Change column width", page 66										x
⇒ "Change row height", page 66										x
⇒ "Column width/row height", page 66										x
⇒ "Mark section", page 67										x
⇒ "Mark column", page 67										x
⇒ "Mark row", page 67										x
⇒ "Additional keys", page 67										x
⇒ "Select columns", page 67										x

## 9 Evaluation - Table area

---

The individual functions of the left mouse button on tabs are described below.

### Change column width

- \* Position the mouse pointer to the right of the column header. The mouse pointer becomes a double arrow.

Date	Time
dd.MM.yyyy	HH:mm:ss

- \* Press and hold the left mouse button.
- \* Drag the borderline to the width you want.

### Change row height

- \* Position the mouse pointer below the row header. The mouse pointer becomes a double arrow

1	09.09.2003
2	09.09.2003

- \* Press and hold the left mouse button and drag the borderline to the height you want.

### Column width/ row height



Columns or rows can be made so small that they are no longer visible.

**Example:** On the **ANALOG: GROUP 1** tab, the column of the measured values of channel 1 has *disappeared* by reducing the size.

GMT	Input 2
HH:mm	°C
+01:00	25,8

- \* Position the mouse pointer in the column to the right of the missing column (channel 2 in the example).

GMT	Input 2
HH:mm	↓ °C
+01:00	25,8

- \* Move the mouse pointer to the left until it has the form below.

GMT	Input 2
HH:mm	← °C
+01:00	25,8

- \* Hold left mouse button down and enlarge the missing column again.

GMT	Input 1	Input 2	In
HH:mm	°C	°C	
+01:00	100,0	25,8	

## 9 Evaluation - Table area

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### Mark section

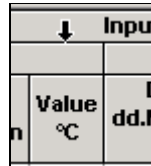
The left mouse button can also be used to mark a table section. The marked sections can be exported in text format or as an HTML file by right-clicking the "Export" function.

⇒ "Export", page 73

- \* Position the mouse pointer in the table area.
- \* Press and hold the left mouse button and mark the table section you want by dragging the mouse pointer.

### Mark column

- \* Left-click in the column header.



The diagram shows a table with two columns. The top row contains the headers 'Input' and 'dd.M'. A mouse cursor with a downward arrow is positioned over the 'Input' header. The second row contains the values 'Value °C' and 'dd.M'. The first column is partially visible with the letter 'n' at the bottom.

	Input	dd.M
n	Value °C	dd.M

- \* Press the left mouse button.

### Mark row

- \* Left-click in the row header (→ 1)

### Additional keys

Additional marking options appear by pressing the key combination Shift+left mouse button and Ctrl+left mouse button.

### Select columns

Double-click the left mouse button in the table area, the **Select columns** dialog window opens in a column or row header. This function can be used to display or hide individual columns of the active tab.

⇒ "Columns", page 54

## 9 Evaluation - Table area

### 9.13.2 The functions of the right mouse button on tabs

Functions of the right mouse button	Tab									
	Events	Audit trail	Analog	Digital	Report	Counter	Batches	PC signature for batches	PC signature for time period	Diagram note
⇒ "Select columns", page 69	x									
⇒ "Scroll diagram to data set", page 69	x	x	x	x						
⇒ "Synchronize data sets with diagram", page 69	x	x	x	x						
⇒ "Zoom diagram to the time period", page 69					x	x		x	x	x
⇒ "Scroll diagram to time period", page 69					x	x		x	x	x
⇒ "Synchronize time period with diagram", page 69					x	x		x	x	x
⇒ "Zoom diagram to batch area", page 69							x			
⇒ "Scroll diagram to batch area", page 69							x			
⇒ "Synchronize batch area with diagram", page 69							x			
⇒ "Filter data sets", page 69	x	x	x	x		x				
⇒ "Filter signatures", page 70								x	x	
⇒ "Search for batches", page 71							x			
⇒ "Continue search for batch", page 71							x			
⇒ "Filter batch", page 71							x			
⇒ "Batch information/signature", page 71							x			
⇒ "Filter diagram note", page 72										x
⇒ "Edit diagram note", page 72										x
⇒ "Mark all", page 72	x									
⇒ "Copy", page 72	x									
⇒ "Export", page 73	x									
⇒ "Print > Print", page 74	x									
⇒ "Adjust column width and row height", page 73	x									
⇒ "Adjust column width", page 73	x									
⇒ "Adjust row height", page 73	x									

## 9 Evaluation - Table area

---


The individual functions of the right mouse button on tabs are described below.

<b>Select columns</b>	<p>Opens the <b>Select columns</b> dialog window. This function can be used to display or hide individual columns of the active tab.</p> <p>⇒ "Columns", page 54</p>
<b>Scroll diagram to data set</b>	<p>If the time of the event is not within the visible area of the diagram, for example, after zooming, "Scroll data set" can be used to shift the curves so that the time (or the next possible one) is aligned with the left edge of the window.</p>
<b>Synchronize data sets with diagram</b>	<p>The entry that matches the displayed measured values is searched for and activated in the table area. The time shown at the left edge of the diagram window is authoritative in this case.</p>
<b>Zoom diagram to the time period</b>	<p>The measured values of the selected report are zoomed in the diagram to the next displayable period and displayed graphically.</p>
<b>Scroll diagram to time period</b>	<p>If the start time of the report is not within the visible time area, for example, after zooming, "Scroll time period" is used to shift the curves so that the start time (or the next possible one) is aligned with the left edge of the window.</p>
<b>Synchronize time period with diagram</b>	<p>The entry that matches the displayed measured values is searched for and activated in the table area. The time shown at the left edge of the window is authoritative in this case.</p>
<b>Zoom diagram to batch area</b>	<p>The measured values of the selected batch are zoomed to the next displayable area and displayed graphically.</p>
<b>Scroll diagram to batch area</b>	<p>If the start time of the batch data is not within the visible area, for example, after zooming, "Scroll batch area" is used to shift the curves so that the start time (or the next possible one) is aligned with the left edge of the window.</p>
<b>Synchronize batch area with diagram</b>	<p>The entry that matches the displayed measured values is searched for and activated in the table area. The time shown at the left edge of the window is authoritative in this case.</p>
<b>Filter data sets</b>	<p>"Filter data sets" can be used to reduce the list of the displayed events.</p> <p>If, e.g. the "System messages" check box is deactivated (<input type="checkbox"/>) , the "New configuration" and "Power on" and "Power off" messages are no longer displayed.</p>

## 9 Evaluation - Table area

---

The header indicates that the current display is a filtered selection.

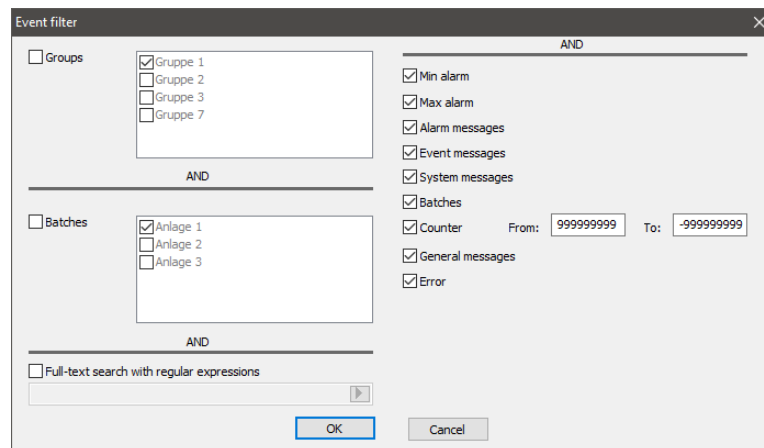
	<b>Date</b> <b>dd.MM.yyyy</b>
4	15.01.2004

The individual filter parameters are linked by OR and also linked by AND to groups, batches and the full-text search.

Filtering is reset when:

- the graphical evaluation is closed or
- all criteria are checked.

Example of a filter setting




Only the event types "Low alarm" or "High alarm" or "Alarm messages" are displayed.

### Filter signatures

"Filter signatures" can be used to reduce the list of the displayed signatures. Only those signatures are displayed that match the selection criteria specified.

The header indicates that the current display is a filtered selection.

	<b>Date</b> <b>dd.MM.yyyy</b>
1	15.01.2004

All activated filter criteria are linked by AND and also linked by AND to the full-text search.

## 9 Evaluation - Table area

---

### Search for batches

Opens the **Search for batches** dialog window if the archive file contains batch data.

Use the check box () to activate the search criteria you want. After the **SEARCH** button is pressed, the respective batch data is automatically displayed across the entire width of the X-axis.

An active "Full-text search with regular expressions" is also possible.

⇒ "Search for batches", page 46

### Continue search for batch

The "Continue search for batch" function, which is only available if the "Search for batch" function has been carried out, repeats a defined search for specific batch reports.

### Filter batch

"Filter batch" can be used to reduce the list of the available batches.

Before a filter can be entered, it must be activated ()

The header indicates that the current display is a filtered selection.



		
	<b>Batch start</b>	
	<b>Date</b>	<b>Time</b>

The batch filters work in relation to the individual columns of the batch list, i.e. one filter criterion can be defined per column. A batch is only displayed when all activated column filter criteria are met.

All activated column filter are linked by AND and also linked by AND to the full-text search.

### Batch information/signature

The batch information and the signature of the selected batch are displayed in this dialog window if the archive file contains batch data.

If a batch is not yet signed, it can be signed now by pressing the **SIGN** button. When the batch is signed this way, it is recorded on the "PC signature for batches" tab.

Recipe data that has been entered can also be viewed.

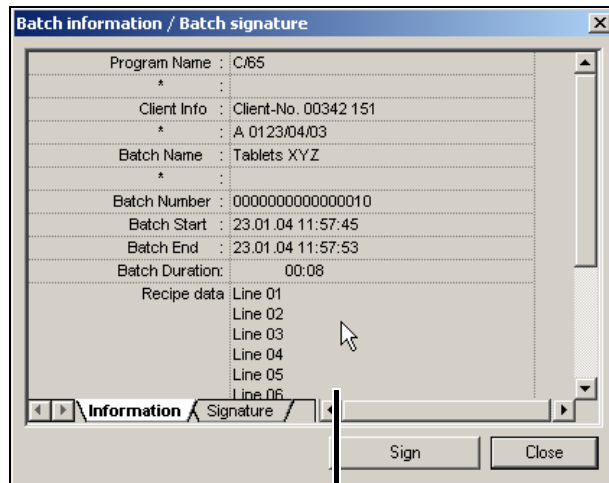
\* Double-click with the left mouse button in the field that contains the recipe data.

The data is then displayed in a separate window which makes it easier to see.

Recipe data cannot be changed. It can be sent to the recorder with the setup program for a batch that has not yet been completed. After the batch end, the recipe data is automatically deleted - it is only available for a batch report.

## 9 Evaluation - Table area

---




Click here to view  
recipe data

### Filter diagram note

Opens the **Filter diagram note** dialog window. The filter is used to reduce the list of the diagram notes displayed. Only those entries are displayed that match the selection criteria specified.

The header indicates that the current display is a filtered selection.

	
	<b>Date</b> <b>dd.MM.yyyy</b>
1	15.01.2004

All activated filter criteria are linked by AND and also linked by AND to the full-text search.

Filtering is reset when the graphical evaluation is closed.

### Edit diagram note

Opens the **Edit diagram notes** dialog window. In the "Diagram notes" field, the respective diagram note can be selected and then edited in the "Text" field when this function was activated when the diagram note was created.

⇒ "Enter diagram note and position it in the diagram", page 44

### Mark all

All table data is marked.

### Copy

The marked data is copied to the Windows clipboard and can thus be imported, e.g. directly into spreadsheet programs (Excel or similar).

## 9 Evaluation - Table area

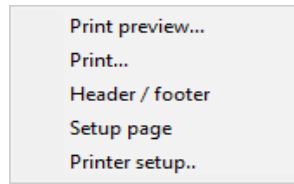
---

<b>Export</b>	<p>The "Export" function can be used to save data in text format (*.txt) or HTML format (*.htm) and then process it further. Measured values are always exported row by row. If a column is marked, the measured values of the other columns are also exported.</p> <p>⇒ Chapter 9.15 "Data export"</p>
<b>Print</b>	<p>⇒ Chapter 9.14 "Print"</p>
<b>Adjust column width and row height</b>	<p>The column width and row height - starting from the current cell - are automatically adjusted to the initial width and height.</p>
<b>Adjust column width</b>	<p>The column width is automatically adjusted to the initial width.</p>
<b>Adjust row height</b>	<p>The row height is automatically adjusted to the initial heights.</p>

# 9 Evaluation - Table area

## 9.14 Print

After the "Print" function is initiated, a submenu with more functions appears.



### Print > Print preview

The "Print preview" function is used to show what a document looks like if printed. Depending on the tab selected, there are other filter functions available for the print preview of the data.

### Print > Print

Starts the printing process. Depending on the tab selected, there are other filter functions available for the printing process.



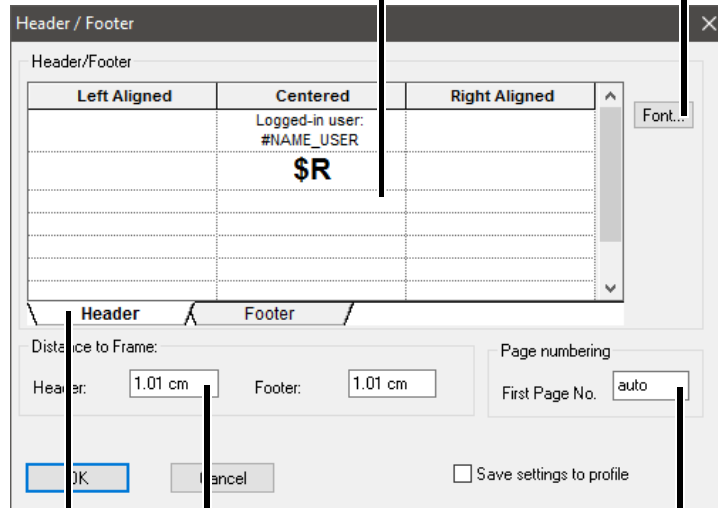
If the display is zoomed, the print-out can be several pages.

### Print > Header / footer

Headers and footers can be defined here. Character strings and device-specific variables are available.

Cells for text and control elements.  
To insert a page break,  
press Ctrl+Enter  
on the PC keyboard.

Select font/font size



Specify start page number

Set paper margin

Toggle between header and footer.

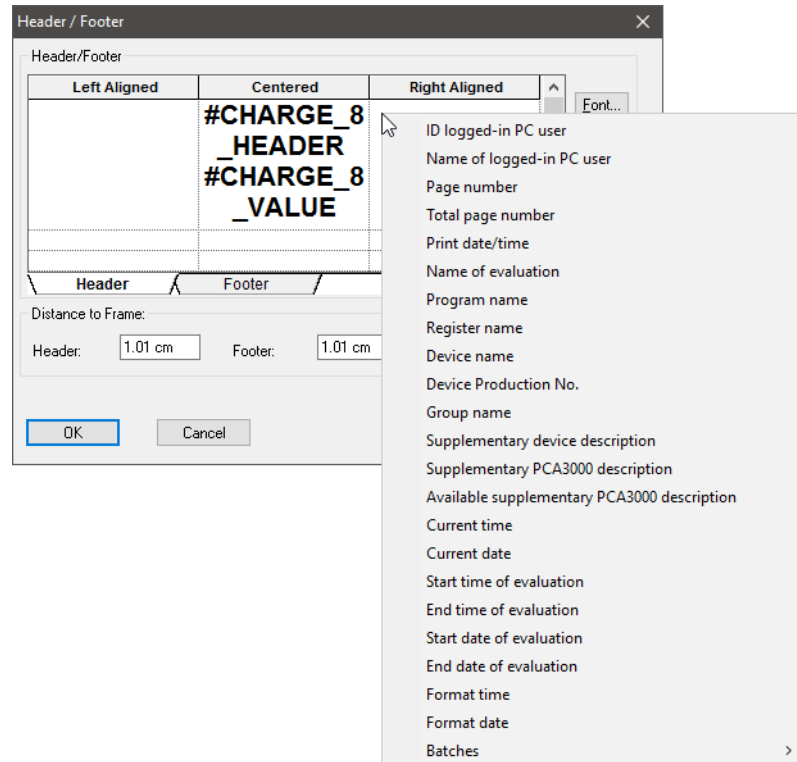
## 9 Evaluation - Table area

### Device-specific variables

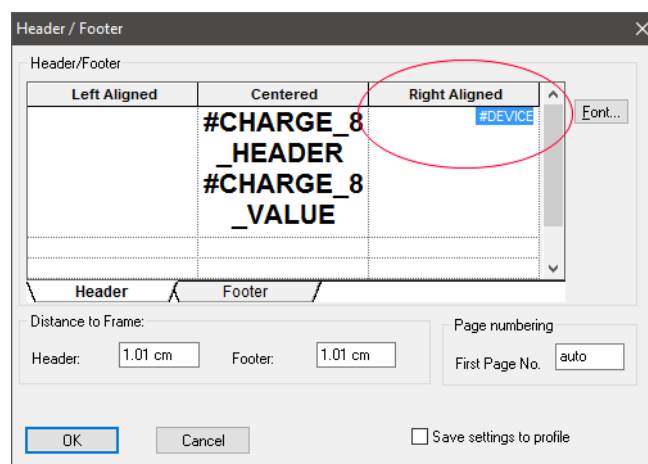
Device-specific variables are preceded by a "\$" or a "#" sign.

The device-specific variables can be entered directly or selected from a list.

- \* Position the mouse pointer in the cell you want for text.
- \* Press the right mouse button.
- \* Position the mouse pointer on the parameter you want and select it by left-clicking.



The device-specific variable is displayed in the cell you want for text and replaced in the print-out by the respective content.



## 9 Evaluation - Table area

---

The following device-specific variables are available:

Parameter	Device-specific variable
Logged in PC user	#USER
Name of logged in PC user	#NAME_USER
Page number	\$P
Total number of pages	\$N
Print date/time	\$D
Print date (without time)	\$D{%d.%m.%y}
Name of the evaluation	\$F
Program name	\$A
Tab name	\$R
Device name	#DEVICE
Device production no.	#FABNR
Group name	#GROUP
Additional description device	#DESCRIPTION
Additional description PCA3000	#DESCR_PCA
Existing additional description PCA3000	#DESCR_SEC_PCA
Current time	#TIME
Current date	#DATE
Start time of evaluation	#START_TIME
End time of the evaluation	#STOP_TIME
Start date of the evaluation	#START_DATE
End date of the evaluation	#STOP_DATE
Time format	#EINH_TIME
Date format	#EINH_DATE



If batch data is accessed, there are other device-specific variables available.

⇒ "Device-specific variables within batches", page 77

## 9 Evaluation - Table area

**Device-specific variables within batches**      The following additional device-specific variables can also be found within the "Batches" tab:

Parameter	Device-specific variable	
	Column name	Column value
Batch start date	#CHARGE_1_HEADER	#CHARGE_1_VALUE
Batch start time	#CHARGE_2_HEADER	#CHARGE_2_VALUE
Batch start GMT	#CHARGE_3_HEADER	#CHARGE_3_VALUE
Batch end date	#CHARGE_4_HEADER	#CHARGE_4_VALUE
Batch end time	#CHARGE_5_HEADER	#CHARGE_5_VALUE
Batch end GMT	#CHARGE_6_HEADER	#CHARGE_6_VALUE
Batch duration time duration	#CHARGE_7_HEADER	#CHARGE_7_VALUE
Batch type no.	#CHARGE_8_HEADER	#CHARGE_8_VALUE
Batch type name	#CHARGE_9_HEADER	#CHARGE_9_VALUE
Program name	#CHARGE_10_HEADER	#CHARGE_10_VALUE
	#CHARGE_11_HEADER	#CHARGE_11_VALUE
Customer info	#CHARGE_12_HEADER	#CHARGE_12_VALUE
	#CHARGE_13_HEADER	#CHARGE_13_VALUE
Batch name	#CHARGE_14_HEADER	#CHARGE_14_VALUE
	#CHARGE_15_HEADER	#CHARGE_15_VALUE
Batch number	#CHARGE_16_HEADER	#CHARGE_16_VALUE
Batch start	#CHARGE_17_HEADER	#CHARGE_17_VALUE
Batch end	#CHARGE_18_HEADER	#CHARGE_18_VALUE
Batch duration	#CHARGE_19_HEADER	#CHARGE_19_VALUE
Recipe	#CHARGE_20_HEADER	#CHARGE_20_VALUE
No.	#CHARGE_21_HEADER	#CHARGE_21_VALUE
Time of the signature date	#CHARGE_22_HEADER	#CHARGE_22_VALUE
Time of the signature time	#CHARGE_23_HEADER	#CHARGE_23_VALUE
Time of the signature GMT	#CHARGE_24_HEADER	#CHARGE_24_VALUE
Location	#CHARGE_25_HEADER	#CHARGE_25_VALUE
Scope of application	#CHARGE_26_HEADER	#CHARGE_26_VALUE
Signature	#CHARGE_27_HEADER	#CHARGE_27_VALUE
Signature	#CHARGE_28_HEADER	#CHARGE_28_VALUE
Name of signatory	#CHARGE_29_HEADER	#CHARGE_29_VALUE
User list ID	#CHARGE_30_HEADER	#CHARGE_30_VALUE

## 9 Evaluation - Table area

### Print > Page setup

The "Page setup" function GMT provides additional settings for the optical appearance of the print-out.


### Print > Printer setup

Opens the **Printer setup** dialog window. Various print options (e.g. paper size) and printer properties (e.g. print quality) can be changed here.

## 9.15 Data export

This chapter uses an example to describe data export via a text file to Excel in more detail.

### Export via text file

- \* Open evaluation with **ARCHIVE** → **OPEN** or by pressing the  button.
- \* Activate the **ANALOG: GROUP 1** tab (or only **ANALOG**) by left-clicking.

	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	Input 1 °C	Input 2 °C	Input 3 °C	Input 4 °C	Input 5 °C	Input 6 °C
1	14.01.2004	10:03:55	+01:00	100,0	25,8	10,0	8,0	50,0	<<<<<<<<
2	14.01.2004	10:03:56	+01:00	100,0	25,8	10,0	8,0	50,0	10,0
3	14.01.2004	10:03:57	+01:00	100,0	25,8	10,0	8,0	50,0	10,0
4	14.01.2004	10:03:58	+01:00	100,0	25,8	10,0	8,0	50,0	<<<<<<<<
5	14.01.2004	10:03:59	+01:00	99,9	25,8	10,0	8,0	50,0	10,0
6	14.01.2004	10:04:00	+01:00	99,9	25,8	10,0	8,0	50,0	10,0

Analog: Group 1     Digital: Group 1

x1: 14.01.2004 10:03:48 (GMT+01:00)    y1: -83,1 °C

Ready    User: Admin Password validity: indefinitely

Row numbering

- \* Position the mouse pointer in the table area.
- \* Press and hold the left mouse button and mark the table section you want by dragging the mouse pointer.

	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	Input 1 °C	Input 2 °C	Input 3 °C	Input 4 °C	Input 5 °C	Input 6 °C
1	14.01.2004	10:03:55	+01:00	100,0	25,8	10,0	8,0	50,0	<<<<<<<<
2	14.01.2004	10:03:56	+01:00	100,0	25,8	10,0	8,0	50,0	10,0
3	14.01.2004	10:03:57	+01:00	100,0	25,8	10,0	8,0	50,0	10,0
4	14.01.2004	10:03:58	+01:00	100,0	25,8	10,0	8,0	50,0	<<<<<<<<
5	14.01.2004	10:03:59	+01:00	99,9	25,8	10,0	8,0	50,0	10,0
6	14.01.2004	10:04:00	+01:00	99,9	25,8	10,0	8,0	50,0	10,0

Analog: Group 1     Digital: Group 1

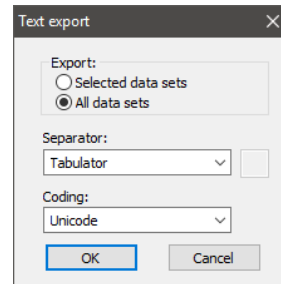
x1: 14.01.2004 10:03:48 (GMT+01:00)    y1: -83,1 °C

Ready    User: Admin Password validity: indefinitely

- \* Right-click in the marked area.
- \* Select the "Export" > "Text file (\*.txt)" function in the pop-up menu

## 9 Evaluation - Table area

You can define the selection of data to be exported and how it is displayed/formatted in the subsequent word processing programs in the **Text export** dialog window.



When you confirm with the **OK** button, the **Save as** dialog window opens. The file name and the path for the text file are defined here.

After the file is saved, it can be opened in Excel.

### Further processing with Excel


- \* Start Excel (e.g. Excel 2007).
- \* Click **OPEN** in the **FILE** menu.
- \* Change the file type to "Text files".
- \* Open the file previously created in PCA3000.

Excel automatically starts the **text conversion wizard** to convert the data to Excel format. The **text conversion wizard** takes you to the display you want in three steps.

The data of the text file is now available for display as a graphic or calculation.

### Export via clipboard

The right mouse button can also be used to import data to Excel within the various tables of the PCA Evaluation Software.

- \* Open evaluation in the **ARCHIVE > OPEN** menu or by pressing the  button.
- \* Activate the **ANALOG: GROUP 1** tab (or only **ANALOG**) by left-clicking.

	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	Input 1 °C	Input 2 °C	Input 3 °C	Input 4 °C	Input 5 °C	Input 6 °C
1	14.01.2004	10:03:55	+01:00	100,0	25,8	10,0	8,0	50,0	<<<<<<<<<
2	14.01.2004	10:03:56	+01:00	100,0	25,8	10,0	8,0	50,0	10,0
3	14.01.2004	10:03:57	+01:00	100,0	25,8	10,0	8,0	50,0	10,0
4	14.01.2004	10:03:58	+01:00	100,0	25,8	10,0	8,0	50,0	<<<<<<<<
5	14.01.2004	10:03:59	+01:00	99,9	25,8	10,0	8,0	50,0	10,0
6	14.01.2004	10:04:00	+01:00	99,9	25,8	10,0	8,0	50,0	10,0

Analogue: Group 1 / Digital: Group 1

xl: 14.01.2004 10:03:48 (GMT+01:00)    yl: -83,1 °C

Ready    User: Admin    Password validity: indefinitely

- \* Position the mouse pointer in the table area.
- \* Press and hold the left mouse button and mark the table section you want by dragging the mouse pointer.
- \* Right-click in the marked area
- \* Select the "Copy" function in the pop-up menu

## 9 Evaluation - Table area

---

The data is now on the Windows clipboard and can be inserted in an open Excel worksheet.



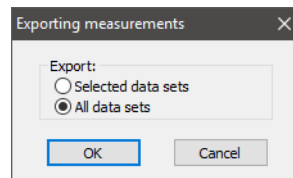
When exporting via the clipboard, the data is available directly in number format. It is not necessary to convert it using the Excel text conversion wizard.

### Export via HTML file

It is also possible to export data from the table area as an HTML file and display it in an Internet browser.

- \* Position the mouse pointer in the table area of an active tab.
- \* Press and hold the left mouse button and mark the table section you want by dragging the mouse pointer.
- \* Right-click in the marked area
- \* Select the "Export" > "HTML file (\*.htm)" function in the pop-up menu

You can define the selection of the data to be exported in the **Export measurements** dialog window.



When you confirm with the **Ok** button, the **Save as** dialog window opens. The file name and the path for the text file are defined here.

The file can then be opened in an Internet browser.

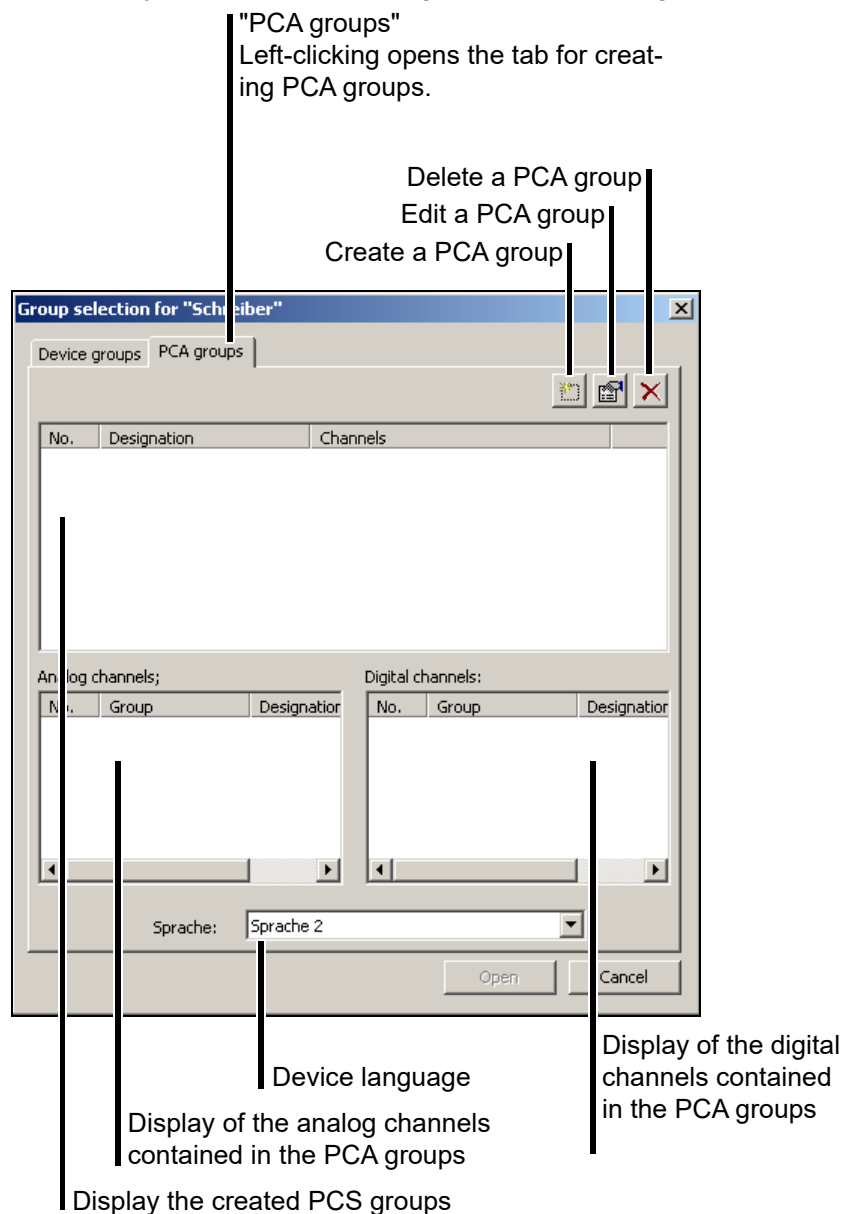
## 10.1 Archive

### Open




This function displays measurement data from an archive graphically. The functionality was already described in Chapter 6.3 "Opening an archive".

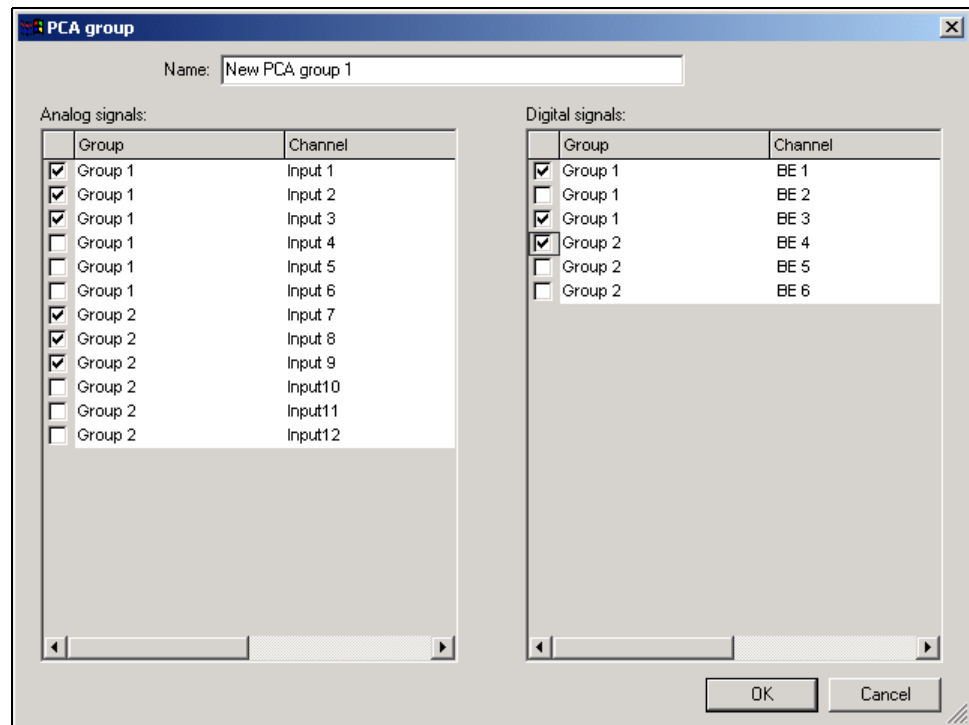
After the archive to be opened is selected, the group still has to be selected before the data is displayed graphically. In addition to the available device groups (created in the paperless recorder), what are known as PCA groups can be created and selected. They can be used to reorganize the device groups.



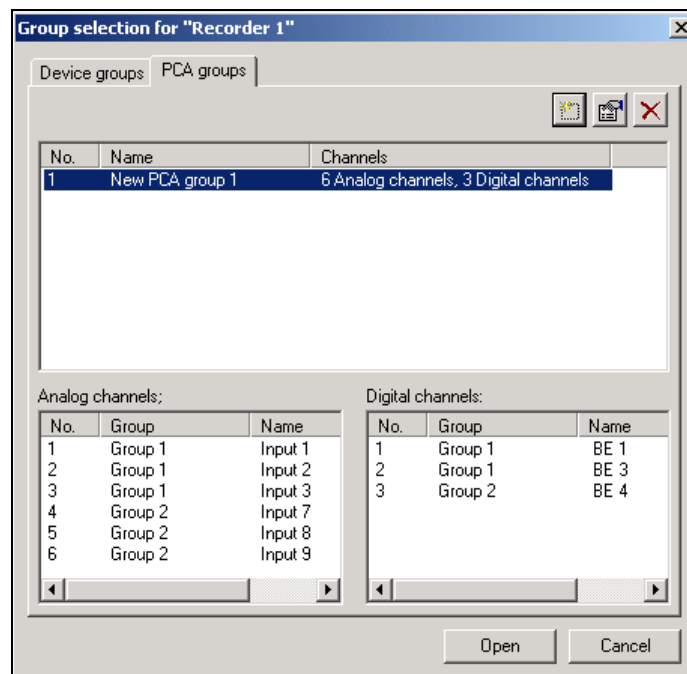
For devices with integrated language management or several integrated languages, it is possible to select the language and thus activate different channel names and descriptions.

## 10 Menu functions & toolbar

The  button can be used to create a new *virtual* PCA group.



All of the channels activated via the check boxes () are merged in the PCA group after confirming with the **OK** button.



The data is displayed graphically when the **OPEN** button is clicked.

# 10 Menu functions & toolbar

## Open batch



This function also displays measurement data from an archive graphically. Unlike the "Open" function, not all of the data in an archive is displayed here, just the data of a certain batch.

## Open electronic signature



This function also displays measurement data from an archive graphically. Unlike the "Open" function, not all of the data of an archive is displayed here, just the data provided for a signature.

## Open further group



The function is only available if an archive has already been opened, it contains several groups and data is displayed in the foreground. The function displays data of groups in the current archive graphically without having to use the dialog to select an archive.

## Close

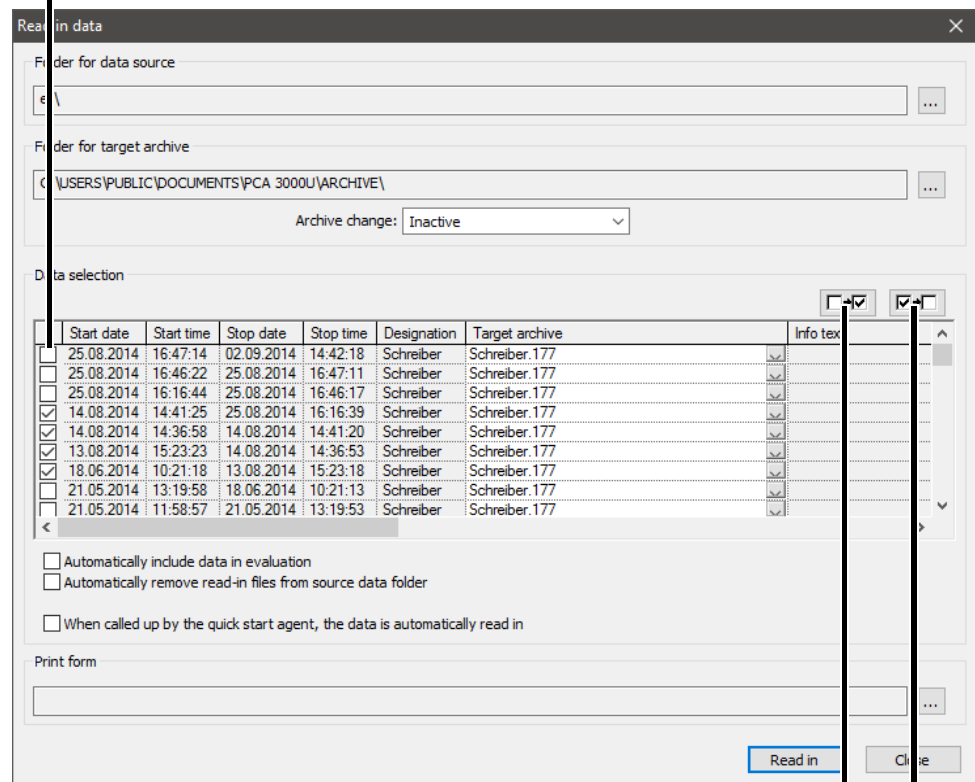
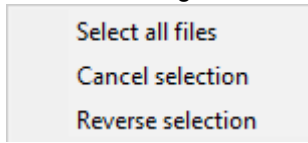
Closes a graphical display but not the PCA3000 program.

## Reading in data



This function reads in the measurement data from a CompactFlash memory card or a USB flash drive to an archive. The functionality is also described in Chapter 6.2 "Reading in data".

All activated archives are read in. Position the mouse pointer in the selection of the available archives and right-click. Additional selection options for activating and deactivating archive data then appear.



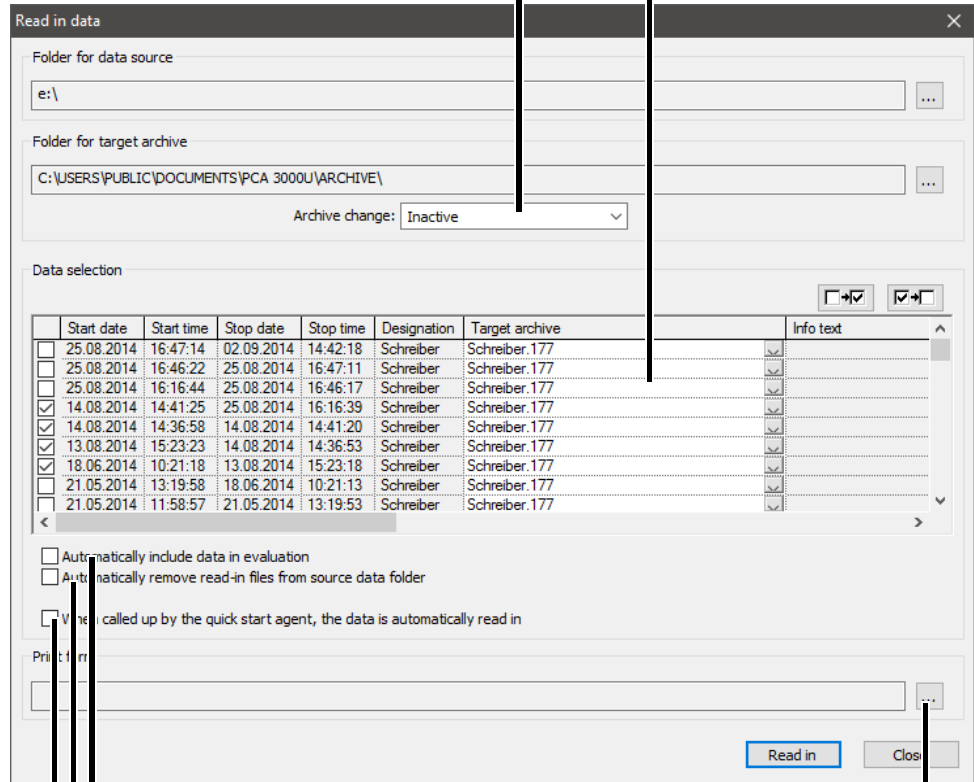
Select all files

Cancel selection

# 10 Menu functions & toolbar

The file name can be changed by left-clicking in the "Target archive" column. This makes it possible to save specific archives to a separate file.

If the parameter is not set to inactive, the archive is distributed across several files and the an extension is automatically added to the file name (e.g. "M200910" is added for October 2009).



: Saves time when opening and displaying an archive.

: Data is deleted after being read in from the source folder.

: If the QuickStart agent is active, PCA3000 starts automatically and the data is archived.

⇒ Chapter 3.2 "QuickStart agent"


Selection of a form for automatic form output after archiving. An active print form is deleted when the "Cancel" button is pressed in the selection dialog.

⇒ Chapter 11 "Managing forms"

## 10 Menu functions & toolbar

---

The goal of this type of archiving is to make mapping between the CF/USB data files and the archive files as easy as possible. The following process is to be used to define the target archive:

- Device ID and configuration ID of all data files are defined in the path "Folder for data source". There is only one device ID per device. There are configuration IDs for every new configuration (change in the setting) for any device.
- Search 1:  
All existing archives are searched for a matching device and configuration ID in the "Folder for target archive" path and then listed. The files found are provided for selection in the "Target archive" field (click on ). The first archive found is automatically entered in the "Target archive" field.
- Search 2:  
The search is the same as search 1 except that only one archive with a matching device ID is searched. The second search is only started if an archive is not found in the first search.
- If a matching archive is not found in either of the searches, the "Target archive" field remains blank. An archive name can also be entered manually by left-clicking in this field.
- If an archive name has been entered automatically, it can be overwritten manually.
- If the target archive field is blank, the archive name is queried when it is read in.
- The settings for "Folder for data source" and "Folder for target archive" are saved after read in and automatically entered again the next time the function is initiated.

### Save data



This function saves measurement data from an archive to a separate file. This file can be passed on, e.g. for testing purposes. The functionality was already described in Chapter 6.4 "Saving data".

### Save data as



This function saves measurement data from an archive to a separate file with additional protection options. This file can be passed on, e.g. for testing purposes. The functionality was already described in Chapter 6.4 "Saving data".

### Print preview



The "Print preview" function is used to show what a document looks like if printed.

### Printer setup

Opens the **Printer setup** dialog window. Various print options (e.g. paper size) and printer properties (e.g. print quality) can be changed here.

### Print



Starts the printing process. Depending on the tab selected, there are other filter functions available for the printing process.

# 10 Menu functions & toolbar

**Print with form** ⇒ Chapter 11 "Managing forms"



**Default settings** Changes to the default settings are made here. The changes only become active after the PCA3000 software is restarted.

## General information

The following settings are made on the "Globals" tab:

- "Program language"
- "Font type for tables and diagrams"
- "Font size for tables"
- "Allow movement of diagram notes" as a default setting

⇒ See "Moving a diagram note", page 45.

## Paths for data

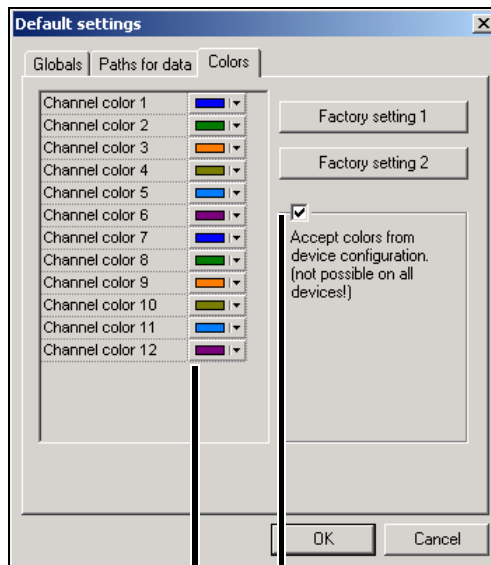
The default directories (paths) for the archive and evaluation directory, the export data and the print forms are defined on the "Paths for data" tab.

⇒ Chapter 6.5 "Archive and evaluation directory"

## Colors

The color assignments for the individual channels within the graphic can be defined on the Colors tab. 12 colors can be specified. The color sequence repeats if more than 12 channels are displayed, e.g. through external channels or binary inputs. The colors can be subsequently changed within the graphic.

⇒ Chapter 9.2 "Channels"



If this check box  is not active, the color setting on the left applies.

## 10.2 Edit

### Reset evaluation

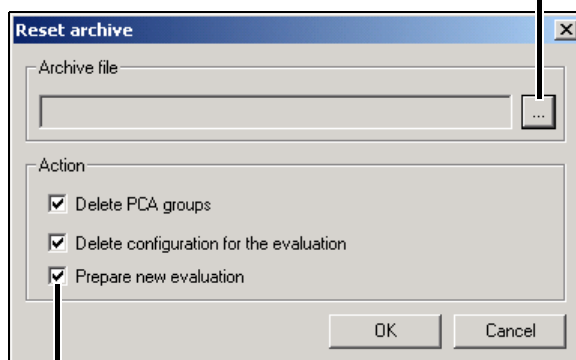
This function deletes all files in the evaluation directory. The files are automatically generated again if the data are displayed, e.g. via **ARCHIVE > OPEN**.



This function is useful for *cleaning up* the hard disk drive from time to time.

### Reset archive

The archive to be reset is selected here.  
**Caution:**  
Close all graphical displays beforehand!



Options for resetting an archive.

If an option has not been activated, only the files belonging to the selected archive are deleted in the evaluation directory. They are then regenerated when the archive is displayed again graphically.

#### Delete PCA groups and supplementary description

If this option is activated, PCA groups (created within PCA3000 when an archive is opened) and the "supplementary description" are deleted. No measurement data is lost.

⇒ See "Open", page 81.

⇒ "Supplementary description", page 88

#### Delete configuration evaluation

Changes in the *Channels* tab can be canceled with this option.

⇒ Chapter 9.2 "Channels"

# 10 Menu functions & toolbar

---

## Prepare new evaluation

If this option is activated, the files are regenerated in the evaluation directory for the archive specified at the end of the **Reset archive** function. This saves time the next time the archive is to be displayed graphically.

## Diagram features



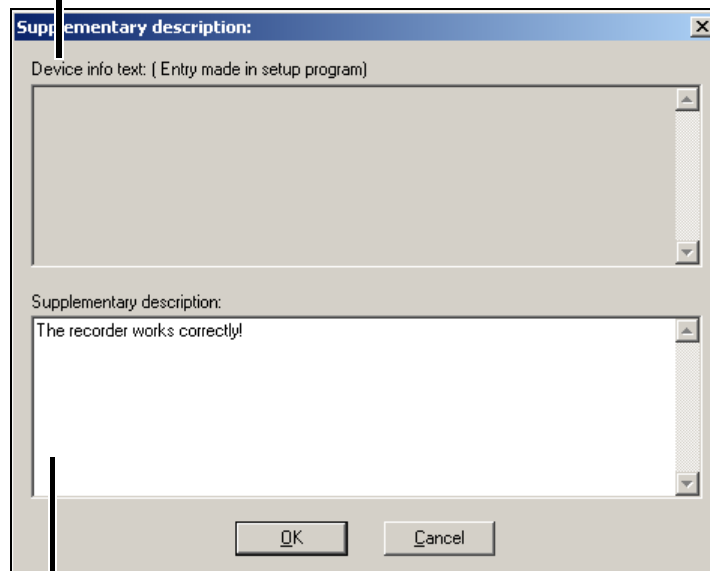
⇒ See "Diagram features", page 49.

## Supplementary description



"Device info text"

The device info text can be created with the setup program. It cannot be edited. **Caution:** Do not confuse device info text with file info text!



"Supplementary description"

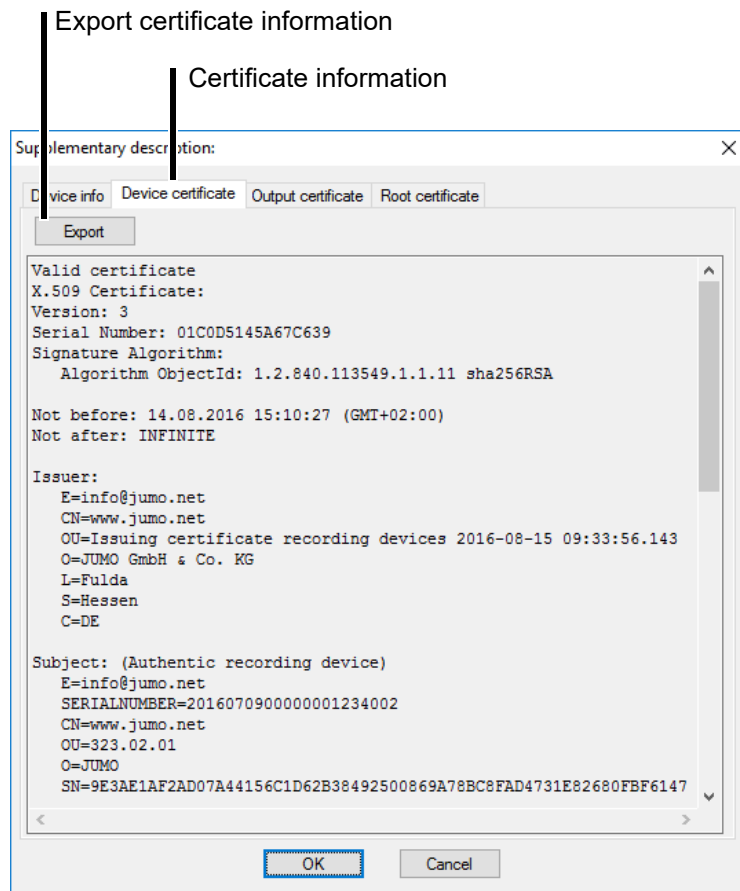
Additional text can be entered here.

If a protected archive (Page 36) is generated after entering the "supplementary description", the information stays permanently linked to the file; it can no longer be deleted.

For all other archives, the "supplementary description" can be removed again by editing or with the **EDIT > RESET ARCHIVE** function.

Prerequisite: The "Delete PCA groups and supplementary description" check box () must be activated.

## Data with digital certificate



If archive data has a digital certificate, in addition to the device info text and the supplementary description, information for the "Device certificate", "Output certificate" and "Root certificate" can also be viewed.

This information can also be saved as \*.format with the **EXPORT** button.

⇒ Chapter 2.5 "Manipulation detection with digital certificate"

## Sign time period



This function can be used to sign the current content of the graphic area. If a *zoom* was previously carried out, the data that is not visible is not signed.

⇒ "Sign time period", page 48

The signature is entered on the "PC signature for time period" tab.

⇒ Chapter 9.11 "PC signature for time period"

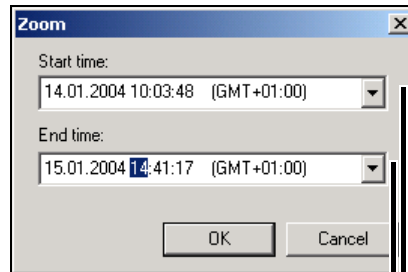
# 10 Menu functions & toolbar

## 10.3 Zoom

### Zoom on date and time



This function can be used *zoom* within a start and end point in the graphical display.



Select data from calendar.

### Entering the start/end point with mouse and keyboard:

- \* Left-click in the respective input field of the dialog window or move the cursor keys right (▶) and left (◀) in the input field.
- \* Enter the date/time with the keyboard.
- \* Confirm with **OK**

Use the tab key (↹) to switch between the "Start time" input field and the "End time" input field.

Entering the start/end time with the drop-down calendar:

- \* Left-click the ▾ button.

A drop-down calendar opens where you can directly select the date.


- \* Confirm with **OK**



The start time must always be before the end time.


### Zoom X-axis



If the function is active () , you can zoom in the X-direction within the graphic using the left mouse button (position mouse cursor, press left mouse button, move mouse, release left mouse button).


### Zoom Y-axis



If the function is active () , you can zoom in the Y-direction within the graphic using the left mouse button (position mouse cursor, press left mouse button, move mouse, release left mouse button).

### Zoom X and Y-axes








If the function is active () , you can zoom in the X and Y-direction within the graphic using the left mouse button (position mouse cursor, press left mouse button, move mouse, release left mouse button).

# 10 Menu functions & toolbar

## Show measurement cursor








If the function is active (), a measurement cursor can be positioned along the X-axis within the graphics area using the left mouse button (position mouse cursor, press left mouse button and release again).

At the intersection of the measurement cursor line with the analog signals, the current time value is plotted vertically and the current amplitude value is plotted horizontally.

## Diagram note



If the function is active (), you can enter a diagram note within the graphic using the left mouse button (position mouse cursor, press left mouse button, move mouse, release left mouse button).

⇒ "Diagram note", page 44

## Zoom functions

The functions of the commands **ZOOM FORWARDS**, **ZOOM BACKWARDS** and **RESET ZOOM** depend on the previous ZOOM function carried out with the left mouse button and toolbar.

⇒ Chapter 8.1 "The functions of the left mouse button"

## Reset zoom



"Reset zoom" displays the entire time period for the selected evaluation. As an alternative to the mouse, *Reset zoom* can also be carried out using the PC keyboard with the home key (`Home`).



"Zooming" with the PC keyboard only works if the graphics area was previously activated by clicking with the mouse cursor.

## Zoom forwards



"Zoom forwards" is used to restore the next zoom display. The function is only available if "Zoom backwards" was used previously. As an alternative to the mouse, "Zoom forwards" can also be carried out using the PC keyboard with page up (`PgUp`↑).

## Zoom backwards



"Zoom backwards" is used to restore the last zoom display. The function is only available if a zoom was previously carried out. As an alternative to the mouse, "Zoom backwards" can also be carried out using the PC keyboard with page down (`PgDn`↓).

## 10.4 View

### Toolbar

Show or hide the toolbar.

### Status bar

Show or hide the status bar (at the bottom of the software window).

### Coordinate bar

Show or hide the coordinate bar (at the bottom of the software window - above the status bar).

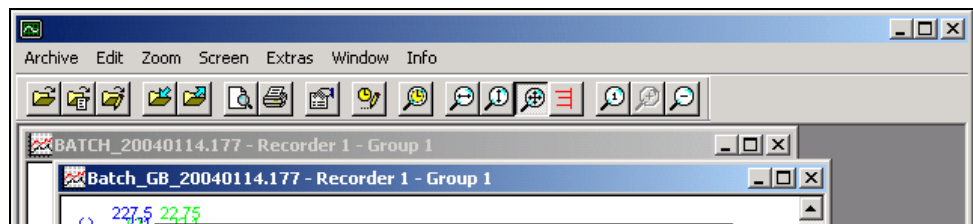
# 10 Menu functions & toolbar

## 10.5 Extras

- Enable program options** If the software was installed as a viewer ("Read-only mode"), some functions are deactivated, e.g. save. This function can be used to subsequently register the software and turn it into a full version.
- Renew log-in/alter password** This function allows the logged on user to renew log-in and use the options that are also available when the software is restarted.  
⇒ Chapter 4.2 "Options for program start"
- Comment in audit trail** This function can be used to create a manual audit trail entry. The entries can be visualized with the PC Audit Trail Manager software.  
⇒ More information about the PC Audit Trail Manager software (PCAT) can be found in the B 70.9704.0 operating manual.

## 10.6 Window

- Cascade** Several graphical displays (open parts of an archive) are displayed over one another (overlapping).



The individual names of the open displays are shown and can therefore be selected and displayed in the **WINDOW** menu.

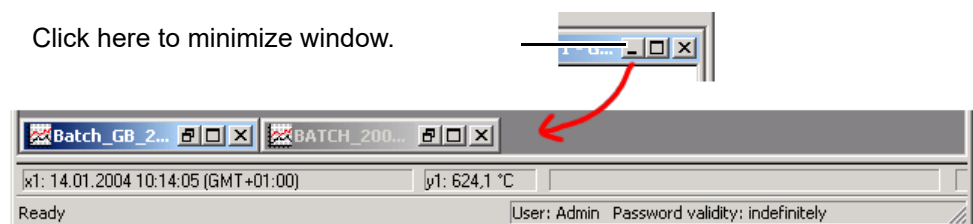
- Tile** Several graphic displays (open parts of an archive) are shown next to one another.



- Arrange icons** If displays are minimized (by clicking on the symbol), this function places all window titles at the lower edge of the screen - if there are several, they are positioned next to one another.

Minimize window:

Click here to minimize window.



## 10.7 Info

### Info

This window shows information on the version number of the program and the use and purchase of open source software.

The version number is important if you contact telephone support with technical questions.



Further information about the open source software:

⇒ Chapter 2.3 "Open-source software"

### Software documentation

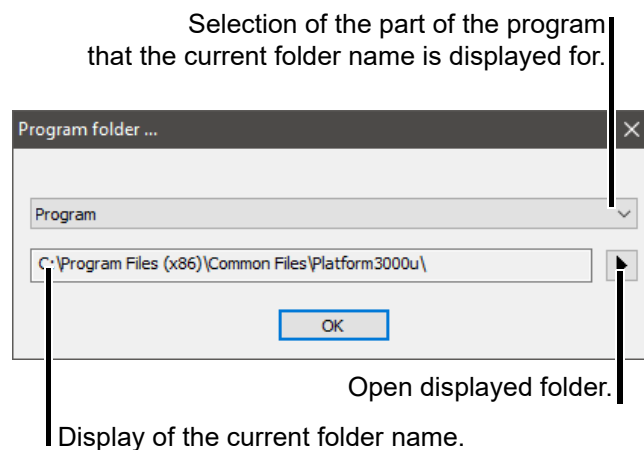
This function opens the operating manual (PDF file) of the PC Evaluation software that was copied to the PC's hard disk drive when the software was installed. The PDF file can only be opened if a PDF viewer is installed on the PC.

### Registered license numbers

This window shows information on the license number of the program. This number is important if you contact telephone support with technical questions.

### Program folder

This window displays information about the currently set folder that the program accesses by default.



### Memory info

Opens the **Memory information** window. The current values of the operating system's memory management are displayed here.

## 10 Menu functions & toolbar


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## 11.1 What are forms?

Forms can be used to output archive data together with other texts and images or to convert this data to different output formats.

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Seite 1/4

**Schreiber**

Start time: 2.6.2009 00:00:00 (GMT+02:00) End time: 3.6.2009 00:00:00 (GMT+02:00) Duration: 24:00:00	Supplementary device description:  Supplementary PCA3000 description:
--	---

**Diagram**

Gruppe 1: Analog			Eing. 1	Eing. 2	Eing. 3	Eing. 7	Eing. 8	Eing. 9
	Date dd.MM.yyyy	Time HH:mm:ss	Value °C	Value °C	Value °C	Value °C	Value °C	Value °C
Minimum value			18,8	172,9	18,9	79,1	100,5	250,6
Maximum value			24,9	174,5	25,7	79,3	100,7	250,8

Gruppe 1: Digital			BE 1	BE 5	BE 6	BE 8		
	Date dd.MM.yyyy	Time HH:mm:ss	Value	Value	Value	Value		
Minimum value			0	0	0	0		
Maximum value			0	0	0	0		

# 11 Managing forms

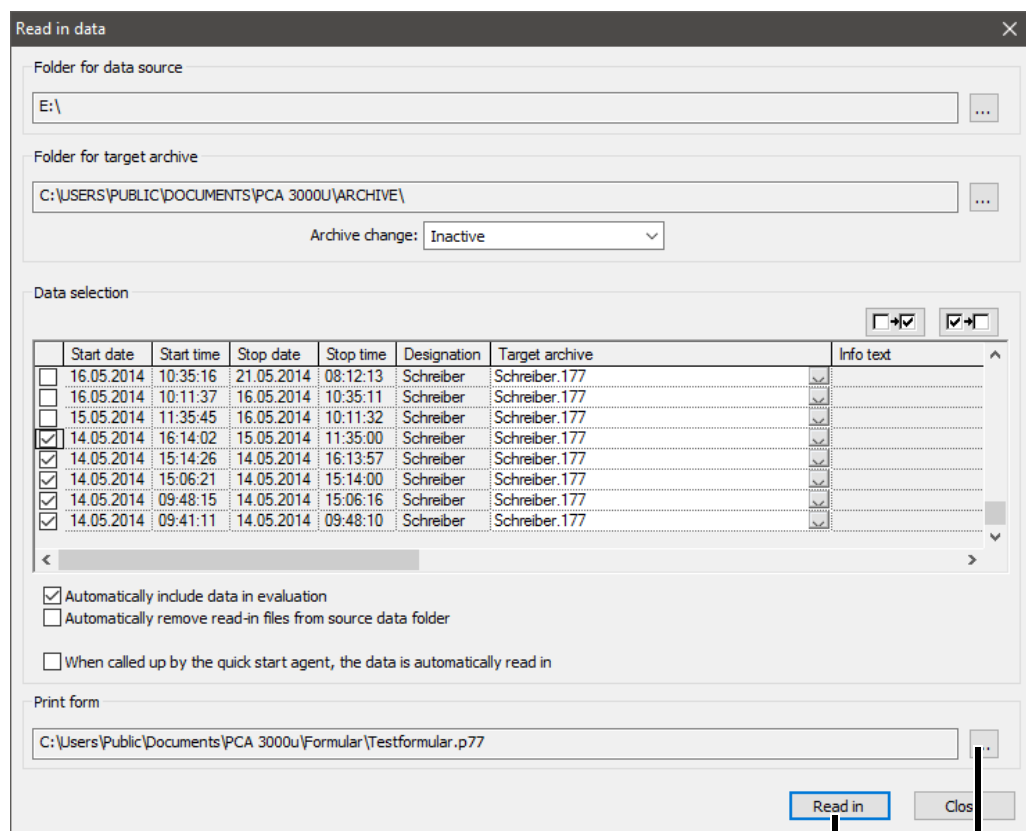
## 11.2 When can forms be output?

Forms can be output when:

1. data is read in with PCA3000 from a CF card or USB flash drive or
2. the **ARCHIVE > PRINT WITH FORM** function is initiated or
3. data is read in with the PCC program via one of the interfaces.

In the third case, PCA3000 must be equipped with the option "Activation of the automatic printout of process data" (valid license number).

## 11.3 Print form output with "Read in data"



Start read in

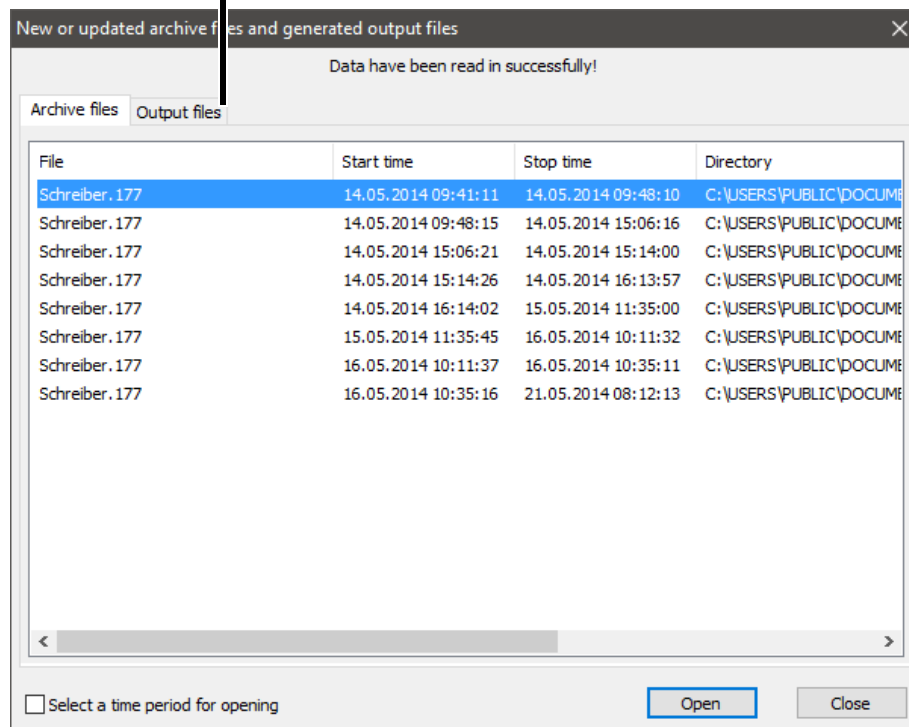
Select print form

- \* Left-click "Select print form" and choose the form you want.
- \* Left-click "Read in" and start reading in data.

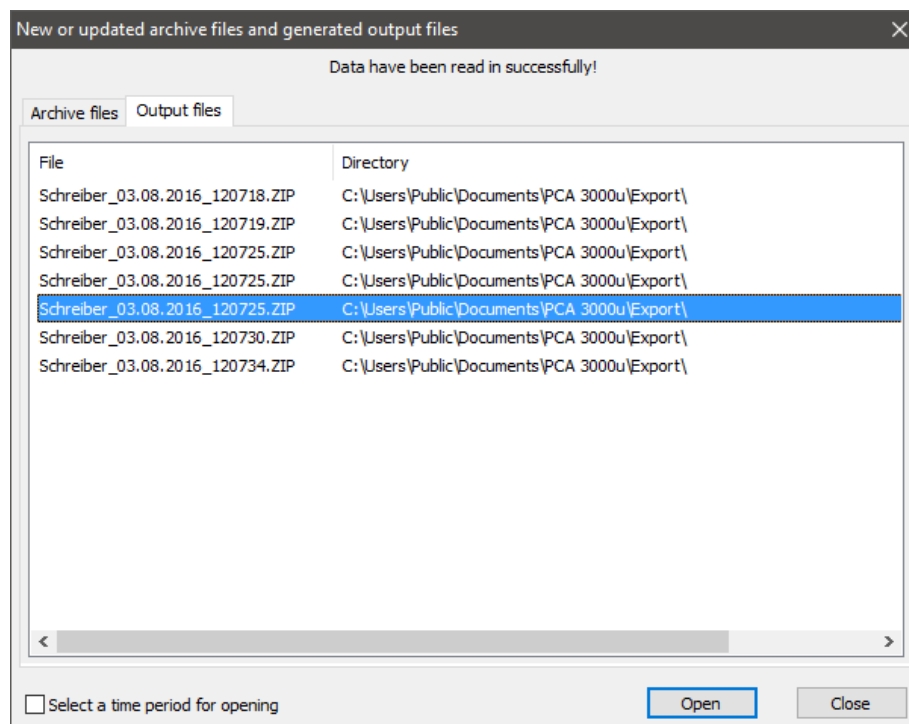
After the data has been read in to the selected archive by PCA3000, print form output is active and the corresponding forms are created.

# 11 Managing forms

Output files (created forms)



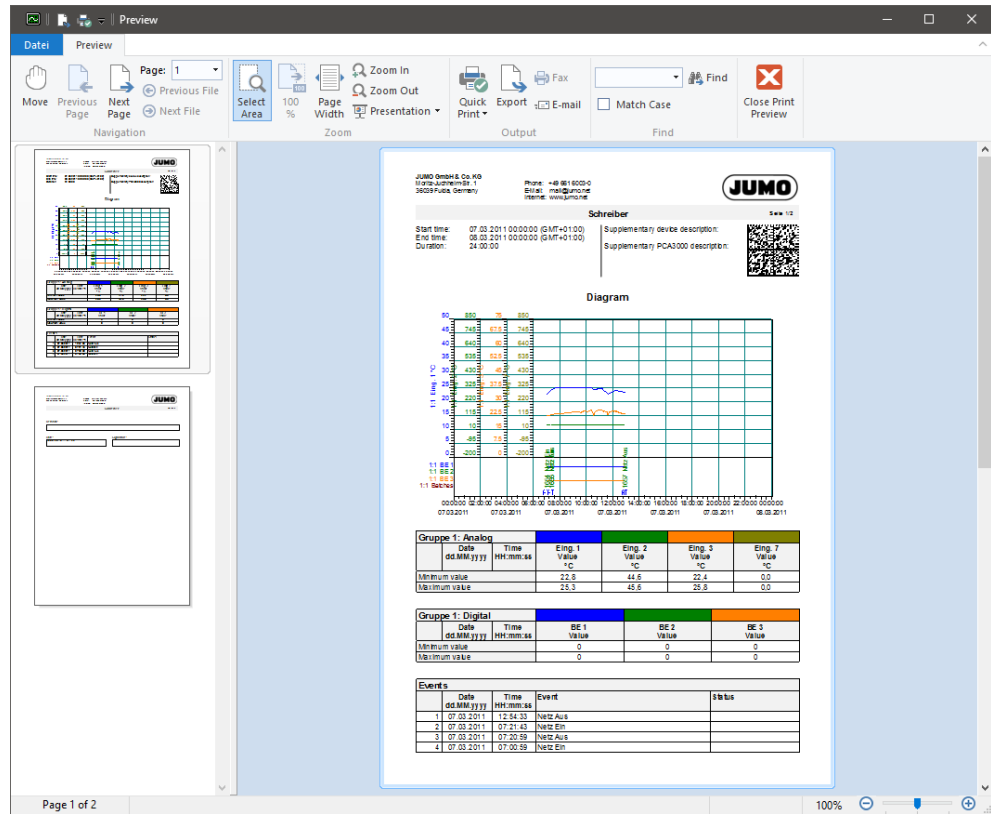
\* Switch to "Output files" (left-click).



\* Left-click the form you want and select **OPEN**.

# 11 Managing forms

Result: The print preview is displayed on the form:



⇒ Chapter 11.6 "Print form output"

## 11.4 Print form output with "Archive" menu

- \* Open archive; data must be visible in PCA3000.
- \* Start the **ARCHIVE >PRINT WITH FORM** function.

Process and output the print form

Time period of the evaluation for print forms

Time range for diagram shown at present

from: 27.07.2016 12:16:24 (GMT+02:00)

to: 29.07.2016 09:11:35 (GMT+02:00)

Print form

File name:

C:\Users\Public\Documents\PCA 3000u\Formular\default\_JUMO LOGOSCREEN 600\_group\_all.p77

Automatic print

All groups

Project.							Project
StartDate	StartTime	StartTimeZ	EndDate	EndTime	EndTimeZo	Batc	Ba c
Time periods, automatic-print							
from			to				
Date	Time	GMT	Date	Time	GMT	Type	Est
1	27.07.2016	12:16:24	(GMT+02:00)	28.07.2016	00:00:00	(GMT+02:00)	Auto
2	28.07.2016	00:00:00	(GMT+02:00)	29.07.2016	00:00:00	(GMT+02:00)	Auto

Edit Output Close

Select time period

Select form

Start output

List of time periods that is created by the selected "Automatic print"

Select data (click mouse on row number)

Select type of automatic print

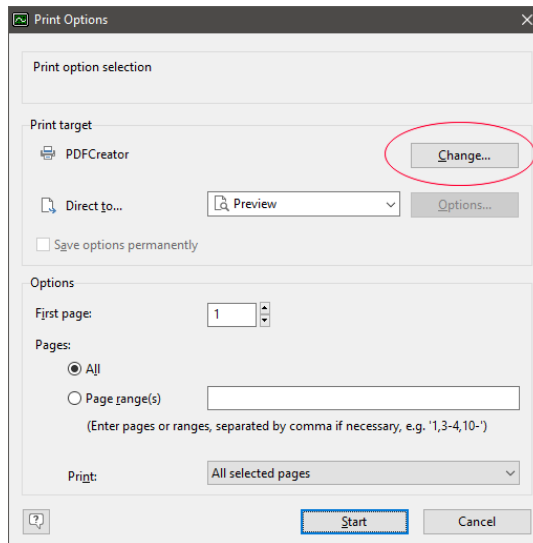


If there are no entries in the "List of available data", it is possible that there is too little data in the archive for creating the current form. Changing the print start ("Automatic print") in the form remedies the problem.

⇒ Chapter 11 "Managing forms"

# 11 Managing forms

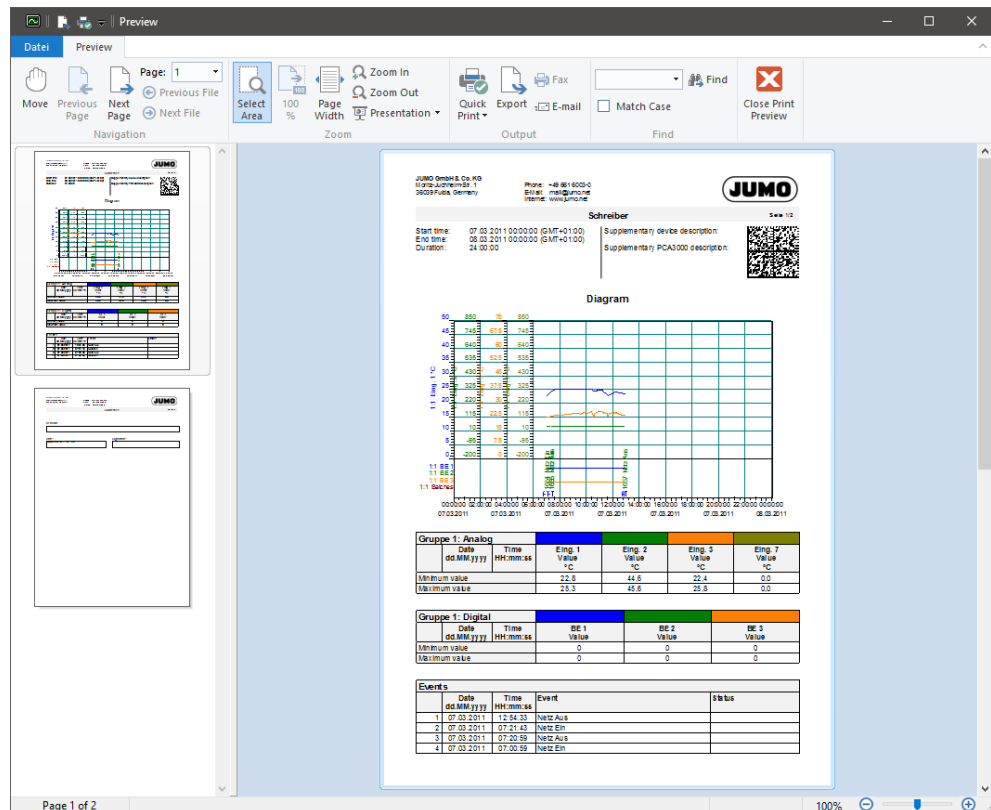
- \* Start printing the form by clicking "Output".



- \* Keep the presets and click **START**.
- \* Alternatively, a print target can be selected using the **CHANGE** button which is to be used once and only in the preview of the current form in the **FILE > QUICK PRINT** menu.

⇒ "Quick print", page 103

The print preview is displayed on the form:

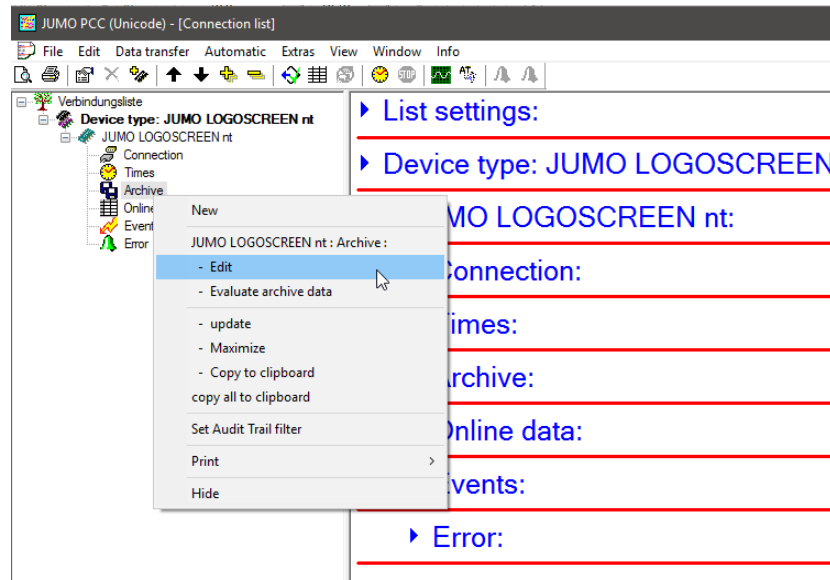


⇒ Chapter 11.6 "Print form output"

## 11.5 Print form output with the PCC program

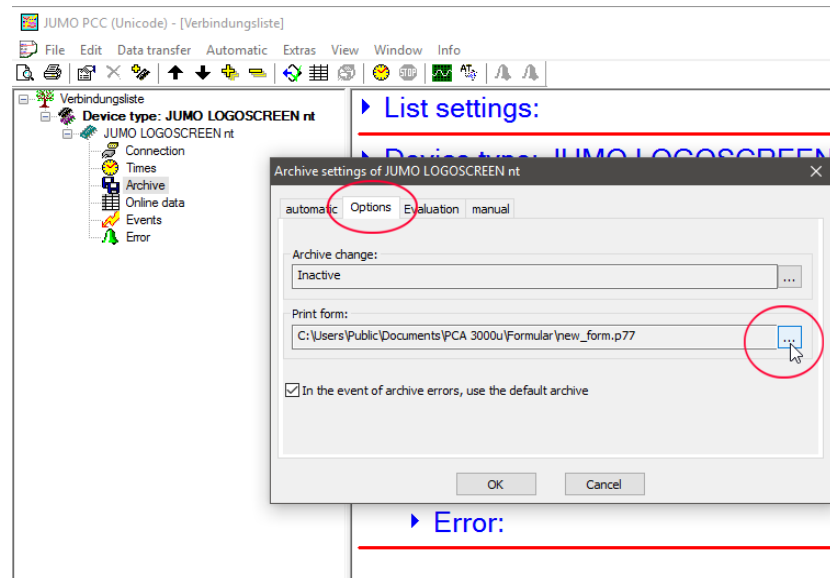
Within the PCA Communications software PCC, select the form you want using the "Archive" setting.

- \* Right-click on "Archive". Then select "Edit".



- \* Select the "Options" tab in the **Archive settings** window.

- \* Press the  button and select the form you want..

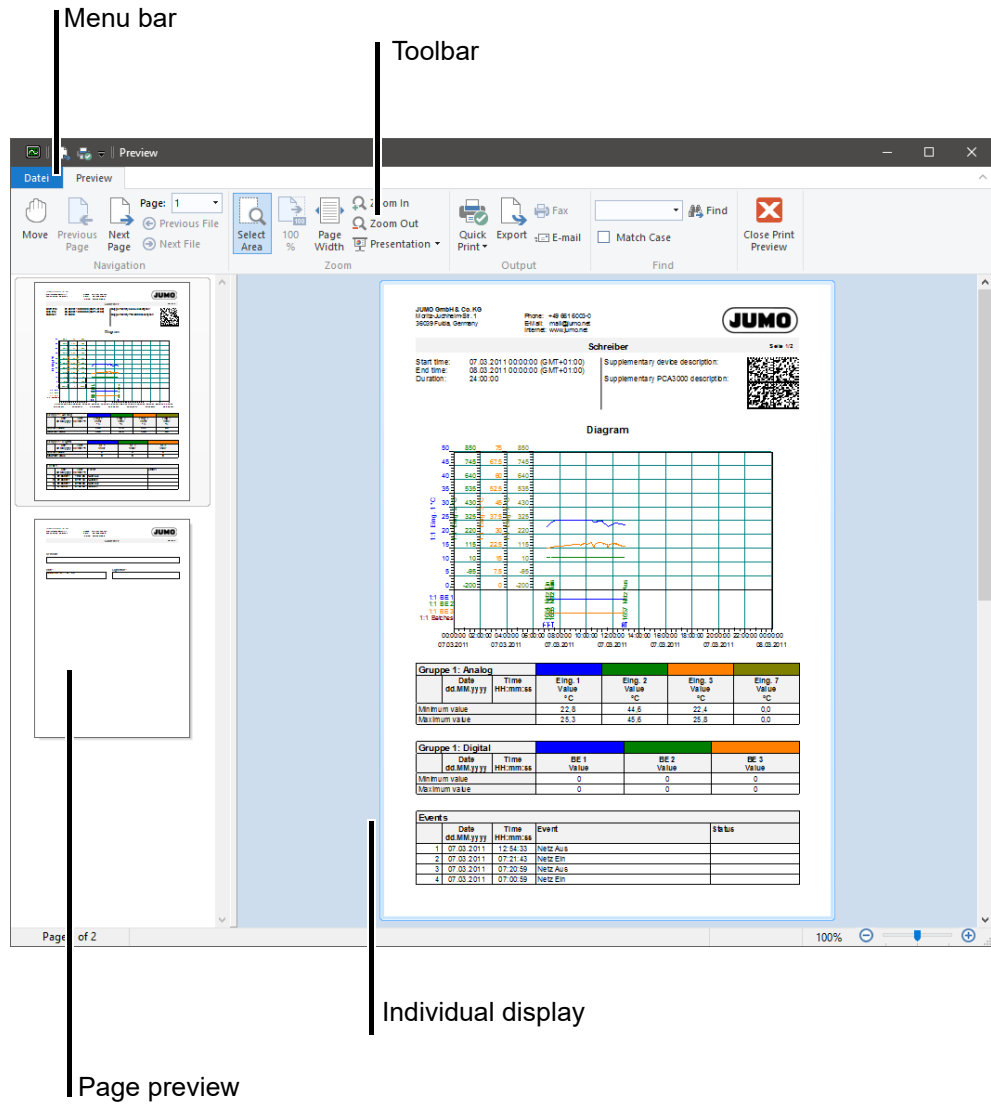


The forms are always created or output when data is extracted or retrieved by PCC (automatically or manually). The necessary prerequisite, in addition the selecting a form, is that the output conditions (start conditions) set in the form apply.

⇒ Chapter 12.3 "Automatic print"

# 11 Managing forms

## 11.6 Print form output



The page preview can be found on the left of the screen. The page selected there is displayed enlarged as an individual display on the right of the screen. The form can be printed or converted using the functions in the menu and toolbar.

## 11.6.1 Menu bar

The functions for output or conversion the current form can be found in the menu bar of the print preview under **FILE**. Advanced functions are available in the toolbar.

### Quick print

**FILE > QUICK PRINT** prints all pages in the preview of the current form via the print target selected in the output settings.

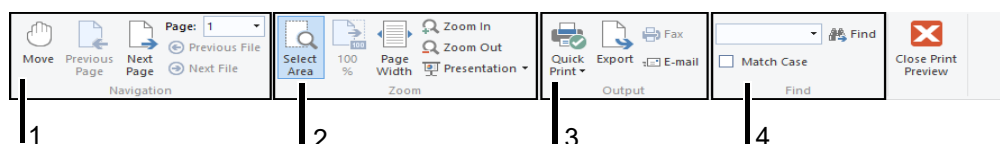
**FILE > PRINT CURRENT PAGE** prints the current page of the print preview of the current form via the print target selected in the output settings.

⇒ "Start printing the form by clicking "Output".", page 100

### Export

Opens the **Save as** window. The preview can be named and saved in various formats.

## 11.6.2 Toolbar



The functions of the toolbar are broken down into four areas:

- 1 = Functions to control the individual display
- 2 = Zoom functions within the individual display
- 3 = Functions for printing or converting
- 4 = Search function in the form

If the mouse pointer is moved over a symbol and held there briefly, a help text appears as a pop-up window that describes the function of the symbol. Left-clicking the symbol activates the respective function.

One function that is only available in the toolbar and not in the menu bar is "Presentation mode" (🖥️). This activates a slide show of the individual pages of the form in full-screen mode.

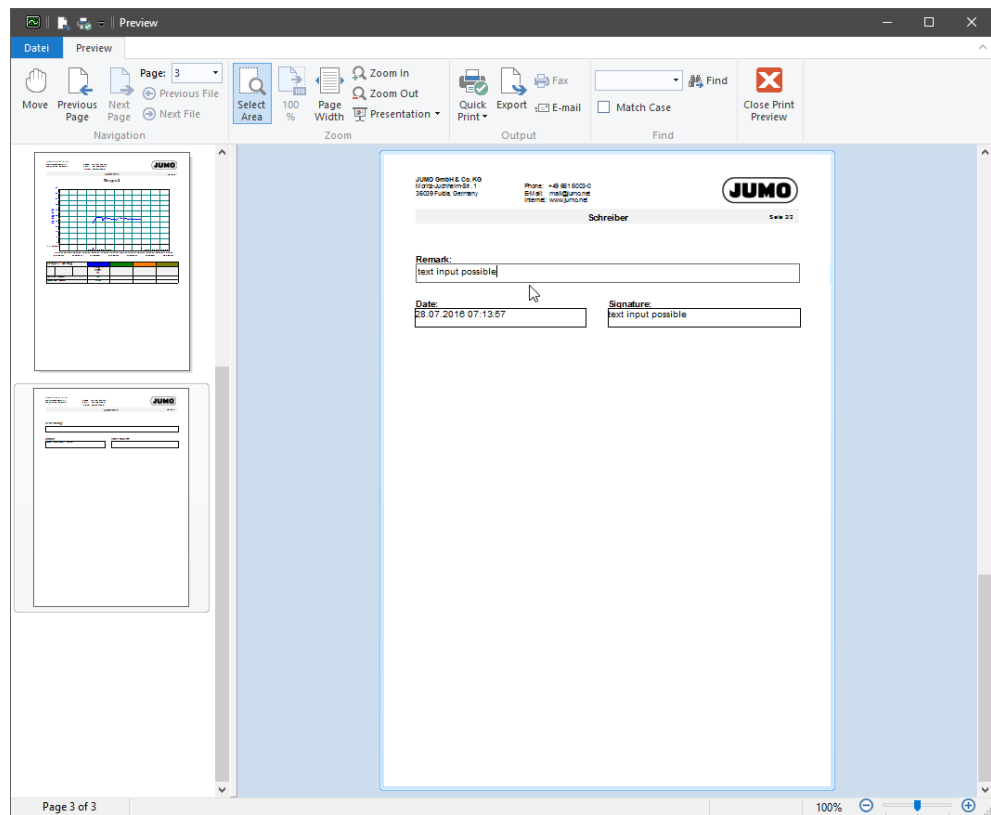
It is possible to scroll through the presentation using the mouse keys or the PC keyboard (e.g. PgUp⬆️, PgDn⬇️, Home, End).

The slide show is ended by pressing ESC (Esc).

# 11 Managing forms

## 11.6.3 Text entry

This example shows how to enter a comment as well as the date and a signature on the last page of the form before the form is printed or converted.



- \* Click the mouse pointer in the respective text field.
- \* Edit the text field using the PC keyboard.

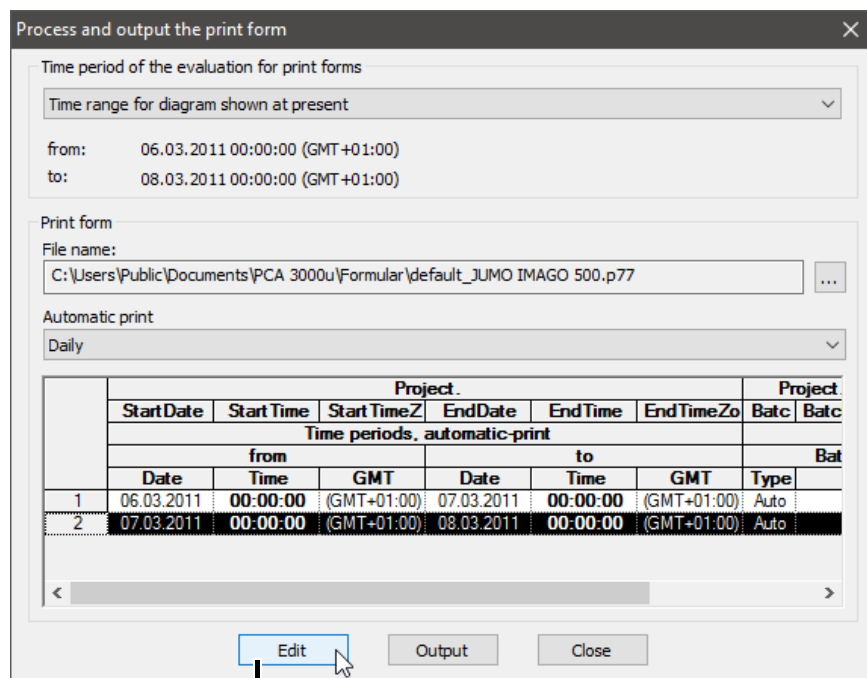
## 11.7 Changing forms (creating new forms)

If the PC Evaluation software PCA3000 has a suitable license number, it is possible

- to change the forms
- to create new forms
- to activate automatic printing in the PCA Communications software PCC.

A suitable license number can be activated upon installation or at a later time using the **EXTRAS > ENABLE PROGRAM OPTIONS** function.

You can see whether a suitable license number exists in the **Process and output the print form** dialog.



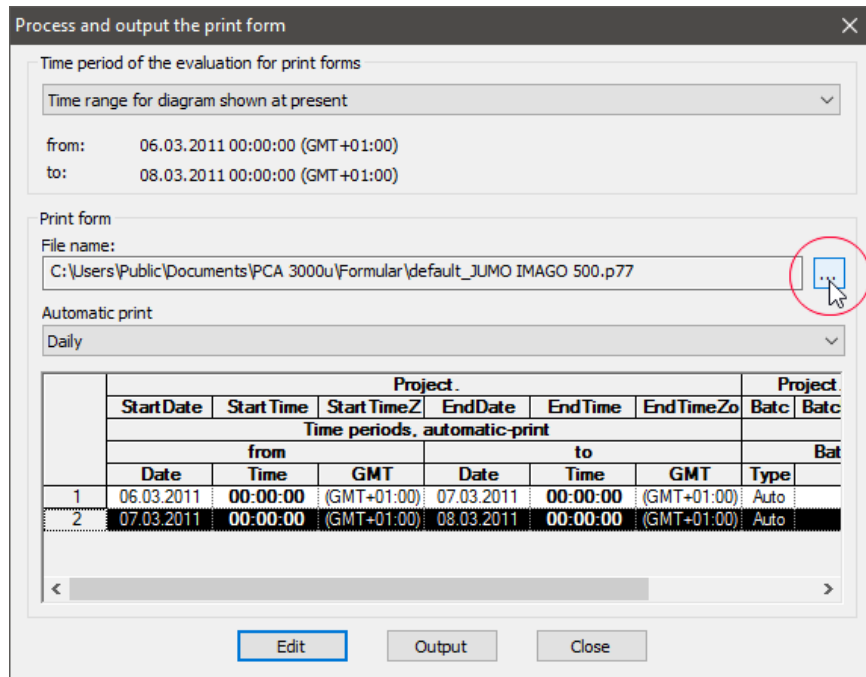
If the button is enabled, the license number is suitable for editing and creating forms.

The first time the PCA3000 Evaluation software is installed, only standard forms of the device manufacturer are available. They are write-protected and cannot be changed. If one of the write-protected forms is to be changed, it first has to be copied. The process is as follows:

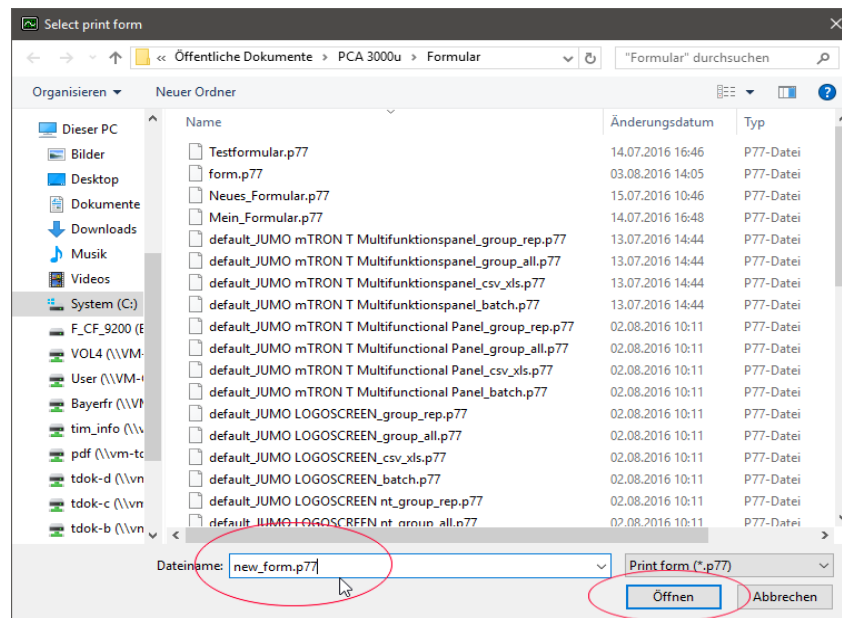
# 11 Managing forms

## Process

- \* Open an archive and display any data.
- \* Initiate the **ARCHIVE > PRINT WITH FORM** function.

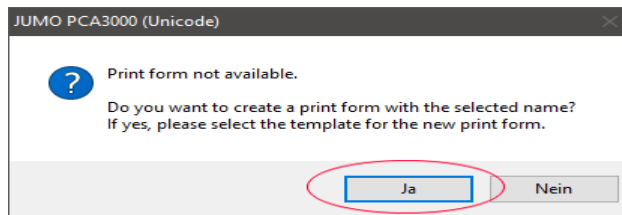


- \* Select the print form you want to change. For standard forms (write-protected forms), a new name first has to be entered, then the reference form selected.
- "New name":

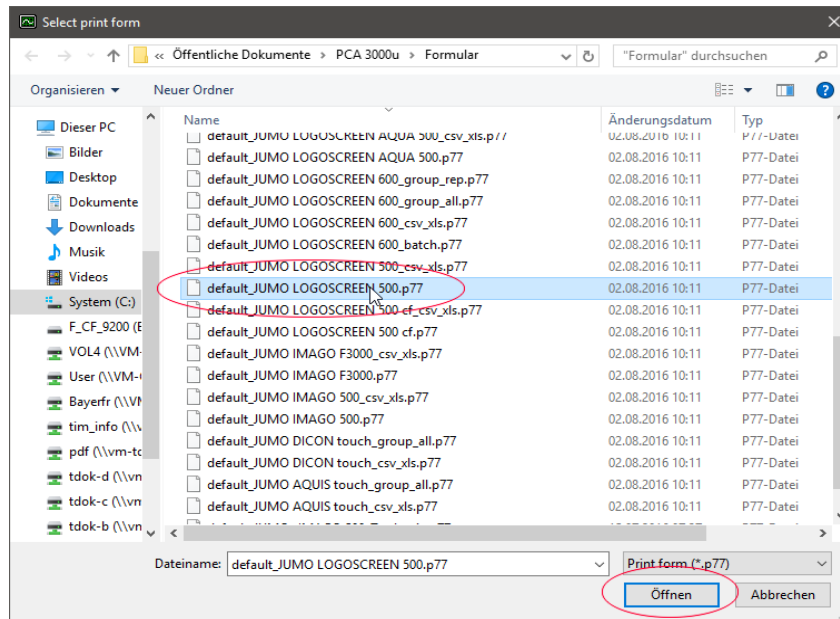


# 11 Managing forms

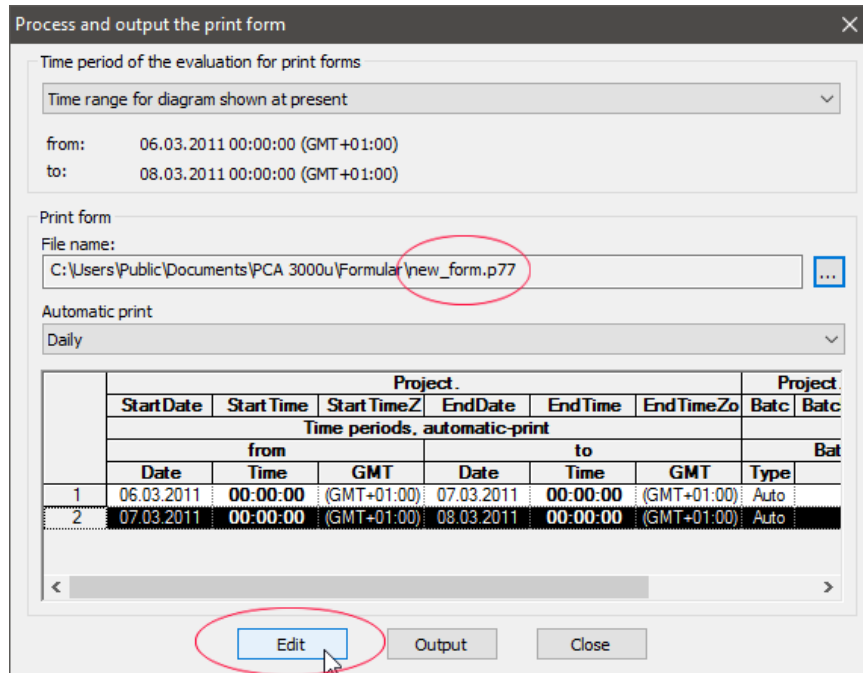
Save form:



Select reference form:



Result:

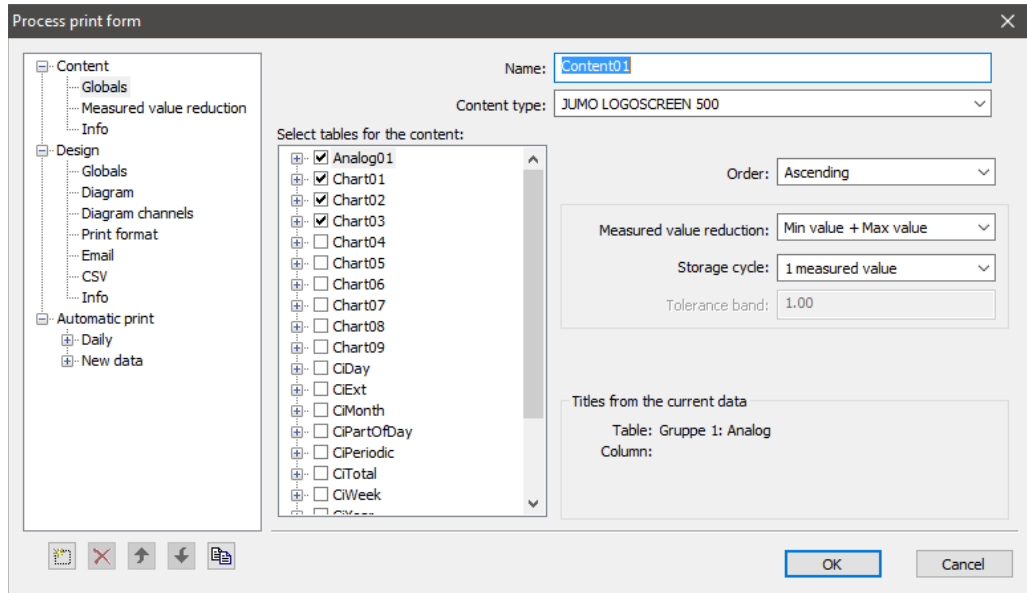


The new form is created and can then be changed.

# 11 Managing forms

\* Left-click the **EDIT** button.

The dialog for changing forms opens.



The newly created (or already existing) form can now be edited.

⇒ Chapter 12 "Editing forms"

\* Confirm changes with the **OK** button

The new or changed form is available.

## 11.8 Importing forms

### Initial situation

There is a customer-specific form from the device manufacturer that has to be integrated into the existing system.

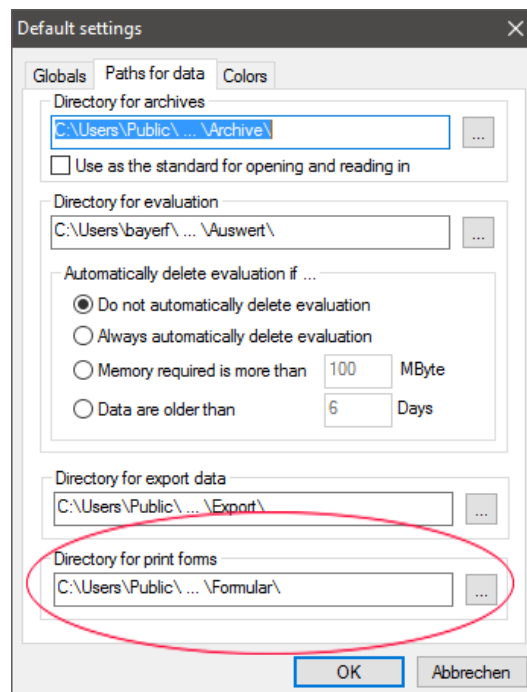
### Process

- \* Copy the new form (file with the extension "p77") to the folder on the computer where all existing/created forms are already located.
- \* Select the new form as a print form in the PCC or PCA3000 program.

### Localize form folder

The active folder that is preset by default for forms can be localized as follows:

- \* In PCA3000 start the **ARCHIVE > DEFAULT SETTINGS** function.
- \* Go to the "Paths for file" settings.
- \* Copy or change the settings for "Directory for print forms".




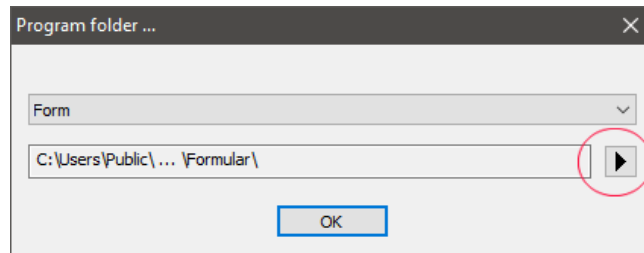
⇒ Chapter 6.5 "Archive and evaluation directory"


# 11 Managing forms

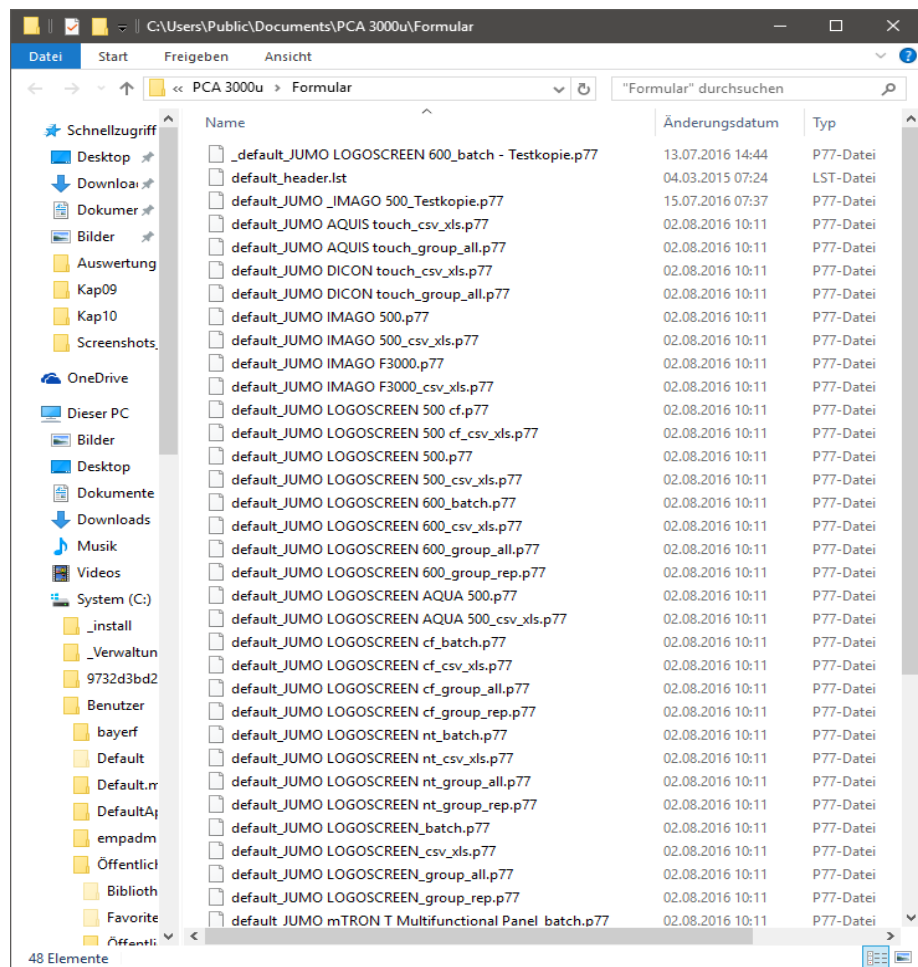
## Open form folder

Open the active form folder:

- \* In PCA3000 start the **INFO > PROGRAM FOLDER** function.
- \* Open the drop-down list by clicking the  button and select "Form".

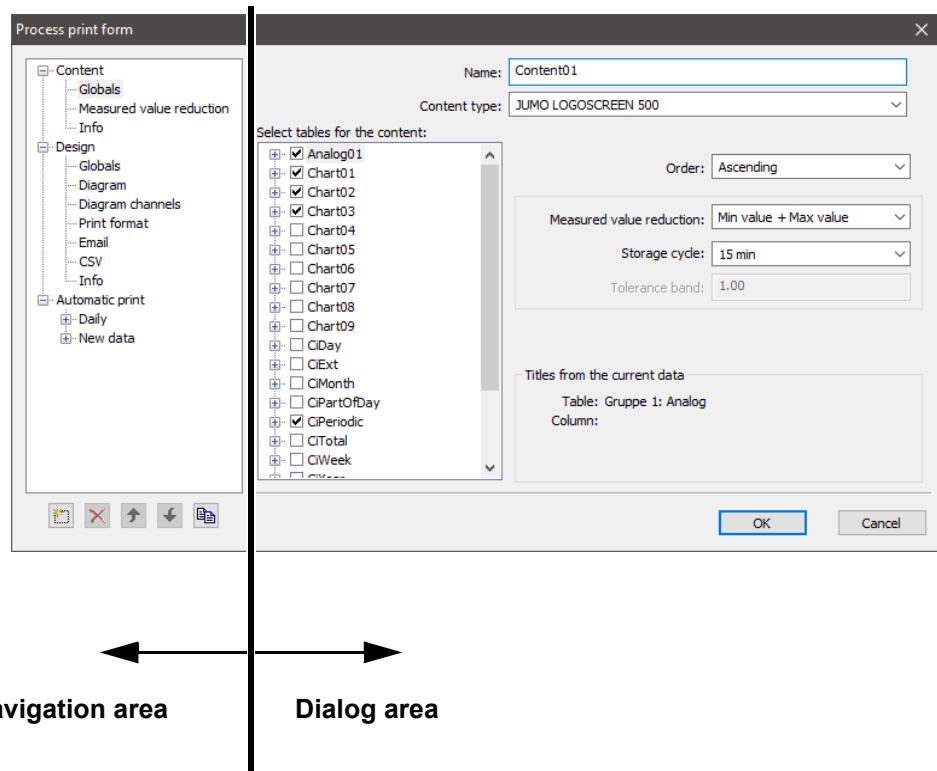


- \* Open the folder by clicking the  button.



# 12 Editing forms

The **Process print form** dialog window consists of the **navigation area** and the **dialog area**.



## Dialog and Navigation Area

The settings for the selected branch in the navigation area are made in the dialog area.

The symbols below the navigation area are required for instantiation.

⇒ Chapter 12.4 "Instances"

# 12 Editing forms

## 12.1 Content

The files that are to be output in table form are defined in the area "Content". Whether or not they are actually used for the output is defined in the **Designer** (form template).

⇒ See "Designer", page 117.

### 12.1.1 General information

Data that is marked (checked), can be output.

+ Opens the next sub-level.

Sort data XXX (older dates first).  
Device selection

This name is used in the "Automatic print" area.

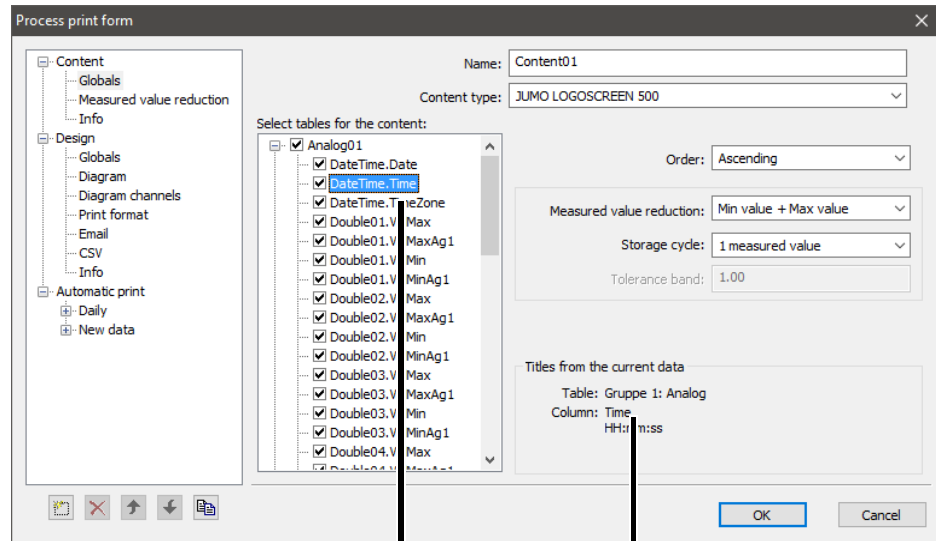
#### Tables for content



All data can be marked for output, even if it is not present in the open archive.

AT	Audit trail
Analog01...09	Measurements of the analog channels of the groups in PCA3000
Batch1...3	Measurements of the batch logging
Chart01...09	Comparable with the "Channels" table area
Ci01...27	Counters and integrators
Digital01...09	Measurements of the binary channels of the groups in PCA3000
ESig...	Electronic signatures
Rep...	Reports

# 12 Editing forms

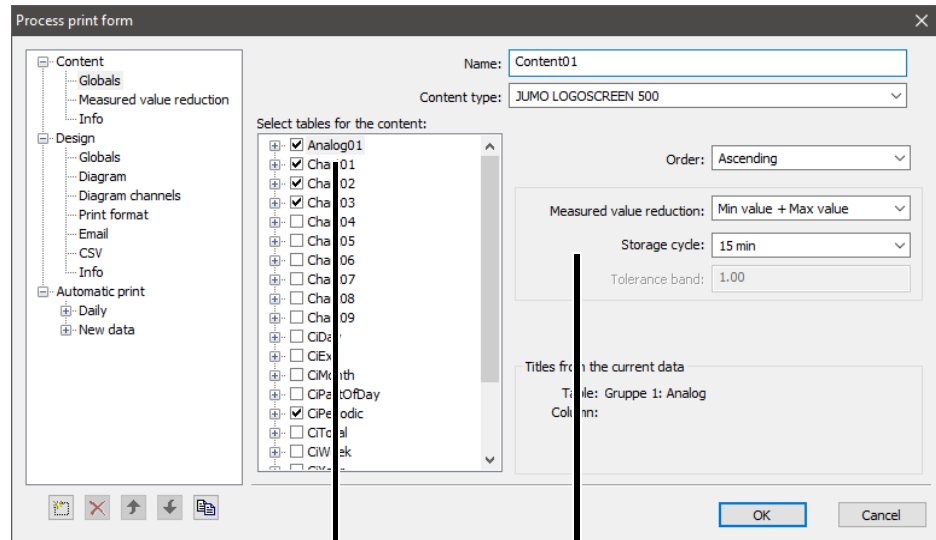


Selected data set or parameter

If the selected parameter is available in the archive or in the graphic display, it is shown here where it is displayed.

	Time		Eng. 1	Eng. 2	Eng. 3	Eng. 7	Eng. 8	Eng. 9
	Date	Time	Value	Value	Value	Value	Value	Value
	dd.MM.yyyy	HH:mm:ss	°C	°C	°C	°C	°C	°C
1	07.03.2011	07:01:00	22,8	45,5	22,7			
2	07.03.2011	07:01:10	22,8	45,5	22,8			

# 12 Editing forms



Selected data set

Measured value reduction

It is possible to use a measured value reduction for analog and binary data. This affects the table length in the form output. The set measured value reduction only applies for the selected parameter.



To ensure that the right data is output, in addition to the measured value reduction, it must be ensured that the necessary data is selected in the "Design" area.

## Measured value reduction

None	All data is output.
Average value	Average value of the set memory cycle.
Standard deviation	Standard deviation of the set memory cycle.
Minimum value	Minimum value of the set memory cycle.
Maximum value	Maximum value of the set memory cycle.
Min value + Max value	Maximum and maximum value of the set memory cycle.
Eco mode	<p>During eco mode, a measured value is listed if it changes by a specific amount (<i>tolerance band</i>) compared to the last value listed or if the time of the last list exceeds the "Memory cycle" value.</p> <p>If a measured value is listed, it is simultaneously used as a new reference.</p>

## Memory cycle

1 min to 1 year	Time period across which the measured value reduction is applied (not valid for "None").
1 measured value	Only one value is formed from the data. If the measured value reduction is set to "Min value + Max value", one measured value is formed for minimum and maximum.
Shift	A maximum of three values are formed from the data. The reduction depends on the parameters "Content" > "Measured value reduction" > "Shift synchronization".

**Tolerance band** The parameter is only available when "Eco mode" was selected as the measured value reduction.

## 12.1.2 Measured value reduction

## Synchronization

If the setting "Absolute" is selected under "Type", the measured value reduction (for the setting "Content" > "General" > "Memory cycle" = 1 min to 1 year) is carried out in relation to the setting for "Day" and "Time" in fixed time intervals (e.g.: every 10 minutes starting at 00:00:00).

If the setting "Relative" is selected under "Type", the measured value reduction is carried out relative to the time of the recorded data (e.g.: every 10 minutes starting at 08:21:00).

## 12 Editing forms

---

### **Shift synchronization**

The times for the shift distribution can be defined here. The setting is only relevant if "Shift" was selected under the parameter "Content" > "General" > "Memory cycle".

The measured value reduction over a day (24 h from 00:00:00 to 23:59:59) produces, e.g. the following shift synchronizations:

- Shift synchronization - shift 1 = 06:00:00 - 14:00:00
- Shift synchronization - shift 2 = 14:00:00 - 22:00:00
- Shift synchronization - shift 3 = 22:00:00 - 00:00:00

Also when the shift end is set to 06:00:00, the program automatically takes 00:00:00 as the end because a new day starts at 00:00:00.

The measured value reduction takes place for four time periods for this day.

### **12.1.3 Info**

An explanatory description can be entered in this text field. It is only saved in the form and cannot be output.

## 12.2 Design

In the "Design" area, the data for the graphic output is defined and the **Designer** started for creating or changing a form template.

### 12.2.1 General information

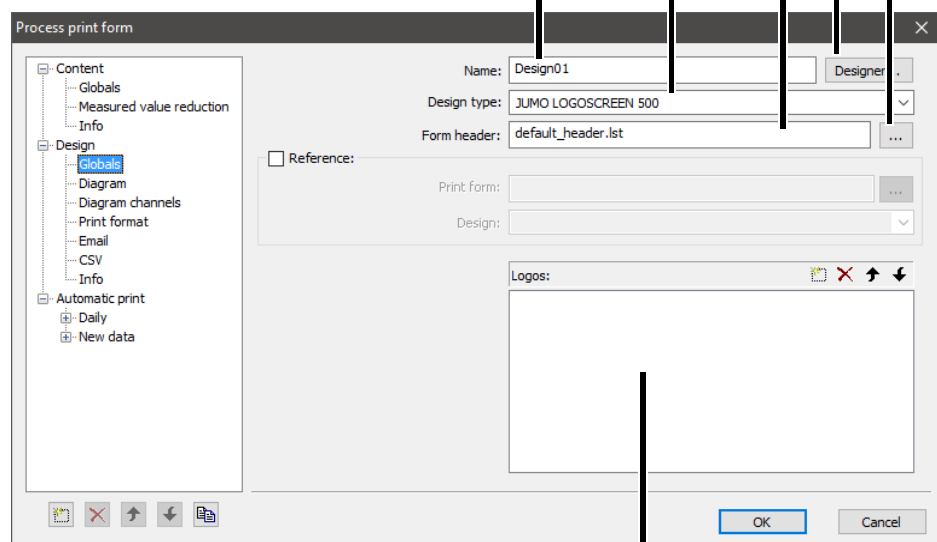
Select the "Form header" or create a new one.

The Designer is used to optically design the form.

Currently selected "Form header"

Device selection

This name is used in the "Automatic print" area.



Logos

### Designer

The **Designer** can be used to optically design the form. The data provided in the "Content" area can be used in the **Designer**.



The **Designer** is equipped with extensive online help and is not described in more detail in this operating manual.

## 12 Editing forms

---

### Form header

The selected "Form header" can be used within the **Designer**.



After the PCA3000 Evaluation software is installed, the form header "default\_header.lst" is active. It is write-protected and may not be overwritten.

If the you want to change the form header, it first needs to be copied.

Process:

- \* Enter new name (incl. extension ".lst").

- \* Click "Select form header" button.



- \* In the following dialog window, click **OPEN**.

The **Designer** for changing the form header starts.

### Logos

Images can be stored in the "Logos" area. The images are permanently linked to the form and are no longer affiliated with the medium used to read them in (e.g. hard disk drive).

The logos can be used in the **Designer** and in the Editor of the form header.

## 12.2.2 Diagram

This name can be output within the **Designer**.

Select one of three font sizes for axis labeling.

Measured value reduction

Diagram settings

Display ratio

Alignment

Labeling

Rotation

Output

### Diagram settings

Ten different settings can be defined here and used when creating a form in the **Designer**.

### Measured value reduction

When the measured value reduction is activated () , the measured value reduction from the "Content" area does not just apply for the table data, but also for the graphic output.



A measured value reduction that has been incorrectly set can lead to a false optical curve presentation.

### Display ratio

In addition to the measured value reduction, it is also possible to output "All measured values" () or to further reduce the output () . In the case of a further reduction, the maximum number of measured values can be entered per channel.

# 12 Editing forms

---

## Alignment

The parameter affects the graphical display of the selected time period.

Any	Display of the exactly selected time period.
On grid	Display of the selected time period in relation to the next possible complete time grid. In the case, more data is set than selected.

## Labeling

The parameter affects the labeling of the X-axis.

Dynamic based on time period	The X-axis is labeled with time, time zone and date. Depending on the size of the time period to be output, first the time zone is waived, then the date.
Time + time zone + date	The X-axis is labeled with time, time zone and date.
Time + date	The X-axis is labeled with time and date.
Date	The X-axis is labeled with the date.
Time	The X-axis is labeled with the time.
Time (rel. archive)	The X-axis is labeled with the time. The beginning of the archive is set to 00:00.
Time (rel. diagram)	The X-axis is only labeled with the time. The beginning of the X-axis is set to 00:00. Application example: The data is output in the 3-shift mode and every shift is to start with 0.
No text	The X-axis is not labeled.

## Rotation

The graphic output can be rotated with the parameter.

0°	Output from left to right.
90°	Output from top to bottom.
270°	Output from bottom to top.

## Output

Vector	Output in the vector format. The output as a vector has the better quality of the two formats.
Bitmap	Output in the bitmap format. The output as a bitmap is an alternative if the it is not possible to output in the vector format, e.g. due to errors in the printer driver.

## 12.2.3 Diagram channels

Channels in the archive (group designation)

Additional information on the channels

Data type and origin

Scale data

Display channel

Settings for the graphical display in the print form

Show active or all channels

scroll to further columns

Further columns:

"Auxiliary lines", page 57

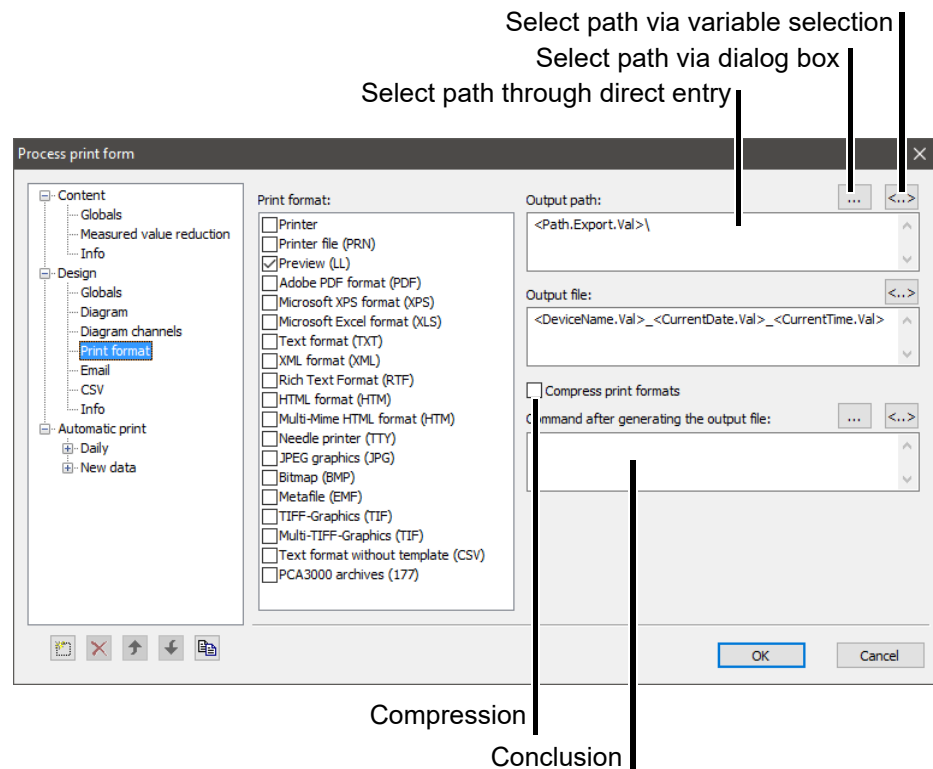
Auxiliary line 1    Auxiliary line 2

Auxiliary line 1

Auxiliary line 2



## 12.2.4 Output format



### Output format

The print format of the form is selected when you activate the respective checkbox (☑). It is possible to select several print formats.



The output formats "CSV" and "177" are not generated via the **Designer**, but directly by PCA3000. "CSV" files are automatically compressed in a ZIP file.

Printer	Output directly to a printer of the operating system.
Printer file (PRN)	Output to file in the format of the set default printer. The created PRN file can be sent to the default printer via FTP software or a script.
Preview (LL)	Output to file in preview format (LL = List & Label).
Adobe PDF format (PDF)	Output to file in PDF format.
Microsoft XPS format (XPS)	Output to file in XPS format (XPS = XML paper specification). XPS files can, e.g. can be opened in Internet Explorer from Microsoft (in Windows Vista and XP-SP3).

## 12 Editing forms

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Microsoft Excel format (XLS)	Output to file in the CLS format.
Microsoft Excel format (XLSX)	Output to file in XLSX format.
Microsoft Word format (DOCX)	Output to file in DOCX format.
Microsoft PowerPoint format (PPTX)	Output to file in PPTX format.
Text format (TXT)	Output to file in the TXT format (Unicode). The file can be opened here, e.g. with the Microsoft program <b>Notepad</b> . Only the event and audit trail data is saved.
Text (Layout) format (TXT_LAYOUT)	Output to file in TXT_LAYOUT format.
XML format (XML)	Output to file in XML format (XML = Extensible Markup Language). All text information is output, however, not curves and images in graphic form.
Rich Text Format (RTF)	Output to file in RTF format.
HTML format (HTM)	Output to file in HTML format. Output as a ZIP file. The ZIP file contains an HTML file and additional image files in JPG format.
Multi-Mime HTML format (HTM)	Output to file in MIME-HTML format (MIME = Multipurpose Internet Mail Extensions). Output is not as a ZIP file but as an HTM file.
XHTML/CSS format (XHTM)	Output to file in XHTM format.
HTML/Query Mobile format (IQM)	Output to file in IQM format.



## 12 Editing forms

Dot matrix printer (TTY)	<p>Output to file in TTY format (TTY = Teletype).</p> <p>Output as a binary file. It is sometimes possible to transfer this file via a TTY interface to older SPS systems.</p> <p>All text information is output, however, not curves and images in graphic form.</p>
JPEG graphic (JPG)	<p>Output to file in JPG format.</p> <p>Output as a ZIP file. The ZIP file contains the image files in JPG format.</p>
Bitmap (BMP)	<p>Output to file in BMP format.</p> <p>Output as a ZIP file. The ZIP file contains the image files in BMP format.</p>
Metafile (EMF)	<p>Output to file in EMF format (EMF = Windows Enhanced Metafile). The EMF format is a further development of the graphic format WMF.</p> <p>Output as a ZIP file. The ZIP file contains the EMF file(s).</p>
TIFF graphic (TIF)	<p>Output to file in JPG format.</p> <p>Output as a ZIP file. The ZIP file contains the image files in TIF format.</p>
Multi TIFF graphic (TIF)	<p>Output to file in JPG format.</p> <p>Output is not as a ZIP file but as an TIF file. The special feature of this format is that the file can contain several pages (several images).</p>
PNG-graphics (PNG)	<p>Output to file in PNG format.</p>
SVG format (SVG)	<p>Output to file in SVG format.</p>
Text format without template (CSV)	<p>Output to file in CSV format (CSV = (Comma Separated Values).</p> <p>Output as a ZIP file. The ZIP file contains the text file(s) in CSV format. Graphic displays are not possible in this format.</p> <p>The files are not generated via the Designer, but directly by PCA3000.</p>
PCA3000 archive (177)	<p>Output to file in the format of the PC Evaluation software PCA3000.</p> <p>The files are not generated via the Designer, but directly by PCA3000.</p>

## 12 Editing forms

---

**Output path** Forms are saved to this path (directory) that are not directly output to a printer. The preferred path can be specified

- via a dialog box from the operating system (  ),
- through a variable selection 


or

- through direct entry (left click in the field and then enter the text) can be specified.

The variable "<Path.Export.Val>" is set by default. It stands for the "Standard directory for export data".

The "Standard directory for export data" can be set in the menu **ARCHIVE > DEFAULT SETTINGS > PATHS FOR DATA**.

**Output file** The file name of the form file to be output is defined here. The default setting is "<DeviceName.Val>" followed by one or more form-dependent additions. The configured device name is concealed under "<DeviceName.Val>".

It is also possible here to enter the file name by selecting a variable  or directly entering the name in the text field.

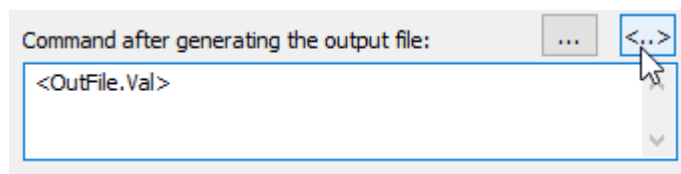
**Compression** If the checkbox () "Compress all print formats" is activated, all forms that are not sent directly to a printer are stored in a compressed file in ZIP format. ZIP files have the advantage that they take up less storage space than uncompressed files.



A suitable program is required to unzip a ZIP file.

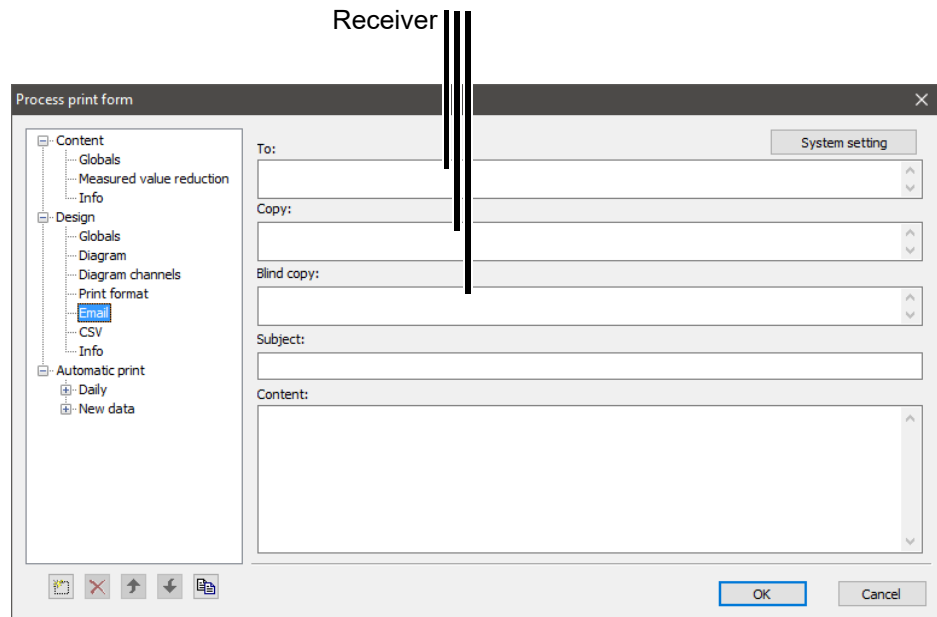
**Conclusion** Commands can be defined here that are to be carried out after output.

Example: A form is created in PDF format.



When the variable "<OutFile.Val>" is entered, the PDF file is opened automatically after it is created. The prerequisite is a suitable program for displaying PDF files installed on the PC and the file extension (PDF) is linked to it.

## 12.2.5 Email



### System setting

A network administrator can use this function to make the necessary basic settings necessary to send an e-mail.

### Receiver

If an e-mail address is entered in at least one of the three recipient fields "To", "CC" or "BCC" and the system settings adjusted to the respective network, the program sends the file(s) after generation.



Several recipient addresses must be separated with a semicolon.

## 12.2.6 CSV

The setting for separating the individual contents of the CSV file (Comma Separated Values) is defined here. The setting is only relevant if CSV is activated under "Print format" (☑).

## 12.2.7 Info

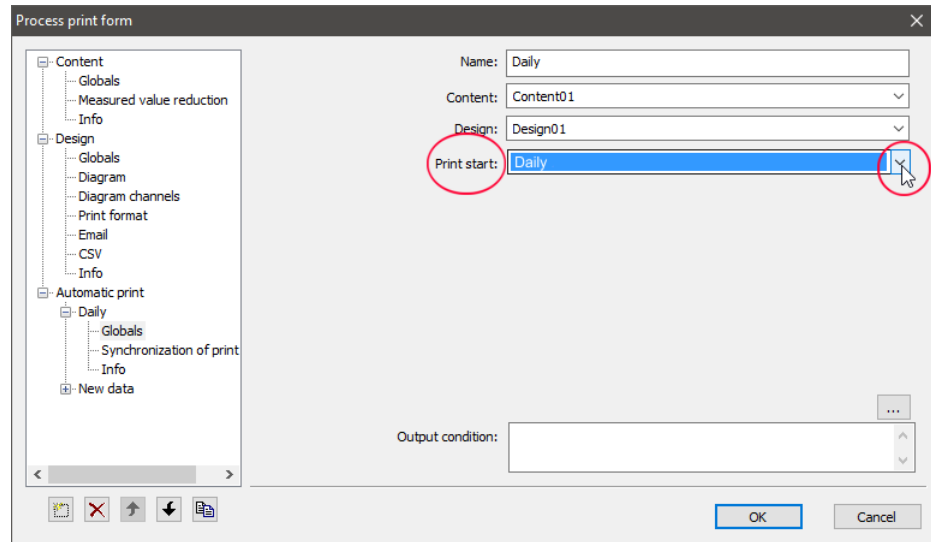
An explanatory description can be entered in this text field. It is only saved in the form and cannot be output.

# 12 Editing forms

## 12.3 Automatic print

The time period can be defined in the "Automatic print" area over which the data of an archive is to be output by a form.

### 12.3.1 General information



**Name** It is possible to select the name of the form when manually outputting the form via the function **ARCHIVE > PRINT WITH FORM**. This selection is important because several printouts can exist in parallel to one another. In the case of automatic form printing, all available output types are checked and, if all of the set criteria match, are printed.

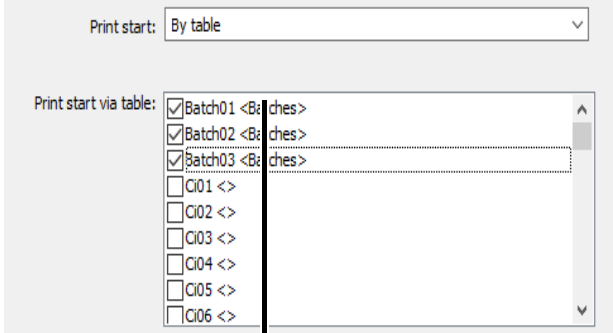
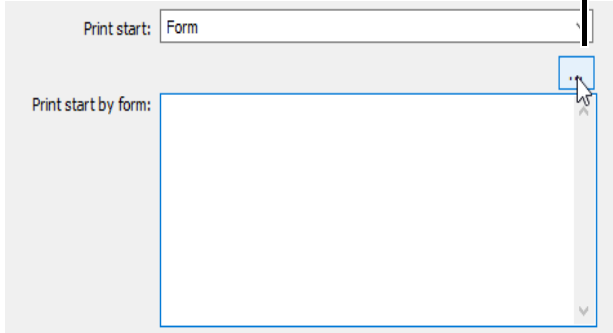

**Content** The settings from the "Content" area are selected here.

**Design** The settings from the "Design" area are selected here.

**Print start** Here the setting is made which determines which time period the archive is checked for and the forms created.

Special print starts are:


- By table
- Without interrupting registration
- All new data
- Formula

<p>By table</p>	<p>The archive is checked for certain events. Events can be, e.g. "Completed batch reports" (batch reports are not created for all devices.)</p>  <p>Batch reports</p> <p>Events that are available in the open archive are displayed with an additional text between "&lt;&gt;".</p>
<p>Without interruption</p>	<p>The archive is checked for various time periods, e.g. the area between "Power on" and "Power off". The area between "Power off" and "Power on" is ignored.</p>
<p>All new data</p>	<p>The archive is checked for "All new data". "All new data" is data that has not yet been output via a form.</p>
<p>Formula</p>	<p>The archive is checked for certain formulas.</p> <p>Starting the formula editor</p>  <p>The formula editor is based on parts of the Designer program. The Designer has an extensive online help system that can be accessed by clicking the symbol .</p>

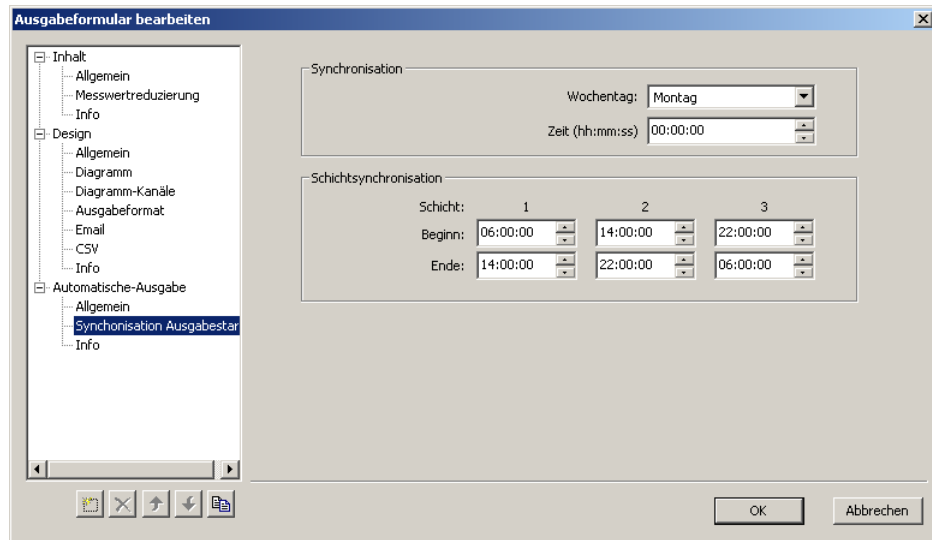
# 12 Editing forms

## Ausgabe condition

The archive is checked for certain output conditions that can be defined via the formula editor.

The dialog window **"Formel für automatische Ausgabe bearbeiten"** opens when you click the **...** button. (formular editor). The formula editor is based on parts of the **Designer** program and has an extensive online help system that can be accessed by clicking the symbol .

### 12.3.2 Synchronization print start



## Synchroniza-tion

You can define here which reference point to set for the print start.

## Shift synchroni-zation

The parameter is only relevant when the setting "Je Schicht" has been activated under "Automatic print" > "General" > "Print start".

⇒ Chapter 12.3.1 "General information"



This shift section is inactive if the beginning and end have the same setting.

### 12.3.3 Info

An explanatory description can be entered in this text field. It is only saved in the form and cannot be output.

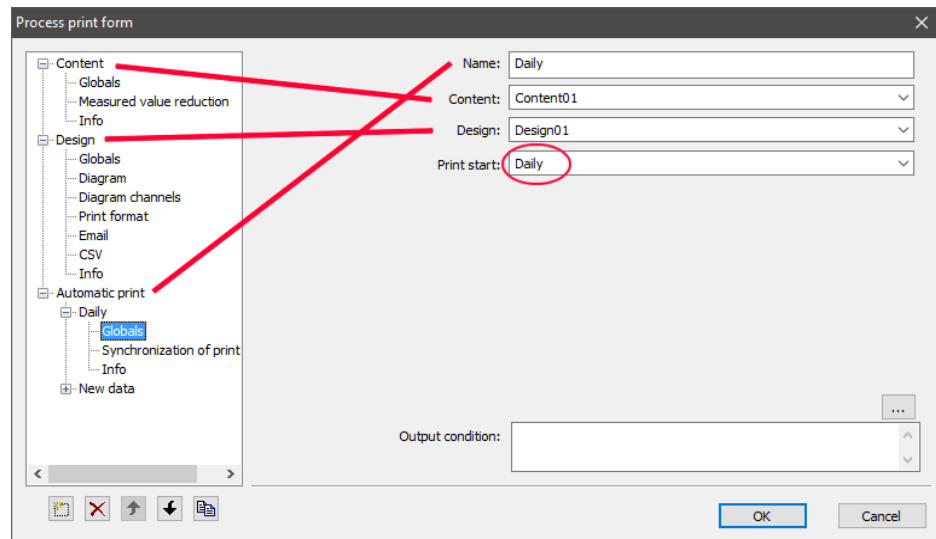
## 12.4 Instances

A maximum of 10 instances are available per area ("Content", "Design", "Automatic print").

A typical application of an instance is automatic form creation, e.g. over every day and at the same time over every week.

**Annahme:  
Ist-Zustand**

A standard form has the setting "Print start: Daily".

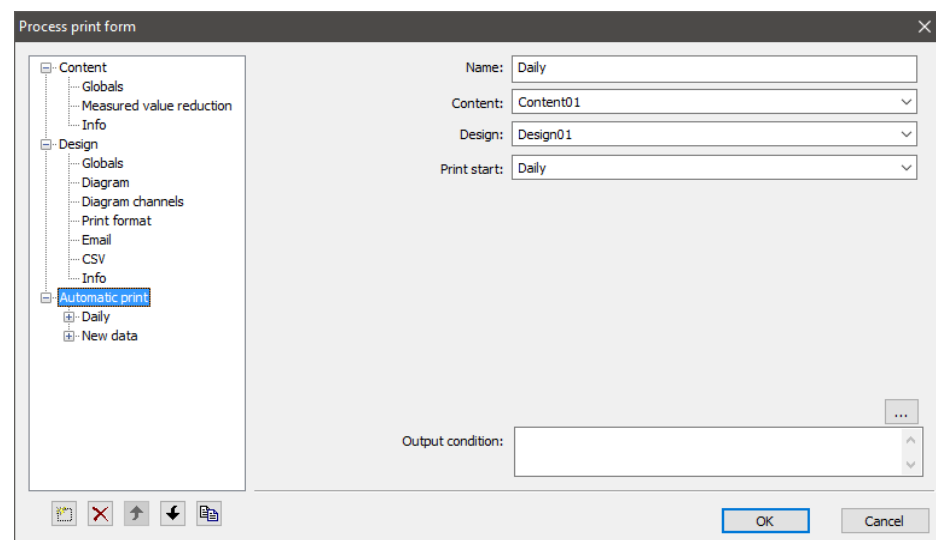


**Annahme:  
Soll-Zustand**

The automatic form creation after data archiving by the PC Communications software PCC is not just to occur "Daily" but also "Weekly".

**Solution**

A new instance in the "Automatic print" area.

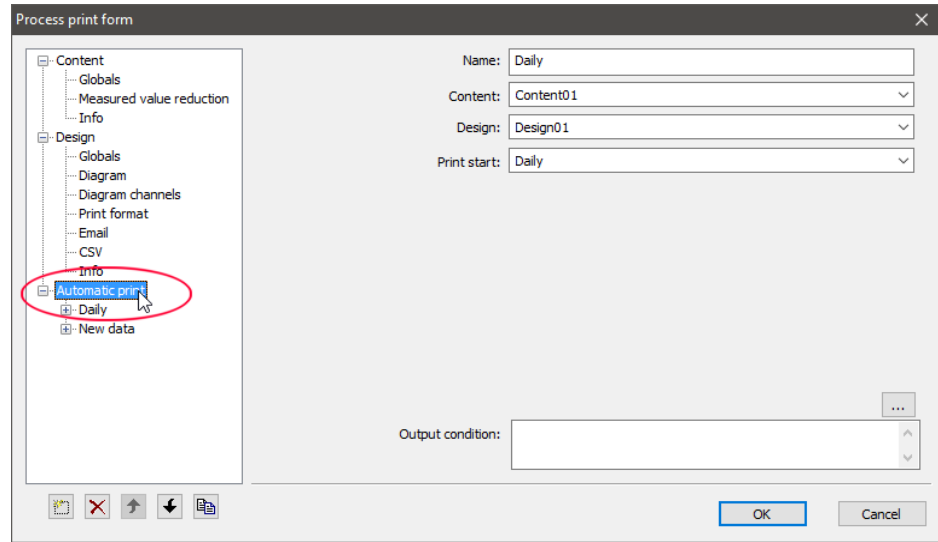


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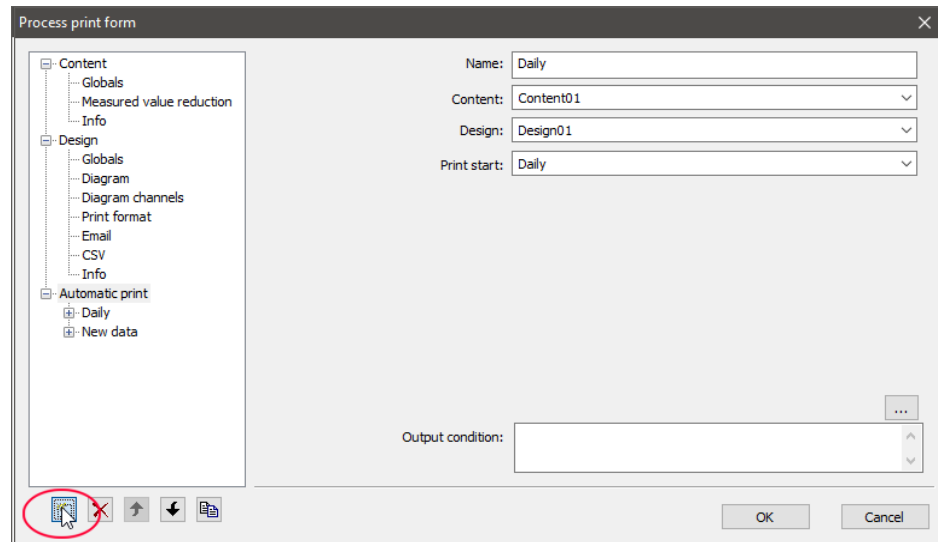
## 12.4.1 Create instance

Process

\* Click "Automatic print".



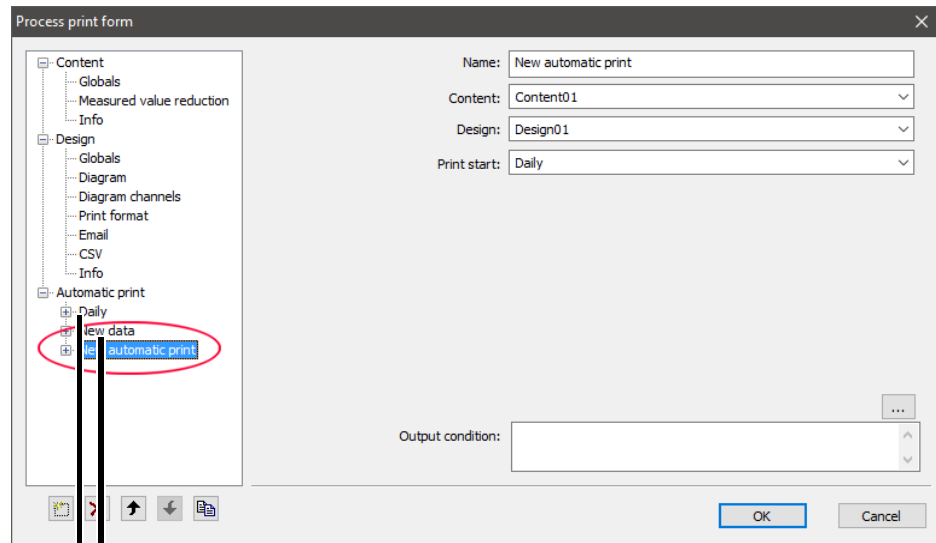
\* Click button to create an instance.



\* Confirm security prompt.

## Result

A new instance in the "Automatic print" area was generated by the program.



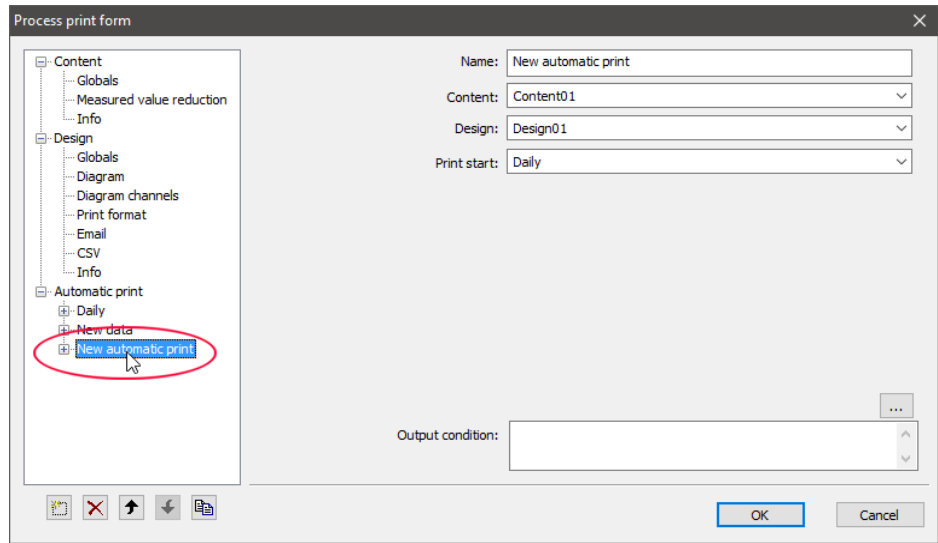
Newly created instance

Origin instance

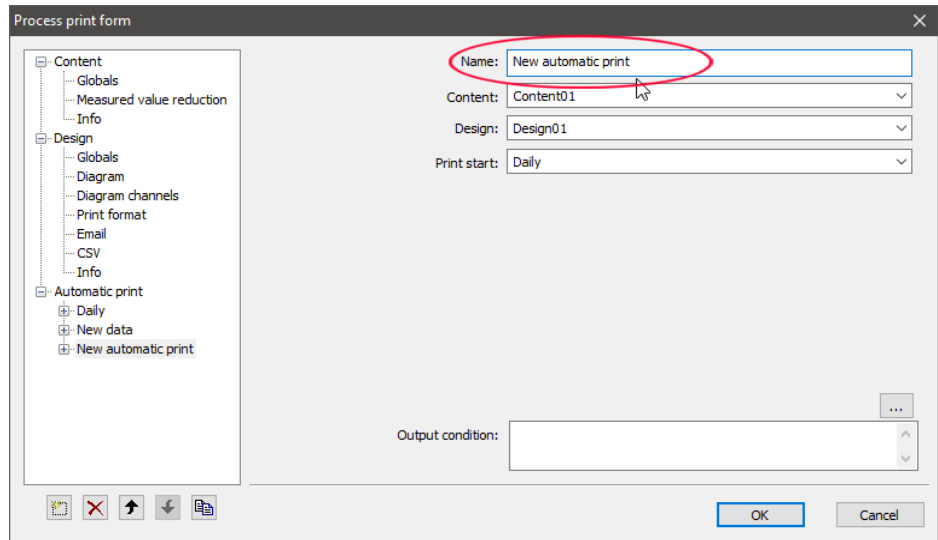
# 12 Editing forms

## 12.4.2 Change instance name

**Process** \* Click new instance with the mouse .



\* Click on the "Name" input field.



\* Enter the new name.

The screenshot shows a dialog box titled "Process print form". On the left is a tree view with categories: Content (Globals, Measured value reduction, Info), Design (Globals, Diagram, Diagram channels, Print format, Email, CSV, Info), and Automatic print (Daily, New data, New automatic print). On the right, there are four input fields: "Name" (containing "Weekly", circled in red), "Content" (Content01), "Design" (Design01), and "Print start" (Daily). Below these is an "Output condition" field with a dropdown arrow. At the bottom right are "OK" and "Cancel" buttons.

### Result

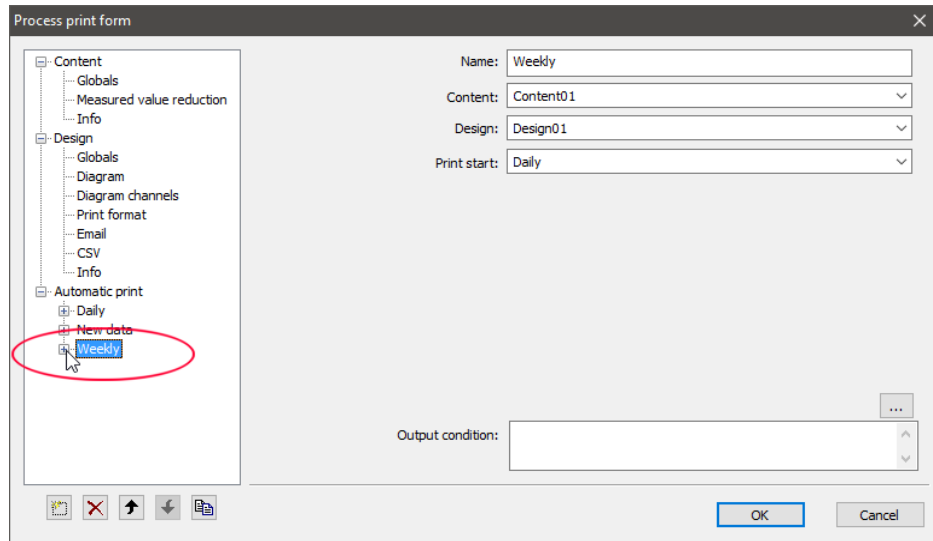
The name of the instance was changed but the print start is still set to the old setting ("Daily").

# 12 Editing forms

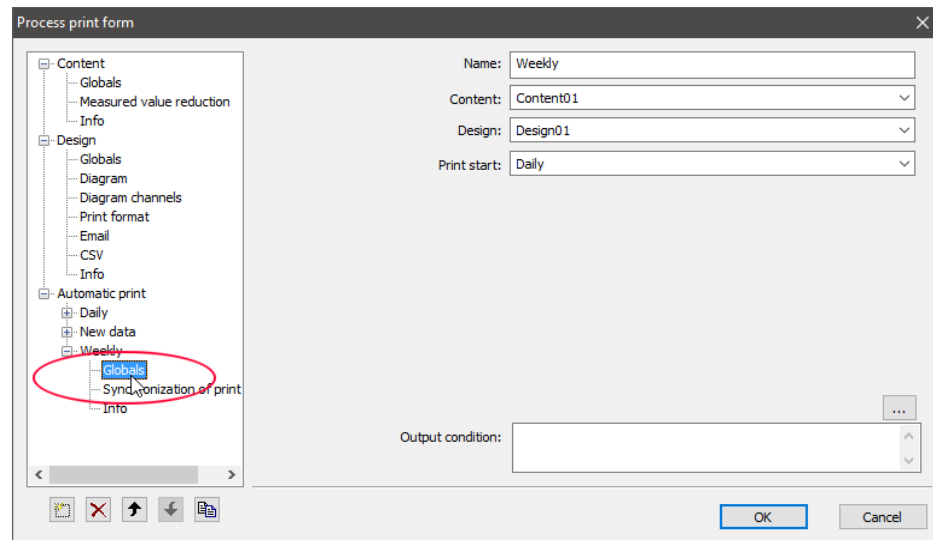
## 12.4.3 Change print start

Process

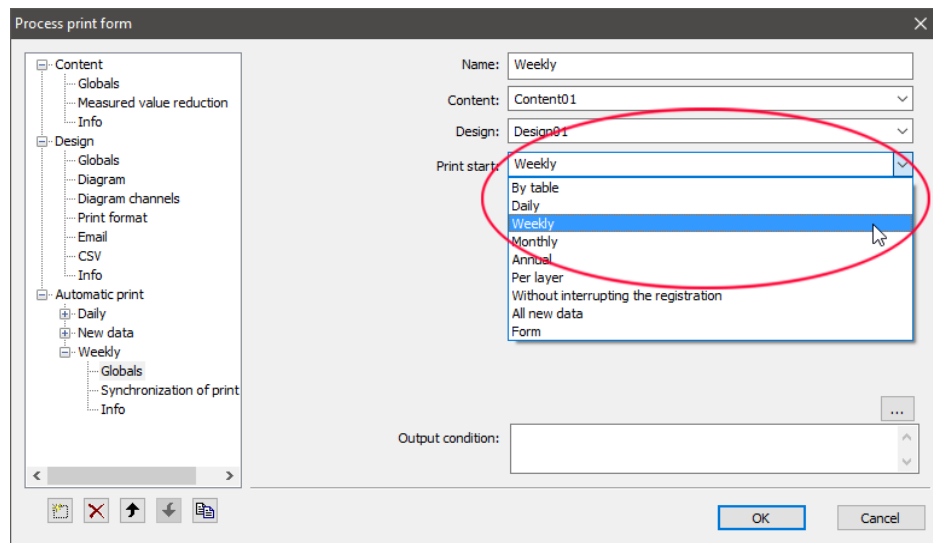
- \* Expand the view of the new instance (click  $\oplus$ ).



- \* Click "Globals".



- \* Switch print start to "Weekly".



## Result

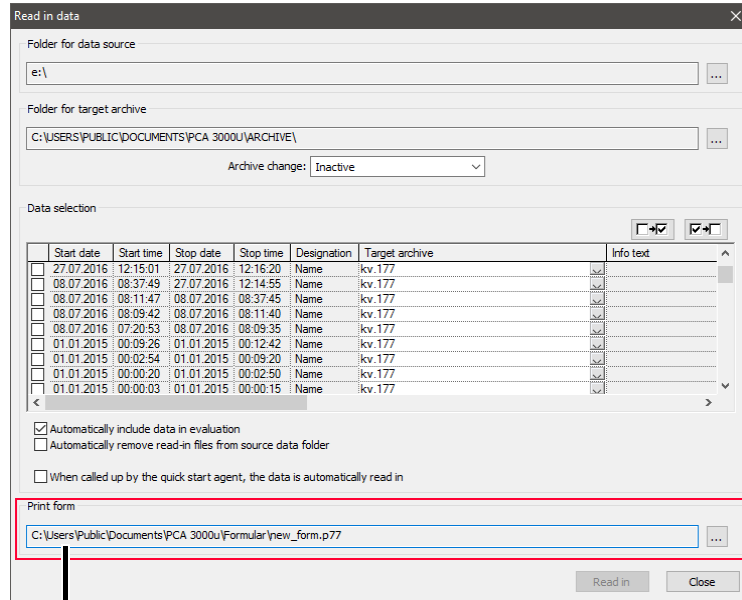
The form is now available for two "Print starts".

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## 12.4.4 Output form

### PCA3000 (automatic)

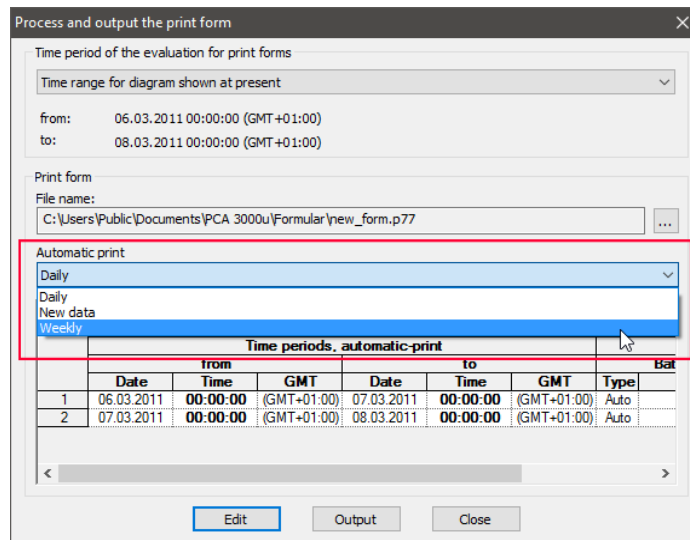
If data is read in by PCA3000 from a CF card or USB stick, the program checks all of the templates/events available in the "Automatic print" area and automatically outputs the respective forms.



Active form

### PCA3000 (manually)

If forms are output via the program function **ARCHIVE > PRINT WITH FORM**, the instance must be selected.

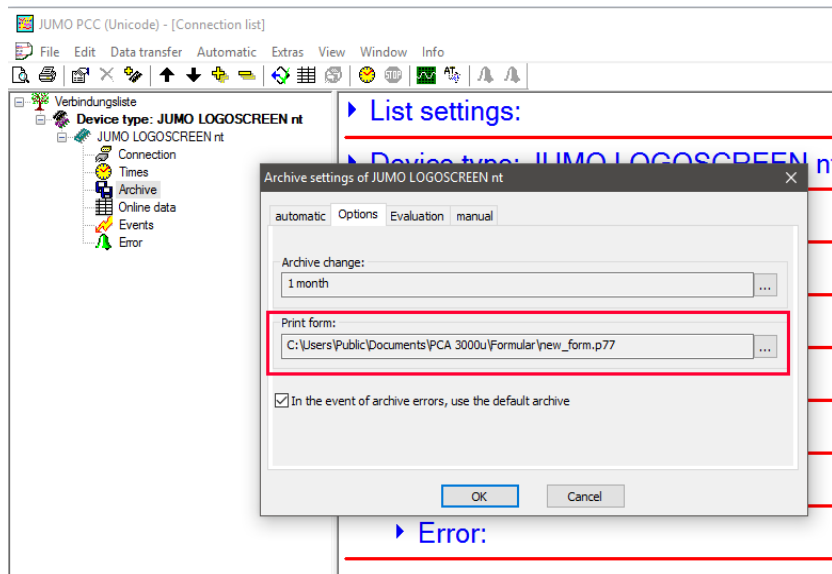


The program only includes the selected "Automatic print".

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### PCC (automatic)

If data is read in with PCC via one of the interfaces, the program checks all of the instances available in the "Automatic prnt" area and automatically prints the respective forms.



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