WEST
Control Solutions

PCA3000 Evaluation Software

59498/1

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1 Introduction

1.1 Preface

Please read this operating manual before commissioning the software. Keep the manual in a place that is accessible to all users at all times.

Please assist us to improve this operating manual, where necessary.

Your suggestions will be appreciated.

However, if any difficulties should arise during start-up, please do not carry out any unauthorized manipulations. You could endanger your rights under the instrument warranty!

Please contact the nearest subsidiary or the head office in such a case.

1 Introduction

1.2 Arrangement of the documentation

The documentation for this software is addressed to equipment manufacturers (OEMs) and users with appropriate technical expertise.

1.3 Typographical conventions

Warning signs

The symbols for **Danger** and **Caution** are used in this manual under the following conditions:

Caution

This symbol is used when there may be **damage to equipment or data** if the instructions are ignored or not followed correctly!

Note signs

Note

This symbol is used when your **special attention** is drawn to a remark.

Reference

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

abc[1]

Footnote

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

A marker in the text, and the footnote text.

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

Action

∗

This symbol indicates that an **action to be performed** is described.

The individual steps are marked by this asterisk, e.g.

∗ Press the ▲ key

∗ Confirm with ENTER

Representation

Keys

▲ + ENTER

Keys are **shown in a box**. Both **symbols and text** are possible. If a key has a multiple function, then the text shown is the one that corresponds to the function **that is active at the moment**.

Menu items

Edit ➔
device data

Menu items in the software which are referred to in this manual are shown in italics. Menu name, menu item and submenu item are separated from each other by "➔".

1 Introduction

2.1   General

The PC Evaluation software (PCA3000) is used for archiving and evaluating data (including device audit trail data). In the software, an electronic signature can be attached to the archived data.

The PCA3000 is on a CD, together with the PCA Communications software (PCC).

2 PC Evaluation Software

2.2   Minimum configuration

The following hardware and software requirements have to be met for installing and operating the software:

- PC with Intel Pentium[1] 4 or higher

- Microsoft Windows[2]: Windows 7 (32-Bit), Windows Vista, Windows XP

- 1Gbyte main memory

- CD-ROM drive

- mouse

- one free serial interface or network connection, or CompactFlash memory cards (depending on the type of data transmission to the recorder),

- 120Mbyte free space on hard disk

In addition, the following items are required for communication between the PC and the recorder, such as:

- reader/writer for CompactFlash memory card or

- PC interface cable including adapter (only when using the Setup interface) or

- serial interface cable (when using the RS232C or RS422/485 interface) or

- network connection (when using the Ethernet connection).

1. Pentium is a registered trademark of the Intel Corporation
2. Microsoft and Windows are registered trademarks
   of the Microsoft Corporation

3.1 Starting the installation

Running the installation program

✱ Start Microsoft Windows

☞ If Microsoft Windows has already been started, all Windows programs have to be shut down before installing the setup program.

✱ Insert CD into the disk drive, then close it.

After the CD has been inserted, the installation program starts automatically, if not, proceed as follows:

✱ Start the file "Setup.exe" in the main directory of the CD.

Screen messages from the installation program will now lead you through the rest of the installation.

Available software

✱ Select the components that need to be installed.
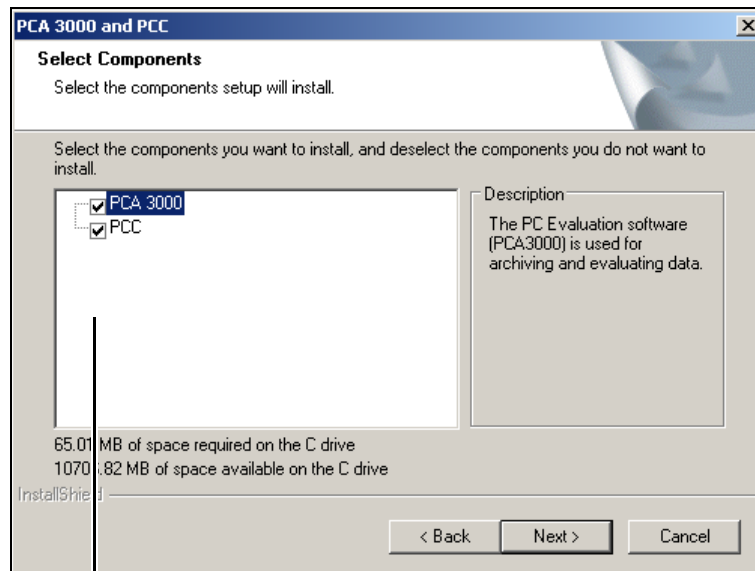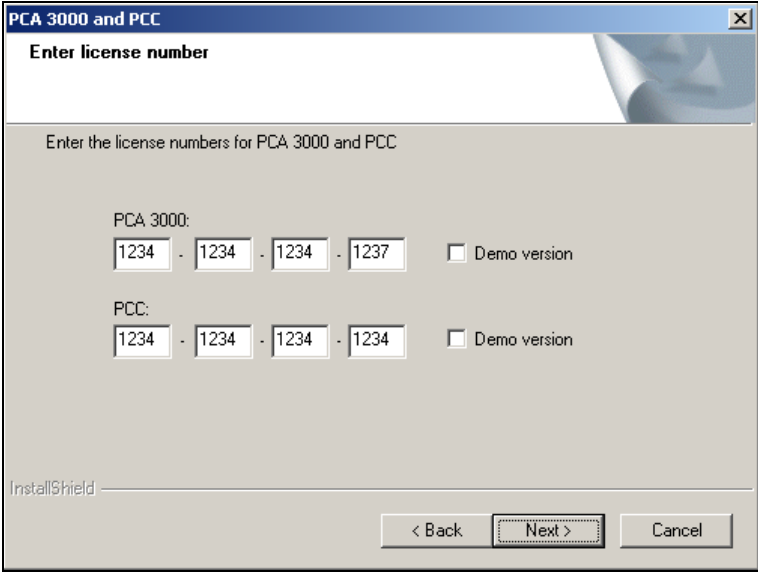
Software that is to be installed must be marked by a tick (☑).

3 Installation

    ✳ Now enter the required license numbers.

    ☞   If the "demo version" option has been set during installation, then some functions of this software (such as data transmission, saving data, printing out) will be disabled.

        The software can be licensed at a later stage.

    ✳ Define the program folder into which the icons for starting the software are to be copied.

3.2   Installing

    ✳ The final action is to click on the [Install] button, to initiate the actual installation.

The selected software components will now be installed. When the installation has been completed, start the PC Evaluation software (PCA3000) via the Windows start menu.

When the software is first installed, there will initially be no query of the user name and the password. In the *Extras* menu, the function *Renew log-in / alter password* can be used to activate the query at the program start.
By activating the log-in function, it is possible to make a distinction between the "Specialist" and "Maintenance" users. Both users have different rights with regard to the software functions.
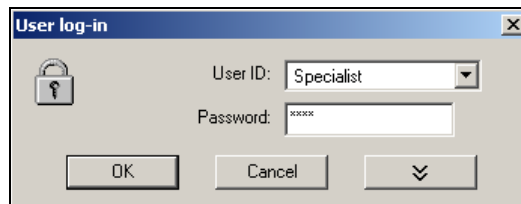
⇨ "Renew log-in / alter password" on page 75

⇨ Chapter 12 "User rights"

If the query is active, proceed as follows:

✳ Log in.

Please note that not all functions are available to all users.

4 Log-in to the program

5.1   Elements of the user interface

Menu bar

Toolbar

Working area for representation of process data

Details of the currently
logged-in user

Coordinate bar
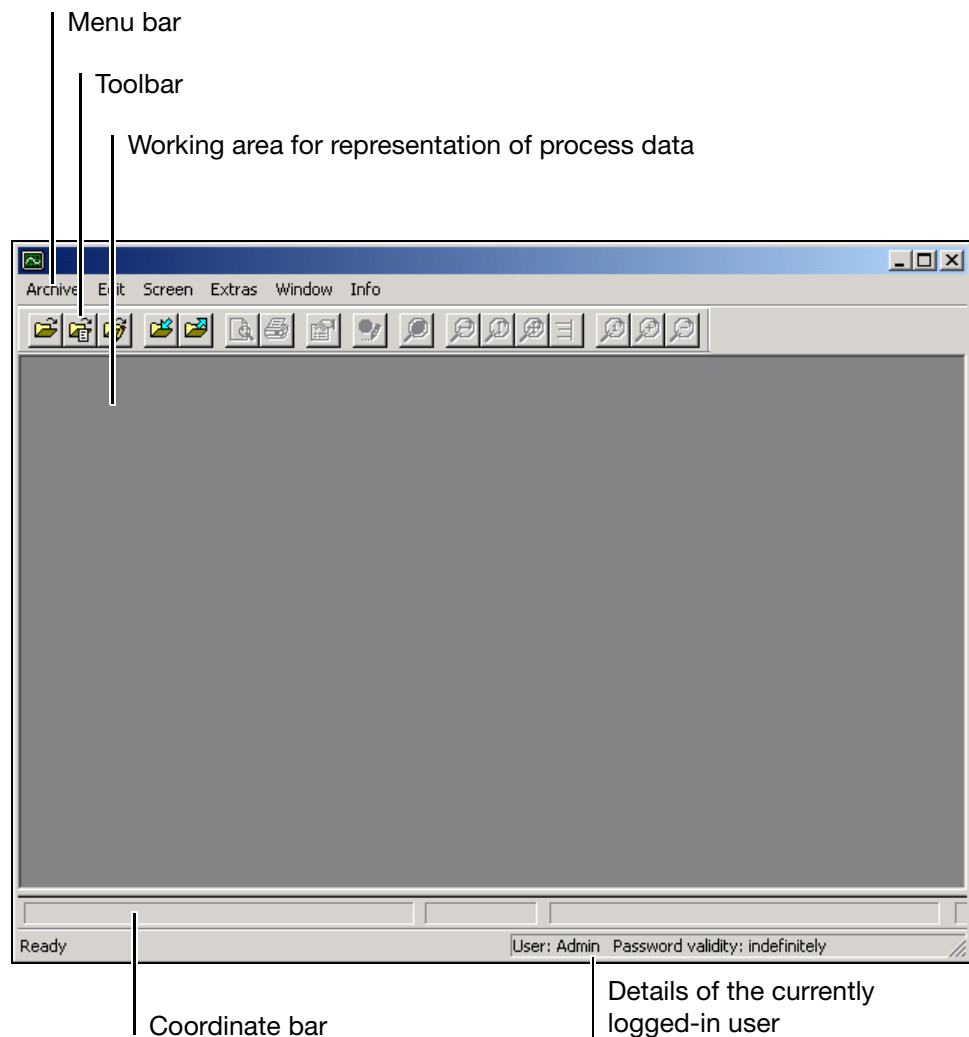
Menu bar The individual functions of the software can be started by using the menu bar.

⇨ Chapter 10 "Menu functions and toolbar"

Toolbar The toolbar contains selected functions from the menu bar. They can be started or activated by pressing the left mouse button. If you rest the mouse pointer on one of the icons (tool tips), you will see the function title after a short while.

5 User interface

Shift toolbar   The position of the toolbar can be changed, if desired.

✱ Please move the mouse pointer between two icon groups.
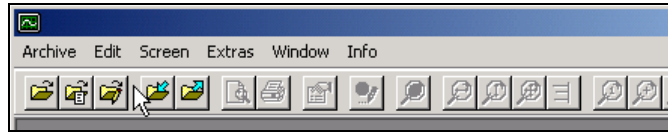
✱ Press the left mouse button.

✱ Keeping the left mouse button pressed, drag the toolbar to the desired position.

✱ Now release the mouse button.
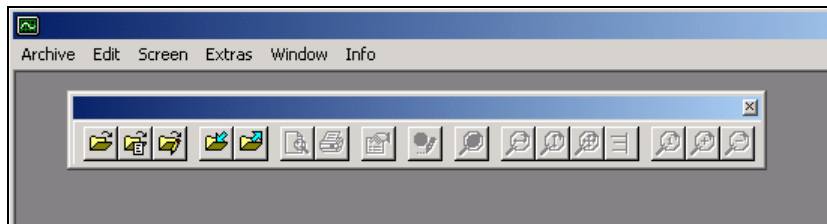
Possible positions are:

- the left or right window border (vertical orientation),

- below the menu bar (horizontal orientation),

- at the bottom edge, above the user details (horizontal orientation) or

- any position (in its own window - height and width can be changed using the mouse).

Working area   The process data are displayed here.

6 Guide

6.1 Introduction

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

For a better understanding, the concept is explained by analogy with conventional pen recorders and paper charts containing process data.

6 Guide

6.2 Reading in data

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

Accordingly, the **archive** represents the conventional paper chart deposit, the **evaluation** the rolled out paper charts.

Practical experience has shown that most users initially only wish to save (archive) their measurement data. Data are taken out of the archive and analyzed only in the event of a fault or similar event.
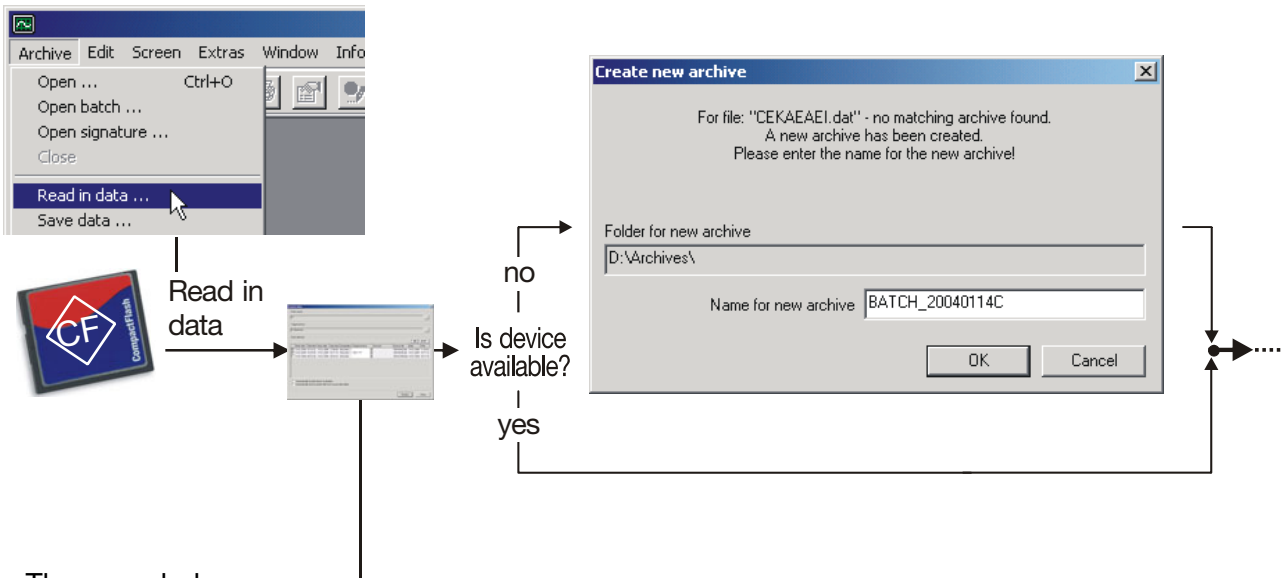
The recorded measurement data can be read in via the CompactFlash card or the interface.

The PCA communications software is used for reading in via the interface.
(PCC).

Further important information: see "Read in data" on page 69.
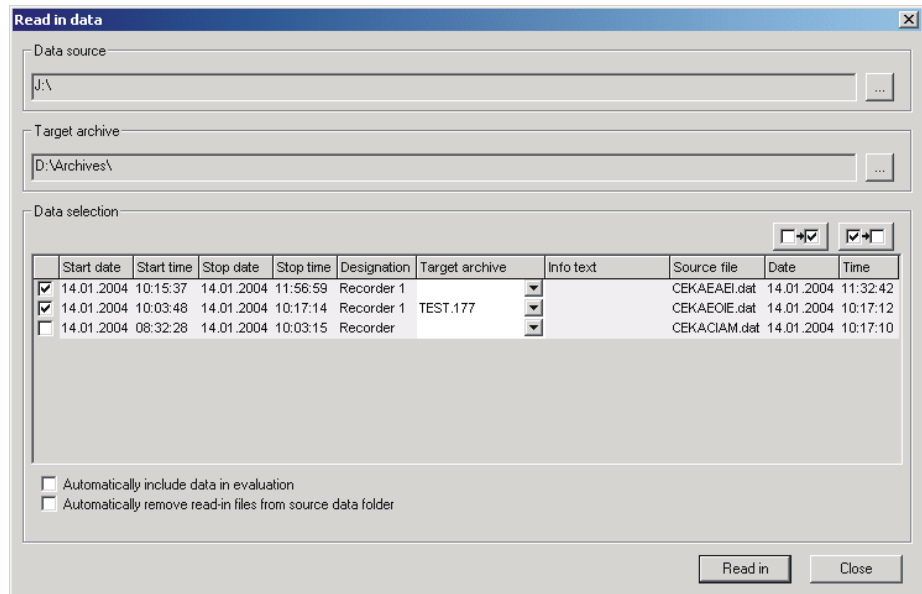
☞ In contrast to the preceding PCA version, the archives of the PCA3000 software are not a directory with several files, but a single file only. This file always carries the file extension ".177".
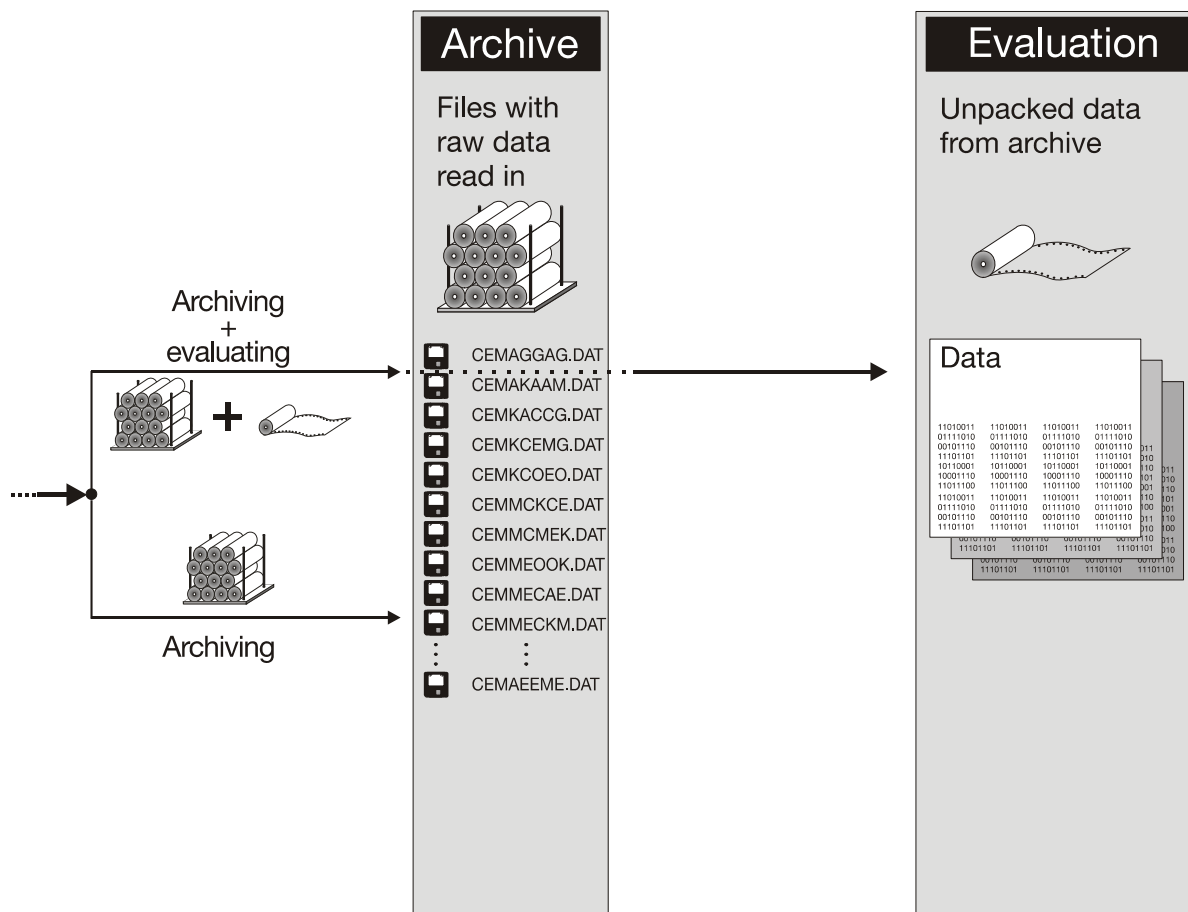
The archive directory and the evaluation directory are set within the PCA3000.

Archive   The default directory is set via the menu item *Archive ➜ Default settings ➜ File deposit ➜ Directory for archives*. It can be altered at a later stage when reading in the data.

Evaluation   The default directory is set via the menu item *Archive ➜ Default settings ➜ File deposit ➜ Directory for evaluation*. It cannot be altered when reading in data.

☞ With extensive measurements, it may take some minutes for the measurement data to be entered into the archive.

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6.3 Opening the archive

☞ Measurement data which are to be visualized are opened from the **evaluation**.
If these data are not yet available in the **evaluation**, they must first be copied from the archive to the evaluation. This procedure is carried out automatically during opening.
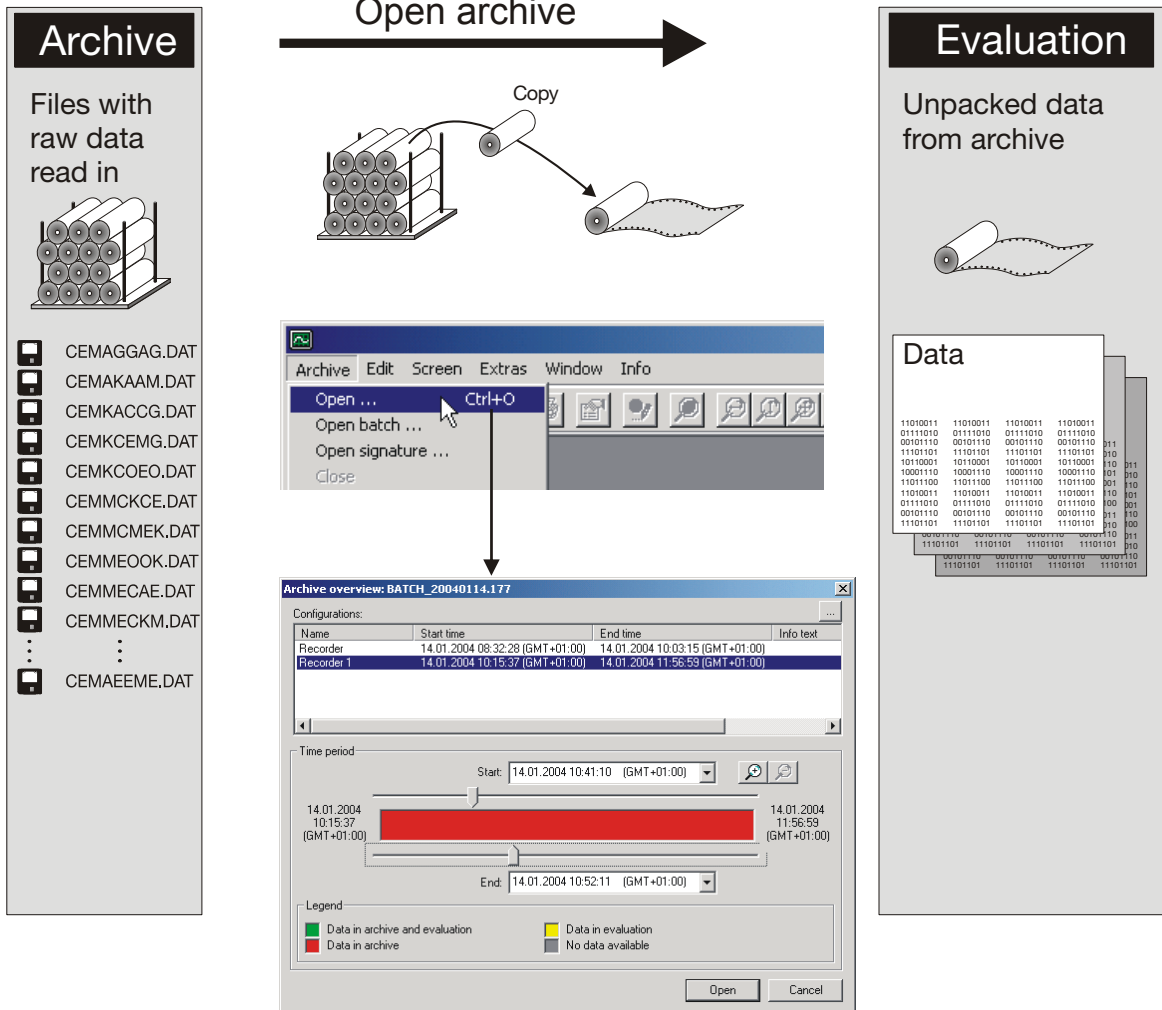
After *Archive* ➜ *Open* has been selected, the time period is selected.

⇨ Chapter 6.3.1 "Selecting the time period"

Open archive →
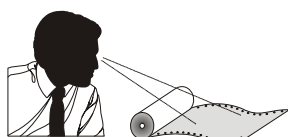
Visualization
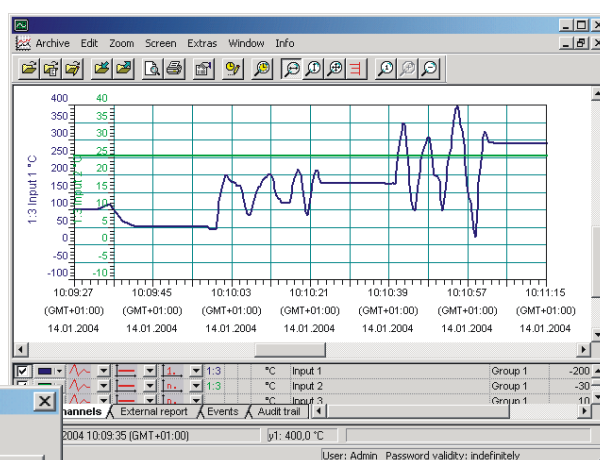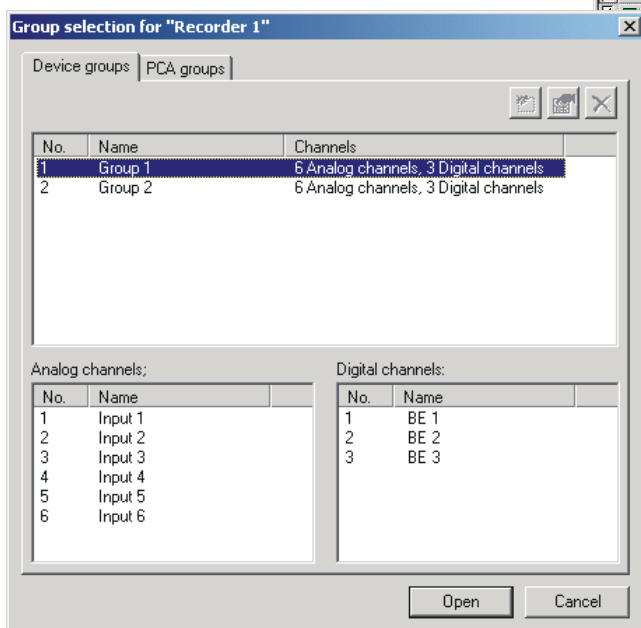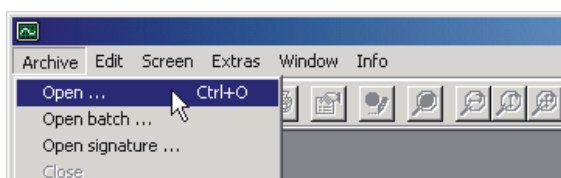
When the time period has been selected, the required group (as generated by the paperless recorder) is chosen before the measurement data are displayed. User-defined groups can be compiled in the register "PCA groups" .

Further important information:
see "Open" on page 67.

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6.3.1 Selecting the time period

Selecting a data set
Each entry represents a new configuration of a device.
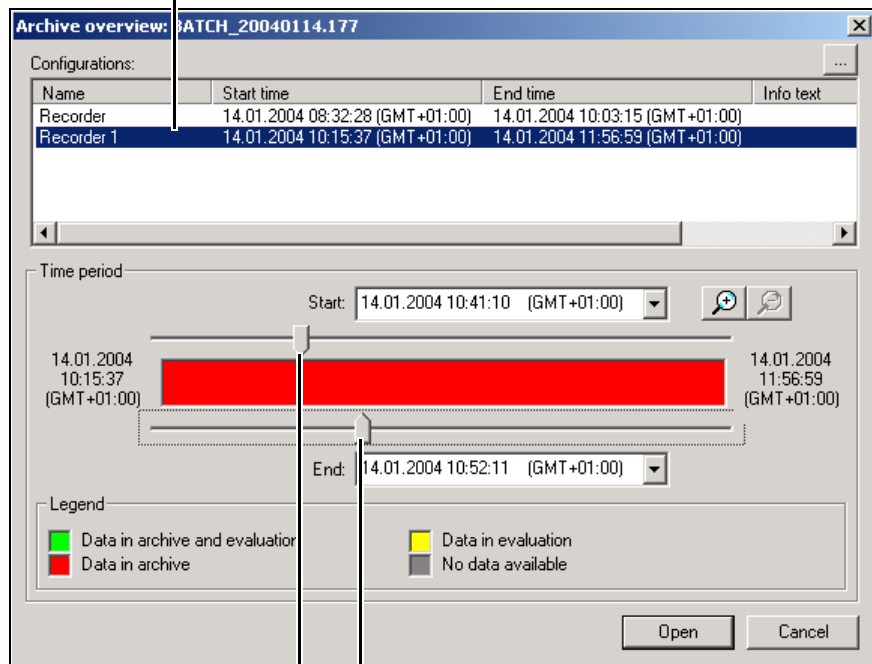
Selecting a time period
The period between the two sliders is shown graphically after activating the "Open" button.

Hold the left mouse button down when shifting the sliders.

Back
Set the time period that was last active.

Zoom
Zooms the time period between the sliders over the entire width. The sliders are repositioned.
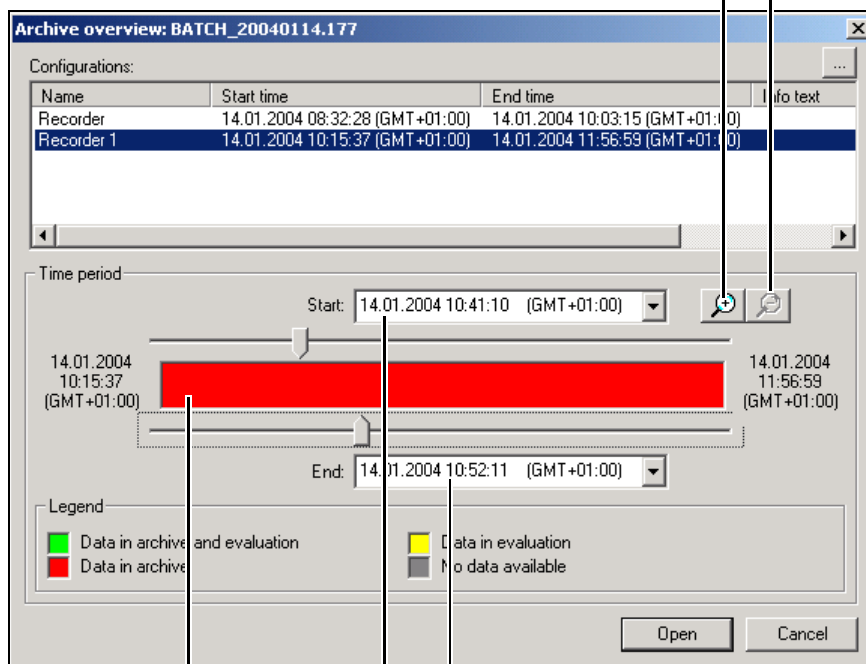
End time
A dialog box can be used to determine the end time.

Start time
A dialog box can be used to determine the start time.

Data in archive only
The data are only available in the archive. If they are selected for display, then the software will automatically accept them for evaluation.

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6.4 Backing up data
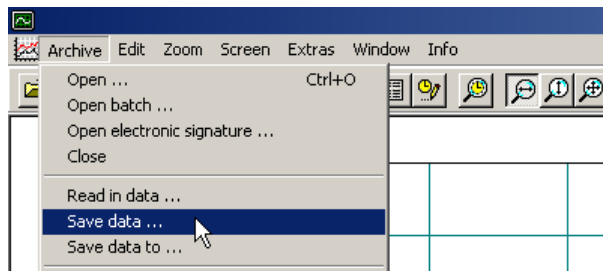
Save data

The *Save data* function serves 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. for passing them on for checks) and

- copy process data from an archive and simultaneously delete them
  (e.g. so that the archived files do not become unnecessarily large).

Save data as
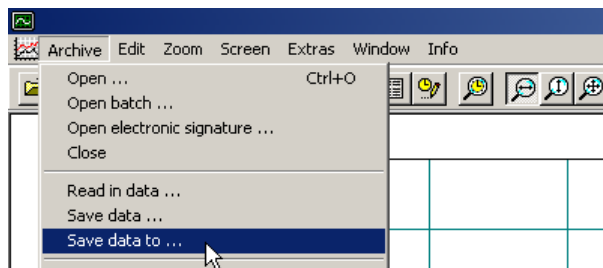
The *Save data as* function extends the *Save data* function by the possibility of protecting the records (protected archives). Protected archives differ from the other archives by:

- inhibiting the execution of signatures

- inhibiting the *Save* function
  (a fresh saving of data is prevented).

- a simplified opening of the protected data.

- protected data cannot be extended
  (no further read-in or appending of additional data).

☞ The *Save data as* function is only available if the data are graphically displayed.

Save data

Selected archive

Archive selection

Select data according to time

Select data according to configuration

Select data according to batch

Select data according to signature

```
Save data                                    [x]
─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\20041 23.177                  [_]
  ☐ Protect archive from alterations
     ☐ Inhibit signature creation
     ☐ Inhibit data save function
          Backing up      Close
```

Cancel data backup

Start data backup

Selected backup archive

A ☑ means that the data will be deleted from the archive after backup.

Select backup archive

6 Guide

Save data as

Selected backup archive

Selected time period
for data backup

Archive selection

Data selection

Save as

Backup archive

D:\Archive_es\Batch_gb_20040114.177   [...]

Time period

Time period for currently visible diagram   [▼]

from: 14.01.2004 10:10:21 (GMT+01:00)
to: 14.01.2004 10:10:33 (GMT+01:00)

[Supplementary description]

☐ Protect archive from alterations

☑ Inhibit signature creation

☑ Inhibit data save function

[Backing up]   [Close]

Additional text for describing the
protected archive.
⇨ Page 73

(☑) Prevent additional signings.

(☑) Prevent additional backing up of data.
(☐) Caution: If the option is inactive, a protected archive
that has already been protected can again be saved as
an unprotected one.

This protects the archive against alterations
(protected archives).

6.5   Archive and evaluation directory

Archive file   The archive file may be located in a network. Several PCs may use an archive jointly.

Evaluation directory   The evaluation directory must **not** be located in a network, but locally on the hard disk.

File deposit   The directories (for archives and for evaluation) are preset in the PCA3000 software, in the menu *Archive* ➔ *Default settings* ➔ *File deposit*.

6 Guide
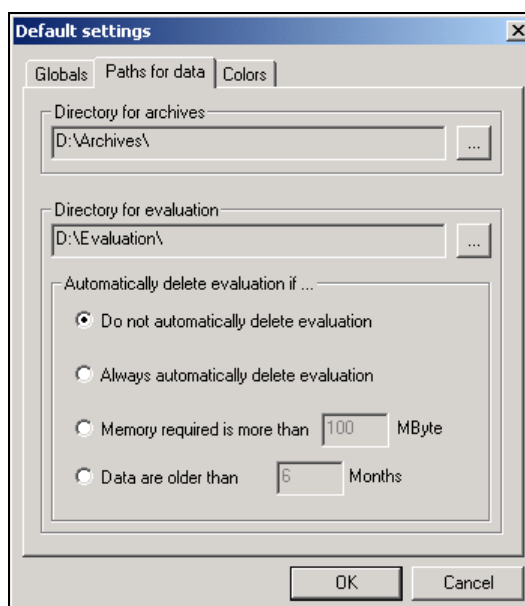
In Chapter 6.3 "Opening the archive" it has already been described how data are presented for evaluation (display). The graphical representation could look like this:
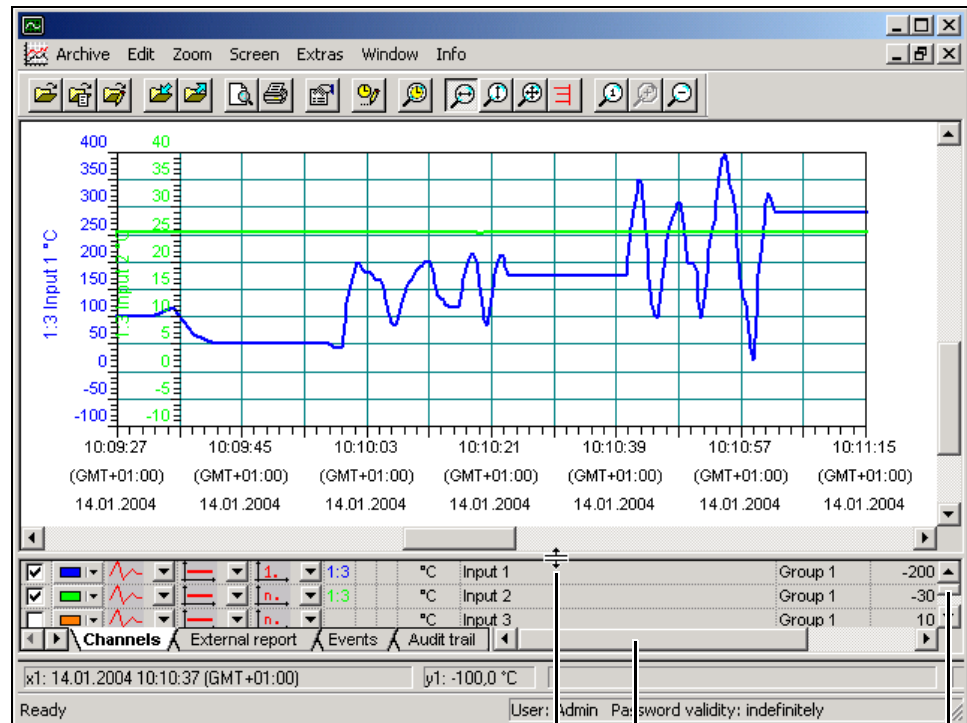
You can alter the window height by placing the mouse pointer between the graphics and the table area and moving the mouse up or down (keep left mouse button pressed).

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

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

The display is subdivided into

- a graphics area, in which the measured values are shown and

- a table area, which can be used to control the graphics and further functions.

☞ The graphics display will appear faster, and will also be clearer, if less measurement data are used within it.

7 Evaluation - General

The graphics area is shared by the analog and digital signals. The analog signals always lie above the digital signals.
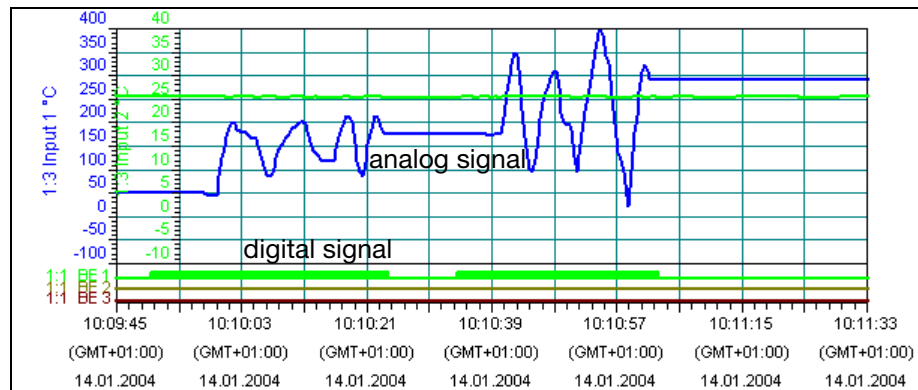
The most important control element within the graphics is the mouse. It is used to perform different functions.

Left mouse button

Normally, the left mouse button will produce a zoom in the X-direction.

✽ Position the mouse pointer within the graphics.

✽ Press the left mouse button and hold it down.

✽ By dragging the mouse you can mark the time period that has to be enlarged.

✽ Release the mouse button.

The graphics are automatically zoomed to the next possible time period.
Please note that more process data may be displayed than have been selected.

The function of the left mouse button can be controlled via the toolbar of the software.

Guideline
Zoom X+Y axes
Zoom Y-axis
Zoom X-axis
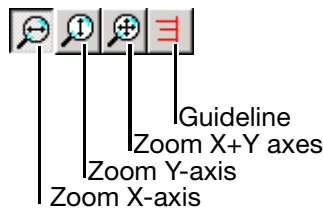
When using the Y-zoom, please note that the channels that have an auxiliary Y-axis (or no Y-axis) are zoomed at a fixed ratio to the main Y-axis. Consequently, the scaling range of the auxiliary Y-axes (or of the channels without Y-axes) is expanded under certain conditions.

A fixed ratio to the main Y-axis is thus ensured. The diagram curves will appear in the same relationship after the Y-zoom as before the zoom.

8 Evaluation - Graphics area

**Right
mouse button**

If you use the right mouse button when the mouse pointer is within the graphics, a menu appears in which various functions can be selected.

Search for batch
Batch info
~~Zoom forwards~~
Zoom backwards
Reset zoom
Sign time period
Print ▶
Properties
Save diagram as bitmap
Save diagram as JPEG
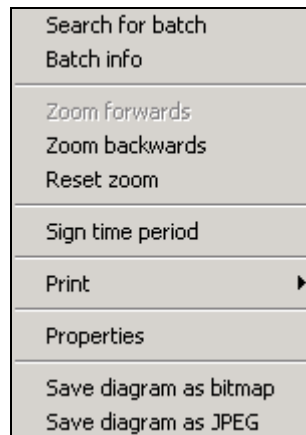
Search batch

When you have called up the function, a dialog box will appear if the archive file contains batch data.

Select the required options and give all the necessary details. After activating the Search button, the corresponding batch data will be automatically displayed over the entire width of the X-axis.
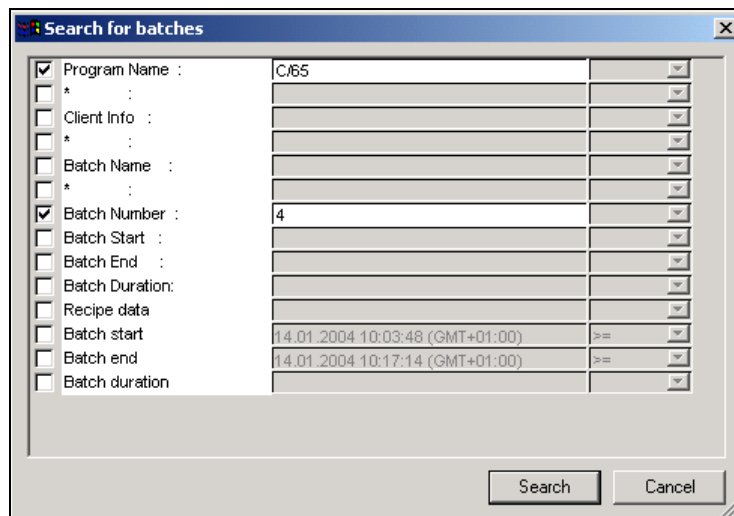
The specified search options will be AND-linked.

If no batch is found that matches the search options, the batch that occurs first will be shown.

Batch info

This function shows the batch texts for the displayed batch. It only becomes available when the data of a specific batch have come into display by using the function *Search for batch*.

Zoom forwards (zoom in)

Zoom forwards is used to restore the next zoom display. This function is only available if *Zoom backwards* has been used previously. As an alternative to the mouse, *Zoom forwards* can also be executed from the PC keyboard (page up).

Zoom backwards (zoom out)

Zoom backwards is used to restore the last zoom display. This function is only available if zooming has been carried out. As an alternative to the mouse, *Zoom backwards* can also be executed from the PC keyboard (page down).

Reset zoom

Reset zoom will restore the display of the entire time period for the selected evaluation. As an alternative to the mouse, *Reset zoom* can also be executed from the PC keyboard (Home).

If you want to use the PC keyboard for zooming, the graphics area must be the active window. If the table area is to be the active window, you will have to click on the graphics first.

Sign time period

This function can be used to sign the current contents of the graphics area. After calling up the function *Sign time period*, a submenu will appear in which you will be asked for the designation. The designation is defined in the device through the parameter *Configuration* ➜ *El. Signature* ➜ *Designation* ➜ *Significance* and through the parameter *Configuration* ➜ *El. Signature* ➜ *Designation* ➜ *El. signature*. When the designation has been selected, signing takes place by selecting the user ID and password.

Print

After calling up the *Print* function, a submenu with additional functions appears:

- *Print preview*

- *Print*

- *Printer setup*

Print ➜ Print preview

Here you can get a preview of the graphics print-out.
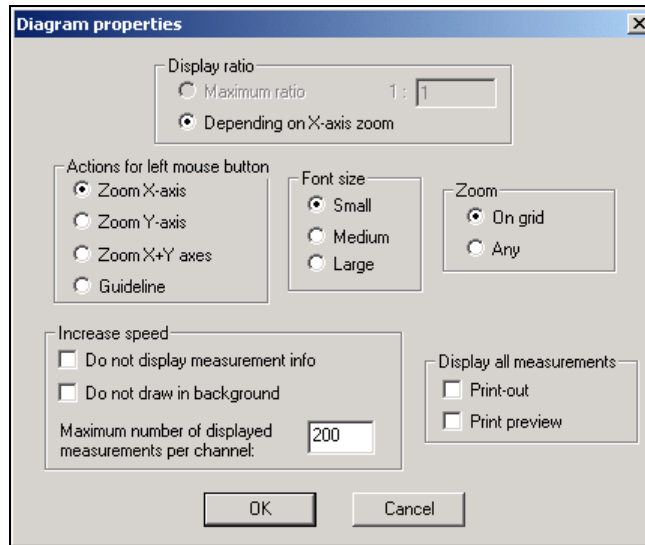
Print ➜ Print

This will start the print output.

Print ➜ Printer setup

This takes account of various printer properties (e.g. paper size and orientation).

8 Evaluation - Graphics area

Properties
After calling up the *Properties* function, a dialog window will open. You can influence the graphics display and the function of the left mouse button by means of selectable parameters.

Properties ➜ Display ratio
The setting cannot be altered here. Data are always displayed automatically using the setting "Depending on X-axis zoom".

Properties ➜ Actions for left mouse button
This determines the function of the left mouse button within the graphics. Normally, the left mouse button will produce a zoom in the X-direction.

If you choose the "Guideline" setting, then a vertical and a horizontal line (including the current amplitude and time values) will appear after pressing the left mouse button. The corresponding measurements are shown in the table area (the *Channels* table must be active).

☞ The guideline is positioned with regard to the "real measured values", i.e. it may diverge from the optical profile of the curve, since more measured values exist than are displayed.

The guideline can also be shifted from the PC keyboard by using the key combination Shift-Cursor left or Shift-Cursor right.

☞ The function for the left mouse button can also be controlled via the toolbar of the software.

Guideline
Zoom X+Y-axes
Zoom Y-axis
Zoom X-axis

Properties ➜
Font size

Use this setting to alter the size of the scaling for the X- and Y-axes.

Properties ➜
Zoom

This setting can be used to influence the marking of a section that has to be spread. You can choose between continuous marking (*Any*) or marking at a fixed spacing (*Division*).

Properties ➜
Increase speed

The options *"Do not display measurement info"* and *"Do not draw in background"* are *not* marked with a ☑ as a default setting, which means that these functions are active.

Do not display measurement info

If the mouse pointer is placed on a measured value within the graphics and rested there, a window with the current amplitude and time values will appear.
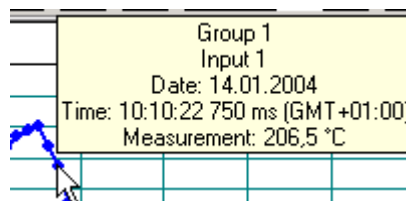
The window will disappear after a few seconds. If you deactivate the function (☑), the evaluation program has a reduced computing load and will thus become somewhat faster.

Do not draw in background

Standard procedure is that the picture is generated without being visible to the user and then suddenly switched into display (drawn in the background). If you select *"Do not draw in background"*, the graphics is displayed online on the screen. This means that you can observe how the curve profile is drawn. This view mode is somewhat faster than drawing in the background.

The difference between the two view modes will only become obvious if there is a vast amount of data to be processed.

8 Evaluation - Graphics area

Maximum number of measurements displayed per channel

You can set the number of the measurements to be displayed per channel by entering a number (from 10 to 10000) here. The higher the number, the more measurements will be shown in the graphics. The lower the number, the less measurements will be shown.

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

Properties ➜ Display all measurements

Normally, only every nth measured value is displayed (depending on the zoom factor). This also applies to the print preview (page view) and the printout. You can force the display or printout of all measurements by means of the "Printout" and "Print preview" buttons.

Save diagram as bitmap

This function saves the current contents of the graphics area as a picture in bitmap format.

Save diagram as Jpeg

This function saves the current contents of the graphics area as a picture in JPEG format.

The table area is used to control the graphics and further functions. It is operated similar to spreadsheet programs. The area consists of several registers which can be switched into or out of display according to availability. The following is available as a maximum:

- Channels
- Periodic report
- Daily report
- Monthly report
- Annual report
- External report
- Events
- Audit trail
- Batches
- Signature for batches
- Signature for log-off
- PC signature for batches
- PC signature for time period
- Analog: Group...
- Digital: Group...
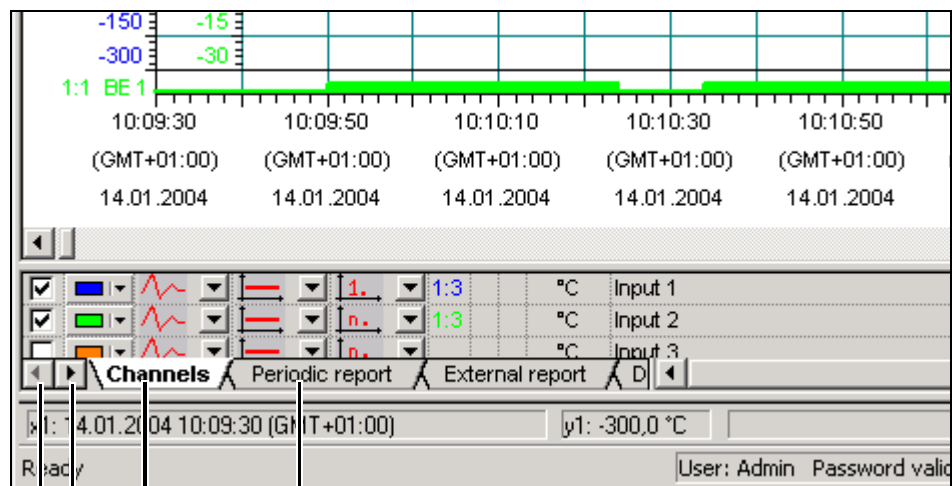
Click here to select the
register as the active register

Active register

Click here to switch further
registers into display (if available)

The right mouse button also has a special function in the table area. When you press the right mouse button, a dialog window opens with functions that vary according to the active register.

9 Evaluation - Table area

9.1 Channels

Display channel

Channel color

Line type

Line width

Y-axis type

Ratio of displayed measurements to actual measurements.

Display of channel unit

Channel name

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

Group name

Scaling start

Scaling end

Channel description

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

9.1.1 The functions of the left mouse button

Display channel   Each channel (analog, digital and messages) can be shown or hidden. Only channels that are marked with a ☑ are shown in the graphics area.

Channel color   Here you can select the color in which the measured values and channel-specific data are displayed. The color affects both the graphics and the table area.

⇨ See "Colors" on page 71.

Line type (analog signals)   The representation mode can be selected here (separately for each channel).

Dot   Dot line   Line

Stepped line   Stepped dot line
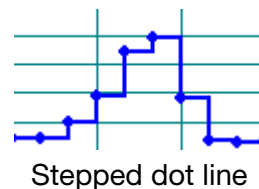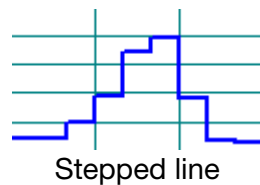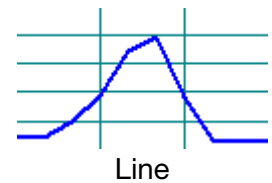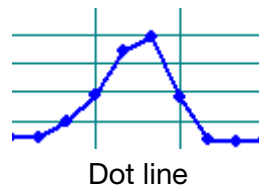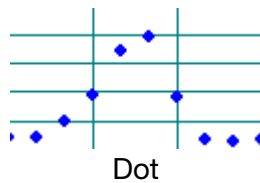
Line type (digital signals)   The representation can also be altered for the digital signals.

Stepped line   Stepped dot line   Binary
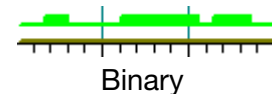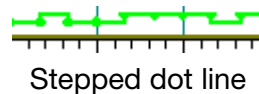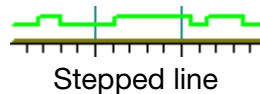
Line type (messages)   The representation can also be altered for the messages.

Symbol and text   Symbol
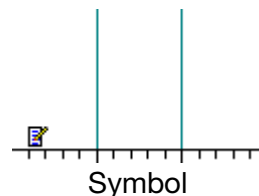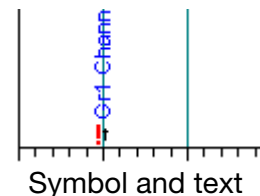
Line width   Here you can select the line width for displaying the curve.

9 Evaluation - Table area

Y-axis type   The axis type for a channel can be selected here. Available options are:

- main Y-axis
  Please note that always only one channel can have a main Y-axis.
  The Y-axis can be found at the left edge of the screen.

- auxiliary Y-axis
  The auxiliary Y-axes are to the right of the main Y-axis. Scaling of the data is adapted to the main Y axis.

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

9.1.2 Displays (cannot be altered directly)

Ratio of displayed measurements ...   The current display factor is shown here. The factor changes if the measurements are zoomed.

Example: Factor = 1:3 --> every third measurement is displayed.

The parameter "Maximum number of measurements displayed per channel" will affect the factor.

Display for channel unit   Shows the unit of the channel that has been configured on the device.

Channel name   Shows the channel name that has been configured on the device.

Group name   Shows the group name that has been configured on the device.

Scaling start   Shows the scaling start that has been configured on the device.

Scaling end   Shows the scaling start that has been configured on the device.

Channel description   Shows the channel description that has been configured on the device.

9.1.3 The functions of the right mouse button

In the "Channels" register, the right mouse button is only used in connection with printing the displayed measurement curves.

Further information on the "Printing" function can be found in Chapter 9.10 "Printing".

9 Evaluation - Table area

9.2 Report

	Time period							Minimum		
	From			To						
	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	Date dd.MM.yyy y	Time HH:mm:ss	GM HH:m
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:
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:
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:
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:

Channels λ **Periodic report** λ External report λ D

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

Ready   User: Admin Password validity: indefinitely

The different registers for the report (statistics) are:

- Periodic report

- Daily report

- Monthly report

- Annual report

- External report

The individual reports that have been logged (including period, minimum, maximum and average values) are shown for all channels

9.2.1 The functions of the left mouse button

The left mouse button can be used to alter the column width and row height of the individual entries within the report registers.

Alter column width

✽ Position mouse between two columns
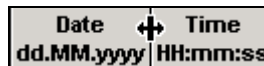
✽ Keeping the left mouse button pressed, alter column width by dragging with the mouse

✽ Release the mouse button

Alter row height

✽ Position mouse between two rows
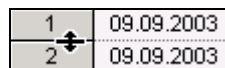
✽ Keeping the left mouse button pressed, alter row height by dragging with the mouse

✽ Release the mouse button

Column width
Row height

☞ Please note that a column or row can be made so small that it is no longer visible.

If you want to make it visible again, please proceed as described below. In this example, it is assumed that in the register "Analog: Group 1", the column for the measurements on channel 1 has disappeared as a result of having been shrunk.

GMT HH:mm	Input 2 °C
+01:00	25,8

✱ Position the mouse pointer in the column to the right of the missing one (in this example: channel 2).

GMT HH:mm	Input 2 ↓ °C
+01:00	25,8

✱ Move the mouse pointer to the left until it looks as shown below.

GMT HH:mm	Input 2 °C
+01:00	25,8

If the mouse pointer looks like this, you have moved it slightly too far.

GMT HH:mm	Input 2 °C
+01:00	25,8

✱ Press the left mouse button and open out the missing column out (drag mouse to the right).

✱ If you now let go of the mouse button, the column will be visible again.

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

Mark section   In addition, the left mouse button can be used to mark a section. These marked sections can be exported in a text format via the "Export" function by using the right mouse button.
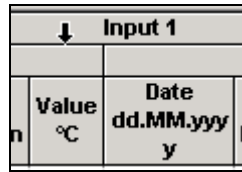
✱ Position mouse in an entry

✱ Keeping the left mouse button pressed down, select the section by dragging with the mouse

✱ Release the mouse button

9 Evaluation - Table area

Mark column   ✳ Position the mouse in the column header

                   ✳ Press the left mouse button
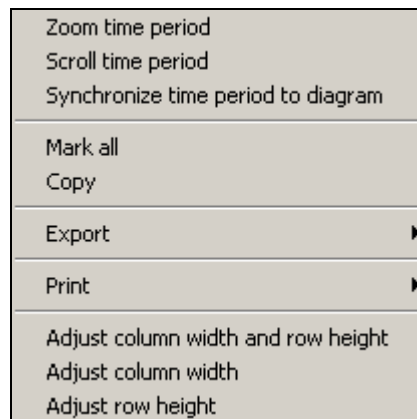
Mark row   ✳ Position the mouse in the left column of the row (➡ 1)

                   ✳ Press the left mouse button

Additional keys   With the help of the Shift key and the left mouse button you can mark a section covering several rows or columns. The Ctrl key and the left mouse button can be used to mark additional rows /columns.

9.2.2 The functions of the right mouse button

If you press the right mouse button (mouse pointer must be within the table area), you will see the following dialog window.

Zoom time period   The measurements of the selected report are zoomed to the next displayable period and are graphically presented.

Scroll time period   If the start time of the report is not within the visible time period, for example after zooming, then "Scroll time period" is used to shift the curves so that the start time (or the next possible one) is in line with the left window border.

Synchronize time period to diagram   The entry that matches the displayed measurements is searched for in the table area and captured. The time shown at the left window border is decisive here.

Mark all   All table data are marked.

Copy   The data that are marked are copied to the Windows clipboard and can thus be imported directly into spreadsheet programs, for example (EXCEL or similar).

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Export
Using the "Export" function, you can save data in text format (*.txt) or HTML format (*.htm) and subsequently process them. Measurements are always exported row by row. If a column is marked, the measurements of the other columns are also exported.

⇨ Chapter 9.11 "Data export"

Print
⇨ Chapter 9.10 "Printing"

Adjust column width and row height
The column width and row height - starting from the current cell - are automatically reset to the initial width and height.

Adjust column width
The column width for the current column is automatically reset to the initial width.

Adjust row height
The row height of the current row is automatically reset to the initial height.

9 Evaluation - Table area

9.3   Events

	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	

◄ ► Daily report ⋀ **Events** ⋀ Audit trail ⋀ Batches ⋀ P ◄

x1: 14.01.2004 19:47:33 (GMT+01:00)   y1: -300,0 °C

Ready   User: Admin Password validity: indefinitely

9.3.1 The functions of the left mouse button

The column width and row height of the individual entries can be altered within the event register by using the left mouse button.
The left mouse button is also used to mark a section. These marked sections can be exported in text format (*.txt) or HTML format (*.htm) through the "Export" function by pressing the right mouse button.

⇨ Chapter 9.11 "Data export"

Further information on altering the column width and row height, as well as marking a section, can be taken from Chapter 9.2 "Report".

9.3.2 The functions of the right mouse button

If you press the right mouse button (the mouse pointer must be within the table area), the following dialog window opens:

Scroll data sets
Synchronize data sets with diagram
Filter data sets
Mark all data sets
Copy data sets
Export data sets   ▶
Print   ▶
Adjust column width and row height
Adjust column width
Adjust row height

Scroll data sets   If the time for the event is not within the visible area of the diagram, for instance after zooming, then "Scroll data sets" can be used to shift the curves so that the time (or the next possible one) is in line with the left window border.

Synchronize data sets with diagram   The entry that matches the displayed measurements is searched for in the table area and captured. The time shown at the left window border of the diagram is decisive here.

Filter data sets "Filter data sets" serves to reduce the list of displayed events.

If, for example, the "System messages" field is inactivated (☐), the messages "New configuration", "Power ON" and "Power OFF", among others, will no longer be shown.

The display in the header informs you that the current display is a filtered selection.

The individual filter parameters are OR-linked.

Filtering is reset when
- the graphics evaluation is closed or
- all criteria have been marked with a tick.

Example of a filter setting:
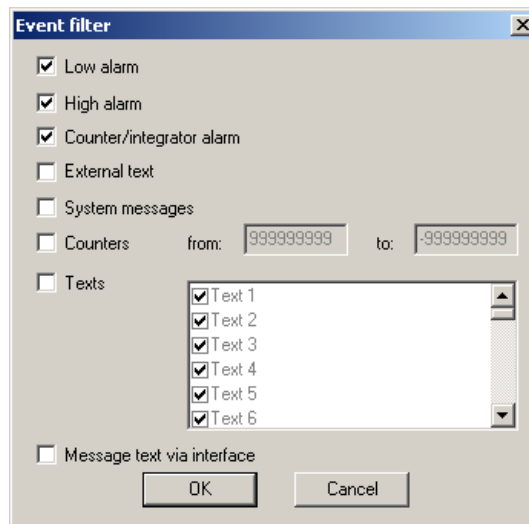
Only the event types "Low alarm", "High alarm" or "Counter/integrator alarm" are displayed.

Mark all data sets All table data are marked.

Copy data sets The data that are marked are copied to the Windows clipboard and can thus be imported directly into spreadsheet programs (EXCEL or similar).

Export data sets Using this function, you can save data in text format (*.txt) or in HTML format (*.htm) and subsequently process them.

Measurements are always exported row by row. If a column is marked, the measurements of the other columns are also exported.

⇨ Chapter 9.11 "Data export"

Print Further information on the "Printing" function can be found in Chapter 9.10 "Printing".

9 Evaluation - Table area

Adjust column width and row height
The column width and row height - starting from the current cell - are automatically reset to the initial width and height.

Adjust column width
The column width for the current column is automatically reset to the initial width.

Adjust row height
The row height of the current row is automatically reset to the initial height.

9.4   Audit trail

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

	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	

◀ ▶ K Daily report K Events K **Audit trail** K Batches K Po ◀   ▶

x1: 14.01.2004 10:44:09 (GMT+01:00)   y1: 17,3 °C

Ready   User: Admin   Password validity: indefinitely

9.4.1 The functions of the left mouse button

The column width and row height of the individual entries can be altered within the audit trail register by using the left mouse button.
The left mouse button is also used to mark a section. These marked sections can be exported in text format (*.txt) or HTML format (*.htm) through the "Export" function by pressing the right mouse button.

⇨ Chapter 9.11 "Data export"

Further information on altering the column width and row height, as well as marking a section, can be taken from Chapter 9.2 "Report".

9.4.2 The functions of the right mouse button

If you press the right mouse button (the mouse pointer must be within the table area), you will see the following dialog window.

Scroll data sets
Synchronize data sets with diagram
Filter data sets
Mark all data sets
Copy data sets
Export data sets ▶
Print ▶
Adjust column width and row height
Adjust column width
Adjust row height

The operation largely corresponds to that described in Chapter 9.3 "Events", with the "Filter data sets" function deviating from it.

9 Evaluation - Table area

Filter data sets   The list of displayed audit trail entries can be reduced by using the "Filter data sets" function.

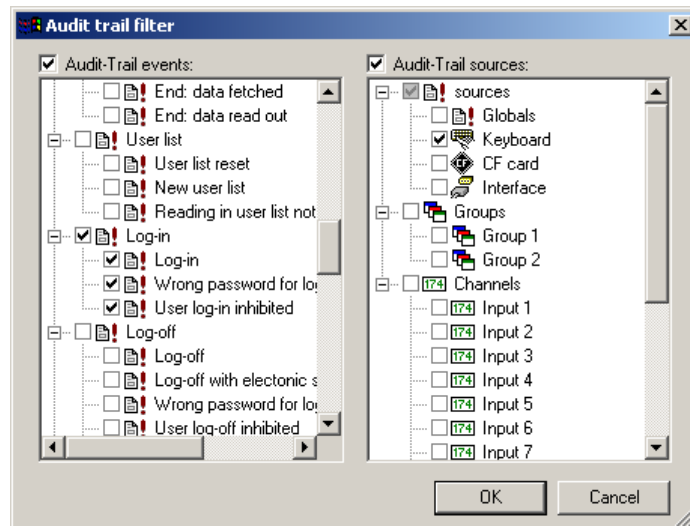The display in the header informs you that the current display is a filtered selection.

The audit trail entries can be filtered by means of two different filter types, which can be activated independently of one another.

Filter types:

- audit trail events

- audit trail sources

If both filter types are activated, they are AND-linked, which means that the audit trail event is only displayed if it is listed both in the "audit trail events" filter and the "audit trail sources" filter.

The individual filter conditions of a filter type are OR-linked.

Filtering is reset when
- the graphics evaluation is closed or
- "audit trail events" and "audit trail sources" have not been activated.

9.5 Batches

This register lists all the recorded batch documentation.

	Time period									
	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	Program Name :	* :	Client Info :
1	14.01.2004	**10:09:50**	+01:00	14.01.2004	**10:10:24**	+01:00	00:00:34	C/65		Client-N .
2	14.01.2004	**10:10:34**	+01:00	14.01.2004	**10:11:03**	+01:00	00:00:29	C/65		Client-N .
3	15.01.2004	**09:03:18**	+01:00	15.01.2004	**09:03:54**	+01:00	00:00:36	C/65		Client-N .
4	15.01.2004	**10:47:21**	+01:00	15.01.2004	**10:49:35**	+01:00	00:02:14	C/65		Client-N .

◄ ► Audit trail \ **Batches** \ Signature for batches \ R ◄ ►

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

Ready   User: Admin   Password validity: indefinitely

9.5.1 The functions of the left mouse button

The column width and row height of the individual entries can be altered within the batch register by using the left mouse button.
The left mouse button is also used to mark a section. These marked sections can be exported in text format (*.txt) or HTML format (*.htm) through the "Export" function by pressing the right mouse button.

⇨ Chapter 9.11 "Data export"

Further information on altering the column width and row height, as well as marking a section, can be taken from Chapter 9.2 "Report".

9.5.2 The functions of the right mouse button

If you press the right mouse button (the mouse pointer must be within the table area), you will see the following dialog window.

Zoom batch range	
Scroll batch range	
Synchronize batch range to diagram	
Search for batch	F5
Continue search for batch	F3
Filter batch	
Batch information / Signature	
Mark all data sets	
Copy data sets	
Export data sets	▶
Print	▶
Adjust column width and row height	
Adjust column width	
Adjust row height	

9 Evaluation - Table area

Zoom batch period (batch range)

The measurements of the selected batch are zoomed to the next displayable period and are graphically presented.

Scroll batch period (batch range)

If the start time of the batch data is not within the visible time period, for example after zooming, then "Scroll time period" is used to shift the curves so that the start time (or the next possible one) is in line with the left window border.

Synchronize batch period (batch range) to diagram

The entry that matches the displayed measurements is searched for in the table area and captured. The time shown at the left window border is decisive here.

Search batch

Specific batch documentation can be found by means of the "Search for batch" function. The search can be made easier by applying different criteria. Without the specification of criteria, all batch documentation is searched for.

Before you can enter a search criterion, it must be activated. Active search criteria can be recognized by the ☑. All activated search criteria are AND-linked.

Continue search for batch

The "Continue search for batch" function, which is only available if the "Search for batch" function has been performed, repeats a defined search for a specific batch documentation.
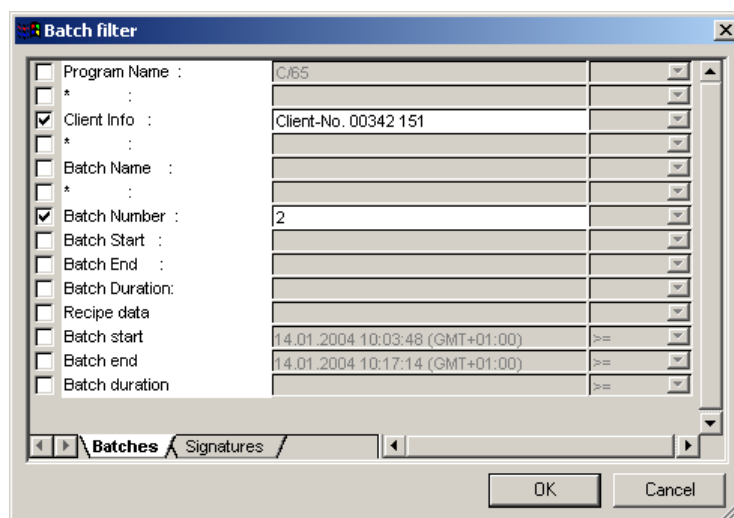
Filter batch

"Filter batch" serves to reduce the list of available batches.

Before you can enter a filter, it must be activated (☑).

The display in the header informs you that the current display is a filtered selection.

9 Evaluation - Table area

The batch filters refer to the individual columns in the batch list, i.e. one filter criterion can be defined for each column. A batch will only be displayed when all active column filter criteria have been fulfilled.

All active column filters are AND-linked.

The columns are divided into a batch data section and a signature data section. A column criterion is true if the text entered appears in the column data.
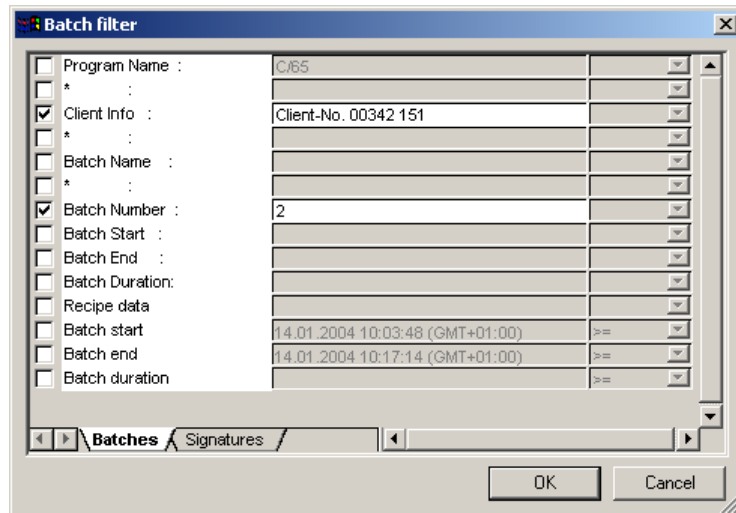
In the example shown above, the three batch criteria "Batch start", "Batch end" and "Batch duration" occur twice. Those listed first (above the "Recipe data" criterion) have been configured by the user. Those that follow (below the "Recipe data" criterion) are produced by the recorder through the device software.

Filtering is reset when
- the graphical evaluation is closed or
- none of the criteria has been activated.

Batch information/ signature

This function serves to display the batch information and, if available, also the signature for the selected batch. In addition, you can view the entered recipe data.

If a batch has not been signed yet, you can make up for it now by using this function. Executing a signature in this way will be recorded in the register "PC signature for batches".

✱ Using the left mouse button, double-click on the field with the recipe data - the data will now be shown in a separate window and can be viewed more easily.

Recipe data cannot be altered. They can be transmitted to the recorder (using the Setup program) for a batch that has not yet been completed. After the end of the batch, the recipe data will be automatically deleted, being available only for batch documentation.

9 Evaluation - Table area
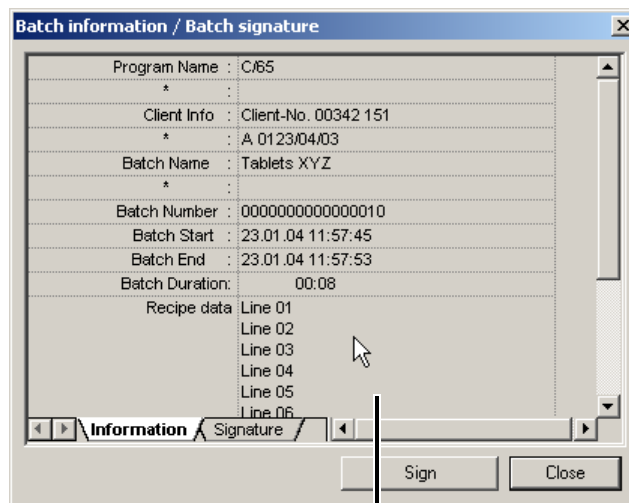
Click here to view
the recipe data

Mark all data sets	All table data are marked.
Copy data sets	The data that are marked are copied to the Windows clipboard and can thus be imported directly into spreadsheet programs (EXCEL or similar).
Export data sets	Using the "Export" function, you can save data in text format (*.txt) or HTML format (*.htm) and subsequently process them. Measurements are always exported row by row. If a column is marked, the measurements of the other columns are also exported.
	⇨ Chapter 9.11 "Data export"
Print	⇨ Chapter 9.10 "Printing"
Adjust column width and row height	The column width and row height - starting from the current cell - are automatically reset to the initial width and height.
Adjust column width	The column width for the current column is automatically reset to the initial width.
Adjust row height	The row height of the current row is automatically reset to the initial height.

9.6   Batch signature (PC signature for batches)

This register lists the recorded batch signatures.

There are two registers:

- signature for batch (signed on the device) and

- PC signature for batches (signed within the PCA3000).

Both have identical functions.

	Time period							Time of signature			
	From			To			No.	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	**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	

◄ ► Ⲓ Batches ⲓ **Signature for batches** ⲓ PC signature fⲦ ◄

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

Ready   User: Admin   Password validity: indefinitely

9.6.1 The functions of the left mouse button

The column width and row height of the individual entries can be altered within the batch register by using the left mouse button.
The left mouse button is also used to mark a section. These marked sections can be exported in text format (*.txt) or HTML format (*.htm) through the "Export" function by pressing the right mouse button.

⇨ Chapter 9.11 "Data export"

Further information on altering the column width and row height, as well as marking a section, can be taken from Chapter 9.2 "Report".

9.6.2 The functions of the right mouse button

If you press the right mouse button (the mouse pointer must be within the table area), the following dialog window opens.

```
Zoom time period
Scroll time period
Synchronize time period with diagram

 Filter signatures

Mark all data sets
Copy data sets

Export data sets                    ▶

Print                               ▶

Adjust column width and row height
Adjust column width
Adjust row height
```

9 Evaluation - Table area

The operation corresponds to that described in Chapter 9.2 "Report". In addition, there are:

Filter signatures   "Filter signatures" serves to reduce the list of displayed signatures. Only those signatures will be shown for which matching selection criteria have been specified.

The display in the header informs you that the current display is a filtered selection.

All active filter criteria are AND-linked.

9.7 Log-off signature (PC signature for time period)

This register lists additional signatures.

There are two registers:

- Log-off signature (log-off on device) and
- PC signature for time period (signed within PCA3000 with the function *Edit → Sign time period*).

Both have identical functions.

	Time period							Time of signature		
	From			To						
	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	Date dd.MM.yyyy	Time HH:mm:ss	GMT HH:mm	No.	Date dd.MM.yyyy	Time HH:mm:ss	GMT 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

x1: 14.01.2004 13:22:32 (GMT+01:00)　　y1: -300,0 °C

Ready　　　　User: Admin　Password validity: indefinitely

9.7.1 The functions of the left mouse button

The column width and row height of the individual entries can be altered within the batch register by using the left mouse button.
The left mouse button is also used to mark a section. These marked sections can be exported in text format (*.txt) or HTML format (*.htm) through the "Export" function by pressing the right mouse button.

⇨ Chapter 9.11 "Data export"

Further information on altering the column width and row height, as well as marking a section, can be taken from Chapter 9.2 "Report".

9.7.2 The functions of the right mouse button

After pressing the right mouse button (the mouse pointer must be within the table area), you will see the same dialog window as described in Chapter 9.6 "Batch signature (PC signature for batches)".

9 Evaluation - Table area

9.8   Analog: Group...

This register lists the measurements of the analog inputs.

	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   >>>> = overrange

9.8.1 The functions of the left mouse button

The column width and row height of the individual entries can be altered within the register for the analog data by using the left mouse button.
The left mouse button is also used to mark a section. These marked sections can be exported in text format (*.txt) or HTML format (*.htm) through the "Export" function by pressing the right mouse button.

⇨ Chapter 9.11 "Data export"

Further information on altering the column width and row height, as well as marking a section, can be taken from Chapter 9.2 "Report".
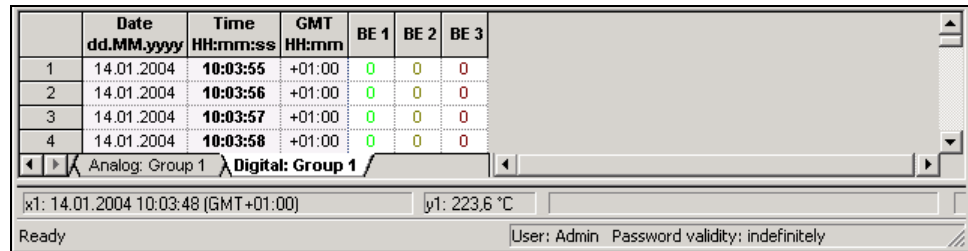
9.8.2 The functions of the right mouse button

If you press the right mouse button (the mouse pointer must be within the table area), you will see the following dialog window.

Scroll data sets
Synchronize data sets with diagram

Filter data sets

Mark all data sets
Copy data sets

Export data sets   ▶

Print   ▶

Adjust column width and row height
Adjust column width
Adjust row height

The operation corresponds to that described in Chapter 9.3 "Events".

9.9   Digital: Group...

This register lists the measurements of the digital inputs.

	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

It provides the same functions and options as the register for the analog measurements.

⇨ Chapter 9.8 "Analog: Group..."

9 Evaluation - Table area

9.10 Printing

After calling up the "Print" function, the following dialog window opens.

```
Print preview ...
Print ...
Header / footer
Setup page
Printer setup ...
```
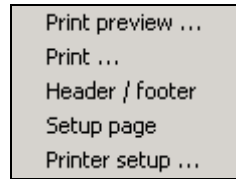
Print preview
The "Print preview" function will give you a view of the page as it will be printed. Depending on the active register, further selection options will appear before the print preview, where you can choose which data are to be displayed.

Print
Initiates the printing procedure. Please note that, in the case of a zoomed display, the printout may cover several pages.

Header / Footer
Headers/footers can be defined here. Any character strings and device-specific variables are available.

Cells for text and control elements. You can apply a line break by entering Ctrl+Enter on the PC keyboard.

Select font type/size

Flush left	Centered	Flush right
Instrument:	#DEVICE	
Additional description:	#DESCRIPTION	
Group:	#GROUP	
Start time:	#START_DATE	
	#START_TIME	
Stop time:	#STOP_DATE #STOP_TIME	
Time print-out:	#DATE #TIME	Page $P from $N

Header / footer — Header / Footer

Distance to border — Header: 1.01 cm   Footer: 1.01 cm

Page numbering — First page: auto

OK   Cancel   ☐ Save settings as default
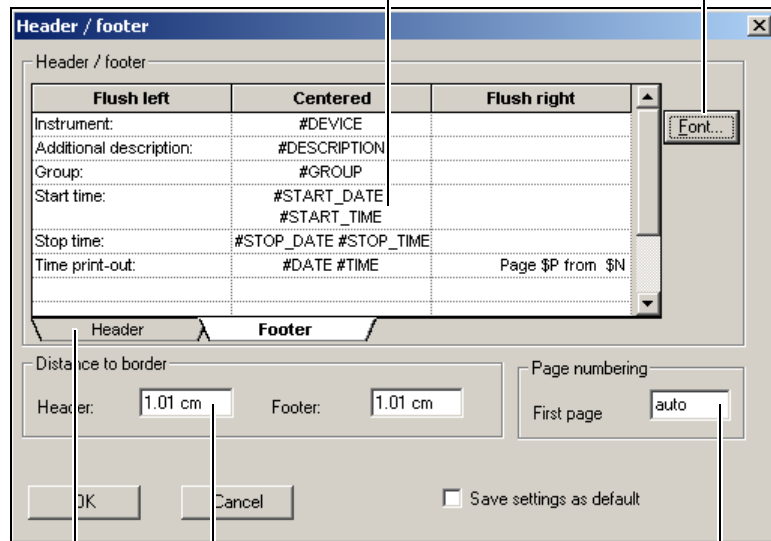
Predefine start page number

Set paper margin

Switch between header and footer.

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

The following device-specific variables are available:

#USER	Logged-in PC user
#NAME_USER	Name of logged-in PC user
$P	Page number
$N	Total page number
$D	Print date/time
$D{%d.%m.%y}	Print date (without time)
$F	Name of evaluation
$A	Program name
$R	Register name
#DEVICE	Device name
#FABNR	Device production No.
#GROUP	Group name
#DESCRIPTION	Supplementary description
#TIME	Current time
#DATE	Current date
#START_TIME	Start time of evaluation
#STOP_TIME	End time of evaluation
#START_DATE	Start date of evaluation
#STOP_DATE	End date of evaluation
#EINH_TIME	Time of formatting
#EINH_DATE	Date of formatting

Within the "Batches" register additionally:

#CHARGE_1_HEADER … #CHARGE_30_HEADER	Designation of the batch data (column designation)
#CHARGE_1_VALUE … #CHARGE_30_VALUE	Batch data (column value)

You can not only enter the device-specific variables directly, but also select them from a list.

9 Evaluation - Table area

✷ Position the mouse pointer in that field in which you want to enter the parameter.

✷ Press the right mouse button.

✷ Position the mouse pointer on the required parameter and select it by using the left mouse button.
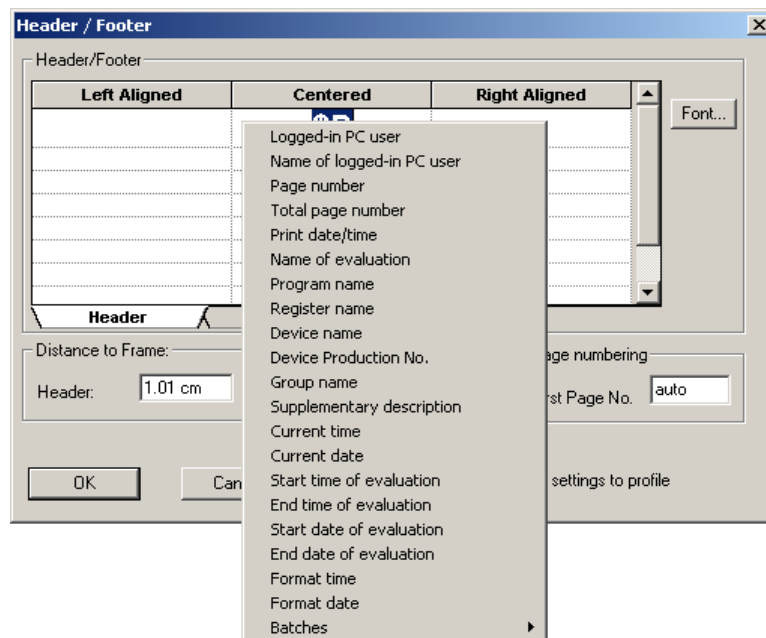
Set up page The "Page setup" function offers additional functions for influencing the appearance of the printout.

Printer setup The "Printer setup" function opens a Windows dialog window in which, among others, you can select the paper size and orientation (portrait or landscape format).
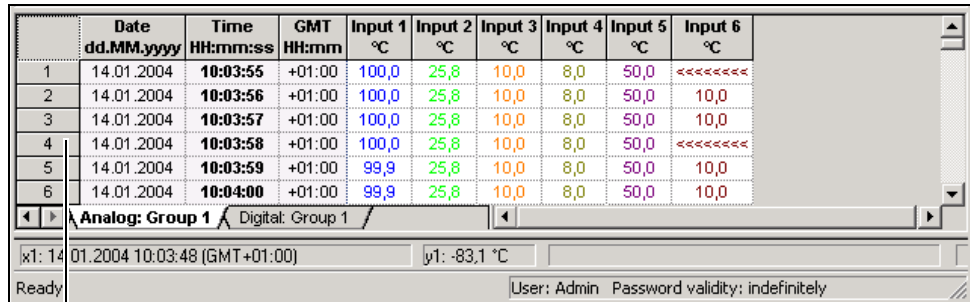
9.11 Data export

The data export to EXCEL[1] via a text file will be explained more fully in this chapter by giving an example.

Export through text file
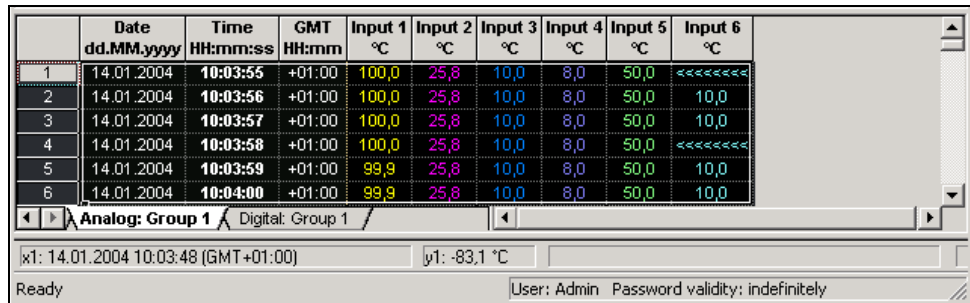
✱ Open the evaluation through the *Archive* ➔ *Open* menu, or by activating the 📂 button.

✱ Activate the register *Analog: Group 1* by clicking on it with the left mouse button.

	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

✱ Mark the section by moving the mouse downwards over the row numbering (keep left mouse button pressed). When you have marked the required section, release the mouse button.

	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

✱ Press the right mouse button and call up *Export data sets* followed by *Text file (*.txt)*.

✱ In the dialog below, choose *Selected data sets* and *Comma* as the delimiter. Confirm the selection with OK.

Text export

Export:
- ⦿ Selected data sets
- ○ All data sets

Separator:
Comma

[OK]   [Cancel]
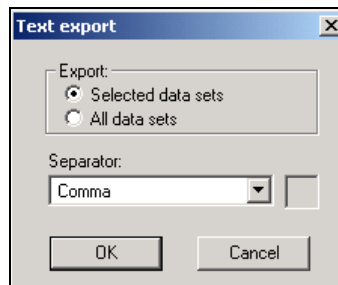
✱ In the dialog window that opens now, you can select the path and enter the file name under which the text file (ASCII file) is saved.

When it has been saved successfully, the file can be read into EXCEL.

1. EXCEL is a registered trademark of Microsoft Corporation

9 Evaluation - Table area

Processing in EXCEL

✽ Start EXCEL (e.g. EXCEL 97).

✽ Select the *Open* function in the *File* menu.

✽ Switch the file type over to *Text files*.

✽ Open the file that has previously been created in PCA3000.

EXCEL will automatically start the Text Assistant for converting the data to the EXCEL format.

✽ In the EXCEL Text Assistant step 1 of 3 is confirmed with "Continue".

✽ With step 2 of 3, the "Tab" delimiter has to be inactivated and "Comma" activated.

✽ Close the Text Assistant with "Close".

The text file data are now available for graphical display or for computation purposes.

Export via clipboard

Another possibility of importing data into EXCEL is provided (using the right mouse button) within the different tables of the evaluation program PCA.

✽ Open the evaluation through the *Archive* ➜ *Open* menu, or by activating the ⬐ button.

✽ Activate the register *Analog: Group 1* by a click with the left mouse button.

	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

✽ Mark a column by moving the mouse onto the column header (e.g. channel 1) and using the left mouse button.

✽ Call up the "Copy data sets" function with the right mouse button. The data are now in the Windows clipboard.

✽ Start up EXCEL, open a worksheet and insert the data in the worksheet by means of the EXCEL menu *Edit* ➜ *Insert*.

☞ When exporting via the clipboard, the data are directly available in a numerical format and need not be converted through the EXCEL Text Assistant.

10.1 Archive

Open

This function displays measurement data from an archive graphically. How this is done has already been described in Chapter 6.3 "Opening the archive".

After selecting the archive to be opened, you have to first select the group before the data can be displayed graphically. In addition to the device groups that are available (generated within the paperless recorder), PCA groups can be created and selected. They can be used to reorganize the device groups.

PCA groups
A click with the left mouse button will open the register for creating PCA groups.

Delete PCA group
Edit PCA group
Create PCA group
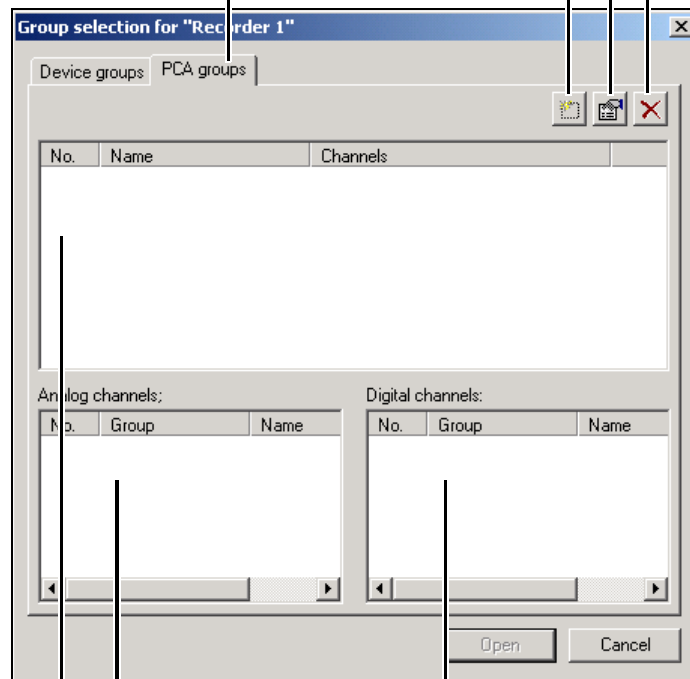
Display of the digital channels contained in the PCA groups

Display of the analog channels contained in the PCA groups

Display of the PCA groups created

After activating the button, you can create the "virtual" PCA groups.
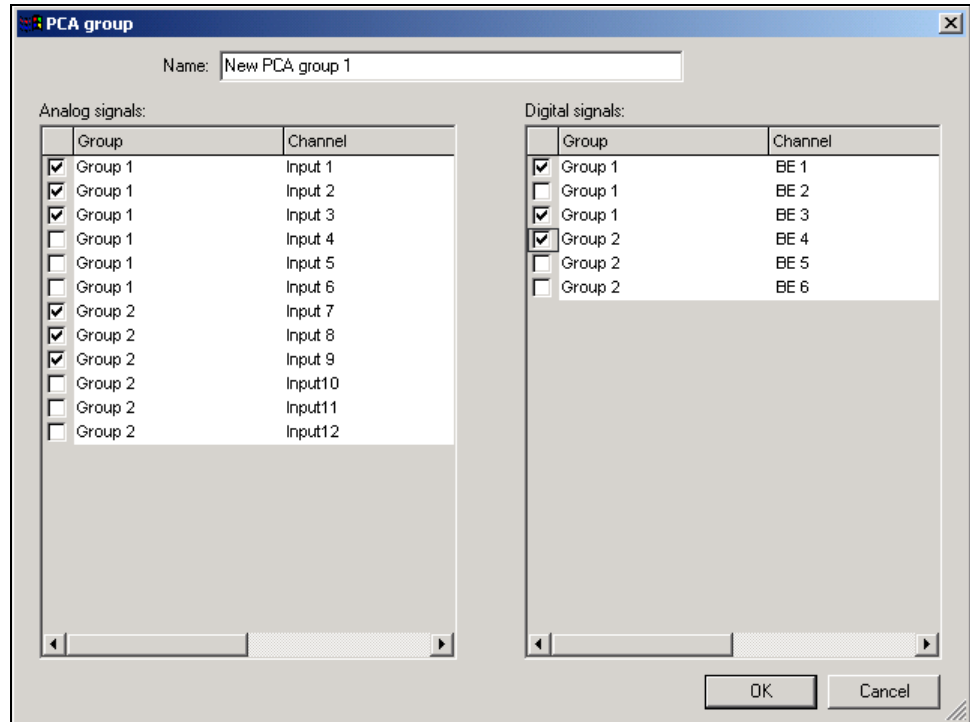
All activated channels are brought together in the PCA group after clicking
OK .
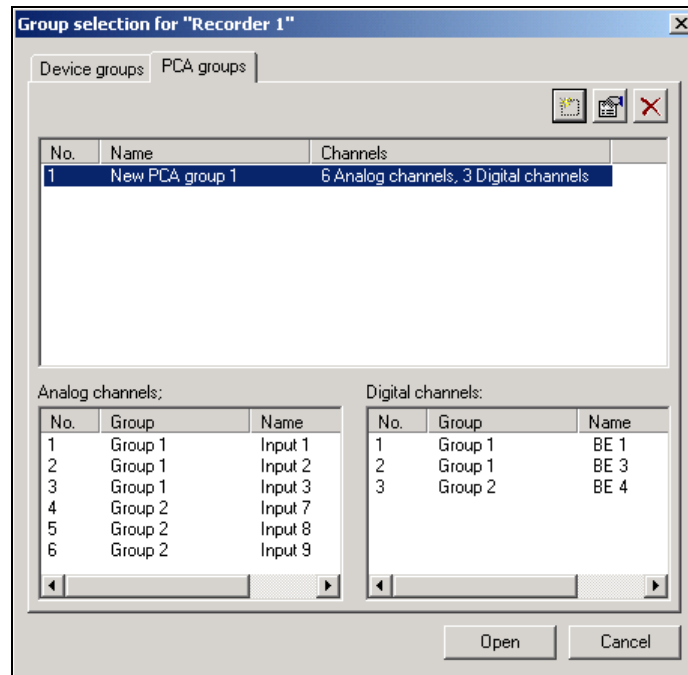
When you click Open , the data will be displayed graphically.

Open batch

This function also displays measurement data from an archive graphically. Unlike the *Open* function, not all the data from an archive will be shown here, but only those of a specific batch.

Open electronic signature

This function also displays measurement data from an archive graphically. Unlike the *Open* function, not all the data from an archive will be shown here, but only those for which a signature has been executed.

Close

Closes a graphical display, but not the PCA3000 program.

Read in data

This function reads measurement data from the CompactFlash memory card into an archive. The procedure has already been described in Chapter 6.2 "Reading in data".

All activated archives are read in. Position the mouse pointer on the selection of available archives and press the right mouse button.
You now have further selection options for activating and deactivating archived files.

Select all files
Cancel selection
Reverse selection
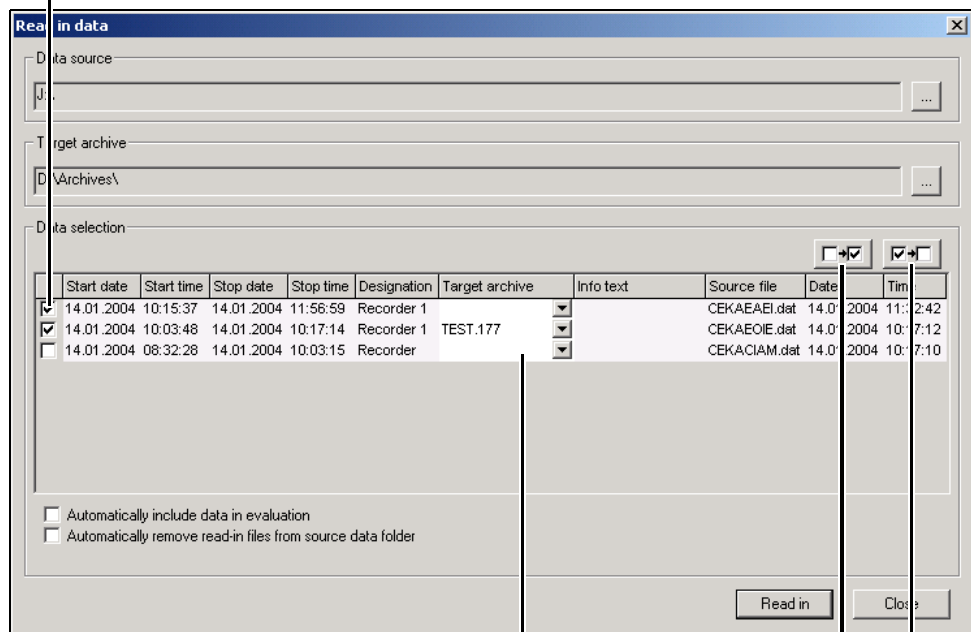
If you left-click on a file name, you can alter it. Specific archives can be saved to a separate file in this way.

Select all files

Cancel selection

This type of archiving is intended to achieve the simplest possible assignment between the CF data files and the archived files. When determining the target archive, the following sequence has to be observed:

- The device ID and the configuration ID of all data files in the "Folder for data source" path are determined. In each case, there is only one device ID for each device. Configuration IDs are provided for each reconfiguration

(alteration of the setting) of any device.

- Search procedure 1:
  In the "Folder for target archives" path, all existing archives are searched for a corresponding device and configuration ID, which will be determined. The files found are made available for selection in the "Target archive" field (click on ▾). The first archive that has been found will be automatically entered in the "Target archive" field.

- Search procedure 2:
  The search procedure corresponds to the first search procedure, with the difference that only one archive with a corresponding device ID is searched for. The second search procedure will only be started if no archive has been found during the first one.

- If no corresponding archive was found during the two search procedures, the "Target archive" remains empty and you can enter an archive name by hand.

- An archive name that has been entered automatically can be manually overwritten.

- If a target archive field remains empty, there will be an archive name query during read-in.

- The "Folder for data source" and "Folder for target archive" settings will be backed up after the read-in and automatically entered when the function is called up next.

Save data

This function saves measurement data from one archive to a separate file. This file can be passed on, for example for examination purposes. The procedure has already been described in Chapter 6.4 "Backing up data".

Save data as

This function saves measurement data from an archive into a separate file with additional protection options. This file can be passed on for checking purposes, for example. How this is done, has already been described in Chapter 6.4 "Backing up data".

Print preview

This function serves to check the print result.

Printer setup

Here you can make alterations to the settings for your printer. When the program is started, the Windows default printer will always be set as the active printer.

Print

This function starts the print job.

Default settings

Here you can make alterations to the default settings for the program. The alterations will only take effect after a fresh start of the PCA3000 software.

General

In the "General" register you can select the language that the software has to use at the next program start.

File deposit

In the "File deposit" register you can determine the standard (default) directories (paths) for the archive and evaluation directory.

⇨ Chapter 6.5 "Archive and evaluation directory"

Colors

In the "Colors" register, the color assignment of the individual channels within the graphics can be defined. You can define 12 colors. If more than 12 channels are visualized, as a result of external channels or logic inputs, for example, the color sequence will be repeated. You can still alter the colors within the graphics later on.

⇨ Chapter 9.1 "Channels"
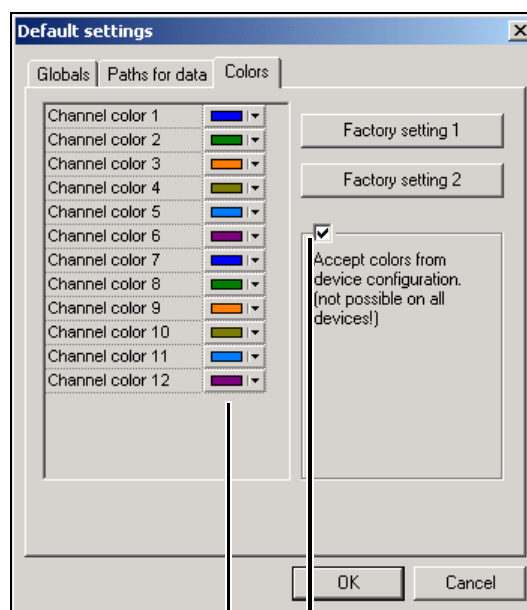
The color setting on the left only applies if you have not marked the box with a tick.

10 Menu functions and toolbar

10.2 Editing

Reset evaluation

This function deletes all files from the evaluation directory. The data are automatically regenerated if you make data visible through *Archive* ➔ *Open*, for example. You can use this function for cleaning up the hard disk from time to time.

Reset archive

Select the archive that is to be reset here. Caution: The archive must not be displayed graphically at this moment.
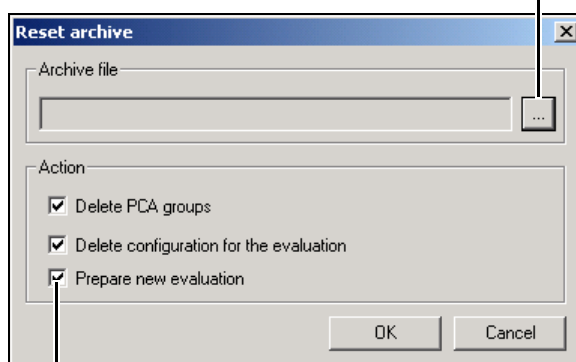
Options for resetting an archive

If no option is activated, only the files belonging to the selected archive will be deleted from the evaluation directory. As with the *Reset evaluation* function, they will be automatically regenerated when the archive is displayed graphically again.

Delete PCA group

If the option is activated, PCA groups (generated within the PCA3000 when an archive is opened) will be deleted. Measurement data will not be lost.

⇨ See "PCA groups" on page 67.

Delete evaluation configuration

This option enables you to undo changes to the *Channels* register.

⇨ "Channels" register: see Chapter 9.1 "Channels"

Prepare new evaluation

When this option is active, the files in the evaluation directory will be freshly created for the specified archive at the end of the function *Reset archive*. This means you will save time at the next graphical display of the archive.

Supplementary description

🔲

Device info text
The device info text can be created using the setup program but cannot be edited. Caution: do not confuse "device info text" with "file info text".
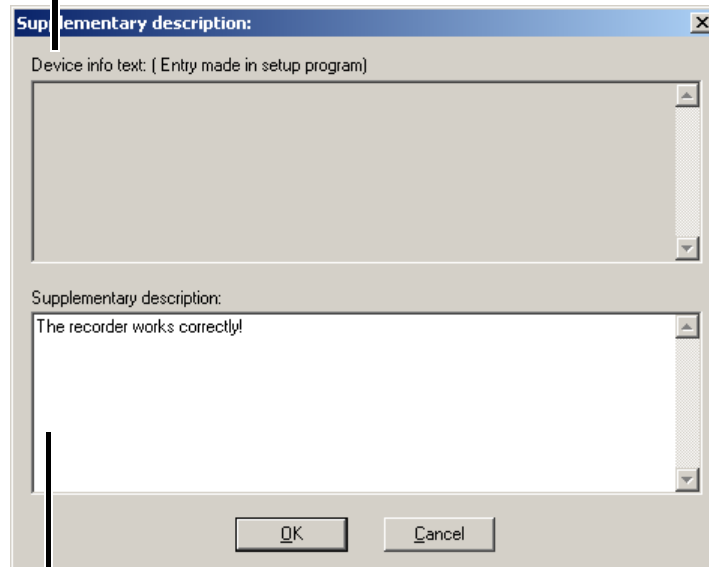
Supplementary description
Here you can enter the additional text.

If a protected archive (Page 28) is created after entering the supplementary description, the information will be permanently linked to the file; it can no longer be deleted.
With all other archives, the "supplementary description" can be deleted again by re-editing or through the function *Edit* ➔ *Reset archives* (option *Delete PCA groups* must be activated ☑).

Sign time period

🕐

You can use this function to execute an electronic signature for the process data that are visible in the graphics. If you have previously zoomed, the data that are not visible are not signed.

The signature is entered in the "PC signature for time period" register.

⇨ Chapter 9.7 "Log-off signature (PC signature for time period)"

10 Menu functions and toolbar

10.3 Zoom

Zoom on date and time

🔍

After calling up this function, you can zoom the graphics by entering a start time and an end time.
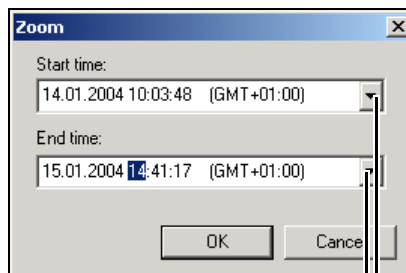
Select date from calendar

Use the mouse or the tabulator key to move from one field to another. Use the mouse or the cursor keys (left, right) to move from one part of the date to another within the field.

Enter the required time with the number keys. When you have completed the entry with OK, the graphics is displayed.

If you cannot enter an end time, this could mean that this a time prior to the start time. This is not possible.

Zoom X-axis

🔍

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

Zoom Y-axis

🔍

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

Zoom X+Y-axes

🔍

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

Show guideline

≡

If this function is active (🔍 🔍 🔍 ≡), a guideline from the current value of the channel to the X- and Y-axis can be switched into display within the graphics by using the left mouse button (position mouse, press left mouse button, then release it).

Reset zoom

🔍

This function undoes all magnifications/reductions and presents the complete data for the archive section that has been opened.

Zoom forwards (zoom in)

The next zoomed display can be restored through this function. This function is only available if *Zoom backwards* has been executed. As an alternative to the mouse, *Zoom forwards* can also be executed from the PC keyboard (page up).

Zoom backwards (zoom out)

The last zoomed display can be restored through this function. It is only available if zooming has been carried out. As an alternative to the mouse, *Zoom backwards* can also be executed from the PC keyboard (page down).

10.4 View

Toolbar

Show/hide toolbar.

Status bar

Show/hide status bar (at the lower end of the software window).

Coordinate bar

Show/hide coordinate bar (at the lower end of the software window, above the status bar).

10.5 Extras

Enable (unlock) program options

If the software has been installed as a viewer ("read-only" mode), then some functions, such as saving, are disabled. This function can be used to register the software at a later stage and so change it to a full version.

Renew log-in / alter password

You can use the function *Renew log-in / alter password* to

- activate the user and password query at the program start and

- alter the current password.

This function is also effective for starting the setup software.

Activating the user and password query at the program start

When the software is first installed, there will initially be no query of the user name and password. You are automatically logged in as a "Specialist" with a blank password.

Proceed as follows:

✱ Start the function "Renew log-in / alter password".

✱ Switch options into display.
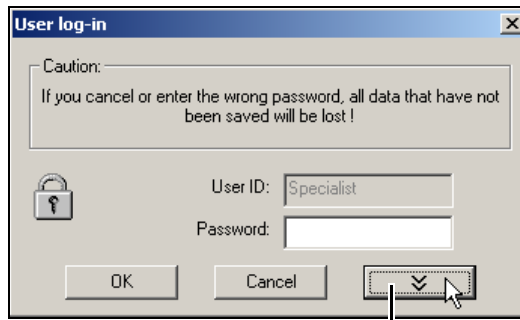
Show options
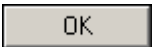
✱ Activate the option "Alter password after log-in" and click [OK].
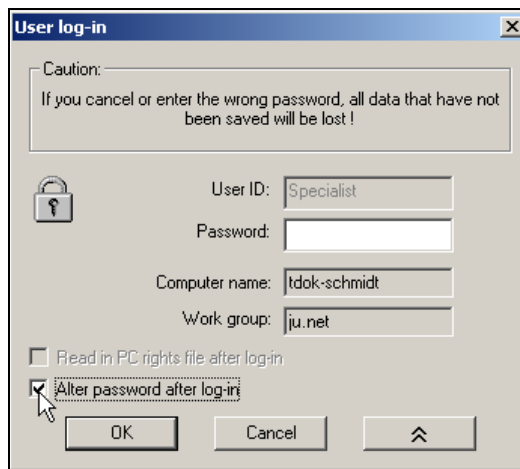
✱ Enter the passwords (the "Old password" field remains empty if none has been activated yet).

When you have finished the entry, the new password is activated by clicking [OK]. From now on, the user name and password will be requested at the program start.

☞ The start password will initially not be allocated to the "Maintenance" user either. At the program start, log in with the user name "Maintenance" and enter a password as described above.

Altering the password

Altering the password is performed in the same way as activating the password administration, with the only difference that the "Old password" field must not remain empty.

De-activating the user and password query

✱ Start the function "Renew log-in / alter password".

✱ Leave the fields "New password" and "Confirm new password" empty.

Clicking the [OK] button will switch off the password query (also for the setup program).

Comment in audit trail   This function can be used to make a manual entry in the audit trail. The entries can be visualized by means of the PC Audit Trail Manager software.

10.6 Window

Cascade   Several graphical displays (open sections of an archive) are shown overlapping.

In the "Window" menu, the individual names of the open displays are shown and can consequently be selected and displayed.

Tile   Several graphics displays (open sections of an archive) are shown side by side.

Arrange icons   If displays are minimized (click on icon), this function will position all window titles at the lower edge of the screen - several will be positioned next to each other.

Minimize window:

Click here to minimize a window.

10 Menu functions and toolbar

Icons arranged:
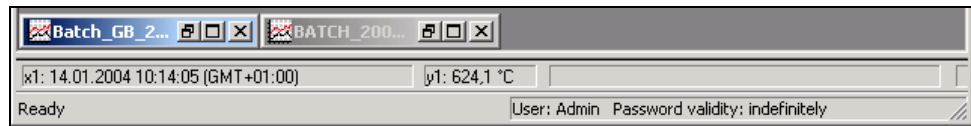
10.7 Info

Info

Here you can obtain information on the version number of the program. Please have this number available if you have technical problems or queries and contact a service representative.

Registered license numbers

Here you can obtain information on the license number of the program. Please have this number available if you have technical problems or queries and contact a service representative.

When you start up the PCA3000 software, you have the opportunity of setting various options when you log in.

Proceed as follows:

✱ Start the software

✱ Before you log in, left-click on [⥥] to show the options.
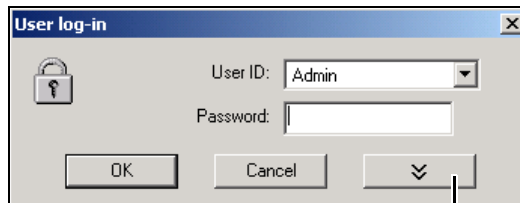
    Show options

The dialog window changes to ...
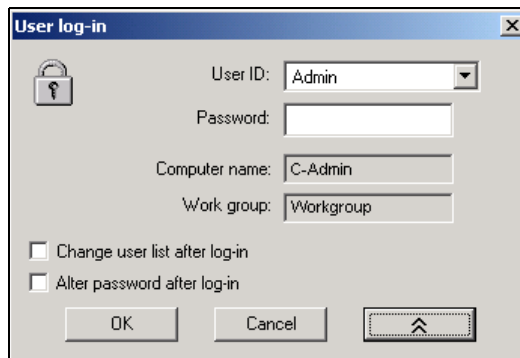
Change user list after log-in
This function is only available if the "Administrator" or "Network user" option was selected during the installation of the software.

Select the option if you want to activate a different user list after starting the program.

If the installation was made with the "Local user" option, then the function does not read "Change user list after log-in", but:

Read in new rights file after log-in.

⇨ Chapter 3.2 "Installing"

Alter password after log-in
Select this option if you want to alter your password after starting the program.

11 Options at program start

Individual users have different rights within the software, depending on the installation and log-in status.

The differences are summerized in the following table.

Right	Demo installation	Maintenance	Specialist
Configure data administration	-	-	X
Execute PC signature for "Time period"	-	X	X
Execute PC signature for "Batches"	-	X	X
Save time periods	-	X	X
Create new archive	-	-	X
Read in time periods	-	X	X
Create/alter template for print-out	-	-	X
Enable program options	X	-	X
Print	X	X	X
Comment in audit trail	-	X	X
X = right exists			

12 User rights

FAQ 1   **Why does it sometimes take so long to open the "*Read in data*" dialog?**

Answer   This occurs once after starting the PCA3000 software, and then only if there is a large number of different archive files in the "Folder for target archives". The reason is that files are being searched for device and configuration IDs.

You will encounter a similar response in the *Archive* menu, with the functions *Open*, *Open batch* and *Open electronic signature*.

FAQ 2   **Why are there two or more PC signatures for a batch?**

Answer   Using the "*Back up data*" function, you can copy data from an archive. You can open this copy and sign a batch.

At the same time, you can also sign the same batch in the original archive. If, subsequently, the data are copied again to the existing backup copy, then the selected batch is signed twice.

Only one entry (the signature that was last executed) is entered in the "*Batch*" register, in the "*PC signature for batches*" register, however, both signatures are present.

⇨ Chapter 9.5 "Batches"

⇨ Chapter 9.6 "Batch signature (PC signature for batches)"

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